



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

Mr. John B. Dailey  
Environmental Coordinator  
Alta Gold Mining Company  
1525 E. Newlands Drive #1  
Fernley, NV 89408

MAR 18 1999

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Dear Mr. Dailey:

This letter is in response to your facsimile to EPA's Toxics Release Inventory Branch, dated February 2, 1999, and concerning the applicability of section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) to your facility. Specifically, your facsimile states that a mining company deposits ore that contains arsenic and other EPCRA section 313 metals onto a leach pad. According to your facsimile, the arsenic and the other EPCRA section 313 metals play no role in the leaching process. You state that these metals are present simply because they are in the ore extracted. You further provide that the mining company produces a dore from the ore that is at least 99.0% gold and silver. According to your facsimile, the composition of the other 1% or so of the dore is unknown. You state, however, that while the majority of this 1% of the dore is likely to be iron and copper (which, like arsenic, is an EPCRA section 313 chemical), the possibility exists that some of this 1.0% is comprised of trace amounts of arsenic and/or other EPCRA section 313 metals.

Based on these facts, you want to know if, by moving the ore to the leach pad, the facility is processing the EPCRA section 313 metals in the ore. Also, you want to know if coincidental manufacturing applies to these metals under the following circumstances; (1) the manufacturing does not occur due to the beneficiation process and, (2) the metals are not found in the dore.

According to your facsimile a mining company may add 250,000 tons of ore onto its leach pad during a calendar year. You state that this ore may contain a concentration of 0.005% arsenic. This means the 250,000 tons of ore may contain 25,000 pounds of arsenic. With approximately 25,000 pounds of arsenic at issue (the threshold amount for processing is 25,000 pounds), if the arsenic is being processed then the facility may have to report release and other waste management calculations associated with this listed chemical.

Moreover, the release and other waste management calculations would include the arsenic in the waste rock that is disposed of by the facility. "Waste rock is generally considered that portion of the ore body that is barren or submarginal rock or ore which has been mined but is not of sufficient value to warrant treatment and is therefore removed ahead of the milling processes." (62 FR 23859). In your facsimile you state that with over 2.5 million tons of waste rock being disposed by a mining company on a yearly basis, at a concentration of 0.005%

arsenic, the facility would have to report as a release 250,000 pounds of arsenic. In your letter you ask EPA to consider the waste rock like overburden and to provide a specific exemption for the waste rock. In the alternative, you suggest that EPA allow the application of the de minimis exemption to the waste rock.

In EPA's review of your requests the following was considered. The term "process" is defined, in pertinent part, at 40 CFR section 372.3 as "the preparation of a toxic chemical, after its manufacture, for distribution in commerce." If any portion of a toxic chemical is incorporated into a product to be distributed in commerce, then the entire amount of that chemical in the process stream must be considered toward threshold determinations and release and other waste management calculations. (Q&A 359 in the Revised 1998 Version of the EPCRA Section 313 Questions and Answers document). Accordingly, if none of the arsenic (and the use of the word "arsenic" includes arsenic compounds as well as elemental arsenic) or other EPCRA section 313 metals are incorporated into the dore, but rather, completely remain in the leach pad, then the arsenic and other metals are not being processed and do not have to be considered toward threshold determinations. However, if any of the arsenic and/or other listed metals become a part of that 1% of the dore that is not gold or silver (as is stated as a possibility in your facsimile) then the entire quantity of arsenic and/or other listed metals added to the leach pad during the reporting year must be considered processed. In other words, the entire 25,000 pounds of arsenic in the ore added to the leach pad during the reporting year would have to be considered "prepared for distribution in commerce" and therefore, "processed" if any of the arsenic is incorporated into the dore.

In determining if the arsenic is present in the dore, the facility should use its best readily available information. (42 U.S.C. Section 11023). Q&A 461 in the 1998 Q&A document specifically provides "process and chemistry knowledge" as an example of such readily available information used by a facility to identify the listed Section 313 toxic chemicals in a mixture. Facilities should carefully document their decision-making. 40 CFR section 372.10(a) provides that records supporting the data must be kept for three years.

Of course, based on the facts provided in the scenario described in your facsimile, if some of the arsenic is incorporated into the dore, thereby making all of the arsenic in the leach pad processed, then the mining facility would be able to apply the de minimis exemption provided the concentration of the arsenic in the leach pad never equals or exceeds the specified de minimis level. The de minimis exemption allows facilities to disregard certain minimal concentrations of chemicals in mixtures or other trade name products they process or otherwise use when making threshold determinations and release and other waste management calculations. Accordingly, even if the arsenic is being incorporated into the dore, thereby requiring the facility to consider as processed the entire 25,000 pounds of arsenic in the leach pad, the facility does not need to consider any of the arsenic toward threshold determinations and release and other waste management calculations if the concentration of the arsenic in the leach pad does not equal or exceed 0.1% for arsenic and inorganic arsenic compounds, or 1.0% for organic arsenic compounds. However, once a listed chemical concentration equals or exceeds the appropriate de minimis level in the process stream, threshold determinations and release and other waste management calculations must be made, even if the chemical later falls below the de minimis

level in the same process stream. Therefore, if the concentration of arsenic in the leach pad does not, at any point, equal or exceed the de minimis level, then even if the arsenic in the leach pad is being processed, the arsenic would be exempt from threshold determinations and release and other waste management calculations. And even if the arsenic is being incorporated into the dore and the concentration of arsenic equals or exceeds the de minimis level only after the arsenic enters the dore, then only the arsenic in the dore would have to be considered toward threshold determinations and release and other waste management calculations. In short, if the de minimis concentration level for a listed chemical is met or exceeded, it is only from that point forward in the process stream that the chemical must be considered toward threshold determinations and release and other waste management calculations. Of course, the guidance provided in this paragraph does not only apply to arsenic and arsenic compounds; the guidance also applies to any other EPCRA section 313 chemicals in the ore.

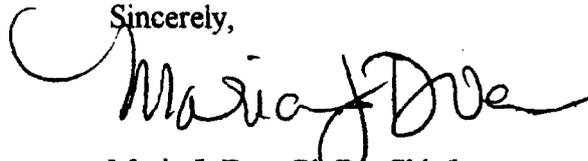
With regard to your concerns about coincidental manufacturing, if arsenic or arsenic compounds are created in the leach pad then the arsenic and/or the arsenic compounds would have to be considered toward the appropriate listed chemical's manufacturing threshold determinations and release and other waste management calculations. Facilities should keep in mind that if a metal is converted to a metal compound, or if a metal compound is converted to a metal, or if a metal compound is converted to another metal compound, manufacturing has taken place. If such conversions are believed to be taking place in the leach pad as the sodium cyanide cycles through the pad, facilities must use their best readily available information to account for such coincidental manufacturing. And it should be remembered that the arsenic that remains in the leach pad is not an impurity that remains in the product distributed in commerce (i.e., the dore) and therefore, the de minimis exemption would not apply to the manufactured arsenic that remains in the leach pad. Conversely, for that quantity of arsenic or arsenic compounds that is manufactured and incorporated into the dore, the de minimis exemption would apply. This is because the arsenic that is manufactured and incorporated into the dore is an impurity that remains in the product to be distributed in commerce and the de minimis exemption applies to those EPCRA section 313 chemicals that are "manufactured as an impurity and remain in the product distributed in commerce." (Revised 1998 Version of the Toxic Chemical Release Inventory Reporting Forms and Instructions, p. 14). Once again, the guidance provided in this paragraph does not only apply to arsenic and arsenic compounds; the guidance also applies to any other EPCRA section 313 chemicals in the ore.

If a processing, manufacturing, or otherwise use threshold is exceeded for a listed chemical, the facility must report the releases and other waste management quantities associated with that chemical. This means that once a threshold is exceeded for a listed chemical, if that chemical is present in waste rock, then when the waste rock is disposed, the chemical would have to be reported as a release. Regarding your suggestions for exempting listed chemicals in waste rock, the overburden exemption (40 CFR section 372.38(h)) cannot be applied to waste rock. Section 372.3 expressly states that "overburden means the unconsolidated material that overlies a deposit of useful materials or ores. It does not include any portion of ore or waste rock." (Emphasis Added.) As for the de minimis exemption, it would not apply to waste rock because the waste rock is being managed as a waste.

While your concerns about the public's perception of releases associated with waste rock warrant attention, we believe these concerns are better dealt with by educating the public about the nature of mining. EPA intends to address the subject of mining releases in the public data release.

I hope this information is helpful to you in making threshold determinations and release and other waste management calculations for section 313 of EPCRA. If you have any other questions, or desire further information, please call either Larry Reisman at 202.260.2301 or me at 202.260.9592.

Sincerely,

A handwritten signature in black ink that reads "Maria J. Doa". The signature is fluid and cursive, with a large initial "M" and a long horizontal flourish at the end.

Maria J. Doa, Ph.D., Chief  
Toxics Release Inventory Branch