Outline of Comments for AMC concerning
Primary Lead Processing Slag

The comments are proposed to follow the outline of Chapter 10 "Primary Lead Processing" for ease of review and therefore to facilitate the acceptance of the comments.

Philosophy of the comments: In general these report by EPA is as good a report factually as we have seen. For the most part they have gotten it right. The lead sector's goal in the comments is to tune up a few factual matters and to reinforce the agency's inclination to go to Subtitle D+ rather than C or C- regulation. Also we will reinforce the recycling of some of these materials where use constituting disposal is truly environmentally acceptable.

10.1 Industry Overview

- Insert the Chamber's letter on uses of lead to educate whoever happens to read the comments about the upside uses of lead.

- Industry and process description essentially correct - We could improve the description of the dross furnace operation but since they arrive at the correct conclusion the a dross plant and refinery drosses are not solid waste this description improvement is not necessary.

10.2 Waste Characteristics, Generation and Current Management Practices

- It appears pointless to argue the EP tox test versus water leach etc. Since EPA is apparently going to make this waste a D+ it does not help our case to argue about how much leaching under what conditions occurs. Our argument is essentially already won.

- We could reinforce and support EPA's conclusion about dross and refinery slags but I am afraid that will only bring them to the attention of the environmentalist reviewing our file?? What do you think?

- To protect E. Helena from a mandatory recycle provision, we should probably have a short discussion of how concentrate quality affects recycling of slag and the volume of slag generated. We may want to update slag volume generation for Doe Run based on improved concentrate quality over the

last number of years.

10.3 Potential and Documented Danger to Human Health and the Environment

- I do not propose to challenge or embellish any of the Groundwater and hydrogeology characterizations. There may be things here that ASARCO may want to incorporate in the comments however.

- We should perhaps comment on the detail of the runon/ronoff controls at Boss and Glover and the further control after closure suggesting that EPA may want to review there modeling with this in mind if the fact may affect rulemaking proposals in any manner. It probably will not.

- We may want to make a small protective showing on the damage case studies since this material may go to CERCLA files and for other uses.

- for Boss we would argue that all surface water is treated under NPDES permits (generally reduced by 95 to 99 percent) and that groundwater data methods are still being questioned by EPA and it will be a while before EPA acceptable data is available.

10.4 Existing Federal and State Waste Management Controls

- The report discusses the Metallic Minerals Waste Management Act in Missouri which the report suggests does not yet have regulations enacted. We should point out that while the Act allows for regulations it is essentially designed to be self implementing, permit applications have been submitted and are under review at this time. This Act and its development was supported by industry, and it is hoped by industry and the state that this Act will become the vehicle for managing and controlling mine waste in Missouri including lead slags. If something akin to the strawman regulations were implemented to include a D+ slag waste, the Act allows for the adoption of regulations that would satisfy such regulations for both mine waste and processing waste even without further industry support. We would encourage EPA to be supportive of this approach.

10.5 Waste Management Alternatives and Potential Utilization

- We should encourage EPA in any rulemaking to allow for the state to approve recycling and reuse as appropriate on a case by case basis.

10.6 Cost and Economic Impacts

- Support in general the economic impact analysis however:

  argue the cost of land ban and corrective action equal to or many times greater that the slag management costs alone.

  argue that 3004(x) authority could be invoked for not only waste management costs but land ban and corrective action issues however, why do that when

  it will be easier to operate under an overall Mining waste regulation similar to Strawman and all of the things invoked under C- could be invoked under D+.

Suggest Doe Run Draft 10.1, 10.4, 10.5, and 10.6 and

ASARCO draft 10.2, 10.3

October 16, 1990

RCRA Docket Information Center (OS-305)
US Environmental Protection Agency
401 M Street SW
Washington, D.C. 20460

Re: F-90-RMPA-FFFFF

To whom it may concern:

These comments are submitted on behalf of The Doe Run Company an integrated lead producer with six mines, four mills, and two smelters all located in Missouri concerning the Report to Congress ("RTC II") which the United States Environmental Protection Agency presented to Congress on July 31, 1990 and made available for public comment on August 7, 1990. See 55 Fed. Reg. 32,135; see also 55 Fed. Reg. 37,540 (September 12, 1990).

At the present time we are converting our Buick primary lead smelter located at Boss, Missouri, to a secondary lead smelter and resource recovery operation. Several aspects of the plant will advance the state of the art in the United States. Specifically, we will be desulfurizing paste using the Engitec Implanti technology and produce a pure salable sodium sulfate out of the sulfuric acid from batteries. Because the paste will contain very low sulfur, we will not generate a scrubber sludge, and the quantity of slag generated will be very low per ton of lead produced.

Doe Run is also interested in integrating recycled lead into its other primary operation at Herculaneum, Missouri. It is technically possible now to take battery paste, mix it with concentrate and process it through the sinter machine and then furnace that sinter. As with the smelting of concentrate there will be some Blast Furnace slag associated with the lead paste processing although the ratio will be significantly lower than with the processing of concentrate. As long as the charge of the sinter machine incorporates less than 50% lead paste or other recycled materials it will not affect the status of the slag as a Bevilled waste.

When EPA makes its January regulatory decision on whether slag is a Subtitle C or D waste, it must bear in mind the relevance of the 50% rule to this determination. Moreover, consistent with EPA's stated goal suggested in its Lead Strategy paper of reducing the nation's dependence on lead mining, it should clarify that the 50% rule (54 Fed. Reg. 36592, September 1, 1989) shall apply to the final status of Blast Furnace slag as a D waste or a C- waste. Continuing to unambiguously allow lead paste and other recycled materials to be smelted in primary operations without affecting slag status enables the primary industry to make a partial conversion to recycling.

The following specific comments to the Report to Congress are provided. We have utilized the numerical sequencing of that document for ease of reference.

10.1 Industry Overview

The following or expanded description of the uses of lead or a similar narrative should be inserted behind the description of the uses of lead to educate the reader of RTC-II on the uses of lead.

Lead is utilized extensively in computers, TV's, and other electronics including airplanes and electronic control equipment.

Lead plays a role in energy conservation. It is used as a component of energy efficient lighting and the increasing application of the lead-acid battery as an alternative to the gas-consuming internal combustion engine, as well as in new uses such as power supply load-leveling and solar energy storage. Leaded glass tubing is used in all incandescent and fluorescent light bulbs because of its efficient electrical properties, low melting range and workability. Fluorescent lighting, long advanced as an energy efficient lighting alternative, has a lead glass evacuation tube, essential to its energy efficient performance. In addition high intensity discharge lamps such as sodium vapor lights now used extensively for outdoor lighting depend on leaded glass globes for their performance. Lead-acid batteries are 40 percent more powerful than those manufactured 15 years ago, allowing for a proliferation of battery operated vehicles in the workplace where they are valued as a safe and economic replacement for internal combustion powered vehicles. Faced with severe environmental constraints on adding generating

capacity, Southern California Edison is advancing the technology using mammoth storage batteries to supplement power supply during peak hours of demand. This technology, which is already in operation in Japan and West Germany relies on a grid of giant lead-acid batteries, to store energy during off-peak use periods and supply power during peak use periods of the day. Lead-acid batteries are also used to harness solar and wind energy systems. Substitutes for the lead-acid battery have less power density, reliability, recharging capacity, and generally perform poorly at low temperature.

Lead's anticorrosive properties make it ideally suited for electrostatic precipitators, a technology widely used to control particulates and sulfur dioxide air emissions. Lead's density and capacity for incorporation into other materials make it an effective noise suppressant in the workplace, in hotels, apartments and in certain high noise areas such as airplane cabins. Lead may also play a role in the final disposition of high level nuclear waste. It is being considered in the US as well as in repository containers being tested in Sweden, Canada, Argentina, and Belgium.

Lead insures the safety and health of people working in areas of applied radiation technology, such as diagnostics and physical therapy. The same properties shielding patients from X-rays also shield workers from exposure to gamma ray radiation where nuclear materials are being used for civilian and defense purposes. Lead also contributes to health and safety in the workplace, where battery powered vehicles increasingly perform tasks previously handled by vehicles powered with carbon monoxide-emitting internal combustion engines.

10.2 Waste Characteristics, Generation and Current Management Practices

The amount of slag generated is dependent on the quality of the concentrates processed. For the most part the quantity of generation of slag is determined by that factor alone and cannot be controlled at the smelter. It is not possible therefore to set a "best technology standard" for the generation of slag. In general the quantity of slag is inversely proportional to the lead grade of the concentrate. In the 70's the Herculaneum smelter received low 70 percent lead concentrates and produced about 0.35 tons of slag per ton of concentrate. With high 70's grade in the very late

80's only 0.2 tons of slag per ton of lead is produced. European custom smelters generally produce a ton of slag per ton of lead and one Canadian smelter with 30 % Lead concentrates produced 5 tons of slag per ton of lead or 25 times as much as Missouri concentrates.

10.3 Potential and Documented Danger to Human Health and the Environment

At the Boss, Missouri, smelter there is some confusion concerning the damage case data presented. The smelter property is at the head of a hollow and at a natural surface water divide. The plant is concreted. Run-on is controlled on two sides where appropriate to avoid contaminating unnecessary stormwater. All of the contaminated surface stormwater on the site is collected by gravity, treated, and discharged through a NPDES permitted wastewater treatment plant. The description in the report has some inaccuracies in this regard. There is no untreated surface water release. The Boss facility in addition has just completed a tertiary gravity sand anthracite filter system.

The discussion of groundwater data also seems slightly premature as EPA has questioned the methods that are being used and modifications to that groundwater monitoring system and sampling protocol are being developed at this time. Based on EPA's own concerns that data should not be cited yet.

Further, as a result of entering the battery recycling business, the Boss secondary facility has a RCRA Part B permit, including corrective action. The Buick primary slag pile is an identified SWMU and is being addressed, in conjunction with the state program as described in the next section.

10.4 Existing Federal and State Waste Management Controls

As stated in the report, Missouri has adopted a law titled the Metallic Minerals Waste Management Act. Slag at Doe Run's Buick and Herculaneum smelters as well as ASARCO's Glover smelter is specifically regulated under the law through a closure and post-closure permit system. The law contains a complete substantive and procedural structure, including enforcement authority, and is complete and self implementing; regulations are not required before permits can be issued. All three smelters have applied for permits and they are under review. The law provides rule-making authority for supplemental, clarification purposes only. If

there is a D+ determination, this law would be the program by which Missouri would regulate slag. From our understanding of the Strawman II mine waste regulations, the Missouri Minerals Waste Management Act is substantially compatible and without changing the law, the rule-making authority could be used to make the needed adjustments.

10.5 Waste Management Alternatives and Potential Utilization

Doe Run would like to reinforce the concept of allowing approved recycling uses in whatever regulatory scheme is adopted. In the Missouri Metallic Minerals Mining Act such uses are permitted if approved. Such options appear to be inherent in the Strawman II draft that has been circulated and Doe Run believes that the Strawman II scheme is functional with some modification and is consistent with a Subtitle D determination for Lead Furnace Slag.

10.6 Cost and Economic Impacts

In general Doe Run believes the EPA economic analysis is correct. However, if the agency reverses its tentative determination and concludes that Lead Furnace Slag should be regulated under Subtitle C, it should not mechanically apply the existing Subtitle C requirements to such wastes. Instead, the Agency should use its authority under RCRA sections 3004(a) and 3004(x) to develop a regulatory regime for Lead Furnace Slag that protects human health and the environment, yet is not unduly burdensome in terms of costs or use of natural resources.

Specifically, EPA should revisit the economic conclusions and undertake an analysis of the Corrective Action and Land Disposal Restriction costs for each facility, which could equal many times the slag management costs alone.

It seems clear to Doe Run that under a Subtitle C determination 3004(x) authority could be invoked for not only waste management costs but Land Disposal Restriction and corrective action issues.

In summary, Doe Run would recommend that EPA make a Subtitle D determination for Lead Furnace Slags. Environmental impact from the slag can be managed efficiently under one program at the state or Federal Level. In Missouri this is already accommodated under the Missouri Metallic Mine Waste Act which has specific authority for Lead slag. The Missouri program is not a hollow program and the Doe Run permit applications concede significant safeguards that were not present under the earlier regulatory environment. Doe Run believes that the Strawman II scheme is functional with some modification and is consistent with a Subtitle D determination for Lead Furnace Slag.

Sincerely,

Daniel L. Vornberg
Environmental Manager

cc: Walter N. Nowotny