

Welcome



Environmental Advisory Board

Robins Air Force Base

April 23, 2015



Acronyms and Abbreviations

- **COC** Chain of custody



Environmental Advisory Board

Basewide Groundwater Monitoring



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Overview

- **Background**
- **Annual basewide sampling**
- **Sampling methods**
- **Sample management**
- **Data use**
- **Material exhibits**
- **Sampling demonstration**
- **Closing**

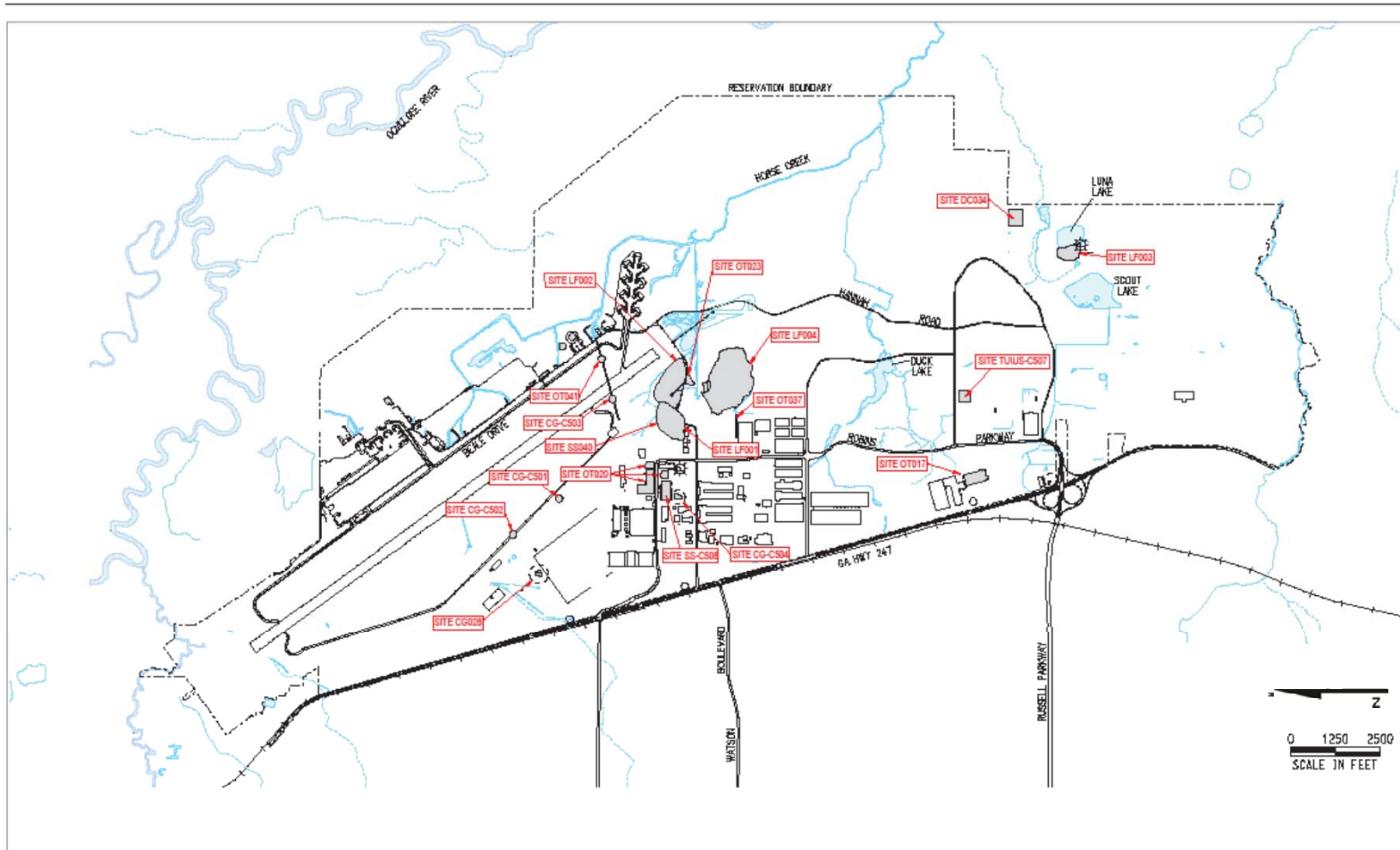


Background

- **Robins Air Force Base Hazardous Waste Permit**
 - Currently 17 corrective action sites
 - 16 sites require annual groundwater monitoring
- **Underground Storage Tank Site**
 - Building 922
 - Requires quarterly monitoring
 - Petroleum contaminants



Background



Source: AECOM, 2011

FIGURE ES-1
Base Map
Basewide LFP-QAPP
Robins AFB, Georgia

ES&M11022286AC Figure ES-1.d 11.17.11



Background

- Perform each year during April
- Approximately 4 weeks
- 476 wells for chemical and biological parameters
- Data analyses includes:
 - Site contaminants of concern
 - Corrective action effectiveness parameters
 - Natural attenuation parameters



Background

- **Sampling and analysis consistent with sites' operations and maintenance plans**
- **Analyses are prescribed by the sites' Corrective Action Plans**
- **Data quality must be commensurate with the data use**



Background

- **Data Quality Objectives are based on data use**
 - Annual reports to regulatory authorities
 - Reports to Air Force
 - Internal evaluation of corrective action progress
- **Uniform Federal Policy Quality Assurance Project Plan (established July 2004)**
 - Data acquisition
 - Data quality assurance
 - Data review



Annual Basewide Sampling

- **Goal: “...ensure that the sample is representative of the particular zone of water being sampled.”**
- **CAPE utilizes three sampling methods:**
 - **Low Flow**
 - Peristaltic pump sampling
 - Bladder pump sampling
 - **Bailers**



Sampling Methods

- **Three volume purge**
 - Where bladder pump is impractical, or
 - Where water quality instrument cannot be used
 - Utilizes either peristaltic pump or bailer
- **Extraction well sampling**
 - Active wells – take one set of water quality readings and then collect sample
 - Inactive wells – manually operate for 20 minutes, then proceed in same manner as an active well



Sample Management

- **Chain of custody (COC)**
 - Initiated in field
 - Signatures, date and time for transferring sample custody
 - Under control of custodian at all times
- **Preserving sample integrity**
 - Once collected, samples placed in a cooler with ice
 - Cooler maintained in location with no overt source of cross contamination
 - At sample processing, samples transferred to coolers with ice
 - Samples are sent to lab in coolers with ice



Sample Management

■ Sample processing

- Team leader receives and processes samples
- All samples are checked for adherence to QAPP
- Samples are logged onto the lab COC document

■ Sample shipping

- Samples packed on wet ice with COC document
- Samples must remain near 4 degrees Celsius without freezing
- Apply sample custody seals
- Samples shipped priority overnight



Sample Management

■ Laboratory receipt

- Ensures chain of custody has not been broken
- Ensures all samples listed on COC document are received and intact
- Ensures samples are near 4 degrees Celsius
- Generates a letter acknowledging receipt and documenting exceptions

■ Chemistry coordination

- CAPE chemistry department reviews letter of receipt and works with sample team to resolve exceptions



Data Use

■ Data processing

- CAPE receives electronic data deliverable from laboratory – between 21 to 35 days
- CH2MHill performs report validation and produces documentation – Data Validation Package
- Data is tabulated for use in reports
- Approximately 60 to 75 days total

■ Data distribution

- Project engineers receive data tables for reporting
- Air Force receives electronic data for incorporation into the Environmental Resources Program Information Management System



Data Use

- **Assess effectiveness**
 - Reduction of contaminant concentrations
 - Groundwater quality parameters, e.g. dissolved oxygen
 - Assess natural attenuation
- **Provide annual progress report**
 - Corrective Action Plan Progress Report
 - Submitted to Georgia Environmental Protection Division
 - Reports effectiveness and progress of remedies



Material Exhibits

- **Bladder pumps, peristaltic pumps, bailer**
- **Water quality meter**
- **Sample pack**
- **Deliverables**
 - **Data set**
 - **Data validation reports**
 - **Corrective Action Plan Progress Report (2014)**



Sampling Demonstration

- **Sampling LF1-4**
 - **Golnaz Ashouri, EIT**
 - **Robert Frieden, EIT**



Closing

- **Questions / Comments ?**