

Groundwater Restoration at Uranium in-situ Recovery Sites

Bill von Till

Chief

**Uranium Recovery Licensing Branch
Division of Waste Management and
Environmental Protection**

May 2, 2013

Current Regulatory Picture

- 10 CFR Part 40, Appendix A
 - Standards - Criterion 5B5
 - Alternate Concentration Limits – Criterion 5B6
- Guidance – NUREG – 1569
- License Conditions
- EPA 40 CFR Part 192 Draft Rule
 - In development

Groundwater Restoration

Key Points

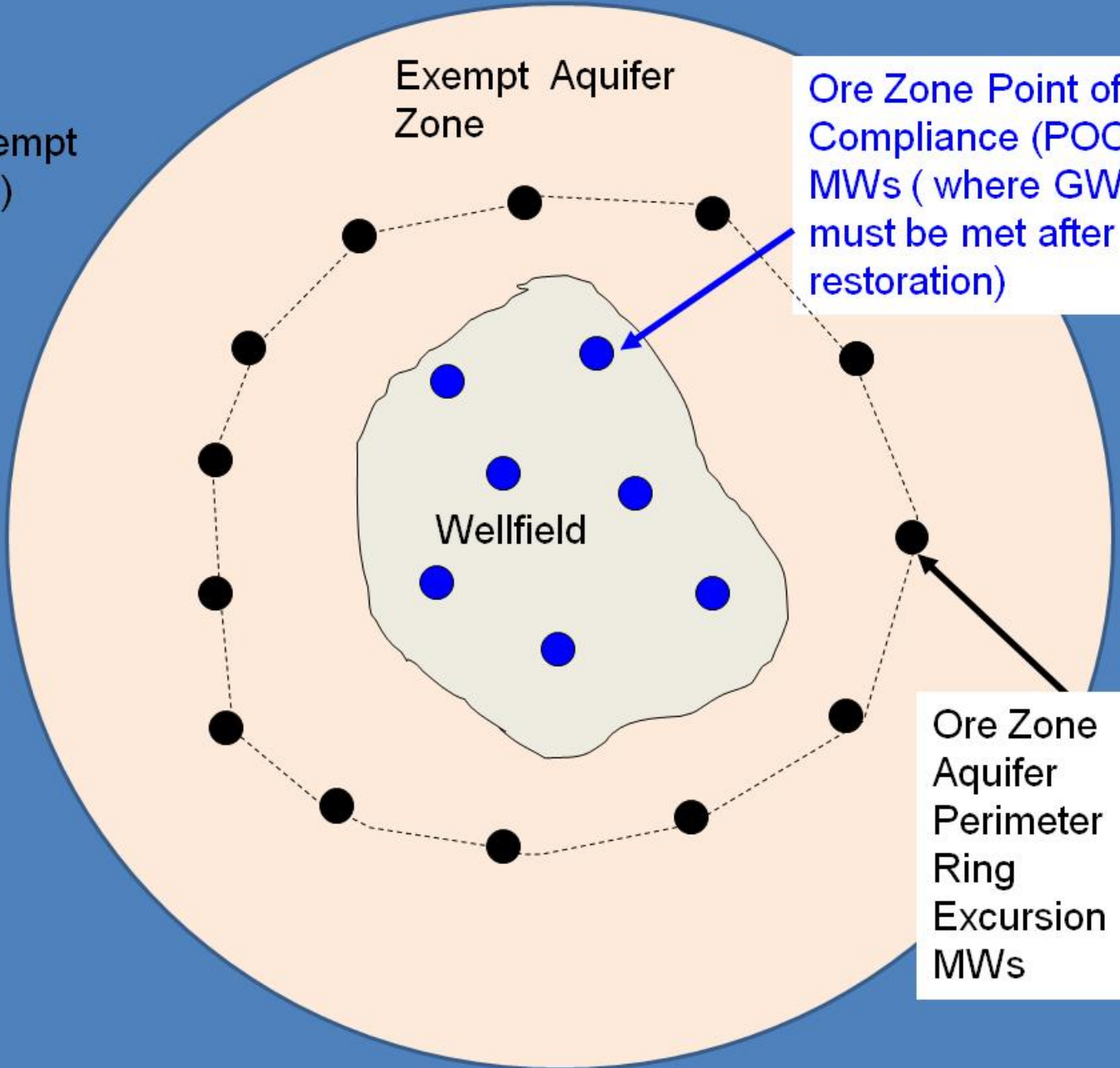
- Top Priority - Protection of present and future water well users and groundwater resources
- Restoration to groundwater standards
- Restoration Schedules and Restoration Progress
- Stability
- Financial Surety
- License termination – protection of present and future water users and groundwater resources



Non-exempt
(USDW)
Aquifer

Exempt Aquifer
Zone

Ore Zone Point of
Compliance (POC)
MWs (where GWPS
must be met after
restoration)



Wellfield

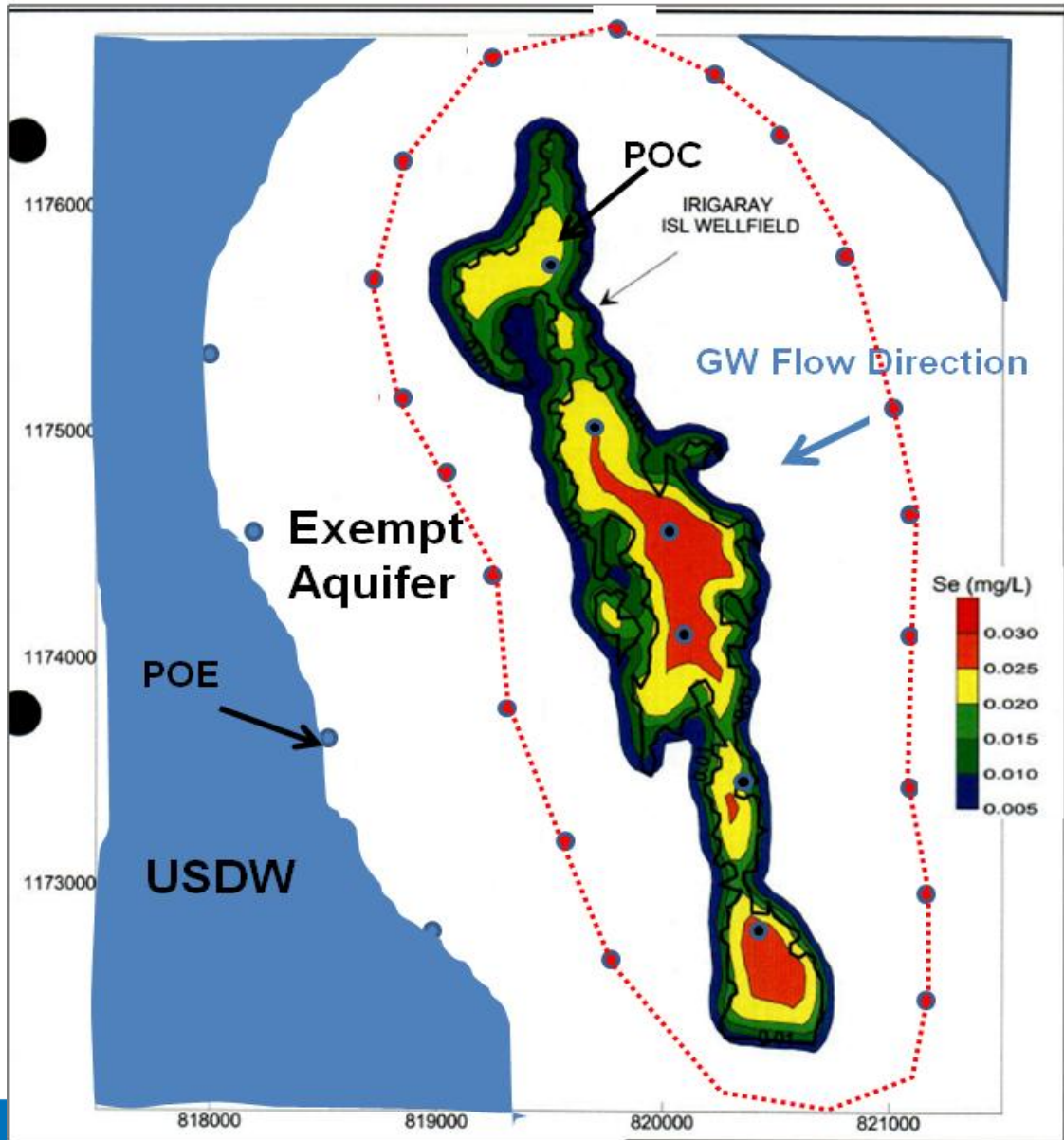
Ore Zone
Aquifer
Perimeter
Ring
Excursion
MWs

Alternate Concentration Limits

- Site Characterization
- Point of Compliance (POC)
- Point of Exposure (POE) – protection of USDW
- Present no significant hazard
- Consideration of practicable corrective actions
- As low as reasonably achievable
- Hot spots
- Monitoring – site specific



Simulated Selenium Distribution at 24 years Starting from Approved ACL



- POC
Point of compliance well
(where ACL is approved)
- Original Perimeter Ring
Excursion Monitoring
Well (400 ft from well
field boundary)
- POE
Point of Exposure
(POE) Well at edge of
exempt aquifer zone :
Location approved by
NRC for long term
monitoring compliance
of approved ACL

Upcoming

See Dr. Elise Striz's presentation May 2 at 3:00 pm

General ISR Groundwater Protection

Statistical Analysis

ISR Groundwater data consolidation effort



Questions?



Shot taken at Moore Ranch, WY