

Chavez, Art V. - RES

From: Brush, Laurence H <lhbrush@sandia.gov>
Sent: Wednesday, October 09, 2013 1:49 PM
To: Chavez, Art V. - RES
Subject: FW: [EXTERNAL] Change in MgO bag amounts and sample information
Attachments: Larry Brush MgO factor 062413.docx

From: Batchelder, Terry - NWP [<mailto:Terry.Batchelder@wipp.ws>]
Sent: Wednesday, September 18, 2013 12:05 PM
To: Brush, Laurence H
Cc: Kouba, Steve - WRES
Subject: [EXTERNAL] Change in MgO bag amounts and sample information

Good afternoon Larry,

Attached is the information that you have requested yearly this year

Terry Batchelder
Government Contractor
Waste Handling Engineer
Subcontract Technical Representative
234-8479 (desk)
234-8850 pager 155

To: Larry Brush
From: Terry Batchelder
Subject: Change in MgO bag amounts and sample information

The excess factor for the magnesium oxide (MgO), used as an engineered barrier at WIPP has been 1.67; however, an excess factor of 1.2 is now acceptable by the letter from the EPA (February 11, 2008) as long as the reactivity test of the MgO is above 96%.

A new test of the MgO was developed by Sandia National Labs (SNL) to satisfy the EPA's requirements to permit the dropping of the excess factor from 1.67 to 1.2. SNL has determined that the test, which is titled "Reactivity (mole % Periclase + Lime) Acceptance Test", was incorporated into D-0101 Specification for Prepackaged MgO backfill in February 12, 2009. The reactivity test is performed by an outside independent laboratory to ensure the 96% reactivity requirement is met.

After recalculating the past MgO Emplacement Data, and substituting an excess factor of 1.2 instead of 1.67, Waste Data System (WDS) determined that a combination of 3000 lbs and 4200 lbs nominal weight bags would be most economical and decrease the use of emplacement racks (BRT). Waste Handling Operations will utilize the WDS calculations to determine which size bag gets emplaced on the top of each stack in order to meet the excess factor of 1.2 and to minimize the use of BRTs.

Starting in FY 2009 to FY 2012, Waste Handling Operations has purchased 36 shipments consisting of 250 Tons of MgO. In the purchased shipments there was a total of 358 samples taken with 19 samples retested with an average percentage of reactivity for the samples are 97.35.