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Meeting Date: August 21, 2019  
Staff Contact: Diane Agnew, Environmental Manager

**TITLE: OB-19-14 – Status Update for the Kirtland Air Force Base Bulk Fuels Facility Fuel Leak Cleanup**

**SUMMARY:**

The Albuquerque Bernalillo County Water Utility Authority (Water Authority) continues to monitor the progress of corrective action activities being conducted by the U.S. Air Force and the Air Force Civil Engineering Center (AFCEC) to address the Bulk Fuels Facility (BFF) jet fuel leak that has contaminated the aquifer near the Ridgecrest Well Field. Recent activities have included the continued operation of the pump and treat interim measure, testing of the bioventing interim measure, and continued sampling of groundwater and soil vapor.

On February 25, 2019 the New Mexico Environment Department (NMED) sent Kirtland Air Force Base (KAFB) a letter detailing deadlines for submittal of data, reports and work plans that the Air Force is required to be in compliance with for their Resource Conservation and Recovery Act (RCRA) permit. Failure to meet the deadlines will be violations of the permit and subject to enforcement action. Additionally, the NMED sent the Water Authority a letter on June 5, 2019 stating that: they are committed to ensuring the Air Force take full responsibility for the spill, they will collaborate with the Water Authority on technical matters related to cleanup activities, and the Water Authority is a valuable technical resource and stakeholder.

**STAFF COMMENTS:**

Since the June 5, 2019 letter to the Water Authority, the NMED has met with Water Authority staff on two occasions to discuss technical comments and concerns regarding submitted work plans and the Air Force's evaluation of the pump and treat performance. The NMED has shifted their staff to ensure that the Hazardous Waste Bureau is leading the efforts and attending meetings. Most recently, the NMED rejected a work plan submitted by the Air Force for shallow soil vapor, incorporating comments and concerns submitted by the Water Authority staff. The NMED is currently identifying the next actions and deliverables to continue progress at the site.

**FISCAL IMPACT:**

None



# New Mexico Environment Department

## Kirtland Air Force Base Jet Fuel Spill Clean-Up Update

Stephanie Stringer, Resource Protection Division Director

August 21, 2019





# NMED Guiding Principles

***Our four guiding principles are the means by which we protect and restore the vironment and foster a healthy and prosperous New Mexico for present and future generations.***



1. **Science** – Using the best available science and data to inform our decision-making in protecting public health and the environment.



2. **Innovation** – Employing creative engineering and technological solutions to address environmental problems.



3. **Collaboration** – Engaging communities and interested stakeholders in environmental decision-making.



4. **Compliance** – Ensuring meaningful compliance with state regulations and permits.





# 2019 Activities to Protect Albuquerque's Aquifer and Drinking Water

1. Implement a robust site monitoring and wellhead protection program.
2. Update the Conceptual Site Model.
3. Deploy multiple engineered technologies.
4. Continue to involve, provide information to, and collaborate with the public.



# Site Monitoring and Wellhead Protection



## Groundwater

- Drilling to fill data gaps caused by rising water table is complete. The new data will be evaluated for adequacy.

## Soil Vapor

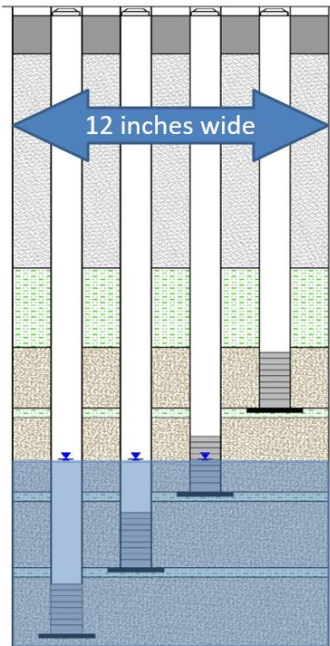
- Monitoring to confirm no risk of vapor intrusion will be done by the Air Force.

## LNAPL

- Core drilling to fill data gaps on residual LNAPL is complete.

## Drinking Water

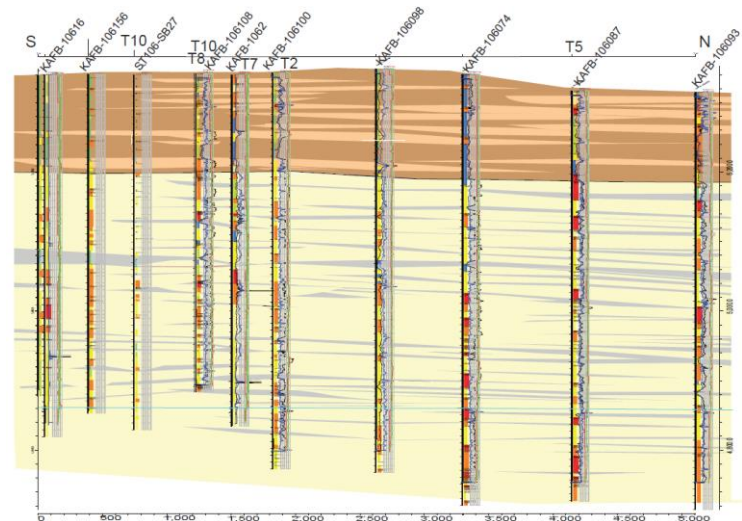
- Monthly monitoring shows no detections of EDB in drinking water wells or sentinel wells.





# Update the Conceptual Site Model

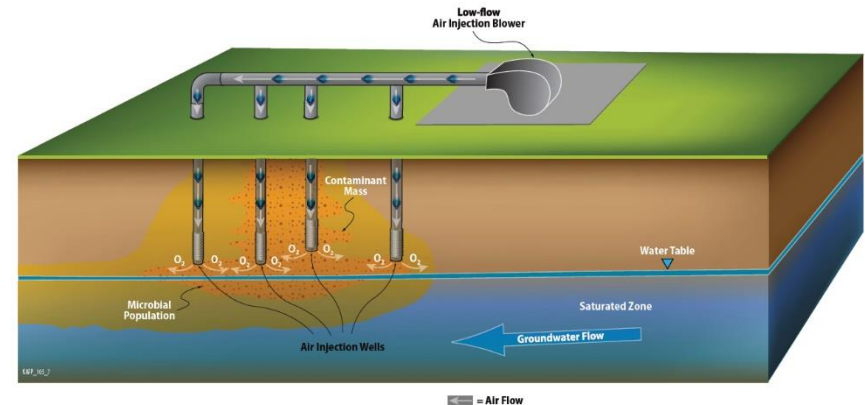
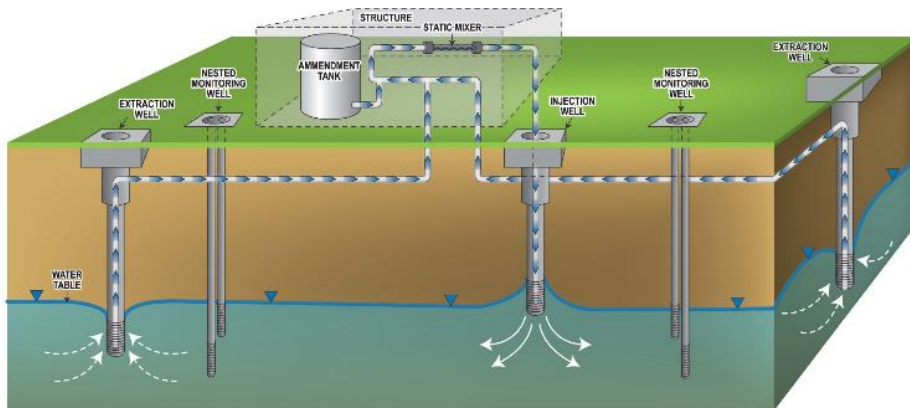
- The Air Force updates the model as necessary to describe physical, chemical and biological processes that affect the migration and fate of fuel contamination in soil, soil vapor and groundwater.
- The Conceptual Site Model is a critical tool in predicting the behavior of groundwater and the plume. A variety of factors, including geology, water table levels and rates of natural degradation, can affect this behavior.





# Deploy and Evaluate Innovative Technologies

- Continue to collapse the northern area of the EDB plume by operating the groundwater pump-and-treat system.
- Continue the *in-situ* groundwater EDB biodegradation pilot test.
- Begin the bioventing pilot test to supply soil bacteria with oxygen and moisture.







# Collaborate and Communicate

- ▣ Public meetings, poster sessions, deep dives, and field trips.
- ▣ NMED Public Involvement Plan.
- ▣ Record maintained on website.
- ▣ Engage students.







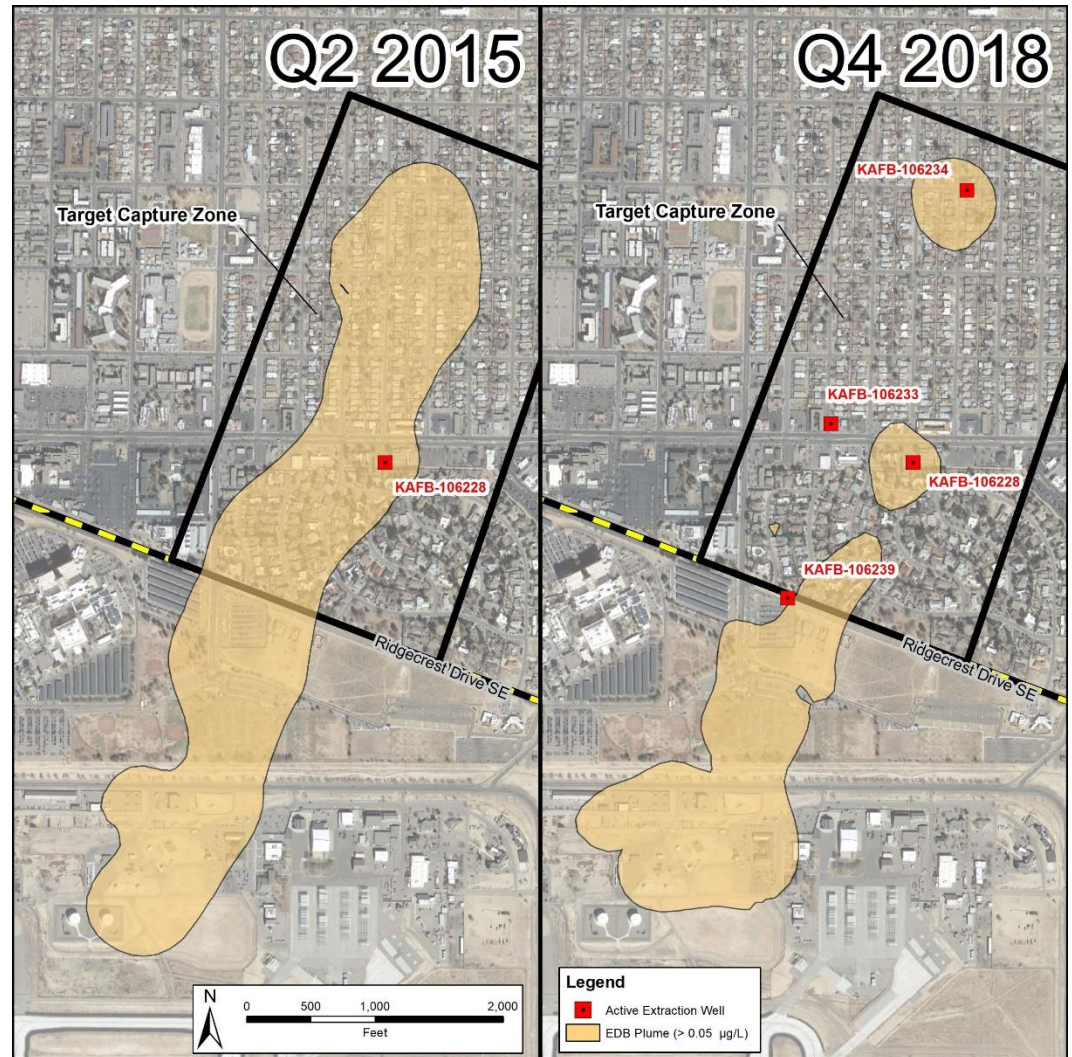
# Milestones

- ❑ Soil Vapor Workplan due May 30, 2019; NMED issued Notice of Rejection; Revised Version due on or before October 30, 2019
- ❑ LNAPL Results Due November 1, 2019
- ❑ Bioventing Pilot Test Results due January 31, 2020



# Evidence of EDB Plume Collapse North of Ridgecrest Dr.

- Target Capture Zone (TCZ) is groundwater north of Ridgecrest Dr. SE
- EDB plume is mapped as groundwater concentrations greater than the Drinking Water Standard of 0.05  $\mu\text{g/L}$
- Second quarter of 2015 (Q2 2015) was before startup of groundwater pump-and-treat system





# NMED's Team

<b>Name(s)</b>	<b>Unit</b>
<b>Mariana Padilla</b>	Governor's Office
<b>James C. Kenney</b>	Office of the Secretary
<b>Maddy Hayden</b>	Public Information Officer
<b>Stephanie Stringer</b>	Resource Protection Division Director
<b>John Kieling</b> <b>Dave Cobrain</b> <b>Vacant Position</b>	Hazardous Waste Bureau
<b>Michelle Hunter</b> <b>Steve Pullen</b> <b>Andrew Romero</b>	Ground Water Quality Bureau
<b>Sarah Holcomb</b>	Surface Water Quality Bureau
<b>Dennis McQuillan</b>	Chief Scientist
<b>Vacant</b>	Petroleum Storage Tank Bureau
<b>Joe Martinez</b> <b>Jill Turner</b>	Drinking Water Bureau
<b>DB Stephens, Inc.</b>	NMED Contractor



# Current Activities

- ❑ HWB transitioning to lead and implementing Resource Conservation and Recover Act requirements.
- ❑ Evaluating and needs for additional interim corrective measures.
- ❑ Mapping regulatory path forward through final remedy selection.
- ❑ Track and monitor progress, expediting wherever possible.



# Questions?

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