



# ***Kirtland Air Force Base Bulk Fuels Facility Leak Cleanup***

***Public Meeting  
November 5, 2020 (6:00—7:30 PM)***

**Kathryn Lynnes, Air Force, Office of the Secretary  
Sheen Kottkamp, Air Force Civil Engineer Center**



# ***Discussion Topics***



- **Status update: Ethylene Dibromide (EDB) interim corrective measure pump and treat**
  - Status of EDB plume north of Ridgecrest
  - Volume of groundwater treated
  - Influent release from the GWTS
- **Recent Field work:**
  - Injection well KAFB-7 computer programming and testing
  - New injection well KAFB-106IN2
- **Upcoming field work**
  - Completion of the new injection well
  - Data gap monitoring wells – round 2
- **Upcoming activities**





# EDB Plume – 2015 vs 2020

## EDB PLUME - 2015 vs 2020



*\*Plume maps are based on actual measurements and not simulations*

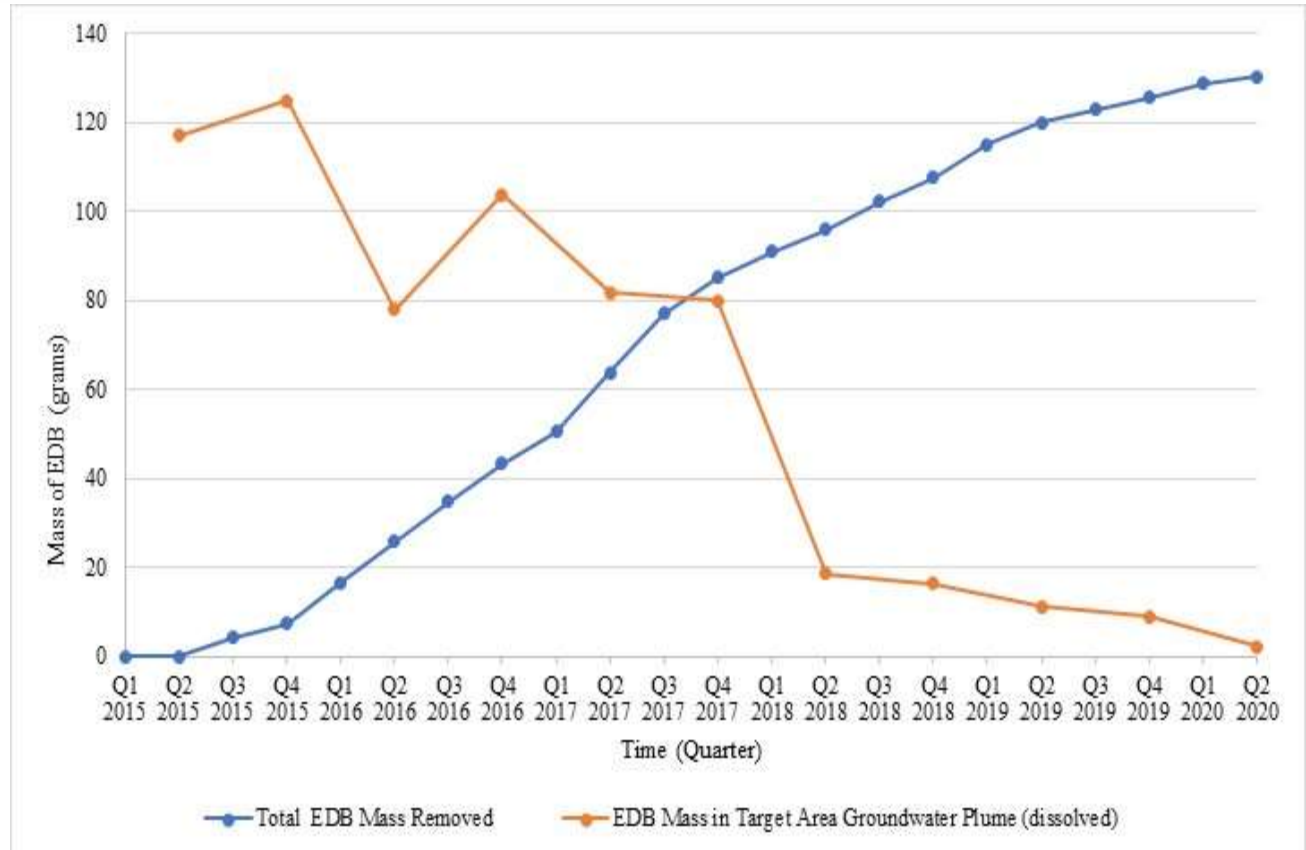
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# Status Update: EDB Interim Measure



## EDB Mass in Groundwater vs. Time



Pump and treat interim measure has achieved over an estimated 98% reduction in mass of the dissolved EDB groundwater plume since 2015



## ***EDB Interim Measure, a success story***



- **Where we were, where we are today**
  - June 2015: extraction well KAFB-106228 was installed and construction of a temporary ground water treatment system was completed
  - December 2015: two additional extraction wells KAFB-106233 and KAFB-106234 were installed and a full scale ground water treatment system was completed
  - In 2017 the ground water treatment system was upgraded to increase capacity from 400 gallons per minute (gpm) to 800 gpm
  - February 2018: installed and engaged an additional extraction well KAFB-106239
  - We are approaching one **billion** gallons of groundwater extracted and treated
  - We are seeing the collapse of the EDB plume within the target capture zone, the EDB interim measure is working well
  - Additional means/methods for the management of the treated groundwater have been completed or will be completed soon as we will be discussing in this presentation. Having these methods in place ensures we always have a viable option for the disposition of the treated ground water.
  - The Air Force is accomplishing what the NMED and the community required us to do



# *Status update: EDB Interim Measure*



Over 989 million gallons of groundwater have been treated, to date, using granular activated carbon to remove EDB to at or below federal drinking water standards



Groundwater Treatment System (GWTS) on Kirtland AFB



Groundwater is treated in much the same way that a filter removes dissolved contaminants in a pitcher of drinking water



# ***GWTS Release***



- A release of influent water occurred when the backup power system failed during a power outage
- A power outage occurred between approximately 6:45 and 9:00 p.m. on 5 October that:
  - Shut down the treatment system;
  - Failed to shut down extraction wells KAFB-106233 and 106234;
  - The groundwater overflowed the influent tank and the secondary containment capacity of the building was exceeded; and
  - Released between 38,000 and 83,000 gallons of influent groundwater to the environment





# ***GWTS Release***



- The release did not result in environmental contamination
  - A water sample was non-detect for EDB
  - Fourteen soil samples were also non-detect for EDB
- The GWTS was quickly returned to operation
  - System was repaired and operational again in less than 48 hours
  - A new backup power supply was installed
  - A backup power supply was added and is checked daily and tested monthly





# ***GWTS Release***



- The NMED HWB was notified in accordance with Part 1.27 of the Kirtland AFB Resource Conservation and Recovery Act (RCRA) Permit issued by the NMED
  - 24-hour notification was made to NMED HWB on 6 October
  - A written report with sample results was submitted to the NMED HWB on 20 October per permit requirements
  - The report is available on the AFCEC Administrative Record at <https://ar.afcec-cloud.af.mil/>, search Kirtland AFB and enter AR # 4153,
  - The documents can also be found on the Kirtland BFF website at <https://www.kirtland.af.mil/Home/BFF/>



# ***Recent Field Work***



- Recent field work has focused on improvements to how we manage the treated groundwater from the GWTS
- Completed computer programming, testing, and final inspection of injection well KAFB-7; well is up and operational
- Installed and pump tested a new injection well KAFB-106IN2
  - Well installation began in early July
  - Pump testing completed, connection to the GWTS effluent line completed, electrical and communications currently being installed
  - Once electrical and communications are completed, an operational injection test will be performed to test the well and associated infrastructure under actual operating conditions
- Performed routine maintenance on the sprinkler systems and main pond at the Tijeras Arroyo Golf



# ***New Injection Well KAFB-106IN2***



- Groundwater Discharge Permit DP-1839 allows the Air Force to install up to four additional injection wells
- After consultation with NMED and stakeholders, the Air Force funded a second injection well – KAFB 106IN2
  - Office of the State Engineer issued A permit to change an existing water right on 20 Jan. 2020 (RG-1579)
  - NMED approved the work plan for the new well on February 28, 2020.
- Well installation began in early July
  - Well has been pump tested to 800 gallons per minute



# ***Data Gap Monitoring Wells***



- Work plan proposes to install six wells and potentially a step out well
  - Wells installed will address additional data gaps as a result of the rising groundwater elevations as well as provide additional data for the characterization of contaminant migration pathways beneath the source area
  - One well to include soil coring to assess the presence of a clay layer at approximately 250-foot depth
  - If clay layer is encountered, boring will be converted to a soil vapor well and a step-out boring will be advanced further to the east
  - Step-out boring will be converted to a groundwater monitoring well
- Scope of work was a collaborative effort between NMED and Kirtland AFB
- Work plan submitted to NMED on 20 December 2019, approval with modifications received 14 July 2020
- NMED requested relocation of one well to the Source Area to assist in further characterization of the area with the goal of ascertaining the migration pathway of the released fuel
- Drilling to begin first week November 2020 in the Source Area



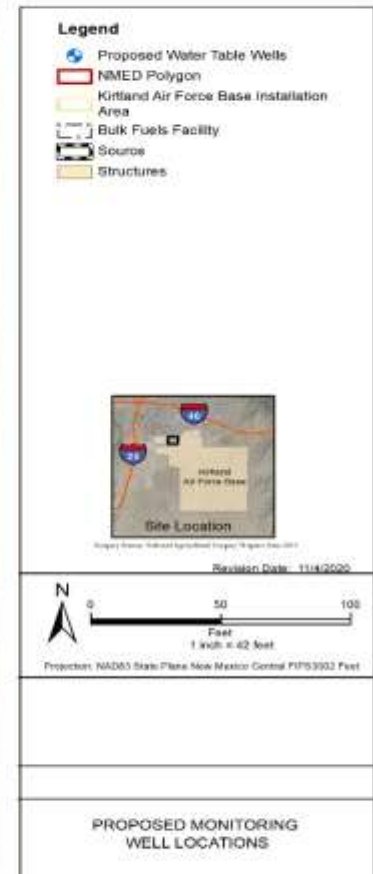


# Data Gap Monitoring Wells





# Data Gap Monitoring Wells



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# *Upcoming Field Work*



- New Injection Well KAFB-106IN2
  - Electrical installation, communications installation, computer programming, testing, and final inspection
- Data Gap Well Installation
  - Begins first week November in the source area
  - Continue the drilling, installation, and sampling effort of both on and off-base wells



# *Upcoming Activities*



## **Scheduled or underway for 2020**

- Continue to operate the Groundwater Treatment System
- Bioventing pilot test will continue
- In-Situ Bioremediation test will continue
- Status of the new injection well KAFB-106IN2 under DP-1839 will be discussed in the next public meeting
- Data gap wells will be installed and sampled
- Quarterly monitoring and EDB interim measure will continue

## **Anticipated for 2021**

- Shallow soil vapor sampling will be performed
- Phase II RFI Report will be submitted
- Bioventing and EDB pilot test monitoring will continue
- Quarterly monitoring and EDB interim measure will continue

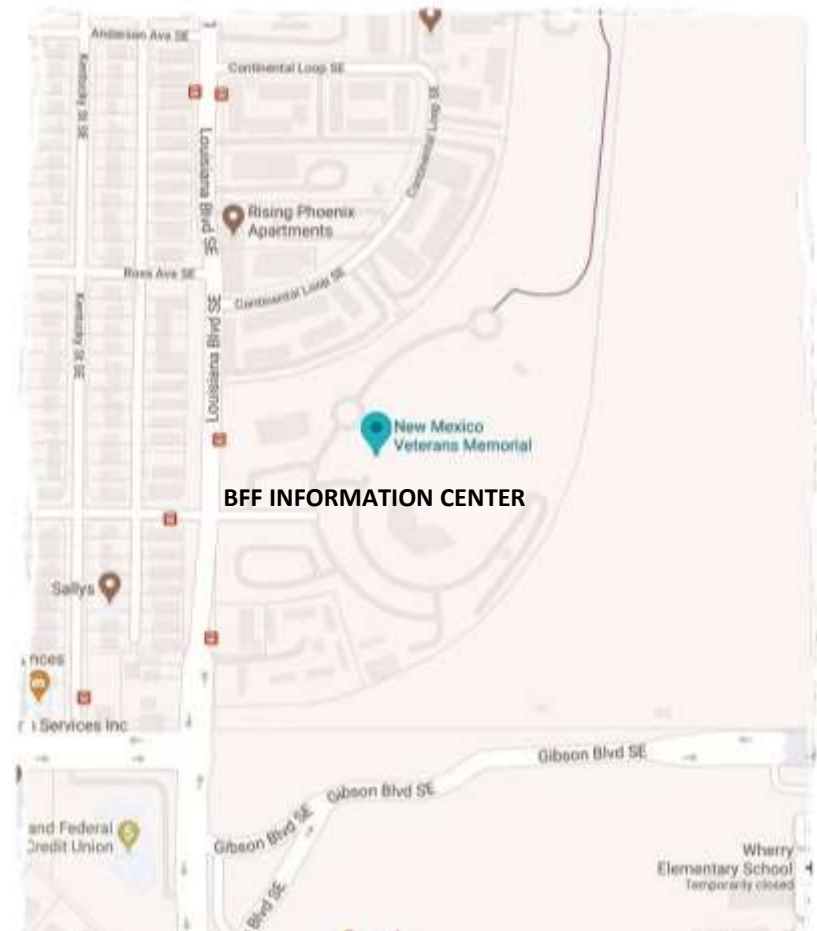




# Community Outreach



- We welcome your input and look forward to seeing you at the next public meeting tentatively scheduled for 22 April 2021
- The new Information Station located at the New Mexico Veterans Memorial at 1100 Louisiana Blvd SE, Albuquerque, just north of Gibson Blvd remains closed due to COVID-19
- The Veterans Memorial will remain closed, pending further guidance from our governor
- We apologize for the delay; however, the AFCEC Administrative Record has been updated to include all documents associated with the BFF project from June 2020 to the current date





# Questions?



## Point of Contact:

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## Additional information:

Online at <https://www.kirtland.af.mil/Home/BFF/> and <https://ar.afcec-cloud.af.mil/> or visit our New Information Station at the New Mexico Veterans Memorial at 1100 Louisiana Blvd SE, Albuquerque, NM