Overview of the Third Quarter 2014 Surveillance and Maintenance Report for the LM Rocky Flats Site

July–September 2014
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 be protective
  - Primary goal is protection of surface water
- Response action under the final remedy for Rocky Flats
  - Maintain two landfill covers
  - Maintain four groundwater treatment systems
  - Surface water and groundwater monitoring
  - Physical controls
    - Signage
    - Restricted access
  - Institutional controls
    - No building construction or occupation
    - Restrictions on excavation and soil disturbance
    - No consumption or agricultural use of surface water
    - No groundwater wells except for monitoring
    - Protection of landfill covers and engineered remedy components
Surface Water Monitoring

Third Quarter 2014

U.S. DEPARTMENT OF

Energy

Legacy Management
Selected RFLMA Surface Water Monitoring Locations

[Map showing monitoring locations on a landscape diagram]
Performance Monitoring at Original Landfill (OLF) and Present Landfill (PLF)

- OLF (Woman Creek)
  - All sampling results met water quality standards during the quarter

- PLF (System Effluent)
  - Routine quarterly sampling result for arsenic (As) was 15.0 \( \mu \text{g/L} \)
    - Above RFLMA standard of 10 \( \mu \text{g/L} \)
    - Triggered increased sampling frequency (monthly) per RFLMA evaluation protocols
  - First monthly sampling result (August 19, 2014) for As was 6.8 \( \mu \text{g/L} \)
    - Below RFLMA standard
  - Sampling frequency reverted to quarterly per RFLMA protocols
Point of Evaluation (POE) Monitoring

- All RFLMA POE analyte concentrations remained below reporting levels throughout the third quarter of calendar year (CY) 2014.
Point of Compliance (POC) Monitoring

- All RFLMA POC analyte concentrations remained below reporting levels throughout the third quarter of CY 2014
Questions?
Groundwater Monitoring and Operations

Third Quarter 2014
RFLMA Monitoring

- Light sampling quarter
  - 10 RCRA wells (quarterly)
- Statistical evaluation of results will be presented in annual report
NOTE: Groundwater treatment system locations omitted for clarity
Non-RFLMA Monitoring

- Treatment systems
  - ETPTS: air stripper, ZVI media
    - ZVI sampled to support disposition
  - SPPTS: microcell and lagoon testing
Treatment System Activities

- **MSPTS**
  - Air stripper maintenance

- **ETPTS**
  - Air stripper maintenance
    - Sampled to confirm performance
  - ETPTS reconfiguration project work

- **SPPTS**
  - Continued microcell tests
  - Continued pilot-scale lagoon tests (including sampling)
  - Maintained pumps, solar/battery power facility
  - Worked to improve flow through original treatment cells
  - Added plumbing to allow tests of microcells using effluent from pilot-scale lagoons
ETPTS Reconfiguration Project

- Drained ZVI-filled treatment cells
- Removed ZVI
- Began converting treatment cells for future purposes (influent batch tank, effluent tank)
- Sampled ZVI to support waste disposition
- Began electrical work, construction of air-stripper enclosure
  - Poor-quality soils led to extensive over-excavation, preparation of subgrade soils, minor redesign of enclosure foundation
- Project scheduled to be completed in January 2015
Site Operations

Third Quarter 2014
Quarterly Sign Inspections

- RFLMA physical control
- All signs are in good condition
Site Operations – OLF

- Three monthly inspections performed; weekly inspections of areas where recent slumping or cracking had been noted
- Eight settlement monuments and seven inclinometers monitored
Site Operations – OLF (continued)

- No significant cracking was noted within the landfill boundaries during the third quarter
- Gradual slumping was noted on the east side of the East Perimeter Channel, outside of the landfill boundary
- Cracks were filled as required by the M&M Plan
- Berms were re-graded where necessary, to restore appropriate berm height and to repair damaged berm outfalls
- Geotechnical engineering review
  - Evaluation of documents, design concepts, and mitigation procedures related to the OLF
  - Review did not identify factors, conditions, or changes in conditions that suggest the current approach is any less valid now than when implemented
- Design of East Perimeter Channel Reconfiguration project was revised
Site Operations – PLF

- One quarterly inspection performed
Questions?
Third Quarter Ecology Activities

- Preble's meadow jumping mouse mitigation monitoring
- Wetland mitigation monitoring
- Revegetation monitoring
- Weed mapping
- Vegetation mapping
- Prairie dog surveying
- Nest box surveying
- Forb nursery monitoring
- Photopoint monitoring
- Herbicide applications (approximately 60 acres treated)