

OU2 Landfill Capping Site 39 Soil Remediation

**Community Involvement Mobile Workshop
February 21, 2015**

**Technical Review Committee
February 24, 2015**

Peter Kelsall



Operable Unit 2 (OU2) Landfills

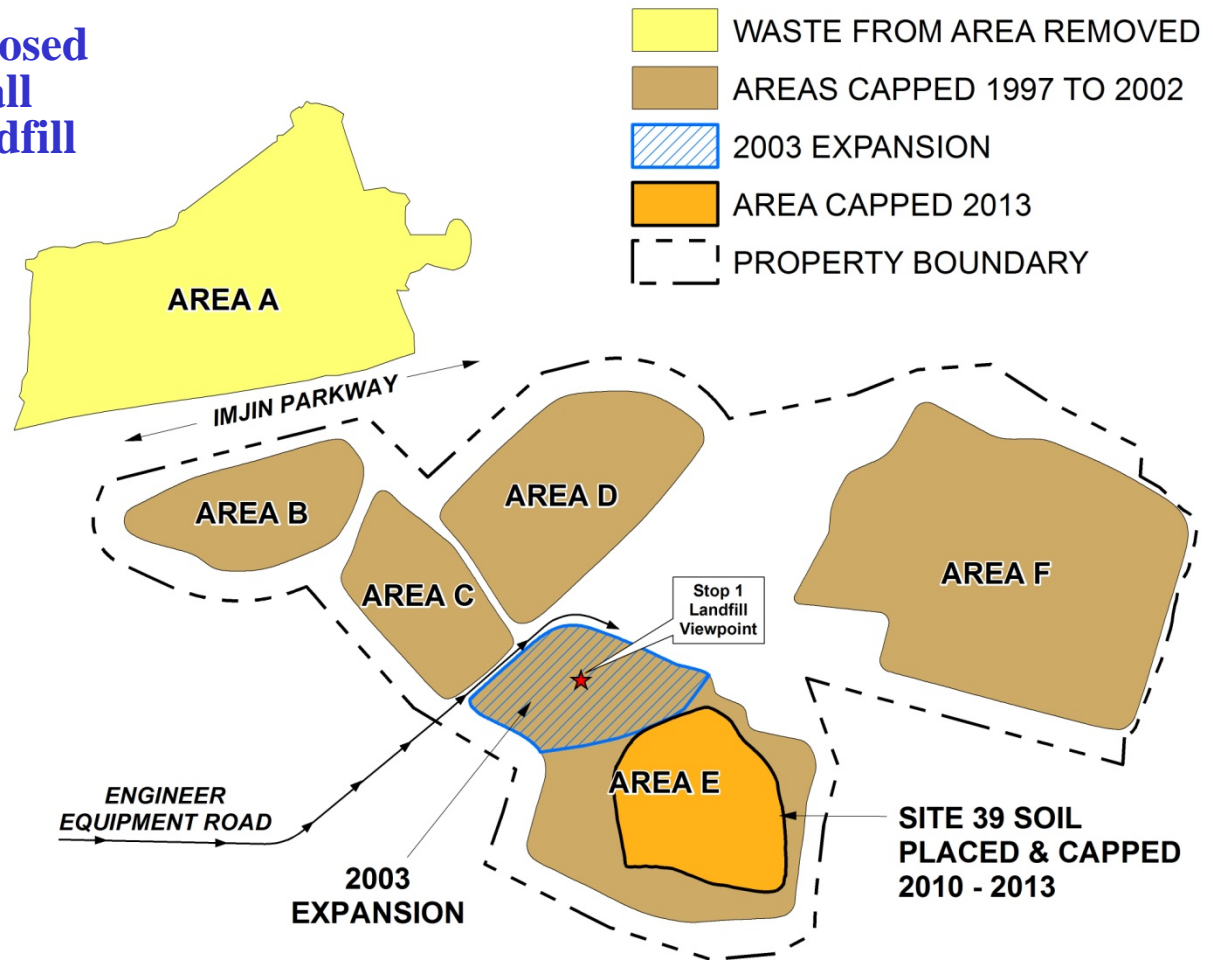
- Used for residential and on-base waste disposal, 1956 to 1987
- Record of Decision 1994
- Cover constructed in 3 phases
 - 1997 to 1998
 - 2002 to 2003
 - 2013
- Landfill incorporates soils from other Fort Ord remediation sites, placed under the cover

Aerial View

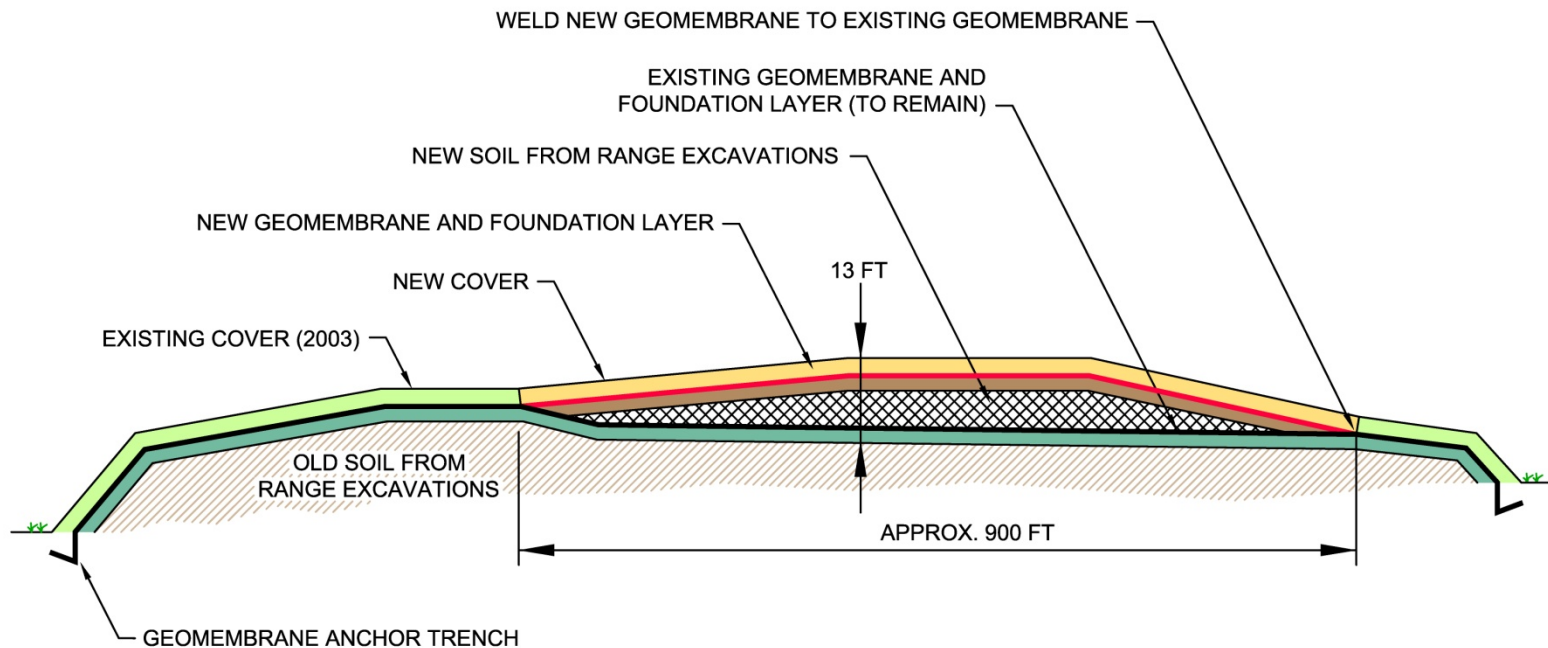


Landfill Status

**Area A was clean closed
by transferring all
wastes to other landfill
areas**



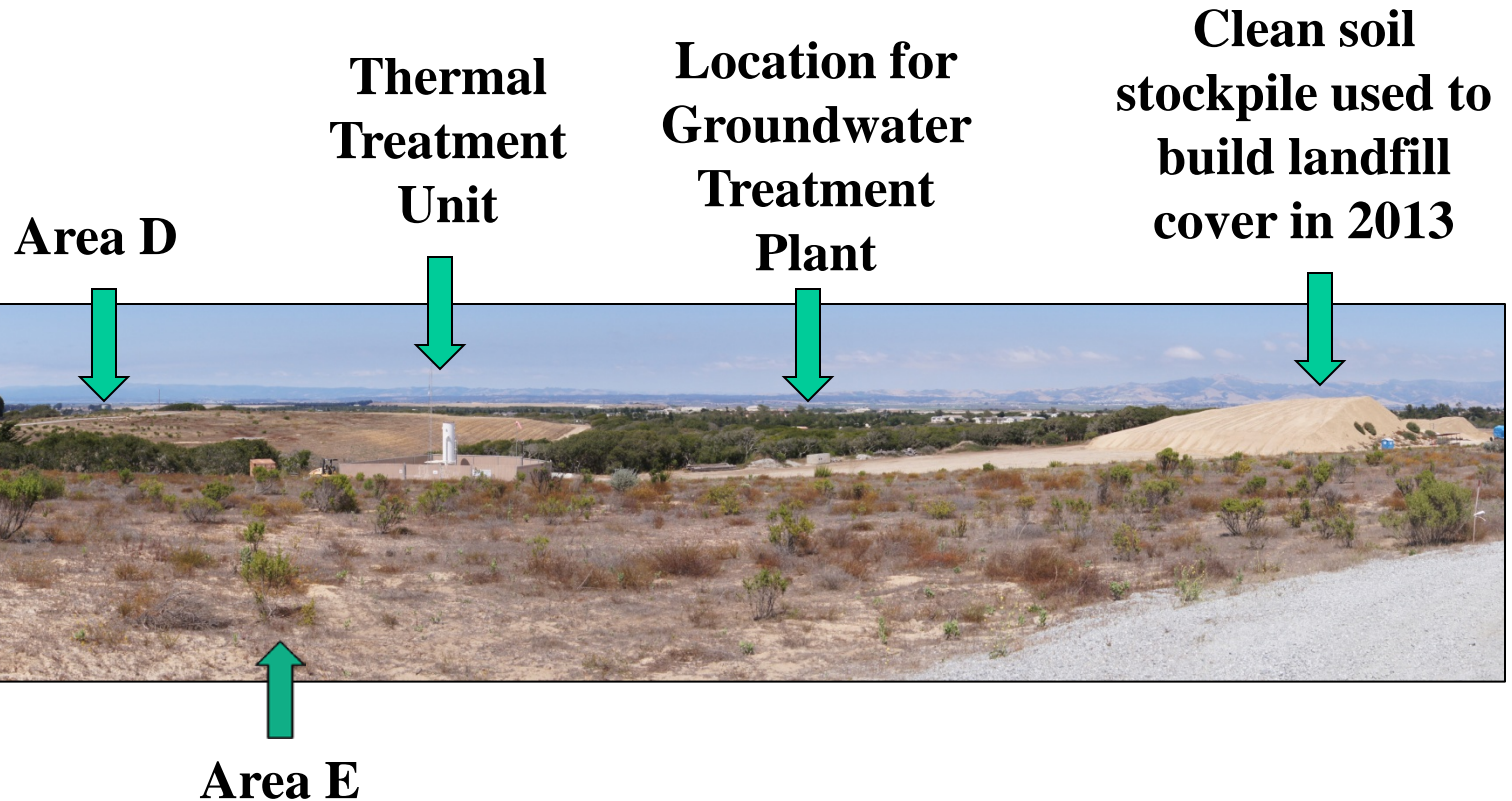
Cross Section for Cover Installed in 2013



Area E Landfill Cap Construction - 2003



Landfill Panorama from Area E (2011)



Landfill Panoramas from Area E During Placement of Site 39 soil in 2013

Area F



**Ramp for unloading
Site 39 soil**

Area E now capped



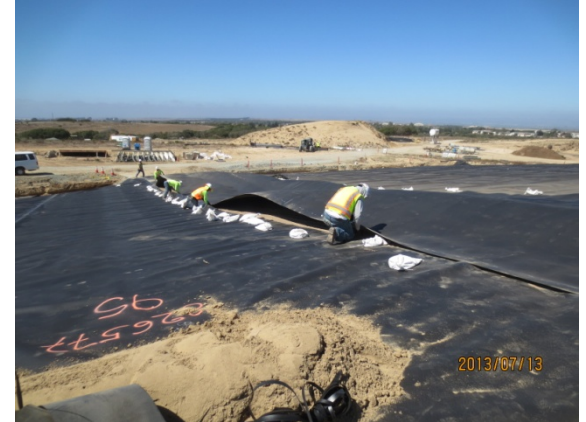
Capping Area E in 2013



Factory inspection



Laying out rolls



Joining seams



Welding seams



Pushing out vegetative
cover



Hydroseeding

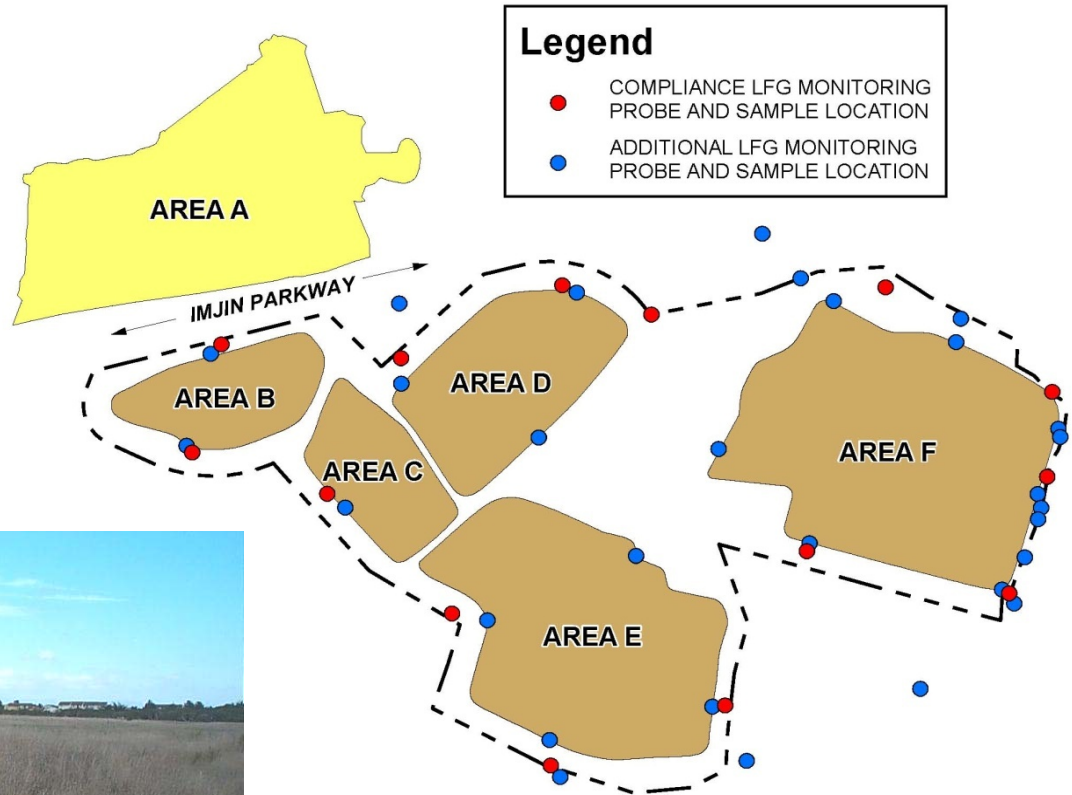
Landfill Gas

- Produced in all landfills when organic waste decomposes
- Gases are mostly methane and carbon dioxide with small amounts of other organic gases (similar to compounds that have been found in groundwater beneath the landfill)
- Monitoring for landfill gas required by regulation is part of routine maintenance
- Landfill gas is extracted and treated

Landfill Gas Monitoring Locations

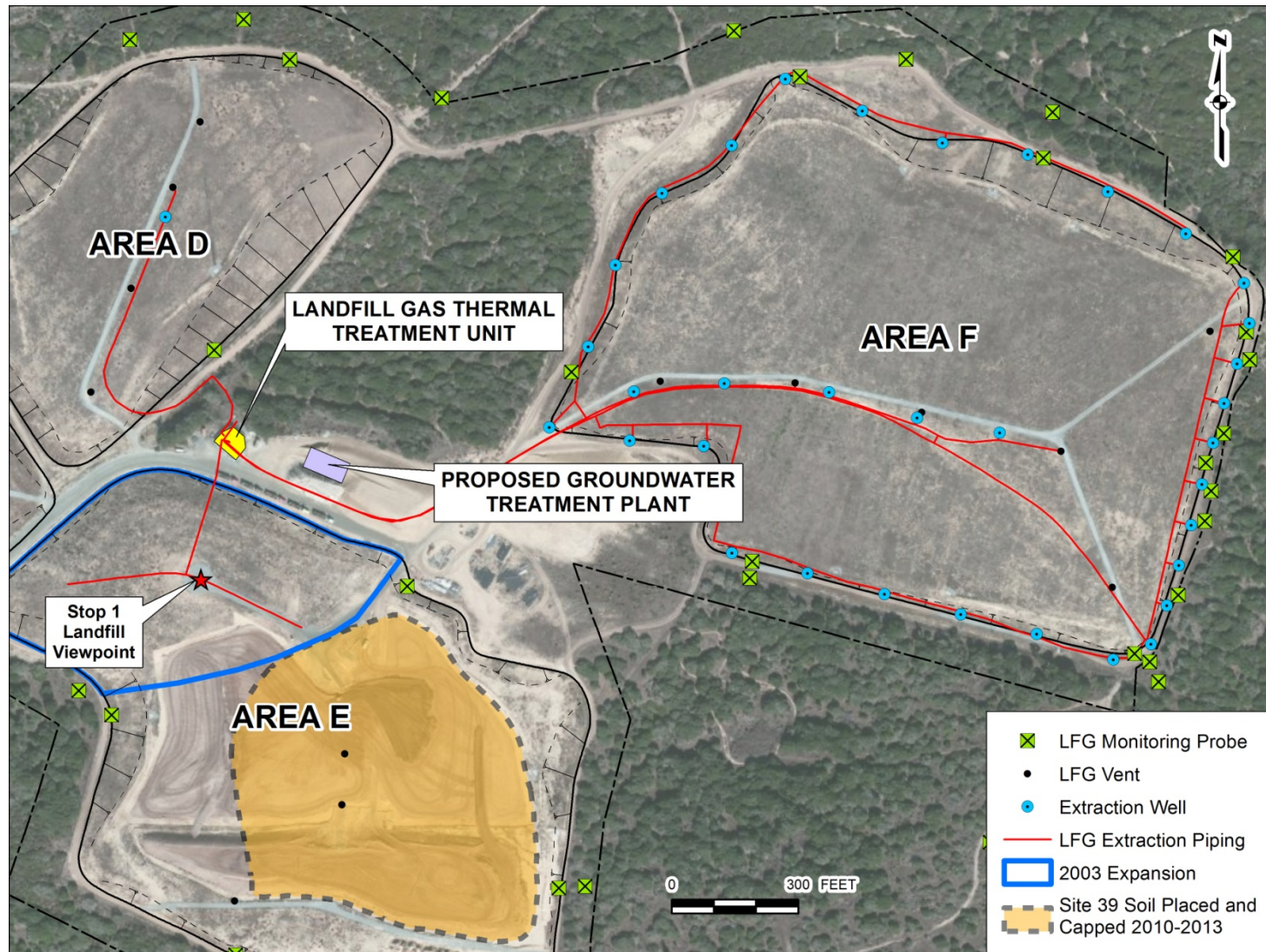
Monitoring is required by State regulation to show that methane does not exceed 5% at landfill perimeter

Monitoring of probes and ambient air has demonstrated no impact to surrounding community

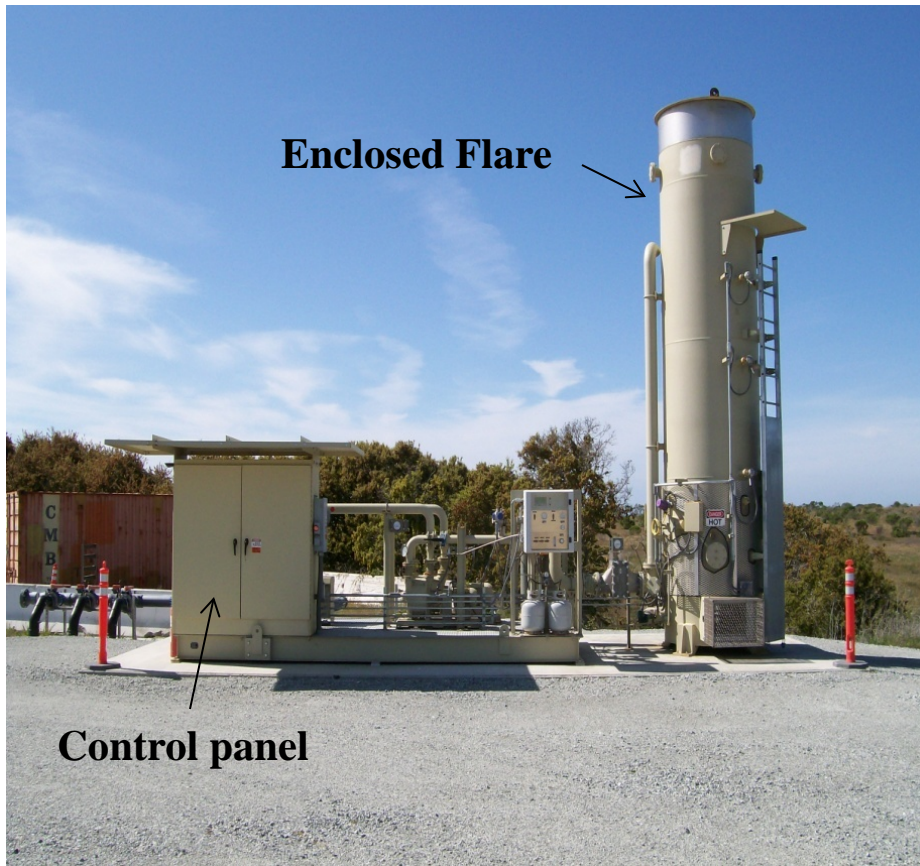


Methane is monitored below ground with “perimeter probes” installed all around the landfill property boundary

Landfill Gas Extraction and Treatment



Landfill Gas Thermal Treatment Unit (TTU)

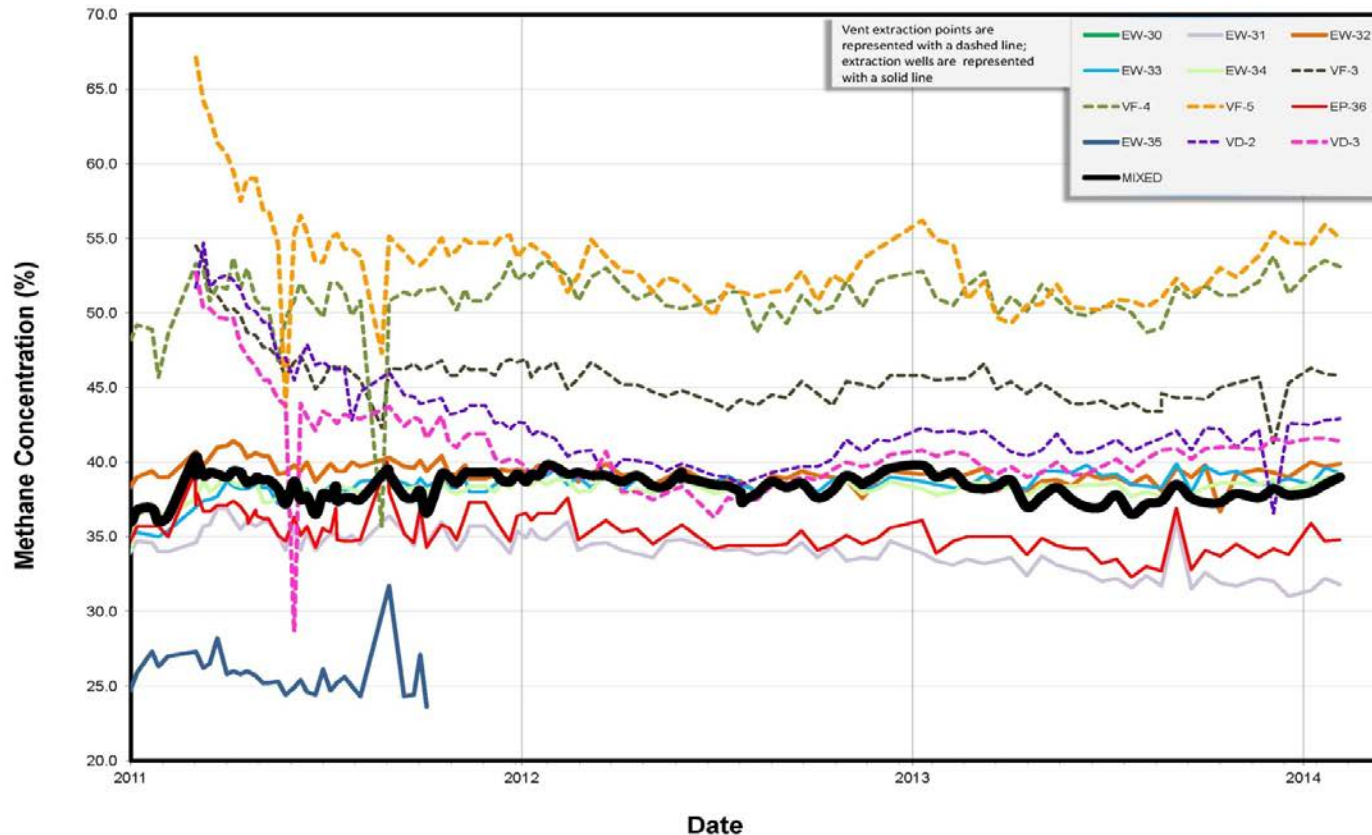


- Industry standard design
- High temperature destruction of organic compounds including methane
- Operating since August 2006
- Destroys volatile organic compounds that otherwise potentially could reach groundwater or the atmosphere

Methane Concentration vs. Time

OU2 Landfill Extraction Sources

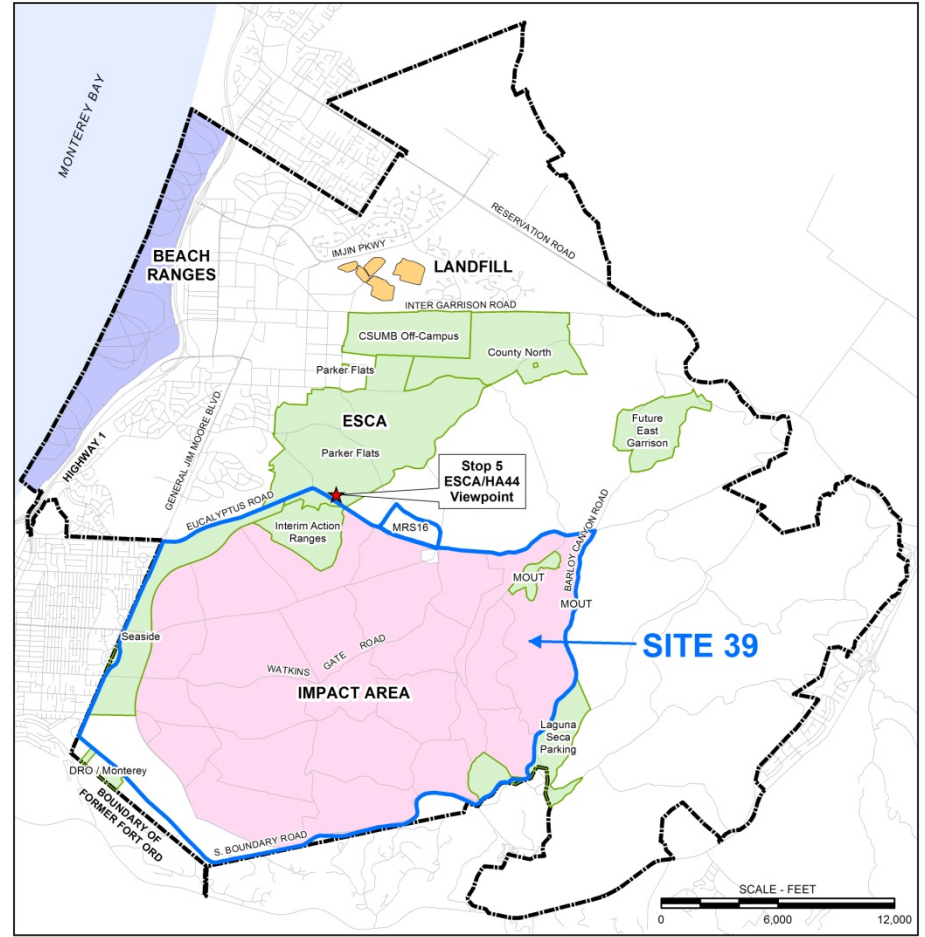
2011 to present



TTU is operated intermittently to maintain a constant methane concentration at the TTU

Site 39

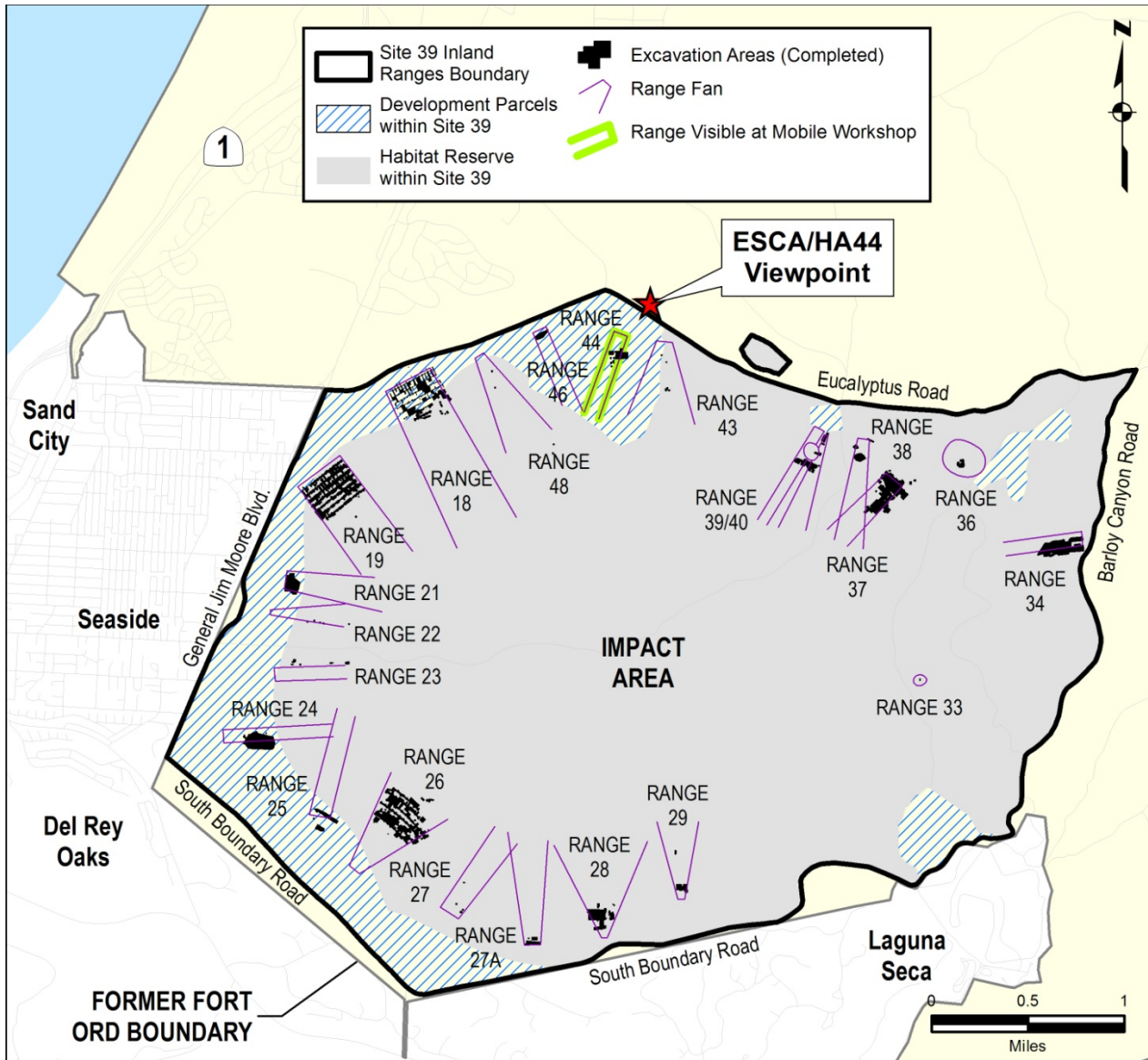
- Ranges or “historical areas” (HAs) used for live fire training with various weapons
- Mostly within the 8,000 acre Impact Area
 - Munitions issues are addressed by the Track 3 Record of Decision (ROD)
 - Chemical contamination is addressed by the Basewide Remedial Investigations Sites ROD (1997) and the ROD Amendment (2009)



Site 39 Remediation

- Removal of soil with lead or explosives above levels of concern for human health and ecological receptors
- Remediation to below average concentrations allows areas with high habitat quality to remain in place
- 80 HAs in Site 39
 - 6 HAs remediated in 2003 (60,000 cubic yards)
 - 18 HAs remediated in 2010 to 2013 (150,000 cubic yards)
 - 42 designated as no further action
 - Known Site 39 soil remediation has been completed
 - Remaining HAs require further evaluation following munitions response actions

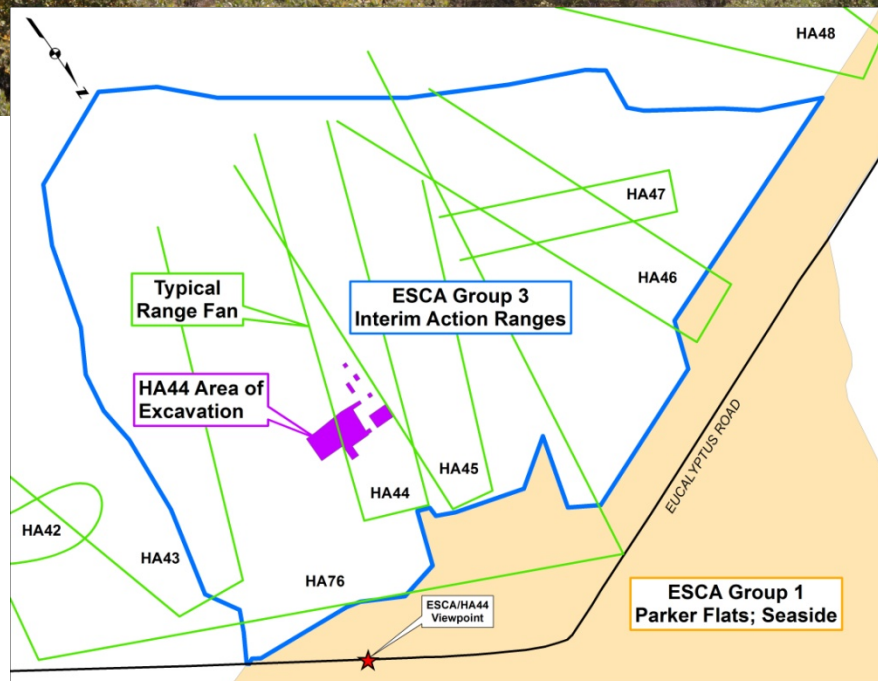
Completed Range Remediation



ESCA and HA 44 Viewpoint

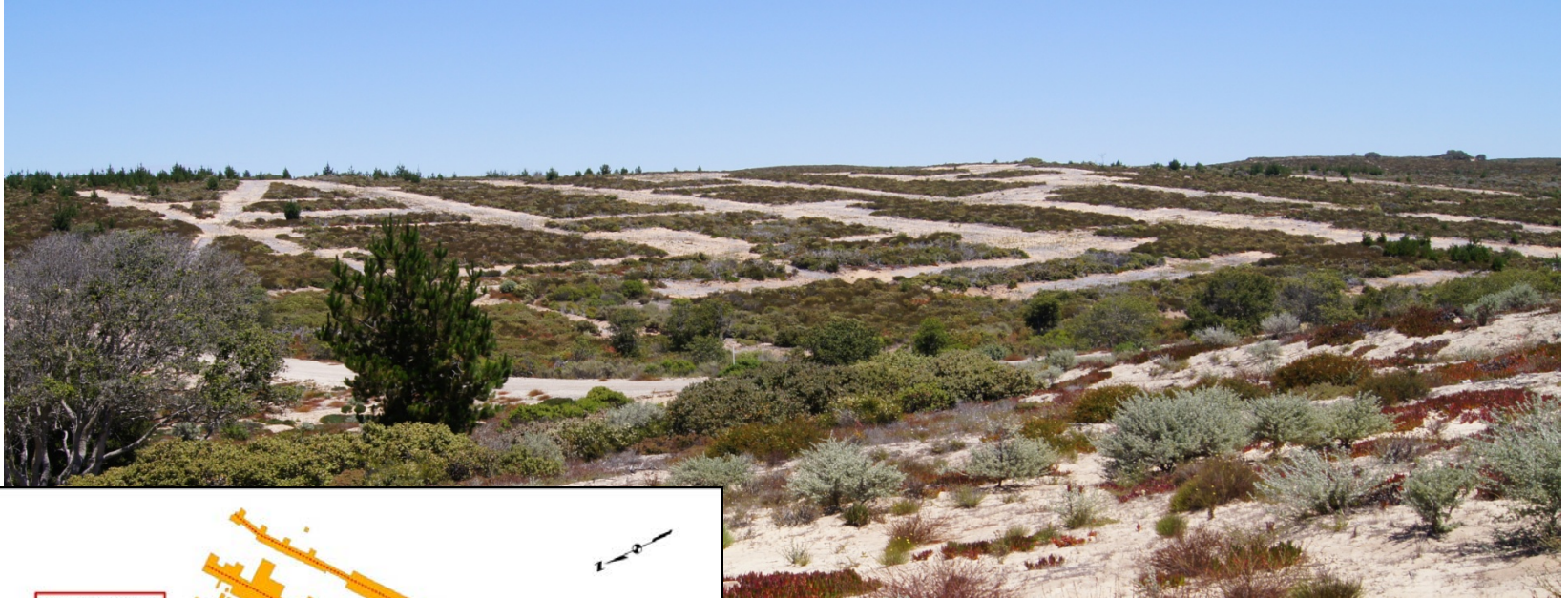
HA 44 soil
remediation

ESCA MEC
remediation



View south from
Eucalyptus Road

HA 19 Remediation Completed in 2010



**View from General
Jim Moore Boulevard**

For More Information

Visit the Army's website at:

www.fortordcleanup.com

Fort Ord Administrative Record

Building 4463 Gigling Road, Room 101

Ord Military Community, CA 93944-5008