DEQ

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER AND ENVIRONMENTAL HEALTH SECTION
WATER BUREAU

Permit Application for Noncommunity Public Water Supply Systems
Construction-Alteration-Addition or Improvement
Required Under Authority of Act 1976 PA 399, as amended

County Health Department Name, Street Address, City, State & zip code

Plan Review for Arsenic Treatment Type: Iron-Based Media Adsorption
Facility Name _____
Street Address _____
City _____ State _____ Zip _____
Public Water Supply System Number (WSSN): ____ ____ ____ ____ ____ - ____ ____

Facility Owner
Name _____ Ph. _____/_____/_____
Address _____
City _____ State _____ Zip _____

Treatment System Designer
Name _____ Co. _____ Ph. _____/_____/_____
Address _____
City _____ State _____ Zip _____

The Basis of Design for the proposed treatment must be documented. Please include the following information in the plan submittal:

Type and volume of media
Contact time
Filtration rate -
Rated capacity per unit in gpm per square foot -
Effective size and uniformity coefficient of media -
Total population served -
Number of service connections -
Peak demand of water system in gpm -

Operating pressure and system controls -
Backwash discharge (volume, frequency & arsenic concentration) -
Location & approval for backwash discharge -

Other Treatment Description and basis of design for other treatment applied such as softening, disinfection, iron removal, etc.

_____

Water Quality (Untreated) Provide results from water testing of the raw water as follows:

Nitrates _____ (mg/l)	Iron _____ (mg/l)	Silica _____ (mg/l)
Conductivity _____ (mg/l)	Manganese _____ (mg/l)	Phosphate _____ (mg/l)
Sulfates _____ (mg/l)	Total Hardness _____ (mg/l)	Sodium _____ (mg/l)
Sulfides _____ (mg/l)	Total Arsenic _____ (mg/l)	pH _____ (mg/l)
Chlorides _____ (mg/l)	Arsenic III _____ (mg/l)	Other _____(mg/l)

Plans & Specifications Identify the following on all plans

1) Piping schematic identifying:
    a. all piping
    b. tanks
    c. pumps
    d. valves
    e. gauges
    f. meters
    g. sampling locations
    h. backwash discharge/receiving system

Operation & Maintenance
Provide the following information:

1) Operation manual Including:
    a. Routine operation and maintenance activities
    b. Troubleshooting guide
    c. Permanent tags/labels for piping, valves, gauges, sample taps, key components
    d. Process and plan for regeneration of media

Certified Operator Identify an operator certified at or above the D5 level (limited treatment)

Name	Cert Number / Level

Arsenic Testing Manufacturer's literature, operation and maintenance manual and test kit information are to be provided. These materials are to be made available on-site to the operator.

Test Kit Manufacturer	Model Number	Range of Detection	Degree of Accuracy

Operation Report Monthly operation report (attached) is to be submitted by the certified operator.

Other Relevant Information

Alternate Source If another approved water source is available (by connection or drilling a new well) that source shall be used in lieu of treating a source that exceeds drinking water standards

Distance and name of nearest municipal water system:

_____

_____

Is connection to municipal water possible? Yes _____ No _____

Comments;_____

_____

_____

_____

Third Party Standards Equipment, materials, and additives in contact with potable water must meet American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standards 60 and 61.

1) Provide ANSI/NSF listing if any "Drinking Water Treatment Chemicals are involved in treatment system.
2) Provide ANSI/NSF certification listing for "Drinking Water Treatment Units". Sandards 42 Drinking Water Treatment Units - Aesthetics, 44 Residential Cation Exchange Water Softeners, 53 Drinking Water Treatment Units – Health Effects, 55 Ultraviolet Microbiological Water Treatment Systems, 58 Reverse Osmosis Drinking Water Treatment Systems and 62 Drinking Water Distillation System).
3) Provide ANSI/NSF product listing for "Drinking Water System Components". (Standard 61)

Backwash Discharge Approval is required for disposal of backwash water. Requirements are dependent on the type of disposal and waste water to be discharged. Identification of the waste receiving systems, approval for discharge and characterization of the backwash water will be required for approval to install an arsenic removal system on a public water supply.

Backwash water will be discharged to: Municipal sewer _____,

Septic tank/drainfield _____, Storm sewer _____, Lagoon _____,

Other _____, If other describe location:

_____

Provide a copy of the permit application and plans and specifications to the local health department and:

Department of Environmental Quality
Noncommunity Unit
Drinking Water and Environmental Health Section
Water Bureau
525 W Allegan Street
P.O. Box 30273
Lansing, Michigan 48909-7773

Michigan Department of Environmental Quality
Drinking Water and Environmental Health Section
Water Bureau
Arsenic Treatment Monthly Operation Report - Media Adsorption

Facility Name: _____ WSSN: _____

Certified Operator: _____#_____ Month/Year: _____/_____

Chemical(s) Added: _____ Manufacturer: _____

Day	Quantity Chlorine Added	Chlorine PPM	Meter Reading Prior	Meter Reading After	PSI Prior	PSI After	Arsenic Untreated PPB	Arsenic Treated PPB	Analyzed by

Completion of this form is required by Rule 325.11502, 1976 PA 399

GWS 7/28/2004