December 4, 2008

FROM: Larry Jensen, PINES Group
TO: Timothy Drexler, USEPA – Region 5

This is in response to your email of October 16, 2008, regarding "Pines – Rad Sample Clarifications" and the subsequent information you emailed me on November 21, 2008.

EPA Comment: the U-238 and U-235...

The response that these samples were aqueous equipment blanks clarified the issue. This issue is resolved.

EPA Comment: For the one radium...

The response that this was an aqueous equipment blank clarifies why the concentrations were so high and resolves that issue.

However, there was no response on why the uncertainties were higher than the measured result

Ra-226	8.48 +/- 12.3 pCi/L
Ra-228	12.1 +/- 16.4 pCi/L

The results could be much higher than that expected for a blank. Why does this not result in unusable data?

EPA Comment: For the one uranium...

The response that this was an aqueous equipment blank clarifies why the concentrations were so high and resolves that issue.

However, there was no response on why the fact that the uncertainties were higher than the measured results

U-234	11.4 +/- 12.4 pCi/L
U-235	11.6 +/- 28.1 pCi/L
U-238	161 +/- 346 pCi/L

The results could be much higher than that expected for a blank. Why does this not result in unusable data?

EPA Comment: The measurements for U-238...

It is understood that Client Sample ID: GP004ICB092305B is a blank. It is assumed that the same sample was analyzed by both gamma spectroscopy and by ICP-MS. It is not clear why, when uranium concentrations by gamma spectroscopy are converted from pCi/L to ug/L, they do not compare to ICP-MS concentrations.

	Gamma Spectroscopy	ICP-MS
U-235	(11.6 pCi/L) 5.273 ug/L	0.070 ug/L
U-238	(161 pCi/L) 473.5 ug/L	0.200 ug/L

This issue is not yet resolved.