

Activity 12A: Groundwater Flow

Many gas stations use underground storage tanks (UST) to store fuel below the ground. You have likely seen a tanker truck at a gas station filling up an UST. These UST's can leak, and, as a result, gasoline can percolate down to the water table. On **Figure 12.9** below, a business using a well has detected gasoline in their groundwater. There are several gas stations in the diagram, and each has the potential to have a leaking UST. Seven monitoring wells are installed in the area; you are provided the data about the water table elevation within each well (**Table 12.1**). To detect the source of the potential leak, you will need to determine its flow path.

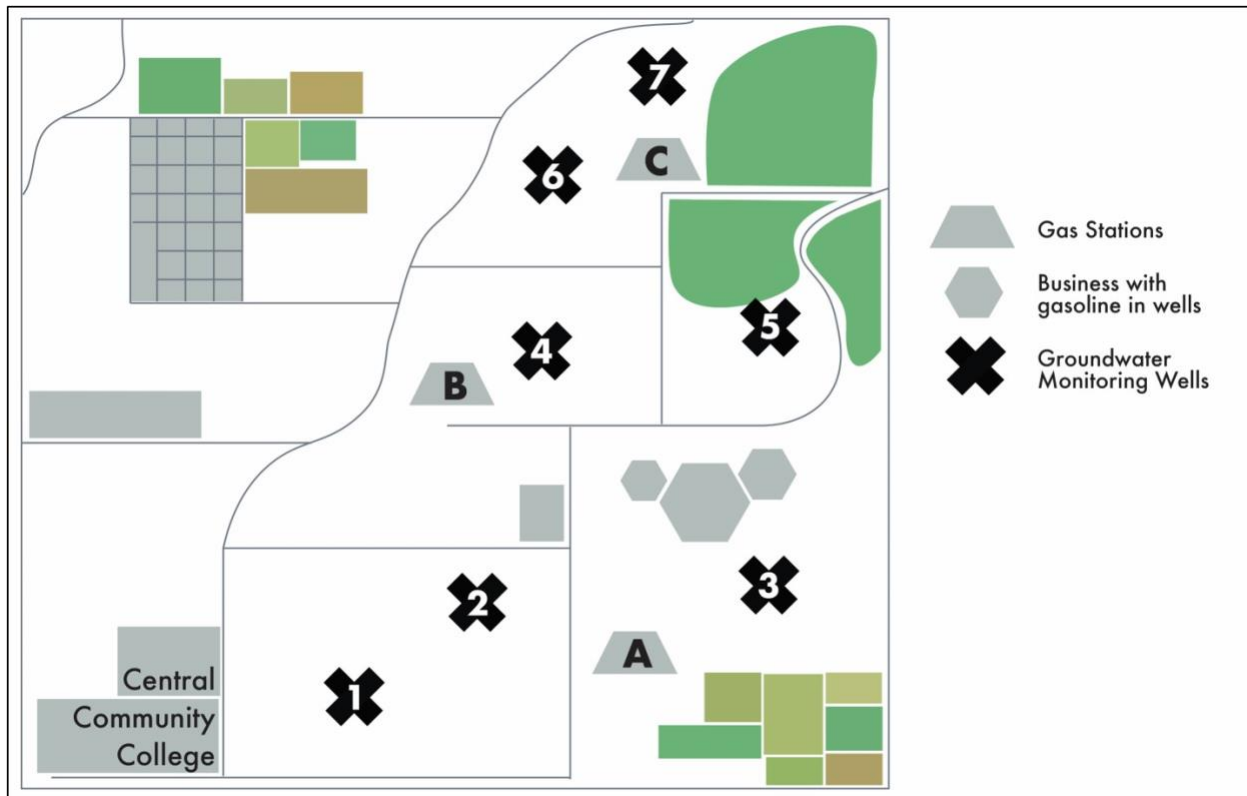


Figure 12.9: Groundwater map to use in Activity 12A: Groundwater Flow. (CC-BY 4.0; Emily Haddad, own work)

Monitoring Well	Water Table Elevation (feet)
1	794
2	790
3	788
4	786

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5	786
6	783
7	780

Table 12.1: Water table elevations for the monitoring wells located on Figure 12.9. (CC-BY 4.0; Chloe Branciforte, own work)

1. Draw (either in pencil or digitally) contour lines for the water table (WT) elevation. Use an interval of 2 feet. Add WT elevations to each of the wells on the map.
2. Determine the direction of groundwater flow. Draw arrows to illustrate the direction.
3. Indicate, with a star, the gas station most likely to be the source of the leak.
4. Which gas station is the most likely source of the gasoline leak?
 - a. Station A
 - b. Station B
 - c. Station C
5. How do you know?
6. Is the school likely to be at risk of contamination from this same leak?
 - a. Yes
 - b. No
7. How do you know?