

COMMUNITY, PUBLIC WATER , SUPPLY SOURCE WATER ASSESMENT REPORT FOR  
Crystal Falls Township Townline #1 06630

<p>What is SWAS? - The Source Water Assessment Score (SWAS) is a process that factors geologic and water well attributes, water chemistry, and potential contaminant sources for each drinking water source into a ranking system to determine the relative potential for contamination. Sources with low scores are considered to be less susceptible to contamination than those with high scores. This assessment is required by the Michigan Source Water Assessment Program under the provisions of the 1996 amendments to the Federal Safe Drinking Water Act,</p>	<p><b>WSSN</b> 06630 <span style="float: right;">Well No. 1</span></p> <p><b>County:</b> IRON</p> <p><b>Administrative Contact Name</b>  <b>Address,</b> P O Box 329</p> <p>City: CRYSTAL FALLS State: MI Zip: 49920</p>
<p>Well Log and Location - A well log is a legal document describing the well location, construction, depth, soil formations penetrated, and capacity. It has been required to be completed by the drilling contractors and copies submitted to the owner, local health department and State since 1967. The lack of information from a well log will increase the SWAS. If no well log was available for this assessment, the SWAS may be higher than if one were available, Wellogic is an electronic database for well logs,</p>	<p>Wellogic ID Number: 36000000128</p>
<p>Geologic Sensitivity - 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 on geologic material and thickness, CCM stands for continuous confining material (eg. clay) CPCM indicates continuous partially confining material (eg mixture 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</p>	<p><u>Geologic Sensitivity - SWAS (G )</u></p> <p>CCM Pts. Deducted.     <u>0</u>  CPCM Pts. Deducted     <u>0</u></p> <p>Total SWAS(G) Points:     <u>30</u></p> <p><i>Geologic Sensitivity Rating - High</i></p>
<p>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 distances. Point Range 0-15 (each category) Lower scores indicate better well construction <b>Susceptibility increases one level if well construction reflects an adverse condition.</b></p>	<p><b>Well Construction</b></p> <p>Well Grouting Points     <u>15</u>  Well Age Points           <u>15</u>  Casing Depth Points     <u>15</u>  Pumping Rate             <u>5</u></p> <p><b>Total SWAS(W) Points:</b></p>

**SOURCE WATER ASSESSMENT REPORT for WSSN 06630 (Continued)**

<p><b>Water Chemistry and Isotope Data</b> - Points are added if water sample results indicate detectable levels of nitrates or nitrites, volatile organic chemicals (solvents, fuel components), synthetic organic chemicals (pesticides or herbicides), inorganics (metals) or radionuclides. Tritium monitoring is included as a voluntary means of age dating the water. Generally, the older the water the more protected the source. Point Range 0-50 (each category). Susceptibility is very high if contaminants exceeds the Maximum Contaminant Level (MCL). The MCL used for arsenic and radionuclide scores were those in effect prior to May 2003.</p>	<p><b>Water Chemistry and Isotope Data - SWAS(C)</b></p> <table border="0"> <tr> <td>Nitrate and Nitrites</td> <td align="center"><u>0</u></td> <td>Socs:</td> <td align="right">0</td> </tr> <tr> <td>VOCs:</td> <td align="center"><u>0</u></td> <td>Inorganics:</td> <td align="right">10</td> </tr> <tr> <td>Tritium Results:</td> <td align="center"><u>0</u></td> <td>Radionuclides:</td> <td align="right"><u>10</u></td> </tr> <tr> <td><b>Total SWAS(C) Points;</b></td> <td align="center">...</td> <td align="right"><u>20</u></td> <td></td> </tr> </table>	Nitrate and Nitrites	<u>0</u>	Socs:	0	VOCs:	<u>0</u>	Inorganics:	10	Tritium Results:	<u>0</u>	Radionuclides:	<u>10</u>	<b>Total SWAS(C) Points;</b>	...	<u>20</u>	
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<p><b>Isolation From Sources of Contamination</b> -Points are added based on the number and type of potential contaminant sources within the isolation distance (200 feet from standard or 2000 feet from major contaminant sources). For delineated wells, the delineated area is substituted for the 2000 foot radius, Examples of the 200 foot distance are septic tanks, sewer lines, storm sewers, etc. The 2000 foot distance is for chemical waste or storage such as fuel tanks, landfills, lagoons, or known plumes of groundwater contamination. Point Range- indefinite. Susceptibility increases an additional level if there is a major source within 200' or a known source within 2000'. Points are also added If the water supplier does not own or control the approved standard isolation area.</p>	<p><b>Isolation from Contamination - SWAS (S)</b></p> <table border="0"> <tr> <td>Major sources from 200 to 2000 feet:</td> <td align="right">0 x 10= 0</td> </tr> <tr> <td>Major sources within 200 feet:</td> <td align="right">0 x 20= 0</td> </tr> <tr> <td>Standard sources within 200 feet</td> <td align="right">0 x 10= 0</td> </tr> <tr> <td>Known sources within 2000 feet:</td> <td align="right">0 x 25= 0</td> </tr> <tr> <td>Control of Isolation</td> <td align="right">10</td> </tr> <tr> <td>Delineated Area</td> <td align="right">N</td> </tr> <tr> <td><b>Sum of points from sources of contamination:</b></td> <td align="right"><u>10</u></td> </tr> </table>	Major sources from 200 to 2000 feet:	0 x 10= 0	Major sources within 200 feet:	0 x 20= 0	Standard sources within 200 feet	0 x 10= 0	Known sources within 2000 feet:	0 x 25= 0	Control of Isolation	10	Delineated Area	N	<b>Sum of points from sources of contamination:</b>	<u>10</u>		
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<p><b>Source Water Assessment Score</b> - The total SWAS factored with the Geologic Sensitivity are used to determine the overall Susceptibility.</p>	<p><b>Source Water Assessment Score -:SWAS</b></p> <table border="0"> <tr> <td colspan="5">SWAS(G)+SWAS(W)+SWAS(C)+SWAS(S)=SWAS</td> </tr> <tr> <td align="center">30</td> <td align="center">50</td> <td align="center">20</td> <td align="center">10</td> <td align="right">110</td> </tr> </table>	SWAS(G)+SWAS(W)+SWAS(C)+SWAS(S)=SWAS					30	50	20	10	110						
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<p><b>Susceptibility Determination</b> -Susceptibility is a means to identify the relative potential of contamination for public water supply sources.</p> <p>The Michigan SWAP evaluated 2442 community groundwater sources and determined susceptibility to be Very Low for <b>1.6%</b>, Low for <b>16.2%</b>, Moderately Low for <b>34.5%</b>, Moderate for <b>26.9%</b>, <b>Moderately High</b> for <b>15.3%</b>, High for <b>4.8%</b>, and Very High for <b>.7%</b>.</p>	<p><b>Susceptibility Determination</b></p> <p>Based, on the above compilation of source geology, well construction, water chemistry and potential contaminant sources for this public source of drinking water, this assessment determines its:</p> <p><b>Susceptibility is <u>Moderately High</u></b></p>																