

# Moab UMTRA

Uranium Mill Tailings Remedial Action



October  
2019

Looking north,  
July 16, 2019

MTPSC Status Update  
by Russ von Koch  
Grand County UMTRA Liaison



# Highlights



- **Continued 4 trains per week to CJ (July 68,000 tons, August 82,000 tons and September 78,000 tons)**
- **Reached 10 million tons on September 16 (62.5% of est. total)**
- **Shipped 41,000 tons of mixed mill debris/RRM FY19 (Oct-Sept)**
- **Groundwater extraction planned through mid-November. Injection off for replacement of filter media.**

Observations provided by Grand County UMTRA Liaison on behalf of the Moab Tailings Project Steering Committee, as established by Grand County Resolution 3170.

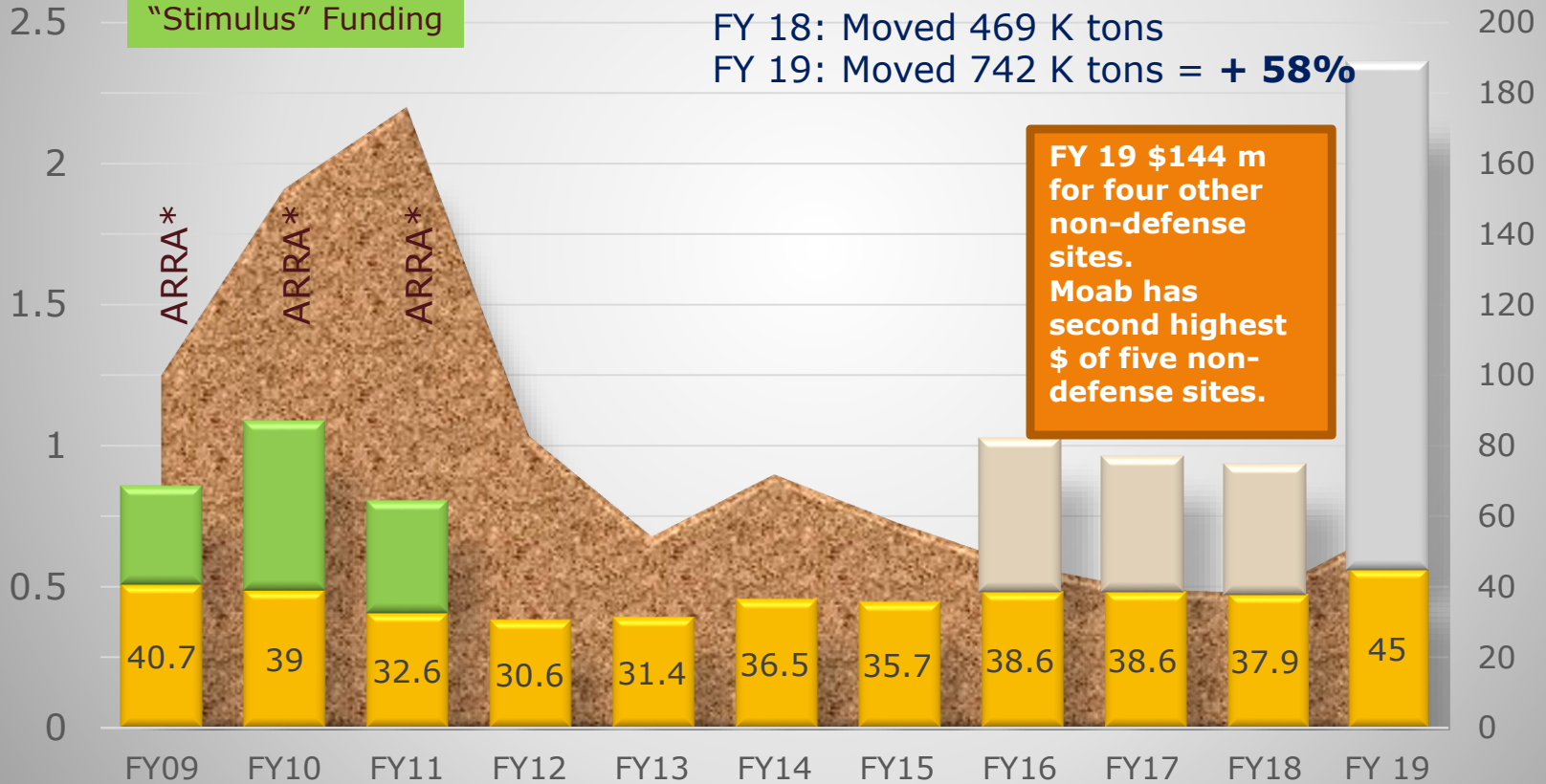


# Tailings Removed & Budget History

(Millions of Tons & Dollars per Year)

\* American Recovery and Reinvestment Act of 2009, aka "Stimulus" Funding

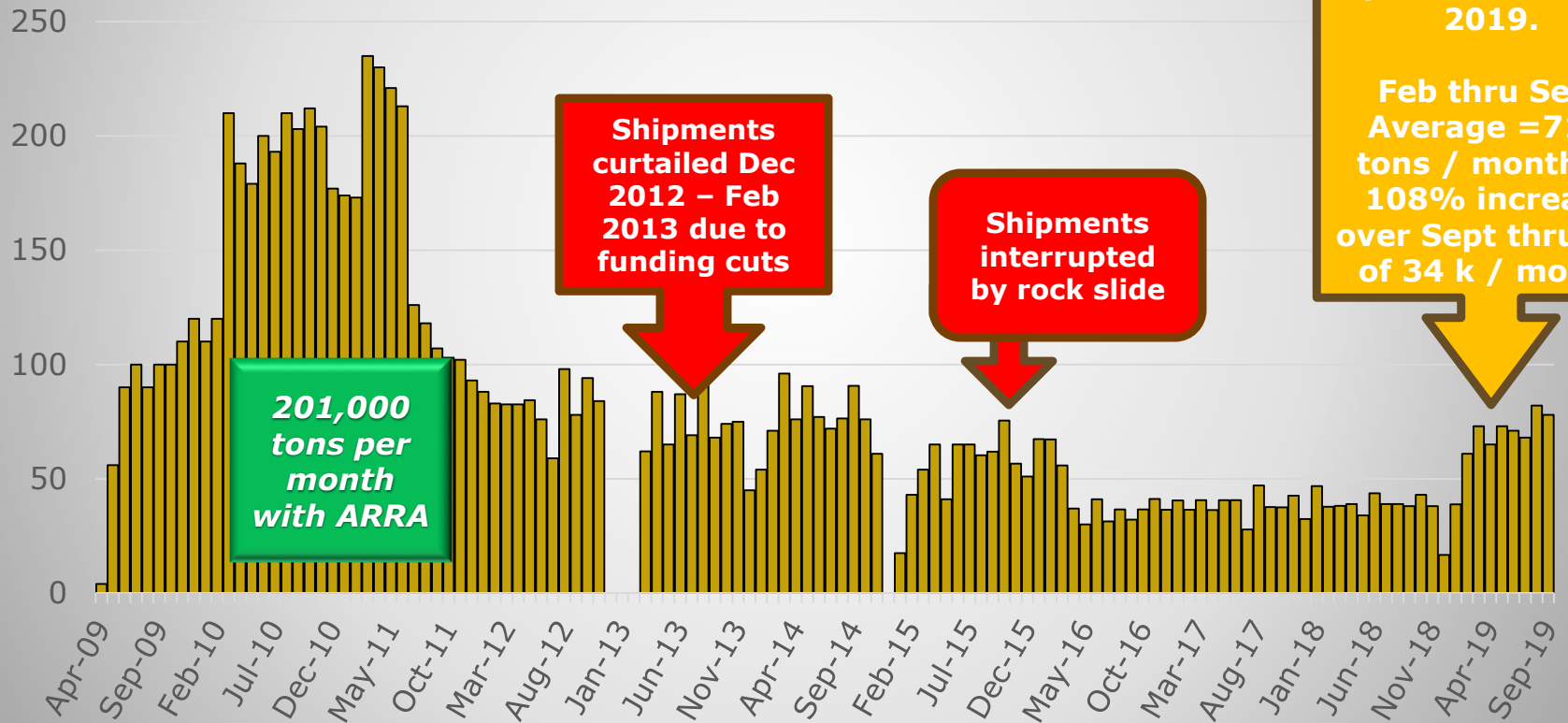
## Moab Regular Funding (Million \$)



Tailings shipment and funding information provided by Moab UMTRA. Other observations provided by Grand County UMTRA Liaison on behalf of the Moab Tailings Project Steering Committee, as established by Grand County Resolution 3170.

# ➤ August 2019 Shipments ➤ Highest Since September 2014

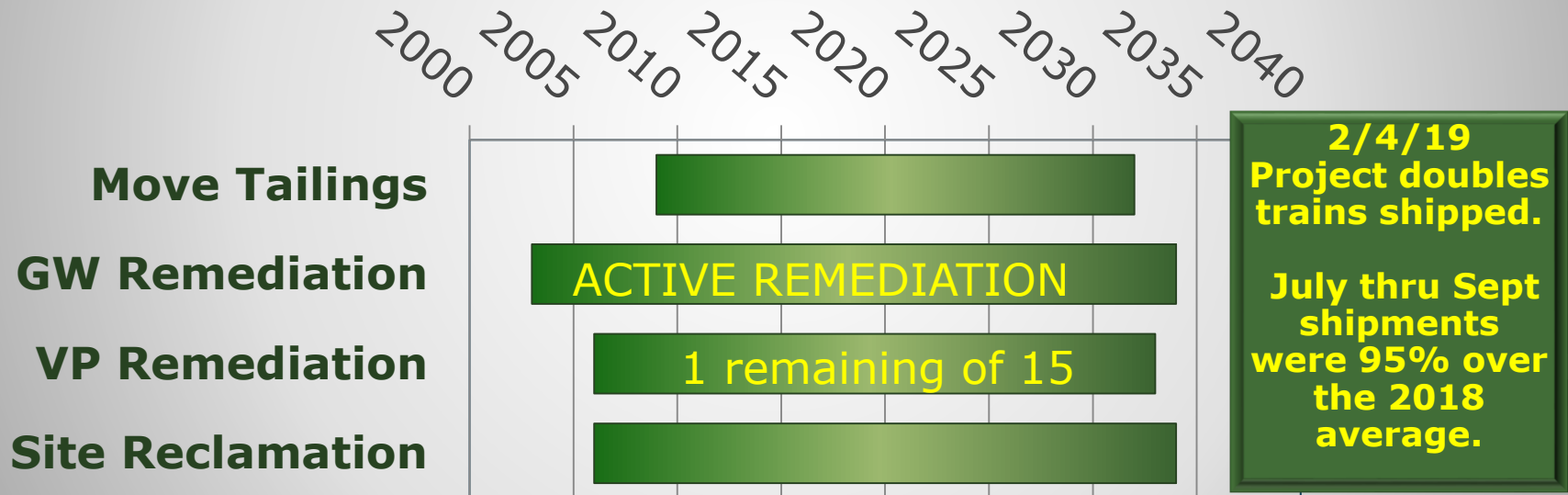
Tailings Removed (000 tons per month)



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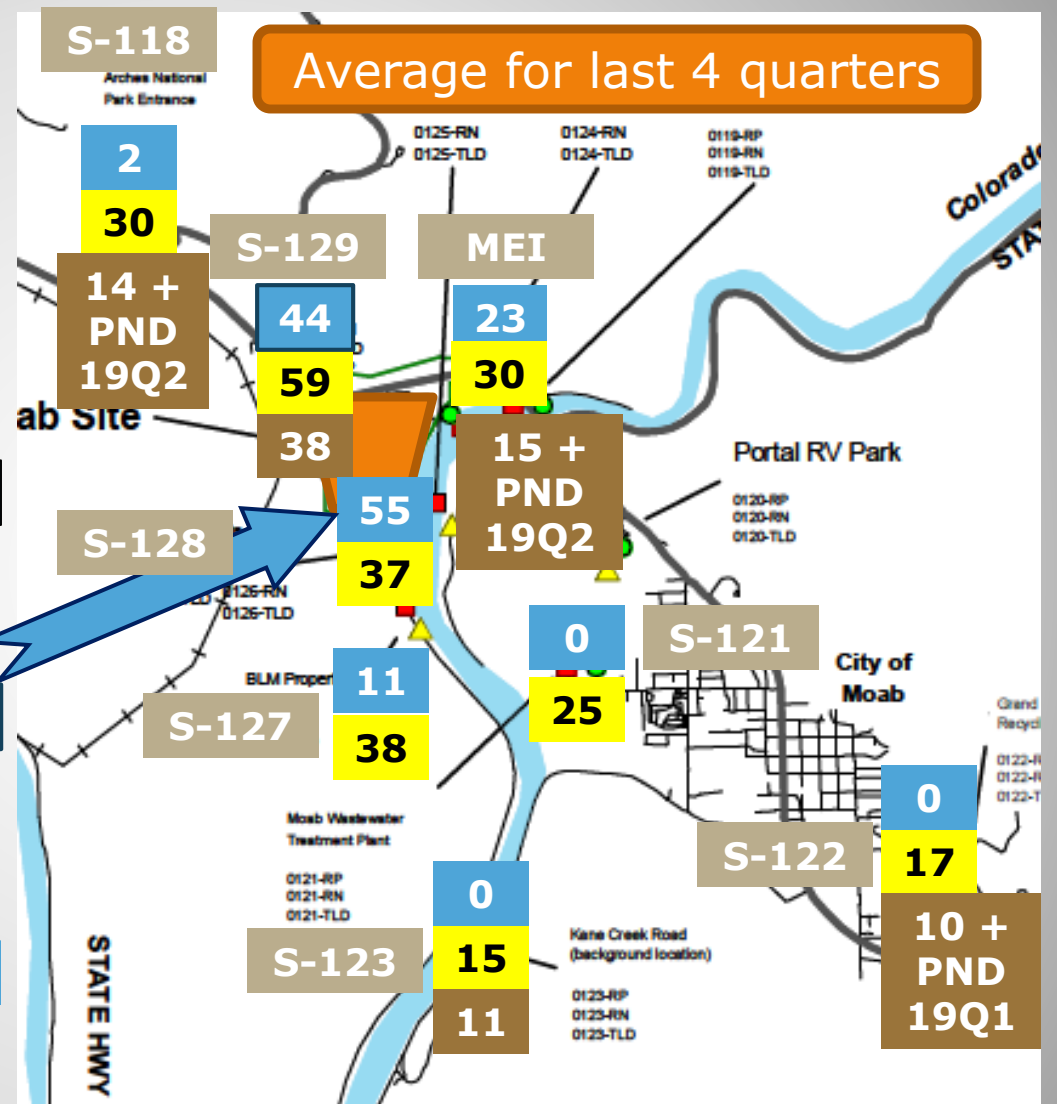
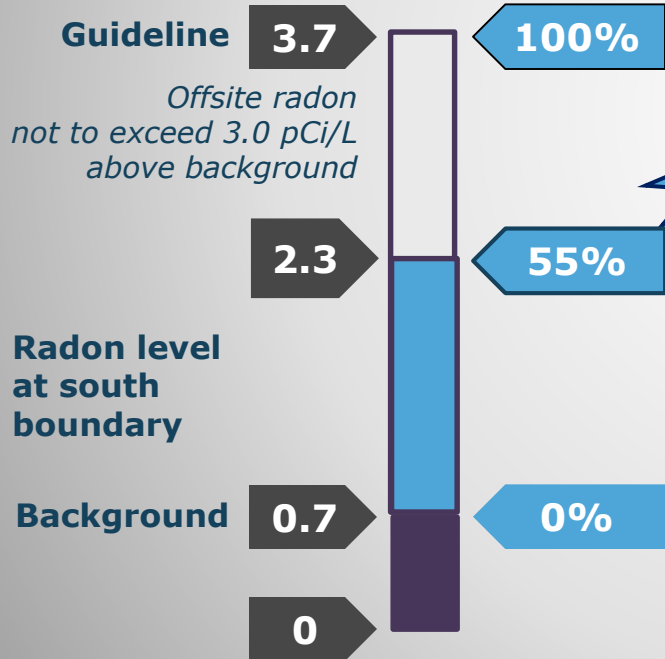
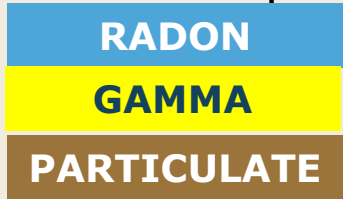
# Main Project Goals

- Move tailings away from Colorado River
- Protect river by intercepting ground water contaminants
  - Remediate vicinity properties (VP)
- Reclaim project sites at Moab and Crescent Junction



FY2018 tonnage averaged 39 K /month; July thru Sept =76 K  
 Continuation of 2019 funding could result in earlier tailings removal (2027?) and site reclamation (2029?) than depicted above.

## Per Cent of Allowable Impact



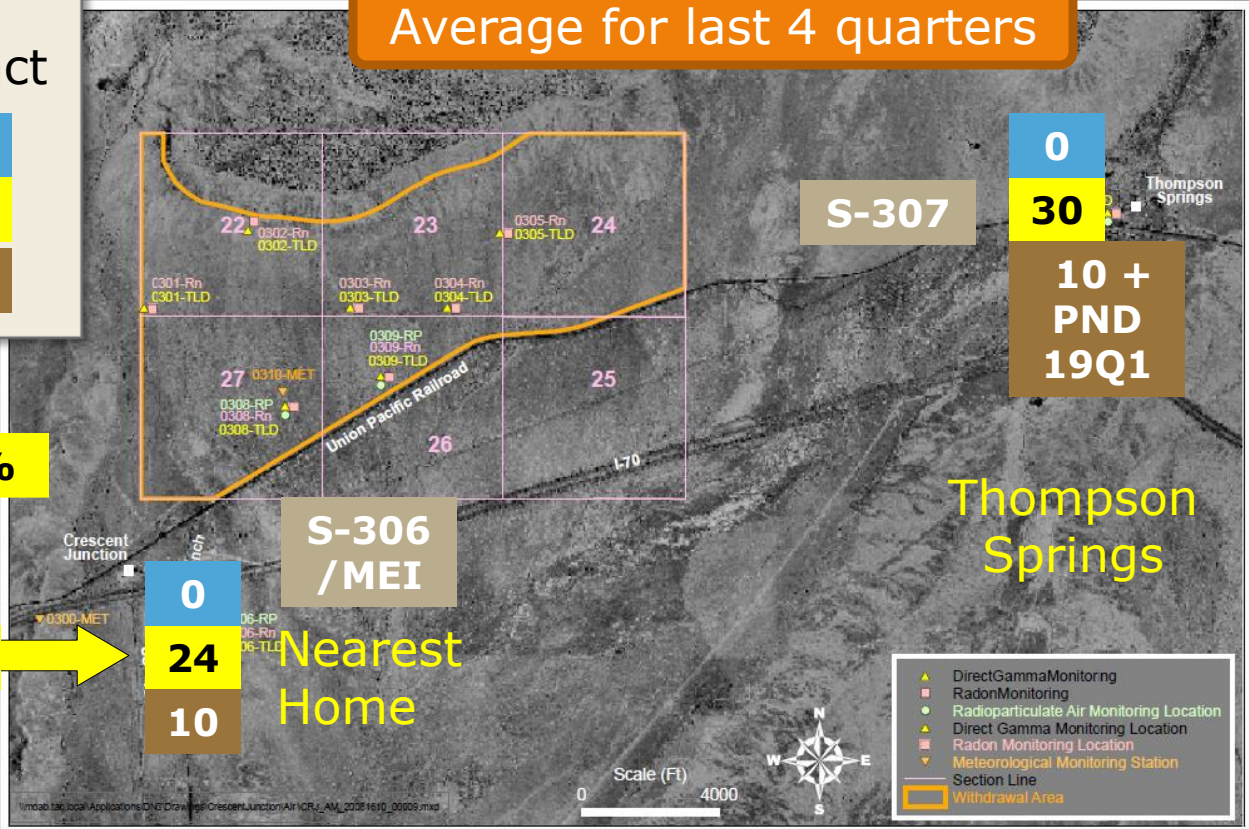
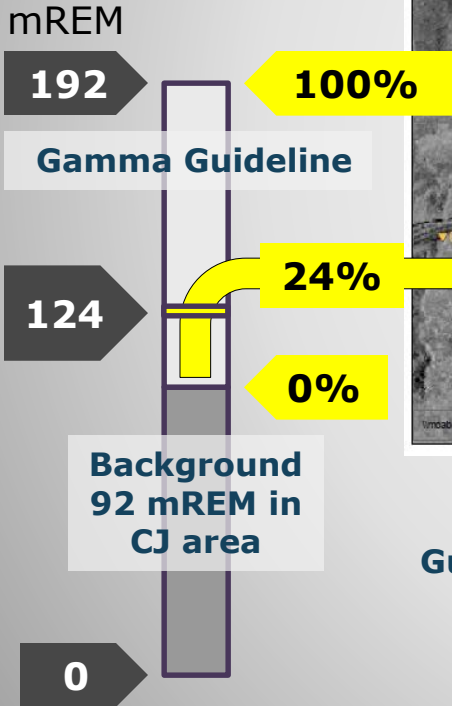
# Impacts Around Moab: 18Q3-19Q2

pCi/L = picoCuries per Liter, radiation from Radon gas in the air, L4Q average

Per Cent of Allowable Impact

- RADON**
- GAMMA**
- PARTICULATE**

Average for last 4 quarters



Thompson Springs

**Guideline: Gamma not to exceed 100 mREM/yr above background.**  
 Gamma total for last 12 months at nearest home was 114 mREM, or 24% above CJ background of 92 mREM.

# Impacts Around CJ: 18Q3-19Q2

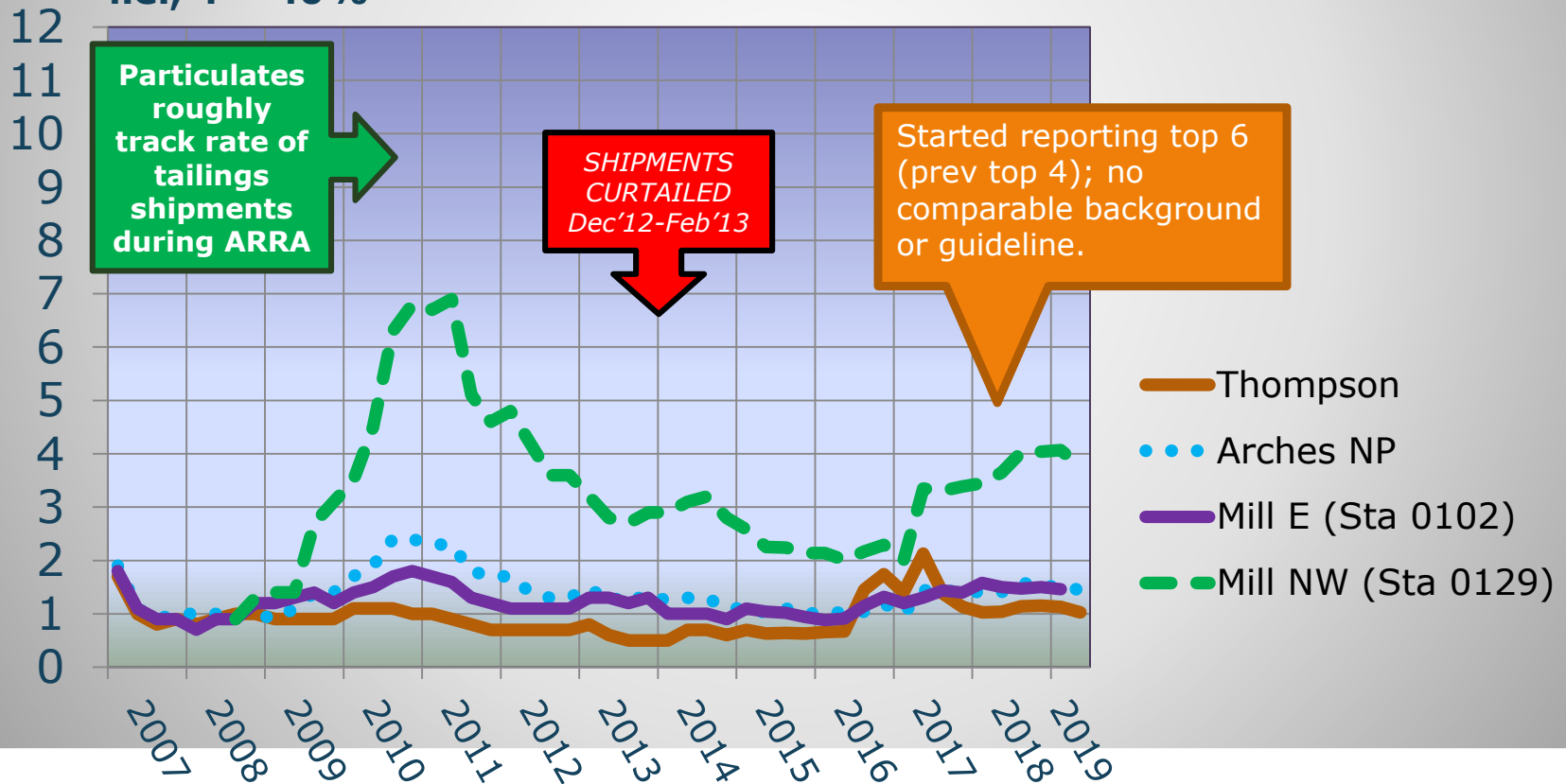
mREM = milli-Roentgen Equivalents in Man, biological dose equivalent, sum of L4Q

# Airborne Radioparticulates

Total DCG for 18Q3 – 19Q2

Total mREM L4Q multiple vertical axis by 10 to convert to % of alim. i.e., 4 = 40%

DCG = Derived Concentration Guideline, a calculated estimate of radiation levels from radioparticulates



Environmental monitoring data provided by Moab UMTRA. Other observations provided by Grand County UMTRA Liaison on behalf of the Moab Tailings Project Steering Committee, as established by Grand County Resolution 3170.

# Ground Water Remediation



Project totals of  
over 925,000 pounds of ammonia  
& more than 5,050 pounds uranium  
extracted through Sept, 2019  
**(kept out of river)**

- Extraction wells between pile and river intercept contaminated ground water
- Fresh water “curtain” injected when river is low
- Side channel habitat protected seasonally with added fresh water
- Suspended during CO River Flooding

- ACTIVE ground water remediation could continue 1-2 years after pile removed. Supplemental standards may be applied for PASSIVE remediation.

Well field data provided by Moab UMTRA. Other observations provided by Grand County UMTRA Liaison on behalf of the Moab Tailings Project Steering Committee, as established by Grand County Resolution 3170



**The 2019 flood  
June 12, 2019**



**Residual Flood Water  
August 26, 2019**



**July 11, 2019**  
**(41,000 tons of mixed mill debris and RRM**  
**moved in Fed FY 2019 – 5.8% of total tons)**

# Conditioning Residual Radioactive Material to Facilitate Container Transport

- **Excavate, mix, and dry RRM in “windrows” on the “face”**
- **Push and further mix RRM down the face through pile layers for loading**
- **Mix RRM multiple times at conditioning areas by grading and harrowing for additional drying**
- **Mix again when loading for transport by loading vertically from the conditioning beds**





**Excavation & conditioning areas**



**Pushing RRM into “windrows” for drying while mixing across pile layers**



**Pushing RRM down while mixing  
for transport to a conditioning area  
July 2, 2019**



**Loading with a trackhoe takes about a minute**



**Moving RRM to a conditioning area  
July 8, 2019**



**Dumping RRM  
at one of the multiple conditioning areas**



**Grading and mixing the RRM**



**Harrowing the RRM  
August 26, 2019**



**Building-up a multi-layered conditioning area**



**On-going conditioning supports current and future winter transport from multiple conditioning areas**

# To Learn More



- **Online**

- <https://gjem.energy.gov/moab/>
- [GrandCountyUtah.net](http://GrandCountyUtah.net) ("Moab UMTRA Project")

- **Public meetings**

- *Moab Tailings Project Steering Committee, quarterly (Jan, Apr, July and Oct)*
- *Site Futures Committee, 2013 and 2018*

- **UMTRA Reading Room (Library)**

- **Chat with Grand County's Liaison**

- 259-1795 (normally at courthouse Tue, Thu)
- [rvonkoch@grandcountyutah.net](mailto:rvonkoch@grandcountyutah.net)

