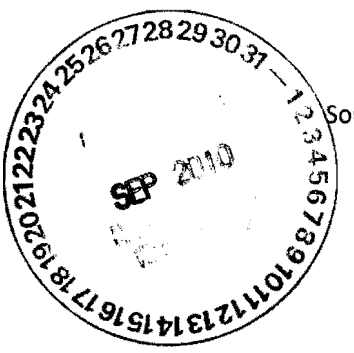
TAQ3



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DCN: NMED-2010-28

Mr. David Cobrain
Hazardous Waste Bureau
2905 Rodeo Park Dr. E/Bldg 1
Santa Fe, NM 87505

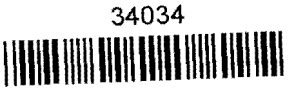
RE: Draft Evaluation of the *Nest Box Monitoring Report for the Upper Pajarito Canyon Watershed*, Los Alamos National Laboratory, dated August 2010.

Dear Mr. Cobrain:

This letter addresses the evaluation of Los Alamos National Laboratory's (LANL) *Nest Box Monitoring Report for the Upper Pajarito Canyon Watershed* (August 2010). Overall, the primary concern is that insufficient data have been collected to justify eliminating additional monitoring. The following summarizes the primary concerns.

1. The conclusion of the nest box study for Pajarito Canyon was that further characterization of cavity-nesting birds and their food for metals in the Pajarito watershed reaches is not warranted based on the exposure evaluation calculated using nest box insects collected in 2009. However, this conclusion is based upon fairly limited data. Metals data (excluding mercury) were available for two sampling events (2007 and 2009), while mercury data were only available for a single sampling event (2009). As noted in the "Pajarito Canyon Biota Investigation Work Plan" (July 2006), "The primary tool for risk characterization of potential effects on abundance is trend analysis versus predicted hazard quotient (HQ) for COPECs [constituents of potential ecological concern] (e.g., polychlorinated biphenyls [PCBs] and inorganic chemicals). Concentrations in eggs and insects will be used to generate central tendency estimates and upper bound concentrations (95% upper confidence limit) of inorganic chemicals, PCBs, and semi-volatile organic chemicals (SVOCs) in eggs and insects." It is not clear that sufficient data have been collected to adequately develop any trends or conduct statistical analyses. For example, how can one year of data for mercury be used to assess trends or develop a central tendency estimate or upper bound concentration? Based upon the limited data provided in the "Nest Box Monitoring Report for the Upper Pajarito Canyon Watershed," it does not appear that the data objectives of the biota investigation work plan have been met and that additional data for inorganics (in addition to the proposed polychlorinated biphenyl, PCB, data) are needed.

2. The "Pajarito Canyon Biota Investigation Work Plan" (July 2006) indicates that nest box studies will include an evaluation of the potential impacts from semi-volatile organic



chemicals (SVOCs). It is not clear from the nest box monitoring report that sampling is proposed or panned for SVOCs. Clarify this issue.

3. The nest box report further states that, "Other lines of evidence for evaluating risks to cavity-nesting birds include field measures of nest success. Such studies have not identified any potential for ecological risk in the Pajarito watershed. For example, robust evaluations based on a long record of observations of sex ratios of fledgling birds have shown no statistically significant differences in sex ratios between canyons or watersheds (Fair et al. 2009, 106686). Thus, there is no indication of contaminant effects on sex ratios across the monitoring network or based on the field measures of nest success evaluated in this report. Overall, the weight-of-evidence indicates that COPECs in the Pajarito reaches do not pose a potential risk to population abundance or persistence and species diversity of avian ground invertivore feeding guild species." First, clarify whether the referenced data consists of a sole year or several years of observations (e.g., 2006 to present). Second, the biota work plan indicates that shell thickness will also be monitored and that scatter plots to evaluate trends in nest success and eggshell thickness along gradients in elevation or COPEC concentrations will be developed. It is not clear that these data have been collected or that sufficient data have been collected to develop a trend analysis or that any robust analysis of all the data has been conducted. Clarify these issues.

4. Several of the hazard quotients provided in Table 3 are significantly elevated (one to two orders of magnitude) compared to the target hazard level of 1.0. Based on the limited amount of data combined with the elevated HQs, sufficient lines of evidence have not been provided to adequately demonstrate that there are no adverse impacts to cavity-nesting birds. It appears that additional data and refinement of the risk assessment is needed to draw any conclusion as to impact on this class of birds.

If you or any of your staff have questions, please contact me at (801) 451-2864 or via email at paigewalton@msn.com.

Thank you,

Paige Walton
AQS Senior Scientist and Project Lead

cc: Dan Comeau, NMED (electronic)
Joel Workman, AQS (electronic)