

# CIMARRON CORPORATION

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November 20, 2007

Mr. Kenneth Kalman  
Office of Nuclear Materials Safety & Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Re: Docket No. 70-925; License No. SNM-928  
Subsurface Soil Data for Subarea F

Dear Mr. Kalman:

Cimarron Corporation (Cimarron) submitted a final status survey report for Subarea F that fully satisfies the requirements of the NRC-approved final status survey plan. NRC was aware of licensed material impact in groundwater in Subarea F when they approved the final status survey plan. Surveys performed by NRC's contractor during the removal of licensed material from the former burial trenches in Burial Ground #1 had already demonstrated that the unrestricted release criteria for soil (the "Criteria") had been met in the vicinity of the trenches.

Cimarron submitted the final status survey report for Subarea F in September 2005. NRC requested, in addition to the data required by the final status survey plan, additional information on subsurface soil in this area, and recommended the use of the subsurface volumetric averaging method described in the AAR Paper, "Method for Surveying and Averaging Concentrations of Thorium in Contaminated Subsurface Soil".

Cimarron understands NRC's concern regarding the potential for subsurface soil contamination near the former burial trenches. Subsurface soil in the area surrounding or downgradient of the former burial trenches may have been impacted by sorption of licensed material from contaminated groundwater migrating from the trenches. Subsurface soils should therefore be evaluated adjacent to and downgradient from the trenches to identify any soil exceeding the Criteria. NRC may not recall that NRC already has four sets of subsurface soil data from the area surrounding the former Burial Ground #1 (designated as Burial Area #1). Because these data have never been compiled and presented together, Cimarron submits the attached report to:

- Describe the history of work performed in Burial Area #1,
- Compile the subsurface data NRC already has for this area, and
- Present that data in a format demonstrating that no further investigation is warranted.

Much of the data presented in the attached report represents soil beneath, adjacent to, or downgradient from the former burial trenches; this data is biased high relative to that which would be produced in a systematic sampling effort. The samples were collected as part of two separate efforts.

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In 1991, after the burial trenches were excavated, Cimarron and ORAU collected samples to verify that all material exceeding the criteria has been removed. This *systematic survey* demonstrated that there is no residual source.

During 1999 and 2002, Cimarron performed additional investigation to delineate uranium-impacted groundwater. Cimarron advanced soil borings and installed groundwater wells, starting in the vicinity of the most contaminated wells and proceeding down- and cross-gradient. As a result, samples collected during 1999 and 2002 were collected from that portion of Subarea F representing the greatest potential for contamination by licensed material.

Unless a grid system were confined to the area within which groundwater concentrations are highest, borings advanced on a systematic grid would assess areas where groundwater concentrations are lower than the area already investigated. The potential for soil to exceed the Criteria outside the plume is significantly lower than in areas already investigated. The three-dimensional presentation of the 1991 data demonstrates this. Since every one of the 2,000 data points is below the Criteria, the expense of such an investigation is unwarranted. Consequently, Cimarron maintains there is no reason to perform additional surveys in Burial Area #1.

NRC also requested the use of the volumetric averaging methodology stipulated in the license. Volumetric averaging is not needed for Burial Area #1 because volumetric averaging is used to evaluate subsurface volumes of material that exceed the Criteria. Since no samples exceed the Criteria, it is not ALARA to invest significant additional expenditures in an effort to identify an unlikely small volume of material to which volumetric averaging could be applied.

NRC concurrence that soil in Subarea F complies with the decommissioning criteria would alleviate both regulatory and technical issues associated with the remediation of groundwater in Burial Area #1. The expenditure of significant effort to treat releasable soil as contaminated material is not ALARA. Cimarron therefore requests NRC concurrence, as originally requested in the September 8, 2005 submittal, that soil in Subarea F complies with the unrestricted release criteria for soil specified in License Condition 27(c).

If you have any questions regarding this request, please call me at 405-775-5194 (OKC) or 405-642-5152 (mobile).

Sincerely,



Jeff Lux  
Project Manager

Cc: Blair Spitzberg, NRC Region IV  
David Cates, DEQ  
Mike Broderick, DEQ