4. The proposed casing program including size, grade, weights, type of thread and coupling, and the setting depth of each string and its condition (new or acceptably reconditioned). For exploratory wells, or for wells as otherwise specified by the authorized officer, the operator shall include the minimum design factors for tensions, burst, and collapse that are incorporated into the casing design. In cases where tapered casing strings are utilized, the operator shall also include and/or setting depths of each portion.

    - 17 1/2" hole, 13 3/8" H-40 48# STC csg set @ 600'
    - 12 1/4" hole, 8 5/8" K-55 28#/32# BTC csg set @ 4500' **

    * 7 7/8" hole, 5 1/2" K-55 & N-80 17# LTC csg set @ 9000'

    ** SPECS: 8 5/8" 28# K-55 BTC - ID=8.017", DRIFT=7.892", BURST=3390 PSI, COLLAPSE=1880 PSI, & TENSION=437000 LBS.

5. The amount and type(s) of cement, including anticipated additives to be used in setting each casing string, shall be described. If stage cementing techniques are to be employed, the setting depth of the stage collars and amount and type of cement, including additives, and preflush amounts to be used in each stage, shall be given. The expected linear fill-up of each cemented string, or each stage when utilizing stage-cementing techniques, shall also be given.

    a. 13 3/8" csg: cmt w/350 sxs Class 'C' + 4% gel & 2% CaCl2, tail w/ 200 sxs Class 'C' + 2% CaCl2. Circ. to surface

    b. 8 5/8" csg: cmt w/1500 sxs 'C' Lite, tail w/300 sxs 'C' + 2% CaCl2.

    c. 5 1/2" csg: cmt first stage w/450 sxs Class 'H' 50/50 Poz + 2% gel + .6 Halad-9 + 3 pps KCl + 1/4 pps Flocele. Second stage: cmt w/400 sxs Class 'H' Lite + .4% Halad-9 and tail w/100 sxs Class 'H'. Bring TOC to +/-4300'

6. The anticipated characteristics, additives, use, and testing of drilling mud to be employed, along with the types and quantities of mud products to be maintained, shall be given. When air or gas drilling is proposed, the operator shall submit the following specific information:

    Mud Program:
    0-600' Fresh water/gel/lime system, MW 8.6-9.0
    600-4500' brine, MW 10.0-10.1
    4500-8800' fresh water, MW 8.5-8.7
    8800-9000' fresh water/Drispac, MW 8.6-8.9