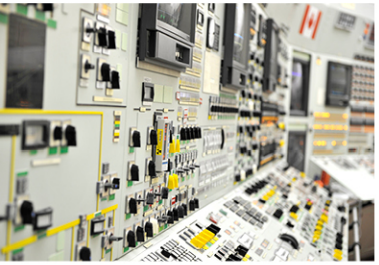
# Challenges with Hot Particle Recovery

December 5th, 2018







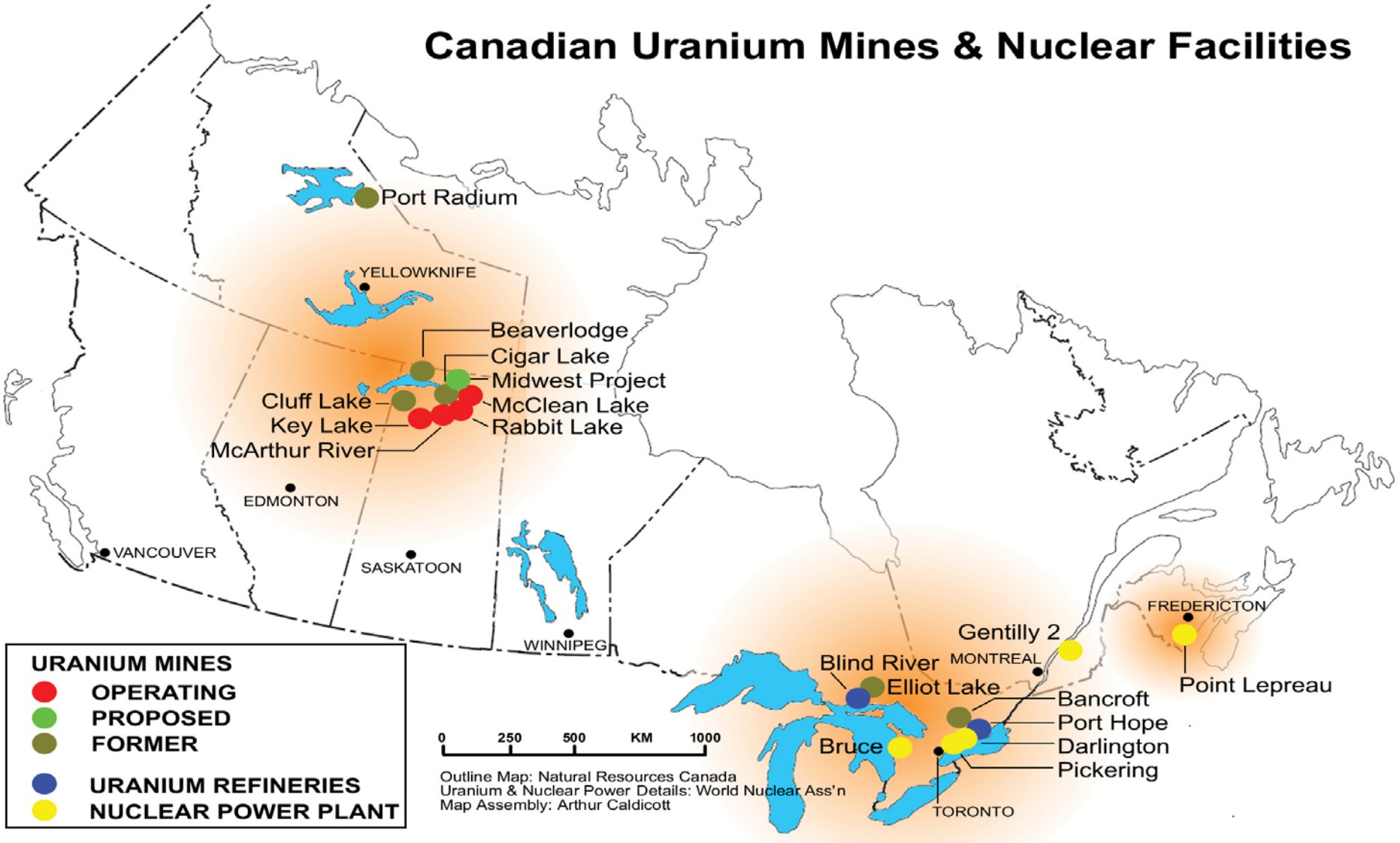

**Colin Pritchard**

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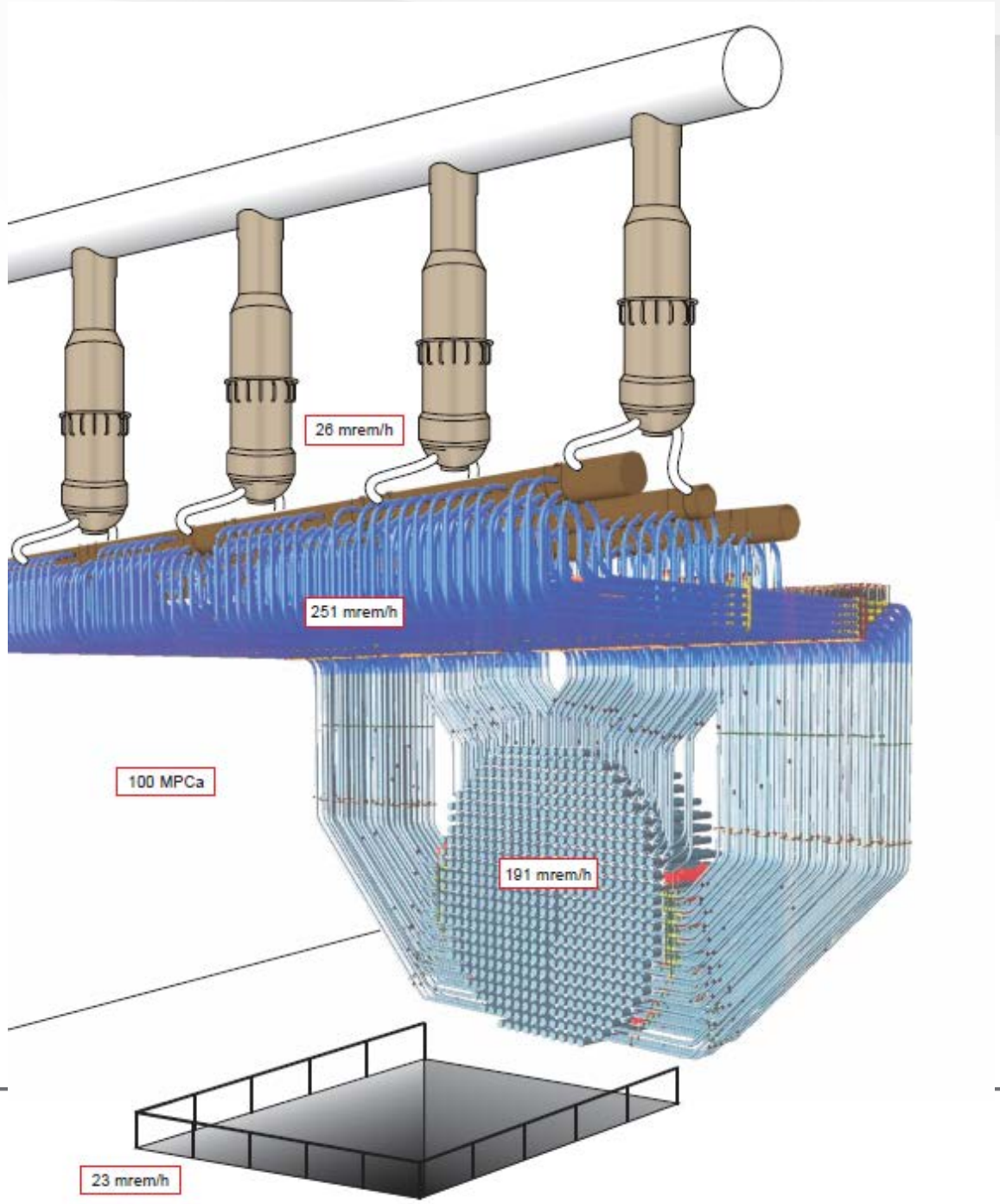


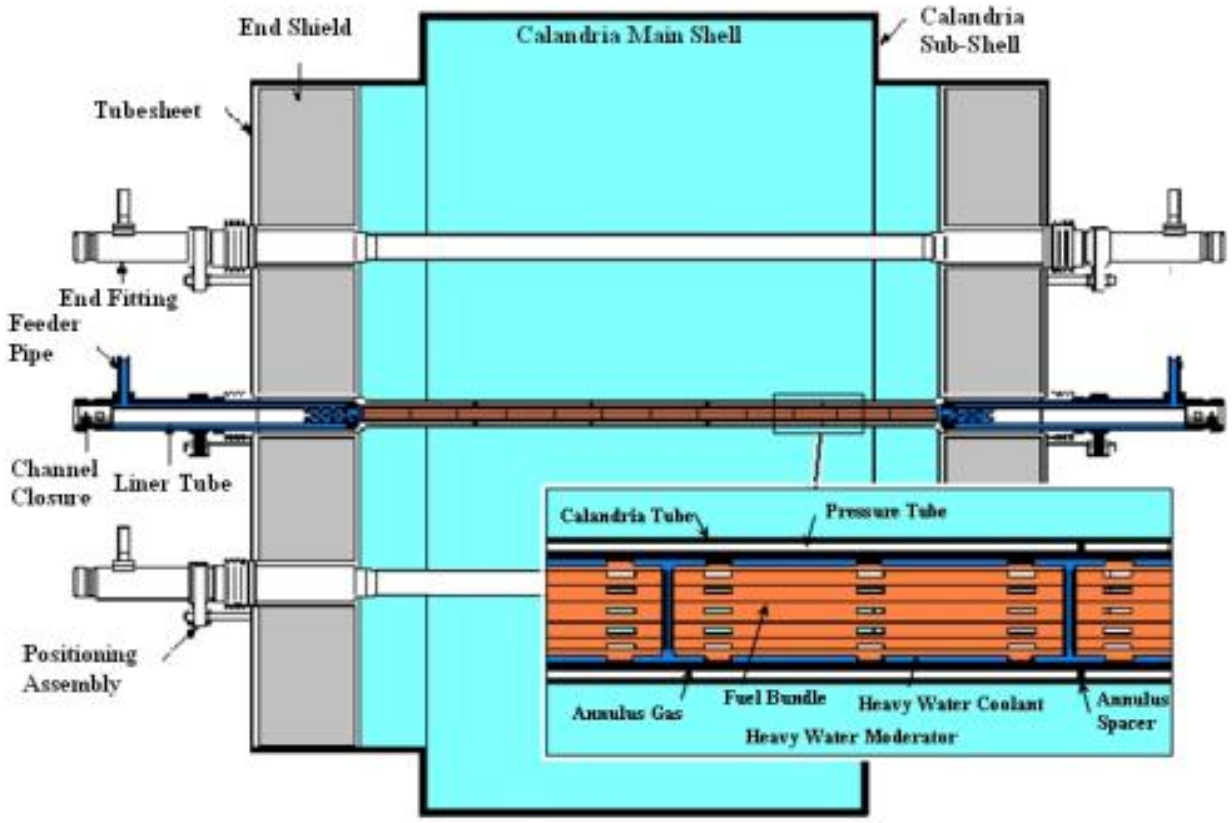
# Canadian Uranium Mines & Nuclear Facilities





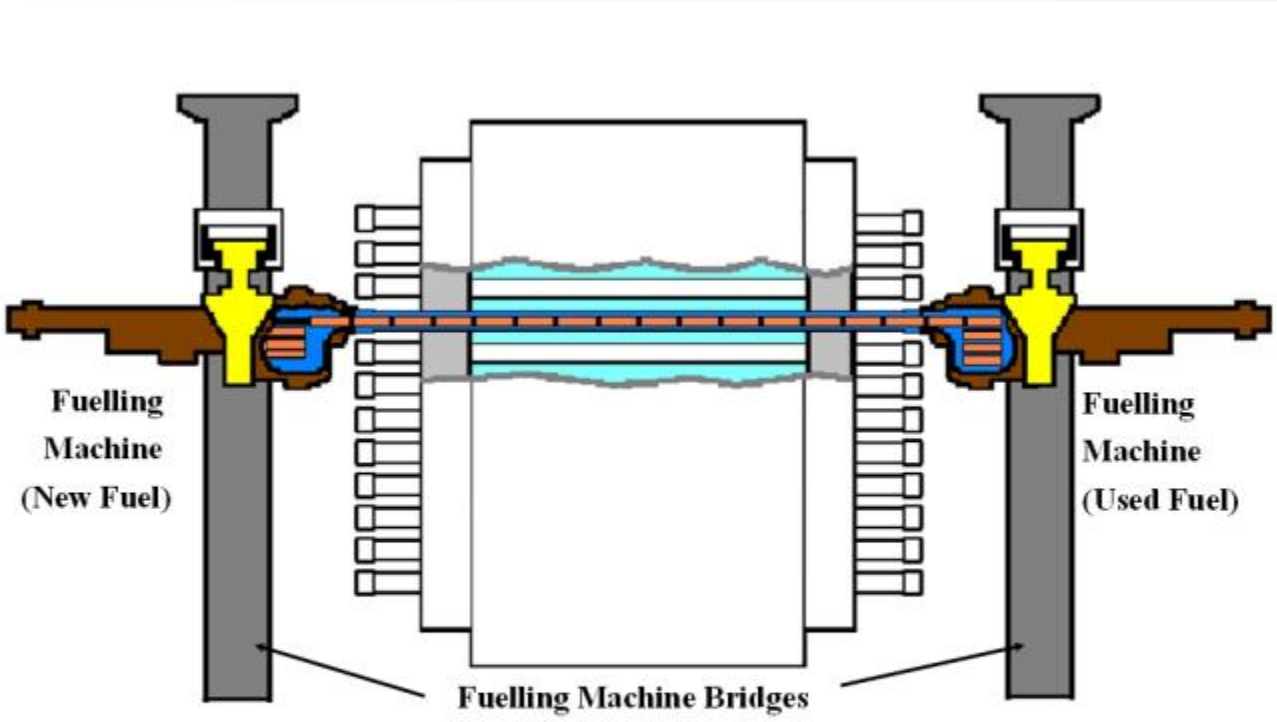

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26 mrem/h
251 mrem/h
100 MPCa
191 mrem/h
23 mrem/h



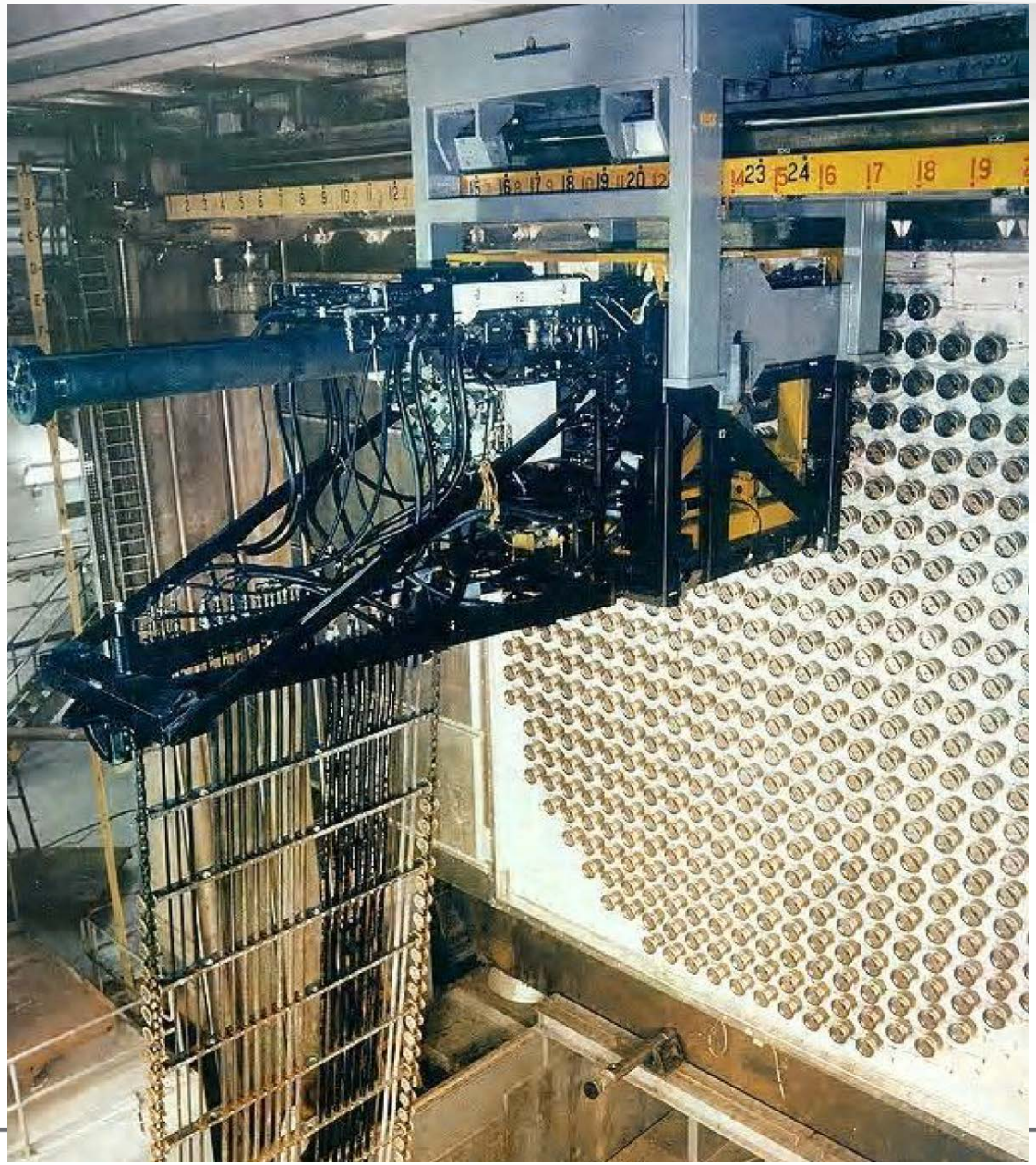



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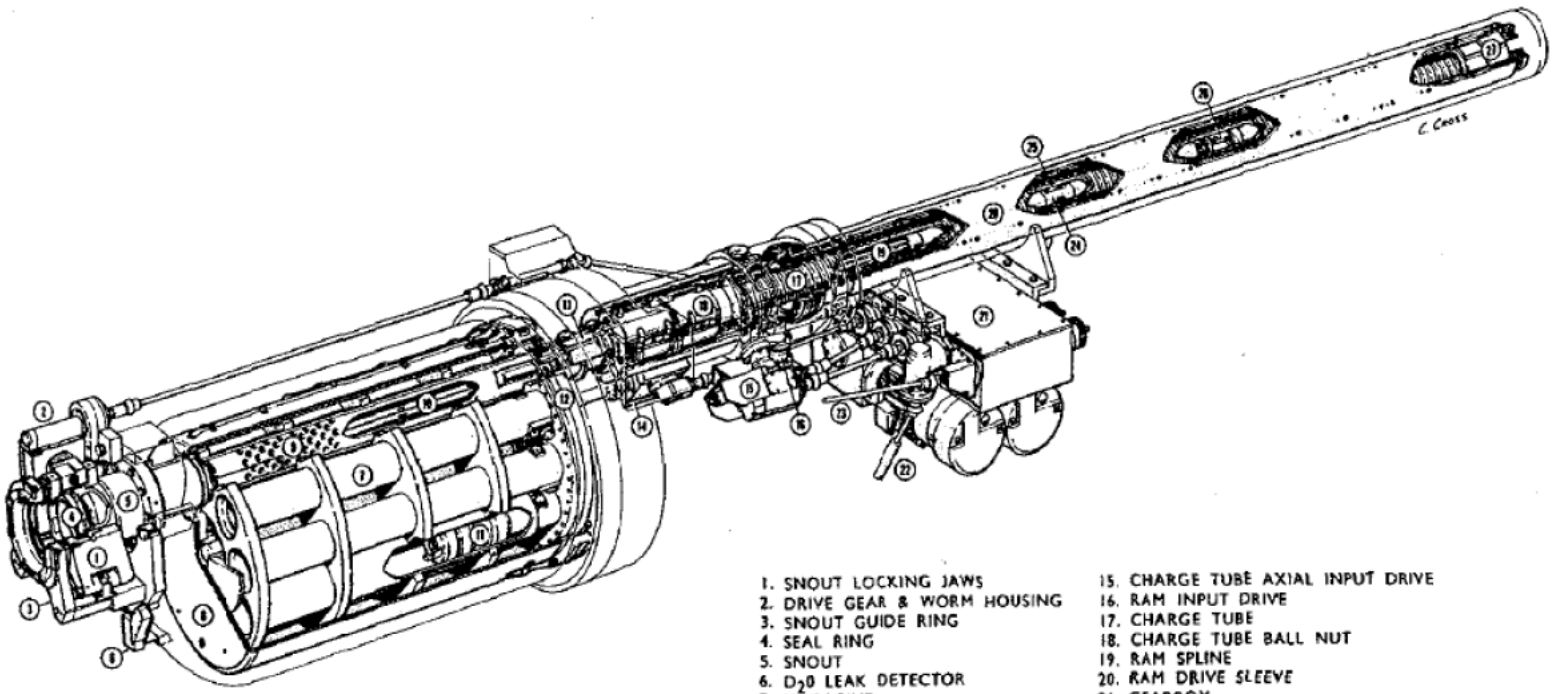

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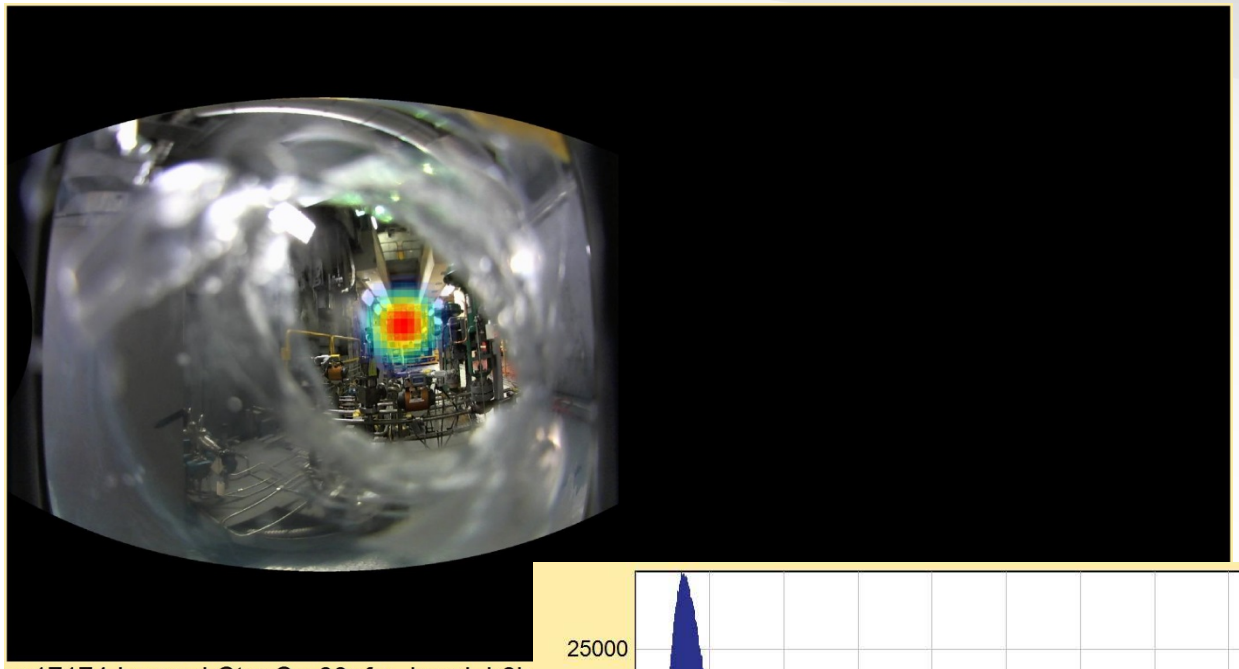
# Fuelling Machine Head



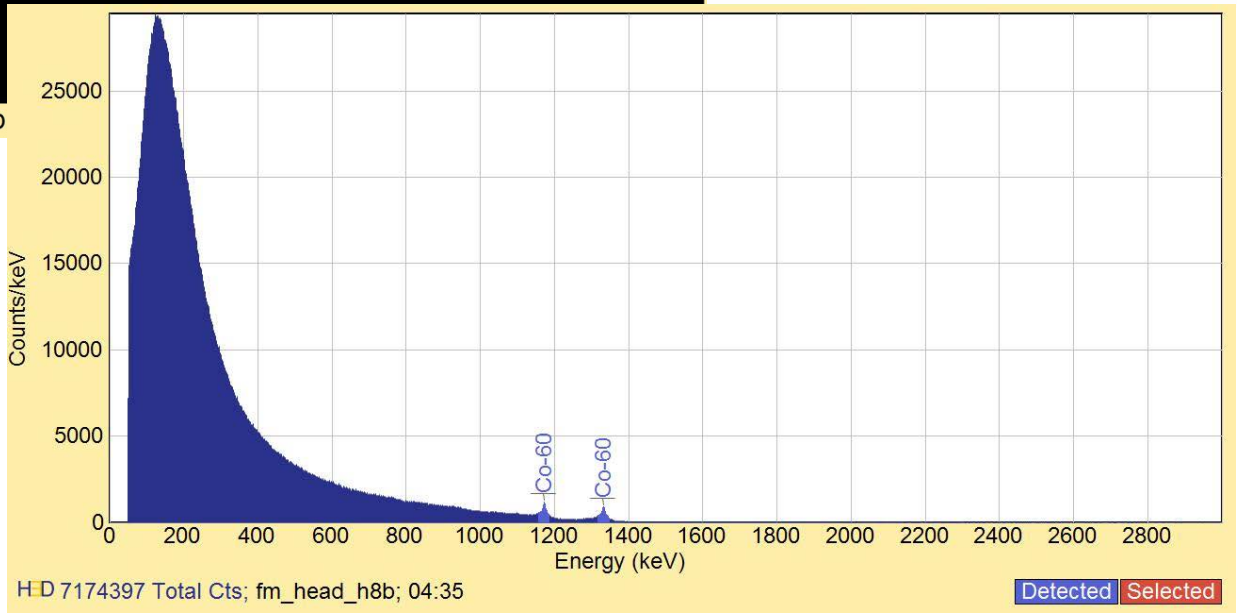
1. SNOUT LOCKING JAWS
2. DRIVE GEAR & WORM HOUSING
3. SNOUT GUIDE RING
4. SEAL RING
5. SNOUT
6. $D_2O$ LEAK DETECTOR
7. MAGAZINE
8. THERMAL BARRIER
9. FUEL CARRER
10. FUEL BUNDLE
11. CHANNEL CLOSURE ADAPTER
12. RAM HEAD
13. CHARGE TUBE HEAD
14. MAGAZINE INDEXING UNIT
15. CHARGE TUBE AXIAL INPUT DRIVE
16. RAM INPUT DRIVE
17. CHARGE TUBE
18. CHARGE TUBE BALL NUT
19. RAM SPLINE
20. RAM DRIVE SLEEVE
21. GEARBOX
22. FINE Y DRIVE
23. FINE X DRIVE
24. RAM EXTENSION TUBE
25. GUIDE WHEEL
26. RAM BALL NUT
27. RAM DRIVE GUIDE



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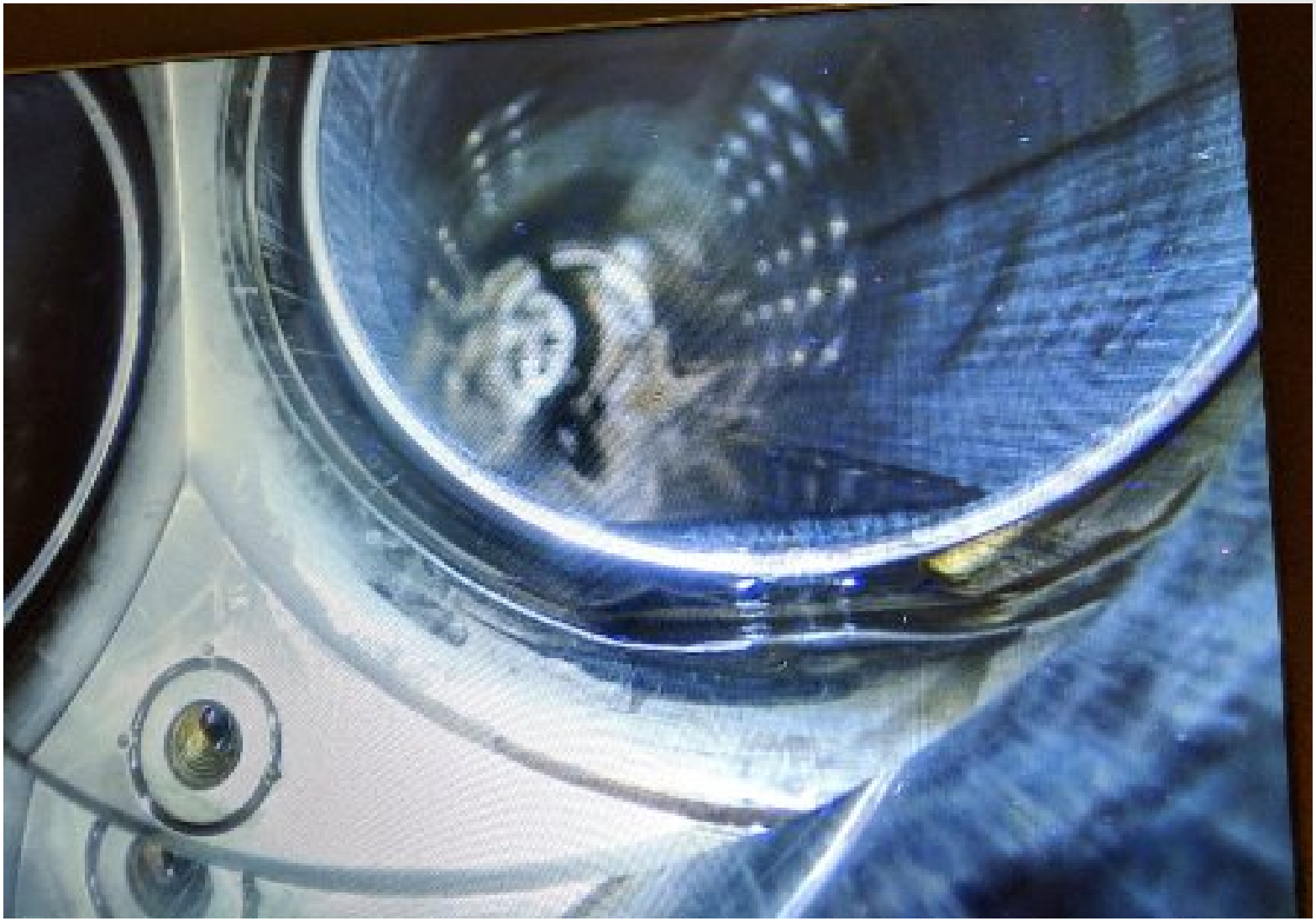


H:D 17174 Imaged Cts; Co-60; fm_head_h8b



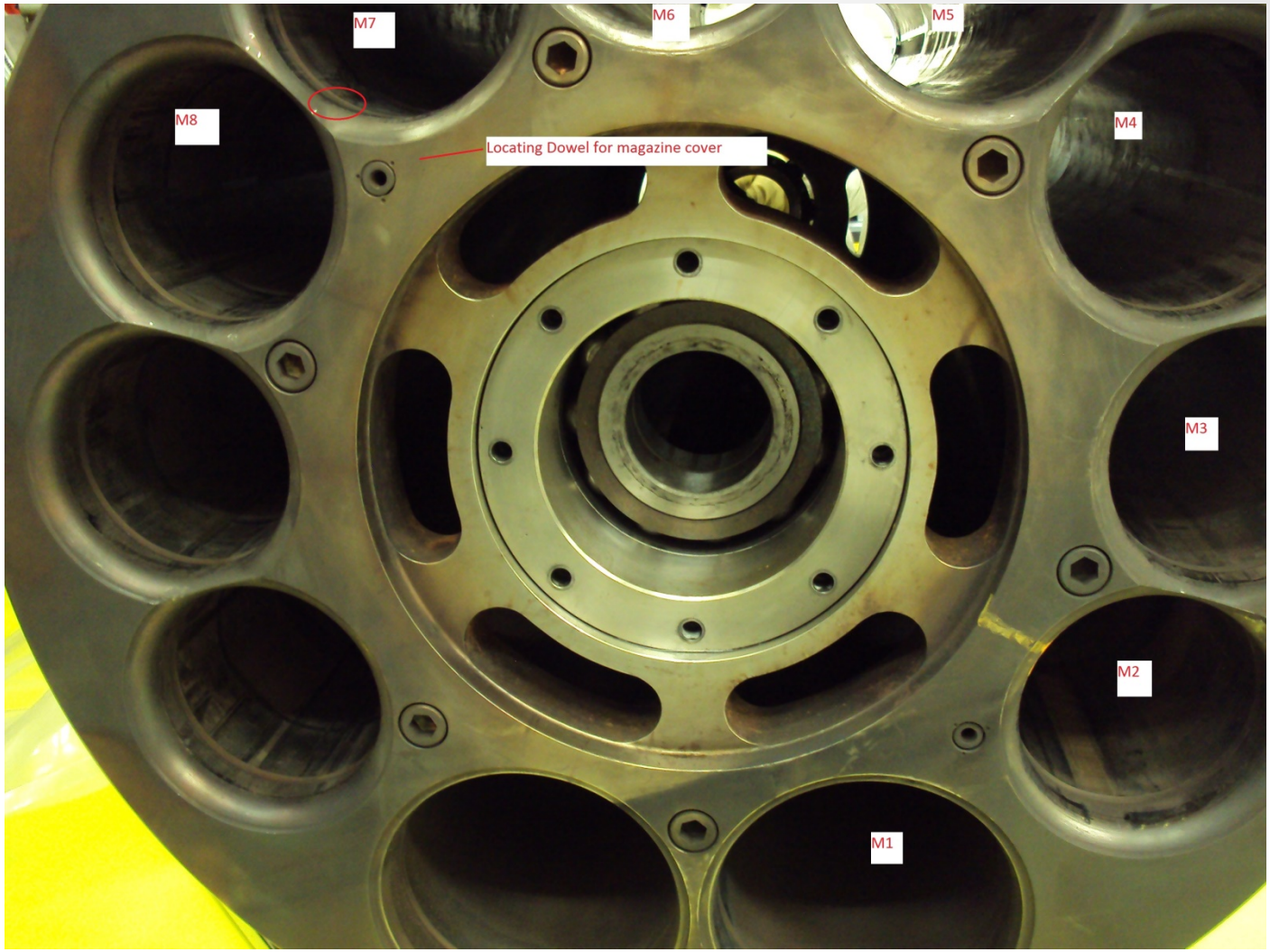



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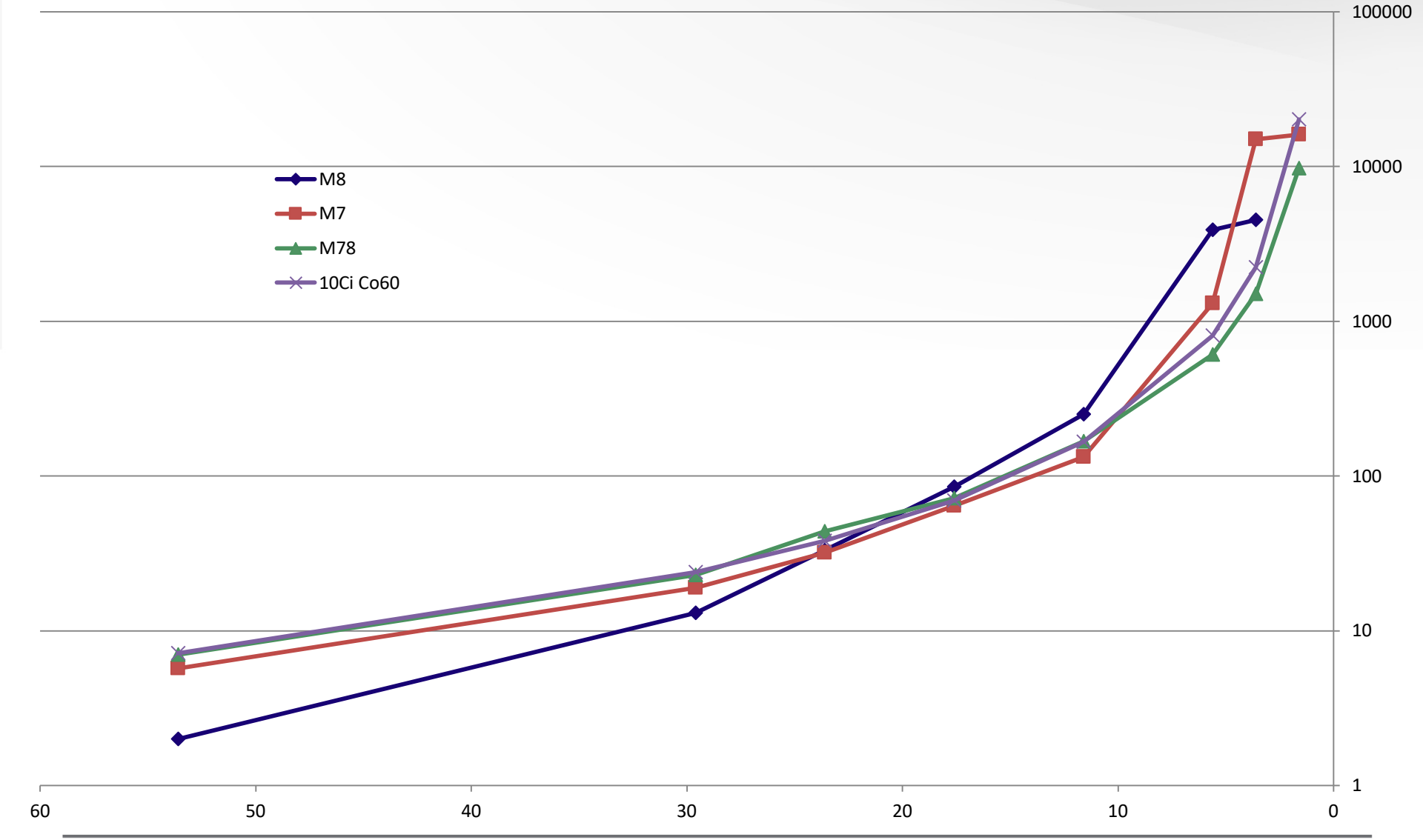


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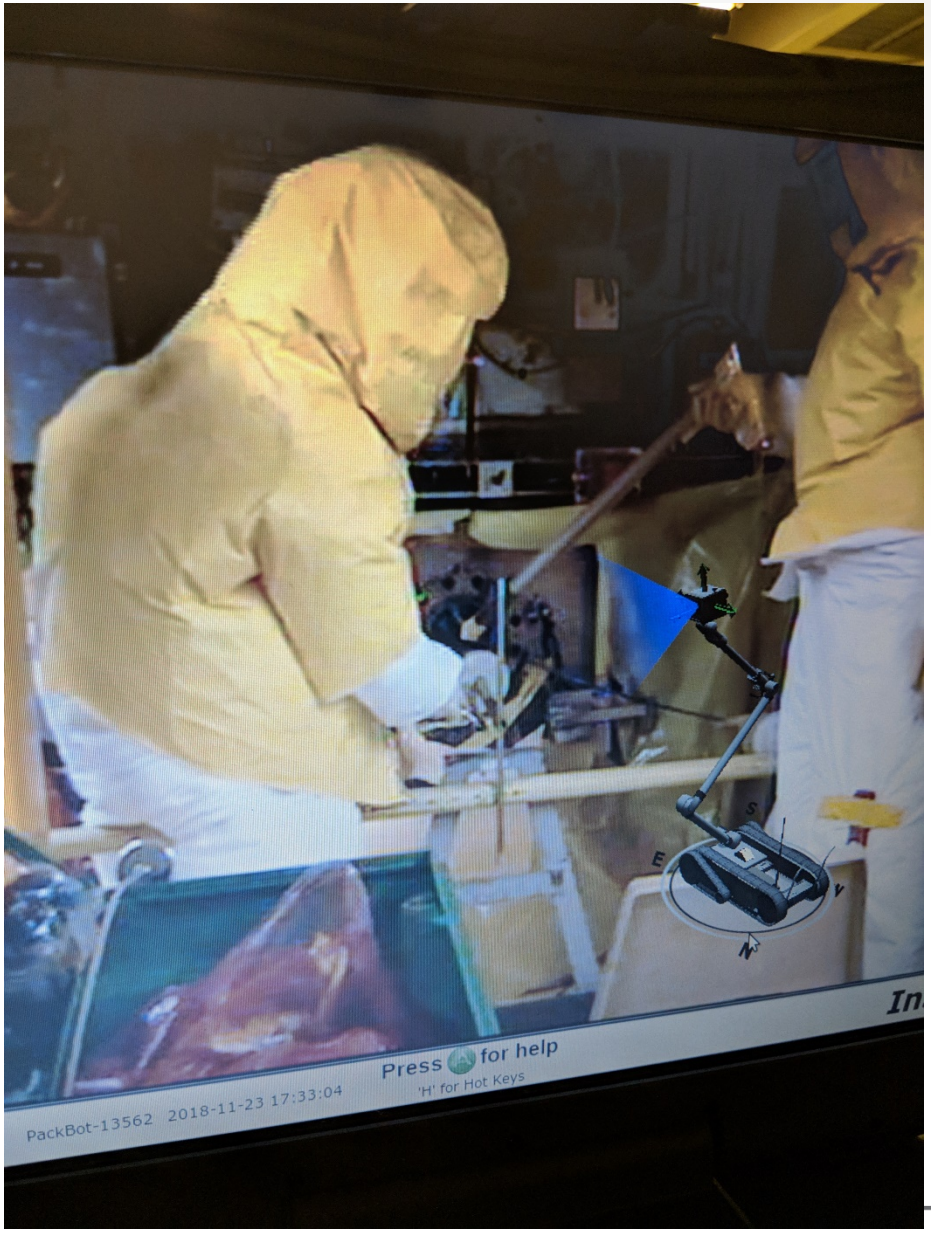




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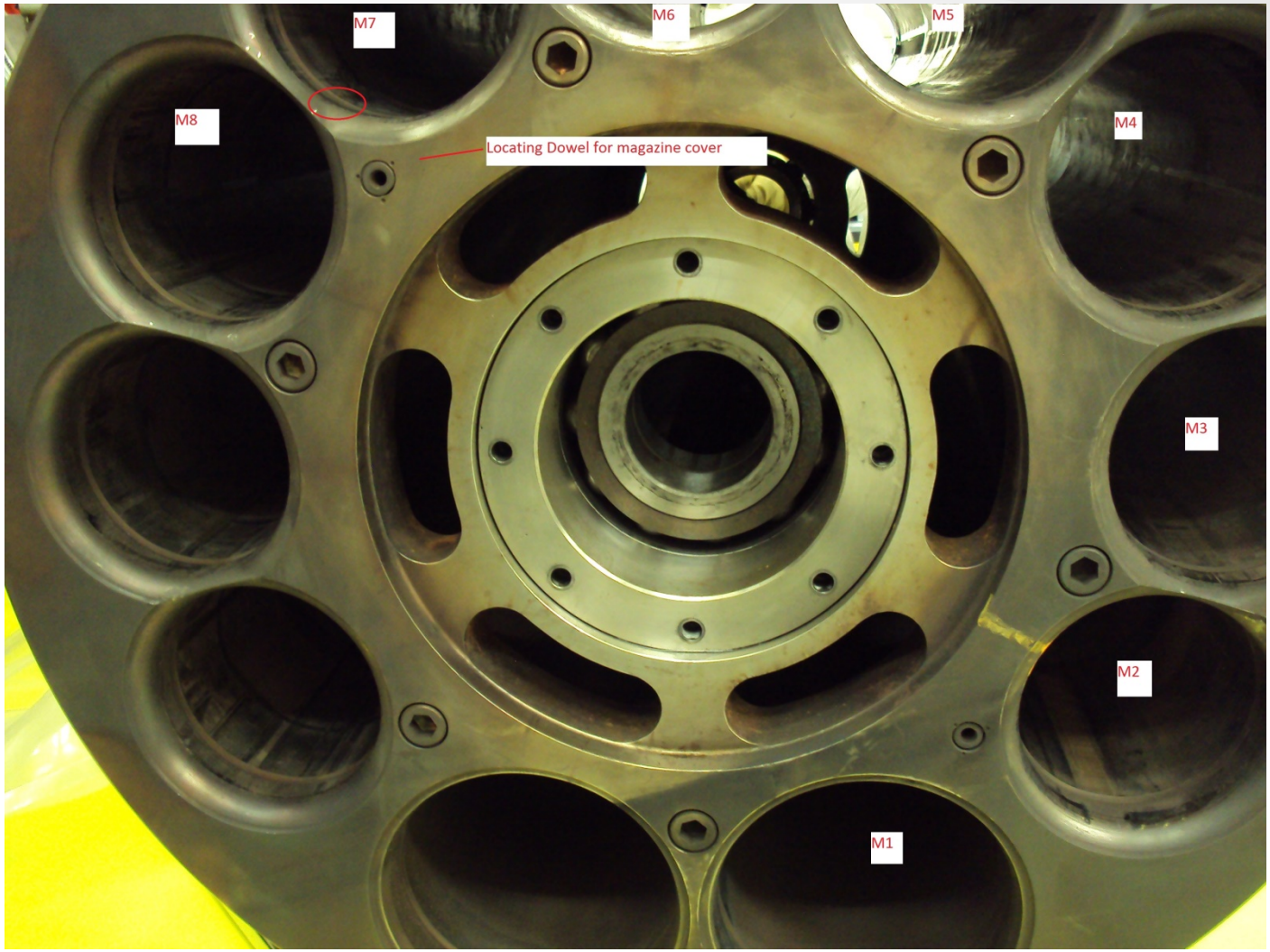






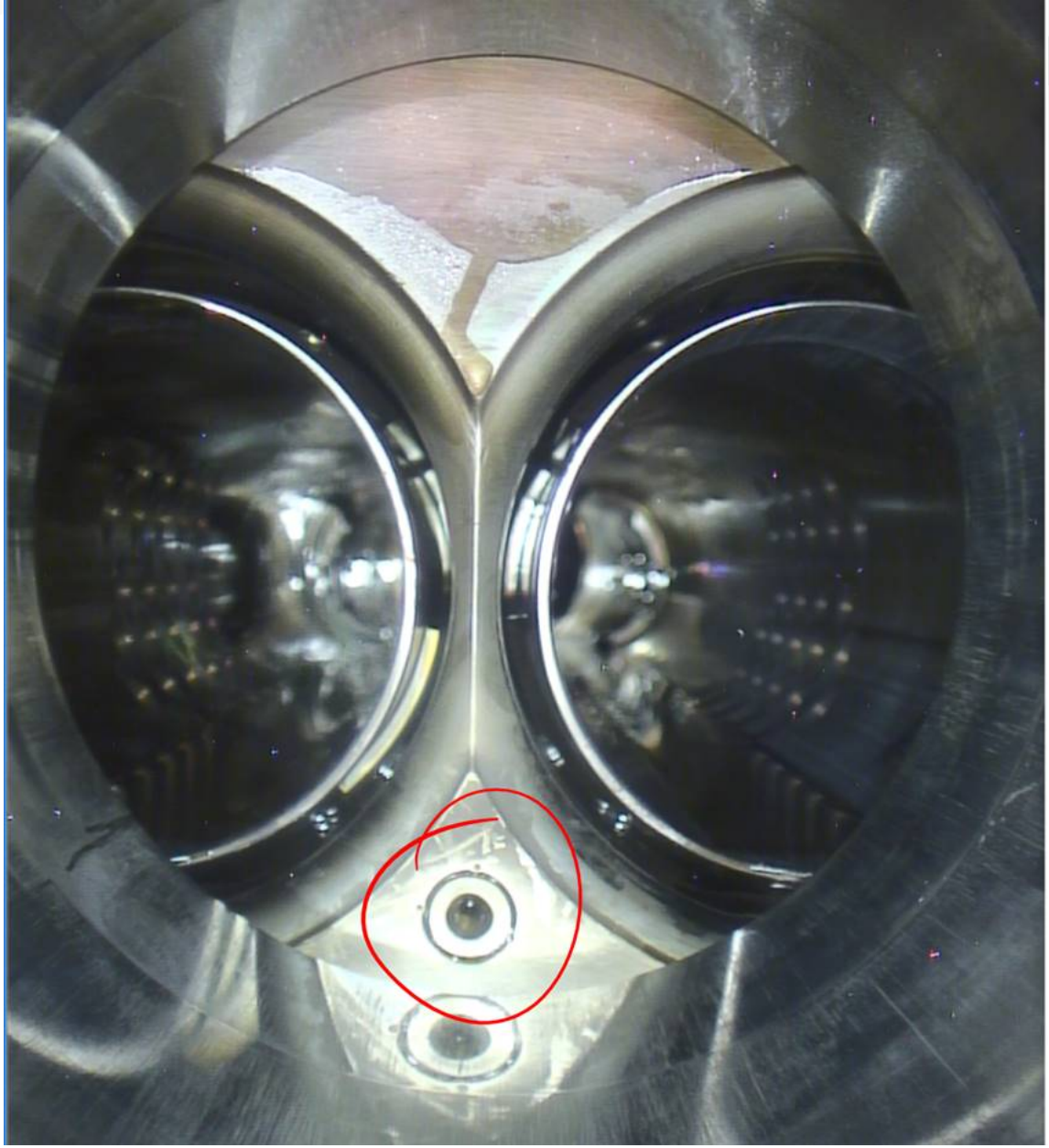



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# Re-evaluation Time

- Microshield re-runs using ~2” of 304 Stainless
- ~30 Ci Co-60
- ~240 000 rem/hr contact
- Existing flask no longer sufficient!!
- Rush order of 550 interlocking lead bricks approved, $60kUSD
- Robotic disassembly planning underway



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WE'RE GONNA NEED
A BIGGER BOAT.

- Large and powerful robot capable of lifting heavy items and manipulating large objects.  Configurable to deploy different tools in varying situations and make online vault entries.



## More to follow at the 2019 Symposium

# Questions?



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