

January 10, 2008

## IAP 2008 12.091 Assignment 1

1. There are excellent web sites providing superb graphics about terrestrial impact craters.

View images of few terrestrial craters and write a brief review of their characteristics.

Suggested sites:

1) University of New Brunswick, Canada

<http://www.unb.ca/passc/ImpactDatabase/>

2) Data Base of Terrestrial Impact Structures

[http://www.lpi.usra.edu/publications/slidesets/craters/crater\\_index.shtml](http://www.lpi.usra.edu/publications/slidesets/craters/crater_index.shtml)

Choose one terrestrial crater of your interest

Start literature survey about that crater.

You will be writing and presenting a report of that crater in our 5<sup>th</sup> session.

2. Review the classification of rocks

Write brief summary of your understanding

3. Review the Chart of Nuclides

i. List the following:

PGE: Platinum Group Elements

REE: Rare Earth Elements

ii. Give details of Atomic Number, Neutron Number, Mass Number and Half-Life (where applicable) of the following isotope groups.

$^{207}\text{Pb}$ ,  $^{206}\text{Pb}$ ,  $^{204}\text{Pb}$

$^{87}\text{Sr}$ ,  $^{86}\text{Sr}$ ,  $^{87}\text{Rb}$

$^{143}\text{Nd}$ ,  $^{144}\text{Nd}$ ,  $^{147}\text{Sm}$

$^{39}\text{K}$ ,  $^{40}\text{K}$ ,  $^{41}\text{K}$

$^{36}\text{Ar}$ ,  $^{38}\text{Ar}$ ,  $^{40}\text{Ar}$

**Due: January 15, 2008**

*Dr. P. Ila*  
*Dept. of Earth, Atmospheric & Planetary Sciences*  
*Massachusetts Institute of Technology*  
*Cambridge, MA 02139*