

## Alicia Mullins

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**From:** David Pickett  
**Sent:** Friday, May 05, 2006 5:41 PM  
**To:** Scott Painter  
**Subject:** Pu solubility  
**Attachments:** DOE Pu Solubility table partial.xls

**Follow Up Flag:** Follow up  
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Scott,

The log[Pu] look-up table is attached.

I looked again at DOE's log[Pu] uncertainty term based on thermodynamic data uncertainty (the fluoride term is insignificant). It is a truncated, +/- 2-sigma normal distribution with a mean of 0 and one-sigma of 1.0 (ANL-WIS-MD-000010 REV 03, page 6-56). This could give some high concentrations that could control the overall result. Would it be possible to calculate the distribution with and without this uncertainty term included?

Thanks,

David

Log [Pu], mg/L

ANL-WIS-MD-000010 REV 03, Table 6.5-1

pH	Log f(CO2)		
	-2	-2.5	-3
5.5	-0.762	-0.87	-0.911
5.75	-0.917	-1.08	-1.15
6	-1.03	-1.27	-1.37
6.25	-1.12	-1.42	-1.58
6.5	-1.17	-1.54	-1.77
6.75	-1.21	-1.62	-1.92
7	-1.23	-1.67	-2.04
7.25	-1.24	-1.7	-2.12
7.5	-1.24	-1.72	-2.17
7.75	-1.23	-1.72	-2.2
8	-1.17	-1.71	-2.2