



**Former  
Fort Ord,  
Monterey  
County,  
California**

## Fort Ord Operable Unit 2 Landfills

Technical Review Committee Meeting, February 11, 2021

Derek S. Lieberman, P.E.

*Ahtna*

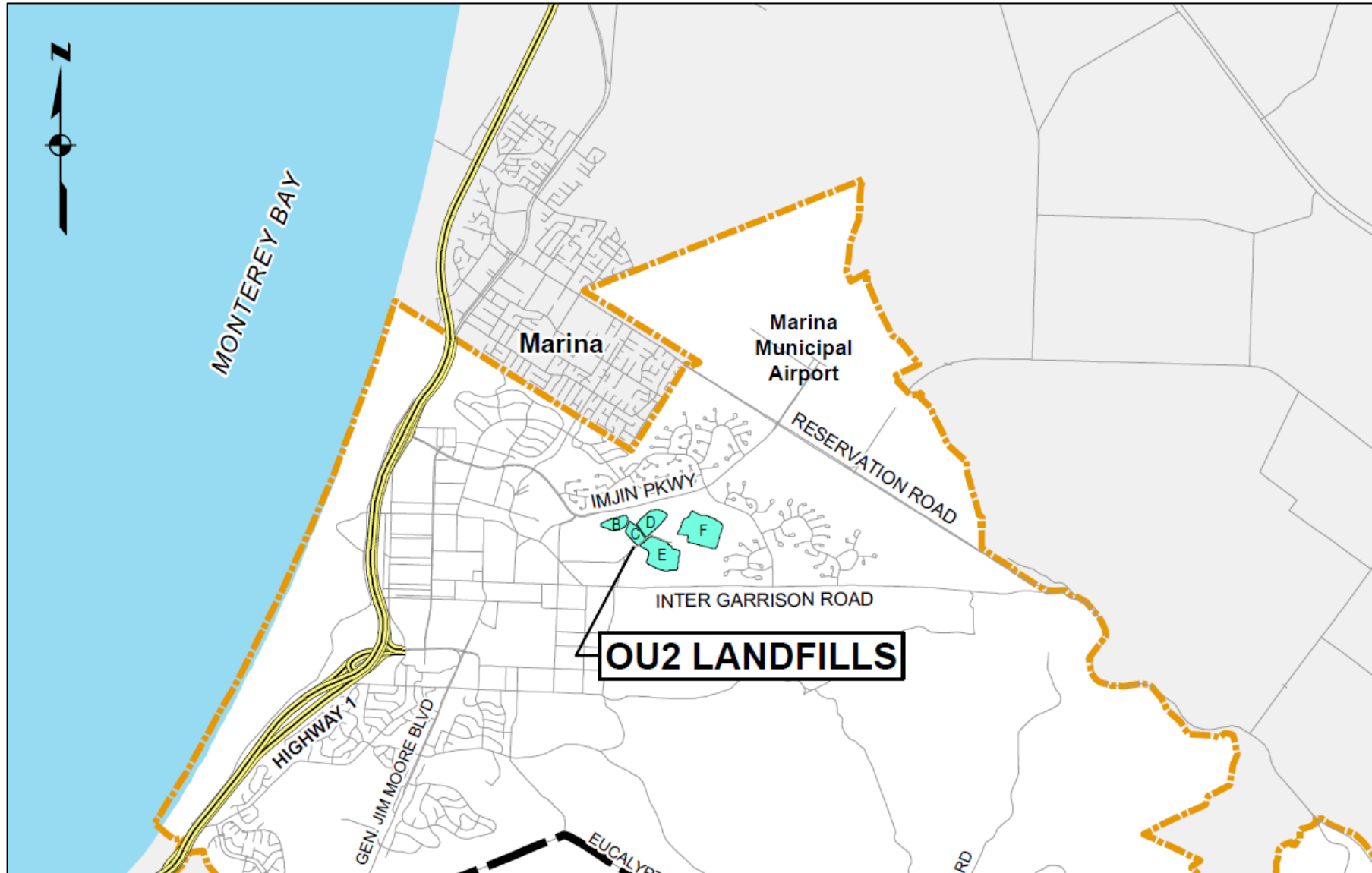
Eric Schmidt

# Fort Ord OU2 Landfills

- Used for residential and on-base waste disposal, 1956 to 1987
- Record of Decision 1994
  - Identifies the selected remedy for the Landfills as an engineered cover system
  - Agreement between the Army, U.S. Environmental Protection Agency (USEPA) and California EPA
- Engineered cover constructed in 3 phases
  - 1997 to 1998
  - 2002 to 2003
  - 2013
- Landfill incorporates soils from other Fort Ord remediation sites, placed under the engineered cover

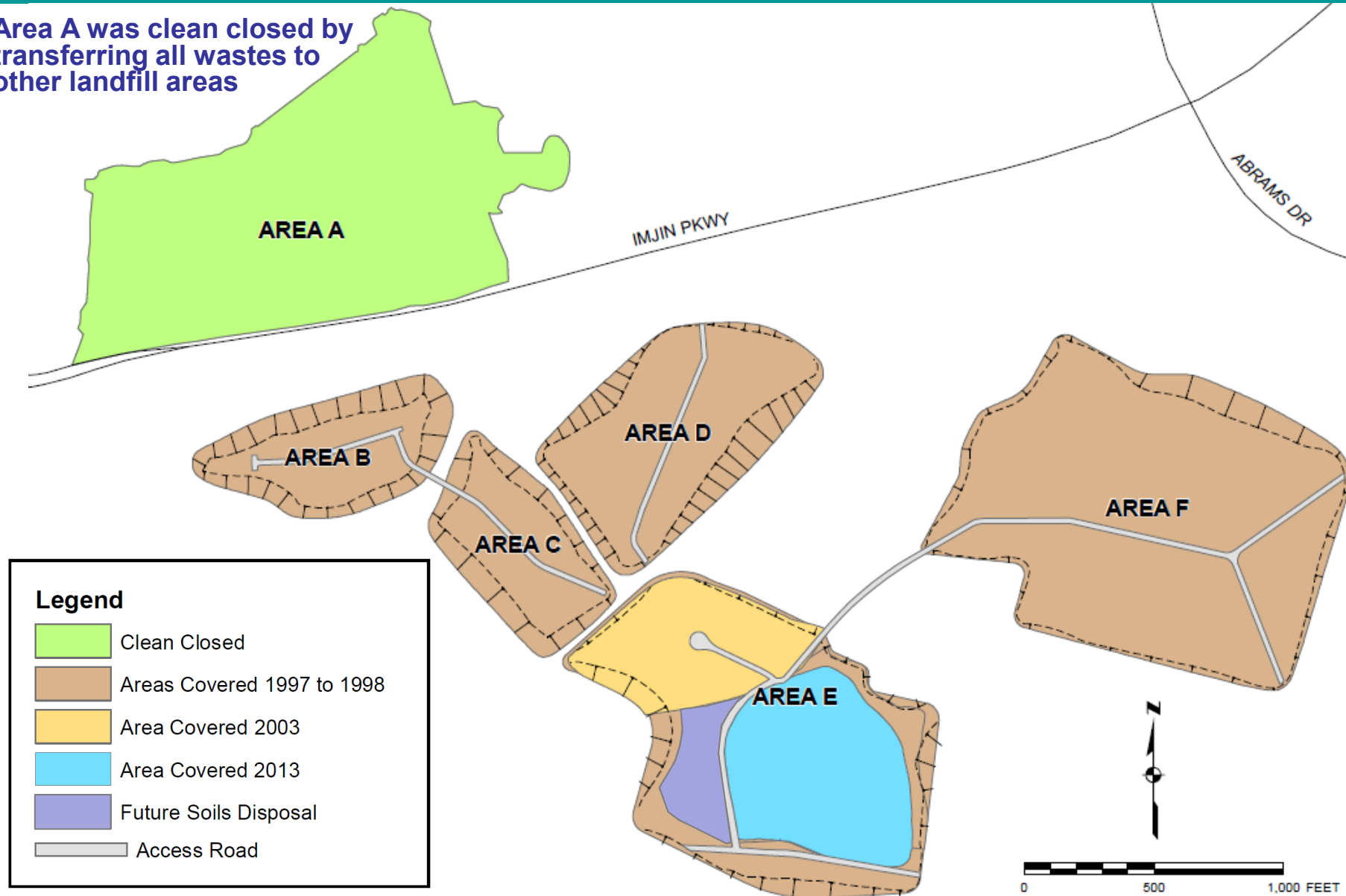


# Fort Ord OU2 Landfills Location



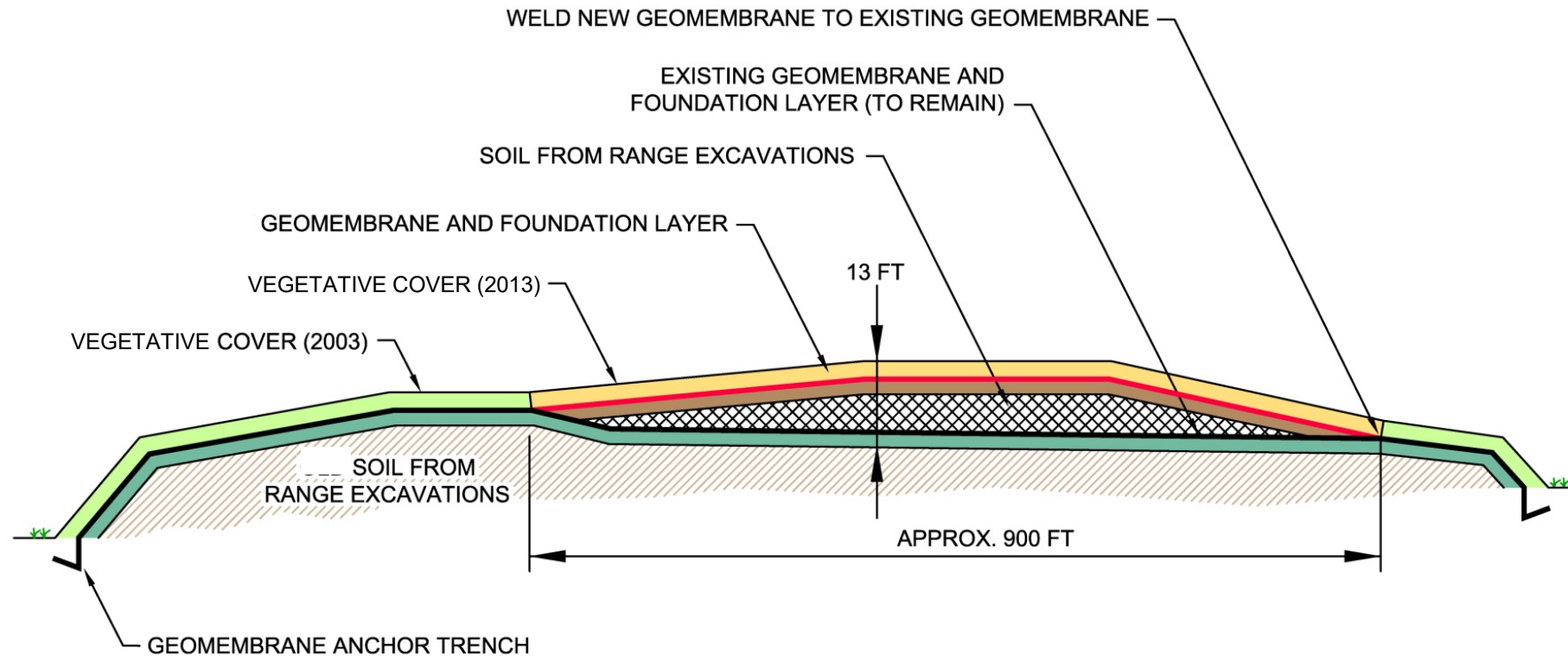
# Fort Ord OU2 Landfills Status

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





# Area E Cover System Installed in 2013



- 2013 VEGETATIVE COVER
- 2013 GEOMEMBRANE
- 2013 FOUNDATION LAYER
- 2013 SOIL FROM RANGE EXCAVATIONS

- 2003 VEGETATIVE COVER
- 2003 GEOMEMBRANE
- 2003 FOUNDATION LAYER
- 2003 SOIL FROM RANGE EXCAVATIONS

# Area E Cover Construction - 2003





# Covering Area E in 2013



Geomembrane  
factory inspection



Rolling out  
geomembrane



Joining geomembrane  
seams



Welding  
geomembrane seams



Placing vegetative  
cover soil



Hydroseeding  
with native seed



# Landfills Cover Maintenance



Area F vegetative cover erosion  
damage



Area F vegetative cover erosion  
repairs



# Landfills Cover Maintenance



Perimeter Road Erosion Repairs



# Landfills Cover Maintenance



Standard owl nest box installed at Area D

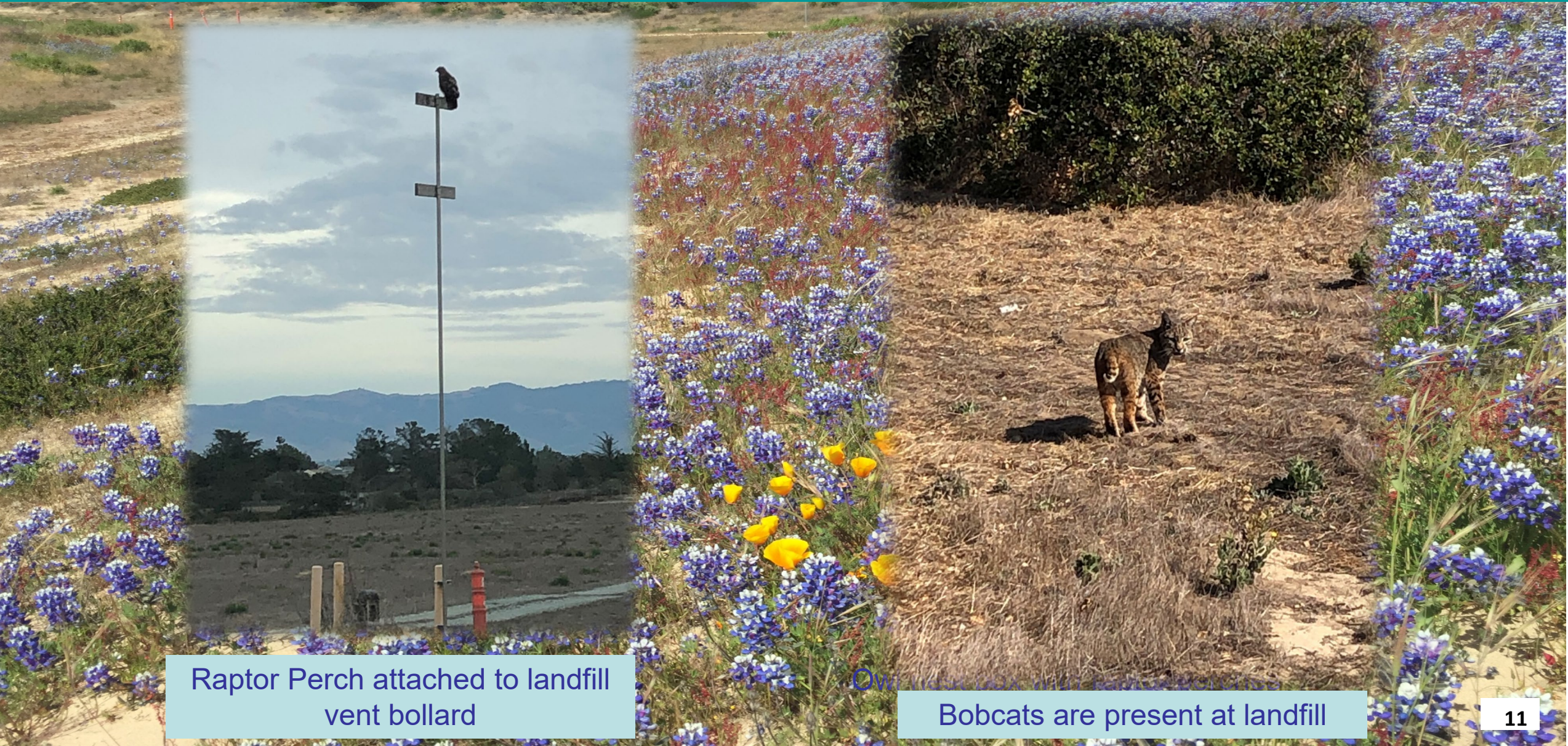


Owl nest box with raptor perches installed at Area B





# Landfills Cover Maintenance



Raptor Perch attached to landfill  
vent bollard

Owl visit with raptor perch

Bobcats are present at landfill



# Landfills Cover Maintenance





# Landfills Cover Maintenance



Raptor Perch Locations



# Landfill Gas

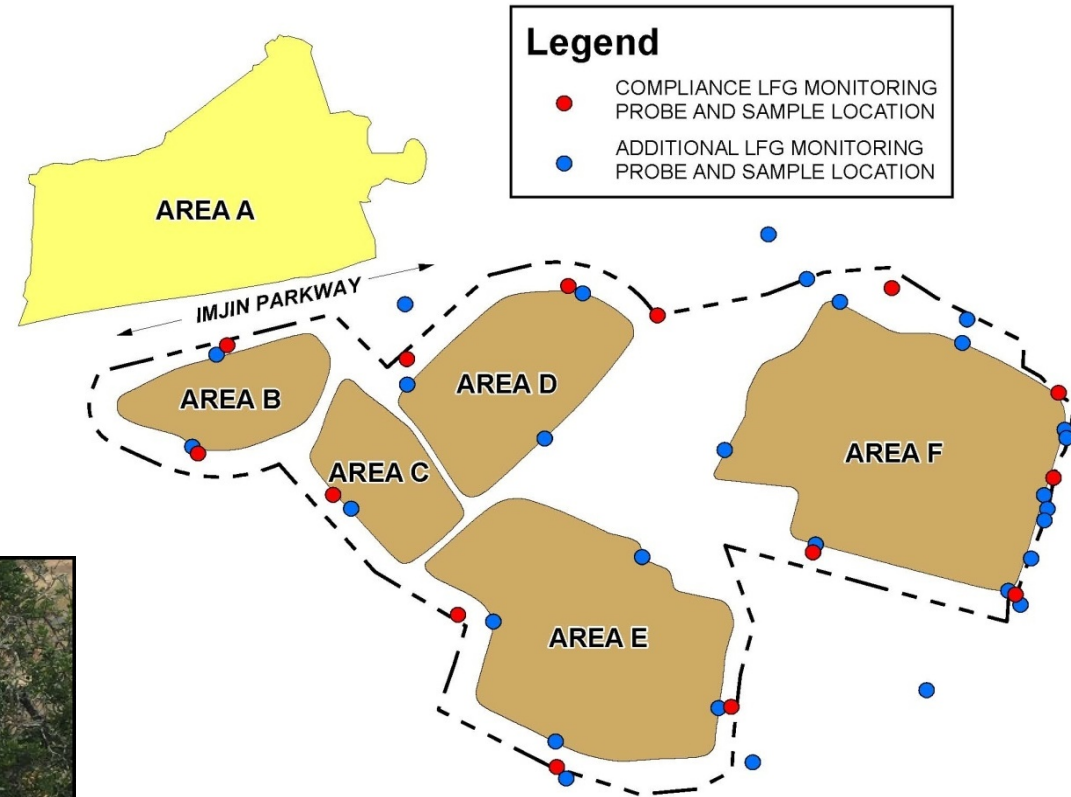


- Produced in all landfills when organic waste decomposes
- Gases are mostly methane and carbon dioxide
- Trace amounts of other organic gases are produced (similar to compounds that have been found in groundwater beneath the landfill)
- Landfill gas is extracted and treated



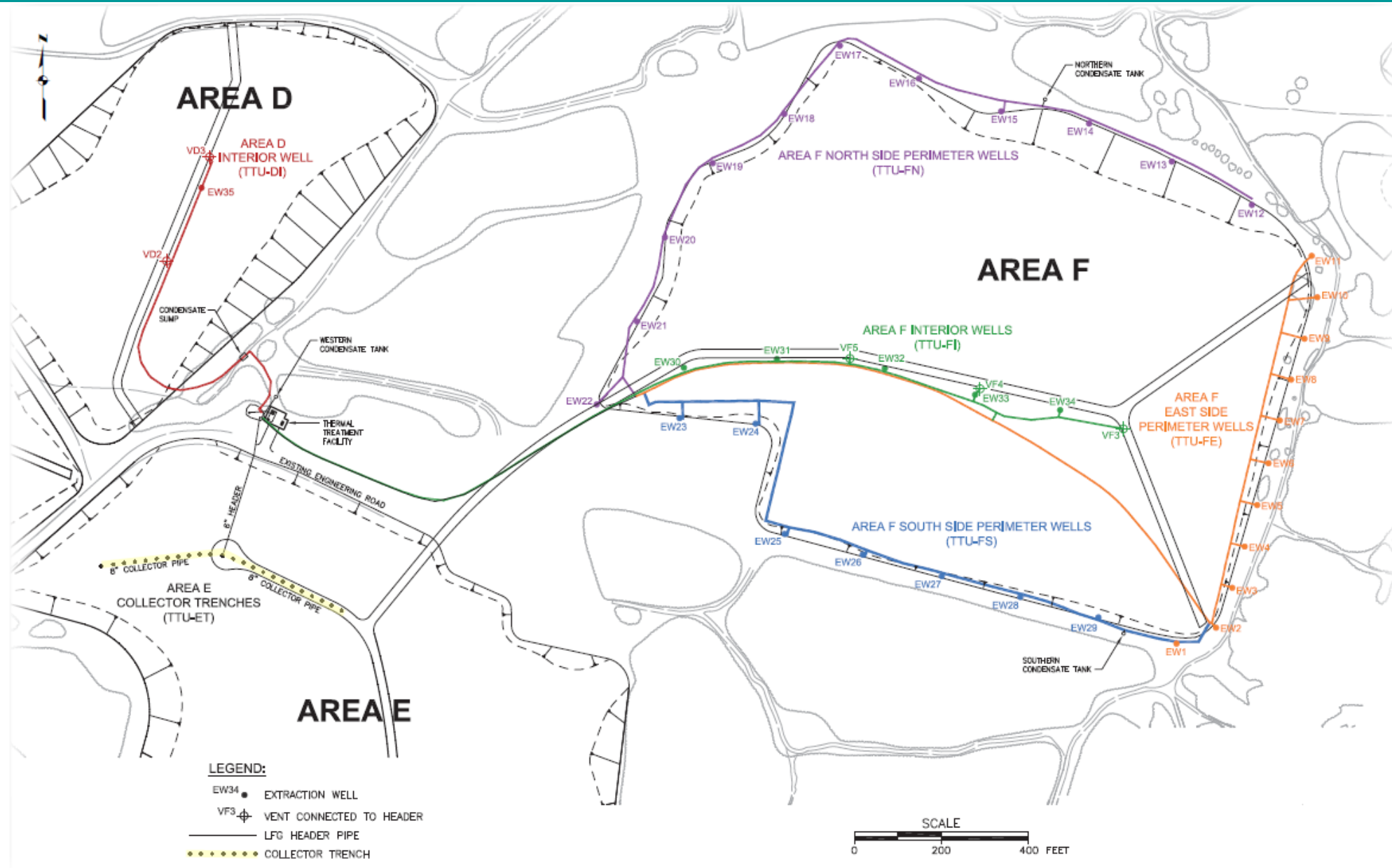
# Landfill Gas Monitoring Locations

- Monitoring is required by California 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

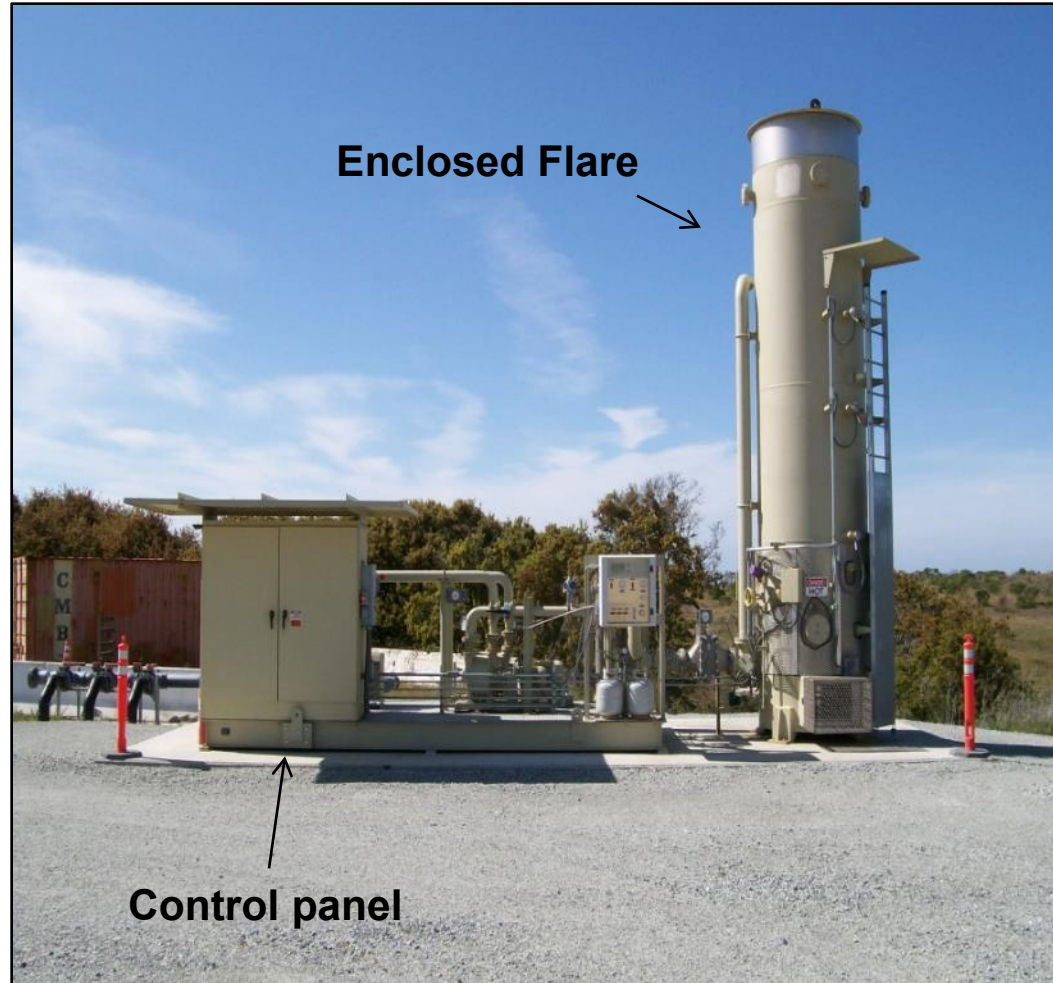


- Methane is monitored below ground with “perimeter probes” installed all around the landfill property boundary

# Landfill Gas Extraction and Treatment

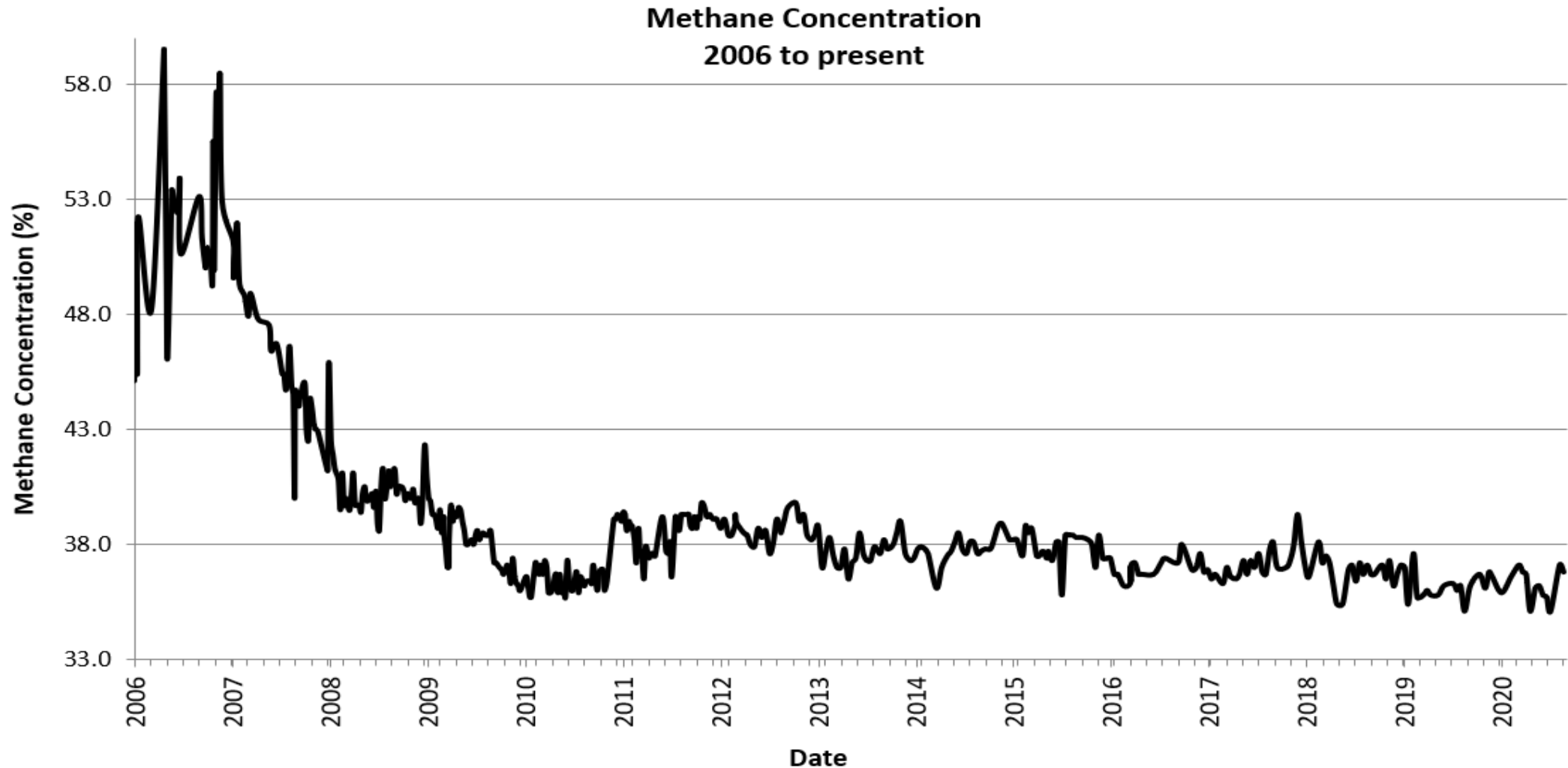


# Landfill Gas Thermal Treatment Unit

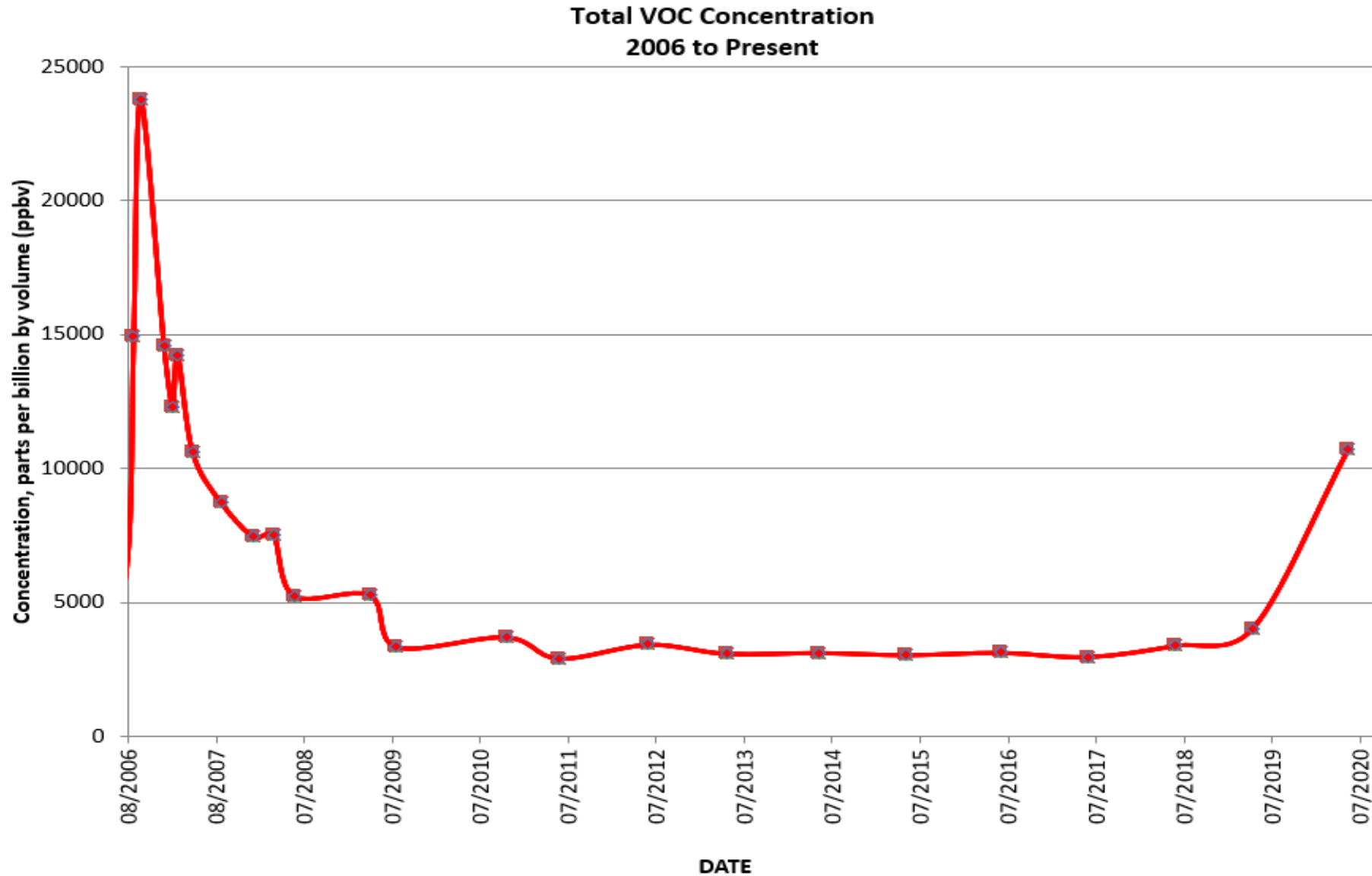


- Industry standard design
- High temperature destruction of organic compounds including methane
- Operating since April 2006
- Destroys volatile organic compounds (VOCs) that otherwise could potentially reach soil, groundwater or the atmosphere

# Landfill Gas Thermal Treatment Unit



# Landfill Gas Thermal Treatment Unit





# For Additional Information

Visit the Army's website at:  
[www.fortordcleanup.com](http://www.fortordcleanup.com)

Visit the Fort Ord Administrative Record at:  
Building 4463 Gigling Road, Room 101  
Ord Military Community  
Seaside CA 93955  
(831) 393-9693  
[adminrecord@fortordcleanup.com](mailto:adminrecord@fortordcleanup.com)

