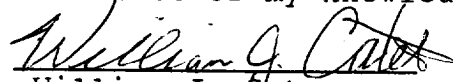


CHRISTIE GAS CORPORATION  
STATE LPG STORAGE WELL NO. 4  
JAL PLANT NO. 4  
UNIT M SECTION 32 T-23-S R-37-E  
LEA COUNTY, NEW MEXICO

MECHANICAL INTEGRITY TEST  
JULY, 1991

CERTIFICATION:

I, William J. Cates, do hereby certify that the Mechanical Integrity Test of Christie Gas Corporation's State LPG Storage Well No. 4 was conducted under my supervision from July 12 thru July 25, 1991 and that all facts, test data, and statements are true and correct to the best of my knowledge.

  
William J. Cates

Oil Conservation Division Witness: Eddie W. Seay

PERTINENT DATA:

Casing ----- 9 5/8" 36# J-55 set at 1666'  
Tubing ----- 4 1/2" 16.60# FHDP set at 2645'.  
Well Head and Valves----- 600 Series - 2,000 psi WOG  
Lithostatic Fracture Gradient ----- 0.86 psi/ft.  
Maximum allowable pressure gradient to casing seat-0.75 psi/ft.  
Minimum proposed pressure gradient to casing seat -0.70 psi/ft.  
Maximum allowable pressure at casing seat of 1666'- 1,250 psi.  
Minimum test pressure at casing seat of 1666' ----- 1,166 psi.  
Maximum surface pressure with 10# brine ----- 384 psi.

CHRONOLOGICAL LOG OF TEST PROCEDURE:

This well has been out of service since 1986. On November 5, 1990 the casing pressure was 120 psi and the tubing pressure was 180 psi.

On July 12, 1991 the well head was blinded-off and the casing pressure was 175 psi and the tubing pressure was 235 psi. The tubing pressure being above the casing pressure indicates that the brine in the tubing was less than saturated. The increase in the pressures from November, 1990 indicated that cavern closure (salt creep) was occurring with good mechanical integrity to brine.

Pumped 60 bbls. of 10# brine down tubing to displace the unsaturated brine. Casing pressure was 354 psi and tubing pressure was 352 psi this indicated little LPG left in well.