



# **Air National Guard Optimization Program Success Stories and Lessons Learned**

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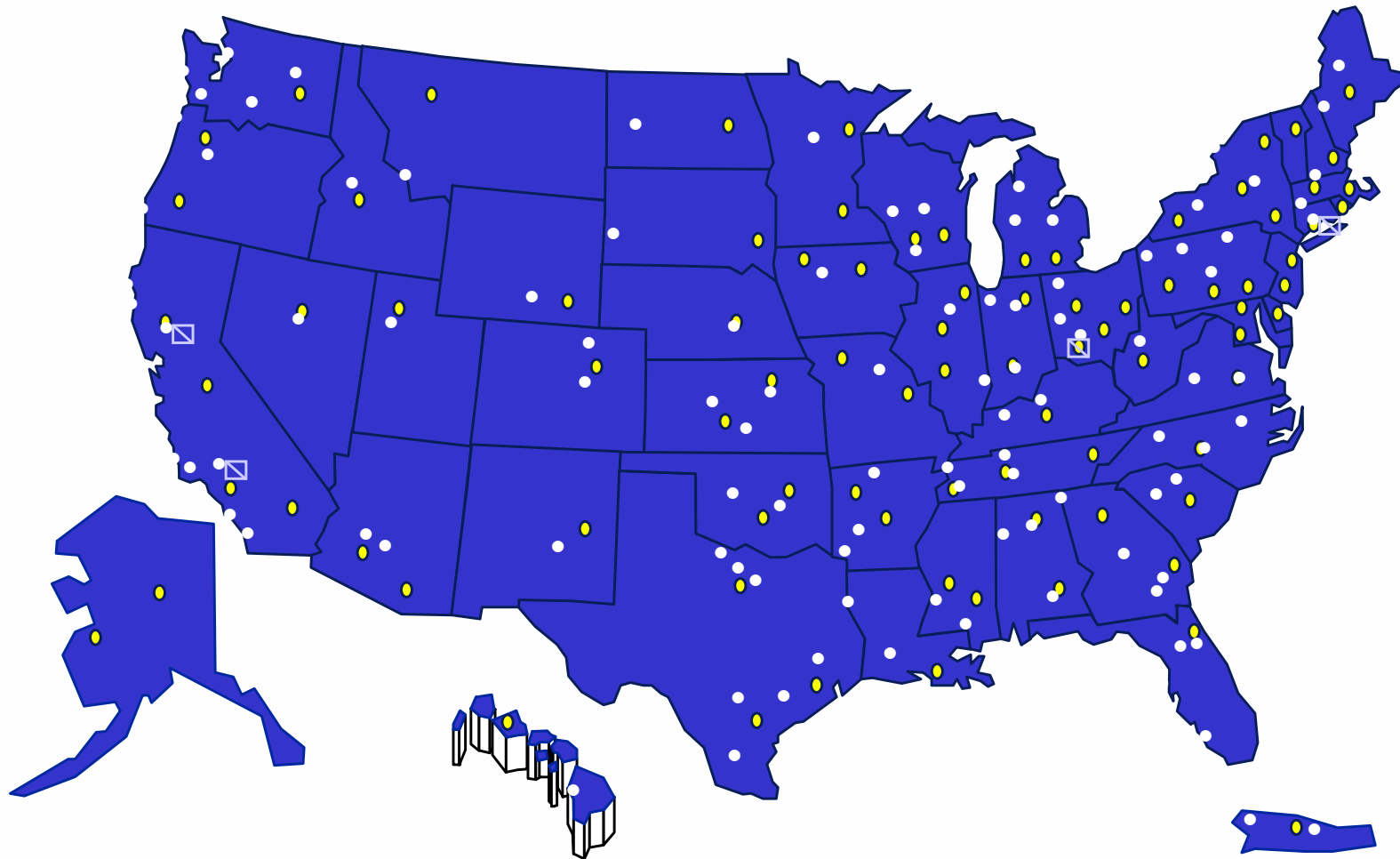
# Overview

- ANG Restoration Program
- What is RPO?
- ANG RPO Program
- Cheyenne, WY ANGB RPO
- Wilmington, DE ANGB RPO
- Lessons Learned

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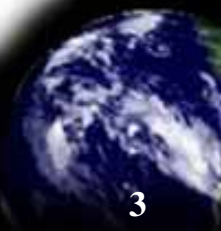


# ANG Installations



167 Locations

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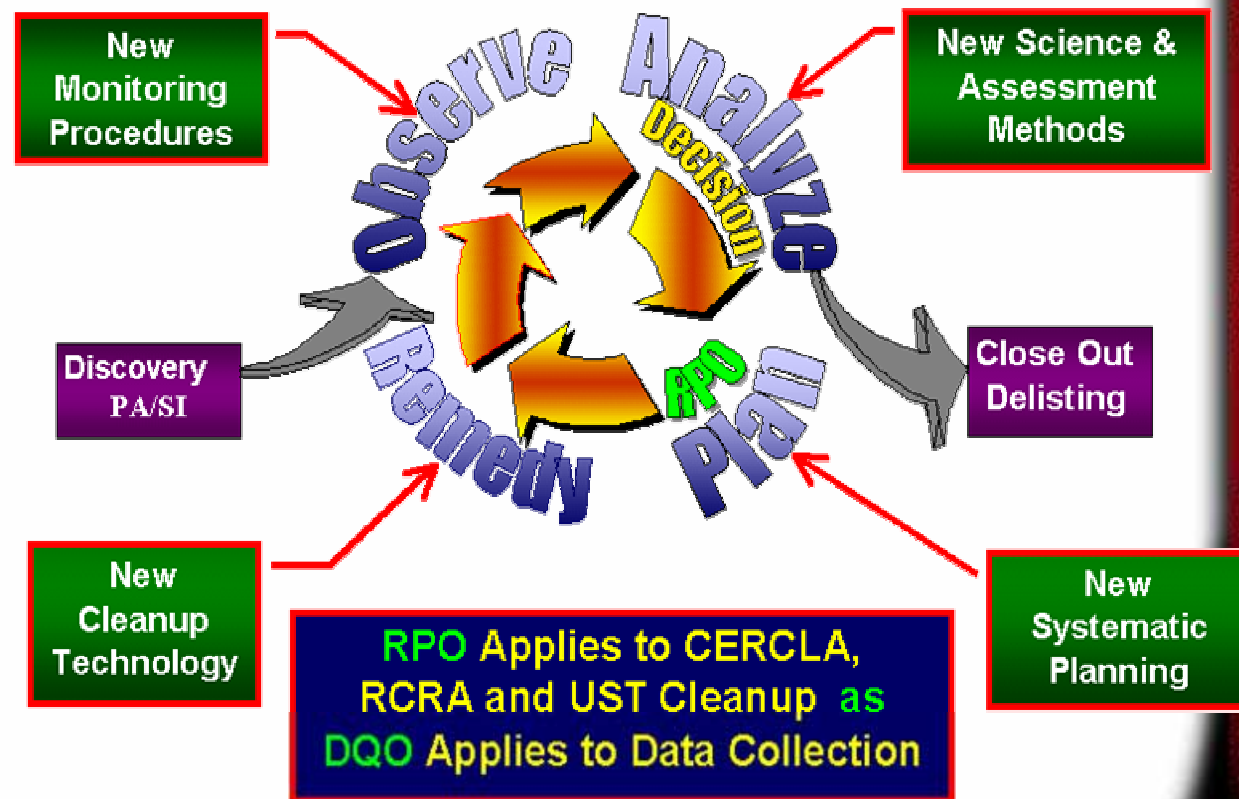
# ANG Restoration Program

- 70+ Installations with active restoration program (240+ Sites)
- All restoration projects managed and contracted by HQ ANG/CEVR at Andrews AFB, MD
- 10 Program Managers responsible for restoration projects at all 70+ Installations
  - PM workload does not allow for in-depth involvement in all projects
  - Efficient management practices looking for ways to further expedite remedial timeframe and meet DPGs
  - Projects executed by seven A/E firms

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# Remedial Process Optimization

- An iterative and systematic planning tool for evaluating remediation processes to improve
  - Risk control effectiveness
  - Site cleanup time and costs
- Initiative developed by AFCEE







# RPO Implementation

- Hand book (2001) available on AFCEE's web site
  - [www/afcee.brooks.af.mil/er/rpo.htm](http://www/afcee.brooks.af.mil/er/rpo.htm)
- RPO has been implemented at various Air Force and DLA restoration programs
- RPO recommendations have received positive feed back from most federal and state regulatory agencies

## FINAL

### Remedial Process Optimization Handbook

#### Prepared For



Air Force Center for Environmental Excellence  
Technology Transfer Division (AFCEE/ERT)  
Brooks Air Force Base  
San Antonio, Texas

and



Defense Logistics Agency (DLA)  
Environmental and Safety Office (DSS-E)  
Fort Belvoir, Virginia

June 2001

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## Why RPO for ANG?

- HQ ANG/CEVR has limited funding and manpower resources (10 PMs for 70+ installations)
- HQ ANG/CEVR needed in-depth process review for “high risk” projects
- RPO viewed as a tool to expedite restoration projects and reduce costs while maintaining risk protectiveness
- Facilitated HQ ANG/CEVR implementation of performance-based contracting at selected sites

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## ANG RPO

- RPO program formalized in FY 2002
- Implemented at 22 ANG locations nationwide
- Implementation involved a site visit by HQ ANG/CEVR and Earth Tech
  - Meeting with installation personnel and restoration contractors
  - Regulatory agencies invited to participate as team members
- RPO team evaluations include:
  - Review of existing site data
  - Alternative approach evaluations
  - Recommendations for future actions to expedite cleanup, save costs

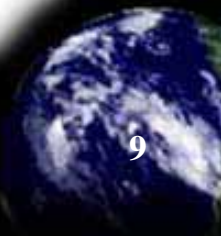




# Cheyenne, WY ANGB RPO



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# Cheyenne ANGB

- PA conducted in 1988, SI in 1990
- Draft RI/FS completed in 2003
  - Site 1 – Diesel Fuel Pump Underground Storage Tank (UST)
  - Site 2 – Old Nose Docks Waste Oil USTs
  - Site 3 – UST at Building 14
  - Site 4 – Old Hazardous Waste Storage Area
  - Site 5 – South Apron Drainage Area
- NFA status recommended for Sites 1, 2, and 3
  - Not yet approved by WDEQ

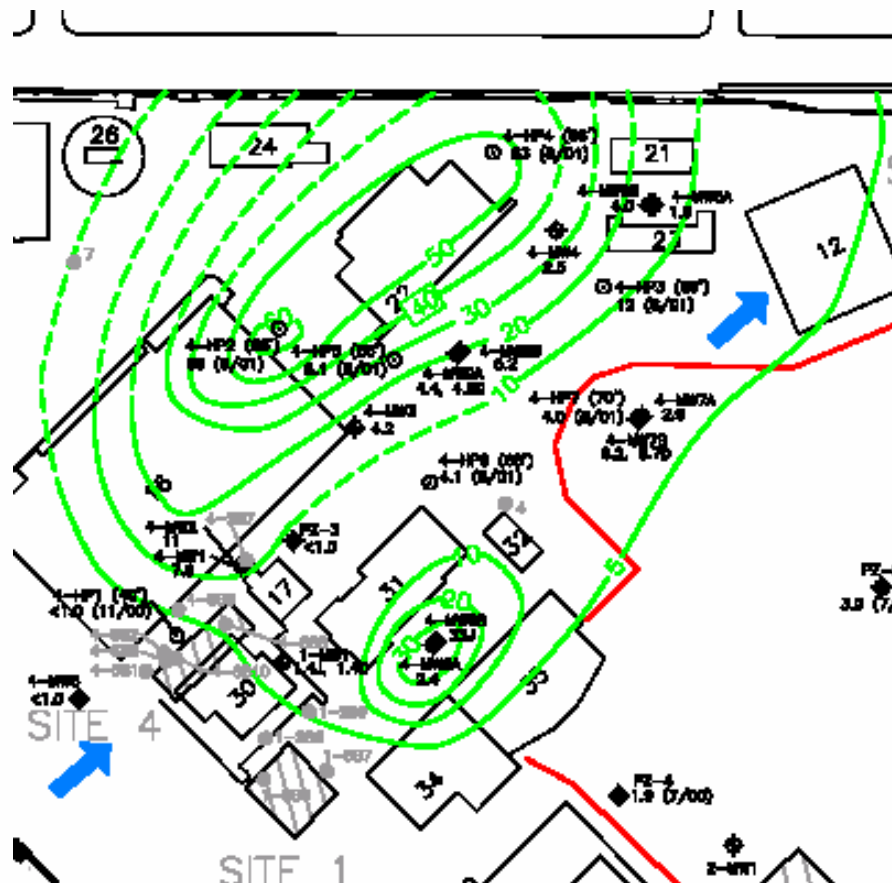


## RPO Site Visit

- Conducted in March 2003
- RPO Team met with base personnel, contractors and WDEQ
- RPO Team and WDEQ agreed with NFA recommendation for Sites 1,2, and 3.
- RPO Team recommended deleting risk assessment for Site 5 and proceeding with NFA status – agreed by WDEQ
- RPO Team identified deficiencies in Site 4 CSM and extent of contamination



# Cheyenne ANGB



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## RPO Recommendations

- Site 4 - Former waste storage area (more likely related to maintenance activities at hangars)
- COCs include TCE in soil and groundwater
- RPO Team agreed with focusing efforts on Historic hangar locations (Site 4)
- RPO Team outlined upcoming investigative activities (IPO) to refine CSM and define extent of soil and groundwater contamination
- Detailed recommendations included:
  - Soil gas survey to determine contaminant source
  - Additional soil and groundwater sampling to determine downgradient extent
  - Primary emphasis placed on determining potential off-base migration and on-site sources





# Cheyenne ANGB RPO Implementation

- Site not recommended for PBC due to incomplete characterization
- RI Addendum and FS contract awarded August 2003
- IPO recommendations incorporated into project Work Plan (with WDEQ inputs)
  - Resulted in quick-turnaround review and concurrence
  - Schedule accelerated by over 12 months
  - Field activities underway
- Site 5 NFA resulted in cost savings of >\$70K
- Resulted in NFA for all Sites except Site 4



# Wilmington, DE ANGB RPO

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## Wilmington ANGB

- Restoration activities conducted since 1987
  - Site 1. Refueler Parking Area
  - Site 2. Petroleum, Oil and Lubricant (POL) Pump house Area
  - Site 3. Ruptured Fuel Line
  - Site 4. Sub-sites a. and b. are:
    - a. Aircraft Parking Apron (West)
    - b. Aircraft Parking Apron and Hangar (Bldg 2815)
  - Site 6. (Former) USTs at Building 2701
- NFA status recommended for Sites 5 and 7

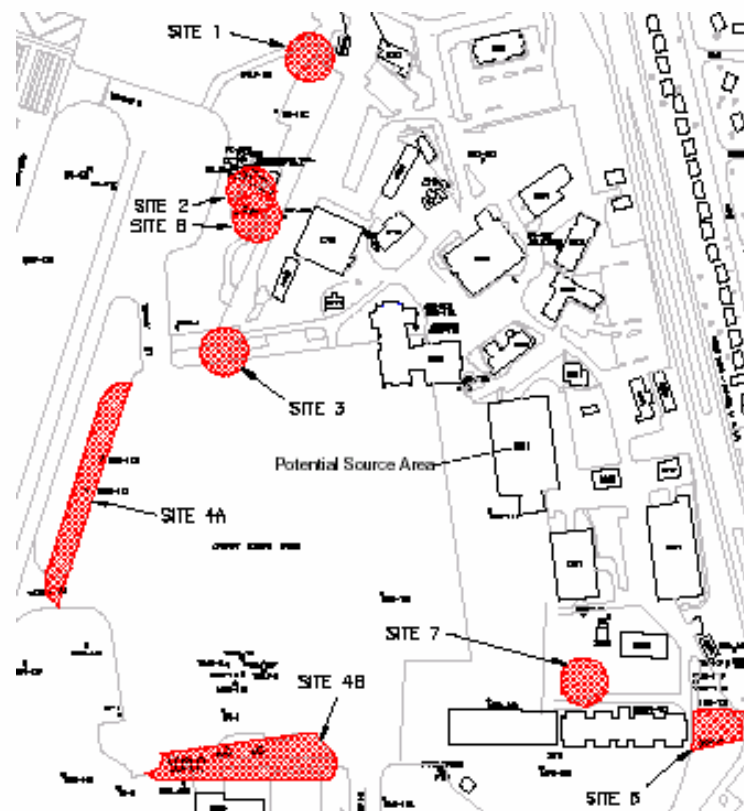


## RPO Site Visit

- Conducted in June 2003
- RPO Team met with base personnel, contractors and DNREC
- RPO Team and DNREC agreed with combining all groundwater contamination under a single Operable Unit
  - Easier management and execution of future work
- Original FS recommended free product recovery and pump and treat for Sites 2 and 4. RPO team recommended MNA as an alternative to pump and treat
  - More effective, reduced costs by >\$1M



# Wilmington ANGB



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## RPO Recommendations

- Cleanup strategy included:
  - Bioventing for soil contamination
  - Free product recovery
  - MNA for groundwater
- Sites considered good candidates for PBC
- PBC awarded in September 2003
- Work started in October 2003
  - Bioventing and free product recovery ongoing
  - Performance goals include 30% reduction in apparent free product levels in less than two years



# Wilmington ANGB RPO Implementation

- DNREC involved in scoping PBC project
- Quick-turnaround reviews (< 2 weeks) for all project deliverables
- Complimented ANG RPO Team for excellent execution of restoration activities
- Ongoing partnering with DNREC to scope base-wide source area investigations
  - Need for ecological risk assessment eliminated
  - Deeper aquifer investigation limited to presence or absence of contaminants above cleanup standards



## Lessons Learned

- Effective tool for
  - Accelerating project schedule and site closure
  - Maintaining risk protectiveness (Cheyenne)
  - Realizing costs savings (Wilmington)
  - Facilitates site selection for PBC implementation
  - Can also be applied to sites undergoing investigation (IPO)
- Regulatory involvement critical for effective implementation



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