

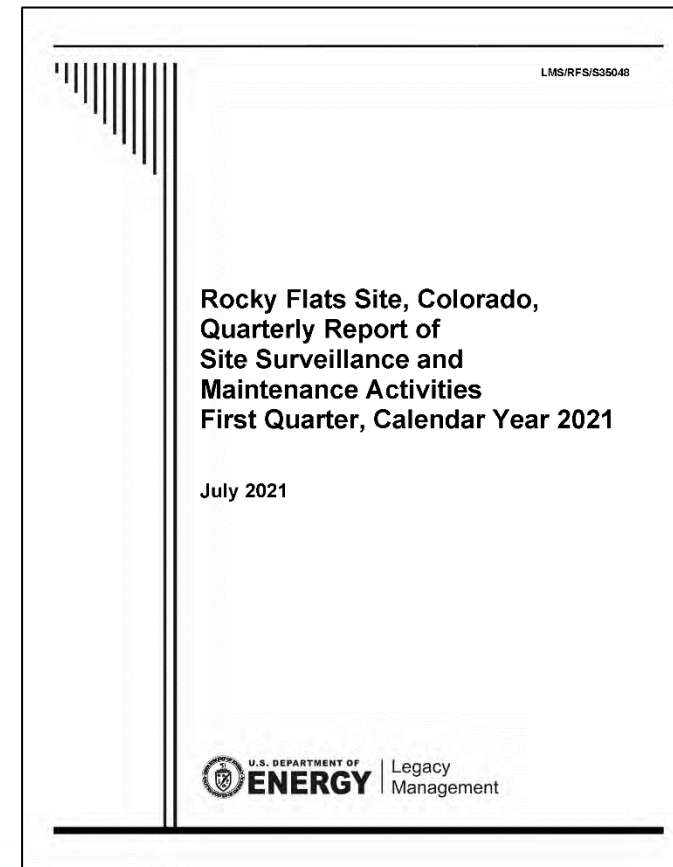


# **Overview of the First Quarter 2021 Surveillance and Maintenance Report for the Rocky Flats Site, Colorado**

January – March 2021

# Quarterly Monitoring and Reporting

- Quarterly reports required under the *Rocky Flats Legacy Management Agreement* (RFLMA) to document that Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 remedy continues to provide effective protection
- Rocky Flats Site remedy components include:
  - Maintain 2 landfill covers
  - Maintain 3 groundwater treatment systems
  - Monitor surface water and groundwater
  - Maintain physical controls
    - Signage
    - Access restriction



# Quarterly Monitoring and Reporting

- Rocky Flats Site remedy components include (continued):
  - Enforce institutional controls
    - No occupied building construction
    - Excavation and soil-disturbance restrictions
    - No surface water consumption or agricultural use
    - No groundwater wells, except for monitoring
    - Landfill covers and engineered remedy components protection





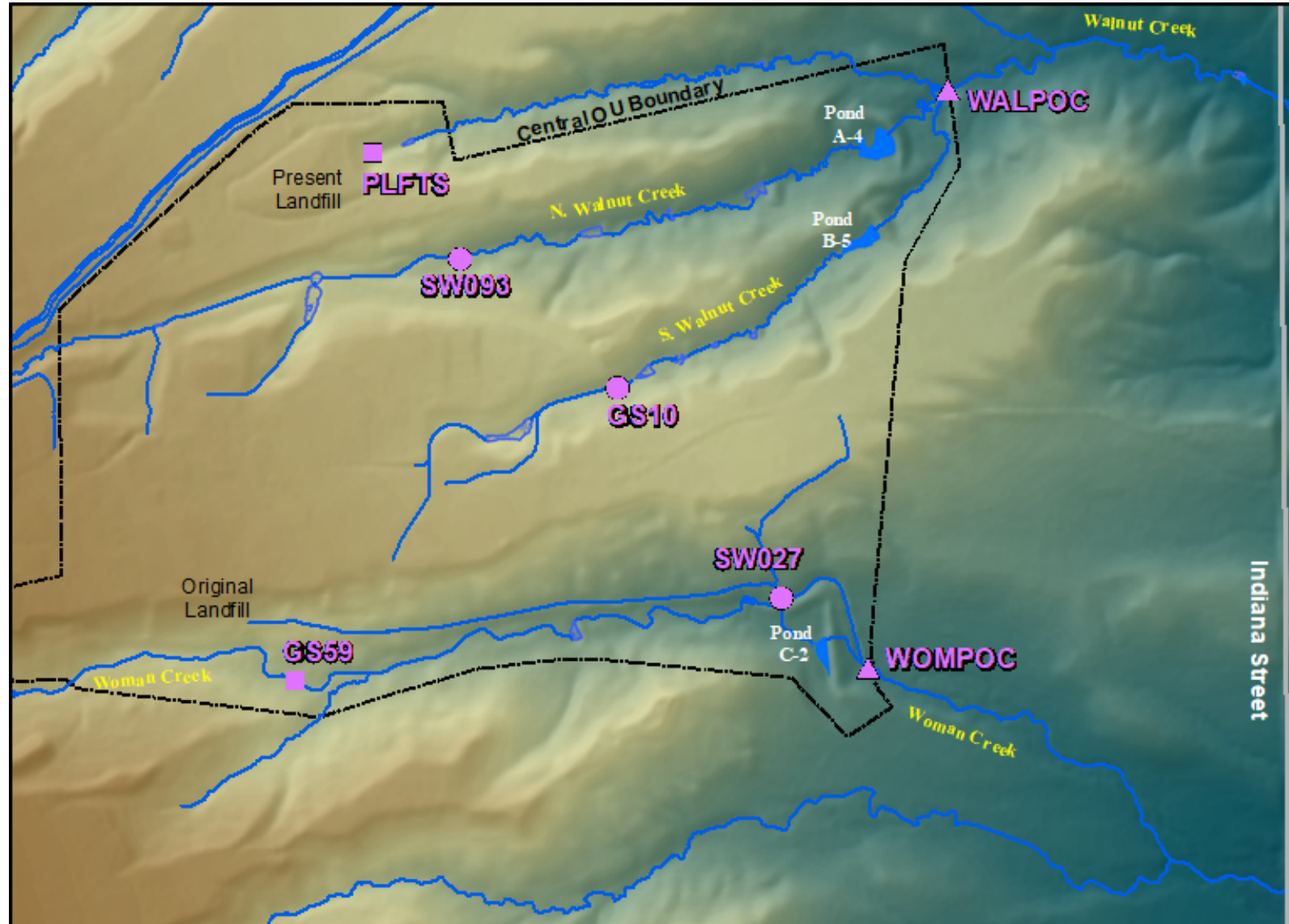
First Quarter 2021

# Surface Water Monitoring





# Selected RFLMA Surface Water Monitoring Locations



# Original Landfill Performance Monitoring

- Original Landfill (OLF) – location GS59
  - Routine surface water sampling in Woman Creek, downstream of the OLF (GS59), during the first quarter of 2021 showed mean concentrations for all analytes below applicable RFLMA water quality standards





# Present Landfill Performance Monitoring

- Present Landfill Treatment System (PLFTS) — location PLFSYSEFF
  - During the first quarter of 2021 at the system effluent, concentrations for all analytes were below applicable RFLMA standards



# Point of Evaluation Monitoring

- No Point of Evaluation (POE) analyte concentrations were reportable during the first quarter of 2021





# Point of Compliance Monitoring

- No RFLMA Point of Compliance (POC) analyte concentrations were reportable during the first quarter of 2021





# Questions?







U.S. DEPARTMENT OF  
**ENERGY**

Legacy  
Management

First Quarter 2021



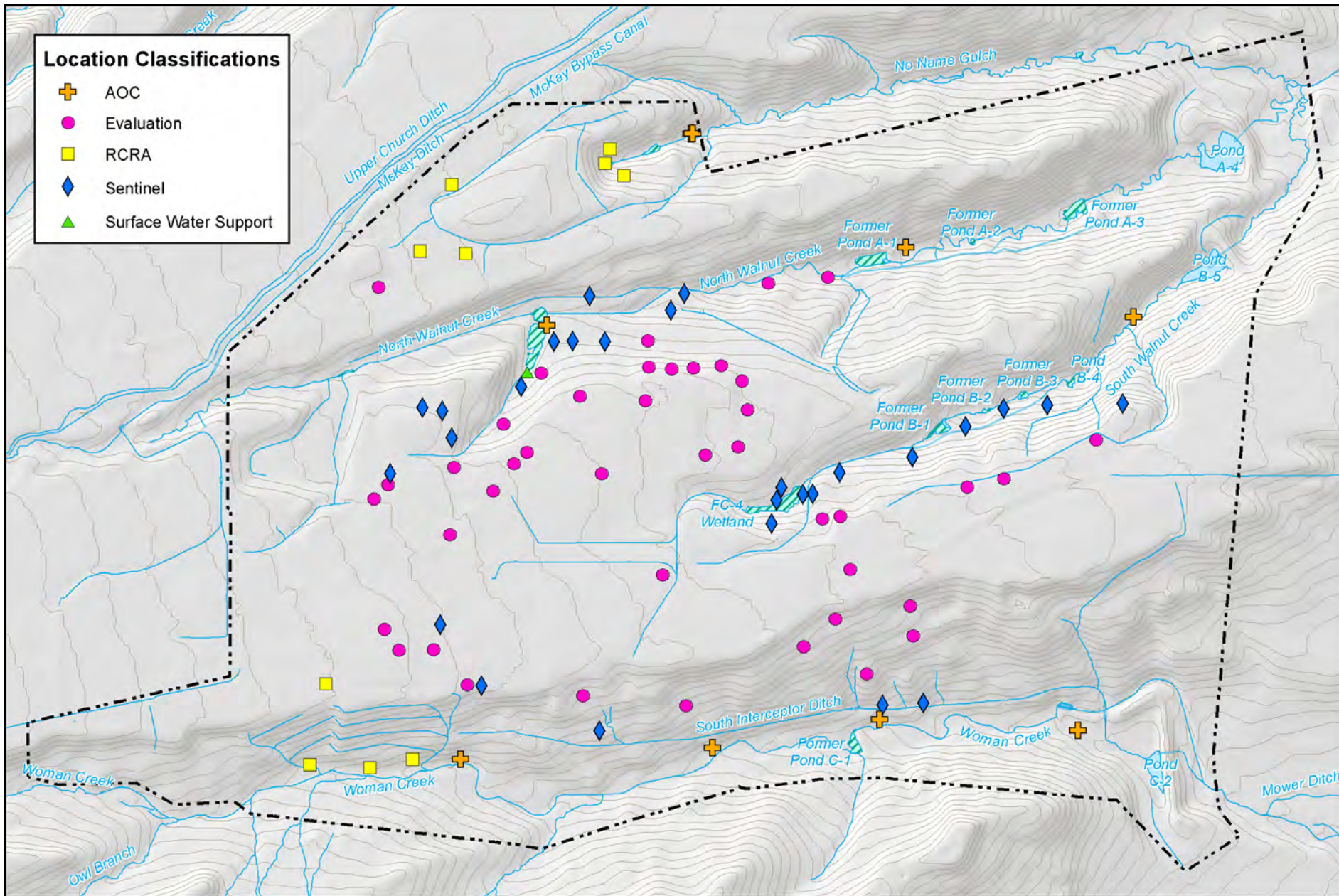
# Groundwater Monitoring and Operations



# RFLMA Groundwater Monitoring Overview

- RFLMA monitoring network
  - 10 Resource Conservation and Recovery Act (RCRA) wells (sampled quarterly)
    - Evaluate potential impacts from OLF and PLF
  - 9 Area of Concern (AOC) wells and one Surface Water Support location (sampled semiannually)
    - Located in drainages downstream of contaminant plumes
    - Evaluate for plumes discharging to surface water
  - 27 Sentinel wells (sampled semiannually)
    - Downgradient of treatment systems, edges of plumes, and in drainages
    - Look for plumes migrating to surface water and treatment system problems
  - 42 Evaluation wells (sampled biennially)
    - Within plumes, near source areas, and interior of Central Operable Unit (COU)
    - Evaluate whether monitoring of an area or plume can cease
  - 9 treatment system locations (seven sampled semiannually, two quarterly)





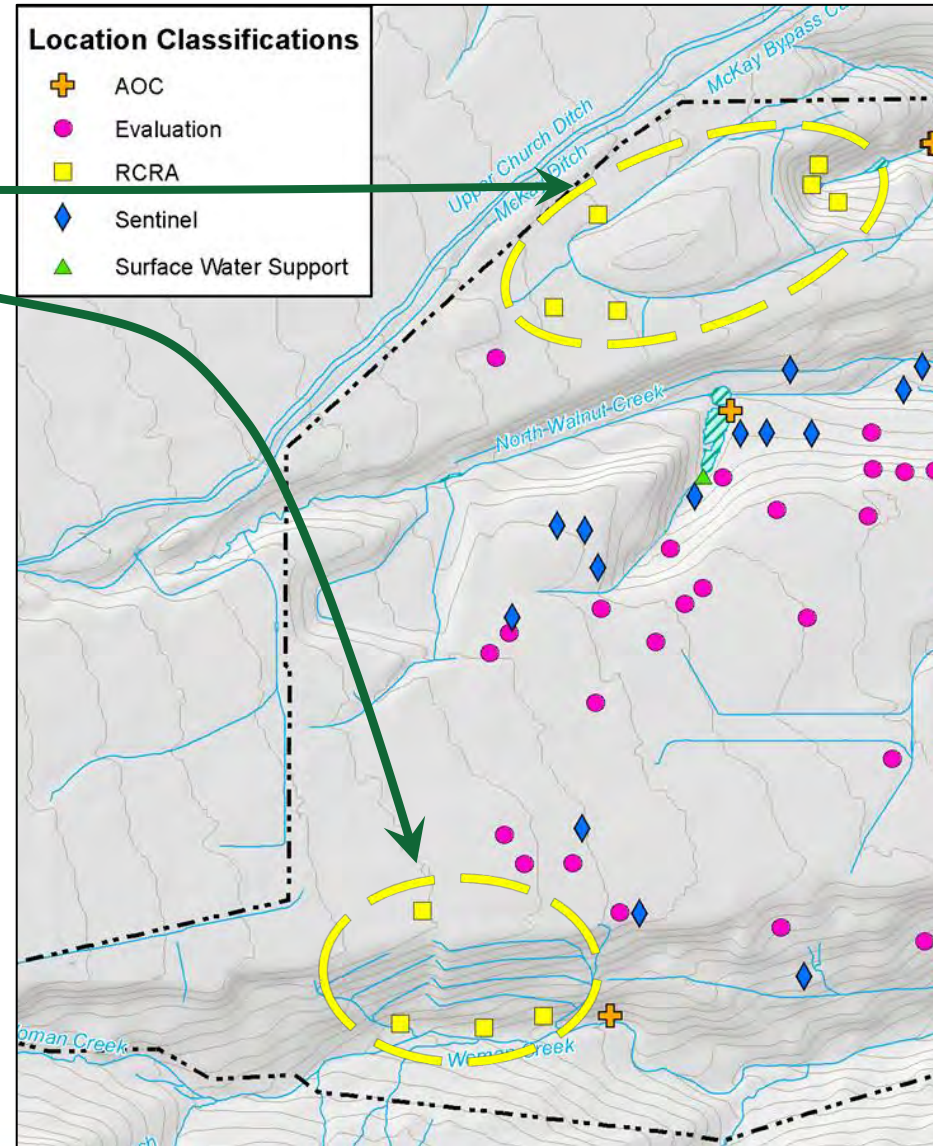
Groundwater treatment system locations omitted for clarity





# RFLMA Monitoring During First Quarter 2021

- Sampled the 10 RCRA wells
  - PLF
  - OLF
- Results were generally consistent with previous data
  - Data will be evaluated as part of the 2021 annual report





# Treatment System Activities

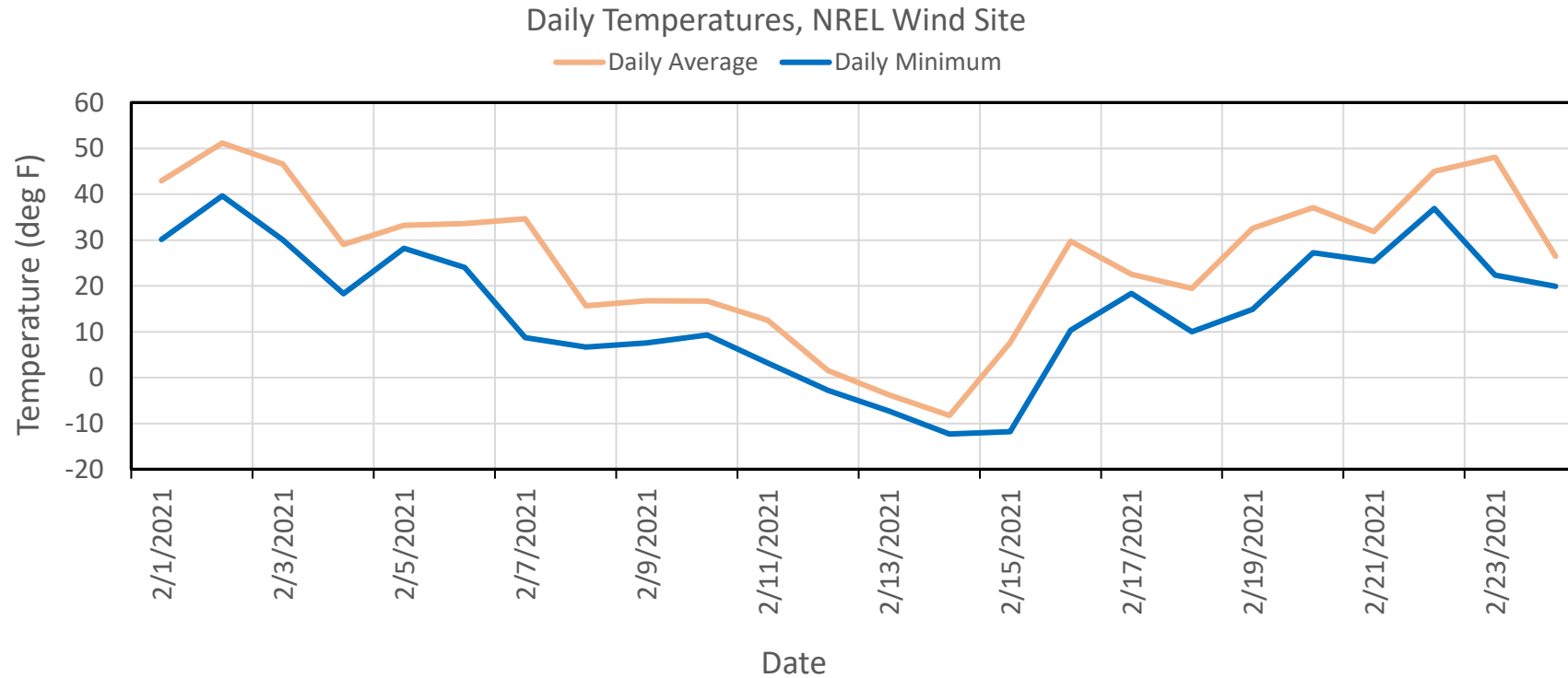
- Mound Site Plume Collection System (MSPCS), East Trenches Plume Treatment System (ETPTS), Solar Ponds Plume Treatment System (SPPTS), and PLFTS
  - Routine maintenance at all systems
- MSPCS
  - Performed transfer line repairs in March 2021
    - Replaced all 9 cleanouts and cleanout covers to address manufacturing defects and protect from future elk traffic
  - Paused water transfer during this work
    - Water continued to be collected in trench
    - Transferred accumulated water to ETPTS for treatment after repaired line was ready for use



# Treatment System Activities

- ETPTS

- Parts exposed within a vault froze during period of extreme cold in February 2021
- Paused water transfer from MSPCS until frozen parts thawed and confirmed to be undamaged



# Treatment System Activities

- SPPTS

- Replaced a sump pump in one of the vaults
- Continued seasonal adjustments to dosing, residence time
- Continued evaluating groundwater conditions west of existing collection trench



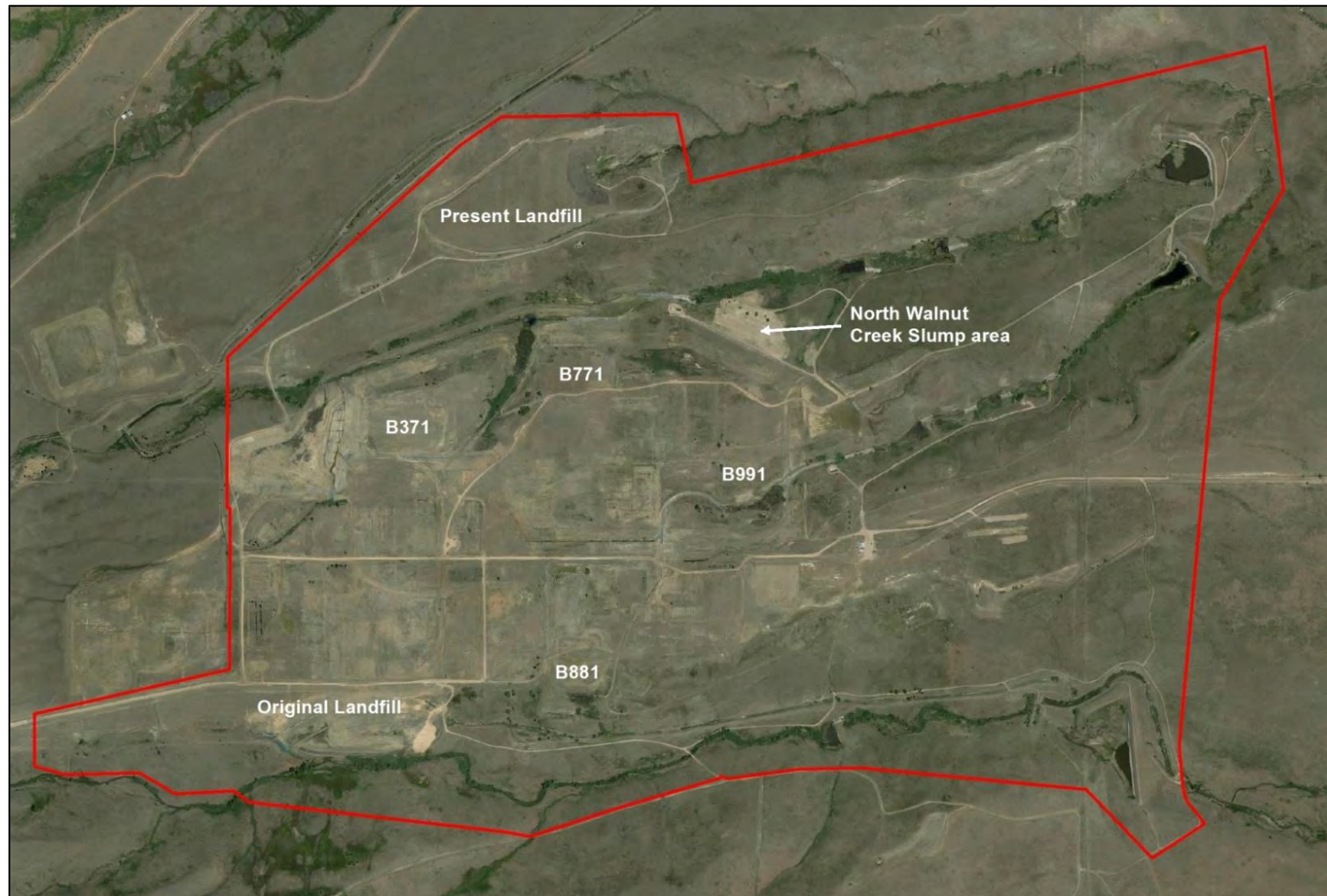


# Questions?





# First Quarter 2021 Site Operations





# Quarterly Sign Inspections

- RFLMA physical control
- Signs inspected on February 11, 2021
  - All signs in good condition and legible





# Original Landfill

- Monthly inspections
  - January 22, February 24, and March 26, 2021
    - Coconut erosion matting displaced from high winds and elk migration throughout quarter
      - Re-staked, replaced, or wood straw spread as alternative
  - March 26 inspection combined with weather-related inspection following rapid melt of 10 inches of snow
    - Rills outside of waste footprint above Berms 5 and 6
      - Deposited 1 to 3 inches of sediment into Berm 5 and 6 channels
      - Rills removed using hand tools



# Original Landfill

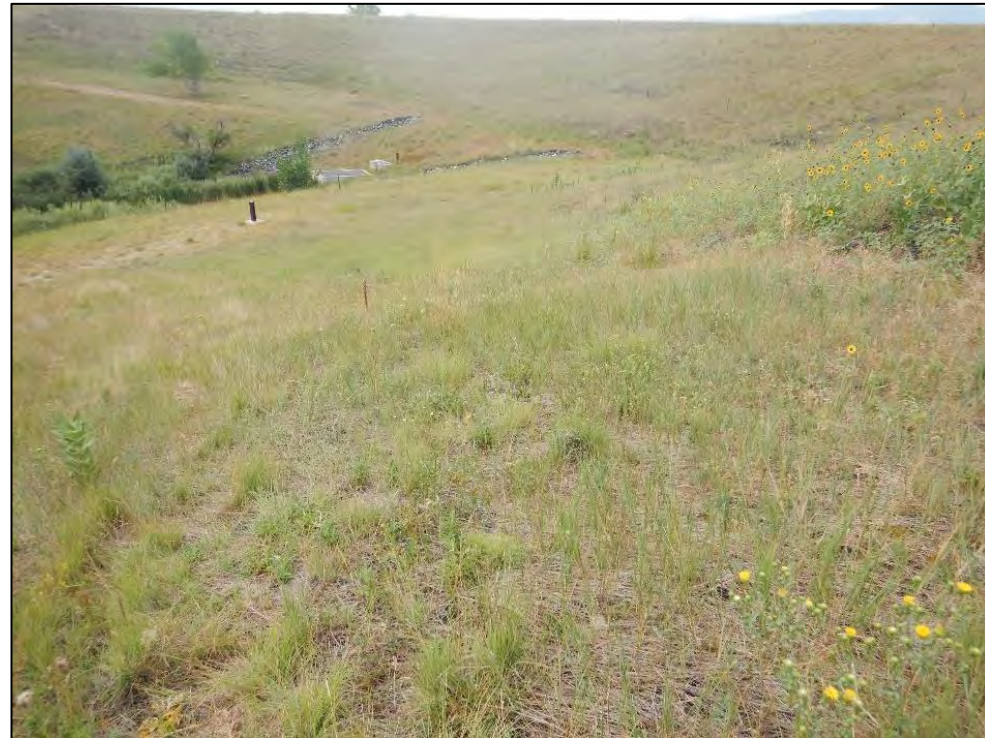
- Surveyed settlement monuments on March 1, 2021
  - Vertical settling was within design limits
  - Areas of stabilization activities remain stable and in good condition





# Present Landfill

- Quarterly inspection performed on March 1, 2021
- Present Landfill is in good condition





# Former Building Areas 371, 771, 881, and 991

- Quarterly inspection of Former Building Areas 371, 771, 881, and 991 was completed on February 3, 2021
  - The depression located near the southeast corner of former building area 881 (December 2019) was backfilled on February 3, 2021



# North Walnut Creek Slump

- Continued data collection from inclinometers and piezometers where possible
- Slump monitoring points were surveyed on January 4, February 1 and March 1, 2021
  - No substantial change
  - Total vertical movement since baseline (September 5, 2017) was approximately 3.6 feet





# Questions?

