

July 1, 1994

to: Pam Blandino, Rockwell/Rocketdyne

cc: Arthur Pinchev, BBI  
Helen Zukin, BBI  
Neil Mukherhee, Rockwell

re: Trending of Tritium in Well RD-34A

Well RD-34A was drilled in 1991 and first sampled in December of that year. Tritium was detected in that sample and in all samples since then. This memo takes a look at the fluctuations in tritium levels and tries to glean some information from these fluctuations.

The first figure plots the tritium concentrations (picocuries per liter of water) over time. These start out at about 7,000 pCi/L, then come down. Several high levels again occur in 1992 and this year. The next figure adds the water level in the well as a solid line. No scale is given, but this level ranges from 30' below grade in December, 1991 to water at the top of the well (0' BGS) in March, 1993. The observation I made from this figure is that high tritium concentrations correspond to low water levels.

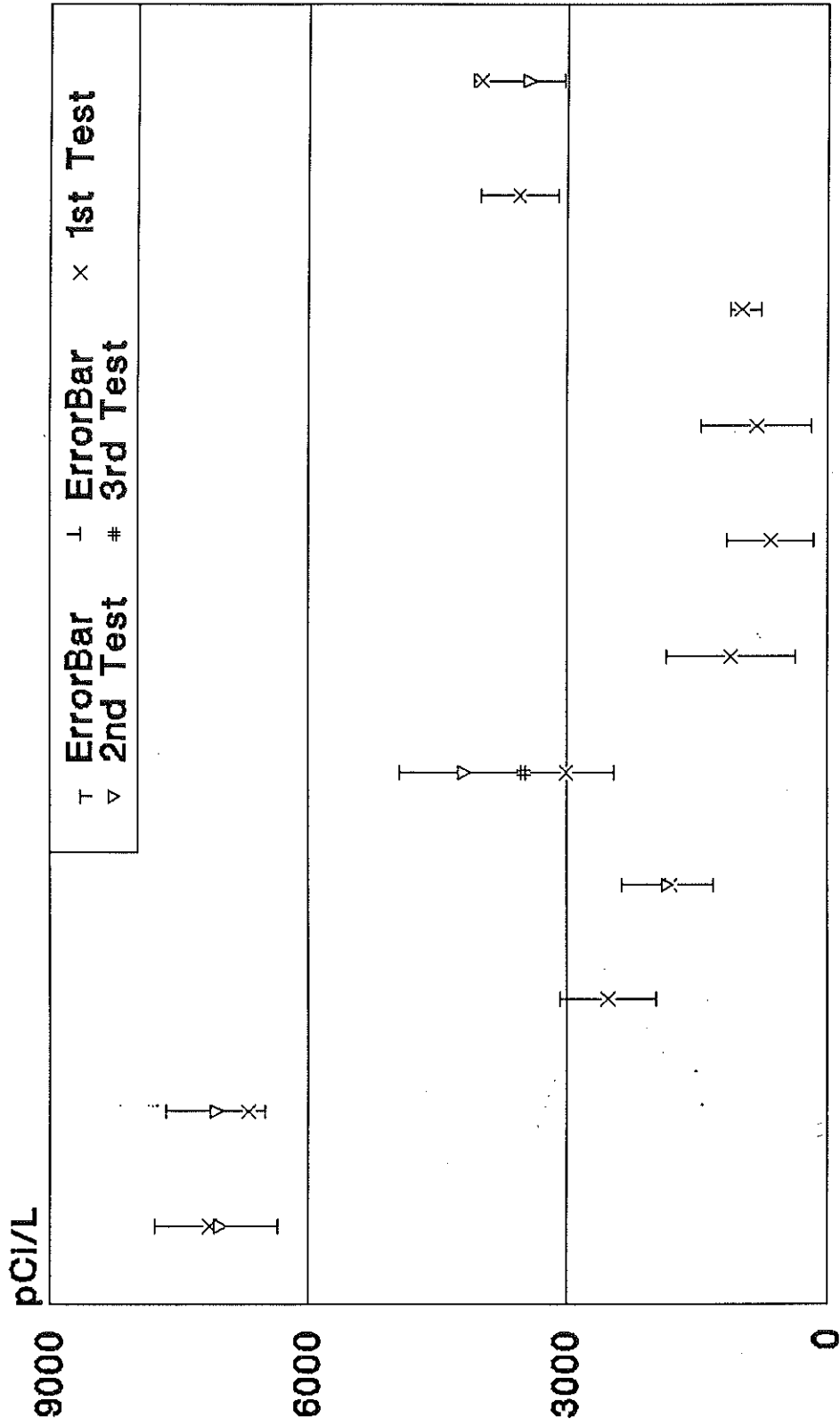
This can be explained by a dilution effect. There may be a single source of tritium feeding this well. It would be diluted by groundwater when water levels are high, and only slightly diluted when levels are low. To examine this further, the total amount of tritium in the well was calculated and trended. This value would not be affected by dilution with clean groundwater.

The third figure shows the total amount of tritium in the well over time. It is calculated from the tritium concentration and the volume of water in the well. Beginning the second quarter of 1992, this value is relatively constant. Between 200 and 800 nanocuries of tritium are in the well each sampling time. Prior to early 1992, the values are higher.

There appears to be some evidence for a dilution effect. Since June, 1992, the amount of tritium going into well RD-34A is fairly constant. It will be interesting to see what effect the extraction well near RD-34A will have on tritium levels in this well. Your comments on this memo are welcome.

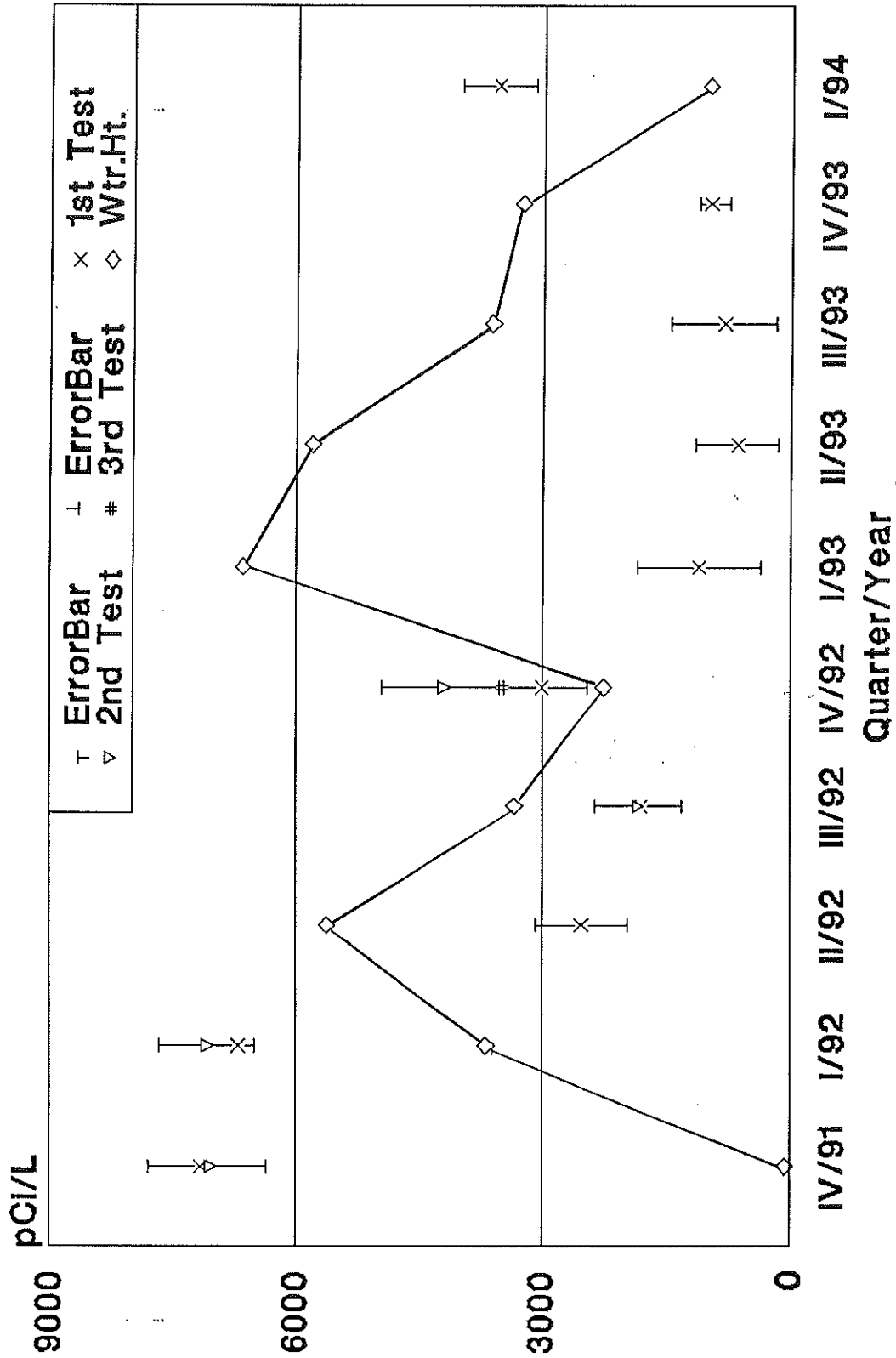
A handwritten signature in blue ink, consisting of a stylized 'J' followed by a horizontal line and a small flourish.

# Tritium in Well RD-34A



IV/91 I/92 II/92 III/92 IV/92 I/93 II/93 III/93 IV/93 I/94 II/94  
Quarter/Year

# Tritium in Well RD-34A



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nanocuries of tritium in well (est.)

