Maximum value of A that will not affect the decision based on A = 1200 mg/liter and CMAX = 2000 mg/liter

Region	Value of decision variable at maximum net benefit for A = 1200 mg/l and CMAX = 2000 mg/l			Salinity of recharge water, A, mg/liter	
	y	z	w	CMAX = 2000	CMAX = 1500
I	0	1.71	0	4020	2290
II	0.81	2.61	0	3560	1650
III	5.0	7.0	4.87	1200	----------*

*The maximum allowable value of A for CMAX = 1500 mg/l in Region III is meaning less here, because the optimal choice of values for the decision variables y, z and w was based on CMAX = 2000.

(g) Conclusions From Mathematical Analysis. From cost studies (see Appendix Report "Indus Basin Studies" Harvard Water Resources Group), the following range estimates are made of the benefit parameter L, and the cost parameter M and F: $3<L<9$; $2<M<5$; and $0.5<F<4$. These ranges together with predicated values of A = 1200 mg/liter and Δ = 3.5 ft/yr indicate that the optimal design falls in Region I. The remaining section of the water budget has been calculated by setting y = 0, w = 0, and z = 1.9 maf/yr. These values accord approximately with the mathematical solution for Region I.

(h) For the non-saline area:

(1) The gross pumping rate, 40.6/23 = 1.77 ft/yr and the net rate deducting recycled flow is 0.85 (1.77) = 1.50 ft per year.

(2) The rate of recharge, 15.3/23 = 0.67 ft/yr.

(3) The net rate of mining, (1.50 - 0.67)/0.25 = 3.33 feet per year, or 100 feet in 30 years.

(i) For the saline area:

(1) The net rate of pumping, [4.7 + 2.9]/7 = 1.08 ft/yr.

(2) The gross rate of pumping, allowing for 15 percent recycling, 1.08/0.85 = 1.27 ft/yr.