

MANDATORY PROTOCOL FOR INSTALLATION OF RESIDENTIAL DRINKING WATER WELLS WITHIN AREAS SUBJECT TO CONTAMINATED GROUND WATER, NEAR MANCELONA, MICHIGAN

Basis for Protocol:

Trichloroethene (TCE), a suspected carcinogen, has been detected in groundwater near and to the northwest of Mancelona, Michigan. As investigative efforts by the Michigan Department of Environmental Quality and Northwest Michigan Community Health Agency continue to discover affected groundwater and verifiable migration of contaminants within and toward the Schuss Village area, certain restrictions on well installations were deemed necessary, under Act 399 .Safe Drinking Water Act, to protect the public health and prevent the unintended consumption of contaminated drinking water.

Mandatory Procedures:

For new or replacement residential drinking water wells installed within the areas encompassed by the Mancelona Water and Sewer Authority service district and special assessment district, where public water is available, and areas of the Schuss Village development, the following procedures apply and are considered conditions of your well permit:

1. **Well First Policy:** The proposed well is not approved for use and will restrict the issuance of other health department permits (ie. sewage disposal) until the following construction and sampling requirements are met:
2. **Well Depth:** The proposed drinking water well must be completed and screened at a depth least likely to be impacted by TCE. Water well contractors should contact the MIDEQ or NWMCHA prior to drilling and completion of the proposed drinking water well. With assistance from MDEQ and Health Department personnel, a target depth for screen placement should be established based on regional geology and areas of impaired groundwater.
3. **Well Drilling:** The proposed drinking water well must be constructed using a mud rotary drill rig and methodologies.
4. **Grouting Requirement:** The proposed drinking water well must be grouted with neat cement for the entire casing length of the water well.
5. **Test Well Installation and Sampling:** The proposed drinking water well must be sampled for Volatile Organic Chemicals (VOC), including TCE, **prior** to putting the well into service and results must be reported to the Northwest Michigan Community Health Agency, Environmental Health Division.
 - I. If VOC sampling results in the water supply exceeding any EPA Maximum Contaminant Levels (MCL).
 - i. Water from an approved water source must be supplied for drinking water purpose.

- ii. The entire casing of the well must be immediately plugged in accordance with Part 127 of Act 368, P.A. 1978.
- II. If VOC sampling results in the detection of any analyte, not exceeding an MCL:
- i. Follow-up VOC sampling required and submittal of results to NWMCHA, Environmental Health Division.
 - ii. The water supply must be provided with a carbon filtration system that can reduce all volatile organics below detection limits.
6. **Final Inspection:** The Northwest Michigan Community Health Agency requires a Well Final Inspection.
7. **Connection to Public Water Supply:** When a public water supply system becomes available, the existing water supply well will be required to be abandoned and the residence connected to the public system.
8. **Well Abandonment:** Water well must be properly abandoned, in accordance with Part 127 of Act 368, P.A. 1978, when public water is made available.
9. **Annual Sampling:** In order to assure long term safety of this water supply, the Northwest Michigan Community Health Agency ***STRONGLY*** recommends annual sampling for Volatile Organic Compounds, including TCE.

A pamphlet describing the Mancelona TCE plume and the ongoing efforts of the Michigan Department of Environmental Quality to define the characteristics of local contaminated groundwater is included for your review.

I hereby acknowledge that the water supply well permitted by the Northwest Michigan Community Health Agency may be subject to contamination and that I agree to the above restrictions as written.

Signature _____ Date _____

Northwest Michigan Community Health Agency use only:

Supplement to special conditions for Permit # _____

Sanitarian's Signature _____ Date _____