APPENDIX 14-17

METHOD USED TO DETERMINE MAXIMUM SURFACE LIMIT OF POSSIBLE SUBSIDENCE

METHODOLOGY USED IN CALCULATION OF MAXIMUM SURFACE LIMIT OF POSSIBLE SUBSIDENCE

The maximum surface limit of possible subsidence was calculated by the following procedure:

STEP 1. Multiply the tangent of 30° by the overburden thicknesses present along the perimeter of the areas to be mined.

STEP 2. Points were plotted in a direction perpendicular to the mined perimeter, directly away from the area to be mined, at distances equal to the values obtained in step 1.

STEP 3. Since overburden thicknesses at the plotted points were often different than that at the mine perimeter, a correction for topographic variability was made:

- o if overburden thickness present at the point plotted in step 2 was <u>greater</u> than that present along the mine perimeter (value used in step one), the tangent of 30° was multiplied by the increase in overburden thickness, this value was measured directly away from the lease boundary from the point plotted in step 2,
- o if overburden thickness present at the point plotted in step 2 was <u>less</u> than that present along the mine perimeter (value used in step one), the tangent of 30° was multiplied by the decrease in overburden thickness, this value was measured directly back toward the lease boundary from the point plotted in step 2.
- o if overburden thickness present at the point plotted in step 2 was equal to that present along the mine perimeter (value used in step 1), no correction was needed.

STEP 4. Points plotted in step 3 were joined to delineate the maximum surface limit of possible subsidence.