

# STATE OF COLORADO

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Dedicated to protecting and improving the health and environment of the people of Colorado

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Colorado Department  
of Public Health  
and Environment

January 4, 2006

Mr. Bill Boyes  
City of Boulder  
PO Box 791  
Boulder, Colorado 80306

Subject: The City of Boulder's Proposed Actions at the Valmont Butte Site

Dear Mr. Boyes:

We have reviewed Terracon's report with regards to the City of Boulder's proposed actions at the Valmont Butte site and have the following comments.

## CAP RESTORATION

Terracon proposes to conduct a survey on a 100-foot by 100-foot survey grid and using a cleanup level of 60 uR/h (approximately three times the measured background level of 19 uR/hr). Our standard procedure is to take gamma readings on 10 meter by 10-meter grids. This is based on Criterion 6(6) of Part 18 Appendix A of the *Colorado Rules and Regulations Pertaining to Radiation Control* which says at any portion of land at a disposal site apply unless such portion contains a concentration of radium in land, averages over the area of 100 square meters, which as a result of byproduct material does not exceed the background level by more than 5 picocuries per gram of radium-226. Also, it is recommended that readings be taken at each prairie dog hole.

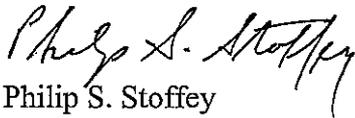
The clean-up level of 60 uR/hr is very high. This should be verified with soil sampling. The CDPHE surveyor indicated in his report that levels of greater than 30 uR/hr were considered to be contaminated. Our experience at numerous radium-contaminated sites concurs that a clean-up screening objective of 30 uR/hr is more appropriate. The plan does not include doing any soil radium-226 confirmatory soil sampling. By using a gamma screening level of 30 uR/hr to determine areas to be covered with 18 to 24 inches of clean imported fill on 10- meter by 10-meter grids would be acceptable to us without the confirmatory soil sampling. The gamma screening level of 30 uR/hr should be used throughout the site.

SURFACE SOIL AREASMANAGEMENT-LEAD AND ARSENIC-IMPACTED SOIL

The plan on page 4 indicates that “ Excavation locations exhibiting a lead concentration greater than 800 mg/kg or an arsenic concentration greater than 1.9 mg/kg will be excavated an additional 12-inches and re-sampled”. The arsenic level clean-up level is satisfactory as this is close to our experience for background soils along the Front Range, but the lead level objective should be 400 mg/kg consistent with the HMWM Division’s *Soil Remediation Objectives Policy Document*.

If you have any questions with regards to this letter, please call me at 303.692.3452 or Joe Vranka, Manager of the Radiation Control Program, at 303.692.3402.

Yours Truly,



Philip S. Stoffey  
Environmental Protection Specialist  
Remediation Program  
Hazardous Materials and Waste Management Division

File: Valmont Butte  
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