Tilden
Three Rivers
Cadiz
Orangedale
Beeville
BEE
Blanconia
Ryanville
Vidauri
REFUGIO
Simmons
MCMULLEN
George West
Clareville
Chase Field N.A.S.
Humble Camp
Refugio
Dinero
Olmos
Skidmore
Woodsboro
Holiday Beach
Lake Corpus Christi
Mt. Lucas
Argenta
Papalote
Bonnie View
Copano Vil.
Lamar
LIVE OAK
Lagarto
Tynan
St. Paul
Clegg
Mathis
Sinton
Bayside
Fulton Mansion
Fulton
Loma Alta
Annarose
Pernitas Pt.
Wesley Seale Dam
W. Sinton
SAN PATRICIO
Rockport
Palm Harbor
Seven Sisters
Rancho de la Parita
Midway
Wade
Sandia
Edroy
Odem
Sodville
Taft
Estes
Millville
Orange Grove
San Patricio
Gregory
Aransas Pass
Freer
DUVAL
JIM WELLS
Alfred
Bluntzer
Portland
Ingleside
FREE FERRY
Port Aransas
Calallen
Banquete
Rabb
Violet
San Diego
Alice
Rosita
Agua Dulce
Robstown
San Juan
Corpus Christi
Corpus Christi N.A.S.
Mustang Island S.P.
Rancho Alegre
Driscoll
Palo Alto
Petronila
Ben Bolt
Guajillo
Palito Blanco
NUECES
Corpus Christi St. Univ.
Benavides
Kings Ranch
Bishop
Chapman Ranch
San Jose
King Ranch
Kingsville N.A.S.
Texas A&I Univ.
Kingsville
El. 66 ft.
Laguna Largo
Laguna Madre
Realitos
Rios
Concepcion
Cruz Calle
Ricardo
KLEBERG
Ramirez
Premont
Loyola Beach
Sejita
Riviera
Riviera Beach
Aransas Bay
Baffin Bay
Griffins Pt.
Falfurrias
Los Olmos
Sarita
Laguna Salado
PADRE ISLAND NATIONAL SEASHORE
KENEDY

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ZONE OF ENDANGERING INFLUENCE COMPUTATION

(Main Program)

EPA Permit Number

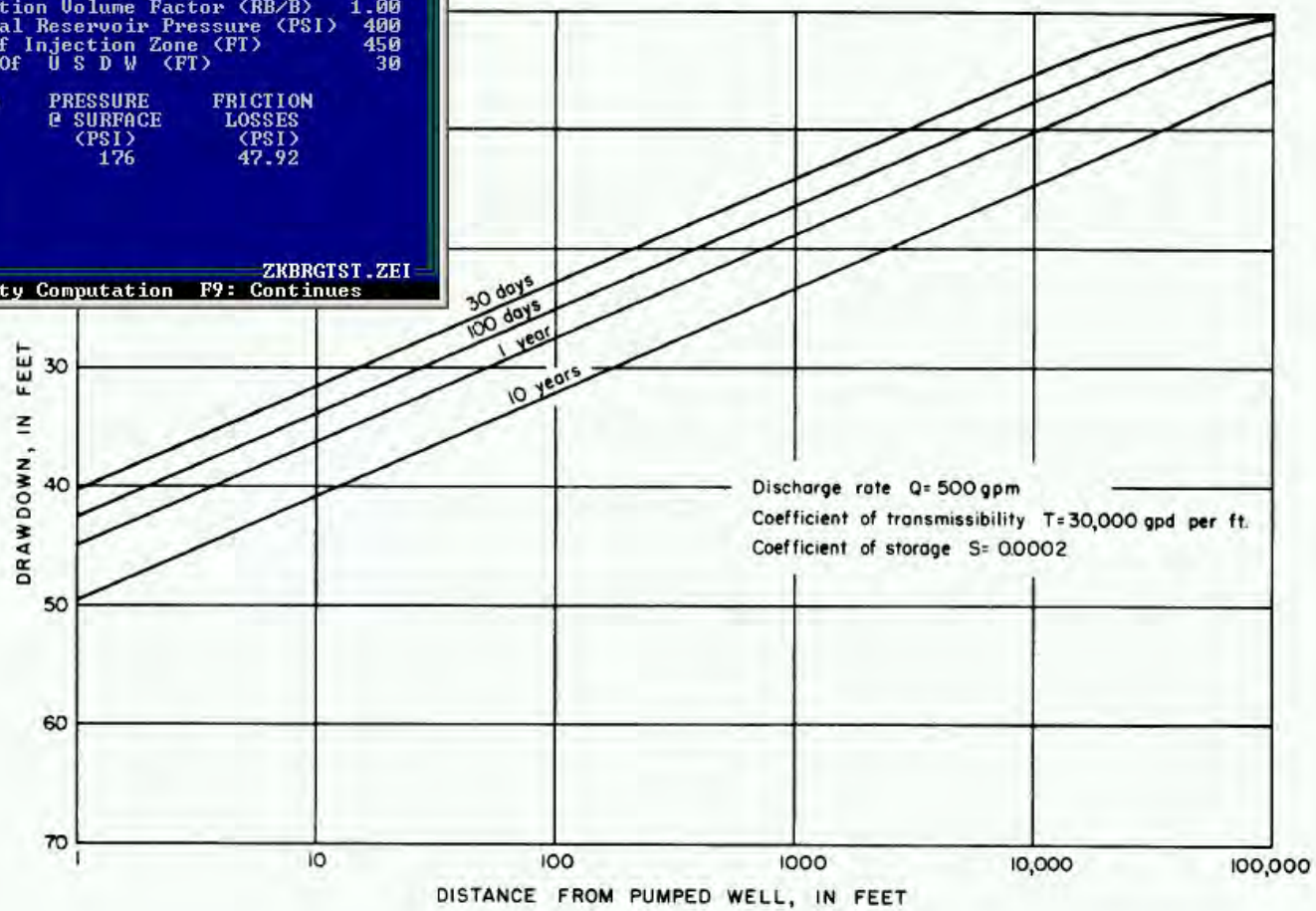
Kleberg County Wells

Specific Gravity	1.050	Permeability (MD)	4700.0
Injection Rate (BPD)	-17500	Porosity (PCT)	35.0
Pay Thickness (FT)	230	Formation Volume Factor (RB/B)	1.00
Compressibility (PSI)^(-1)	1.9D-06	Initial Reservoir Pressure (PSI)	400
Fluid Viscosity (CP)	0.76	Top Of Injection Zone (FT)	450
Injection Time (DAYS)	30	Base Of U S D W (FT)	30

RADIUS OF INFLUENCE (FT)	INCREMENTAL PRESSURE (PSI)	RESERVOIR PRESSURE (PSI)	PRESSURE @ SURFACE (PSI)	FRICTION LOSSES (PSI)
1	-19	381	176	47.92
10	-15	385		
100	-11	389		
1000	-7	393		
1320	-7	393		

ZKBRGTST.ZEI

F7: Prints Screen F8: Views Water Viscosity Computation F9: Continues



8.00 x 10.51 in

The Drawdown Test in TWDB's paper No. 173 indicates a value of k=4700 md

In the aquifer, the Pressure at a distance r from the well is given by:

$$p = p_e + \frac{q\mu B_o}{14.16\ kh} Ei\left[\frac{-r^2}{4\ \eta t}\right]$$

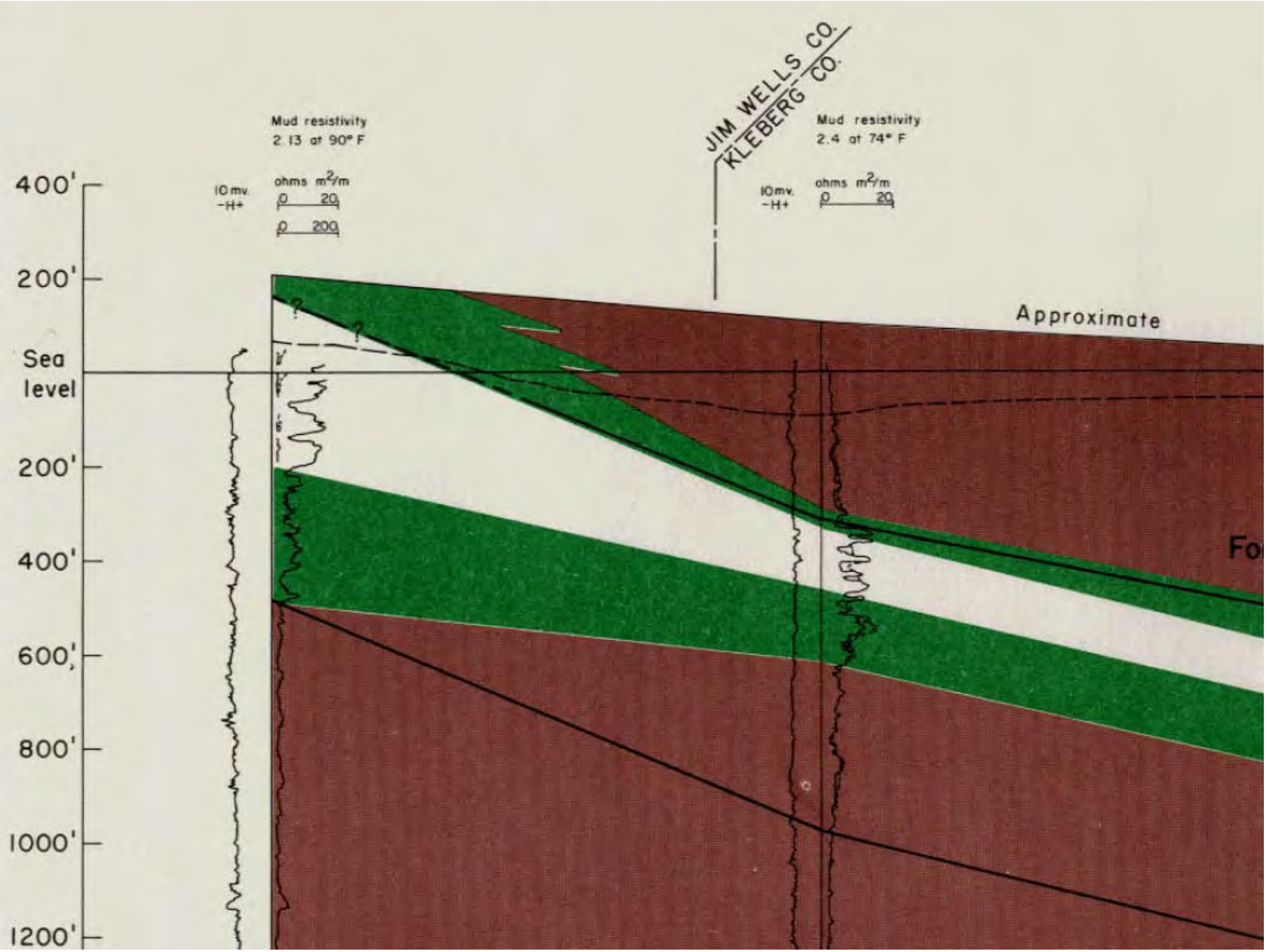
The parameters within the square brackets give the value of x in the series below

The Diffusivity Coefficient was computed using:

$$\eta = \frac{6.32\ k}{\mu c_e \phi_{HC}} =$$

$$Ei(-x) = \ln x + 0.5772 - x + \frac{x^2}{2 \times 2!} - \frac{x^3}{3 \times 3!} + \frac{x^4}{4 \times 4!} - \cdots \frac{x^n}{n \times n!}$$

The Exponential Integral Ei was computed with the above series expanded to x^5



The permeable interval in the Goliad sand was estimated as 230 feet thick

Goliad Aquifer Supply Rate for Kingsville

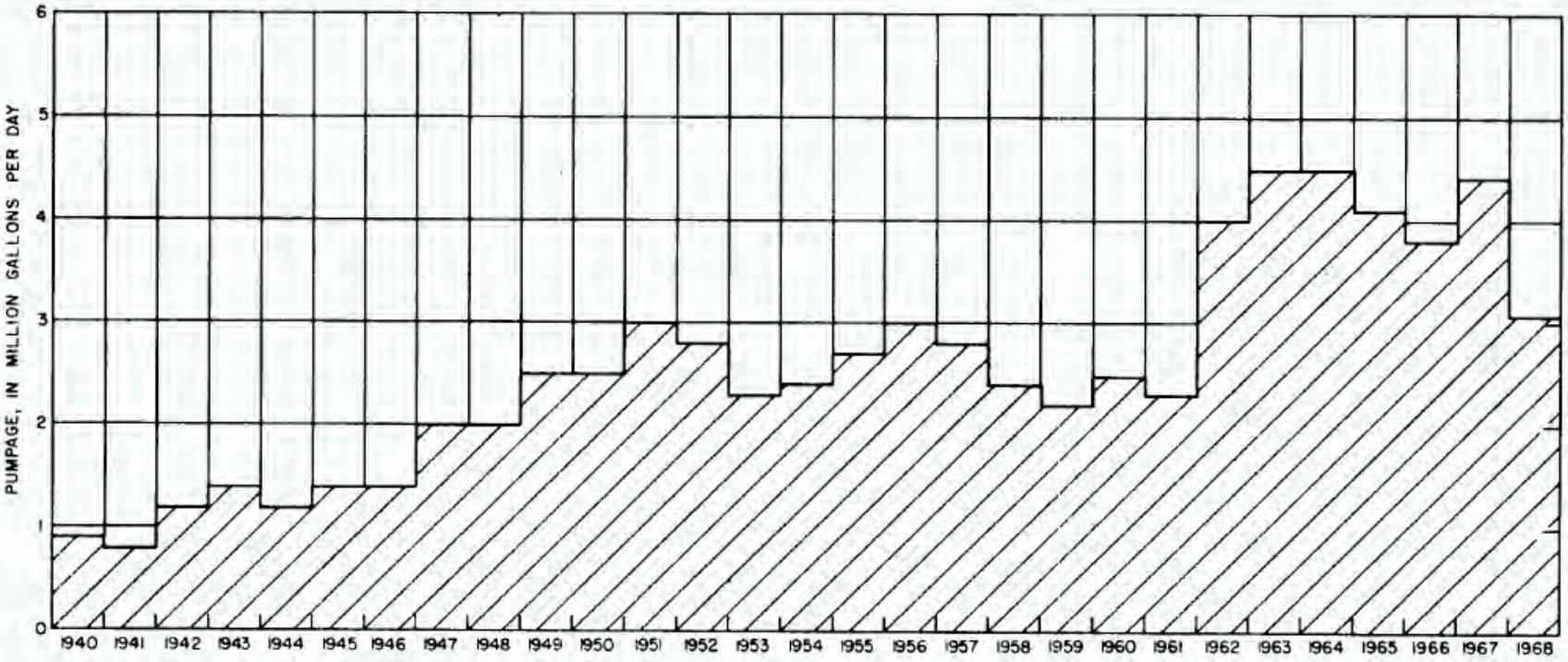
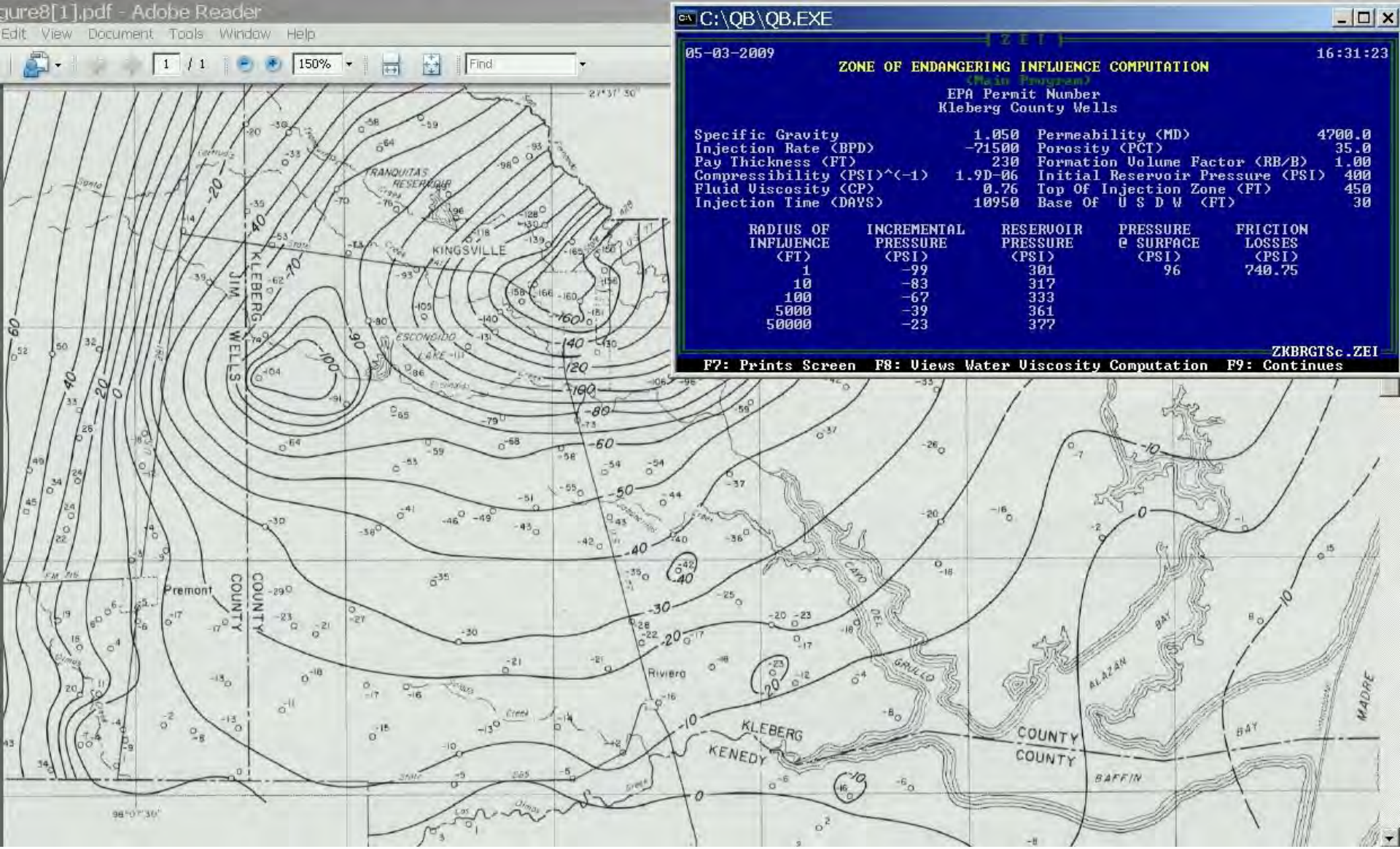


Figure 7.—Average Daily Pumpage of Ground Water for Public Supply by the City of Kingsville, 1940-68

Average Water Production Rate of Roughly 3 MMGals/Day Over 30 Years



The estimated pressure Drawdown @ r=50,000 ft approaches the mapped value