Thanks again, James, for another interesting reply.

I rewrote the above code to use only HDF-EOS calls instead of HDF_SD
calls. You were right - the operation still fails (though instead of
an error message, I now get a "-1" returned when using
EOS_SW_WRITEFIELD, indicating a failure to write). Again, the new code
works perfectly on the un-subsetted files.

Thanks for checking out the compression stuff too. You're right - very
odd that the compressed data is the stuff that can be written too
properly. A red herring, like you say.

So, you are able to write back to the subsetted file (only) when
writing back something the same size as the full SDS? I wonder why I'm
unable to do this.

If it's alright with you, can I contact you via email and send you one
of my subsetted files I'm having trouble with?

Thanks a million,
Alex.