

# Air Force Civil Engineer Center

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## Cannon AFB PFAS Public Update

12 November 2024

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*Battle Ready... Built Right!*



- **PFAS Investigation**
- **Groundwater Fate and Transport Modeling project**
- **South-East Engineering Evaluation/Cost Analysis – Pilot Study**
- **North Playa Engineering Evaluation/Cost Analysis – Pilot Study**
- **Going Forward**
- **Additional Information**
- **Common Acronyms**



- **Preliminary Assessment (PA) – Completed October 2015**
- **Site Inspection (SI) – Completed August 2018**
- **Off Base SI – Completed September 2018**
- **Remedial Investigation (RI) – In progress**
- **Feasibility Study**
- **Public Participation/Record of Decision**
- **Remedial Design/Remedial Action**
- **Remedial Action Completion Report/Response Complete**



# PFAS Remedial Investigation



## ■ Remedial Investigation Status

- August 2020 RI Contract awarded
- 2022 new EPA Regional Screening Levels (RSLs)
- 2023 updated EPA RSLs
- RI work completed to date:
  - Soil samples: on Base 1038 – off Base 42
  - Sediment samples: on Base 12
  - Surface Water Samples: on Base 12
  - Groundwater samples: on Base 70 (2 rounds), off Base 38
  - Currently working on soil borings inside the North Playa Lake (90% complete) and soil borings step outs inside the base (RS103 and FTAs).

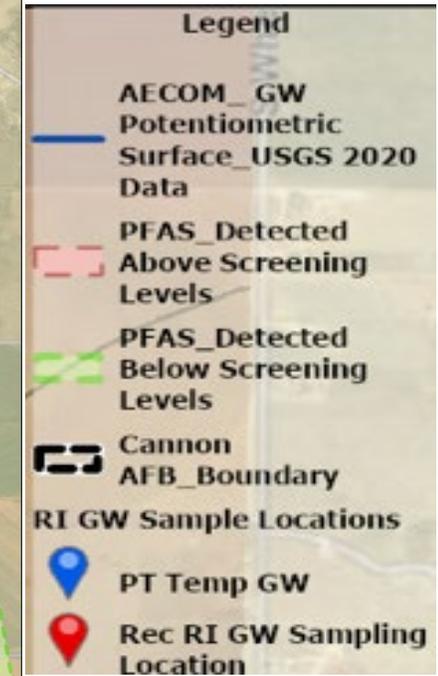
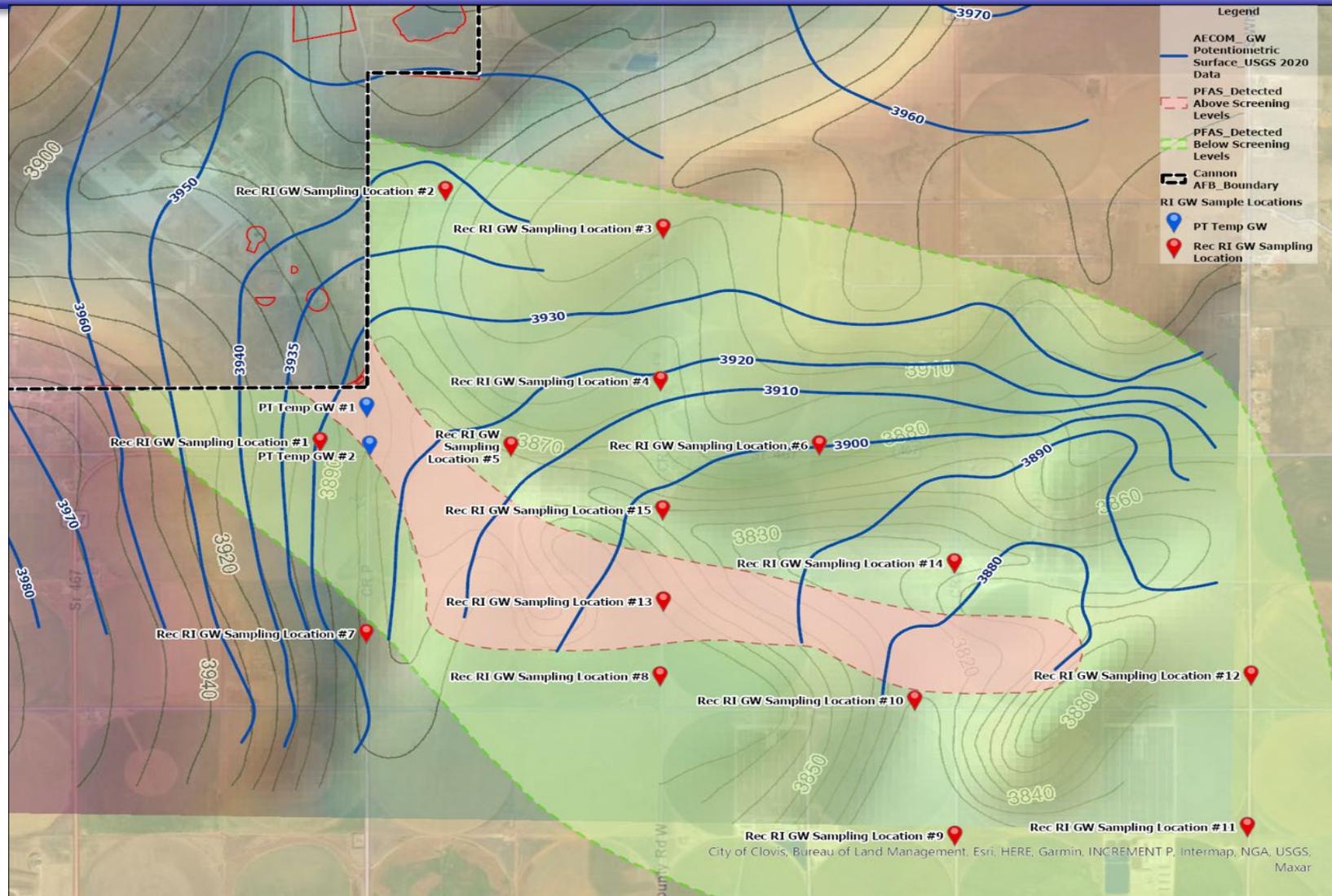


# PFAS Remedial Investigation





# PFAS Remedial Investigation





# *Groundwater Fate and Transport Modeling*



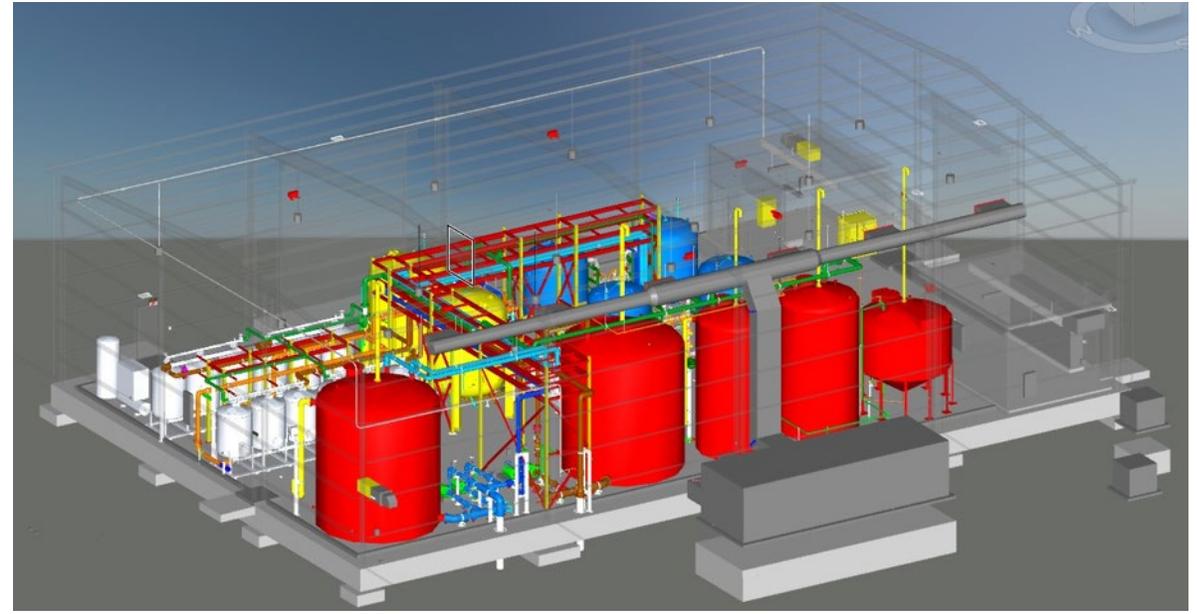
- **Groundwater Modeling**
  - **September 2024 Contract awarded**
  - **October 2024 Kick off meeting completed**
- **This work will support pump-and-treat design for PFAS impacts in groundwater at and near Cannon AFB.**
- **The activities include the following:**
  - **Update the Conceptual Site Model (CSM)**
  - **Develop groundwater flow and contaminant transport models**
  - **Perform predictive modeling to assess potential groundwater remedies**



# South-East Engineering Evaluation/Cost Analysis– Pilot Study

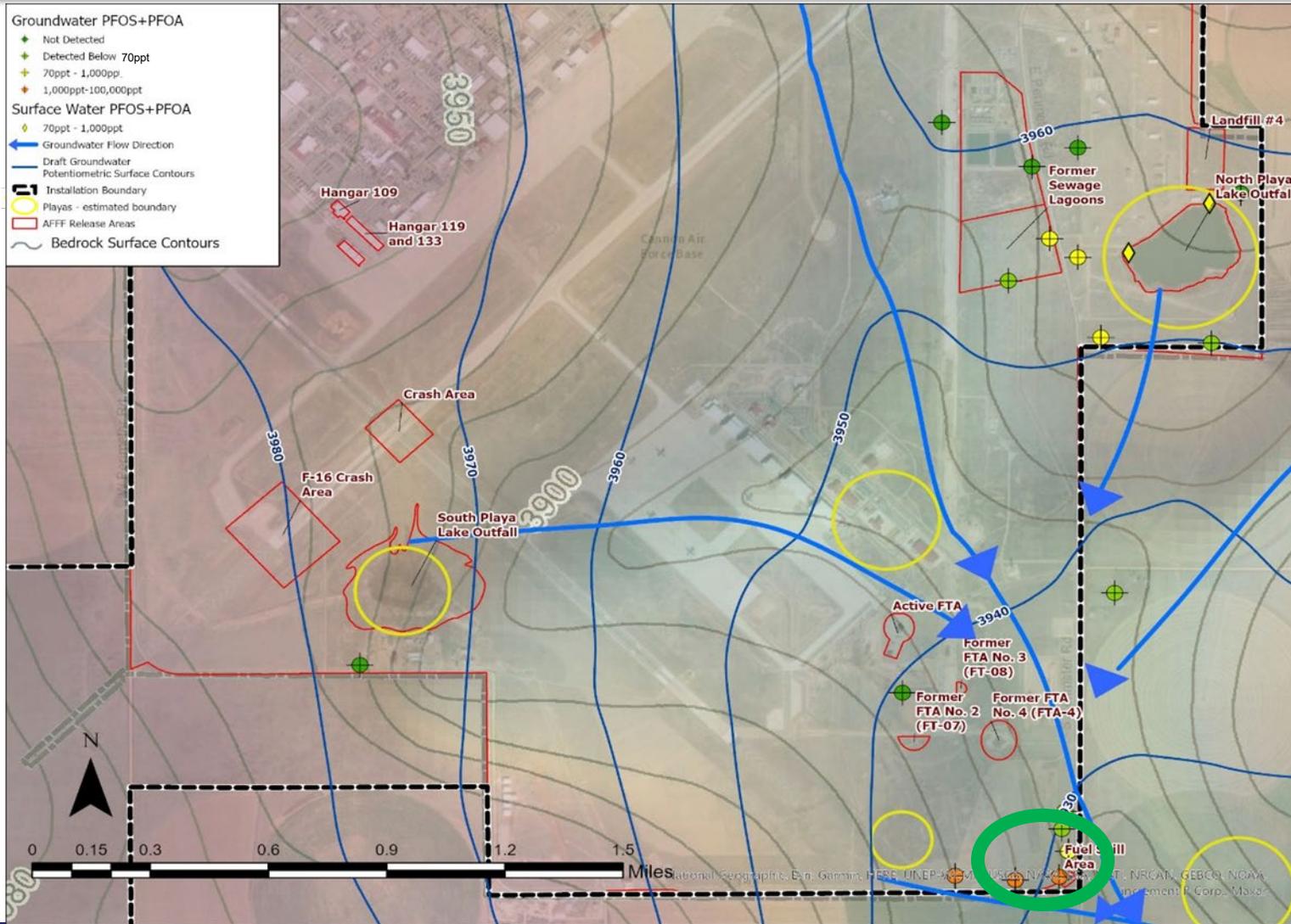


- Award COMPLETED – May 2021
- Initial Site Visit COMPLETED – June 2021
- Kick-Off Meeting COMPLETED – June 2021
- Sampling Event COMPLETED – June 2021
- Treatability Study COMPLETED – December 2021
- Aquifer Test COMPLETED – December 2021
- Design/Work Plan COMPLETED – June 2023
- Construction IN PROGRESS – July 2023
- Operation Start – March 2025
- EE/CA Final – June 2025
  - 30-day NMED/EPA/Public comment period
  - EE/CA output will determine interim action





# South-East Engineering Evaluation/Cost Analysis– Pilot Study



- Groundwater PFOS+PFOA**
- Not Detected
  - Detected Below 70ppt
  - 70ppt - 1,000ppt
  - 1,000ppt-100,000ppt
- Surface Water PFOS+PFOA**
- 70ppt - 1,000ppt
- Groundwater Flow Direction
- Draft Groundwater Potentiometric Surface Contours
- Installation Boundary
- Playas - estimated boundary
- AFFF Release Areas
- Bedrock Surface Contours

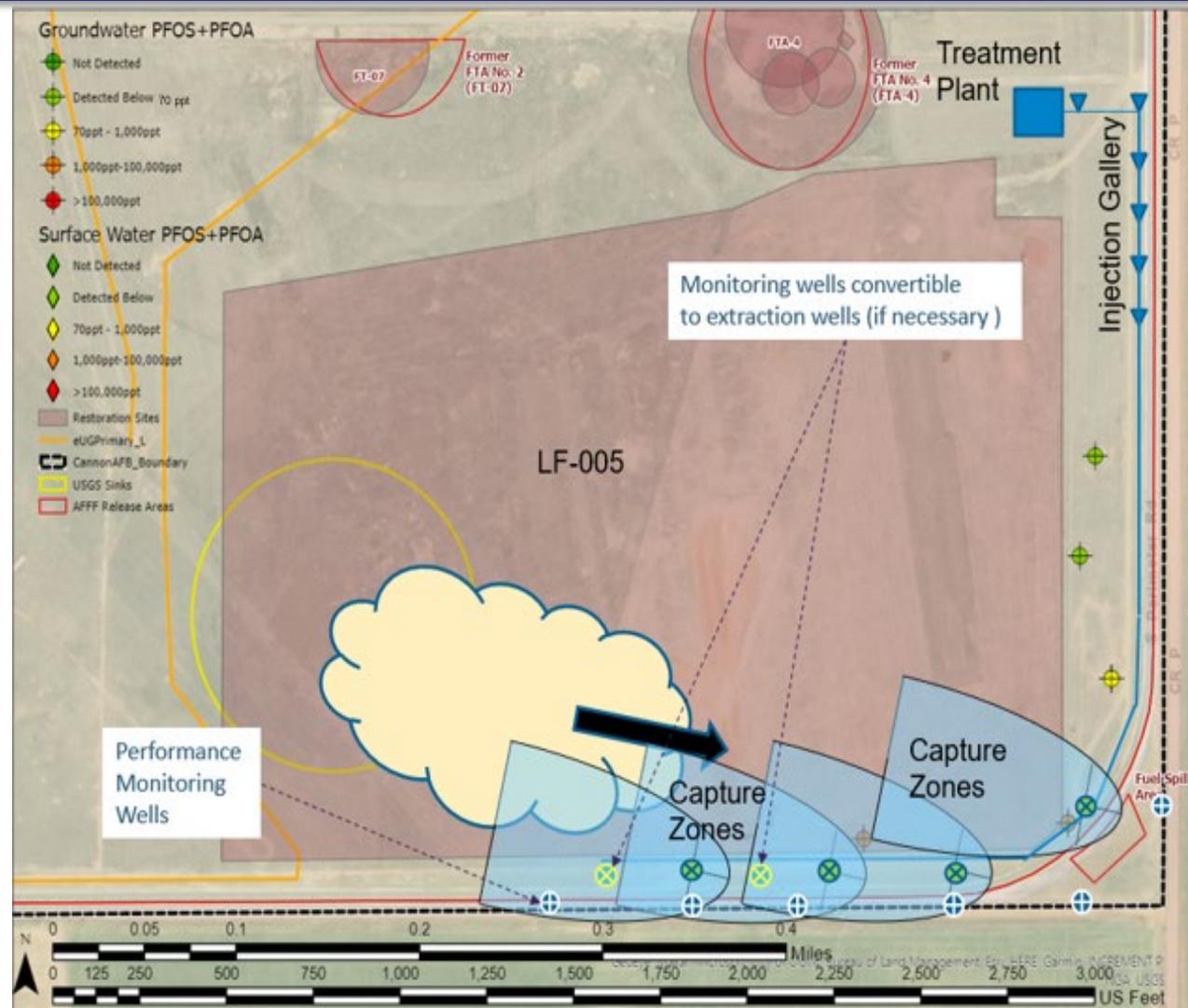
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# South-East Engineering Evaluation/Cost Analysis— Pilot Study



- **6 Extraction wells**
  - 4 extraction wells with pumps
  - 2 extraction wells with out pumps for monitoring wells
- **6 Injection wells**



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# South-East Engineering Evaluation/Cost Analysis— Pilot Study



*Your Success is Our Mission!*



# South-East Engineering Evaluation/Cost Analysis— Pilot Study





# South-East Engineering Evaluation/Cost Analysis— Pilot Study

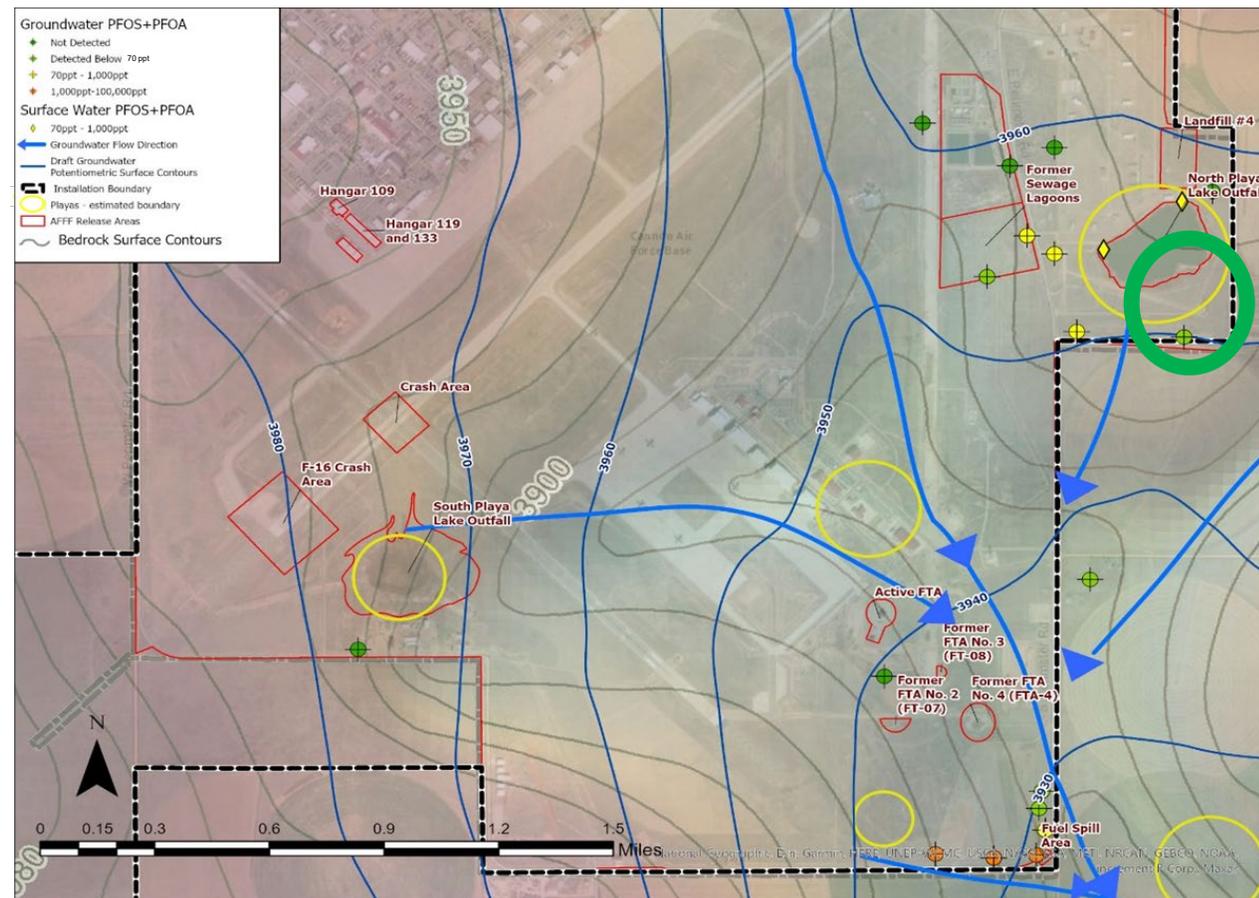




# North Playa Engineering Evaluation/Cost Analysis– Pilot Study



- **Contract Awarded – September 2023**
- **Kick-Off Meeting COMPLETED – October 2023**
- **Sampling Event COMPLETED – August 2024**
- **Treatability Study – April 2025**
- **Design – September 2025**
  - Final Design to NMED/EPA – June 2025
    - 30-day NMED/EPA comment period
    - Design finalized – September 2025
- **Construction Start – September 2025**
- **Operation Start – September 2026**
- **EE/CA Final – ~August 2028**
  - 30-day NMED/EPA/Public comment period
  - EE/CA output will determine interim action



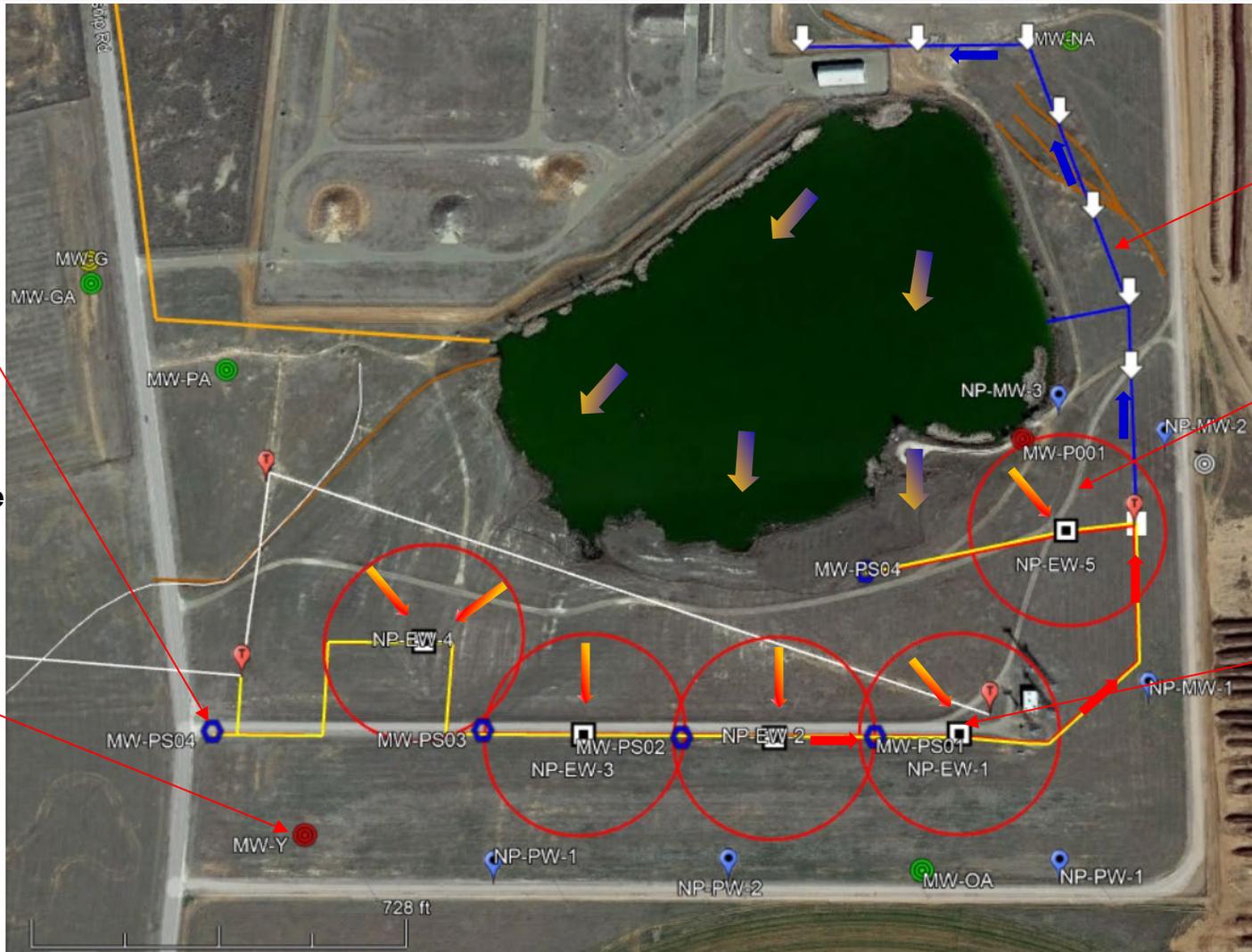


# Closed Loop Groundwater Recirculation North Playa Lake Pilot Study Treatment System Design Layout



Additional extraction wells without pumps operating as monitoring wells increases system efficiency and flexibility  
In case future groundwater extraction capacity is necessary

Existing monitoring well network will be augmented with performance monitoring wells to ensure compliance at base perimeter



Groundwater reinjection following treatment

1000 gallon per minute groundwater treatment in a lead lag configuration  
Using 56,000 ion exchange resin, GAC pretreatment

5 extraction wells operating at 200 GPM per well, optimal balancing to environmental conditions

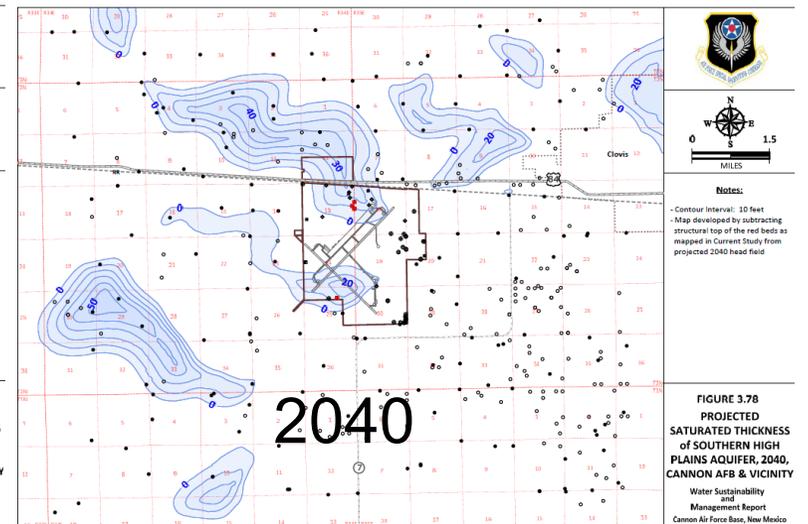
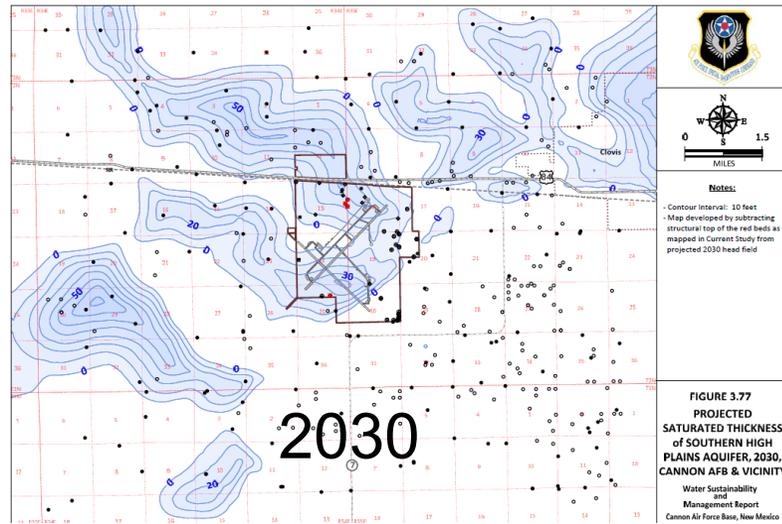
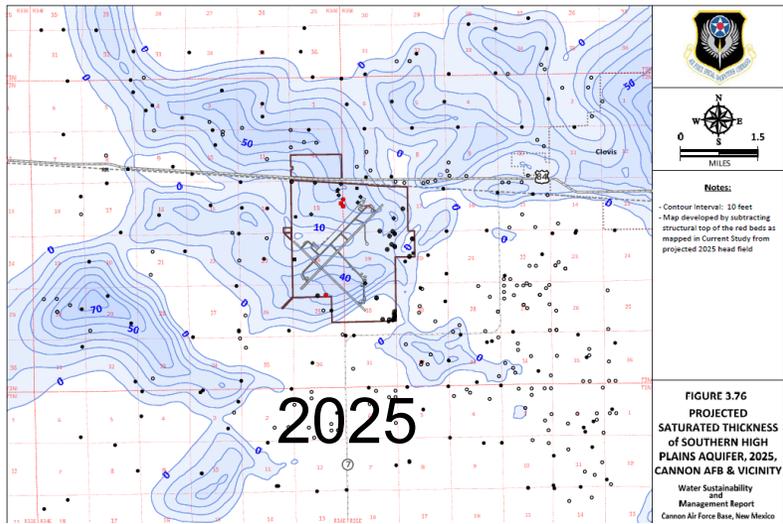
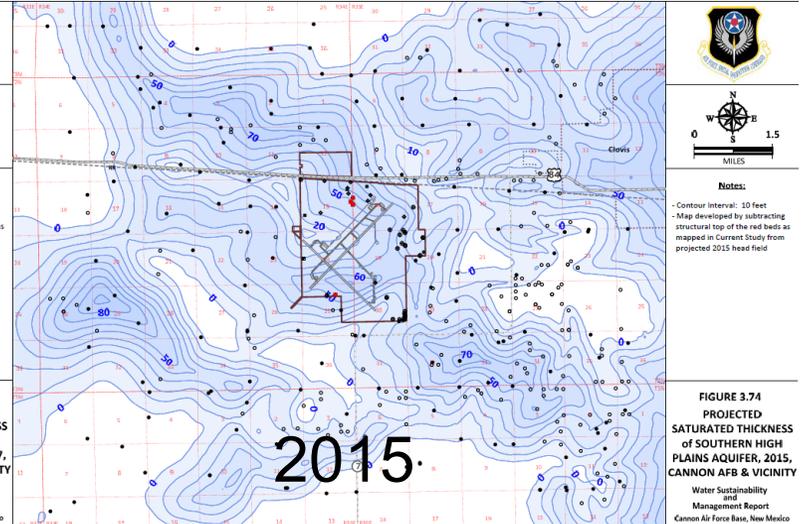
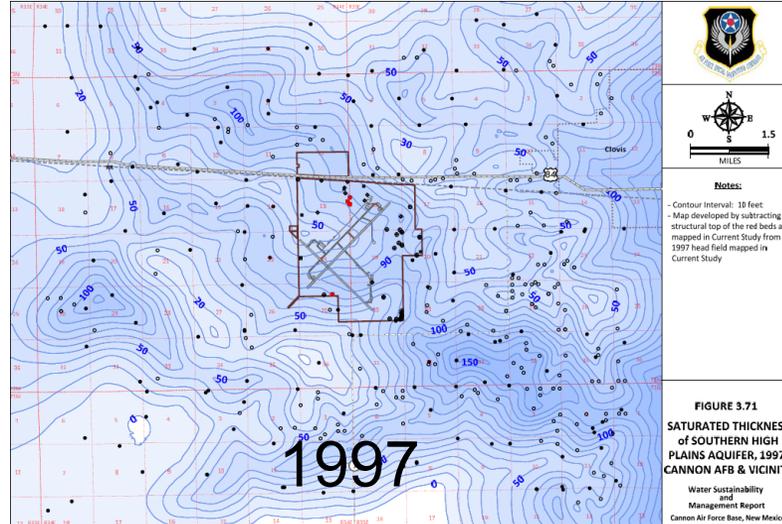
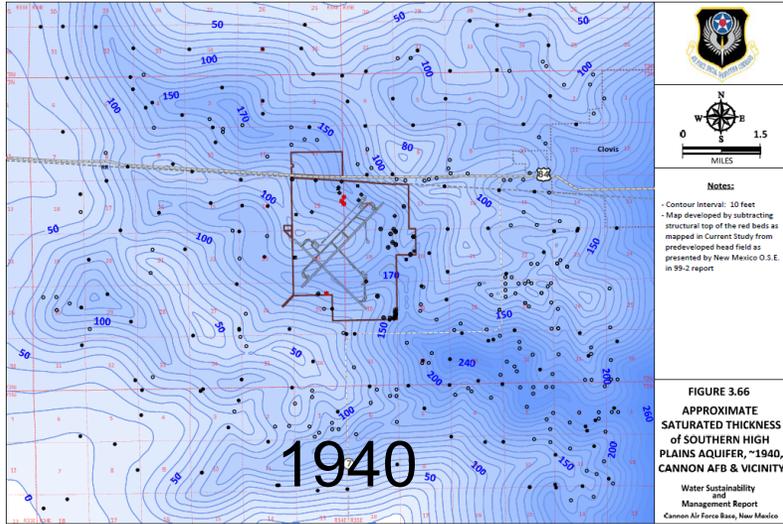


# North Playa Engineering Evaluation/Cost Analysis— Pilot Study





# Cannon AFB Groundwater Declination





# ***PFAS Response Spending to Date***



- **Expenditures to date \$73,237,157**
  - **Preliminary Assessment: \$38,754**
  - **Site Inspection: \$2,024,231**
  - **Off Base Site Inspection: \$505,000**
  - **Remedial Investigation: \$10,684,793**
  - **United States Geological Survey (USGS): \$3,369,000**
  - **South-East Corner Engineering Evaluation/Cost Analysis – Pilot System: \$23,576,561**
  - **North Playa Engineering Evaluation/Cost Analysis – Pilot System: \$30,292,016**
  - **Off Base Point of Use Filtration: \$843,515**
  - **Investigation for alternate PFAS Sources: \$133,810**
  - **Groundwater Fate and Transport Modeling project: \$1,769,477**



- **South-East EE/CA - Pilot Study**
  - **Start operation soonest**
- **North Playa EE/CA - Pilot Study**
  - **Complete design, and start construction**
- **Remedial Investigation**
  - **Field work; start monitoring well installation off base once access granted**
- **Groundwater modeling**
  - **Complete workplan documentation, then move into data collection**
- **Next Public Update**
  - **Tentatively planned 13 May 2025**



# DoD Virtual, Public Information and Listening Session



- November 19, 2024: 4:00 P.M. to 5:30 P.M.
- Prioritization of DoD Cleanup Actions to Implement the Federal Drinking Water Standards for Per- and Polyfluoroalkyl Substances Under the Defense Environmental Restoration Program
- There will be opportunities for community members to listen, provide written questions about the policy in advance, and provide verbal comments during this session
  - Questions and comments received will be reviewed and considered by DoD
  - Although DoD will not provide direct responses to input that it receives through this public information and listening session, DoD will carefully consider input as it implements this policy and looks to develop future policies associated with its response to PFAS
  - This information and listening session will focus on the September 3, 2024, policy and will not address ongoing site-specific PFAS cleanup investigations or actions.
- Registration for the information and listening session:
  - <https://dodpfascommunication.events.whova.com/registration/>
  - If you are having technical difficulties registering, please email [DoDECCO@ageiss-inc.com](mailto:DoDECCO@ageiss-inc.com)
- Learn more about the goals and efforts of the DoD's PFAS Task Force at [www.defense.gov/PFAS](http://www.defense.gov/PFAS)



## ■ Admin Record (AR) Links to Cannon Air Force Base reports:

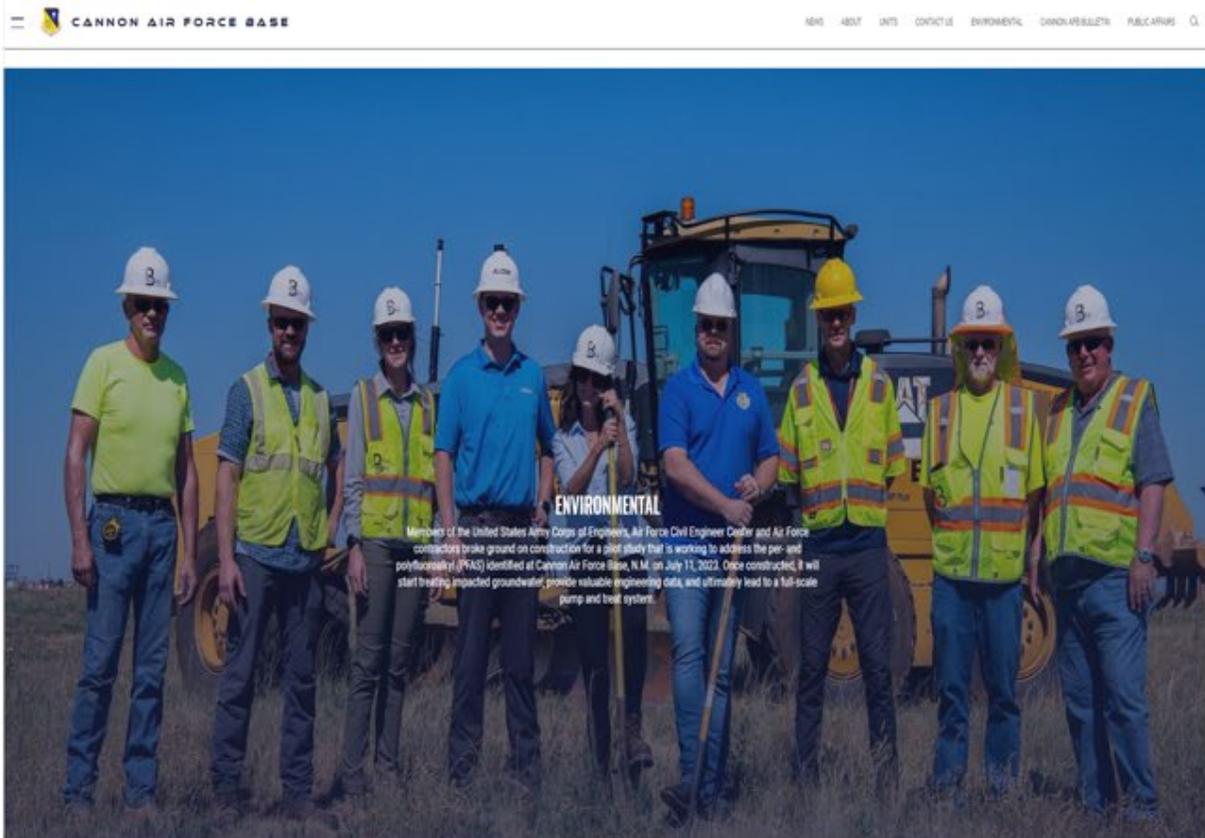
<https://ar.cce.af.mil>

- PA: AR# 1941
- SI: AR# 1938
- Off base SI: AR# 1940
- RRSE: AR# 2063, 2790, 2806
- Treatability Work Plan: AR# 2072
- RI Work Plan: AR# 2074
- Aquifer Test Work Plan: AR# 2075
- Treatability Report: AR# 2800
- Aquifer Report: AR# 2801
- South-East Pilot Study Design: AR# 2805

The screenshot shows the 'AFCEC ADMINISTRATIVE RECORD' search interface. It includes a search criteria section with radio buttons for 'Active Duty', 'Air National Guard', and 'BRAC'. On the left is an 'Installation List' with a search bar and a scrollable list of various Air Force plants and labs. The main search area contains several input fields: 'Subject or Title', 'Full Metadata Search', 'Full Document Search', 'Author', 'Recipient', 'AR #' (circled in red), 'Author Affil', and 'Recipient Affil'. Below these are filters for 'Sites', 'Units', and 'RODs', each with a 'Clear' button. At the bottom, there are 'Documents After' and 'Documents Before' date pickers, and 'Search' and 'Reset Search' buttons.



# Additional Information



## PFAS UPDATES

The next PFAS Update will occur in November 2023.

## CANNON AFB PFAS PUBLIC UPDATE ARCHIVE

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### Air Force Civil Engineer Center



## Cannon AFB PFAS Public Update

17 May 2023

Video by 1st Lt. Hannah Canales

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May 2023 Air Force Civil Engineer Center Virtual PFAS Update for Cannon Air Base

27th Special Operations Wing Public Affairs  
May 17, 2023 | 28:16

Chris Gierke, Air Force Civil Engineer Center restoration project manager at Cannon Air Force Base explains PFAS remediation efforts on Cannon Air Base.

<https://www.cannon.af.mil/Environmental/>

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# Common Acronyms



- **Administrative Record (AR)**
- **Aqueous Film Forming Foam (AFFF)**
- **Agency for Toxic Substances and Disease Registry (ATSDR)**
- **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**
- **Conceptual Site Model (CSM)**
- **Department of the Air Force (DAF)**
- **Department of Defense (DoD)**
- **Engineering Evaluation/Cost Analysis (EE/CA)**
- **Environmental Protection Agency (EPA)**
- **Food and Drug Administration (FDA)**



# Common Acronyms



- **New Mexico Environmental Department (NMED)**
- **Parts Per Trillion (ppt)**
- **Per- and polyfluoroalkyl substances (PFAS)**
- **Perfluorooctanesulfonic acid (PFOS)**
- **Perfluorobutanesulfonic acid (PFBS)**
- **Perfluorooctanoic acid (PFOA)**
- **Preliminary Assessment (PA)**
- **Remedial Investigation (RI)**
- **Relative Risk Site Evaluation (RRSE)**
- **Site Inspection (SI)**



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**Any question please contact [27SOCES.cannon.rpm@us.af.mil](mailto:27SOCES.cannon.rpm@us.af.mil)**



# ***New Mexico Contact Information***



- **New Mexico Environment Department (NMED)**

- For questions related to NMED's PFAS Blood Testing Project, please email [strategic.initiatives@env.nm.gov](mailto:strategic.initiatives@env.nm.gov)
- <https://www.env.nm.gov/pfas/>

- **New Mexico Department of Health**

- **Helpline 1-833-SWNURSE (1-833-796-8773)**