# University of Wyoming Cooperative Extension Initiative Team

SMRR

sustainable management of rangeland resources

# Effects of Natural Gas Well Development and Reclamation Activities on Topsoil Properties


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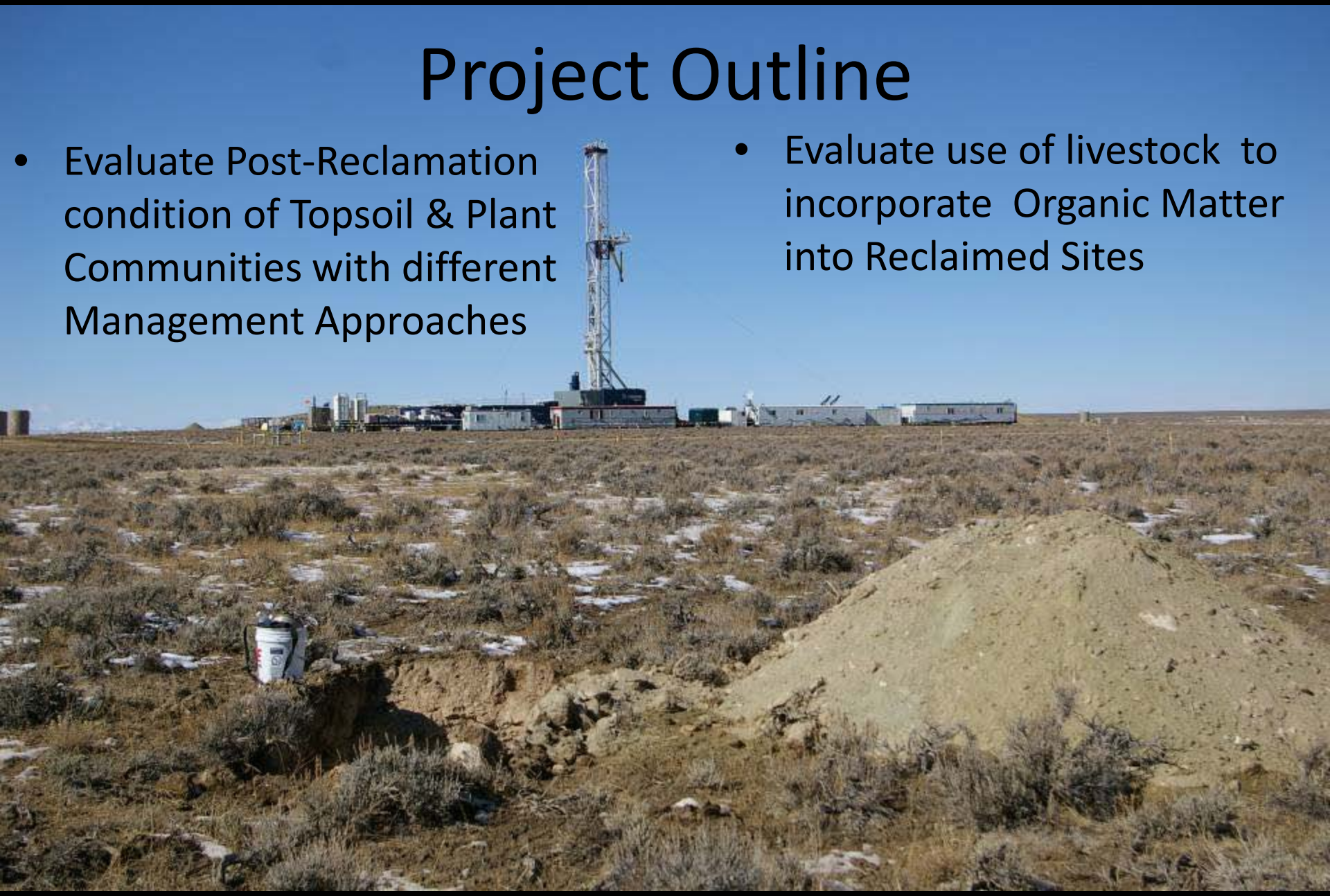
# Project Outline

- Evaluate Post-Reclamation condition of Topsoil & Plant Communities with different Management Approaches
- Evaluate use of livestock to incorporate Organic Matter into Reclaimed Sites



# Using Cows

# Continued

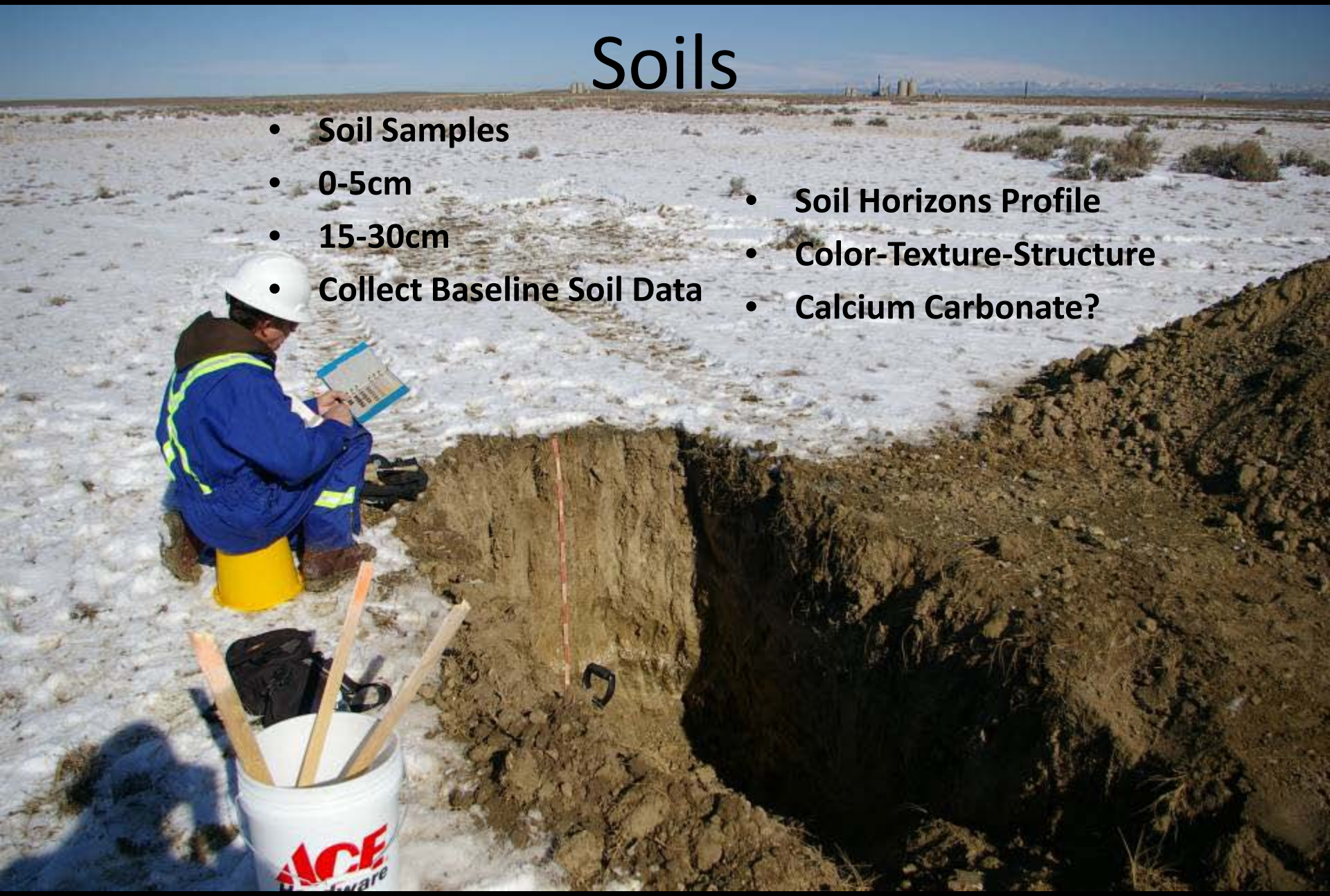
# Research approach

- Pre-disturbance
- Determine Ecological Site
- Determine Species Composition
- Visual assessment of Wildlife Habitat values

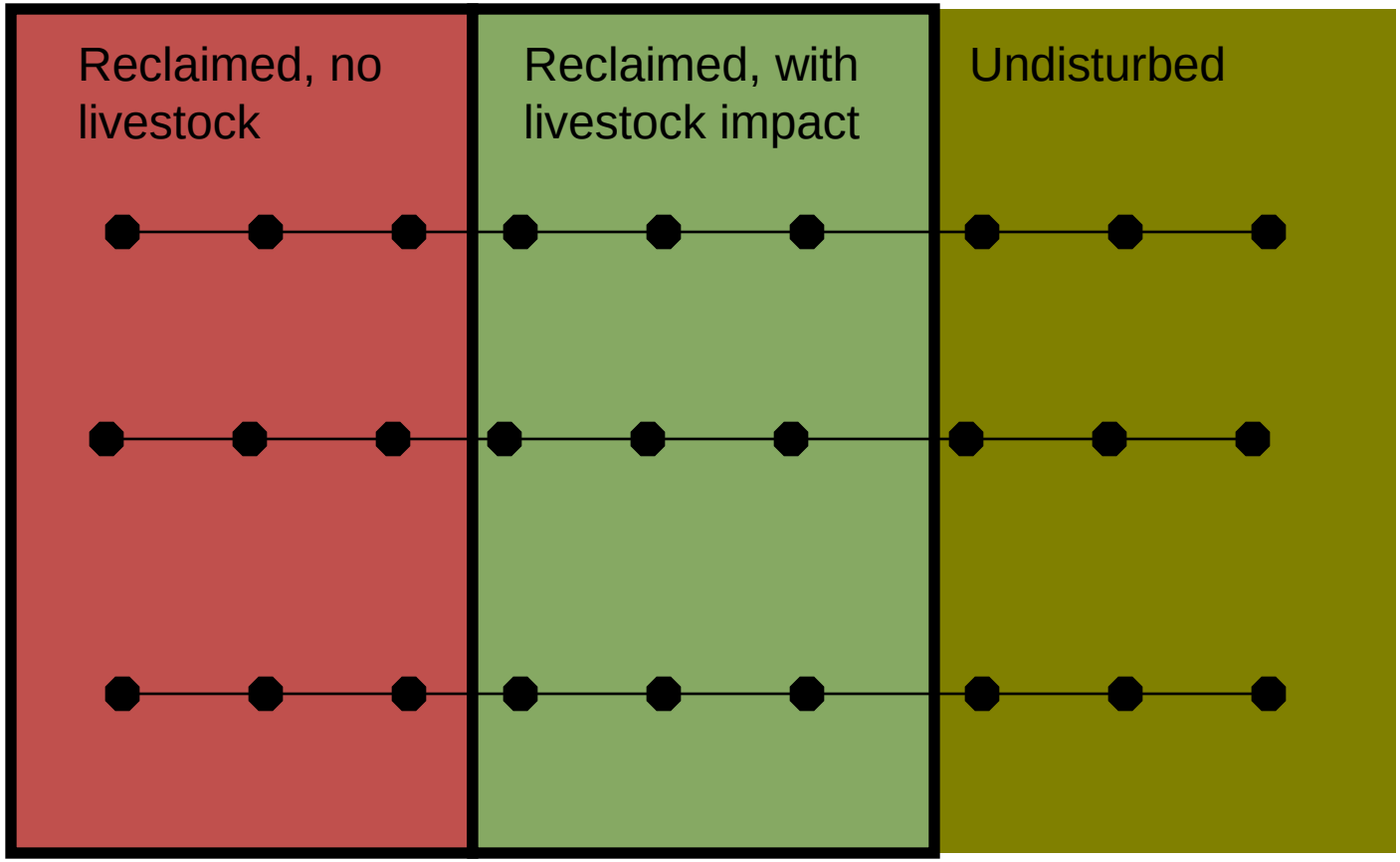
# Soils

- Soil Samples
- 0-5cm
- 15-30cm
- Collect Baseline Soil Data

- Soil Horizons Profile
- Color-Texture-Structure
- Calcium Carbonate?



# Design
# Three Treatments, three ecological sites



# After Well Pad Construction

- Sample Stockpiled Topsoil
- Sample again prior to respreading

# Reclamation

- Seed site
- Take soil samples
- Feed cattle on site

# After Reclamation

- Set up vegetation Monitoring Transects on each site.
- Read Transects following Spring and Fall
- Follow up soil Samples after Cattle Treatment

# Questions