



95 ABW

Reports from Environmental Program Managers

**Environmental Restoration Program
Edwards AFB, CA**

**Paul Schiff, Rebecca Hobbs, Patrice Hallman,
Bruce Oshita, and Tom Merendini**

20 May 2010

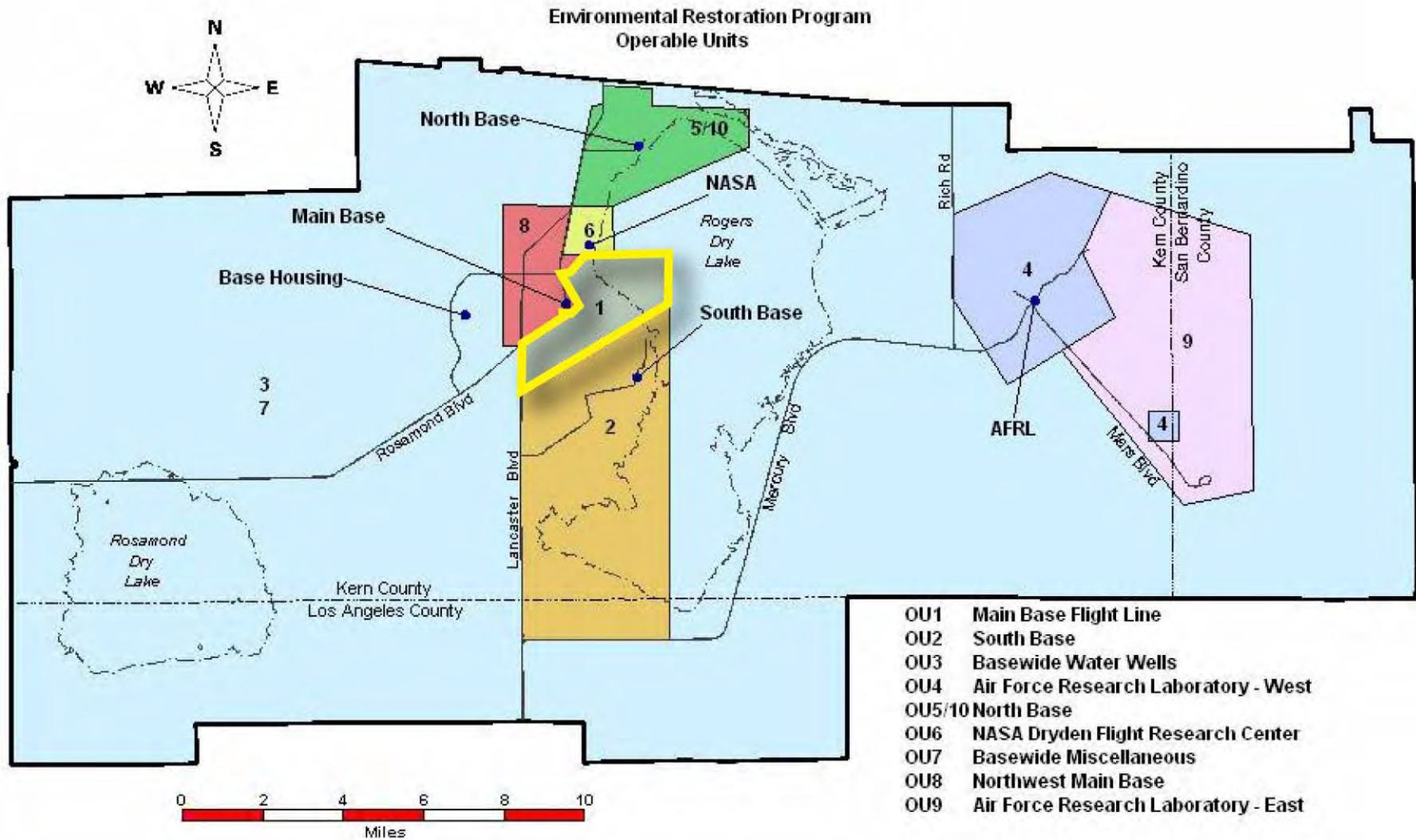




Operable Unit (OU) 1 Main Base Flightline



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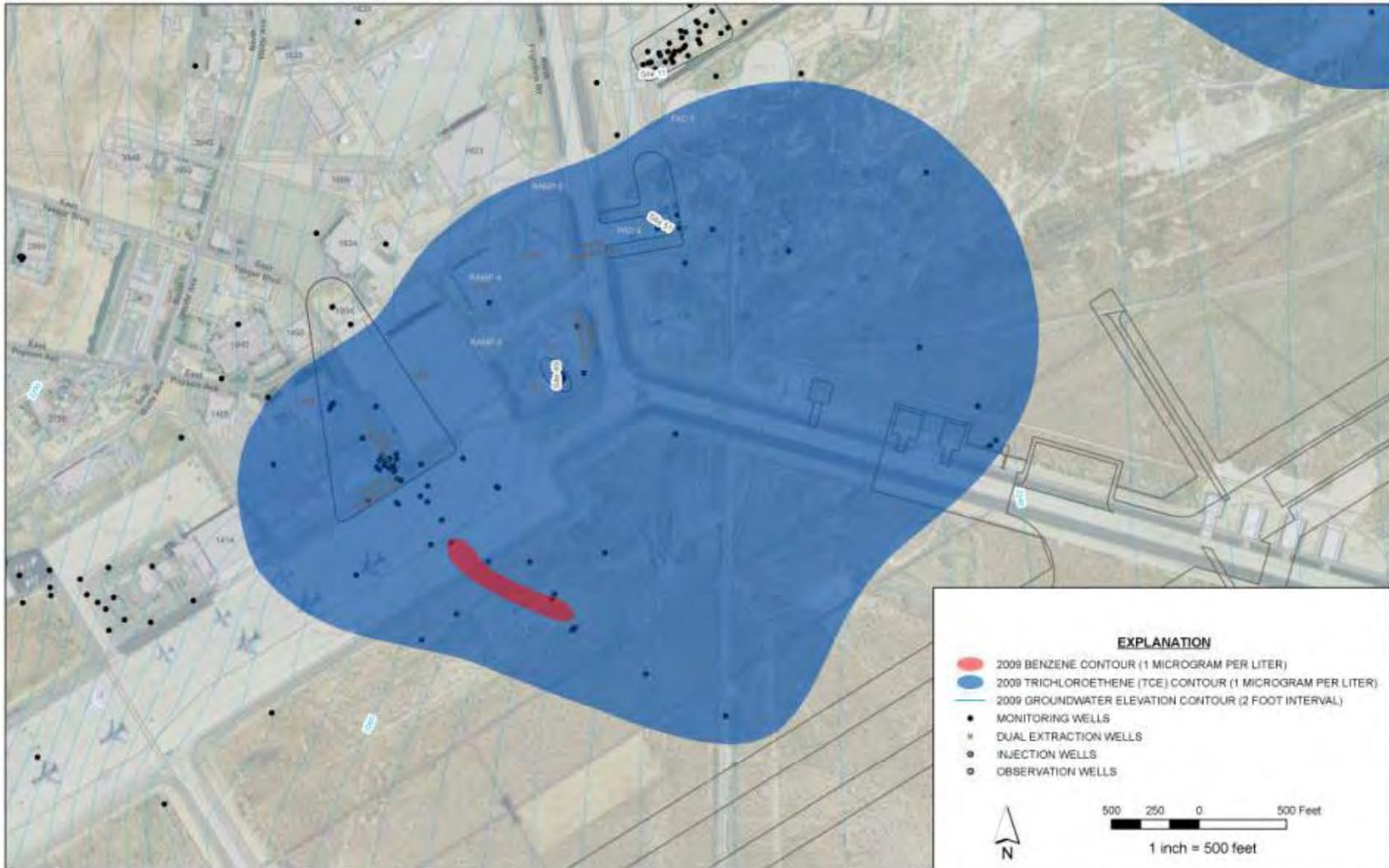




OU1 Main Base Flightline South Plume



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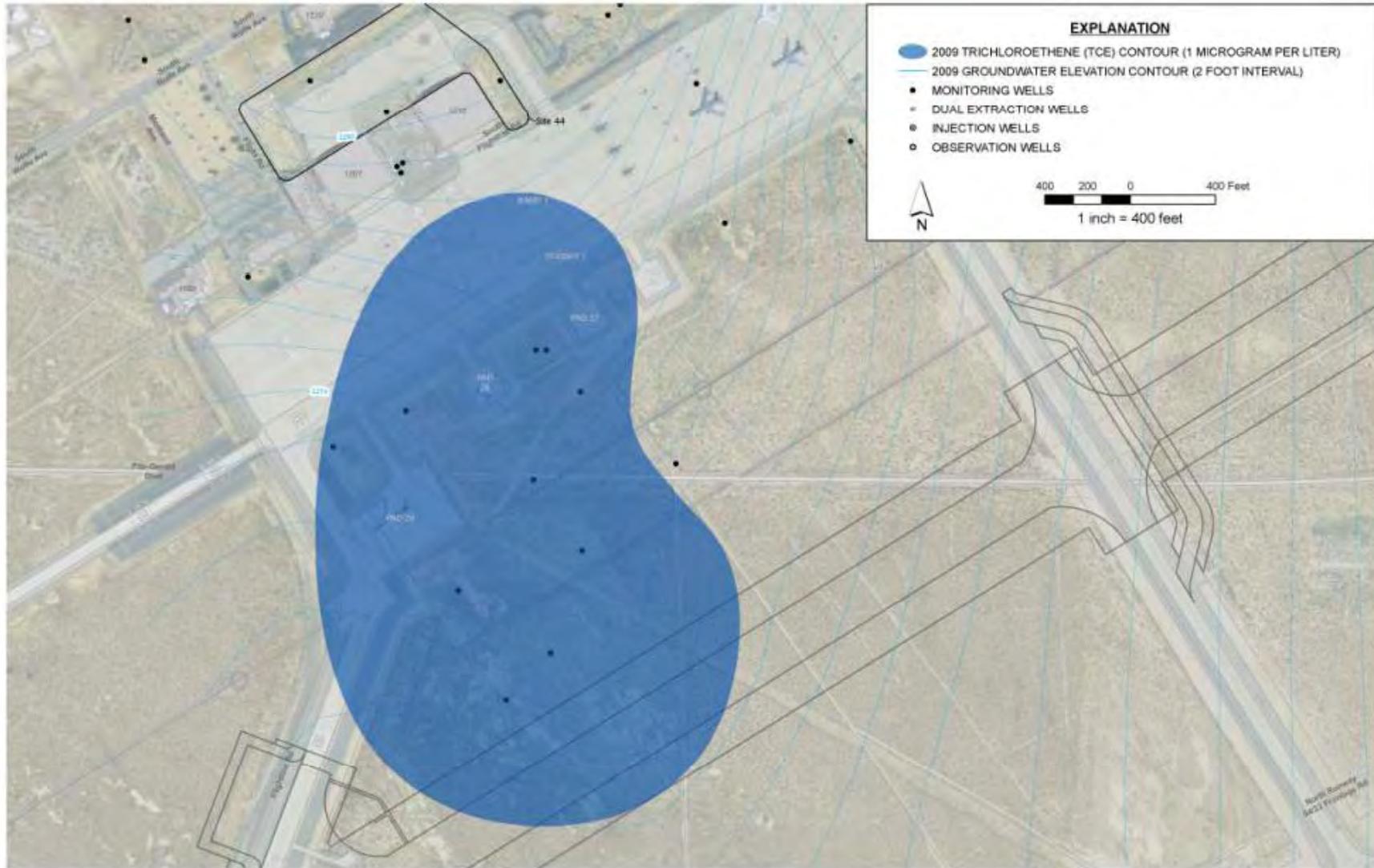




OU1 Main Base Flightline Site 44 Plume



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OU1

Main Base Flightline



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- **OU1 Proposed Plan (PP)**
 - Final PP delayed (from July) to November 2010
 - Schedule extended to allow U.S. EPA sufficient time to coordinate with the National Remedy Review Board (NRRB) and to allow for sequential review of supporting documents by regulators
 - OU1 Groundwater Modeling Report
 - OU1 2009 Groundwater Monitoring Report
- **OU1 public comment period Fall 2010**
- **Delays Final OU1 Record of Decision (ROD) from November 2011 to March 2012**



OU1

Main Base Flightline



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- **OU1 Interim Treatment Systems Status**
 - Site 16 *In Situ* Bioremediation Study
 - Completed whey powder injection into two injection wells and post-injection sampling in January
 - Completed second post-injection sampling in late April
 - Currently awaiting results
 - Site 18 dual extraction system (DES) operating
 - Site 58 soil vapor extraction (SVE) system operating



OU1

Main Base Flightline



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- **OU1 Vapor Intrusion Studies**
 - Bldg 1807
 - Collected indoor air, sub-slab, and ambient air samples from Bldg 1807 in December 2009
 - One indoor air sample slightly elevated
 - Future sampling and/or mitigation will be specified in the forthcoming OU1 ROD
 - Draft Vapor Intrusion Sampling Plan for Bldgs 1807 and 1830 with regulators for review
 - Bldg 1830 sampling anticipated this summer
 - Draft Report anticipated Fall 2010
 - Additional buildings within OU1 are planned for 2011



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Main Base Flightline



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- **OU1 Groundwater Monitoring Well Installations**
 - Draft Final Well Installation Work Plan (proposed well locations) reviewed at 21 April meeting with regulators
 - Final Work Plan issued in May
 - Installation of 20 new monitoring wells across OU1 to begin in June



OU1

Main Base Flightline



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- **Petroleum-only Sites Status**
 - Site 20
 - Continued to monitor attenuation from previous In Situ Chemical Oxidation Remedial Action
 - Sites 21 and 24
 - Continued free-product removal with skimmer units
 - Facility 1418
 - Mobile-DES was shut down in April
 - Remedial Action Report is in preparation



Military Munitions Response Program (MMRP)



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- **Comprehensive Site Evaluation (CSE) Phase II Report**
 - Final Report is expected to be submitted to U.S. EPA and Cal/EPA Department of Toxic Substances Control (DTSC) in May 2010
- **Supplemental CSE Phase II investigation is necessary in two off-base areas – scheduled for Fall 2010**
 - AL505-3 (east of base boundary near U.S. Highway 395)
 - AL505-5 (south of base boundary and Precision Impact Range Area)



Military Munitions Response Program (MMRP)



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- **Surface Clearances (SC)**

- UXB International, Inc., on contract for three munitions response sites for further action (see following figures)
- Current work includes Engineering Evaluation/Cost Analysis (EE/CA), Action Memorandum, Explosive Safety Submissions (ESS), and detailed Surface Clearance Work Plan
- U.S. Army Corps of Engineers currently pursuing Right of Entry (ROE) for privately owned parcels included in Surface Clearance and Supplemental CSE Phase II efforts
- Surface clearance also planned for Pistol Range in AL501 (South Base area)
 - Funding and contract establishment effort ongoing



Military Munitions Response Program (MMRP)



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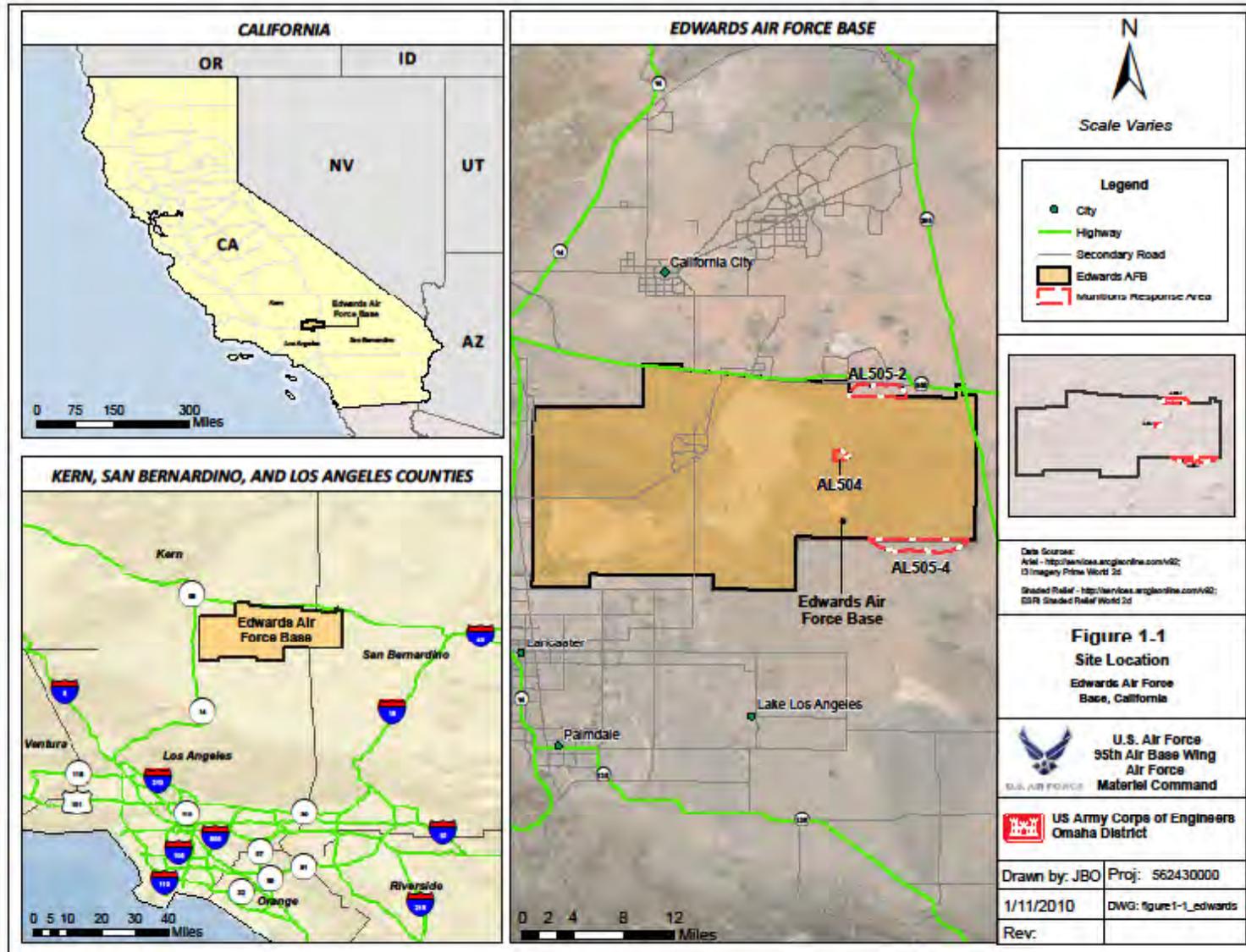
- **Planned Future Work**
 - Remedial Investigation projected for 2011



MMRP Munitions Response Areas



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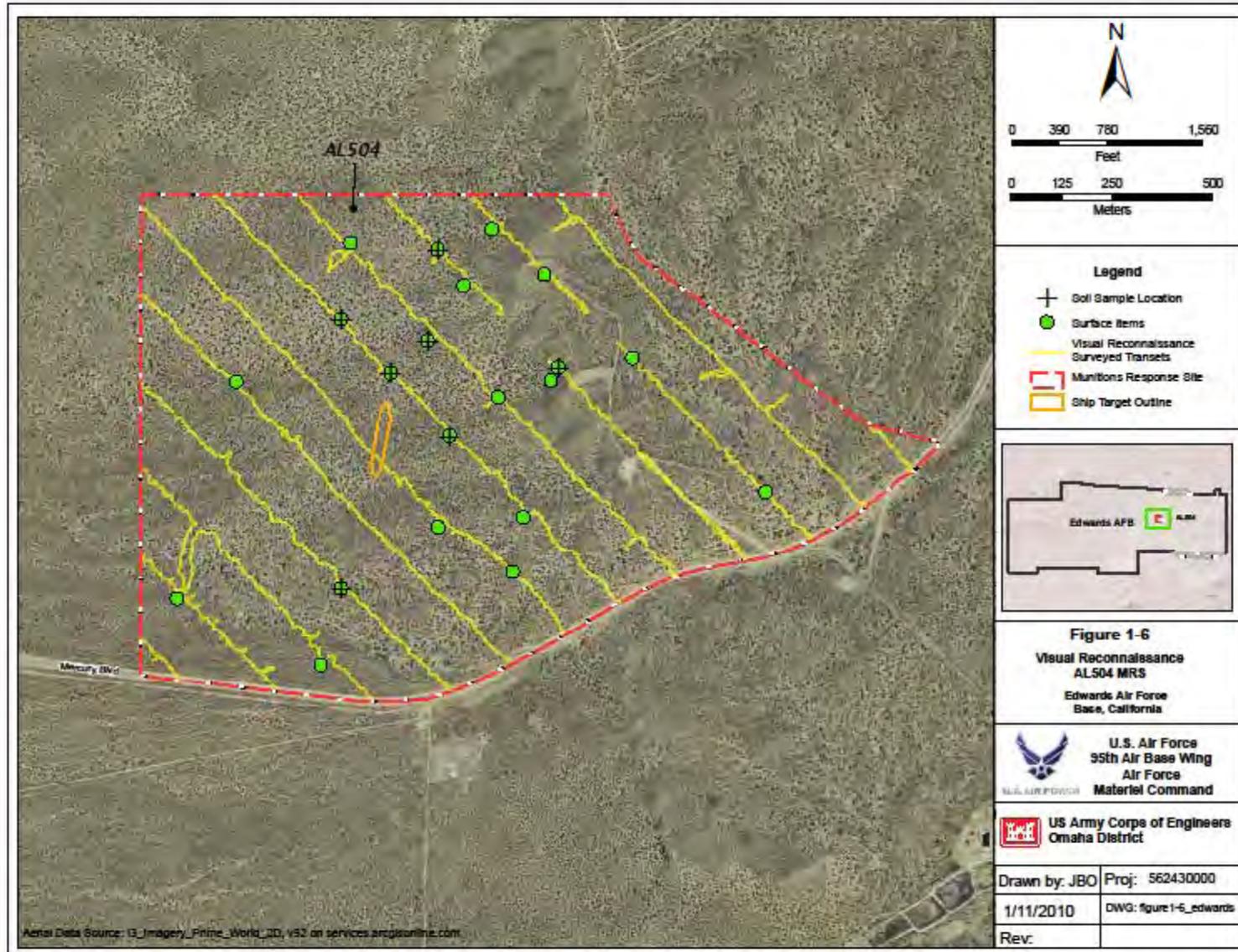




Further Action – Battleship Target area of AL504 near AFRL



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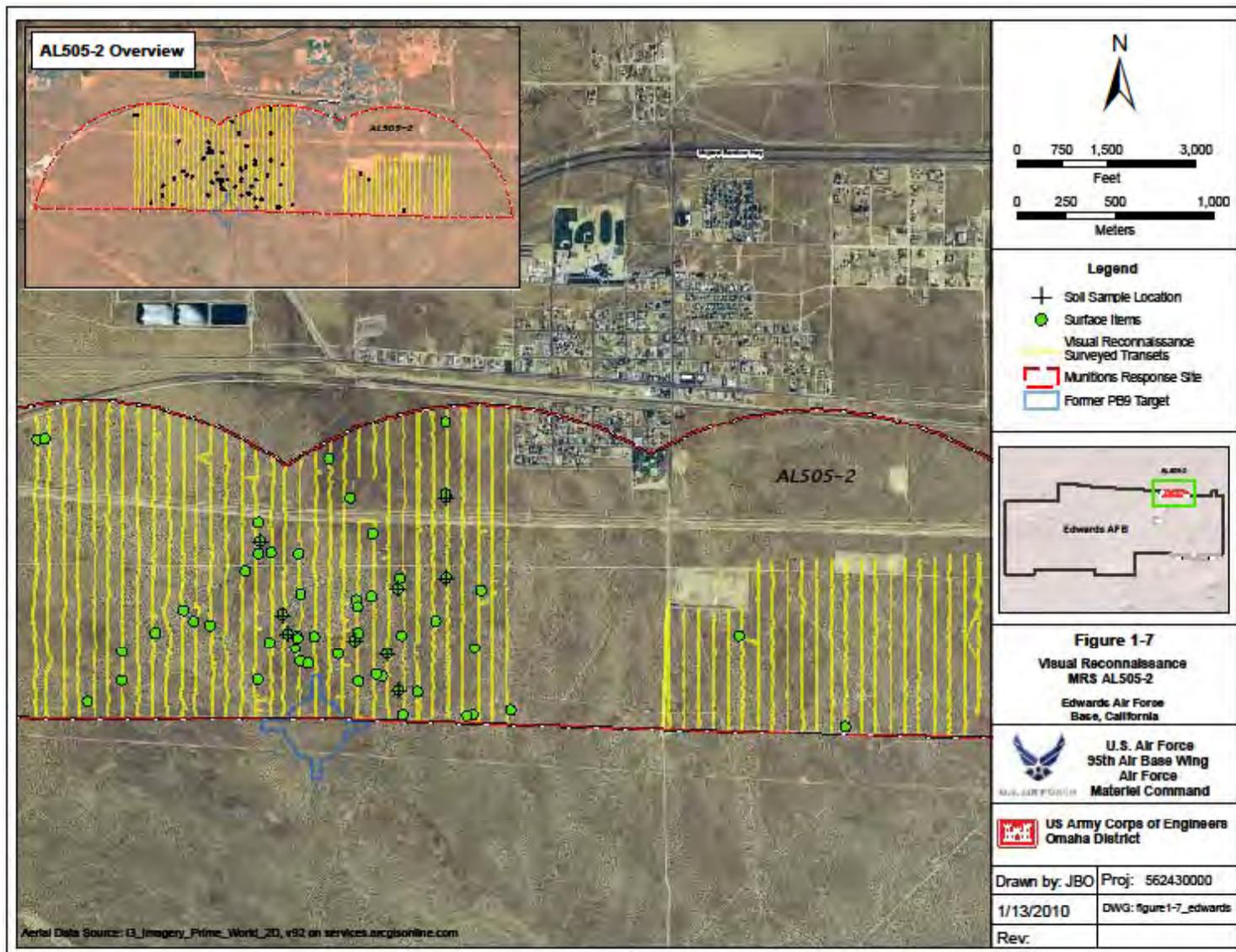




Further Action – Portion of AL505-2 near Boron



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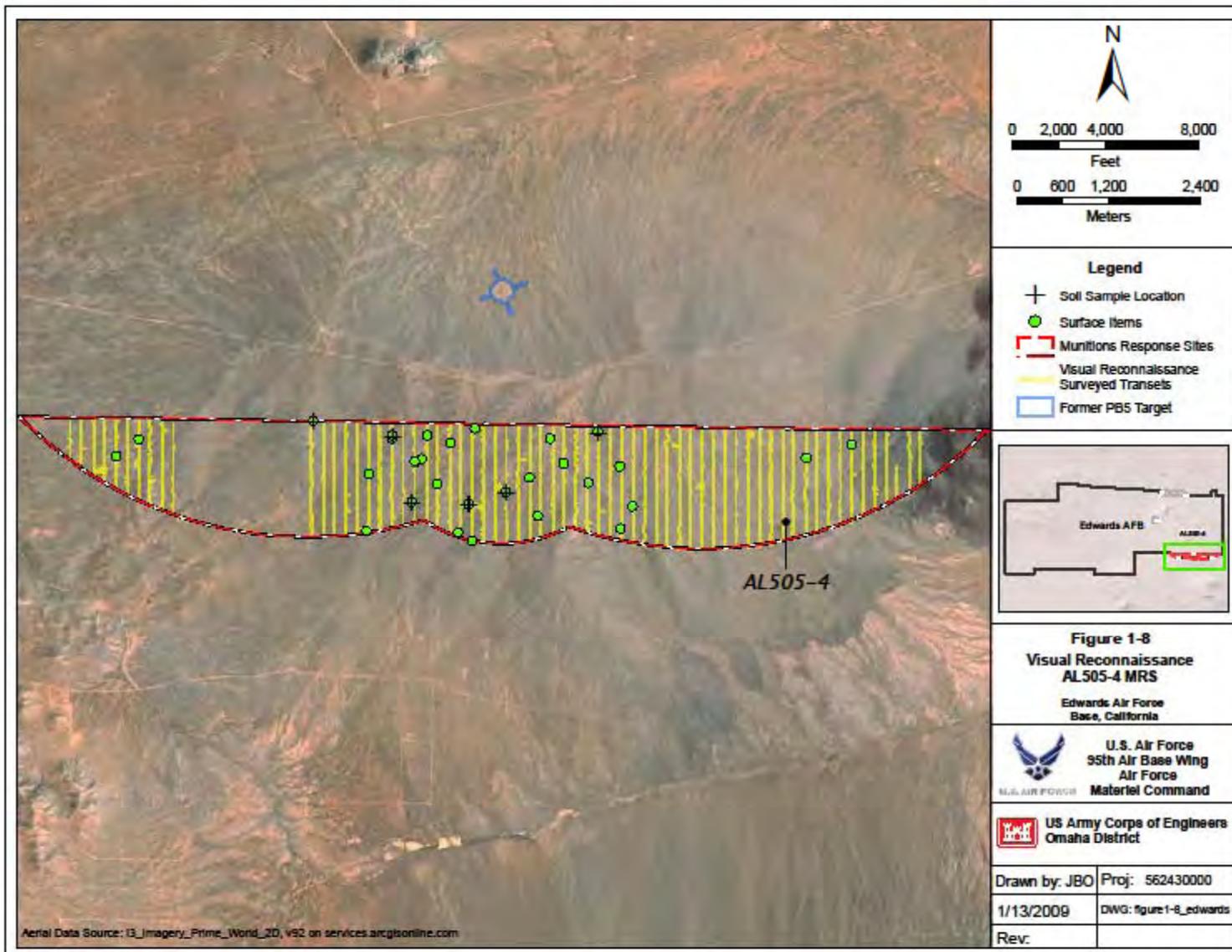




Further Action – Portion of AL505-4 south of PIRA



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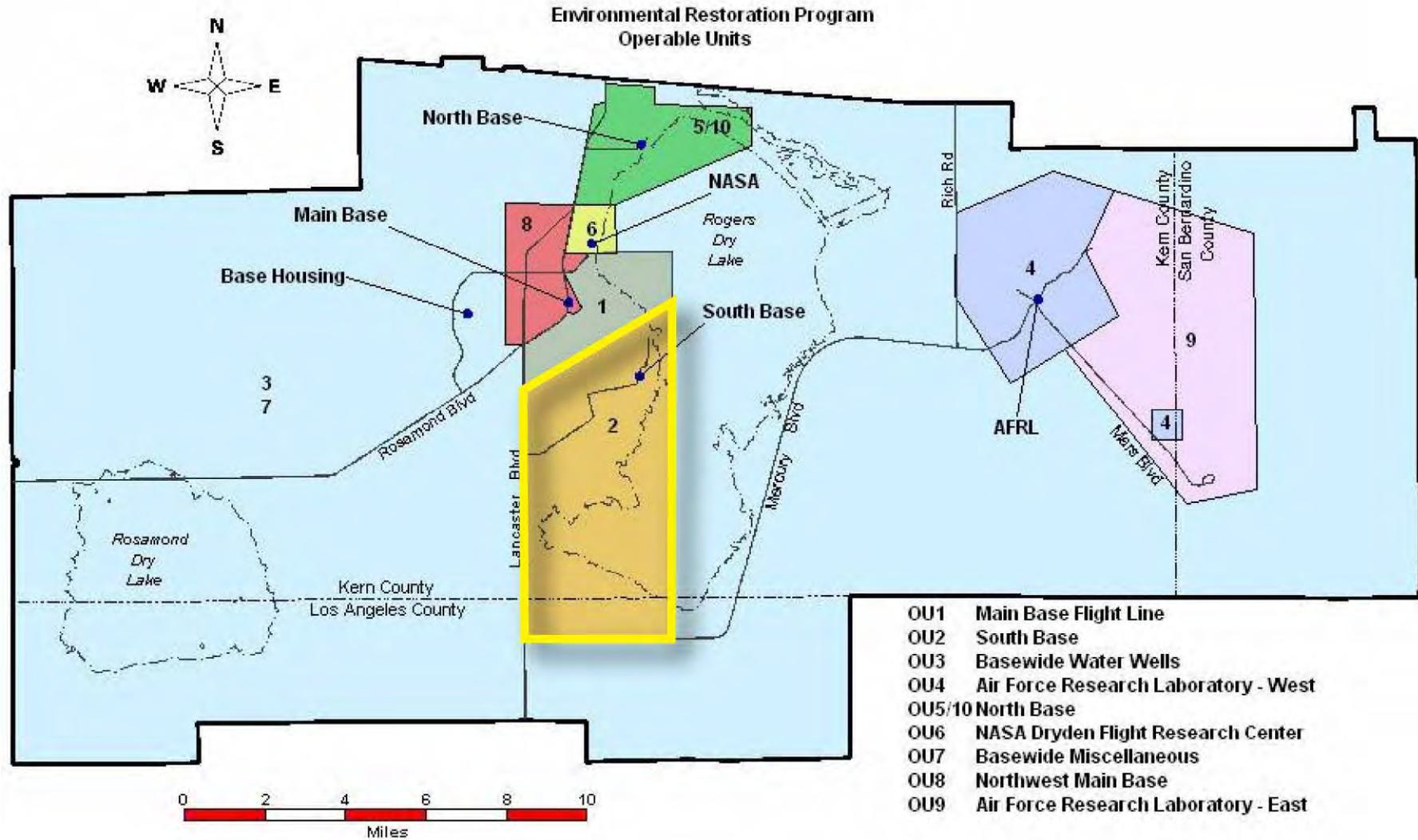
Questions or Comments?



OU2 South Base



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OU2 South Base



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- **The Draft Final Site 76 and Site 86 Remedial Action Work Plans (RAWPs) are due to the regulatory agencies for review in June 2010**
 - Recent groundwater sampling results will be incorporated in the work plans
- **The Site 29 Pre-Design Remedial Investigation Report was submitted to the RPMs for review in April 2010**
 - Surface debris totaling 150,000 tons has been removed from the site
 - An estimated 21,700 cubic yards of buried debris remain at the site
 - Clean closure will be proposed



OU2 South Base



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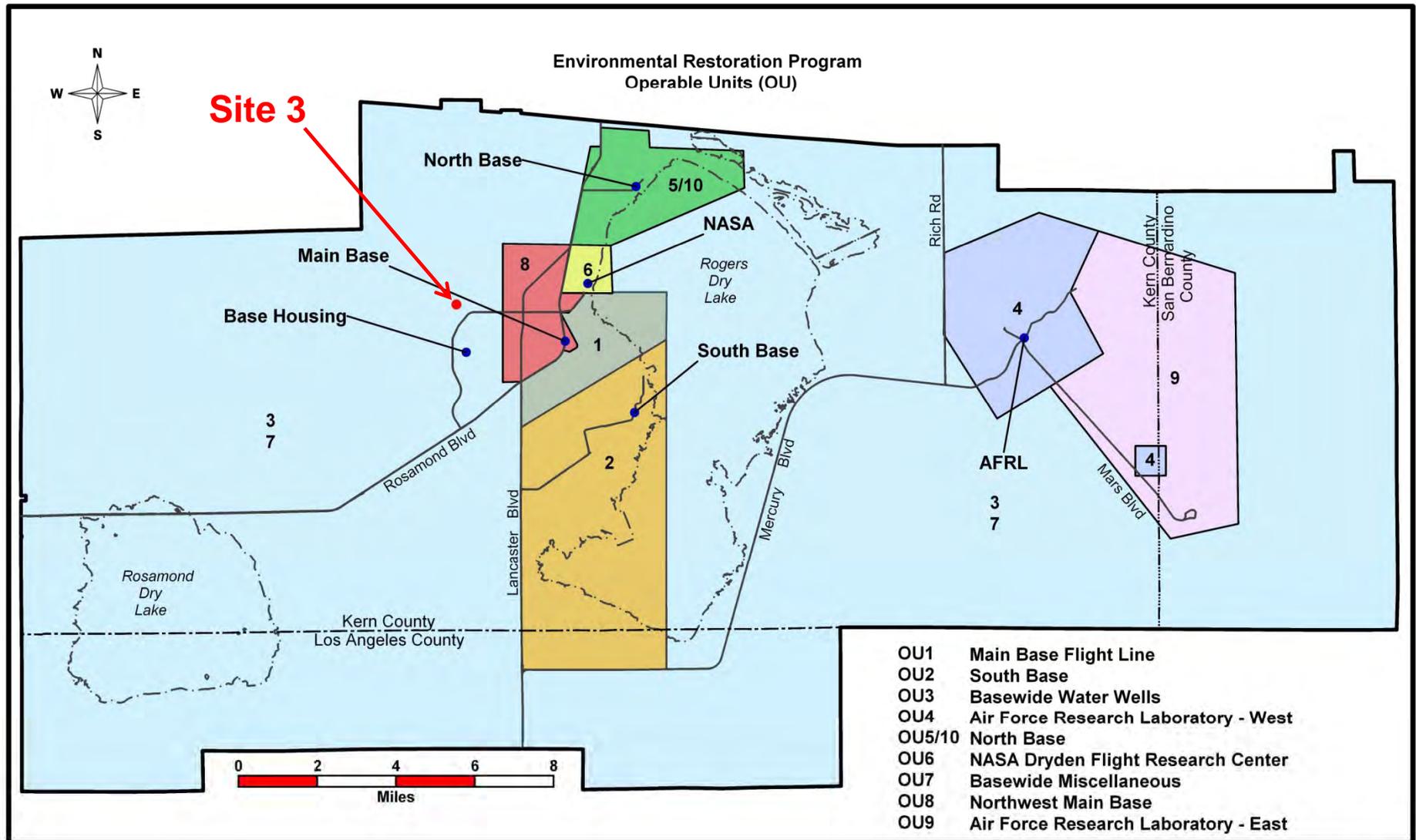
- **The Draft Sites 5/14 RAWP is being revised based on RPM comments**
 - The Draft Final RAWP is due to the RPMs for review in June 2010
- **An Engineering Evaluation/Cost Analysis and Action Memo will be prepared for Sites 81 and 102**
 - The documents will discuss plans at the site to remove Skeet Target Debris and Lead Shot, sample the soil, and remediate the soil, if required



OU7 Site 3



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OU7 Site 3



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- **No comments were received during the Site 3 Proposed Plan public comment period**
- **The Draft Site 3 Record of Decision is due to the RPMs for review in May 2010**

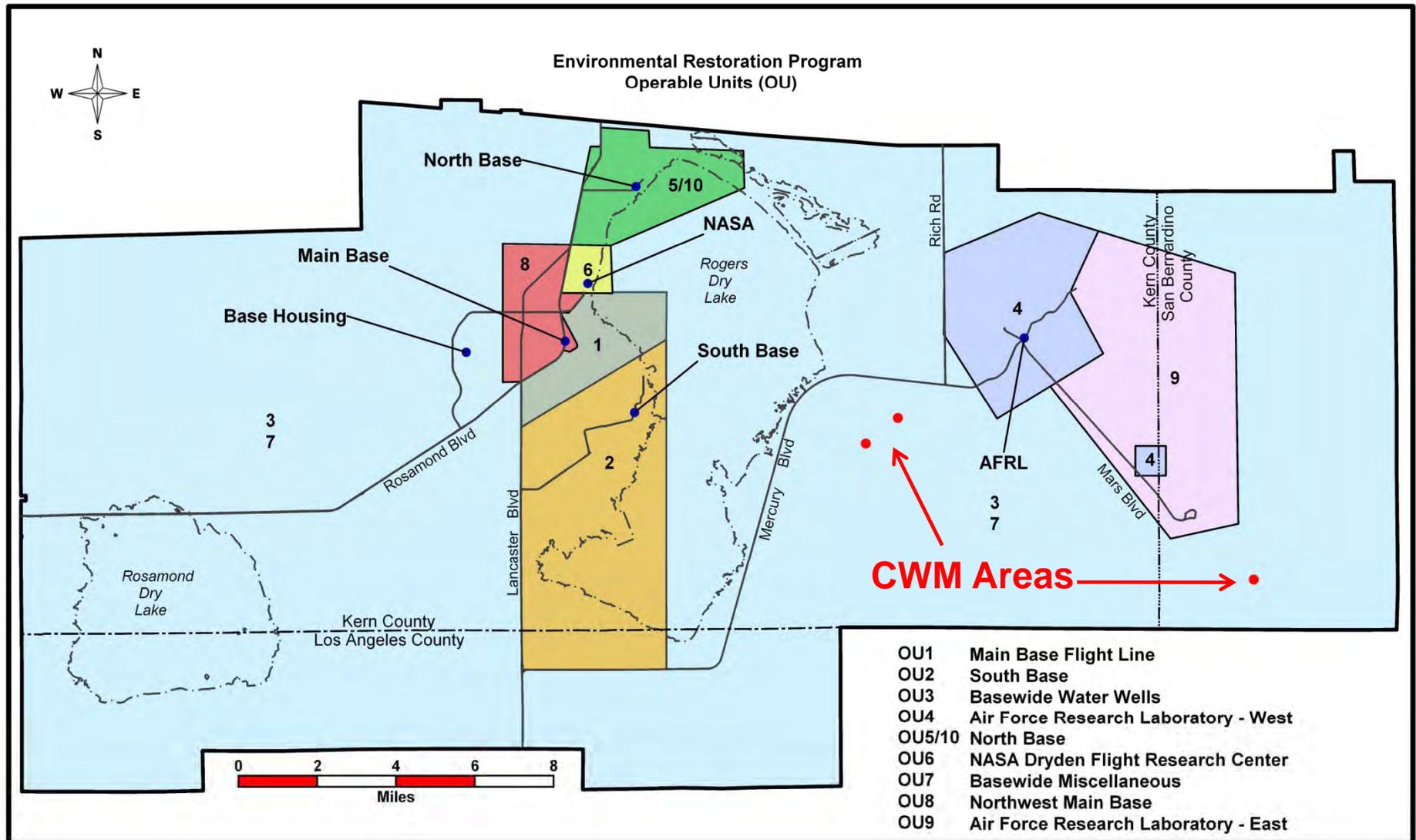


OU7

Chemical Warfare Materiel



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OU7

Chemical Warfare Materiel



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- **The Site 442 RAWP is due to the RPMs for review in June 2010**
 - The final remedy for the three burial areas includes capping the sites, installing fences, and installing berm walls to divert stormwater away from the buried debris



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Questions or Comments?

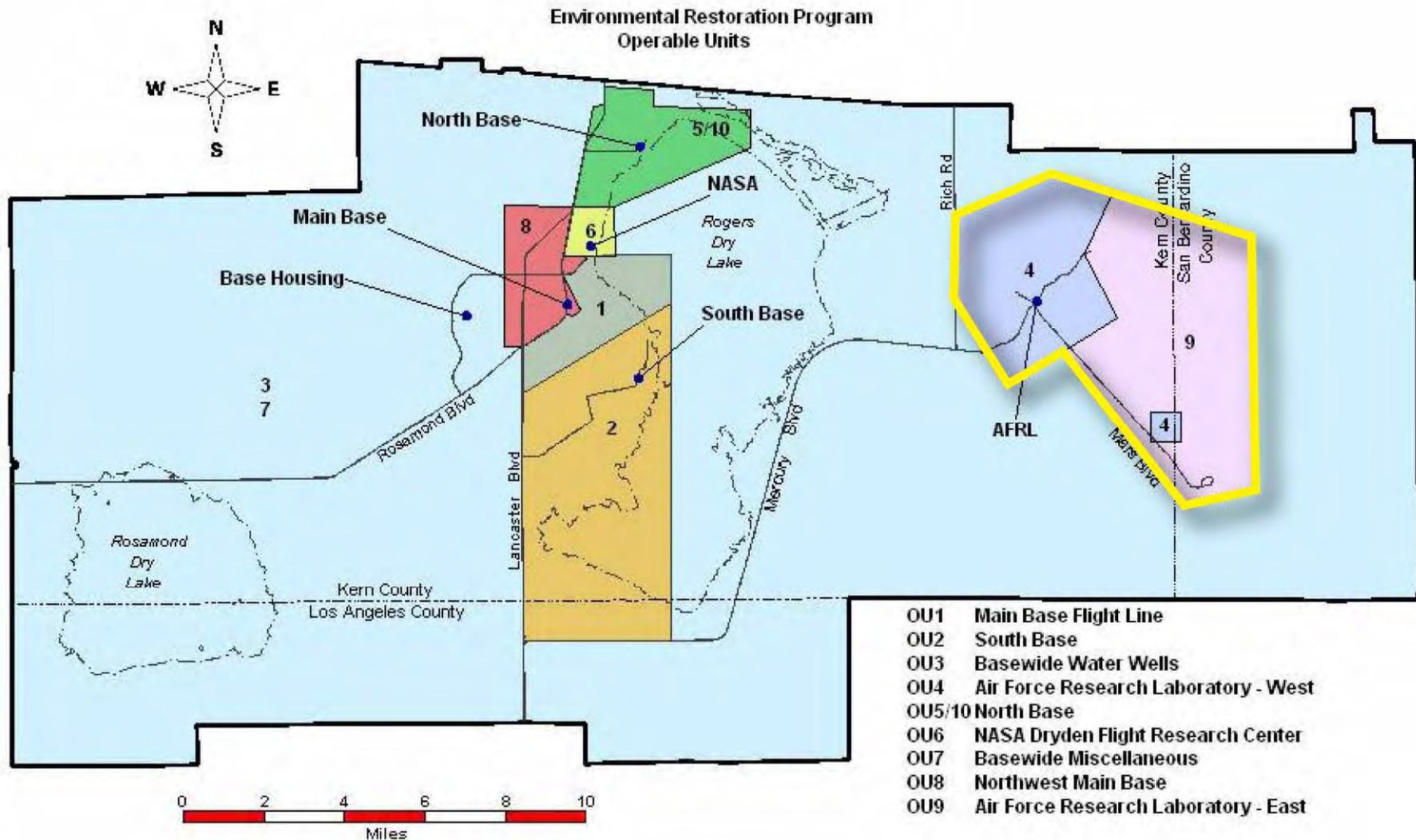


OUs 4 & 9

Air Force Research Laboratory



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OUs 4 & 9

Air Force Research Laboratory



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- **Field Activities**

- February 2010

- Site 13 Closed Landfill Inspection
 - Reactivation of Site 172 Soil Vapor Extraction System
 - Site 162 and Site 177 In Situ Bioremediation Performance Monitoring Sampling
 - Site 177/325 Step drawdown test to assess well yield
 - Site 6/113 – Development of four newly installed wells

- March 2010

- Redevelopment of several South AFRL wells
 - Installation of a new groundwater monitoring well at Site 133



Step Drawdown Test at NE AFRL Area



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OUs 4 & 9

Air Force Research Laboratory



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- **Groundwater Modeling Efforts**
 - Phase I effort involving flow and transport modeling for NE AFRL is near completion
 - New approach: Larger domain (based on USGS water shed boundaries), additional layers, steady-state flow model calibration, revised source assumptions, transport calibrated to contaminant contours based on 2008 groundwater sample data
 - Next tasks: Revision of South AFRL and AFRL Arroyos models following similar approach (will include preparation of a flow and transport model for the Mars Blvd. OU9 sites)



OUs 4 & 9

Air Force Research Laboratory



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- **Reports and Other Deliverables**
 - Draft AFRL Arroyos Record of Decision
 - Draft 2010 Well Installation Work Plan for AFRL Arroyos Sites
 - Final South AFRL Well Installation Work Plan



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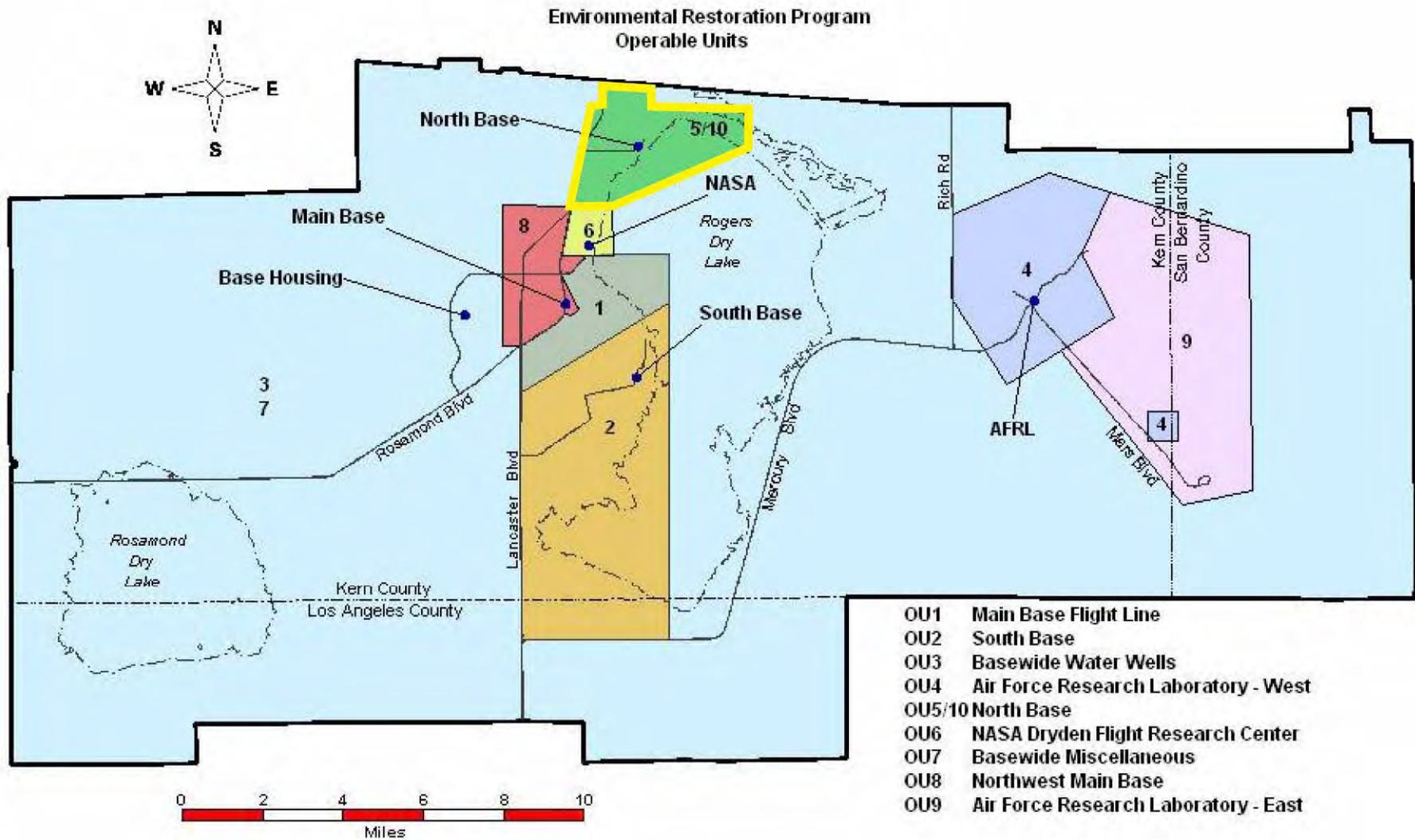
Questions or Comments?



OU5/10 North Base



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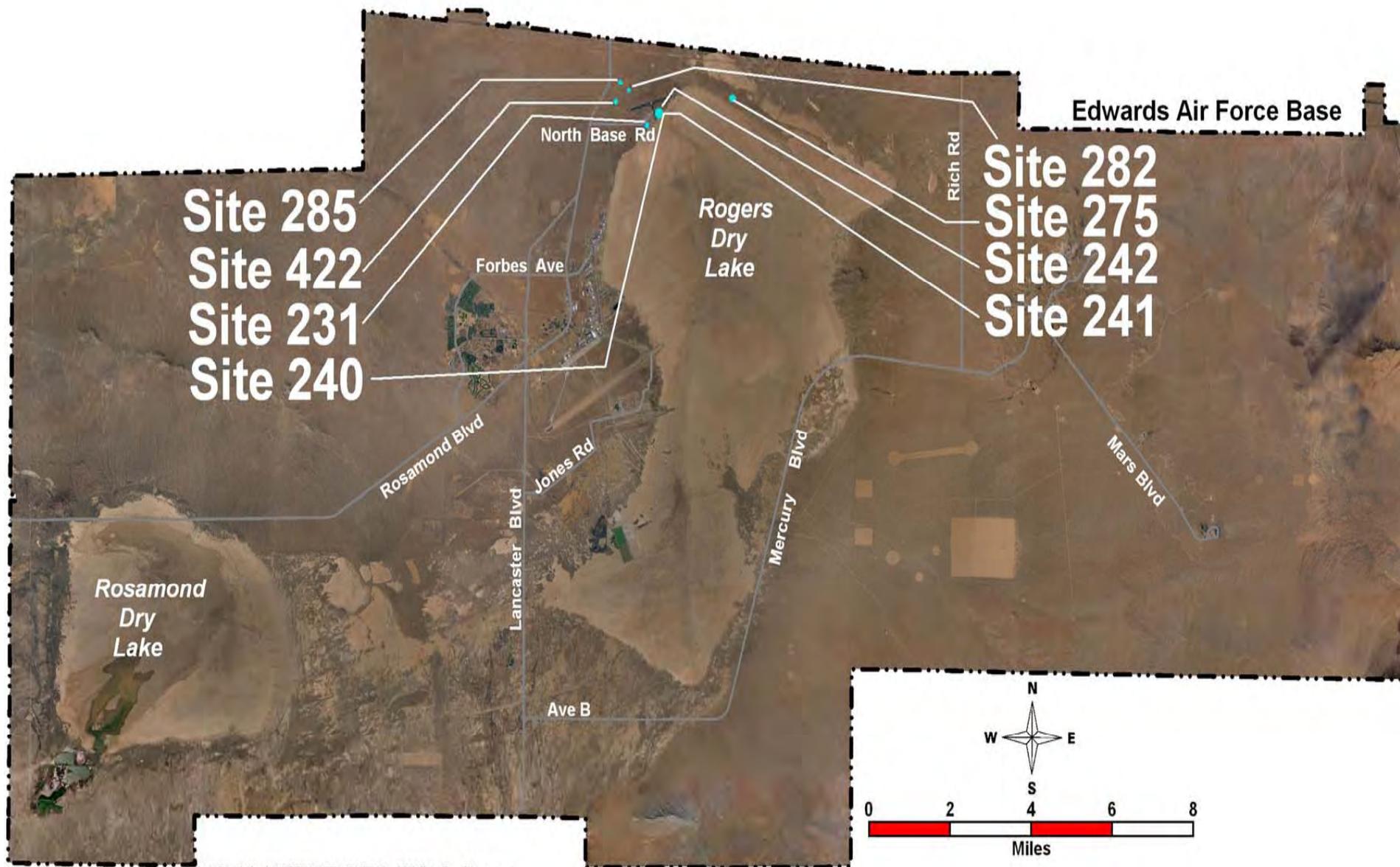




OU5/10 Site Location Map



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OU5/10 Current FFA Schedule



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- **Draft Feasibility Study (FS) 31 January 2013**
 - Additional plume characterization and delineation required
 - Scheduled for fourth quarter fiscal year 2010 award
 - Two-year effort (work plans, fieldwork, groundwater sampling, summary report)
- **Final FS 20 May 2013**
- **Final Proposed Plan (PP) 20 May 2014**
- **Final Record of Decision (ROD) 18 May 2015**



OU5/10 Project Status



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- **Site 231 under Time Critical Removal Action (TCRA)**
 - Soil excavation September to October 2010
 - Work sampling approach and Action Memorandum with RPMs
- **Community Involvement for TCRA**
 - Public notices, RAB brief (August 2010), *Report to Stakeholders* (RTS) newsletter
- **Site 242 continues as Non-Time Critical Removal Action (NTCRA)**
 - Final EE/CA completed 30 April 2010
 - Action Memo and Work Plan to be prepared
 - Removal Action (soil excavation) June 2011

**Site 231
Excavation
Work Area**

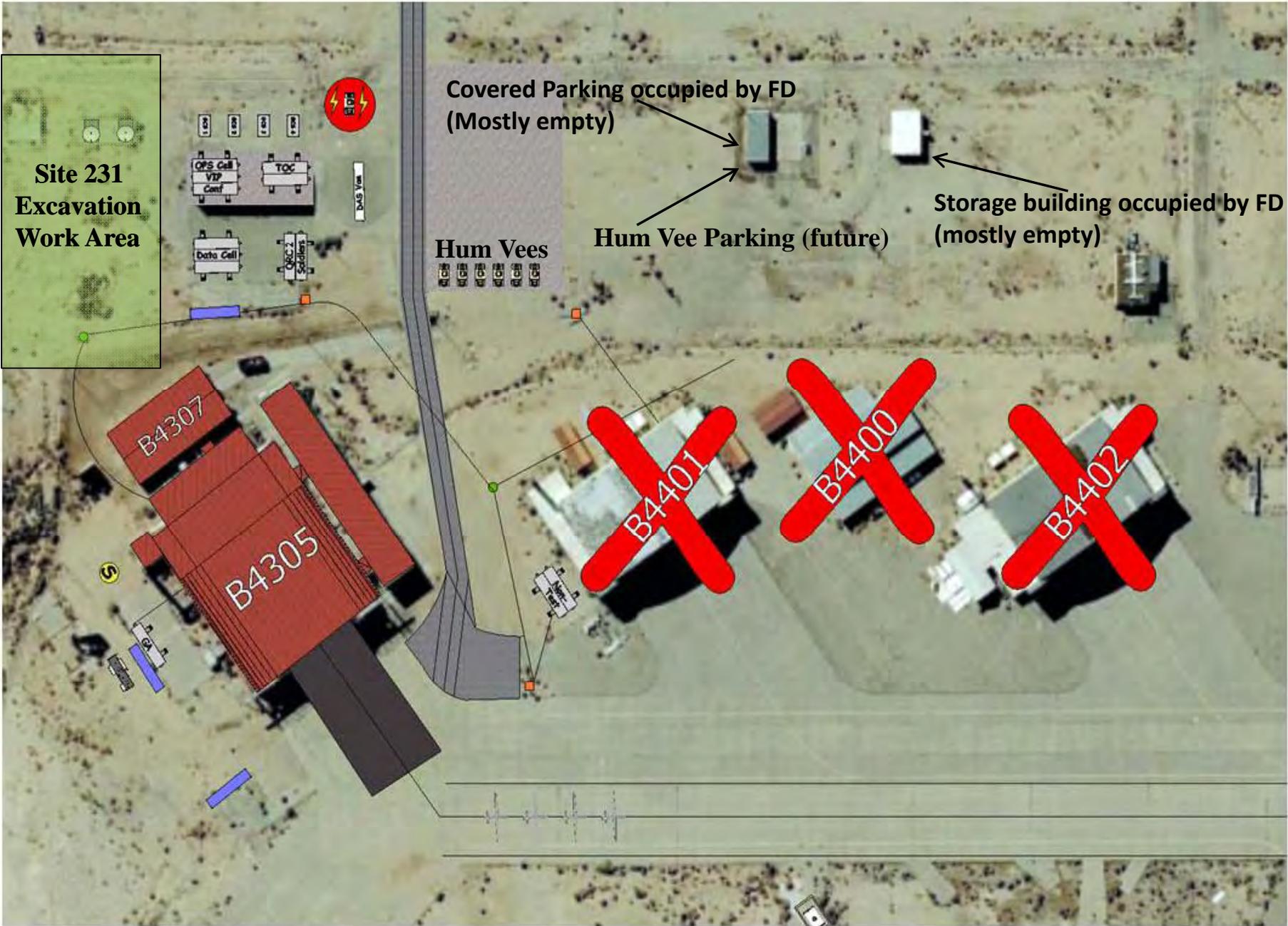


**Covered Parking occupied by FD
(Mostly empty)**

Hum Vee Parking (future)

**Storage building occupied by FD
(mostly empty)**

Hum Vees





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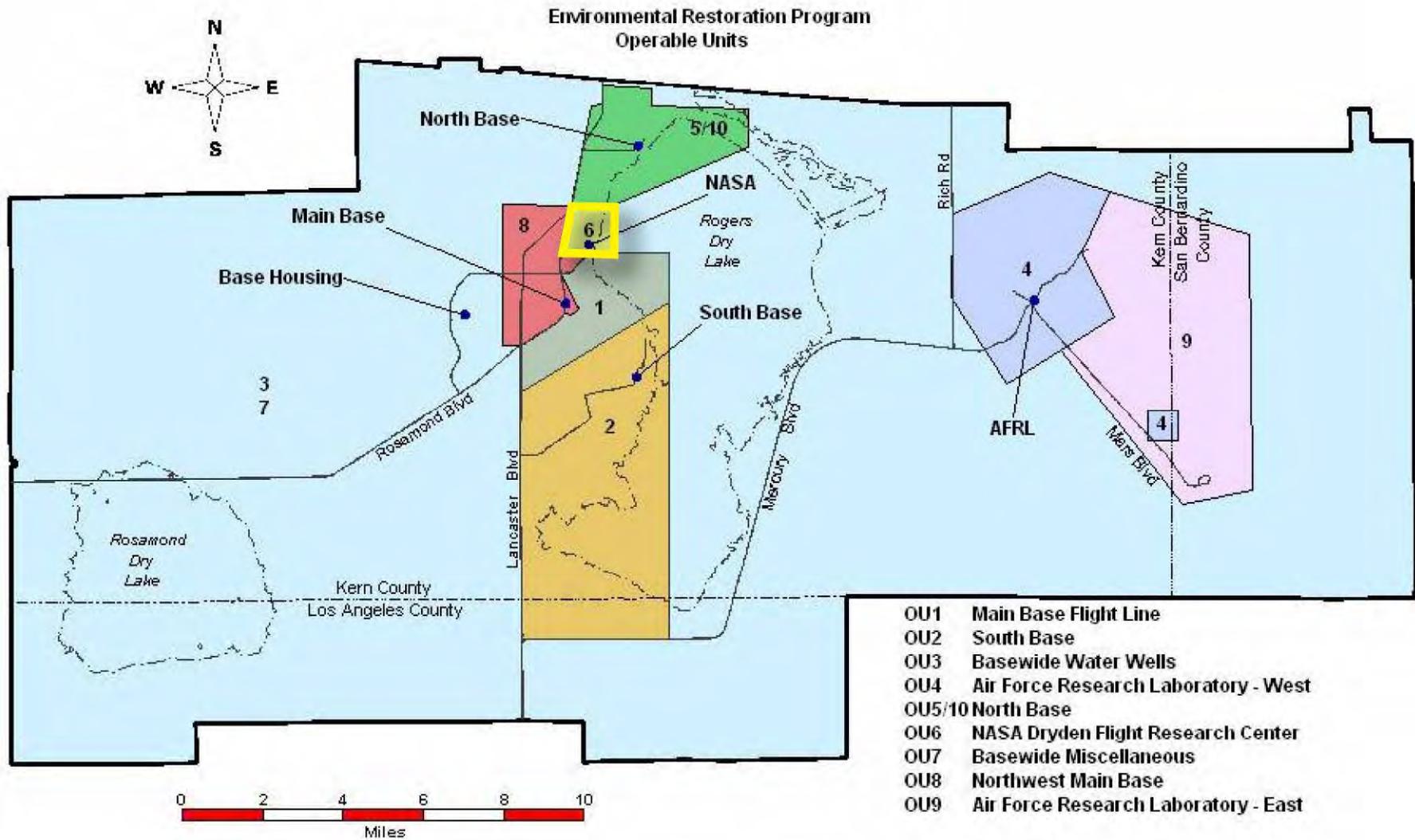
Questions or Comments?



OU6 NASA Dryden



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OU6 NASA Dryden



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- **Post-ROD**
 - NASA provided funding for installing six monitoring wells in March 2010
 - Remedial Action Work Plan Addendum for the installation of six new monitoring wells was finalized in May 2010



OU6 NASA Dryden



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- **Post-ROD**
 - Future Plans
 - Install six monitoring wells to provide further delineation of trichloroethene (TCE) in May/June 2010
 - Inject sodium permanganate solution to oxidize TCE in the eastern edge of the groundwater plume in July 2010
 - Five-Year Review Schedule – Draft Final Report to RPMs June 2011, Final Report due September 2011

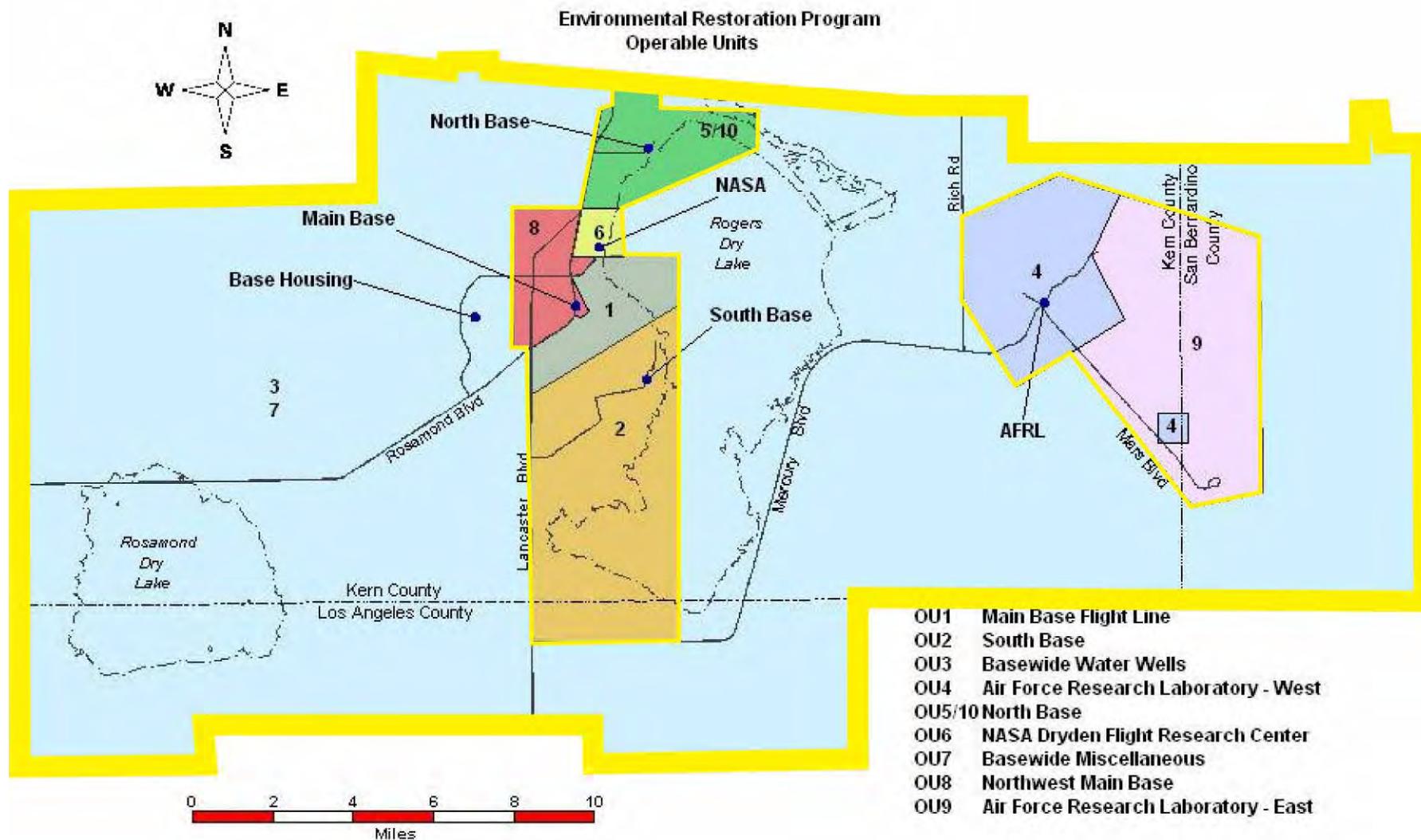


OU7

Basewide Miscellaneous



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OU7

Basewide Miscellaneous



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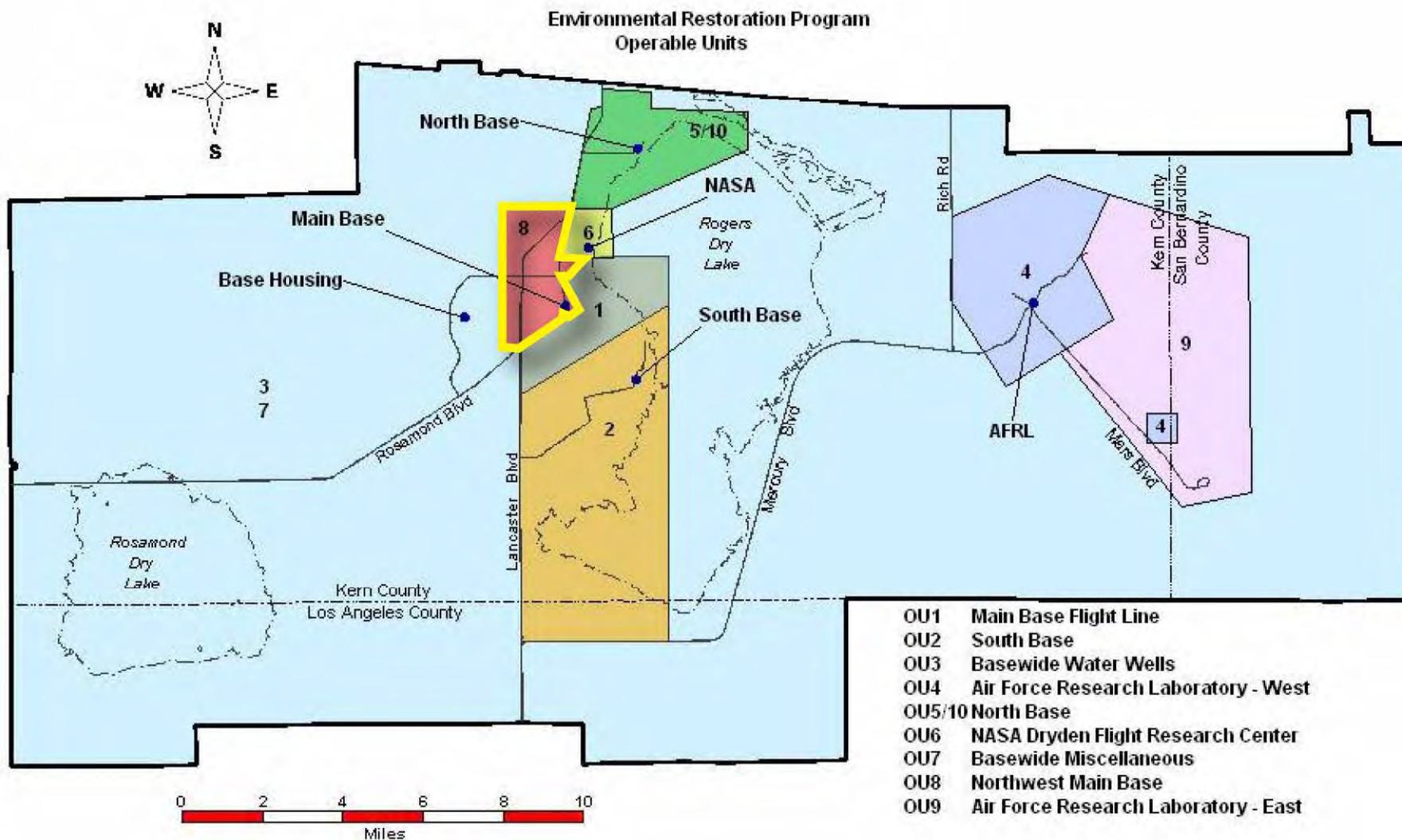
- **Proposed Plan**
 - Draft Final for RPM review 9 July 2010
- **2010 Projects**
 - Non-Time Critical Removal Actions – Soil Only – Sites 280 and 294
 - Removal Action Work Plan for Site 339



OU8 Northwest Main Base



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OU8

Northwest Main Base



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- **Contract Award: Non-Time Critical Removal Action – Soil Only – for Sites 257, 299, and 300**
- **Preliminary Pre-Design Investigation results indicate need for further investigation**
 - Site 226: Three more borings in May to define arsenic in shallow soil
 - Site 299: Groundwater plume needs more definition
 - Site 257: Upgradient well water had nitrate slightly above maximum contaminant level (MCL). Site will be included in nitrate isotope source study for further forensics
- **Pre-Design Investigation Draft Report by July 2010**



OU8

Northwest Main Base



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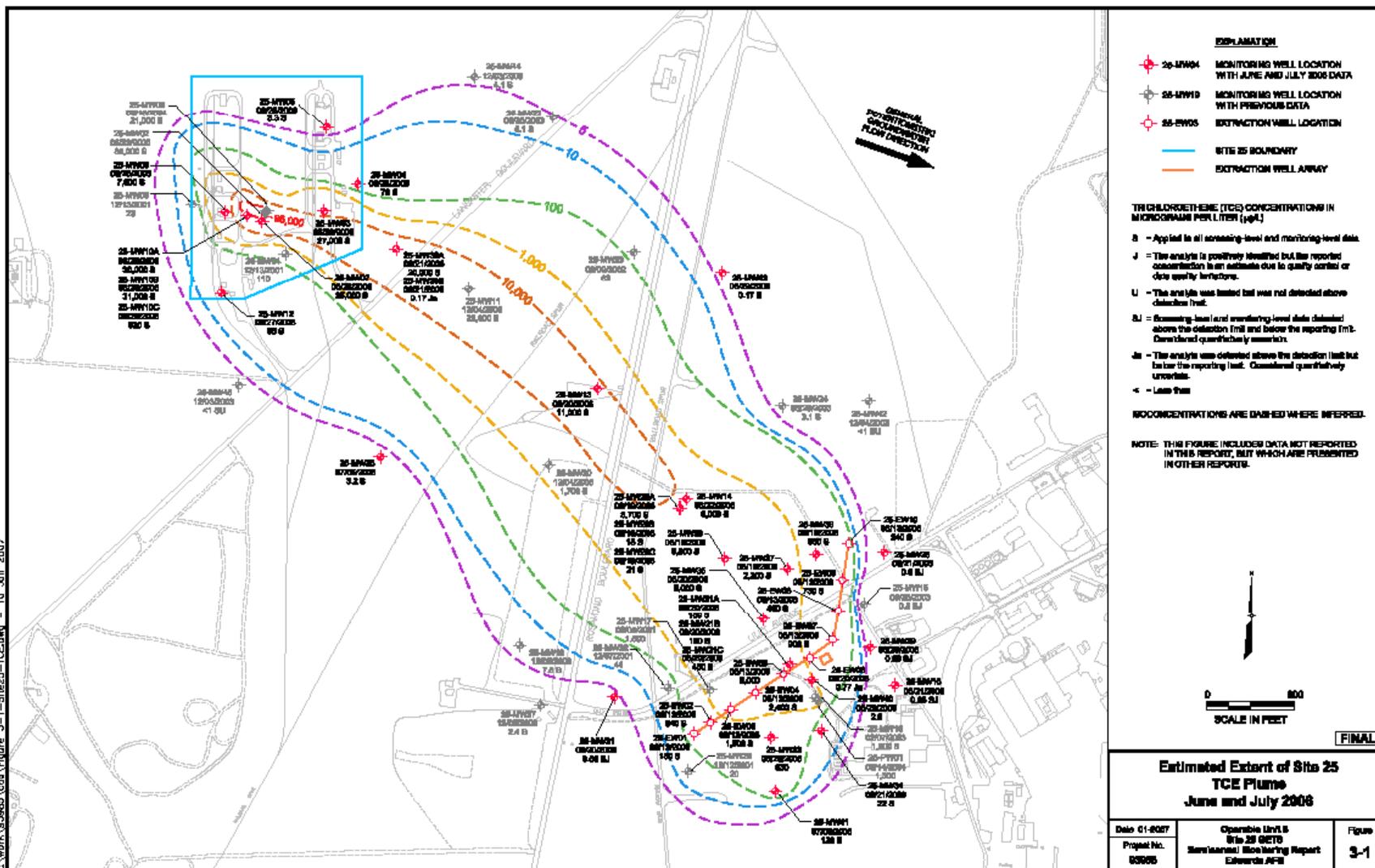
- **Programmed project will resolve specific data gaps for the OU8 FS Addendum**
- **Draft OU8 Technical and Economic Feasibility Analysis held for revision pending FS Addendum**



OU8 Site 25 GW Plume



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OU8 Site 25



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- **Draft Final Feasibility Study due June 2010**
- **Comment resolution on Draft FS required six months due to the complex nature of this site**
- **In Situ Chemical Oxidation Treatability Study**
 - Study tests trench delivery approach for treating shallow groundwater contamination in fractured bedrock
 - First injections in early April. As of 26 April, considering second injection, monitoring for potential mobilization of metals



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Questions or Comments?