PNGE 420 **Design Project 3** October 17, 2015
Fall 2015 Due Tuesday, December 8, 2015

Develop a computer program to calculate the pressure losses in vertical, horizontal, and deviated wells and horizontal and inclined pipelines under multiphase flow conditions. Use the method given by Beggs and Brill for the calculation algorithm. The validity of the final program should be determined by conducting a sample run using the data from the example problem given in the class. The output (or the printout) should contain all input variables and the calculated parameters with proper field units. Submit the final program as a formal report (e.g., a title page, a problem statement, approach, references, etc.). Include the followings in the report:

(a) the equations used by the program,
(b) description of each variable,
(c) list of the program,
(d) results from the sample run,
(e) original and compiled versions of the program (and provide it on a virus free CD/flash drive if you can not upload it).

Use your program to calculate the pressure drop in tubing you have in your project well.

You can use any programming language, however, use of Matlab is strongly encouraged since all students have access to this program and it is also covered in the curriculum during the freshman year.