



Beale AFB Site PL582 in Lincoln, California

Site PL582, also known as the Lincoln Receiver Site, is a geographically separate unit belonging to the Beale Air Force Base (AFB) Environmental Restoration Program (ERP). The site is located approximately 25 miles south of Beale AFB on Moore Road, west of Highway 65 in Lincoln, California. It includes Building 4131 and was formerly used as a backup electrical generator facility in support of activities at the McClellan AFB Lincoln Communications Annex. Use of the site as a backup generator facility was discontinued in 1999 when McClellan AFB was closed. Management of the site was then transferred to Beale AFB. Building 4131 is currently used by maintenance workers. The site is considered a remote site, where most of the electrical systems still operating are monitored remotely. The site location, layout, and features are shown on Figure 1.

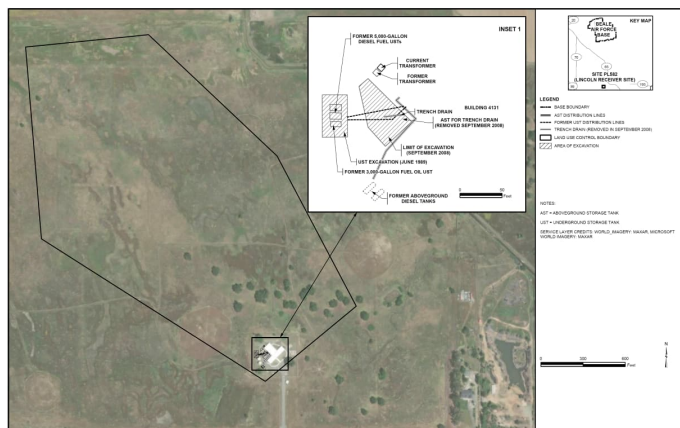


Figure 1. Map of Site PL582, the Lincoln Receiver Site ([click on the image to enlarge](#))

Phased investigations and interim corrective measures under the Resource Conservation and the Recovery Act (RCRA) were conducted from 1988 to 2015. Releases of diesel fuel and chlorinated solvents (primarily trichloroethene [TCE]) were identified. Fuel for the generators housed in Building 4131 was stored in three underground storage tanks (USTs) outside of the building. Diesel fuel leaked from the USTs and associated piping to the underlying soil and perched water. Perched water occurs at shallow depths of approximately 1 to 5 feet below ground surface and above a low permeability clay layer of soil and groundwater. The three USTs and the soil around the tanks have been removed, and two 4,000-gallon aboveground storage tanks were

installed to continue to provide diesel fuel for the backup generators.

The highest concentrations of TCE were identified near a transformer pad, located on the northwestern side of Building 4131. Past transformer maintenance practices at the site sometimes included the use of a degreasing solvent such as TCE to clean out the old oil from the transformer before adding new oil or decommissioning a unit. TCE released to soil has migrated to groundwater. TCE was historically detected in groundwater at concentrations up to 75.5 micrograms per liter ($\mu\text{g/L}$).

The human health risk assessment and water resources assessment identified TCE in groundwater as the only remaining chemical of concern (COC) at Site PL582. It was concluded that total petroleum hydrocarbons as diesel detected in soil and perched water does not pose a threat to groundwater. A detailed summary of the investigations performed at Site PL582, and their findings, is presented in the *Site PL582 Data Gap Investigation Summary Report*.¹

The remedy for Site PL582 is long-term monitoring of the groundwater plume and land use controls (LUCs) to restrict potential exposure to TCE vapors from the soil and groundwater. The remedy was selected in the *Site PL582 Statement of Basis / Corrective Measures Implementation Work Plan*.¹ Semiannual groundwater sampling and semiannual LUC inspections are ongoing. TCE remains in groundwater at concentrations above the maximum contaminant level of 5 $\mu\text{g/L}$. In 2023, TCE was detected in groundwater from monitoring wells at Site PL582 at concentrations up to 18 $\mu\text{g/L}$.

The Beale AFB ERP Administrative Record

The Beale AFB Administrative Record is an important resource for anyone interested in the environmental activities at the Base. It is a repository of reports and other documents detailing the environmental investigations and remediations that have been performed at Beale AFB since the start of the Base ERP, in the mid-1980s. These reports and documents are associated with the cleanup of chemicals and petroleum hydrocarbons that were released during historical activities at the base under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), known also as Superfund.

¹ This and other technical documents relating to the site can be found in the Beale AFB Administrative Record. Refer to the article entitled **The Beale AFB ERP Administrative Record**.

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A digital version of the Beale AFB Administrative Record is available to the public on the Air Force Civil Engineer Center (AFCEC) Administrative Record Search website <https://ar.afcec-cloud.af.mil>. The digital reports and documents on the Air Force website can be searched by individual sites, decision documents, document dates or date ranges, or keywords.

To access the Beale AFB reports and documents, click the **Continue to site** link on the bottom of the home page. This takes you to a search page for all available Air Force Administrative Records. Once on the search page, first click the button marked **Active Duty** in the upper left of the screen. Then, scroll down the list of active Air Force facilities on the left side of the screen and click **Beale AFB**. This will populate the search portion of the webpage in the right side of the screen. Each of the sites and decision documents (listed in the RODs box) are populated in the appropriate search box.

If you know what site or decision document you are looking for, just scroll through the appropriate search box, select the item, and click **Search**. A list of all of the associated

documents will appear at the bottom of the screen. The listings will include the name of the report, author, date, Administrative Record number (AR #), and file size. To the left of the title is an image of a magnifying glass. Click the magnifying glass to download an electronic version of the report. The report listings appear in chronological order based on the report date with the newest report at the top.

Large reports are divided into several parts on the Administrative Record. Each of the parts is listed (e.g., Part 1 of 5). To get all the pieces of the report, each part must be downloaded separately.

When you are done with your initial search and are ready to perform a new search, click the **Reset Search** button, which will clear previously selected information.

If you don't know what site or decision document you are looking for but know what time range the report was issued, you can do a blanket search by clicking the **Search** button without highlighting any site or decision document and without listing any keywords or subject words. This will list all of the documents in the Beale AFB Administrative Record in chronological order.

Administrative Record Search

Search Criteria

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Barter Island LRRS, AK

Beale AFB, CA

Bear Creek RRS, AK

Beaver Creek RRS

Bellows AFS, HI

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Big Mountain RRS, AK

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Subject or Title:

Full Metadata Search:

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Author:

Author Affil:

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Sites: Site Filter ...

OU: OU Filter ...

RODs: ROD Filter ...

Documents After: mm/dd/yyyy

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Search

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Administrative Record Search Screen

Plume CG041-017 Status and Path Forward

Background

Plume CG041-017 is the groundwater underlying Site OT017 in the southeastern part of Beale AFB. Historical activities at Site OT017 involved disposal of chlorinated volatile organic compounds (VOCs) and fuel. In the northern portion of the site, 11 shallow disposal trenches were discovered in 1985. One of the disposal trenches contained approximately 40 rusted 55-gallon steel drums. The other trenches contained remnants of steel drums, rock, and construction debris. It is unknown from where on the Base the waste deposited at Site OT017 originated, and during what time periods the disposal trenches were used. Contamination in soil migrated to groundwater underlying the site, which is being addressed as part of Site CG041 (Basewide Groundwater).

Preliminary assessment/site inspection activities began in 1987, and subsequently, a phased remedial investigation and several response actions were completed at Site OT017 to address groundwater contamination. The *Site 17 Remedial Investigation Report* concluded that Trenches 2 and 3 within the Primary Source Area were the source of chlorinated VOCs in soil and groundwater. The Air Force completed an interim response action in 2001. Drums were removed and trenches were filled; Best Slough was rerouted; and a slurry wall, groundwater extraction and treatment system (GETS), and phytoremediation system were constructed in the Primary Source Area. In 2007, a second slurry wall and a zero-valent iron (ZVI) permeable reactive barrier (PRB) were installed to contain and treat chlorinated VOCs in groundwater in a newly identified Secondary Source Area located immediately downgradient from the Primary Source Area. Groundwater contamination in the Secondary Source Area migrated from the Primary Source Area. Dense nonaqueous phase liquid is present in both source areas.

Plume CG041-017 groundwater COCs consist of chlorinated VOCs with TCE being the primary COC.

Final Remedy

A Record of Decision was signed in June 2018, which presented the final remedy for Plume CG041-017. The final remedy includes the following:

- Continued containment using existing slurry walls
- Treatment with enhanced reductive dechlorination (ERD) and PRB with in situ chemical reduction
- Groundwater monitoring
- LUCs

There are two main components to the active portion of the final remedy: ERD and PRB (Figure 2).

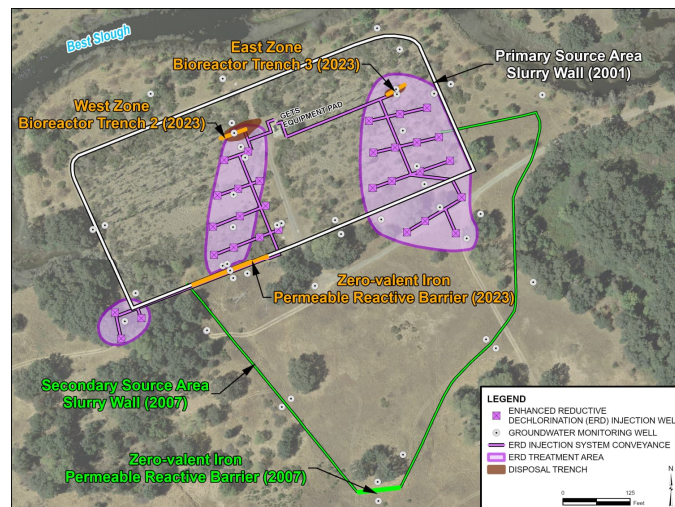


Figure 2. Map of Site OT017 (click on the image to enlarge)

Permeable Reactive Barrier

The supplemental PRB includes a treatment wall of ZVI and sand within the Primary Source Area slurry wall to intercept the flow of groundwater containing the chlorinated VOCs. With the PRB installed, the GETS will no longer be required to maintain an inward hydraulic gradient. The existing Primary Source Area slurry wall outside of the new PRB will remain undisturbed and continue to contain the plume.

Enhanced Reductive Dechlorination

The final remedy allows injection of emulsified vegetable oil (EVO) in groundwater at the site. The GETS extracts water from lateral drains along the southern boundary of the Primary Source Area. The extracted water is mixed with EVO and injected into 30 injection wells. After EVO injections, groundwater is extracted and re-injected into the bioreactor trenches as the GETS continues to operate.

Path Forward

The construction of the final remedy will take two field seasons to avoid impacts to nesting birds. The final remedy construction started in August 2023 and will be completed in the fall of 2024. Following remedy construction, a remedial action construction completion report will be prepared documenting the implementation of the final remedy. The Air Force will continue to operate and maintain the system as described above until the site remedy is completed. Semiannual groundwater sampling will be completed in accordance with the established Monitoring and Reporting Program, in addition to semiannual LUC inspections.

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Restoration Advisory Board Tours and Meetings

You are cordially invited to attend the public Restoration Advisory Board (RAB) meetings and tours. **The next RAB meeting is scheduled for November 14, 2024**, from 6:00 p.m. to 7:00 p.m. Meetings are held off-base at the One Stop Center for Business and Workforce Development, Second Floor, 1114 Yuba Street, Marysville, California. **Please stay tuned to your email for updates.**

To find out more about the RAB at Beale AFB, to be placed on the email mailing list, or to inquire about becoming a RAB member, please contact any of the following individuals:

Mr. Darren Rector
Remedial Program Manager, AFCEC/CZOW
(530) 634-2606
darren.rector.2@us.af.mil

Ms. Michelle Lewis
9 RW/A7I Deputy Director
RAB Co-Chair
(530) 634-2801
michelle.lewis@us.af.mil

1st Lt Hailey Malay
Public Affairs Officer
Office of Public Affairs
(530) 634-8891
hailey.toledo.1@us.af.mil

2024 RAB Schedule			
January <i>No RAB Events</i>	February 15 	March 	April <i>No RAB Events</i>
May 16 	June Bus Tour	July <i>NO SUMMER TOUR</i>	August <i>NO SUMMER TOUR</i>
SUMMER			
September 	October <i>No RAB Events</i>	November 14 	December <i>No RAB Events</i>

