DATE July 20, 1984
TO P.A. Eddy
FROM J.R. Cearlock
T.A. George

SUBJECT Testing of prototype sample cylinder

A flow diversion device was designed by Dave Myers to enable chemical analysis to be performed at the well site. This device consists of a ten inch plexiglass cylinder, through which well water was diverted to be analyzed.

The ease of testing at the well site was a prime reason for the introduction of the sample cylinder. Being able to test at the well site cut down on travel time considerably, allowing for more than one well to be analyzed in one day. When used in conjunction with a field PH meter many variables are eliminated. For example, the temperature of each sample usually changes considerably from the site of the well to the lab where analysis is performed. Testing at the site of the well eliminates this fluctuation.

For our study, samples must still be taken to the lab to be analyzed. However, with the proper equipment numerous tests could be performed at the well site.

There were areas where the model failed to perform as expected. Lacking a base or stand to keep it upright resulted in a fall that terminated its existence. This problem could be eliminated with the introduction of a large base or clamp attachment to hold the device in place. Another drawback is that the flow into the device is such that a total flow measure is not possible. Perhaps one half inch Tygon tubing could replace the existing tubing, therefore, the total discharge could be diverted through the device.

At present, the device has room for only one probe. Adding enough probe openings so that a multitude of tests could be conducted simutaneously would be a major improvement.

There were areas where the model needed improvements, however, the overall design was quite applicable to our study, and could result in better, more accurate results. We are presently in the process of designing a new model, which will incorperate all the recommendations that we have stated in the above report.