Noncommunity Public Water Supply Assessment Report For

BREAKERS

WSSN: <u>2006516</u>

Source ID: 1

What is SWAS?	WSSN: 2006516 Source ID: 1
The Source Water Assessment Score (SWAS) is a process that factors geologic and water	County: CHEBOYGAN
well attributes, water chemistry, and the potential contaminant sources for each drinking water	<u>Contact</u>
source into a ranking system to determine the relative potential for contamination. Generally, sources with lower scores are considered to be less susceptible to contamination than sources	Name: BREAKERS
with higher scores. However, exceptions do exist. This assessment is required by the	Address: PO BOX 505
Michigan Source Water Assessment Program (SWAP) under the provisions of the 1996	City: TOPINABEE
amendments to the Federal Safe Drinking Water Act.	State/Zip: MI 49791
Well Log and Location	Well Log Available: Y
A well log is a legal document describing the well location, construction, depth, soil formations	Entered in Wellogic: N
penetrated, and capacity. Drilling contractors have been required to complete a well log and submit it to the owner, local health department, and State since 1967. The lack of information from a well log	Wellogic ID Number:
may increase the SWAS. Wellogic is an electronic database for well log information.	
Geologic Sensitivity	Geologic Sensitivity - SWAS(G)
This score represents the degree of natural protection afforded by the materials overlying the water-	Geologic Sensitivity - SWAS(G) CCM Points Deducted: 24
This score represents the degree of natural protection afforded by the materials overlying the water- bearing formation. Lower scores indicate more protection. Points are deducted based on the thickness	
This score represents the degree of natural protection afforded by the materials overlying the water- bearing formation. Lower scores indicate more protection. Points are deducted based on the thickness and type of geologic material that overlies the source of water. Surface contaminants migrate downward at varying rates dependent upon geological material and thickness. CCM stands for Continuous	CCM Points Deducted: 24 CPCM Points Deducted: 0
This score represents the degree of natural protection afforded by the materials overlying the water- bearing formation. Lower scores indicate more protection. Points are deducted based on the thickness and type of geologic material that overlies the source of water. Surface contaminants migrate downward at varying rates dependent upon geological material and thickness. CCM stands for Continuous Confining Material (eg. clay). CPCM stands for Continuous Partially Confining Material (eg. mix of sand	CCM Points Deducted: 24
This score represents the degree of natural protection afforded by the materials overlying the water- bearing formation. Lower scores indicate more protection. Points are deducted based on the thickness and type of geologic material that overlies the source of water. Surface contaminants migrate downward at varying rates dependent upon geological material and thickness. CCM stands for Continuous	CCM Points Deducted: 24 CPCM Points Deducted: 0
This score represents the degree of natural protection afforded by the materials overlying the water- bearing formation. Lower scores indicate more protection. Points are deducted based on the thickness and type of geologic material that overlies the source of water. Surface contaminants migrate downward at varying rates dependent upon geological material and thickness. CCM stands for Continuous Confining Material (eg. clay). CPCM stands for Continuous Partially Confining Material (eg. mix of sand and clay). More points are deducted for a thick clay layer than a thick sand layer or a thinner clay layer. Point Range 0-30.	CCM Points Deducted:24CPCM Points Deducted:0Total SWAS(G) Points:6Geologic Sensitivity Rating:Moderate
This score represents the degree of natural protection afforded by the materials overlying the water- bearing formation. Lower scores indicate more protection. Points are deducted based on the thickness and type of geologic material that overlies the source of water. Surface contaminants migrate downward at varying rates dependent upon geological material and thickness. CCM stands for Continuous Confining Material (eg. clay). CPCM stands for Continuous Partially Confining Material (eg. mix of sand and clay). More points are deducted for a thick clay layer than a thick sand layer or a thinner clay layer.	CCM Points Deducted: 24 CPCM Points Deducted: 0 Total SWAS(G) Points: 6
This score represents the degree of natural protection afforded by the materials overlying the water- bearing formation. Lower scores indicate more protection. Points are deducted based on the thickness and type of geologic material that overlies the source of water. Surface contaminants migrate downward at varying rates dependent upon geological material and thickness. CCM stands for Continuous Confining Material (eg. clay). CPCM stands for Continuous Partially Confining Material (eg. mix of sand and clay). More points are deducted for a thick clay layer than a thick sand layer or a thinner clay layer. Point Range 0-30. Well Construction Points are added when a well lacks features that help protect the water supply from contamination.	CCM Points Deducted:24CPCM Points Deducted:0Total SWAS(G) Points:6Geologic Sensitivity Rating:Moderate
This score represents the degree of natural protection afforded by the materials overlying the water- bearing formation. Lower scores indicate more protection. Points are deducted based on the thickness and type of geologic material that overlies the source of water. Surface contaminants migrate downward at varying rates dependent upon geological material and thickness. CCM stands for Continuous Confining Material (eg. clay). CPCM stands for Continuous Partially Confining Material (eg. mix of sand and clay). More points are deducted for a thick clay layer than a thick sand layer or a thinner clay layer. Point Range 0-30. Well Construction Points are added when a well lacks features that help protect the water supply from contamination. These include whether the well was grouted (sealing the annulus that is created between the casing	CCM Points Deducted: 24 CPCM Points Deducted: 0 Total SWAS(G) Points: 6 Geologic Sensitivity Rating: Moderate Well Construction - SWAS(W) Well Grouting Points: 0 Well Age Points: 0
This score represents the degree of natural protection afforded by the materials overlying the water- bearing formation. Lower scores indicate more protection. Points are deducted based on the thickness and type of geologic material that overlies the source of water. Surface contaminants migrate downward at varying rates dependent upon geological material and thickness. CCM stands for Continuous Confining Material (eg. clay). CPCM stands for Continuous Partially Confining Material (eg. mix of sand and clay). More points are deducted for a thick clay layer than a thick sand layer or a thinner clay layer. Point Range 0-30. Well Construction Points are added when a well lacks features that help protect the water supply from contamination. These include whether the well was grouted (sealing the annulus that is created between the casing and the soil formations during construction), the well age, how deep the casing extends into the ground, and how much water the well pumps, since larger volumes can pull contaminants from greater	CCM Points Deducted:24CPCM Points Deducted:0Total SWAS(G) Points:6Geologic Sensitivity Rating:ModerateWell Construction - SWAS(W)Well Grouting Points:0Well Age Points:0Casing Depth Points:10
This score represents the degree of natural protection afforded by the materials overlying the water- bearing formation. Lower scores indicate more protection. Points are deducted based on the thickness and type of geologic material that overlies the source of water. Surface contaminants migrate downward at varying rates dependent upon geological material and thickness. CCM stands for Continuous Confining Material (eg. clay). CPCM stands for Continuous Partially Confining Material (eg. mix of sand and clay). More points are deducted for a thick clay layer than a thick sand layer or a thinner clay layer. Point Range 0-30. Well Construction Points are added when a well lacks features that help protect the water supply from contamination. These include whether the well was grouted (sealing the annulus that is created between the casing and the soil formations during construction), the well age, how deep the casing extends into the	CCM Points Deducted: 24 CPCM Points Deducted: 0 Total SWAS(G) Points: 6 Geologic Sensitivity Rating: Moderate Well Construction - SWAS(W) Well Grouting Points: 0 Well Age Points: 0

Water Chemistry and Isotope Data	Water Chemistry and Isotope Data - SWAS(C)
Points are added if water sample results indicate detectable levels of nitrates or nitrites, volatile organic chemicals (solvents, fuel components), and/or synthetic organic chemicals (pesticides or herbicides). Tritium monitoring is included as a voluntary means of age-dating water. Generally, the older the water, the more protected the source. Point Range 0-50. (50 points = MCL violation)	Nitrates and Nitrites:0SOC.VOC:5Tritium Results:0
Susceptibility is Very High if contaminants exceed the Maximum Contaminant Level (MCL).	Total SWAS(C) Points: 5
Isolation from Sources of Contamination	Isolation from Contamination - SWAS(S)
Points are added based on the number and type of potential contaminant sources within the isolation distance (75 ft. from standard or 800 ft. from major contaminant sources). Examples of standard sources are septic tanks, sewer lines, and storm drains. Examples of major sources are chemical and fuel storage, landfills, lagoons, and known plumes of groundwater contamination.	Major Sources from 75 - 800 ft: $0 \times 10 = 0$ Major Sources within 75 ft: $0 \times 20 = 0$ Standard Sources within 75 ft: $0 \times 10 = 0$ Known Sources within 800 ft: $0 \times 25 = 0$
	Total SWAS(S) Points: 0
Source Water Assessment Score (SWAS)	Source Water Assessment Score - SWAS
The total SWAS is factored with the Geologic Sensitivity to determine the overall susceptibility to contamination.	$\frac{6}{5} + \frac{10}{5} + \frac{5}{5} + \frac{0}{5} = \frac{21}{5}$ SWAS(G) SWAS(W) SWAS(C) SWAS(S) SWAS
Susceptibility Determination	Susceptibility Determination
Susceptibility is a means to identify the relative potential of contamination for public water supply sources.	Based on the above compilation of source geology, well construction, water chemistry, and potential contaminant sources, this public drinking water supply is determined to have a Susceptibility Rating of:
	Moderate