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# Overview of the First Quarter 2019 Surveillance and Maintenance Report for the Rocky Flats Site, Colorado

January Through March 2019

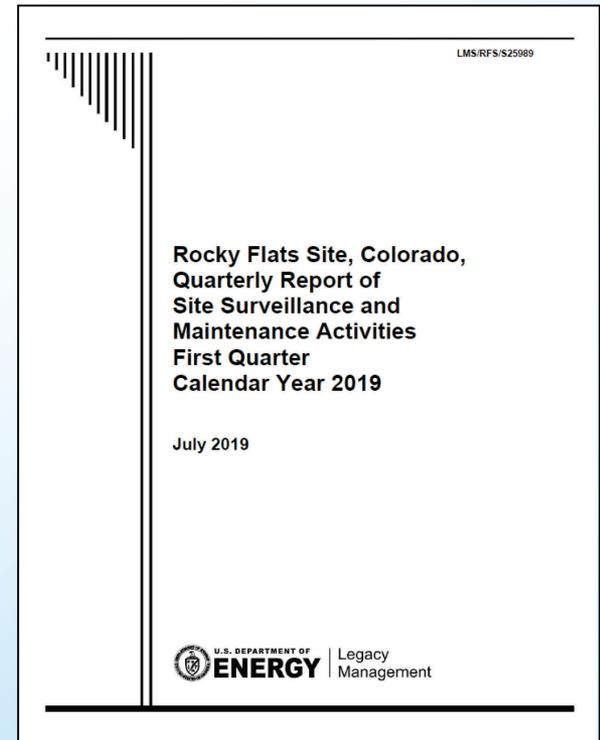


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# Quarterly Monitoring and Reporting

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



# Quarterly Monitoring and Reporting (continued)

- Components of the remedy for Rocky Flats 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



# Surface Water Monitoring



First Quarter 2019



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# Select RFLMA Surface Water Monitoring Locations



# Original Landfill Performance Monitoring

- Original Landfill (OLF) (location GS59)
  - Routine surface sampling in Woman Creek, downstream of the OLF (GS59) during the first quarter of 2019 showed mean concentrations for all analytes below applicable RFLMA water-quality standards



# Present Landfill Performance Monitoring

- Present Landfill (PLF) (location PLFSYSEFF)
  - Routine first quarter sampling showed concentrations for all analytes below applicable RFLMA water-quality standards



# Point of Evaluation Monitoring

- Location SW027: 12-month rolling average plutonium concentrations reportable from June 2018 through March 2019
  - Average is calculated from a single sample collected in 2018 with 0.16 picocurie per liter (pCi/L) Pu (the standard is 0.15 pCi/L)
  - Only 10 days of flow at SW027 in 2018; no flow June 2018 through March 2019
- Concentrations at the Woman Creek Point of Compliance (WOMPOC), downstream of SW027, were not reportable
- No other RFLMA Point of Evaluation (POE) analyte concentrations were reportable during the first quarter of 2019



# Point of Compliance Monitoring

- No RFLMA Point of Compliance (POC) analyte concentrations were reportable during the first quarter of 2019



# Questions?



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# Groundwater Monitoring and Operations



First Quarter 2019



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# RFLMA Groundwater Monitoring Overview

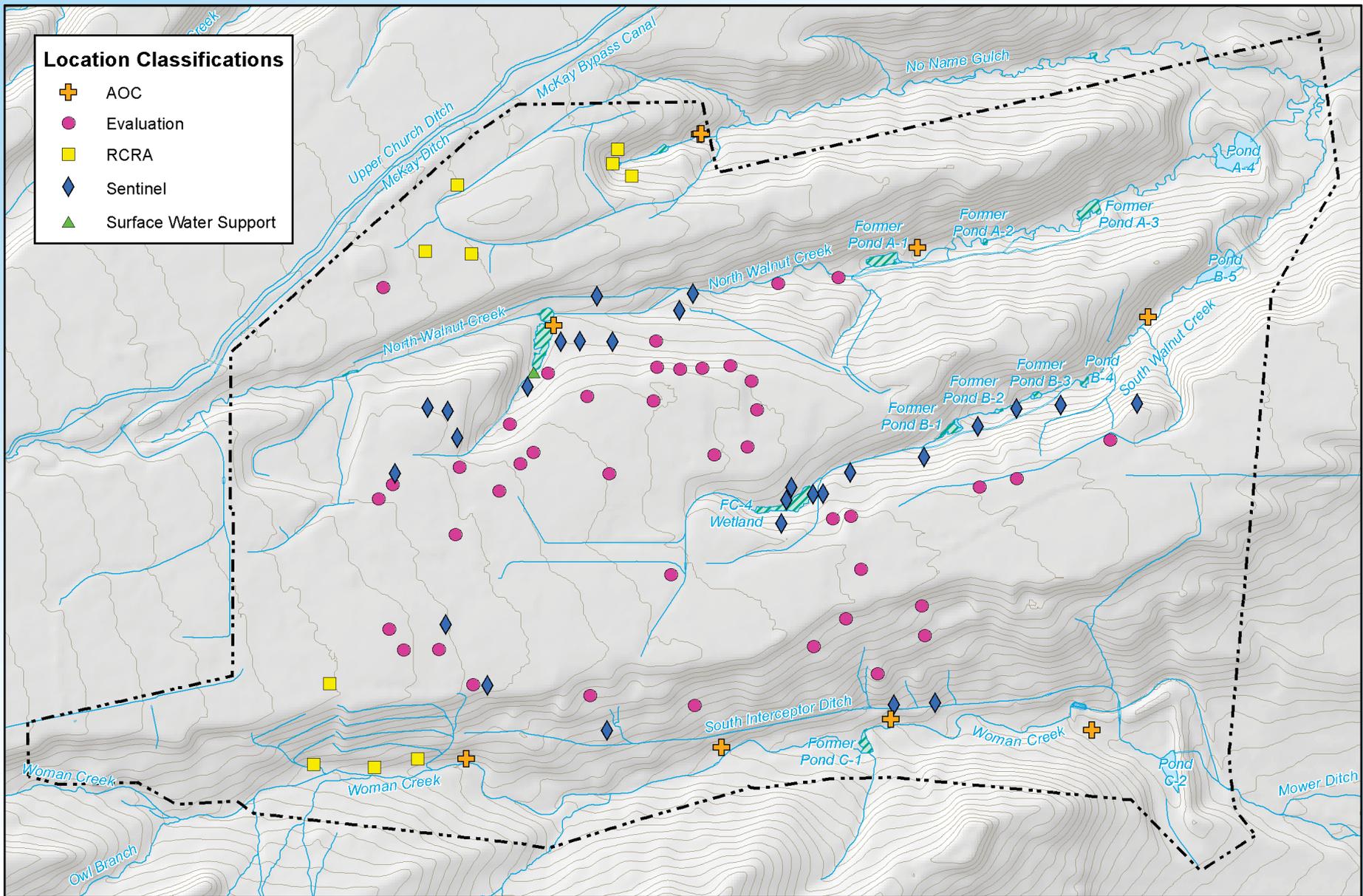
- RFLMA monitoring network
  - Ten Resource Conservation and Recovery Act (RCRA) wells (quarterly)
    - Evaluate potential impacts from OLF and PLF
  - Nine Area of Concern (AOC) wells and one Surface Water Support location (semiannually)
    - Located in drainages downstream of contaminant plumes
    - Evaluate for plumes discharging to surface water
  - Twenty-seven Sentinel wells (semiannually)
    - Downgradient of treatment systems, edges of plumes, and in drainages
    - Look for plumes migrating to surface water and treatment system problems



# RFLMA Groundwater Monitoring Overview (continued)

- RFLMA monitoring network (continued)
  - Forty-two evaluation wells (biennially)
    - Within plumes, near source areas, and interior of Central Operable Unit (COU)
    - Evaluate whether monitoring of an area or plume can cease
  - Nine treatment system locations (seven semiannually, two quarterly)





*Groundwater treatment system locations omitted for clarity*

# RFLMA Monitoring

- Light sampling period
  - Only RCRA wells
- Results generally consistent with previous data
  - Analytical methods updated to reflect latest RFLMA revisions (effective January 1, 2019)
  - Will be evaluated as part of the 2019 annual report



# Treatment System Activities

- Mound Site Plume Collection System, East Trenches Plume Treatment System, and Solar Ponds Plume Treatment System (SPPTS)
  - Routine maintenance
- SPPTS Uranium Treatment Component
  - Developing procurement strategy and package
  - Will include confirmatory and pilot testing to support selection of treatment method
  - Design will follow completion of testing



# Questions?



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# Site Operations



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# RFLMA Annual Inspection

- Scope: inspect the site and monitor for evidence of significant erosion and violation of institutional controls
- Conducted on March 26, 2019
- Verified the restrictive notice for the COU remains in the Administrative Record and on file with Jefferson County (March 19)
- Found no evidence of institutional or physical controls violations



# RFLMA Annual Inspection (continued)

- Items identified were debris and trash that were picked up or subsequently removed
- Animal burrows observed
- A couple of areas showed minor depressions, none required immediate action



# Quarterly Sign Inspections

- RFLMA physical control
- Signs inspected on February 28, 2019
  - All signs in good condition and legible

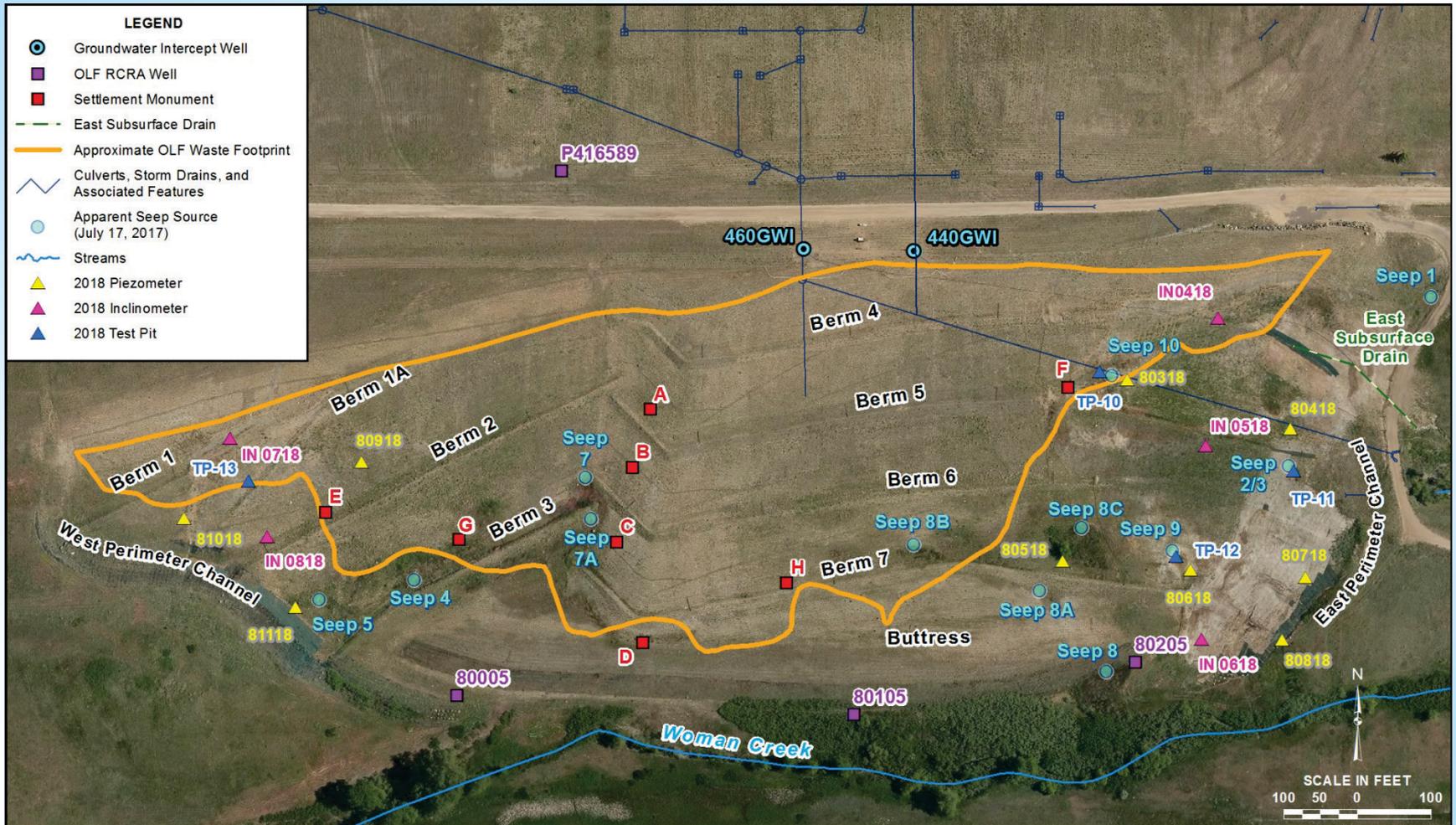


# OLF

- Performed three monthly inspections
  - January 17, February 15, and March 18, 2019
    - A few 0.5-inch to 2.0-inch holes between berms 1A and 2
  - March 18 inspection was also a weather-related inspection
    - No weather-related deficiencies were noted (snowmelt)
- Surveyed settlement monuments on March 6
  - Vertical settling was within design limits
- Geotechnical slope stability evaluation completed in September 2018
  - Design of slope stabilization project in process



# OLF (continued)



# OLF (continued)

- East Subsurface Drain continues to function as designed
- Seep 10 siphon operated during the last few days of the quarter
  - Since season startup on March 27, approximately 1,600 gallons were diverted by the end of March
  - This water would historically come to surface and run across the slump area to the East Perimeter Channel, saturating and potentially destabilizing this area
- Temporary groundwater intercept system was not operated due to winter conditions



# OLF (continued)



# PLF

- Performed quarterly inspection on February 19, and weather-related inspection on March 18
- Landfill is in good condition; performed minor maintenance at the Present Landfill Treatment System outlet



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

- Weather-related COU inspection conducted on March 18, following storm event
- This was also the quarterly best management practice inspection for these areas
  - Routine inspection for erosion and subsidence
  - No new issues were identified

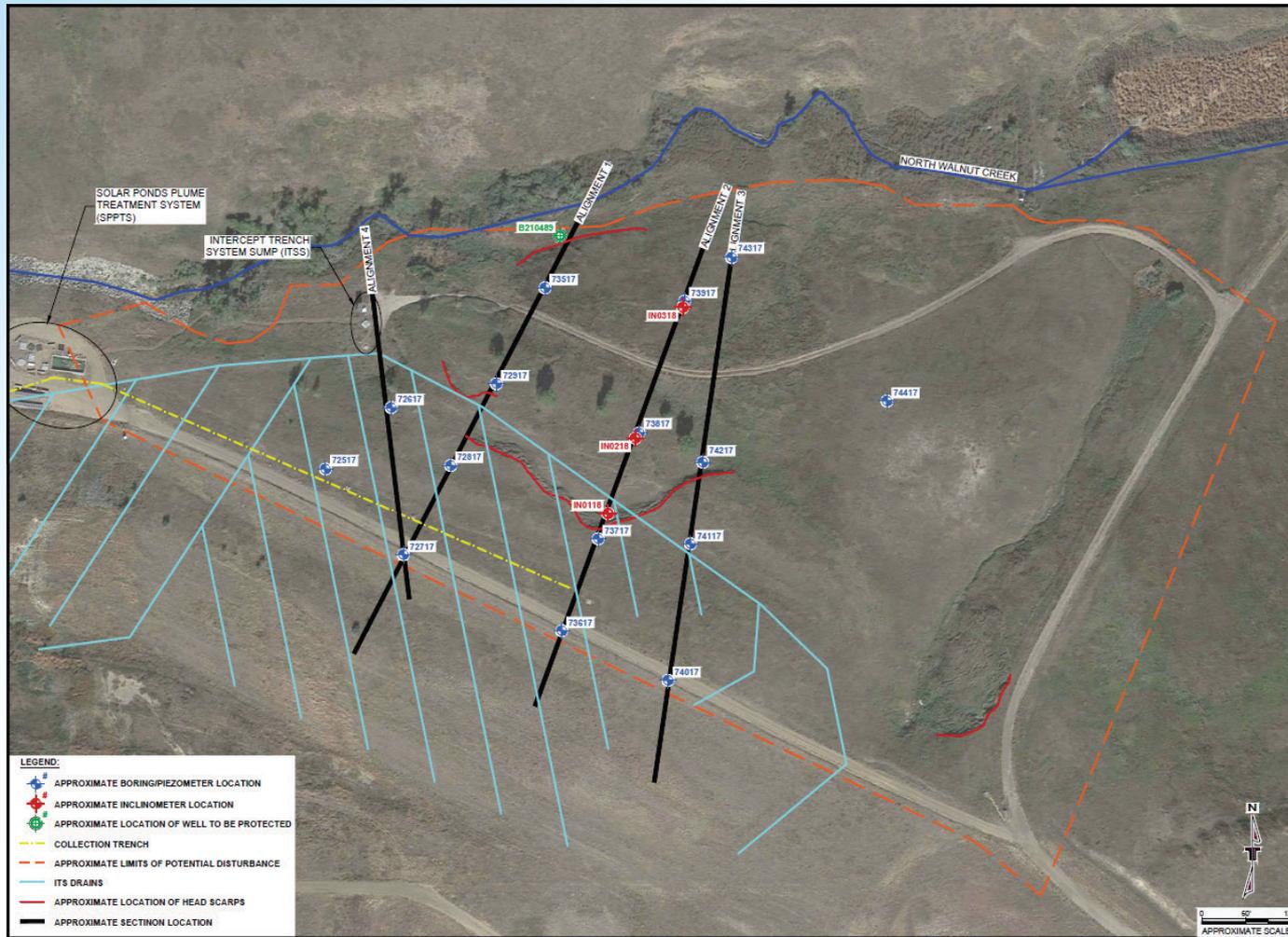


# North Walnut Creek Slump

- Continued geotechnical evaluation
- Continued data collection from piezometers where possible
- Slump monitoring points were surveyed on January 3, February 4, and March 6
  - Movement was approximately 12 inches vertically
  - Scarp crack has largely remained closed due to elk traffic in the area
  - Small cracking has developed in the ITSS access road



# North Walnut Creek Slump (continued)



# Site Roads

- No maintenance was conducted during the first quarter of 2019
- Maintenance of site roads was being planned for summer (July)



# Questions?

