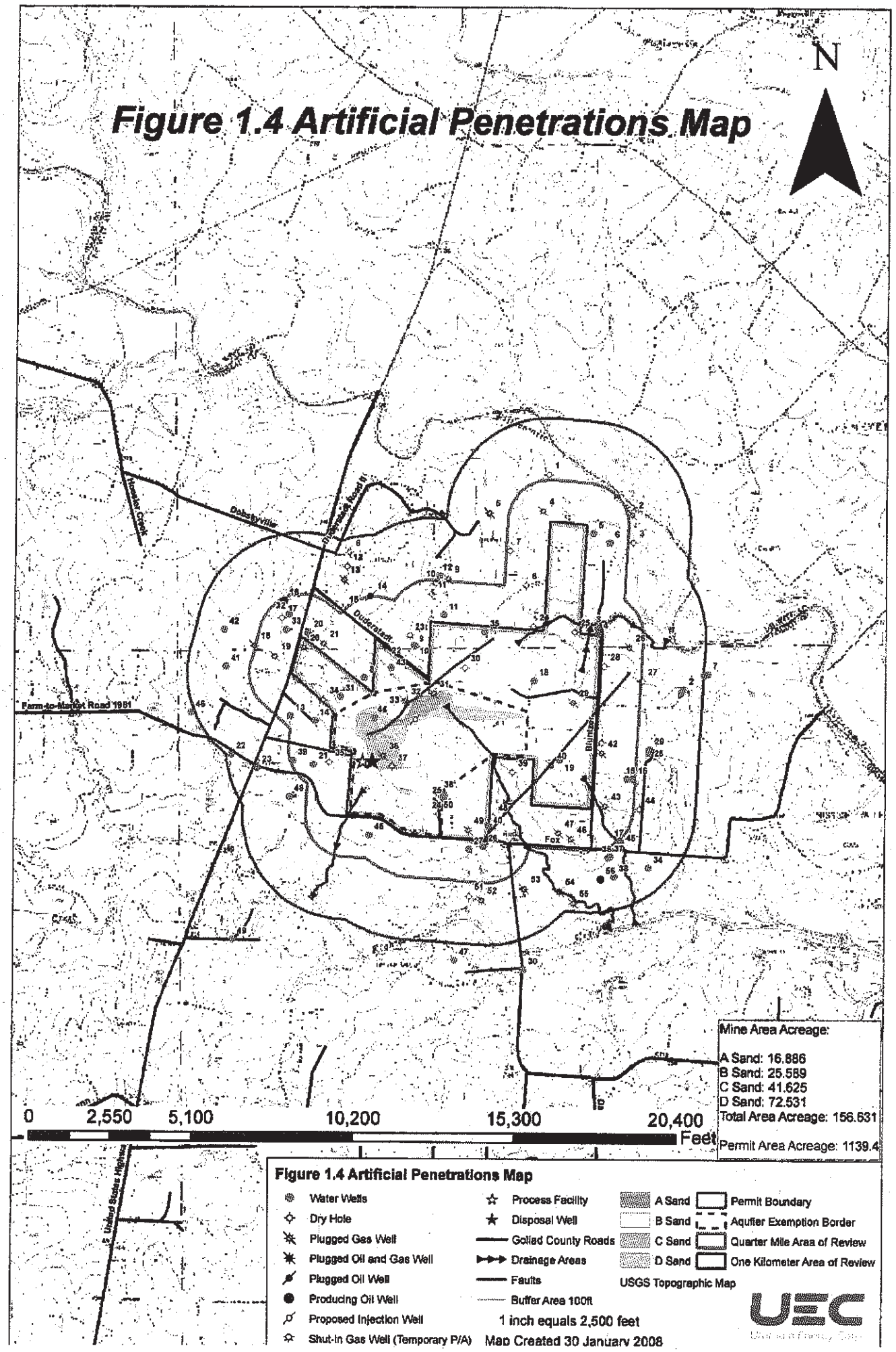Figure 1.4 Artificial Penetrations Map