EPA's Radiological Studies

Santa Susana Field Laboratory

Presented by: EPA Region 9

Presented For: SSFL Interagency Workgroup

September 16, 2010

Tonight's Presentation

- Summary of EPA field work at SSFL to date
- Key Project Dates for 2010

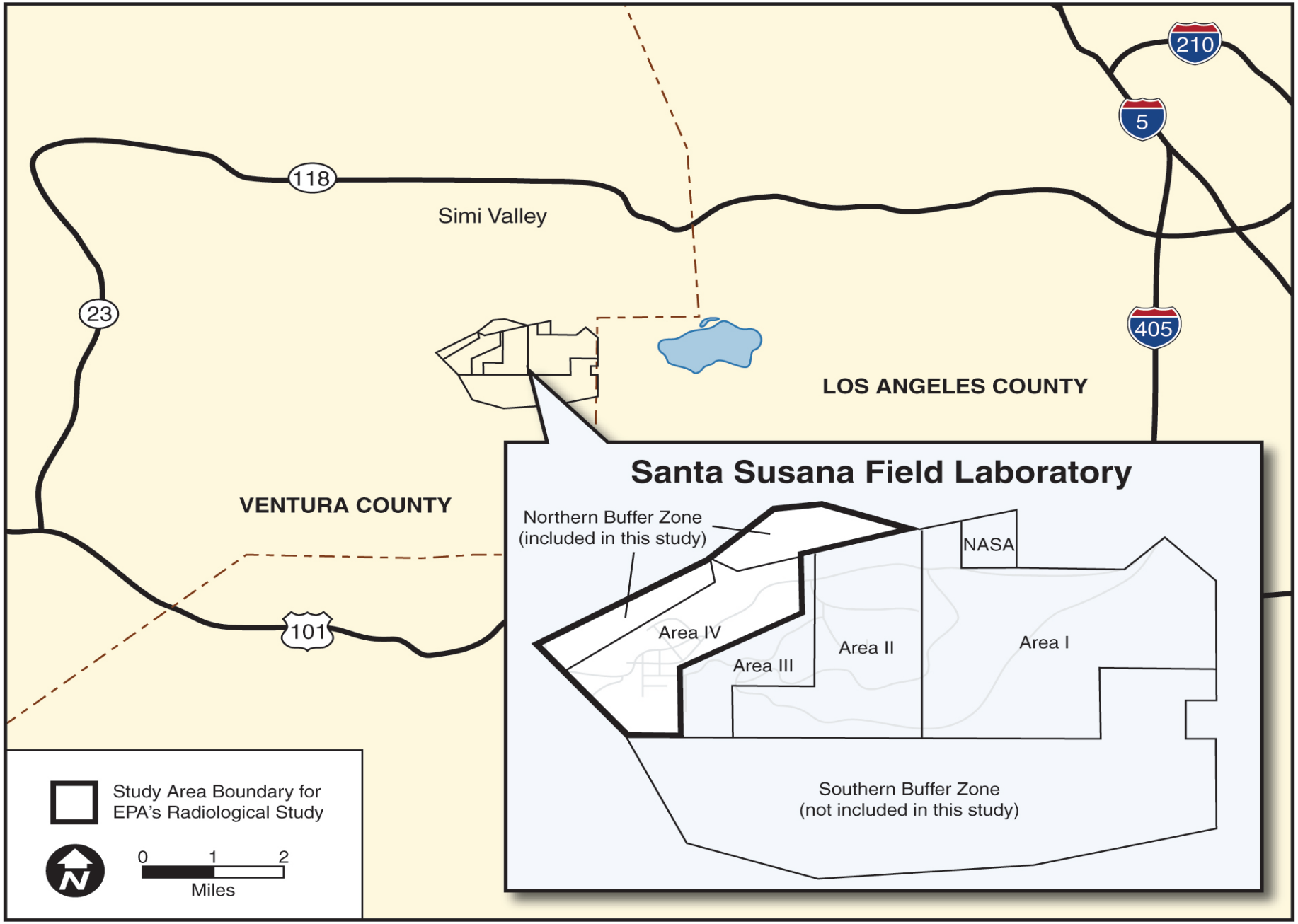
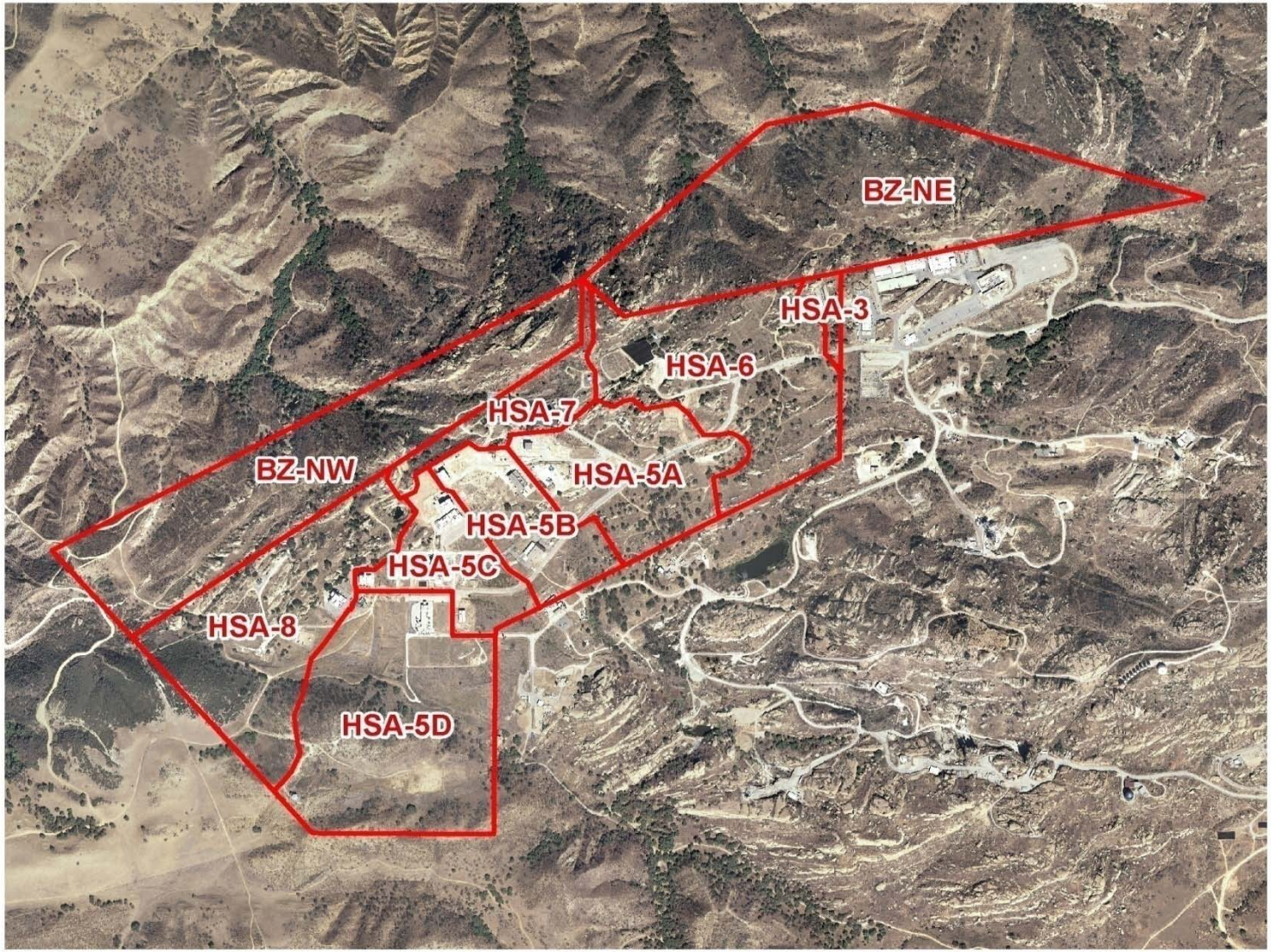


Figure 1: Study Area Boundary for EPA's Radiological Study, Santa Susana Field Laboratory

Gamma Radiation Scanning Status Update

10 Study Areas



Photos of Gamma Scanning Equipment

Enhanced Radiation Gamma Scanner (ERGS) II

- Ability to scan with highest sensitivity.
- Scanning height 15 inches above ground surface.
- Scanning rate of 2 feet/second.
- Field of view of 60 inches.

Photos of Gamma Scanning Equipment

Mule Mounted Gamma Scanner (MMGS)

- Ability to scan in steep and hard to reach areas with high sensitivity.
- Scanning height 35 inches above ground surface.
- Scanning rate is dependent upon the mule's gait.
- Field of view is dependent upon the mule's height.

Photos of Gamma Scanning Equipment

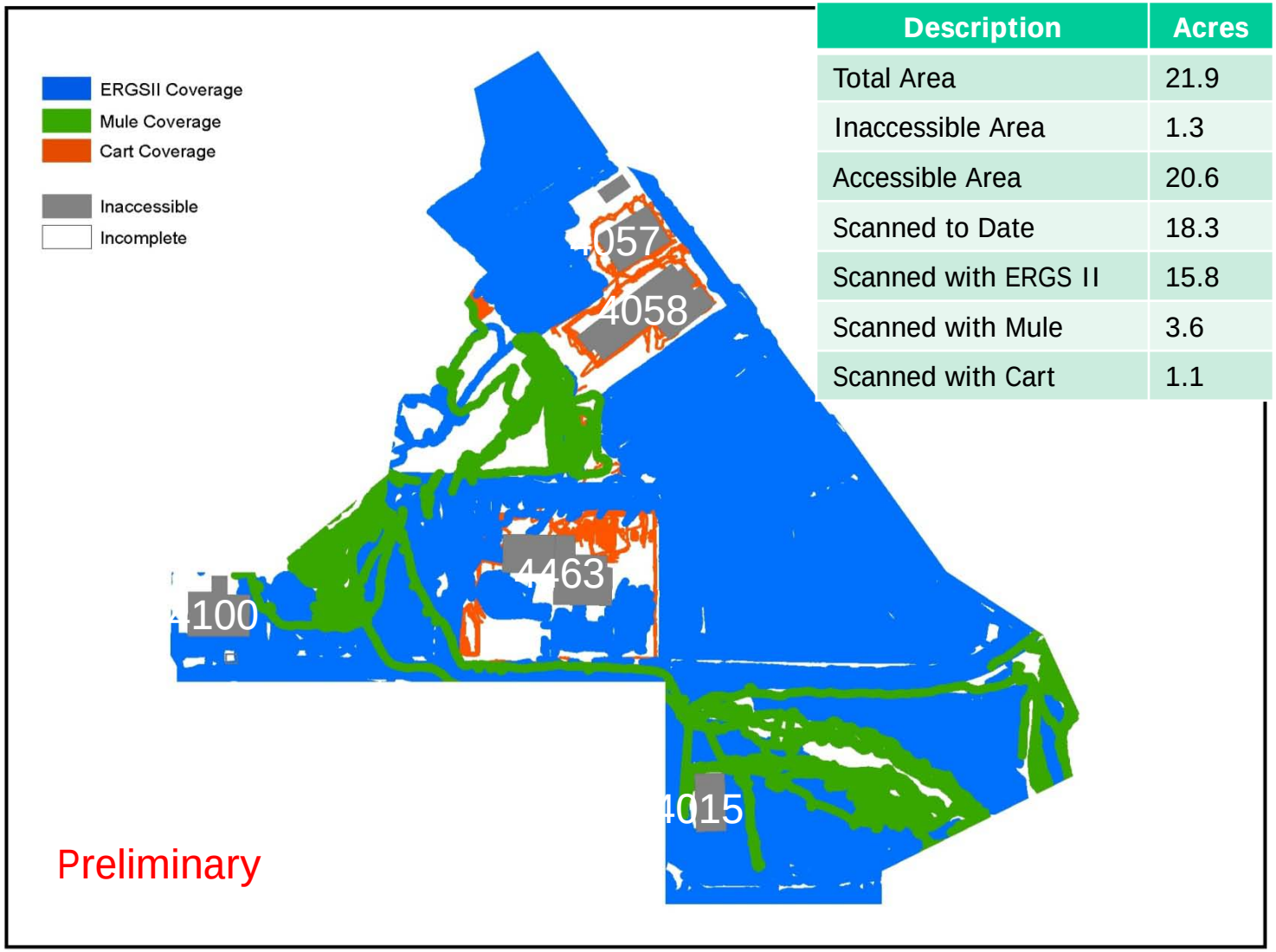
Wheel Mounted Gamma Scanner (WMGS)

- Ability to scan with high sensitivity
- Scanning height 12 inches above ground surface
- Scanning rate of 2 feet/second
- Field of view of 24 inches

Hand Held Gamma Scanner (HHGS)

- Ability to scan with moderate sensitivity
- Scanning height 9 inches above ground surface
- Scanning rate of 1 feet/second
- Field of view of TBD

HSA-5C Detector Coverage Map



Description	Acres
Total Area	21.9
Inaccessible Area	1.3
Accessible Area	20.6
Scanned to Date	18.3
Scanned with ERGS II	15.8
Scanned with Mule	3.6
Scanned with Cart	1.1

Accomplishments

- ✓ August: Completed gamma scanning for approximately 89% of accessible areas of HSA-5C
- ✓ August: Completed approximately 75% of data evaluation for HSA-5C
- ✓ August: Started HSA-5B gamma scanning
- ✓ August: Completed RBRA data collection for MMGS and HHGS at Lang Ranch and Bridle Path

Phase I Groundwater Sampling Summary of Activities

- Phase I groundwater sampling began on August 17, 2010 and was completed on September 9, 2010.
  - Phase I consists of all accessible wells in Area IV – a total of 65 wells were sampled

Water Level Monitoring

Groundwater Sampling Rig

Sampling rig travels from well to well.

Sample Cooler

Bottles packed in cooler prior to daily shipment off-site to laboratory for analysis.

Update On Geophysical Investigation

- Geophysical investigation plan issued August 6
- Survey target areas (87 acres) based on aerial photo analysis and historical information
- Area 5C Survey (9 acres) began August 12
- Survey with terrain conductivity meter and magnetometer completed August 25
- Data processing and interpretation of results underway
- Survey in Area 5C with ground penetrating radar to start September 8

Geophysical Survey Equipment

- Magnetometer: Used to detect buried metal objects
- EM-31: Used to detect differences in soil conductivity
- Ground penetrating radar (GPR): Used to detect changes in subsurface properties (e.g., location of trenches)

Geophysical Survey in Area 5C

Photos of Geophysical Survey

Radiological Background Study Schedule

Activity	Planned Date
Laboratory Analysis Completion	November 2010
Data Validation Completion	December 2010
Tech Memo	December 2010/January 2010

Key Area IV Project Milestones

Task	Estimated Start Date	Actual Start Date
Gamma Scanning	July 2010	July 2010
Ground Water Sampling	August 2010	August 2010
Surface Water and Sediment Sampling	November 2010	---
Soil Sampling	October 2010	---
Laboratory Analyses	November 2010	---
Task	**Estimated Completion Date**	**Actual Completion Date**
Environmental Compliance	July 2011	---
All Field Activities	December 2011	---

EPA Website

http://www.epa.gov/region09/SantaSusana

- Fact Sheets
- EPA's Role at SSFL
- Maps
- Technical Documents (workplans, reports)
- PowerPoint Presentations
- Contact information
- Information on how to observe EPA's work

EPA hosting visits every 2nd and 4th Wednesday