

Richter Scale vs. PPV

Shakin' it Up with Wes Bender

For purposes of the following table, we will assume that we are initiating one charge of the weight indicated. This will result in the highest possible Richter magnitude for the event. If you decide to break the event up into delays and calculate another Richter number for the largest charge weight pmbc delay, as stated above, the actual Richter magnitude for the event would fall somewhere between the two. Doug made it abundantly clear that these were going to be rough approximations, so don't try to take them to court with you!

Magnitude	Pounds of Explosive
5	2,000,000,000
4	200,000,000
3	20,000,000
2	2,000,000
1	200,000
0	20,000
-1	2,000
-2	200
-3	20
-4	2

If you wish to calculate your own magnitude numbers using Doug Anderson's assumptions, the formula he used is as follows:

$$M_{ce} = (\log w) - 1$$

Where M_{ce} is Magnitude for chemical explosions, and w is the explosive weight in tons.

As you can see, it takes a lot of explosive energy to achieve a magnitude similar to that of an earthquake. As Doug points out in his papmb, if the smallest earthquakes that can be felt are about magnitude 2 or 3, how come people are complaining about your blasts that may only have a few pounds loaded? Congratulations. You have just discovered the difference between magnitude and intensity. While the magnitude of your blast may be quite small, where you are locating it in relation to their residence makes the difference. The vibration intensities that you record with your seismograph next to their foundation is much more important than the overall blast size...but then I guess you knew that all along, anyway.