



PROCEDURE FOR CONDUCTING A SONAR SURVEY ON A SALT SOLUTION MINING WELL (CLASS III WELL)

Procedure #: UICIII-5
(4/11)

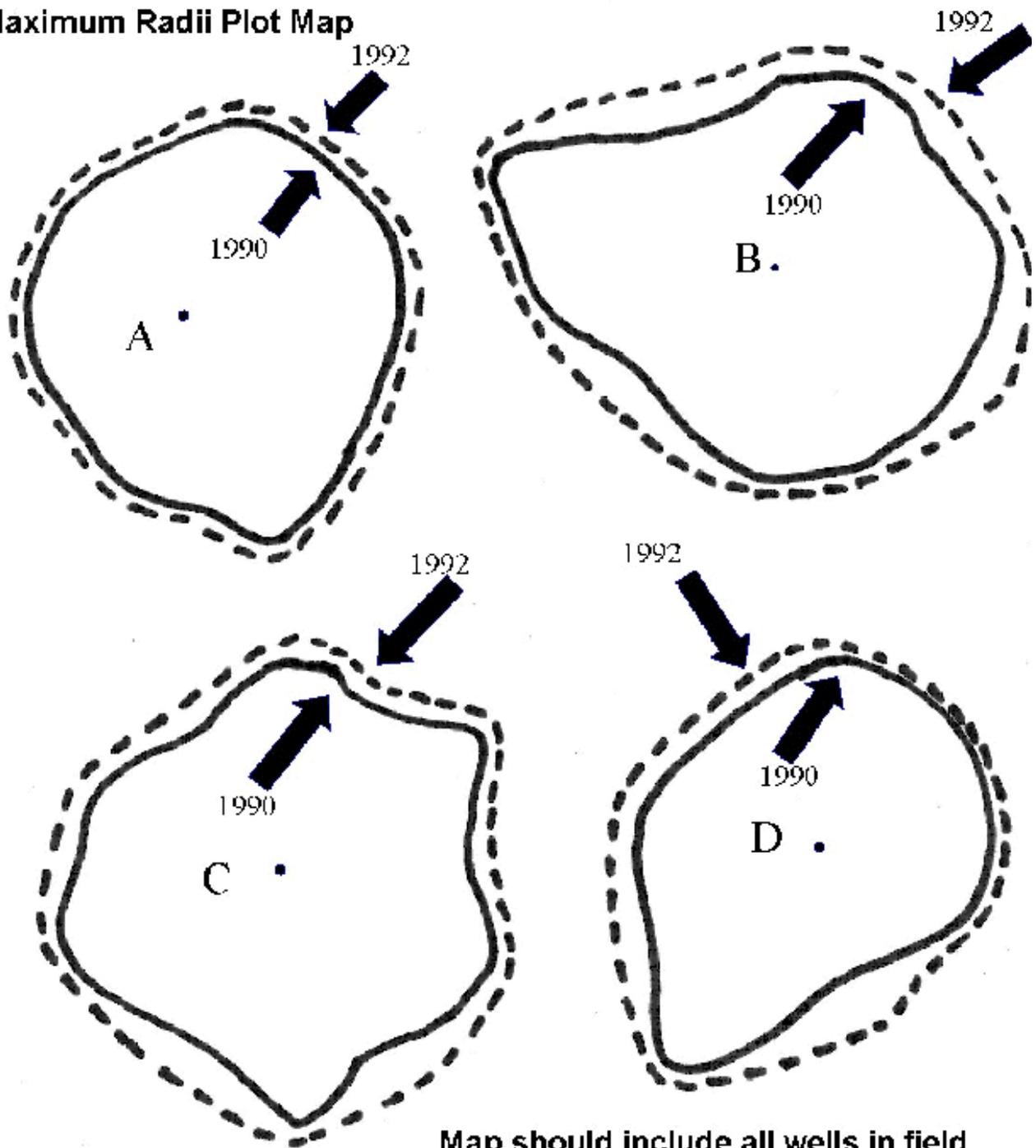
Narrative:

K.A.R. 28-46-30a(e) establishes the sonar caliper survey requirements. A sonar survey approved by KDHE shall be used for this purpose. The schedule for conducting the sonar shall be mutually agreed upon so KDHE may have the opportunity to witness the sonar. The sonar shall not be conducted until plan and schedule approval has been obtained from KDHE. The following procedure for developing a sonar plan, conducting a sonar and submitting the sonar results and interpretation will assist in ensuring an acceptable determination of the dimensions and configuration of the cavern is achieved. It is the operator's responsibility to conduct a sonar survey that satisfies the requirements of K.A.R. 28-46-30a(e) and KDHE.

Procedure:

1. List the well identification number and location of the well to be sonared.
2. The sonar must be conducted in the cavern with the tubing removed from the cavern.
3. Describe the action that will be taken if the sonar tool will not pass through the well and/or cavern.
4. The sonar survey results and interpretation shall be submitted to KDHE within 45 days of completing the survey. The interpretation must be made by a person with the technical expertise and knowledge to evaluate the sonar survey results. The interpretation should include a discussion of the dimensions and configuration of the cavern, the relationship of the cavern to adjacent cavities, a description and explanation of any anomalies, a description of those parts of the cavern blocked from view by fallen shale layers and a description of any changes in operation necessary to obtain desirable cavern dimensions and configuration. An updated diagram depicting the maximum cavern radii for the well sonared in relation to the maximum cavern radii for nearby wells shall be provided. Maximum radii information from any previous sonar surveys shall also be included on the diagram to provide a graphic display of the cavern growth and development over time. An example of an acceptable diagram is attached. Cross-sectional views should also include a comparison to previous sonar results. An example of an acceptable cross-section is attached.

Maximum Radii Plot Map



Map should include all wells in field

CROSS SECTIONAL VIEW

