

**Subject:** L0900002-v1: VRB request: all SmCo magnets UHV compatible?

**From:** Dennis Coyne <coyne@ligo.caltech.edu>

**Date:** Wed, 07 Jan 2009 19:26:07 -0800

**To:** John Worden <worden\_j@ligo-wa.caltech.edu>, Rainer Weiss <weiss@ligo.mit.edu>, Mike Zucker <mike@ligo.mit.edu>, Fred Raab <raab\_f@ligo-wa.caltech.edu>, Riccardo DeSalvo <desalvo@ligo.caltech.edu>

**CC:** Norna Robertson <nroberts@ligo.caltech.edu>, Janeen Romie <janeen@ligo-la.caltech.edu>, Dennis Coyne <coyne@ligo.caltech.edu>

LIGO-L0900002-v1

Vacuum Review Board:

The current list of LIGO Vacuum Compatible Materials, [E960050-B](#), lists SmCo (samarium-cobalt) magnets (specifically Remco-18(TM)) as "provisionally" approved. As you are all aware, enhanced LIGO has SmCo magnets installed for the test masses. (E960050-B clearly needs to be updated.)

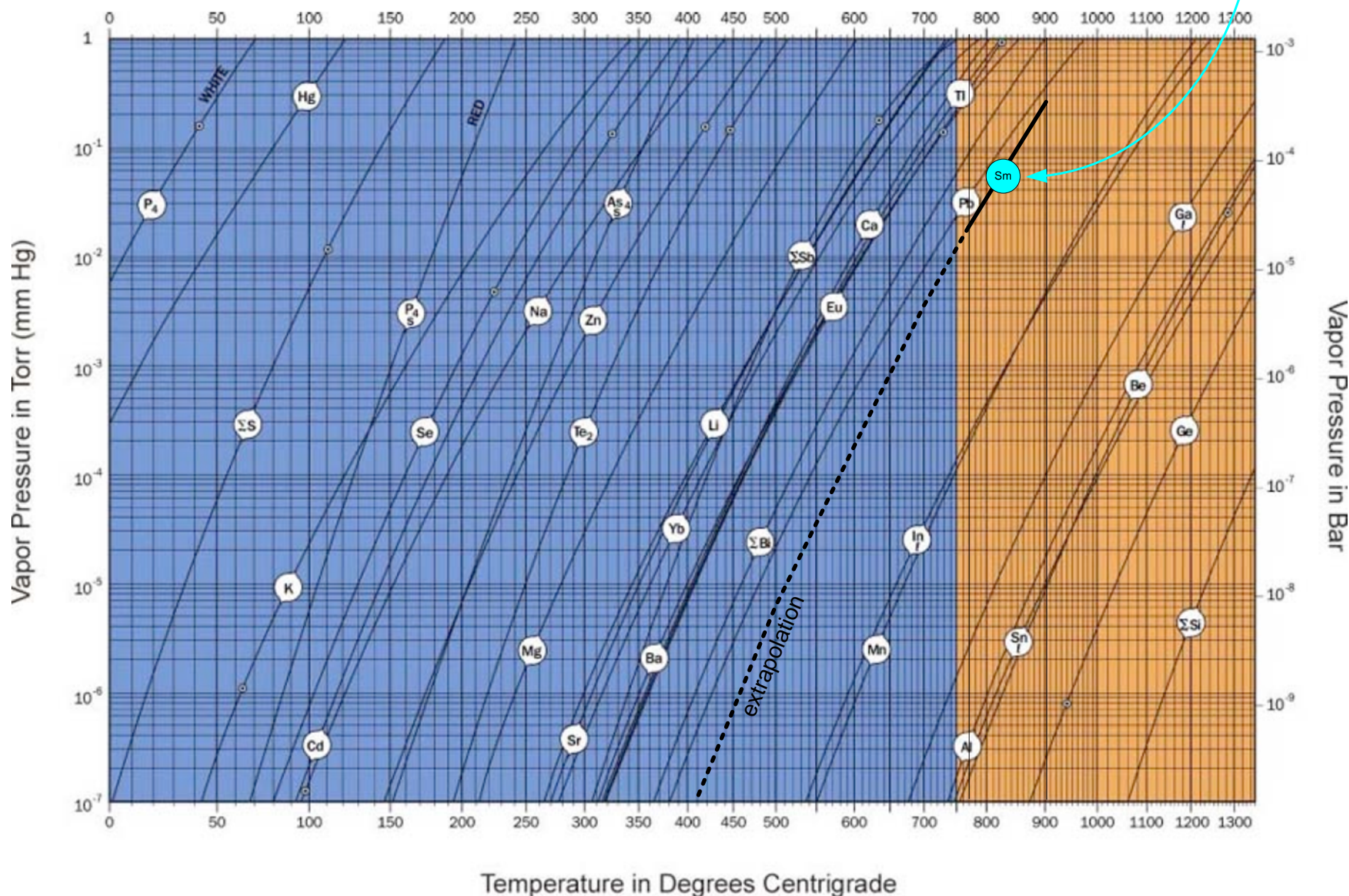
I write to petition that all forms and sources of SmCo be accepted as inherently vacuum compatible materials since the vapor pressure of both Sm and Co is exceedingly low (see attached annotated vapor pressure chart). Do you concur?

Dennis

P.S. This request is also posted to the [VRB wiki log](#)

<b>Sm_Co_vapor_pressure.pdf</b>	<b>Content-Type:</b> application/pdf
	<b>Content-Encoding:</b> base64

# Vapor Pressure of the Elements I





# Vapor Pressure of the Elements II

