

NEW JERSEY -- WATERSPHERES

by Dave Shukan

Ah, New Jersey – home to the first drive-in movie, largest producer of eggplants in the United States, and site of the World's Tallest Watersphere, a landmark towering over the landscape just 3 miles from your author's childhood home. In the map below, each watersphere is either empty or has some whole number of its segments filled with water – **a watersphere always fills starting with the ground segment and moving toward the bulb, no matter its orientation, and it never skips over any segments and resumes later.**

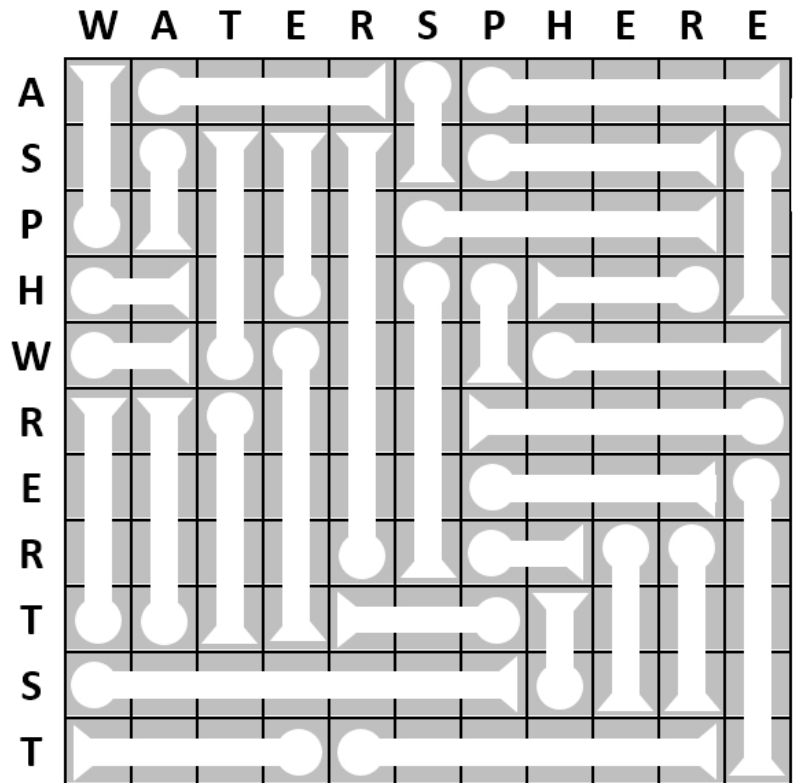
Your goal is to determine which of the watersphere segments in the map contain water, and then shade them in. You have been given the following information:

(1) The letters outside the map indicate how many segments (individual map squares) in that row or column contain water. The map's original digits have been encoded into these letters, with each letter standing for a different digit from 2 through 9 (there are no 1's or 0's). A letter represents the same digit wherever it appears along the top or side of the map.

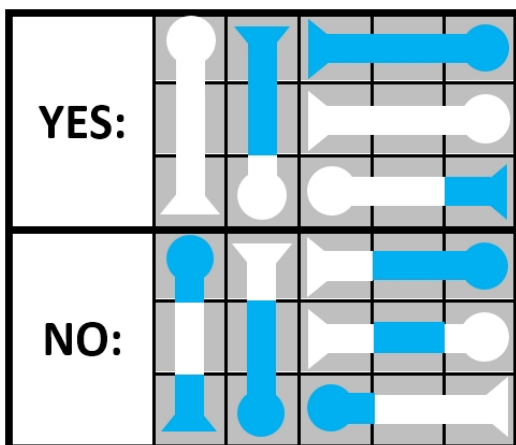
(2) None of the three digits represented by A, W, and P are consecutive with each other, and they have this relationship: $A < W < P$.

(3) Exactly 58 segments contain water.

When you have found where all the water is, shade the corresponding squares in the Extraction Grid filled with the names of New Jersey cities. Then, because New Jersey was the third state to ratify the Constitution, take every third shaded letter (3, 6, 9, ...) in the extraction grid (left to right, top to bottom). Doing so will provide the answer to the following question: **When you visit the World's Tallest Watersphere, what should you take?**



EXAMPLES OF PROPER AND IMPROPER FILLS



Extraction Grid
Take every 3rd watery letter

W	A	Y	N	E	P	A	R	S	I	P
P	A	N	Y	C	L	A	R	K	R	E
D	B	A	N	K	N	E	W	A	R	K
A	M	B	O	Y	E	M	E	R	S	O
N	E	S	S	E	X	U	N	I	O	N
T	E	A	N	E	C	K	O	L	D	B
R	I	D	G	E	T	E	N	A	F	L
Y	B	E	R	G	E	N	F	I	E	L
D	P	A	T	E	R	S	O	N	B	R
I	C	K	T	R	E	N	T	O	N	B
A	Y	O	N	N	E	O	C	E	A	N