



Matt Blunt, Governor • Doyle Childers, Director

## DEPARTMENT OF NATURAL RESOURCES

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DEC 29 2005

Mr. Daniel Vornberg  
Vice President Environmental Affairs  
The Doe Run Company  
1801 Park 270 Drive, Suite 300  
St. Louis, MO 63146

Dear Mr. Vornberg:

I am writing to discuss several interrelated issues regarding The Doe Run Company's Herculaneum primary lead smelter and the Herculaneum Voluntary Property Purchase Plan (VPPP) area. These issues include soil recontamination; high levels of interior and exterior residential dust contamination; the disposition of Doe Run-owned and other residences in the Herculaneum VPPP area; a designated non-residential area between the smelter and residential areas; soil action levels; additional controls on smelter, transportation and materials handling, and other processes to prevent releases; and possible future re-development of the Herculaneum VPPP area. Now that the purchase phase of the Herculaneum VPPP is nearing completion, we need to work together on a clear path forward resulting in a sustainable outcome for the Herculaneum community and Doe Run that is protective of public health and the environment. Based on our analyses of soil recontamination data, DNR believes that non-residential uses of the entire Herculaneum VPPP area is the most prudent path forward.

The Department of Natural Resources (DNR) believes Doe Run's substantive responses to actions taken by the DNR and the U.S. Environmental Protection Agency (EPA) have resulted in improved conditions in Herculaneum. However, we believe the weight of the current evidence, including but not limited to air monitoring data approaching and recently exceeding the National Ambient Air Quality Standard (NAAQS) for lead; upward trends in soil recontamination data; elevated levels of lead in residential dust; continued elevated lead levels in road dust; the EPA's speciation and bioavailability data; and agency observations of company operations indicates that challenges and opportunities remain to be addressed. As we move forward, we may need to discuss formalizing remaining current and future actions in a new settlement agreement, administrative order on consent, or other enforceable mechanism.

### RECONTAMINATION

In January 2005, the DNR completed its report entitled "Analysis of Lead Recontamination and Deposition in Soils Adjacent to The Doe Run Company's Herculaneum Smelter, Herculaneum, Missouri." This report documented the DNR's statistical analysis of lead re-deposition data from periodic soil sampling and analysis conducted in Herculaneum by the EPA. Since the report was completed, the DNR has periodically updated and refined its analysis of the EPA's re-deposition

data upon receipt of new data. These statistical analyses of the re-deposition data indicate significant residential soil recontamination is occurring within 0.75 mile of Doe Run's Herculaneum smelter. Our analyses indicate residential soils within the Herculaneum VPPP area and areas beyond will be recontaminated to unacceptable levels within relatively short periods of time. Soil recontamination at these rates is an unacceptable and unsustainable long-term outcome for the Herculaneum community.

The re-deposition data is sufficient for us to make conclusions about re-contamination rates and areas of impact. However, soil re-deposition sampling and analyses will be needed for the foreseeable future due to potential changes in conditions leading to lead deposition and possible spatial variations in the rates of re-deposition. The DNR will continue to update its statistical analysis of the re-deposition data as new data becomes available, and we will monitor the need for response actions if and when recontamination causes action levels to be exceeded.

We are concerned about interior and exterior residential dust contamination. Based on monitoring data, home interior dust cleanings appear to be generally effective. However, clear trends in residential dust re-contamination are difficult to discern due to inconsistencies in data collection, including the changing universe of monitoring locations. Some interior and exterior residential dust levels are elevated above levels of concern, and re-contamination is possible.

#### DOE RUN-OWNED HOMES IN THE HERCULANEUM VPPP AREA

The DNR believes the re-deposition study is now sufficiently complete for purposes of making decisions regarding the Herculaneum VPPP area according to the April 2002 Settlement Agreement between Doe Run, the DNR, and the Attorney General's Office (AGO). Paragraph 22 of the April 2002 Settlement Agreement states in pertinent part:

"Following the purchase of a home, Doe Run shall leave the residence vacant until such time as either Doe Run demolishes the residence or the re-deposition studies, which will use monitoring that begins after June 1, 2002, are complete and the Department of Health and Senior Services, the DNR, the City [of Herculaneum] and Doe Run agree re-occupancy of a residence is not a risk to human health."

Based on our soil re-deposition data analyses, the DNR does not agree that general re-occupancy of residences in the Herculaneum VPPP area is protective of human health in the long-term without continued response actions. On the contrary, the DNR believes continued releases of lead from smelter, transportation and materials handling, and possibly other processes; the lead load in the area from past smelter operations and practices; and recontamination of residential soil and interior and exterior dust may pose long-term risks to human health. The EPA has conducted bioavailability and speciation analyses of samples of materials collected from the smelter facility and the Herculaneum community. The results of these analyses indicate the

sources of lead contamination are mostly related to smelter processes, and the bioavailabilities of many of these materials are high.

Doe Run must proceed with demolishing all homes within the Herculaneum VPPP area pursuant to paragraph 22 of the Settlement Agreement. The demolition of homes must be conducted in compliance with all applicable federal, state, and local laws, regulations, and ordinances, and with all necessary permits and notifications. This includes all necessary environmental permits and other applicable requirements, such as proper management of asbestos containing materials and demolition wastes.

Doe Run had previously requested the DNR approve re-occupancy of Doe Run-owned homes in the Herculaneum VPPP area by Doe Run employees. During a meeting on September 8, 2005, between the DNR and Doe Run representatives at the Herculaneum facility, you stated the company was withdrawing its requests for employee re-occupancy of Doe Run-owned homes in the Herculaneum VPPP area. The DNR believes this is a prudent decision by the company and would discourage any future requests for re-occupancy of homes in the Herculaneum VPPP area by people from outside the VPPP area. Doe Run must proceed with demolishing homes in the Herculaneum VPPP area according to the Settlement Agreement, and consider working toward non-residential redevelopment of the Herculaneum VPPP area that is protective of public health and the environment.

#### DESIGNATED NONRESIDENTIAL AREA

Unfortunately, it appears soil and possibly interior and exterior residential dust recontamination has not been effectively prevented by additional controls on smelter air emissions and improved transportation and materials handling. "It is the DNR's goal to have a healthy environment for Herculaneum citizens while allowing Doe Run to operate in the cleanest manner achievable. The weight of evidence suggests these goals may be mutually exclusive unless a substantial "buffer zone" can be established between the plant and the surrounding community. Doe Run and DNR representatives have discussed establishing a non-residential area between the Herculaneum smelter and residential areas of Herculaneum, although to date there has been no agreement on the size of such a permanent non-residential area.

Doe Run's original proposed area within the Herculaneum VPPP area to be vacated was incorporated into the Second Modification of the May 2001 Administrative Order on Consent (AOC). Doe Run agreed in paragraph 13 of the Second Modification of the AOC that with respect to residences it owns in this area, once the properties became vacant, they would not ever be used for residential purposes. Doe Run has recently proposed expanding the area to be vacated to include additional residential properties and properties owned by the city of Herculaneum, and has developed a schedule for demolishing the houses in this area. However, Doe Run would have to acquire properties from current residents it did not acquire through the

Settlement Agreement and Herculaneum VPPP, including the city-owned properties in order to completely vacate this area.

Doe Run has proposed offering the remaining residents in its current proposed area to be vacated the opportunity to move to other Doe Run-owned homes on the outskirts of the Herculaneum VPPP area, if the residents agree. The DNR is willing to consider this on a case-by-case basis depending on the potential for health concerns. Additionally, before the department will approve such a relocation, the property to be reoccupied must receive necessary and appropriate yard soil replacement, home interior and exterior cleaning, and lead-based paint remediation according to current approved procedures. Periodic soil and home interior and exterior dust re-contamination monitoring should also be conducted for these homes, including pre-cleanup and post-cleanup baseline sampling and analyses. The DNR will need to consider whether it must grant formal exceptions to residency prohibitions according to the Settlement Agreement in these cases.

DNR staff have surveyed the locations of additional ambient air monitors with you, and the Air Pollution Control Program (APCP) is considering Doe Run's proposal to relocate monitors and revise the ambient air monitoring network. Doe Run must submit a revised air monitoring plan for review and approval by the APCP before the new monitoring network can officially be activated.

In general, the DNR's starting point for any permanent non-residential area between the smelter and residential areas is the full extent of the Herculaneum VPPP area. The re-deposition data indicate that significant soil recontamination is occurring out to at least 0.75 mile from the facility, which indicates the Herculaneum VPPP area is not an overly conservative permanent non-residential area around the smelter facility. To the contrary, it is apparent that additional control measures at the facility and/or additional periodic yard and dust remediation will be necessary for remaining homes within the VPPP area and out to 0.75 miles away from the smelter. Unless Doe Run takes drastic and measurable steps that significantly reduces emissions leading to residential yard and road recontamination, the DNR considers the entire Herculaneum VPPP area to be the current designated non-residential area. The ultimate goal is to eventually completely vacate the Herculaneum VPPP area and demolish all of the homes. Toward that goal, Doe Run must submit to the DNR a schedule for demolishing the remaining homes it owns in the Herculaneum VPPP area. The department encourages Doe Run to look for opportunities for commercial/ industrial, and/or other appropriate non-residential re-use of these properties that are protective of human health.

#### CONTROLS ON RELEASES FROM SMELTER AIR EMISSIONS, TRANSPORTATION AND MATERIALS HANDLING, AND OTHER PROCESSES

At the September 8, 2005, meeting at the Herculaneum facility, DNR staff were encouraged by Doe Run's presentation of several proposed new controls to reduce air emissions in response to violations of the lead NAAQS during the first and second quarters of 2005. Subsequent to the



September meeting, Doe Run Herculanum recorded its third consecutive calendar quarter violation for the July-August-September quarter. It is imperative that Doe Run reduce its lead air emissions to levels that are consistently in compliance with the NAAQS, and which minimize to the extent possible the contribution of air emissions to soil and residential dust contamination and recontamination in Herculanum. We look forward to receiving and evaluating more detailed documentation of Doe Run's proposed new air emissions controls.

Doe Run has explained to DNR staff that high levels of lead in air monitoring data on some days may be attributable to atmospheric and wind conditions causing releases of road dust and other fugitive dust from the Herculanum smelter facility. This information and road dust data indicating continued track-out of lead from the facility demonstrates the need for improvements in on-site transportation and materials handling to prevent releases.

At the September 8, 2005, meeting, Doe Run presented a verbal update of the activities of its Best Practices Concentrate Transportation Team. The DNR is concerned that there have been delays in completion of the written report by Doe Run's consultant, which was originally projected to be completed by July 31, 2005. The DNR has waited several months in anticipation of the results of this project and new actions by the company to control releases from transportation and materials handling. The current schedule for completion of this work is unclear. It also remains unclear whether and how the consultant's report will result in revisions to the Transportation and Materials Handling Plan (TMHP) that will in turn prevent, contain, and reduce the effects of releases from transportation and materials handling processes throughout the network of facilities owned and operated by Doe Run and other entities and along all transportation routes.

The DNR has provided extensive comments on the TMHP and related issues, most recently in letters dated November 16, 2004, and June 7, 2005, to which Doe Run has not provided substantive written responses, or a revised TMHP, as requested. The AGO has also exchanged letters with Doe Run on these issues and asserting the state's authority to enforce the TMHP under the Settlement Agreement. Based on the recent verbal updates provided by Doe Run, the DNR remains concerned and disappointed that Doe Run's current efforts address only transportation and handling of concentrates. We continue to believe all on-site handling and on-site and off-site transportation of concentrates and other metal-bearing materials at all facilities and over public roads and other transportation modes must be addressed on a company-wide basis through comprehensive planning, procedures, and management, and improved facilities. We are also concerned that the current efforts as presented by Doe Run entail what have been described as changes. While there is much to be gained from such logistical changes in terms of preventing and containing releases, we continue to believe that significant improvements may be needed at Doe Run's physical facilities, facilities owned and operated by other entities and used by Doe Run, and transport vehicles to significantly reduce releases from transportation and materials handling. We hope that Doe Run recognizes the economic value of preserving its raw materials and products by preventing releases, and the resulting reductions in environmental

liability costs. The related haul route and road dust contamination issues discussed in our previous letters also have not yet been fully addressed. To assist us in evaluating your efforts, we request that you submit a copy of your consultant's complete report when it becomes available, and a revised TMHP, or a schedule for submittal of a revised TMHP incorporating all new controls implemented by the company.

Recent events and observations in addition to those cited by the DNR in past correspondence further illustrate and emphasize the need for comprehensive, company and system wide transportation and materials handling planning and procedures. The agencies have received complaints indicating that Doe Run does not use dedicated transport vehicles for transportation of concentrates and other metal-bearing materials, and that such vehicles are not thoroughly washed before they transport clean materials such as sand, gravel, and soil. This may result in the clean materials being contaminated by residual metal-bearing materials remaining in the trucks. The DNR is currently investigating an instance in which sand was apparently delivered to a ready-mix concrete facility in one or more trucks that had apparently been used to transport lead concentrate. The trucks apparently retained concentrate that contaminated the sand. Some of the concentrate-contaminated sand was delivered to at least one residence for use in a child play area and as base material for an aboveground swimming pool. Agency representatives have observed transportation of crushed lead ore over public roads from Doe Run's mines to the concentrating mills in open top tandem dump trucks without controls to prevent fugitive releases. Doe Run is a participant in cleaning up residential soil along haul routes in southeast Missouri related to releases of concentrates during transportation. The agencies continue to observe releases of fugitive lead from trucks transporting concentrate from the mills to the Herculaneum smelter and other destinations. Observations at the mill facilities and observations and road dust sample analytical data from Herculaneum indicate that metal-bearing materials continue to be tracked out of Doe Run's facilities by transport vehicles. Releases of concentrate into the harbor and on land at the Southeast Missouri Regional Port Authority continue to be documented. Releases have been documented by the agencies at locations away from the mining facilities such as truck drivers' homes and transport company facilities. We have observed concentrate trucks on many different roads, indicating the use of many different routes between destinations along which contamination may occur. Numerous spills of concentrate from truck accidents have been documented, and many of those we are most familiar with have not been adequately cleaned up. It is our understanding Doe Run transports other metal concentrates and metal bearing materials by truck, rail, and barge to other facilities. The transfer and receiving facilities likely have inadequate controls to prevent and contain releases during transport, transfer, and/or storage. We believe it is abundantly clear that changes need to be made in Doe Run's transportation and materials handling plans and procedures on a company-wide and system-wide basis to prevent releases that may cause new contaminated sites, or which re-contaminate sites where cleanups have already been conducted.

#### FUTURE RE-DEVELOPMENT OF THE HERCULANEUM VPPP AREA

In addition to our primary concerns regarding the health and well being of Herculaneum residents, the DNR is concerned about the effects of abandoning the VPPP area. In general, the DNR would be supportive of non-residential redevelopment of the Herculaneum VPPP area in a manner that is protective of public health and the environment. The new road and bridge projects should improve access to the Herculaneum VPPP area, which should in turn make this area attractive for non-residential redevelopment. The EPA has resources available to assist in developing non-residential reuse prospects for the Herculaneum VPPP area.

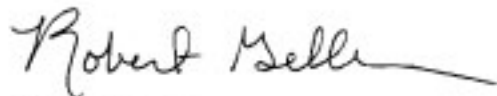
Obviously Doe Run's active participation is essential to any efforts to redevelop the Herculaneum VPPP area, since the company will own the majority of the land. We believe Doe Run's participation in such efforts will benefit the company and the Herculaneum community by promoting economic growth in the "old town" area. Such efforts by the company would be consistent with the contributions of Doe Run and its corporate predecessors to the development and growth of Herculaneum, and would help assure an overall positive legacy for the company in Herculaneum.

The DNR hopes that this letter will serve to open discussions with Doe Run and the other stakeholders, including the city of Herculaneum and interested residents regarding the future of the Herculaneum VPPP area, and the possibilities for viable non-residential reuse of this area.

If you have any questions, you may contact me at the Department of Natural Resources, Hazardous Waste Program, P.O. Box 176, Jefferson City, MO 65102-0176, or by telephone at (573) 751-2747, or Mr. Robert Hinkson of my staff at (573) 751-4187.

Sincerely,

HAZARDOUS WASTE PROGRAM



Robert Geller  
Director

RG:rhl

c: Mr. Jeff Kendall, Mayor, City of Herculaneum  
Mr. Aaron Miller, Doe Run  
Ms. Cecilia Tapia, U. S. Environmental Protection Agency  
Mr. Joe Bindbeutel, Missouri Attorney General's Office  
Mr. Larry O'Leary, Herculaneum Community Advisory Group  
Mr. Gale Carlson, Bureau Chief, Missouri Department of Health and Senior Services