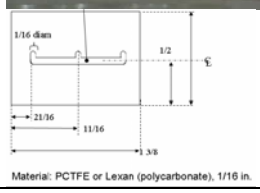
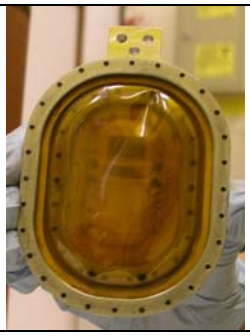
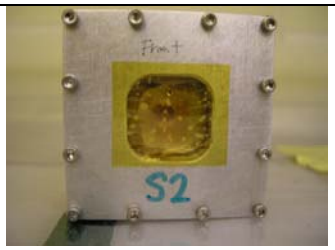
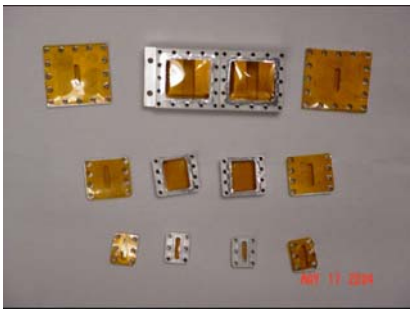
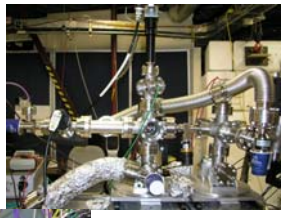
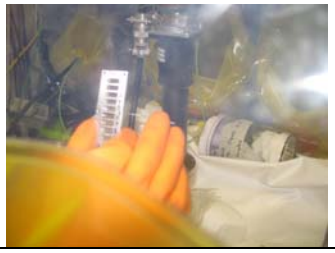
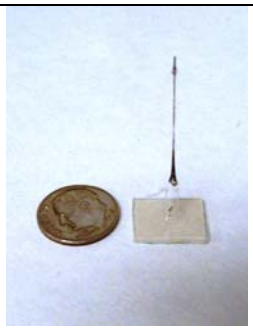
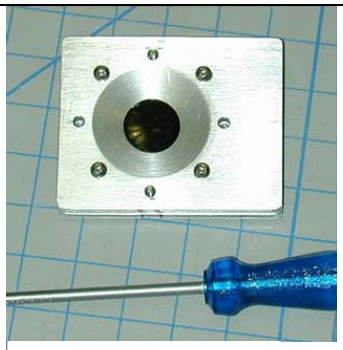
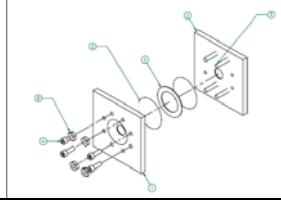
SSRL Radioactive Material Sample Holder Catalog

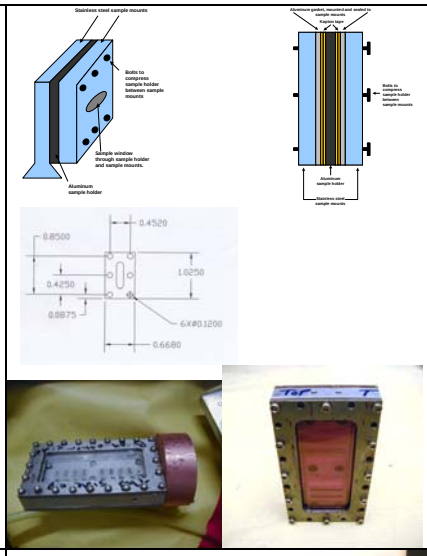
7/25/08

Hazard Class Category Containment #	**3 Layer containment for Very High Radiotoxicity (Group 1)**	
1.a	LBNL Lexan or aluminum sample holder with kapton tape surrounded by 2 each individual heat sealed plastic bag. Layer 1- Kapton Tape, sealed Layer 2- Heat sealed plastic bag Layer 3- Heat sealed plastic bag **Physical Approvals:** Ambient temperature	   Material: PCTFE or Lexan (polycarbonate), 1/16 in.
1.b	Sample holder with lexan windows and indium seam Layer 1-Lexan window with indium seal Layer 2-Aluminum with Kapton tape, screws Layer 3-durable plastic bag or BL11-2 prep room tent inside prep room. Cryostat S Steel housing assembly with kapton windows and bolting ring outside of BL 11-2 prep room **Physical Approvals:** Ambient temp Cold	 
1.c	LANL cryostat sample holder Layer 1- Layer 2- Layer 3- **Physical Approvals:** Ambient temp Cold	

1.d	USGS cryostat holder Layer1- Layer 2- Layer 3- **Physical Approvals:**	
1.e	G-XAS cell One sample per cell = ^{231}Pa sorbed onto TiO_2 single crystal. Maximum activity : 15000Bq - Doubly contained crystal in two sealed polyethylene envelopes. Check for no contamination of each envelope. - External envelope glued onto the cell surface. - Cell cap (polyamide 0.7 mm thick) sealed with Viton o-ring. - Additional glue in the thread. Layer 1-polyethylene Layer 2- Layer 3- Cell cap (polyamide 0.7 mm thick) sealed with Viton o-ring. **Physical Approvals:** Nominal operating conditions of BL 11-2 at 17 keV (focused beam).	
1.f	Diamond anvil cell Layer 1 Layer 2- Layer 3- **Physical Approval:** Pressure	
1g	**LBNL** Triple contained aluminum holders with Kapton or Mylar windows. Fit into cryostats. Layer 1-nested, 1 side is epoxied window, other side is indium wire pressed with lid and cap screws. Layer 2 – nested, 1 side is epoxied window, other side is indium wire pressed with lid and cap screws. Layer 3-Outer 1 side is epoxied window, other side is indium wire pressed with lid and cap	

	screws. **Physical Approvals:** Ambient temp, Cold	
1h.	LANL Conradson Layer 1 polystyrene Layer 2 Stainless Steel Chamber Layer 3 Glovebag	  
	1 Layer containment for Low Radiotoxicity (Group 4)	
4.a		
4.b	Slotted metal sample holder with unpolished polystyrene sample material Layer 1-polystyrene	 
4.c	Slotted metal Al sample holder with kapton tape and bolting ring Layer 1-Epoxied sealed kapton tape 1 side, indium sealed cap screw inside bolting ring, cap screws on kapton tape other side. **Physical approvals:** Room temperature	
4.d	Epi tube, screw top Layer 1-plastic vial, screw top with rubber gasket. Plastic seal bag secondary. Uses-Liquid sample in 2 mL, screw-top, polypropylene centrifuge tube inside three layers of heat-sealed plastic.	 

	Physical approvals: Room temperature	
4.e	Epi tube, heat sealed Layer 1-Sample tube with glue? sealed cap in plastic bag. Uses: Lukins, LBNL Powder sample in heat-sealed plastic tube (actually a plastic pipette in this case although I also use heat sealed Epi tubes) inside three layers of heat-sealed plastic. **Physical approvals:** Room temperature	
4.f	Layer 1-quartz capillaries with flame sealed ends. X-ray scattering. Layer 2-Must be used with a secondary protective containment. **Physical approvals:** Room temperature	
4.g	John Barger Holder kapton (polyimide) or mylar (PET, polyester) or mica window adhesive-backed film with thickness .0025 to .010 in. Windows will be self-secured (via adhesive backing) to sample holders. A layer of window material will be applied to overlap around the margins of the sample holder to reinforce the seal provided by the adhesive of the primary tape layer. Layer 1 –Capton , Myl,ar Mica window Al gasket ID of bolting ring	 

4.h	Bolted Aluminum Holder Layer 1- Kapton Tape Aluminum gasket **Physical approvals:** - Room temperature - Cold	
4.i	Carbon Films, LANL loaded inside vacuum chamber device Uranium Layer 1-Polished polystyrene inside plastic. (polished polystyrene alone is not approved as primary containment) **Physical Approvals:**	
4j	LBNL Kapton film with indium seal and cap screws. **Physical approvals** Ambient, Cold, vacuum	
4k	SLAC, Uranium capillary Kapton film with plexiglass and aluminum/plastic caps. capscrews and O- ring on ends.