



WATER-RIGHT DOCKET

Assateague Island National Seashore

Docket No: 8

MISCELLANEOUS.

Supporting Hydro Data

04-19-1967: pumping test assateague state park well

ENCLOSURE 1

PUMPING TEST
ASSATEAGUE STATE PARK WELL
STATE PERMIT Wo-65-W-62
19 April 67

MEASUREMENT CONDITIONS:

WATER LEVELS:

Water levels inside the outer casing are inaccessible except through a 1/2-inch air-blow-off line through the pump base.

Water level measurements made on a direct-reading-air-line gage connected to 200 feet of 1/4-inch copper air line.

Pressure in air line was pumped-up so that direct reading was zero (0) on gage. Pump was turned on and direct readings recorded at predetermined times.

Air line was pumped again near the end of drawdown test to check for loss in air pressure and actual depth to water. Actual reading was within 1 percent of true water level.

TIME:

Time since pumping started (or stopped) was measured with a 30-minute stop watch.

DISCHARGE:

Water-flow meter is connected to the discharge side of the surface storage tank.

Discharge was therefore calculated from measurements on the stream of water issuing from a 4-inch by-pass line and from tables relating open-pipe flow to geometry of the water stream.

ENCLOSURE 1

DRAWDOWN DATA: Pumping started: 11:46 a.m., 19 April 67Discharge = 152 gallons per minute, $\pm$ 5%

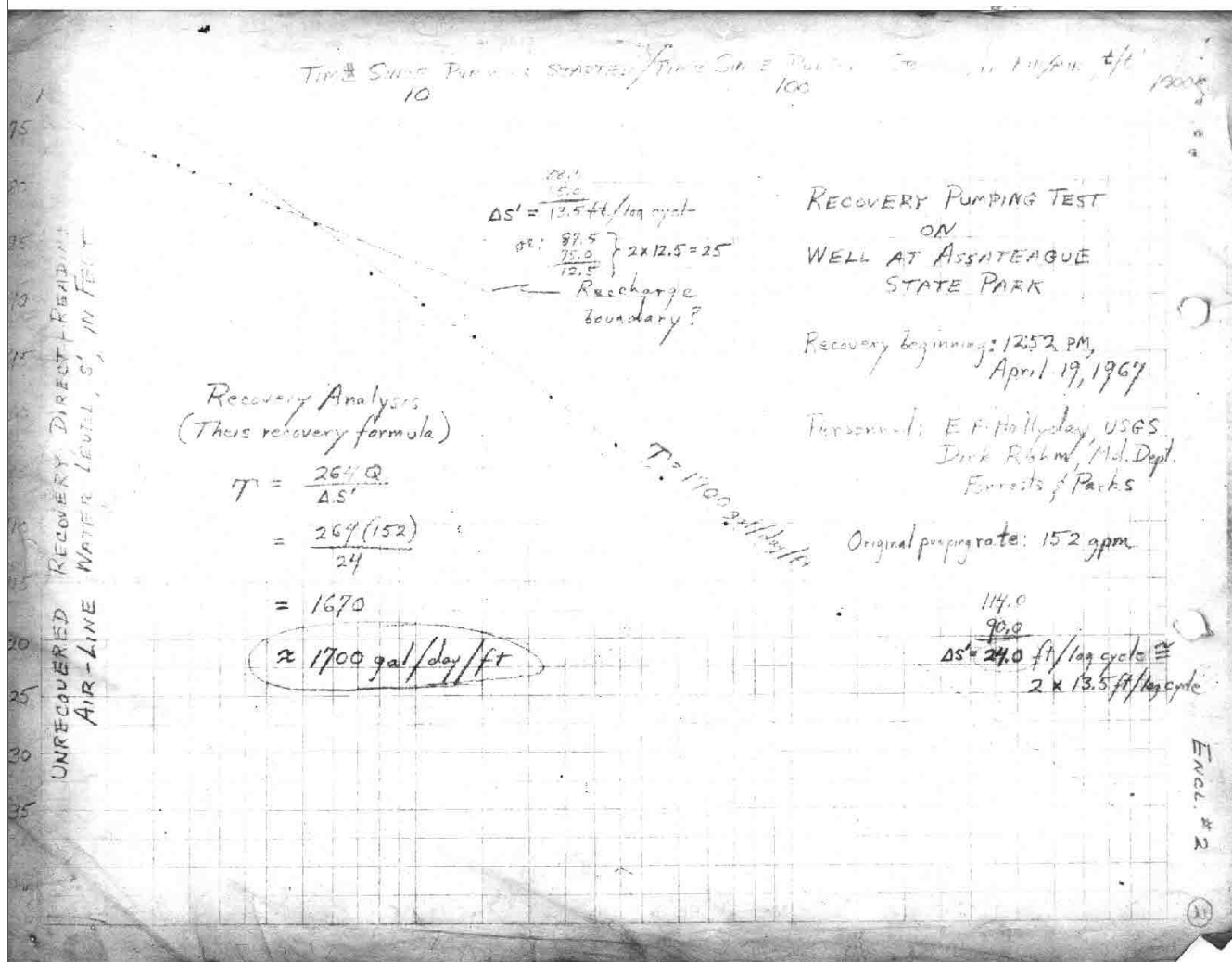
<u>TIME SINCE PUMPING STARTED, t</u>		<u>Drawdown, s, in feet</u>
<u>In Minutes</u>	<u>In Days</u>	
0.0	0.0	0.0
0.08	0.00006	18.0
0.25	0.00017	30.0
0.50	0.00035	48.0
1.0	0.00069	71.0
1.5	0.00104	86.5
2	0.00139	96.5
3	0.00208	109.0
5	0.00347	119.5
7	0.00486	124.0
10	0.00694	126.8
13	0.00903	129.4
15	0.0104	130.5
20	0.0139	133.0
26	0.0180	134.0
39	0.0271	137.2
42	0.0292	137.1
50	0.0347	137.2
End of drawdown 66	0.0458	137.5 $\pm$

CLOSURE 1

RECOVERY DATA: Pumping stopped: 12:52 p.m., 19 April 67

TIME SINCE PUMPING STOPPED, t', in minutes UNRECOVERED RECOVERY, feet

0.0	137.5 +
0.08	134.0
0.5	118.0
1.0	110.0
1.5	106.0
2.0	103.0
3.0	98.8
5.0	93.5
7.0	90.7
10.0	87.9
15.0	83.6
20.0	82.1
25.0	80.9
30.0	80.0
43.0	79.0
50.0	78.4
66.0	77.5



CLOSURE 3

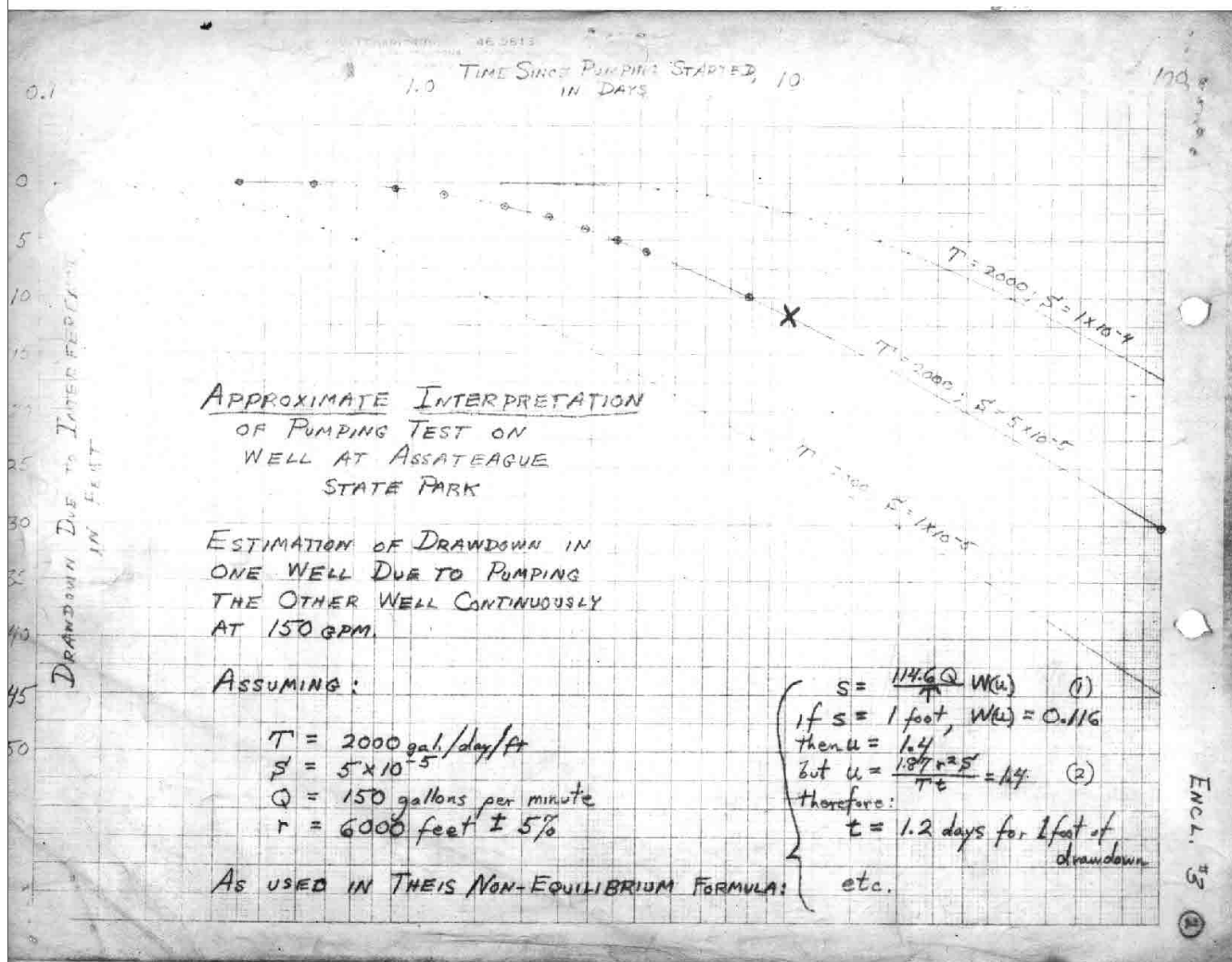
APPROXIMATE INTERPRETATION

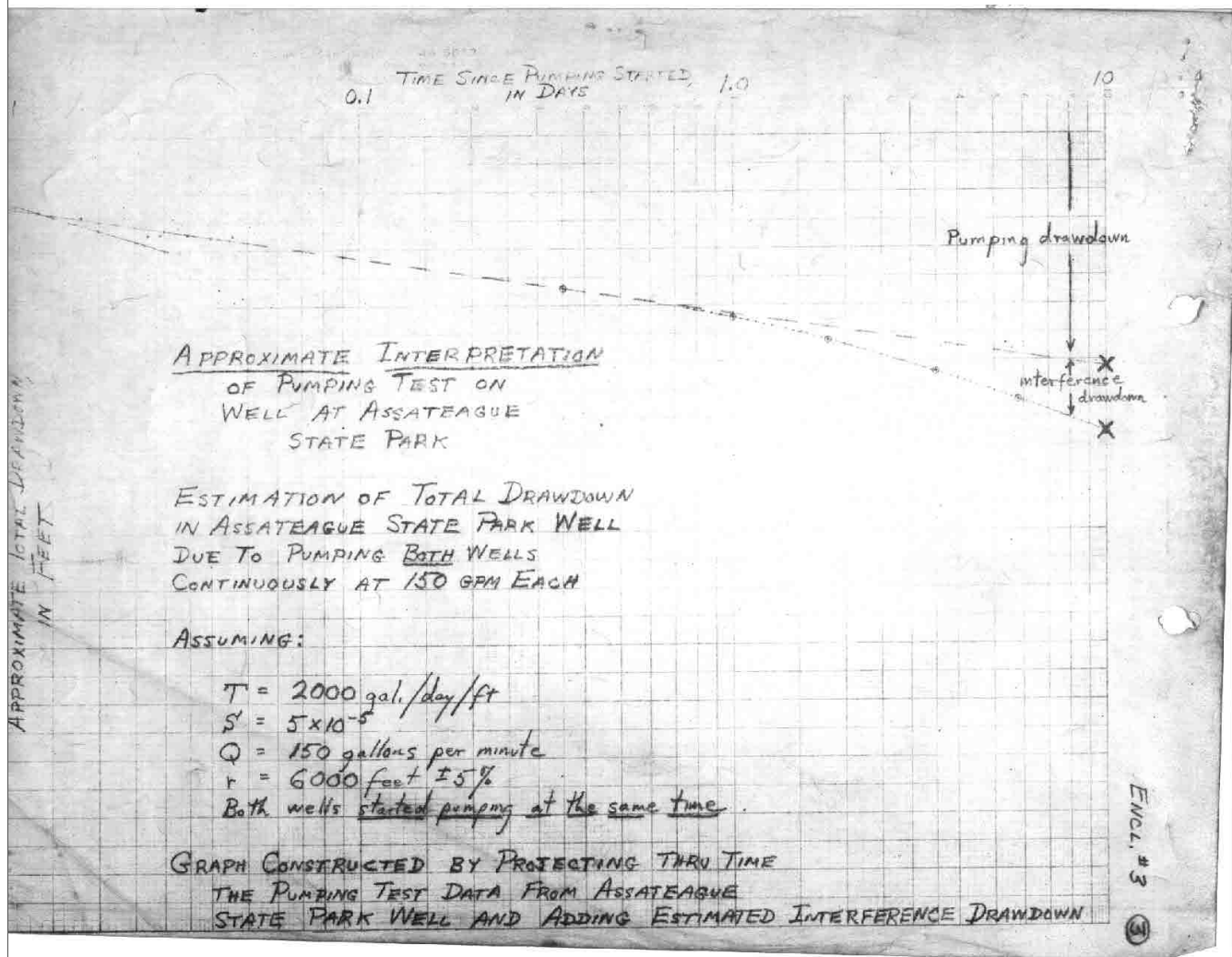
Examples of the application of the approximate interpretation graphs, enclosure 3, pages 2 and 3, would be:

(1) Assuming that either well is left idle continuously and the other well is pumped continuously at 150 gallons per minute, the water level in the idle well will be lowered 12 feet after 10 days following the start of pumping. See enclosure 3, page 2. Twelve feet is approximately 4 percent of the available drawdown (approximately 280 feet) in either well. The upper and lower curves give reasonable limits to expectable values for time and drawdown.

(2) Assuming that both wells are started pumping at the same time and both are pumped continuously at 150 gallons per minute, the interference cited above in (1) is simply additive to the pumping water level. See enclosure 3, page 3. Drawdown due to interference (12 feet) added to drawdown due to pumping (161 feet) sums to make total drawdown (173 feet) in the Assateague State Park well.

The approximate interpretation graphs are based upon relationships expressed in the Theis non-equilibrium formula employing a transmissibility of 2,000 gallons per day per foot and a storage coefficient of 5×10^{-5} derived from a standard, modified non-equilibrium analysis of the pumping test data from the Assateague State Park well.





[illegible]

Number of Documents in Docket	9		
Documents Dated from	4/19/1967	to	4/19/1967
Docket Compiled:	1/31/2011		