☆ GPO 1980 697-493

RAD IMPACT

GROUND WATER

FOR WELLS ALONG RIVER - EST. AVG. = 150,000 pCi/ℓ

DISCHARGE ≅ 3 ft^3/s

$(28.32\ \ell/ft^3)(3\ ft^3/s)(60\ s/m)(60\ m/hr.)(24\ hr./d)(365\ d/yr.)$

$= 2.7 \times 10^9\ \ell/yr.$

$(150{,}000\ pCi/\ell)(2.7 \times 10^9\ \ell/yr.) = 4.05 \times 10^{14}\ pCi/yr.$

$(4.05 \times 10^{14}\ pCi/yr)(1 \times 10^{-12}\ Ci/pCi) \cong 405\ Ci/yr.$

g.w.

BACKGROUND : RIVER

$(28.32\ \ell/ft^3)(130{,}000\ ft^3/s)(3.1536 \times 10^7\ s/yr.)$

$= 1.161 \times 10^{14}\ \ell/yr.$

$(100 \pm 26\ pCi/\ell)(1.16 \times 10^{14}\ \ell/yr.)$

$= 1.16 \times 10^{16}\ pCi/yr.$

$= 11{,}600\ Ci/yr.$

DOWNRIVER ACTIVITY ^3H

$(130 \pm 28\ pCi/\ell)(1.16 \times 10^{14}\ \ell/yr.) = 1.51 \times 10^{16}\ pCi/yr$

$= 15{,}100\ Ci/yr$

DOWNRIVER - BACKGROUND = 3,500 Ci/yr.

GROUND WATER = $\frac{405}{3500}$ = .116 or 11.7

23FBH000)0