Los Alamos

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

memorandum

TO: Distribution

DATE: February 23, 2001

FROM: Charlie Nylander, ESH-18 CN/SR

MAIL STOP/TELEPHONE: K497/5-4681

SYMBOL: ESH-18/WQ&H:01-075

SUBJECT: **QUARTERLY MEETING NOTES-JANUARY 30, 2001; CHANGES**

You have recently received the Quarterly Meeting Notes regarding the meeting held January 30, 2001. My transmittal memorandum for those minutes requested notification of any substantive changes that should be made. I have received the enclosed clarification of the minutes from David Rogers, Water Quality & Hydrology Group (ESH-18), and am forwarding it to the distribution list as an addendum to the minutes. Thank you.

CN/rm

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Los Alamos National Laboratory
Los Alamos, New Mexico 87545

memorandum

TO: Charlie Nylander, ESH-18, MS K497

DATE: February 22, 2001

FROM: David B. Rogers, ESH-18

MAIL STOP/TELEPHONE: K497/7-0313

SYMBOL: ESH-18/WQ&H:01-074

SUBJECT: **STRONTIUM-90 DISCUSSION AT JANUARY 30, 2001 QUARTERLY MEETING**

I would like to clarify part of the January 30, 2001 Hydrogeologic Characterization Program Quarterly Meeting notes regarding my discussion of strontium-90 and detection limits with Don Diego Gonzales.

In this discussion I answered questions from Don Diego Gonzales regarding whether or not strontium-90 had been detected in the regional aquifer beneath Los Alamos National Laboratory. I described the difficulties with interpreting radiochemistry results that are near the detection limit and mentioned that we should rely on results from a group of samples collected over a period of time rather than an individual result. This is the case because an individual sample or analysis can be subject to analytical problems or contamination during sample collection.

I also mentioned that because of its chemical behavior, strontium-90 would probably not be found in just one sample from a location. Strontium-90 is readily adsorbed to sediments and rocks, and a small portion continually desorbs into the adjacent water. As a result, strontium-90 will continue to be found at about the same activity level in repeated sampling. I mentioned results from monitoring the alluvial groundwater in Los Alamos and Mortandad Canyons as an example of this consistency for repeated strontium-90 observations. Unfortunately it was not clear in the meeting notes that my discussion referred to the shallow groundwater rather than the regional aquifer beneath these canyons.

Strontium-90 contamination is present at Los Alamos National Laboratory in the shallow alluvial groundwater and surface water of Acid Canyon, Los Alamos Canyon, and Mortandad Canyon. Based on 25 years of environmental monitoring, there is no reliable evidence that this contamination has affected the underlying regional aquifer, which provides drinking water to Los Alamos County.

DR/rm

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