

**B&B Site Visit and Meeting with CBA and US EPA**  
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January 18, 2012

In the morning of January 13, 2011, G. Fred Lee went on a self-guided tour about the Brown & Bryant (B&B) Superfund site in Arvin, CA. During that visit, Dr. Lee took several photographs that show site characteristics and conditions; the annotated photos are provided in Attachment A and are discussed subsequently in this report. That afternoon he met with representatives of the following groups in the conference room of Express Tax & Accounting Services in Arvin to discuss the activities for the balance of the day and the evening meeting with CBA:

- Community for Better Arvin (CBA) (Salvador Partida, President; Hugo Tamayo, Vice president; and several CBA members)
- US EPA (Alejandro Diaz, Community Involvement Coordinator; and Brunilda Devila, Remedial Project Manager)
- Center on Race, Poverty & the Environment (CRPE) (Laura Baker, Attorney; and Gustavo Aguirre, Director of Organizing)
- Arvin Community Services District (water utility) (Fernando Pantoja, District Manager)

The English-language comments made by Dr. Lee, Laura Baker, and others were consecutively translated into Spanish by Gustavo Aguirre.

At that meeting Alejandro Diaz provided Dr. Lee with hard copies of the two previous remedial investigation/feasibility study (RI/FS) reports and several other reports on the B&B site that Dr. Lee had requested. Those reports provide additional background information on the investigation and an overview of site remediation approaches that the US EPA had reviewed in its development of the remediation of the site. Following that meeting a group site visit was conducted at the B&B site during which B. Devila of the US EPA discussed characteristics of the B&B site, its investigation of the site, and current approaches for site remediation. Dr. Lee provided several comments on the site as well, based on his review of site-related documents.

In preparation for Dr. Lee's participation in the site visit, Dr. Anne Jones-Lee made printouts of figures contained in the US Army Corps of Engineers' "Third Five-Year Review Report for Brown and Bryant Superfund Site Arvin, California" dated September 2011, which had been made available to Dr. Lee just prior to the site visit; these figures are provided as Appendix B to this report. Among the figures was a map (entitled, Well Locations) that shows the locations of the groundwater monitoring wells on and near the site as well as the position of the city of Arvin well (CW-1) (on the lower left side of the map). The other figures show the concentrations of a number of measured site-associated pollutants in the B-Zone groundwater. Dr. Lee discussed several of those figures during the group site visit with particular reference to the US EPA's estimates of the locations of the areas in which the groundwater had the highest concentrations of

pollutants from the site. While not shown in the groundwater pollutant concentration maps, the city well has been polluted by B&B site chemicals; the US EPA has thus far found concentrations of the pollutants measured to be below the associated US EPA drinking water maximum contaminant levels (MCLs). The US EPA had determined more than 20 years ago that that well should be replaced with a new well at another location in the city. This has yet to be accomplished.

At the suggestion of L. Baker, on January 11, 2012 Dr. Lee had a telephone discussion with Phil Hall of the Law Offices of Young Wooldridge, LLP, Bakersfield, CA. Attorney Hall, the attorney representing the Arvin Community Services District on the well replacement issue, discussed the current status of reaching an agreement between the District and the US EPA on replacement of the well. Based on that discussion and on the discussions of this issue at the CBA/US EPA meeting on January 13, it appears to Dr. Lee progress is finally being made toward developing an agreement of the replacement of the CW-1. This issue will need to be followed closely to determine if there are any further significant problems or delays in the replacement of the city well.

Following the site tour, the group attended the regular meeting of CBA at 7:00 pm. At the meeting B. Devila discussed the history of the B&B site pollution of the soil and groundwater; Dr. Lee commented on some of the issues discussed. They both answered questions about site investigation and remediation issues with particular emphasis on the course of action that will be followed in remediation of the polluted soils under the asphaltic and RCRA cap in the A-Zone and the polluted groundwater in B-Zone. Based on those discussions it is apparent that progress is being made toward the development of approaches to begin the planned remediation by pumping polluted groundwater from the A-Zone and relying on Monitored Natural Attenuation (MNA) of the pollutions in the B-Zone. Additional information concerning these remediation approaches is provided in the Lee and Jones-Lee reports on the CBA B&B website, [http://www.gfredlee.com/CBA\\_BBSite/CBA\\_BBSite.htm](http://www.gfredlee.com/CBA_BBSite/CBA_BBSite.htm). As mentioned by Dr. Lee at the meeting, Googling “CBA B&B Superfund site” will provide a link to the website. That website provides summaries of the US EPA reports and Drs. Lee and Jones-Lee’s comments on them. Their most recent comments are:

Lee, G. F., and Jones-Lee, A., “Comments on ‘Third Five-Year Review Report for Brown and Bryant Superfund Site Arvin, California,’ Prepared by: US Army Corps of Engineers Environmental and Munitions Center of Expertise, Omaha, NE, Prepared for: US Environmental Protection Agency Region 9, San Francisco, CA, dated September 2011, (made available by the US EPA January 5, 2012),” Report to CBA from G. Fred Lee & Associates, El Macero, CA, January 9 (2012). [67 kb]  
[http://www.gfredlee.com/CBA\\_BBSite/2012/USACE3rd5yrRpt-com.pdf](http://www.gfredlee.com/CBA_BBSite/2012/USACE3rd5yrRpt-com.pdf)

Lee, G. F., email to A. Diaz, US EPA B&B Superfund Site Community Involvement Coordinator, Regarding Issues for review during the January 13 B&B Site Visit, Communique of G. Fred Lee & Associates, El Macero, CA, January 8 (2012).  
[http://www.gfredlee.com/CBA\\_BBSite/2012/Diaz-Issues-01-13-12mtg.pdf](http://www.gfredlee.com/CBA_BBSite/2012/Diaz-Issues-01-13-12mtg.pdf)

An issue of particular concern raised by Dr. Lee was the adequacy and reliability of the definition of the groundwater pollution plumes provided in the US EPA reports. Dr. Lee

indicated that he feels that the US EPA does not have a sufficient number of wells at some locations to reliably determine the nature, extent, and position of the groundwater pollution plumes or the rate of migration of pollutants toward the city well, CW-1. The US EPA (B. Devila) indicated that a number of additional wells would have to be developed as part of the MNA, which would better define the plumes and their migration. She indicated that a draft MNA report is being developed and will be sent to CBA and Lee and Jones-Lee for review.

Overall from the perspective of the TAG technical advisor, the meeting and site visit were highly effective for reviewing the current conditions of the B&B Superfund site, the concerns that CBA, CRPE and Lee/Jones-Lee have about the progress being made in site investigation/remediation, and the current status of the US EPA plans for further site investigation/remediation.

#### Site Visit Photographs

Appendix A provides annotated photographs that Dr. Lee took on the morning of January 13. As captured in the photographs, Dr. Lee observed a number of problems that have been repeatedly reported in Corps of Engineers' five-year reviews. He observed rodent/animal burrows from outside the fence under the cap. Based on the appearance of animal tracks observed near several of the burrows, there is fresh activity. Photographs provided in the Corps of Engineers five-year review reports also showed animal burrows. It is evident that inadequate attention is being given to preventing rodents from burrowing under the fence and possibly exposing polluted soils under the cap. This is of concern because of the potential for such breaches to allow transport of polluted soil under the fence to the environment outside the site fence as well as entrance of water into the polluted soils and further transport of pollutants in the groundwater. Action should be taken to stop this problem. This may require construction of an impermeable wall along the fence line.

Comments and questions on these comments should be sent to Dr. Lee at [gfredlee@aol.com](mailto:gfredlee@aol.com).

# **Appendix A**

## **Annotated Photos from**

### **January 13, 2012 Site Visit**

#### **Brown & Bryant Superfund Site**

**G. Fred Lee, PhD, DEE**  
**CBA TAG Advisor**

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Sign identifying the Brown & Bryant Arvin Plant as a Superfund Site with clean-up in progress



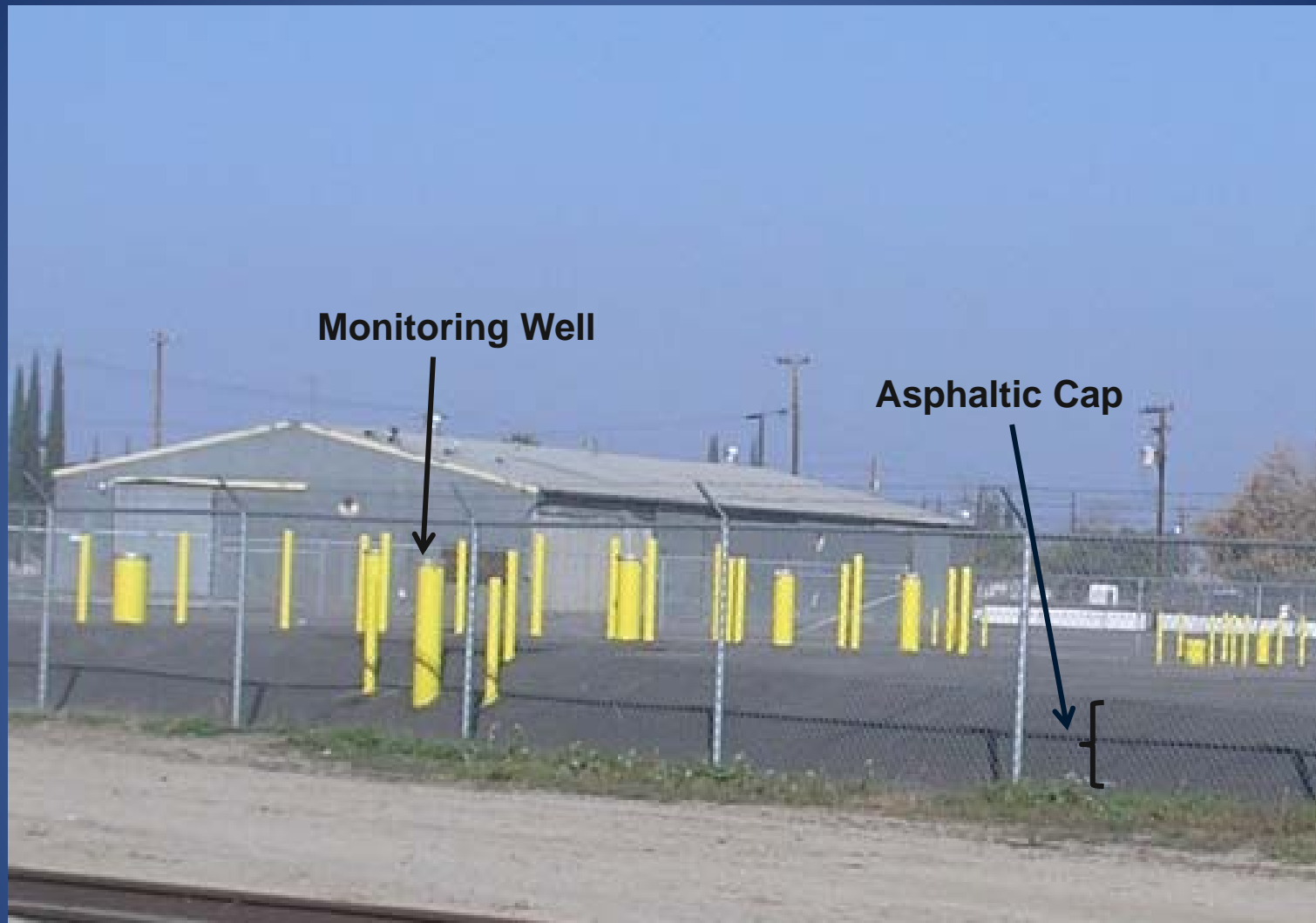
Warning sign on site perimeter fence: *“This Site Contains a Permanent Disposal Site. 3 days before digging call ... US EPA”*



Warning sign on site perimeter fence:  
*“Danger – Hazardous Area – Do Not Enter”*



B & B Site viewed from the south side of the site.  
Note the yellow monitoring wells on the site, and asphaltic cap.



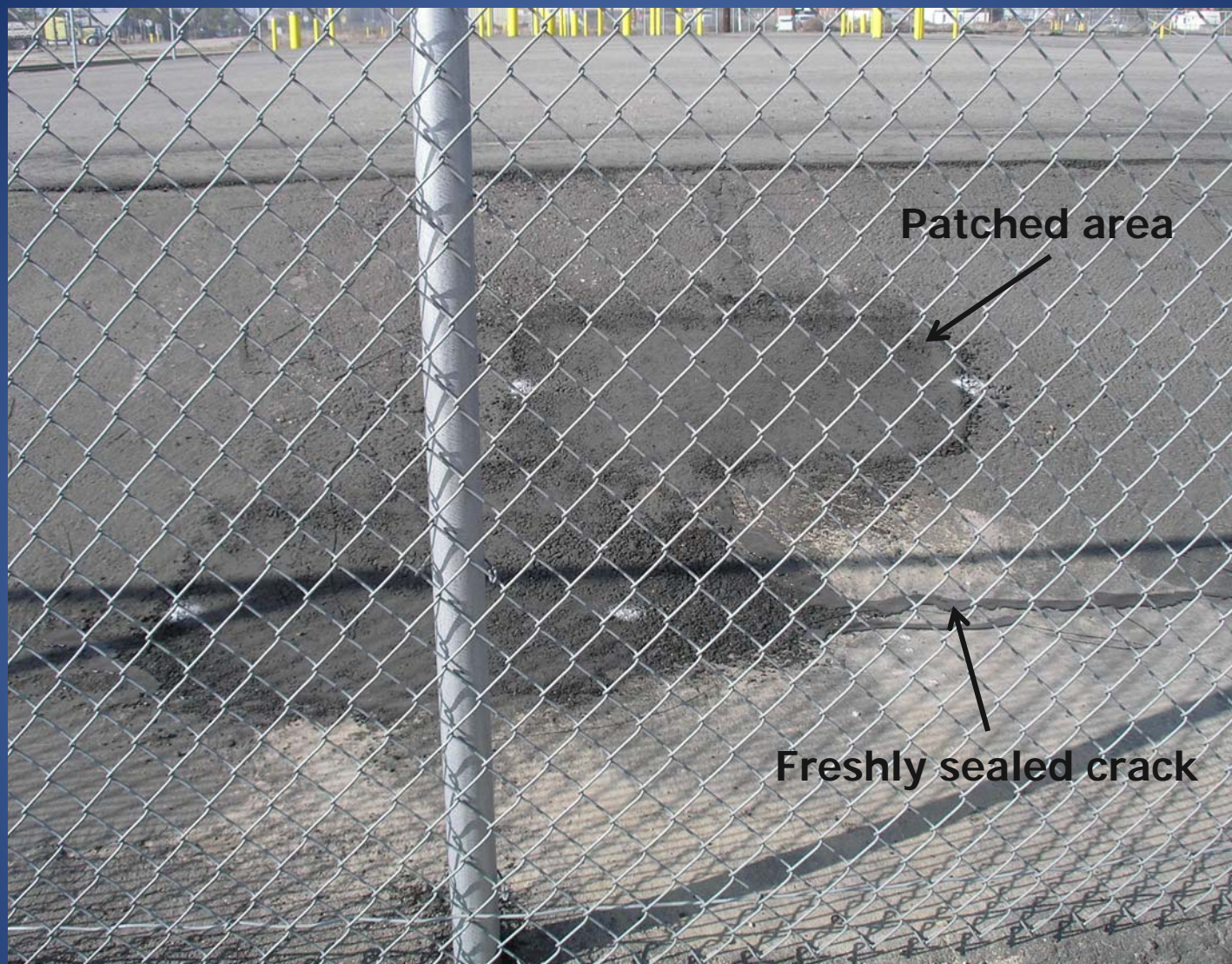
B & B Site viewed from the south side of the site – enlarged image  
Note the yellow monitoring wells on the site, and asphaltic cap.



Another view of asphaltic cap with yellow monitoring wells.



Off-site monitoring well from which groundwater samples are collected. Monitoring well has a locked cap and is surrounded by four protective posts. The locations of the current monitoring wells are shown in subsequent map from US ACE 3<sup>rd</sup> 5-yr Review Report.



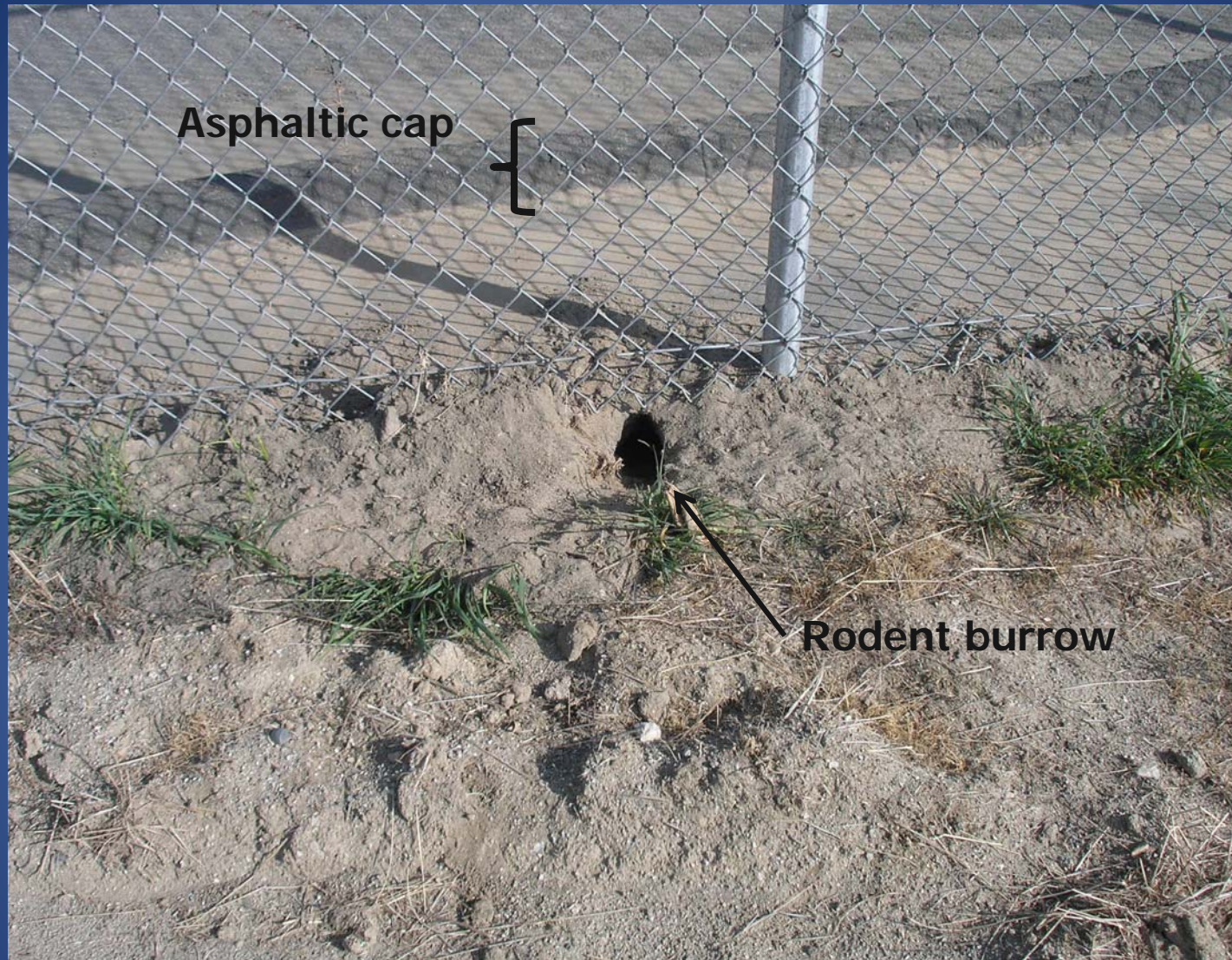
View through the fence at the edge of the asphaltic cap showing the freshly sealed cracks and patches as darker areas on the cap. There has been a chronic problem with cracking of the cap, which allows water to penetrate into the polluted soils under the cap.



Picture taken through the fence at the edge of the asphaltic cap showing the freshly sealed cracks as dark areas on the cap. The repairs of the cap were required by the US EPA and were made in December 2011



View along the south side of the site. In the past there have been problems with inadequate maintenance of the fence and the accumulation of weeds and debris along the fence. At the time of the site visit it appeared that the area had been recently cleaned up.



Fresh rodent burrow showing that an animal has burrowed under the site fence toward the area of polluted soils covered by asphaltic cap.



Another animal burrow at another location along the fence line.



Large animal burrow that penetrates under the asphaltic cap.



Water treatment equipment at city well, CW-1



Water treatment equipment at city well, CW-1



Representatives of CBA, USEPA, and CSPE (G. Fred Lee took the picture) discussing site characteristics with B. Devila of the US EPA (in red vest).

## Arvin Vicinity Map & Aerial Photograph of B & B Site

Source:

US ACE 3<sup>rd</sup> 5-yr Review Report –  
Figure 1



Figure 1. Site Map

# B & B Superfund Site Well Locations

Source:

US ACE 3<sup>rd</sup> 5-yr Review Report –  
Attachment C, Figure 1

Attachment C  
Data Review Memorandum



Figure 1. Well Locations

[Note: The well shown as PW2-4 on the map is incorrectly labeled; it should be WB2-4.]

- Questions or Comments on These Photographs Should Be Directed to Dr. Lee at [gfredlee@aol.com](mailto:gfredlee@aol.com).
- Additional Photographs of the Site Taken by the Corps of Engineers in December 2010 Are Available in Attachment D in:  
US ACE (US Army Corps of Engineers ), “Third Five-Year Review Report for Brown and Bryant Superfund Site Arvin, California,” Prepared by: US Army Corps of Engineers Environmental and Munitions Center of Expertise, Omaha, NE, Prepared for: US Environmental Protection Agency Region 9, San Francisco, CA, September (2011).  
[http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/3dc283e6c5d6056f88257426007417a2/9b53d06f8c2d374f8825797c008296b1/\\$FILE/3rd%20Brown%20Bryant%205YR.pdf](http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/3dc283e6c5d6056f88257426007417a2/9b53d06f8c2d374f8825797c008296b1/$FILE/3rd%20Brown%20Bryant%205YR.pdf)
- Show the Poor-Quality Maintenance of the B&B Superfund Site in Some Previous Years

**For Additional Information:**  
**CBA Brown & Bryant Superfund Site**  
**Website**



**[http://www.gfredlee.com/CBA\\_BBSite/CBA\\_BBSite.htm](http://www.gfredlee.com/CBA_BBSite/CBA_BBSite.htm)**

# **Appendix B**

## **Selected Figures from**

### **US ACE Third 5-yr Review Report**

#### **Brown & Bryant Superfund Site**

##### **Arvin, CA\***

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**CBA TAG Advisor**

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\* US ACE (US Army Corps of Engineers ), "Third Five-Year Review Report for Brown and Bryant Superfund Site Arvin, California," Prepared by: US Army Corps of Engineers Environmental and Munitions Center of Expertise, Omaha, NE, Prepared for: US Environmental Protection Agency Region 9, San Francisco, CA, September (2011).  
[http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/3dc283e6c5d6056f88257426007417a2/9b53d06f8c2d374f8825797c008296b1/\\$FILE/3rd%20Brown%20Bryant%205YR.pdf](http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/3dc283e6c5d6056f88257426007417a2/9b53d06f8c2d374f8825797c008296b1/$FILE/3rd%20Brown%20Bryant%205YR.pdf)

## Arvin Vicinity Map & Aerial Photograph of B & B Site

Source:

US ACE 3<sup>rd</sup> 5-yr Review Report –  
Figure 1



Figure 1. Site Map

# B & B Superfund Site Well Locations

Source:

US ACE 3<sup>rd</sup> 5-yr Review Report –  
Attachment C, Figure 1

Attachment C  
Data Review Memorandum



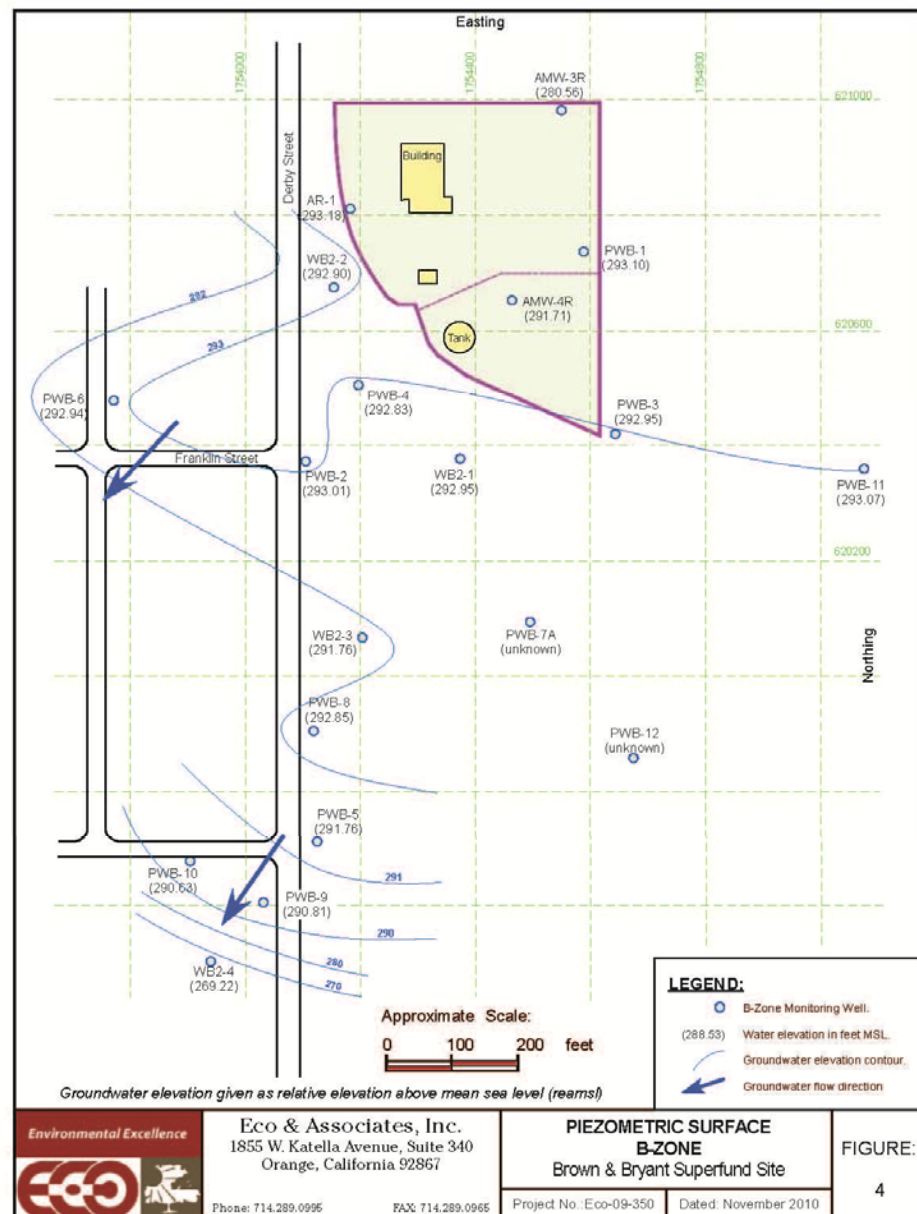
Figure 1. Well Locations

[Note: The well shown as PW2-4 on the map is incorrectly labeled; it should be WB2-4.]

# B & B Superfund Site Piezometric Surface B-Zone

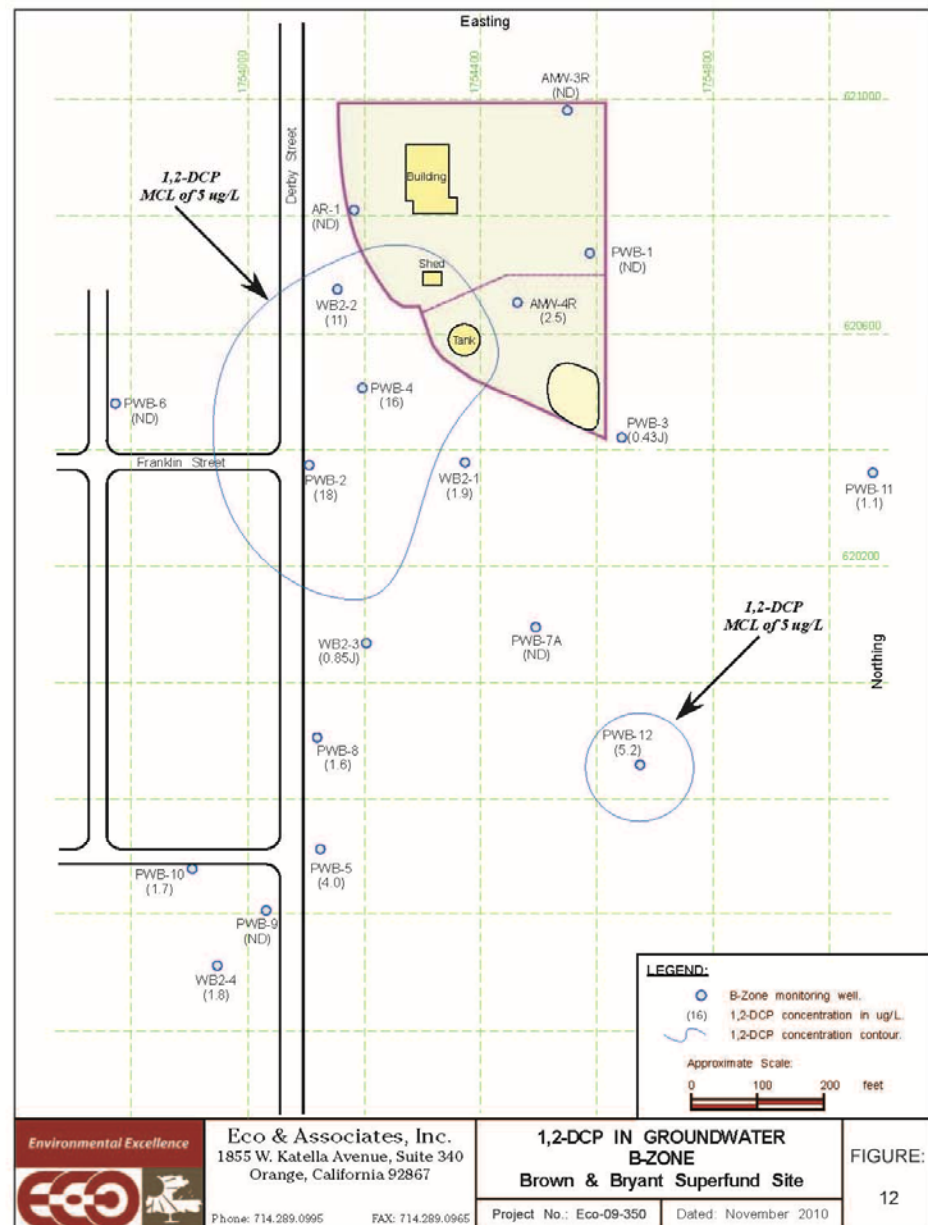
Source:

US ACE 3<sup>rd</sup> 5-yr Review Report –  
Attachment C8, Figure 4



# B & B Superfund Site 1,2-DCP in B-Zone Groundwater

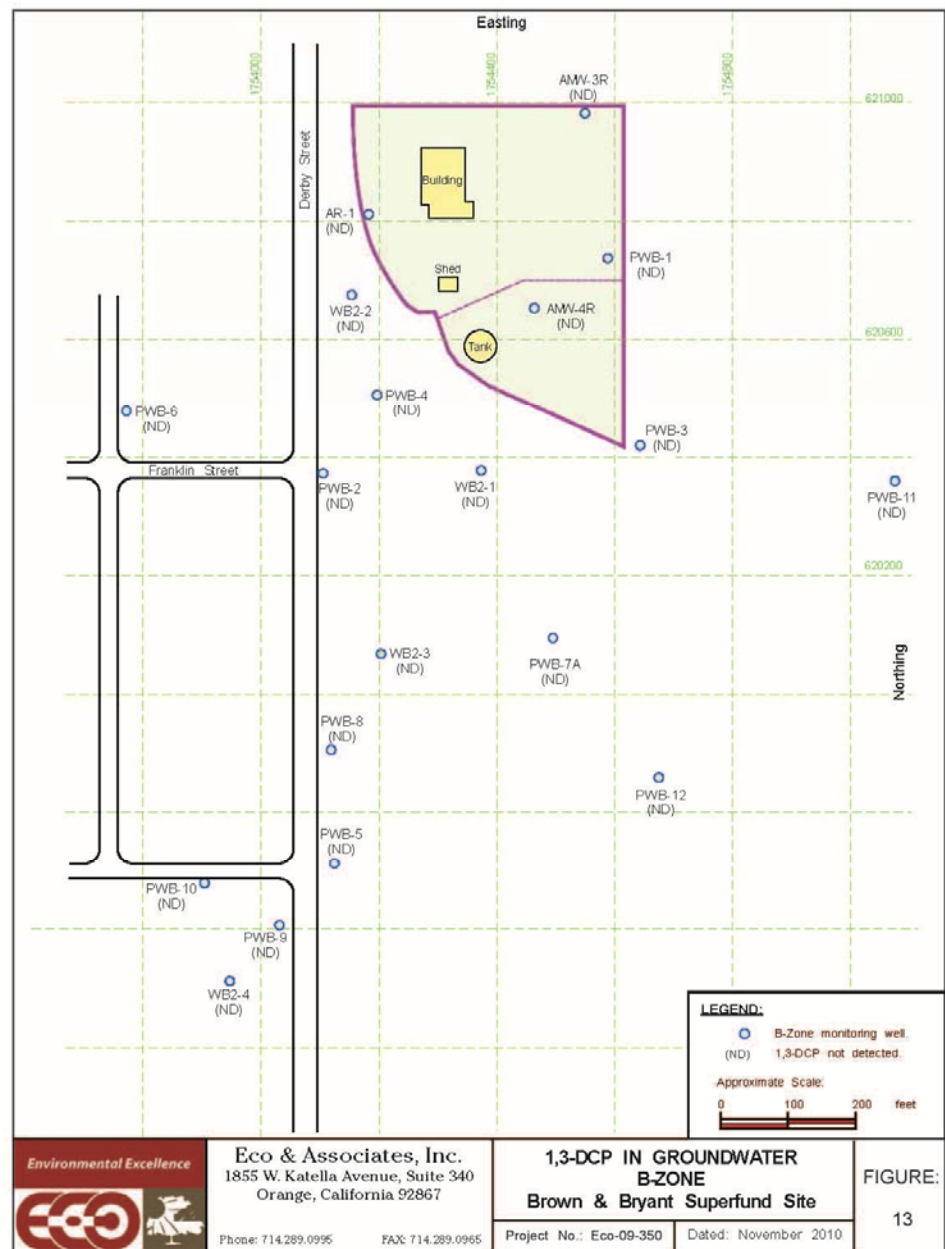
Source:  
US ACE 3<sup>rd</sup> 5-yr Review Report –  
Attachment C8, Figure 12



## B & B Superfund Site 1,3-DCP in B-Zone Groundwater

Source:

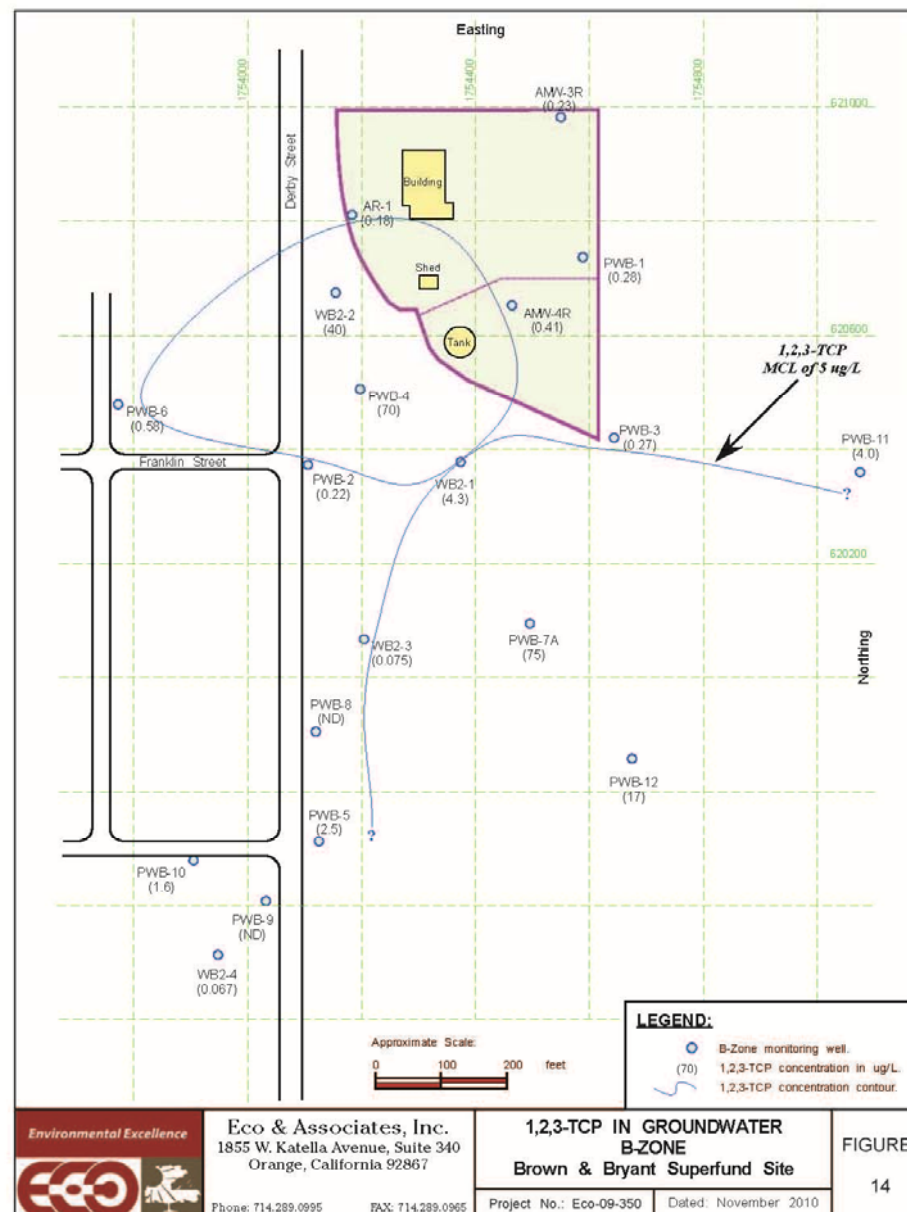
US ACE 3<sup>rd</sup> 5-yr Review Report –  
Attachment C8, Figure 13



# B & B Superfund Site 1,2,3-TCP in B-Zone Groundwater

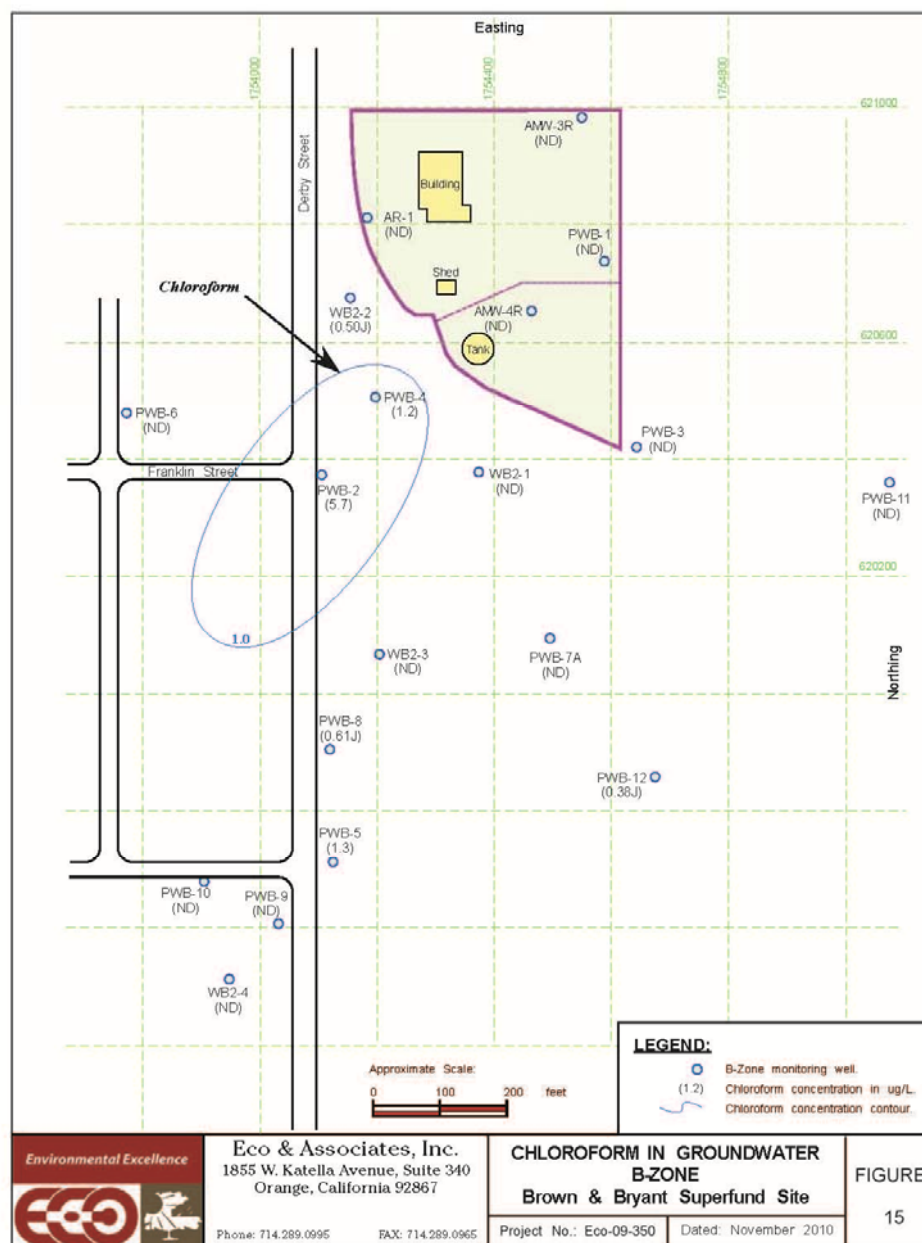
Source:

US ACE 3<sup>rd</sup> 5-yr Review Report –  
Attachment C8, Figure 14



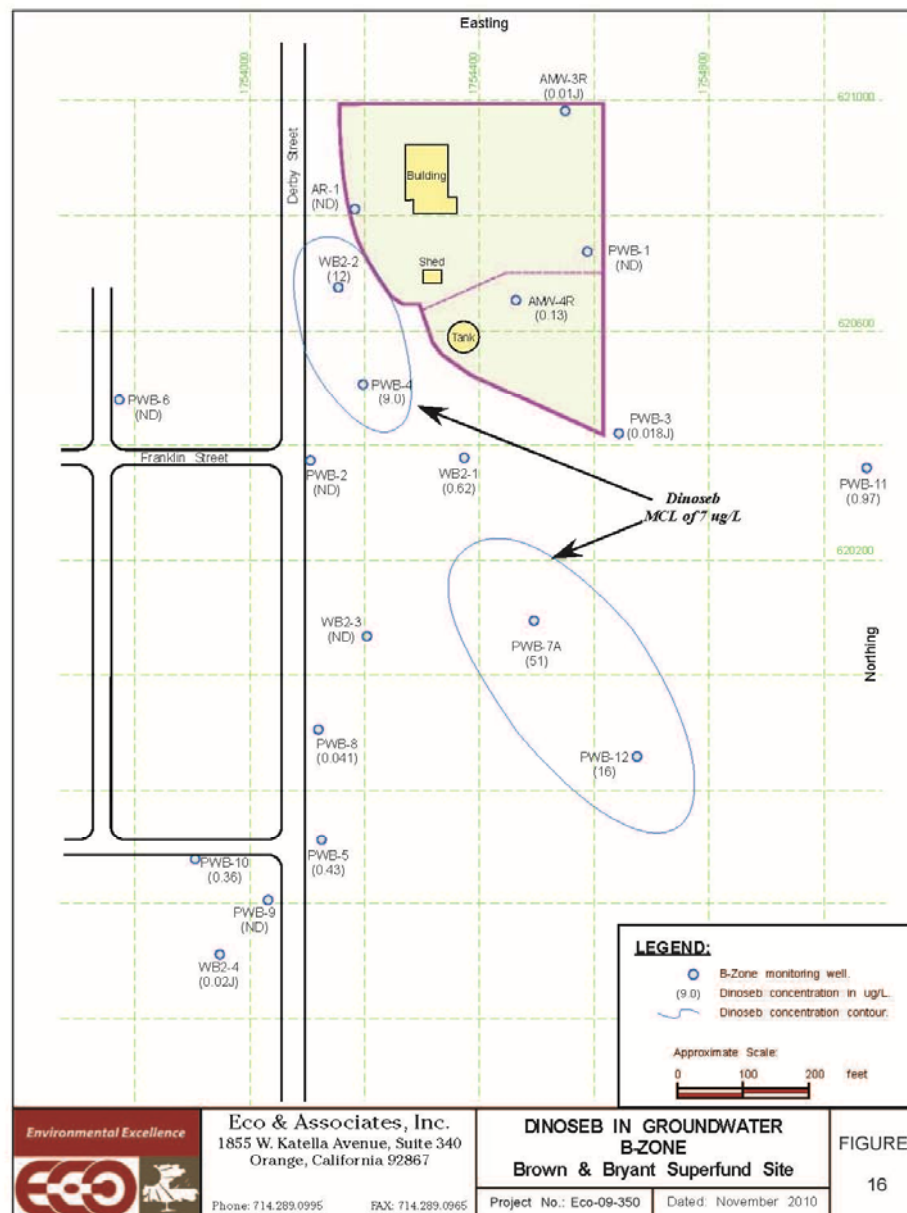
## B & B Superfund Site Chloroform in B-Zone Groundwater

Source:  
US ACE 3<sup>rd</sup> 5-yr Review Report –  
Attachment C8, Figure 15



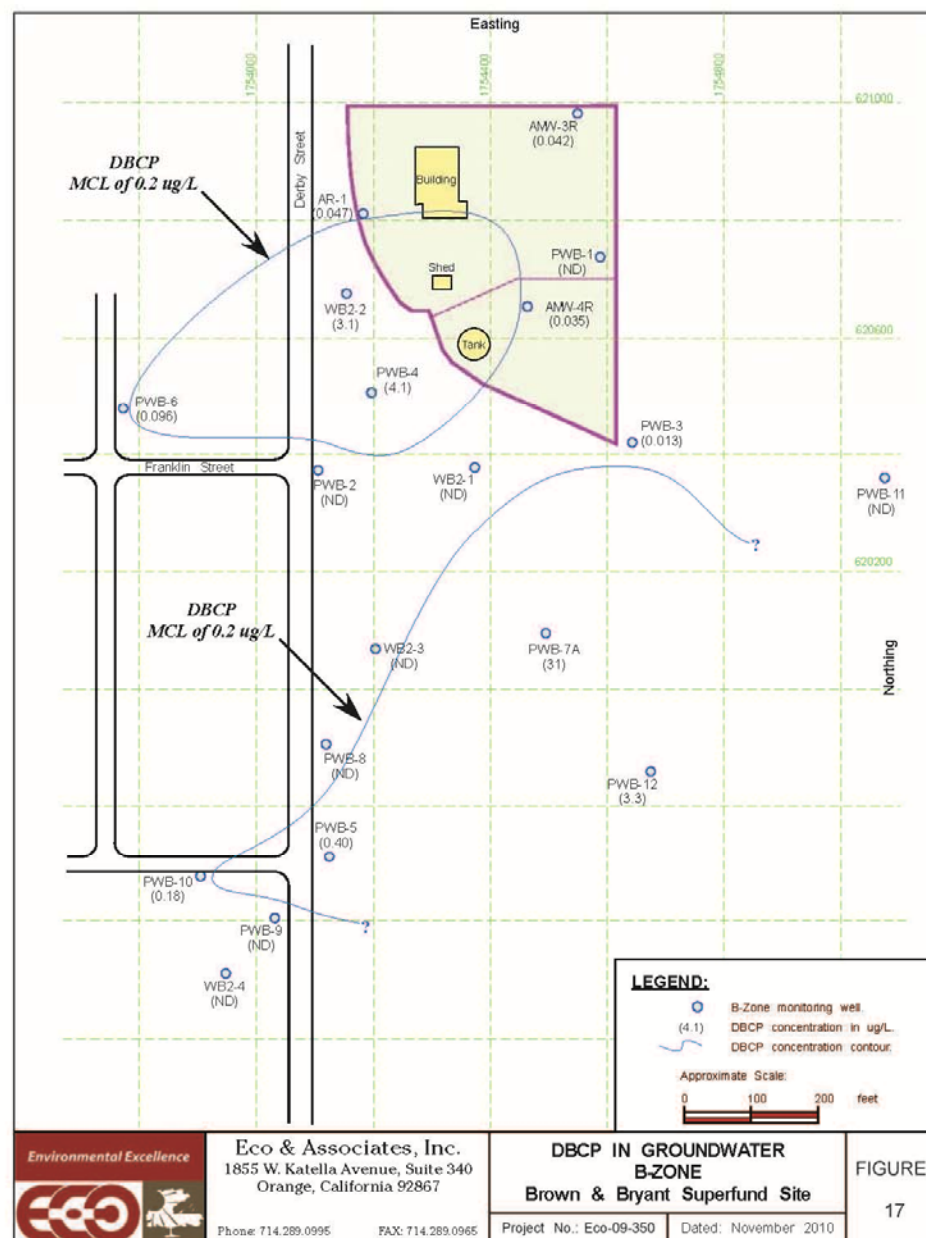
# B & B Superfund Site Dinoseb in B-Zone Groundwater

Source:  
US ACE 3<sup>rd</sup> 5-yr Review Report –  
Attachment C8, Figure 16



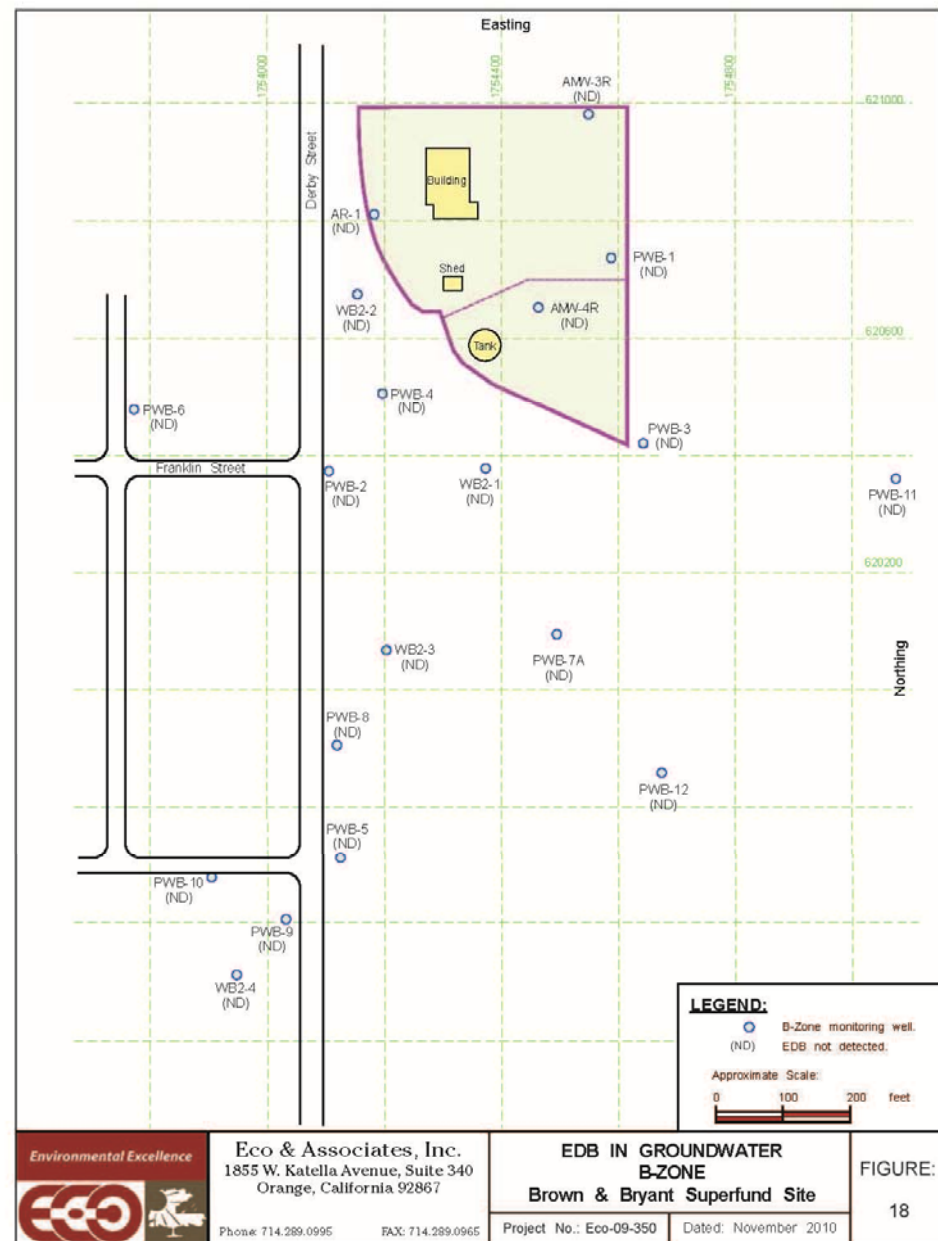
# B & B Superfund Site DBCP in B-Zone Groundwater

Source:  
US ACE 3<sup>rd</sup> 5-yr Review Report –  
Attachment C8, Figure 17



# B & B Superfund Site EDB in B-Zone Groundwater

Source:  
US ACE 3<sup>rd</sup> 5-yr Review Report –  
Attachment C8, Figure 18



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[http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/3dc283e6c5d6056f88257426007417a2/9b53d06f8c2d374f8825797c008296b1/\\$FILE/3rd%20Brown%20Bryant%205YR.pdf](http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/3dc283e6c5d6056f88257426007417a2/9b53d06f8c2d374f8825797c008296b1/$FILE/3rd%20Brown%20Bryant%205YR.pdf)
- Show the Poor-Quality Maintenance of the B&B Superfund Site in Some Previous Years

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