



OGMCOAL DNR <ogmcoal@utah.gov>

Fwd: Wellington Coarse Refuse information

1 message

Steve Christensen <stevechristensen@utah.gov>
To: OGMCOAL DNR <ogmcoal@utah.gov>

Wed, Apr 2, 2014 at 1:50 PM

fyi- Wellington Prep

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From: Erik Petersen <petersen@relia.net>
Date: Wed, Apr 2, 2014 at 1:16 PM
Subject: Wellington Coarse Refuse information
To: jamesowen@utah.gov
Cc: stevechristensen@utah.gov

Hello James,

How are things? I hope things are going well with you.

I enjoyed our meeting the other day regarding the Wellington Prep Plant coarse refuse pile chemical characteristics. As I recall, you had some questions regarding the practice of using "total" metals analysis instead of leachable metals analysis for the EPA TCLP procedure. As we discussed, it is a common practice to divide the laboratory-determined "total" metals concentrations by 20 and then compare the resulting values with the regulatory limits for leachable concentrations to determine whether the material would exceed that limit. I have done some further investigation into that matter and here is what I have found out.

As it turns out, there is a sound scientific basis for this practice. The EPA method for the TCLP determination of leachable characteristics (EPA Method 1311) specifies that as part of the analytical procedure the solid material being analyzed for its leachable characteristics is to be diluted 1:20 with water. The EPA 1311 (TCLP) method measures the amount of the specified chemical contaminant that leaches from the material into the added water. Note that it is necessary to specify a standard dilution volume (1:20) in Method 1311 so that the resulting concentrations are applicable for the regulatory standards (i.e. the standards are based on the 1:20 dilution in the TCLP test). Because the resulting leached species are in aqueous form in the water, the test results are reported in mass per volume (milligrams per liter) unit for Method 1311 and also for the regulatory standards. Because the material is diluted 1:20 with water, the maximum possible concentration of the leached contaminant in the water solution is one-twentieth the level in the solid material. Thus, mathematically, if the "total" concentration in the solid material is less than 20 times the TCLP regulatory limit, there is no possible way that the result of a TCLP (leaching) test could exceed the regulatory limit. For this reason, a full TCLP leaching test is not required when the "total" analytical result is less than 20 times the regulatory limit (see Section 1.2 of EPA Method 1311).

I hope this explains things better than I could in our meeting. No abracadabra here!

Thanks, and have a great day!

Erik

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Steve Christensen
Utah Division of Oil, Gas and Mining
1594 W North Temple, Suite 1210
Salt Lake City, Utah 84116
[\(801\) 538-5350](tel:(801)538-5350)
stevechristensen@utah.gov