

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

copy

MAR 22 2007

CERTIFIED MAIL 7001 0320 0006 0198 5385
RETURN RECEIPT REQUESTED

REPLY TO THE ATTENTION OF:
WU-16J

Jonathan C. Cherry, P.E.
Manager Environment & Governmental Affairs
Kennecott Eagle Minerals Company
1004 Harbor Hill Drive, Suite 103
Marquette, Michigan 49855

Re: Call-In Notification for Kennecott Eagle Minerals Company's
Proposed Class V Industrial Process Waste Water Well; Eagle Project;
Marquette County, Michigan

Dear Mr. Cherry:

Thank you for providing the required Underground Injection Control (UIC) inventory information for your company's proposed Class V Industrial Process Waste Water Well. The U.S. Environmental Protection Agency (U.S. EPA) has reviewed this information, as well as information we obtained from the State for the proposed State permits, and has determined that Kennecott Eagle Minerals Company (Kennecott) will be required to obtain a UIC permit before it may begin construction of its proposed Industrial Process Waste Water Class V well.

This decision conforms to my letter of January 31, 2007, in which I renewed my request for UIC inventory information (first requested by U.S. EPA in a letter to you from Rebecca Harvey of my staff, to you, of March 31, 2006), and informed you that Kennecott would need a permit for its proposed Class V injection well based on our review of the State materials for this project. My January 31, 2007, letter to you was not a request for an individual permit that was intended to meet the formal notice requirements for an individual permit "call-in" under the UIC regulations. Today's letter is intended to meet the formal notice requirements. Kennecott has proposed three potential Class V wells, and the current decision is related only to the high capacity Industrial Process Wastewater Well.

The Underground Injection Control (UIC) program was established under the authority of Part C of the Safe Drinking Water Act (SDWA) (42 U.S.C. 300f *et seq.*) with the objective of protecting the Nation's underground sources of drinking water (USDWs). Pursuant to the UIC program, established in accordance with Sections 1421 and 1422 of the SDWA, 42 U.S.C. Sections 300h and 300h-1, U.S. EPA promulgated regulations in 40 C.F.R. Sections 124, 144, 146, 147, and 148, to prevent underground injection which endangers drinking water sources. Pursuant to 40 C.F.R. § 144.11, any underground injection, except as authorized by rule or by permit issued under the UIC program, is

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prohibited. In addition, the construction of any well required to have a permit is prohibited until the permit has been issued.

The individual permit for the Industrial Process Waste Water Well is being required pursuant to 40 C.F.R. Sections 144.12 and 144.25, under which the Director may require the owner or operator of an injection well to apply for a permit in order to protect USDWs. Based on the significant volume and the industrial nature of Kennecott's proposed injection well at issue, we have determined that in order to protect the USDW, and ultimately human health and the environment, additional conditions are necessary. These conditions include: injectate and ground water monitoring; providing notification of upset conditions; notification of any malfunction of the subsurface distribution system that may cause endangerment to the USDW; and requiring financial assurance for the actual costs of plugging and abandoning the well.

You are therefore hereby required to submit a complete permit application for the proposed Industrial Process Waste Water Well, and to obtain financial assurance under the permit, before you may begin construction. Your complete permit application must be received within sixty days from your receipt of this letter. We have enclosed a permit application form and the associated attachments. Additional information can be found on the U.S. EPA Region 5 UIC website at www.epa.gov/region5/water/uic.

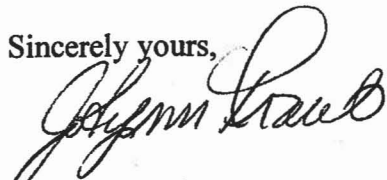
Pursuant to 40 C.F.R. § 144.31(a), the construction of any well required to have a permit is prohibited until the permit has been issued. Additionally, you should be aware that the SDWA provides for administrative orders, civil penalties for each day of violation, criminal penalties of up to three years imprisonment, and fines in accordance with Title 18 of the United States Code, should you fail to submit a complete permit application by the required date and begin construction activity.

Please send your completed application form to:

Rebecca L. Harvey (WU-16J)
U.S. Environmental Protection Agency, Region 5
77 West Jackson Blvd.
Chicago, Illinois 60604-3590

Please feel free to contact Steve Roy of my staff at (312) 886-6556, who will be happy to work with you regarding the permit application.

Sincerely yours,



Lynn Traub
Director, Water Division

Enclosures

cc: Hal Fitch, Michigan Department of Environmental Quality
Todd Warner, KBIC Natural Resources Department



United States Environmental Protection Agency
**Underground Injection Control
 Permit Application**
 (Collected under the authority of the Safe Drinking
 Water Act. Sections 1421, 1422, 40 CFR 144)

I. EPA ID Number		T/A	C
U			

Read Attached Instructions Before Starting
 For Official Use Only

Application approved mo day year	Date received mo day year	Permit Number	Well ID	FINDS Number

II. Owner Name and Address			III. Operator Name and Address		
Owner Name			Owner Name		
Street Address		Phone Number	Street Address		Phone Number
City		State	ZIP CODE	City	

IV. Commercial Facility	V. Ownership	VI. Legal Contact	VII. SIC Codes
<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Private <input type="checkbox"/> Federal <input type="checkbox"/> Other	<input type="checkbox"/> Owner <input type="checkbox"/> Operator	

VIII. Well Status (Mark "X")

<input type="checkbox"/> A Operating	Date Started mo day year	<input type="checkbox"/> B. Modification/Conversion	<input type="checkbox"/> C. Proposed

IX. Type of Permit Requested (Mark "X" and specify if required)

<input type="checkbox"/> A. Individual	<input type="checkbox"/> B. Area	Number of Existing Wells	Number of Proposed Wells	Name(s) of field(s) or project(s)

X. Class and Type of Well (See reverse)

A. Class(es) (enter code(s))	B. Type(s) (enter code(s))	C. If class is "other" or type is code 'x,' explain	D. Number of wells per type (if area permit)

XI. Location of Well(s) or Approximate Center of Field or Project												XII. Indian Lands (Mark "X")			
Latitude			Longitude			Township and Range						<input type="checkbox"/> Yes <input type="checkbox"/> No			
Deg	Min	Sec	Deg	Min	Sec	Sec	Twp	Range	1/4 Sec	Feet From	Line			Feet From	Line

XIII. Attachments
 (Complete the following questions on a separate sheet(s) and number accordingly; see instructions)
 For Classes I, II, III, (and other classes) complete and submit on a separate sheet(s) Attachments A-U (pp 2-6) as appropriate. Attach maps where required. List attachments by letter which are applicable and are included with your application.

XIV. Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

A. Name and Title (Type or Print)	B. Phone No. (Area Code and No.)
C. Signature	D. Date Signed

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Well Class and Type Codes

Class I Wells used to inject waste below the deepest underground source of drinking water.

Type "I" Nonhazardous industrial disposal well
 "M" Nonhazardous municipal disposal well
 "W" Hazardous waste disposal well injecting below USDWs
 "X" Other Class I wells (not included in Type "I," "M," or "W")

Class II Oil and gas production and storage related injection wells.

Type "D" Produced fluid disposal well
 "R" Enhanced recovery well
 "H" Hydrocarbon storage well (excluding natural gas)
 "X" Other Class II wells (not included in Type "D," "R," or "H")

Class III Special process injection wells.

Type "G" Solution mining well
 "S" Sulfur mining well by Frasch process
 "U" Uranium mining well (excluding solution mining of conventional mines)
 "X" Other Class III wells (not included in Type "G," "S," or "U")

Other Classes Wells not included in classes above.
 Class V wells which may be permitted under §144.12.
 Wells not currently classified as Class I, II, III, or V.

Attachments to Permit Application

Class	Attachments
I new well	A, B, C, D, F, H – S, U
existing	A, B, C, D, F, H – U
II new well	A, B, C, E, G, H, M, Q, R; optional – I, J, K, O, P, U
existing	A, E, G, H, M, Q, R, – U; optional – J, K, O, P, Q
III new well	A, B, C, D, F, H, I, J, K, M – S, U
existing	A, B, C, D, F, H, J, K, M – U
Other Classes	To be specified by the permitting authority

INSTRUCTIONS - Underground Injection Control (UIC) Permit Application

Paperwork Reduction Act: The public reporting and record keeping burden for this collection of information is estimated to average 394 hours for a Class I hazardous well application, 252 hours for a Class I non-hazardous well application, 32 hours for a Class II well application, and 119 hours for a Class III well application. Burden means the total time, effort, or financial resource expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal Agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to the collection of information; search data sources; complete and review the collection of information; and, transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW., Washington, DC 20460. Include the OMB control number in any correspondence. Do not send the completed forms to this address.

This form must be completed by all owners or operators of Class I, II, and III injection wells and others who may be directed to apply for permit by the Director.

- I. **EPA I.D. NUMBER** - Fill in your EPA Identification Number. If you do not have a number, leave blank.
- II. **OWNER NAME AND ADDRESS** - Name of well, well field or company and address.
- III. **OPERATOR NAME AND ADDRESS** - Name and address of operator of well or well field.
- IV. **COMMERCIAL FACILITY** - Mark the appropriate box to indicate the type of facility.
- V. **OWNERSHIP** - Mark the appropriate box to indicate the type of ownership.
- VI. **LEGAL CONTACT** - Mark the appropriate box.
- VII. **SIC CODES** - List at least one and no more than four Standard Industrial Classification (SIC) Codes that best describe the nature of the business in order of priority.
- VIII. **WELL STATUS** - Mark Box A if the well(s) were operating as injection wells on the effective date of the UIC Program for the State. Mark Box B if wells(s) existed on the effective date of the UIC Program for the State but were not utilized for injection. Box C should be marked if the application is for an underground injection project not constructed or not completed by the effective date of the UIC Program for the State.
- IX. **TYPE OF PERMIT** - Mark "Individual" or "Area" to indicate the type of permit desired. Note that area permits are at the discretion of the Director and that wells covered by an area permit must be at one site, under the control of one person and do not inject hazardous waste. If an area permit is requested the number of wells to be included in the permit must be specified and the wells described and identified by location. If the area has a commonly used name, such as the "Jay Field," submit the name in the space provided. In the case of a project or field which crosses State lines, it may be possible to consider an area permit if EPA has jurisdiction in both States. Each such case will be considered individually, if the owner/operator elects to seek an area permit.
- X. **CLASS AND TYPE OF WELL** - Enter in these two positions the Class and type of injection well for which a permit is requested. Use the most pertinent code selected from the list on the reverse side of the application. When selecting type X please explain in the space provided.
- XI. **LOCATION OF WELL** - Enter the latitude and longitude of the existing or proposed well expressed in degrees, minutes, and seconds or the location by township, and range, and section, as required by 40 CFR Part 146. If an area permit is being requested, give the latitude and longitude of the approximate center of the area.
- XII. **INDIAN LANDS** - Place an "X" in the box if any part of the facility is located on Indian lands.
- XIII. **ATTACHMENTS** - Note that information requirements vary depending on the injection well class and status. Attachments for Class I, II, III are described on pages 4 and 5 of this document and listed by Class on page 2. Place EPA ID number in the upper right hand corner of each page of the Attachments.
- XIV. **CERTIFICATION** - All permit applications (except Class II) must be signed by a responsible corporate officer for a corporation, by a general partner for a partnership, by the proprietor of a sole proprietorship, and by a principal executive or ranking elected official for a public agency. For Class II, the person described above should sign, or a representative duly authorized in writing.

INSTRUCTIONS - Attachments

Attachments to be submitted with permit application for Class I, II, III and other wells.

- A. AREA OF REVIEW METHODS** - Give the methods and, if appropriate, the calculations used to determine the size of the area of review (fixed radius or equation). The area of review shall be a fixed radius of 1/4 mile from the well bore unless the use of an equation is approved in advance by the Director.
- B. MAPS OF WELL/AREA AND AREA OF REVIEW** - Submit a topographic map, extending one mile beyond the property boundaries, showing the injection well(s) or project area for which a permit is sought and the applicable area of review. The map must show all intake and discharge structures and all hazardous waste treatment, storage, or disposal facilities. If the application is for an area permit, the map should show the distribution manifold (if applicable) applying injection fluid to all wells in the area, including all system monitoring points. Within the area of review, the map must show the following:

Class I

The number, or name, and location of all producing wells, injection wells, abandoned wells, dryholes, surface bodies of water, springs, mines (surface and subsurface), quarries, and other pertinent surface features, including residences and roads, and faults, if known or suspected. In addition, the map must identify those wells, springs, other surface water bodies, and drinking water wells located within one quarter mile of the facility property boundary. Only information of public record is required to be included in this map;

Class II

In addition to requirements for Class I, include pertinent information known to the applicant. This requirement does not apply to existing Class II wells;

Class III

In addition to requirements for Class I, include public water systems and pertinent information known to the applicant.

- C. CORRECTIVE ACTION PLAN AND WELL DATA** - Submit a tabulation of data reasonably available from public records or otherwise known to the applicant on all wells within the area of review, including those on the map required in B, which penetrate the proposed injection zone. Such data shall include the following:

Class I

A description of each well's types, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the Director may require. In the case of new injection wells, include the corrective action proposed to be taken by the applicant under 40 CFR 144.55.

Class II

In addition to requirement for Class I, in the case of Class II wells operating over the fracture pressure of the injection formation, all known wells within the area of review which penetrate formations affected by the increase in pressure. This requirement does not apply to existing Class II wells.

Class III

In addition to requirements for Class I, the corrective action proposed under 40 CFR 144.55 for all Class III wells.

- D. MAPS AND CROSS SECTION OF USDWs** - Submit maps and cross sections indicating the vertical limits of all underground sources of drinking water within the area of review (both vertical and lateral limits for Class I), their position relative to the injection formation and the direction of water movement, where known, in every underground source of drinking water which may be affected by the proposed injection. (Does not apply to Class II wells.)

- E. NAME AND DEPTH OF USDWs (CLASS II)** - For Class II wells, submit geologic name, and depth to bottom of all underground sources of drinking water which may be affected by the injection.
- F. MAPS AND CROSS SECTIONS OF GEOLOGIC STRUCTURE OF AREA** - Submit maps and cross sections detailing the geologic structure of the local area (including the lithology of injection and confining intervals) and generalized maps and cross sections illustrating the regional geologic setting. (Does not apply to Class II wells.)
- G. GEOLOGICAL DATA ON INJECTION AND CONFINING ZONES (Class II)** - For Class II wells, submit appropriate geological data on the injection zone and confining zones including lithologic description, geological name, thickness, depth and fracture pressure.
- H. OPERATING DATA** - Submit the following proposed operating data for each well (including all those to be covered by area permits): (1) average and maximum daily rate and volume of the fluids to be injected; (2) average and maximum injection pressure; (3) nature of annulus fluid; (4) for Class I wells, source and analysis of the chemical, physical, radiological and biological characteristics, including density and corrosiveness, of injection fluids; (5) for Class II wells, source and analysis of the physical and chemical characteristics of the injection fluid; (6) for Class III wells, a qualitative analysis and ranges in concentrations of all constituents of injected fluids. If the information is proprietary, maximum concentrations only may be submitted, but all records must be retained.
- I. FORMATION TESTING PROGRAM** - Describe the proposed formation testing program. For Class I wells the program must be designed to obtain data on fluid pressure, temperature, fracture pressure, other physical, chemical, and radiological characteristics of the injection matrix and physical and chemical characteristics of the formation fluids.
- For Class II wells the testing program must be designed to obtain data on fluid pressure, estimated fracture pressure, physical and chemical characteristics of the injection zone. (Does not apply to existing Class II wells or projects.)
- For Class III wells the testing must be designed to obtain data on fluid pressure, fracture pressure, and physical and chemical characteristics of the formation fluids if the formation is naturally water bearing. Only fracture pressure is required if the program formation is not water bearing. (Does not apply to existing Class III wells or projects.)
- J. STIMULATION PROGRAM** - Outline any proposed stimulation program.
- K. INJECTION PROCEDURES** - Describe the proposed injection procedures including pump, surge, tank, etc.
- L. CONSTRUCTION PROCEDURES** - Discuss the construction procedures (according to §146.12 for Class I, §146.22 for Class II, and §146.32 for Class III) to be utilized. This should include details of the casing and cementing program, logging procedures, deviation checks, and the drilling, testing and coring program, and proposed annulus fluid. (Request and submission of justifying data must be made to use an alternative to packer for Class I.)
- M. CONSTRUCTION DETAILS** - Submit schematic or other appropriate drawings of the surface and subsurface construction details of the well.
- N. CHANGES IN INJECTED FLUID** - Discuss expected changes in pressure, native fluid displacement, and direction of movement of injection fluid. (Class III wells only.)
- O. PLANS FOR WELL FAILURES** - Outline contingency plans (proposed plans, if any, for Class II) to cope with all shut-ins or wells failures, so as to prevent migration of fluids into any USDW.
- P. MONITORING PROGRAM** - Discuss the planned monitoring program. This should be thorough, including maps showing the number and location of monitoring wells as appropriate and discussion of monitoring devices, sampling frequency, and parameters measured. If a manifold monitoring program is utilized, pursuant to §146.23(b)(5), describe the program and compare it to individual well monitoring.
- Q. PLUGGING AND ABANDONMENT PLAN** - Submit a plan for plugging and abandonment of the well including: (1) describe the type, number, and placement (including the elevation of the top and bottom) of plugs to be used; (2) describe the type, grade, and quantity of cement to be used; and (3) describe the method to be used to place plugs, including the method used to place the well in a state of static equilibrium prior to placement of the plugs. Also for a Class III well that underlies or is in an exempted aquifer, demonstrate adequate protection of USDWs. Submit this information on EPA Form 7520-14, Plugging and Abandonment Plan.

- R. **NECESSARY RESOURCES** - Submit evidence such as a surety bond or financial statement to verify that the resources necessary to close, plug or abandon the well are available.
- S. **AQUIFER EXEMPTIONS** - If an aquifer exemption is requested, submit data necessary to demonstrate that the aquifer meets the following criteria: (1) does not serve as a source of drinking water; (2) cannot now and will not in the future serve as a source of drinking water; and (3) the TDS content of the ground water is more than 3,000 and less than 10,000 mg/l and is not reasonably expected to supply a public water system. Data to demonstrate that the aquifer is expected to be mineral or hydrocarbon production, such as general description of the mining zone, analysis of the amenability of the mining zone to the proposed method, and time table for proposed development must also be included. For additional information on aquifer exemptions, see 40 CFR Sections 144.7 and 146.04.
- T. **EXISTING EPA PERMITS** - List program and permit number of any existing EPA permits, for example, NPDES, PSD, RCRA, etc.
- U. **DESCRIPTION OF BUSINESS** - Give a brief description of the nature of the business.

**EPA REGION 5 UNDERGROUND INJECTION CONTROL
CLASS V PERMIT APPLICATION INSTRUCTIONS**

(From: INSTRUCTIONS – Attachments / EPA Form 7520-6)

A. AREA OF REVIEW METHODS: Not Applicable

B. MAPS OF WELLS/AREA AND AREA OF REVIEW:

- 1) Submit a topographic map (approximate scale 1:400) extending at least one mile beyond the property boundaries of the facility, clearly showing the following:
 - a) The facility and all water intake (such as water supply wells) and discharge (drainage, sewer, discharges to ponds, lakes, ditches, streams or rivers, etc.) structures, including all surface and subsurface piping;
 - b) All hazardous waste treatment, storage, or disposal area(s) within one-quarter mile of the facility's property boundaries; and
 - c) All wells (including injection wells, water supply wells and drinking water wells), springs and other surface water bodies listed in public records or otherwise known to the applicant within one-quarter mile of the facility's property boundaries.
- 2) Submit the following information on all public and private water wells (active and/or plugged) listed in public records or otherwise known to the applicant that lie within one-quarter mile of the property boundaries (A copy of the form filed with the public agency is acceptable.):
 - a) Type of well;
 - b) Record of well completion, including construction details;
 - c) Location;
 - d) Date drilled;
 - e) Total depth of the well;
 - f) Name of the aquifer at the total depth of the well;
 - g) The amount of water (in gallons per minute) yielded by the aquifer; and
 - h) Records of well closure for each plugged well.
- 3) Submit a list of the names and addresses of all landowners within one-quarter mile of the facility boundaries (this requirement may be waived by the Director for densely populated areas).

C. CORRECTIVE ACTION PLAN AND WELL DATA: Not Applicable

D. MAPS AND CROSS SECTION OF USDWs:

Submit appropriately scaled and labeled maps and cross sections detailing the geologic structure of the local area, including:

- 1) All Underground Sources of Drinking Water (USDWs) within one-quarter mile of the facility's property boundaries. The vertical limits of the cross sections detailing the geologic structure should extend at least 50 feet below the lowermost USDW affected by injection operations;

- 2) The direction of water movement in each USDW which may be affected by injection operations at this facility;

Note: A USDW is defined as an aquifer or its portion which contains fewer than 10,000 mg/1 of total dissolved solids.

E. NAME AND DEPTH OF USDWs (Class II): Not Applicable

F. MAPS AND CROSS SECTIONS OF GEOLOGIC STRUCTURE OF AREA:

Submit appropriately scaled and labeled maps and cross sections detailing the geologic structure of the local area, including:

- 1) Geologic structure of the local area (including the lithology of the injection interval); and
- 2) Generalized maps illustrating the regional geologic setting.

G. GEOLOGICAL DATA ON INJECTION AND CONFINING ZONES (Class II): Not Applicable

H. OPERATING DATA:

- 1) Submit the following information (in tabular form) for each Class V injection well:
 - a) Average and maximum daily volumes of fluids entering the well (gallons);
 - b) Average and maximum monthly volumes of fluids entering the well (gallons);
 - c) The source(s) of fluid(s) entering the well and volume of fluid(s) from each source;
 - d) Material Safety Data Sheets (if available) or the brand name(s) and description(s) of all fluid(s) that have the potential of entering the well; and
 - e) The percentage of fluid from each source entering the well.
- 2) Submit a fluid analysis of the waste stream for all injected fluids such that the nature of the fluid is characterized completely. The waste fluids must not result in the movement of fluid containing any contaminant into USDWs, if the presence of that contaminant may cause a violation of any primary drinking water regulation or may otherwise adversely affect human health.

Note: This means that for motor vehicle waste disposal wells, before any motor vehicle service related wastewater is discharged into the ground, it must not exceed any primary drinking water regulation (Maximum Contaminant Levels or MCLs) or other health-based standards at the point of injection (40 CFR Sections 144.3 and 146.3). The equipment and procedures used to obtain, transport and analyze the samples should follow a Quality Assurance plan which has been submitted to and approved by our office.

I. FORMATION TESTING PROGRAM: Not Applicable

J. STIMULATION PROGRAM: Not Applicable

K. INJECTION PROCEDURES:

- 2) Describe how the fluids move through the system from generation of the wastewater to the release of the fluids into the subsurface from the injection well, including any treatment the fluids receive at any point before injection.

- 3) Include descriptions and specifications of any equipment that might be used to inject fluid (e.g., pumps) and injection pressures if applicable.

L. CONSTRUCTION PROCEDURES: Not Applicable

M. CONSTRUCTION DETAILS:

- 1) Submit a properly scaled and labeled map of the facility locating all Class V injection wells and all potential sources (for example, floor drains and shop sinks) receiving fluids that might be injected into the wells.
- 2) Submit a flow chart depicting the source(s) of all injected fluids. The chart should include:
 - a) Entry of source material into the facility;
 - b) All processes within the facility which generate fluids which are disposed of into the well(s);
 - c) Treatment processes (if any) and ultimate disposal to the well(s);
 - d) Points at which the injection fluid may be sampled; and
 - e) Provide a narrative explaining the diagram.
- 3) Submit schematic and/or other appropriate drawings of the surface and subsurface construction details for each Class V well and its associated surface and subsurface interconnections within the facility boundaries. The drawings should include:
 - a) The location, composition and dimensions of structures such as tanks, conduits, screens, casing or other subsurface structures, etc.;
 - b) Injection well depth and diameter;
 - c) Name of the formation(s) into which each well injects fluids;
 - d) Date the construction or installation of each well was completed; and
 - e) Narrative information describing the diagram to ensure clarity.
- 4) Submit the following information concerning each Class V well from the date of installation or construction to the present:
 - a) Date of initial operation of the well;
 - b) Date(s) of modifications/additions or conversion of the well (if applicable); and
 - c) Projected date(s) for completion and operation (proposed wells only).

N. CHANGES IN INJECTED FLUID: Not Applicable

O. PLANS FOR WELL FAILURES: Not Applicable

P. MONITORING PROGRAM:

A monitoring program must be developed to ensure that injection operations at the facility do not result in the movement of fluid containing any contaminant into USDWs, if the presence of that contaminant may cause a violation of any primary drinking water regulation or may otherwise

adversely affect human health. The monitoring program should include:

- 1) A monitoring plan, outlining the steps necessary to prevent the movement of fluid containing any contaminant into USDWs. The frequency of analysis of the facility's wastewater must be included;
- 2) Any proposed pretreatment of the waste stream, including levels to which each constituent will be reduced. Please note that compliance with federal standards may not be sufficient to satisfy local and state requirements. It is your responsibility to determine whether you are in compliance with all applicable regulations;
- 3) The location(s) of any wastewater monitoring point(s) before the fluid is injected into the subsurface from the well and the technical basis for choosing the location(s);
- 4) The location(s) of any ground water monitoring well(s) (taking into account the direction of water movement in each USDW) and the technical basis for choosing the location(s);
- 5) A description of the proposed construction of any monitoring well(s), including appropriate construction details similar to those requested for the injection well(s) in Part M of these instructions;
- 6) A description of the proposed sampling of any ground water monitoring well(s), including the sampling frequency of each well and the technical basis for that frequency. The velocity of water movement in each affected USDW and the volume of injected fluid must be taken into account in determining the minimum sampling frequency; and
- 7) If injection operations are likely to impact a USDW which is currently being used as a primary drinking water source within one-quarter mile of the facility's property boundaries, the monitoring plan MUST include a sampling plan for the drinking water wells.

Q. PLUGGING AND ABANDONMENT PLAN:

Describe how the Class V well will be closed in a manner that prevents the movement of fluid containing any contaminant into a USDW, if the presence of that contaminant may cause a violation of any primary drinking water regulation or otherwise adversely affect the health of persons. Include a schematic and/or other appropriate drawings of the construction details for each Class V well showing how the well will be closed. The plan should include (as appropriate):

- 1) The type, number, and placement of any plugs to be used;
- 2) The type, grade and quantity of any cement (or other material) to be used;
- 3) Describe the method to be used to place any plugs; and
- 4) Describe how any soil, gravel, sludge, liquids, or other materials removed from or adjacent to the well will be disposed or otherwise managed according to applicable requirements.

R. NECESSARY RESOURCES:

- 1) Submit evidence, such as a surety bond, trust agreement, or financial statement to verify that the financial resources necessary for closure of each well are available.

S. AQUIFER EXEMPTIONS: Not Applicable

T. EXISTING EPA PERMITS:

Submit a list of any federal (or delegated state or local) permits or approvals received or applied for that apply to this facility. For example, permits from the Hazardous Waste Management

Program under the Resource Conservation and Recovery Act (RCRA) and National Pollutant Discharge Elimination System (NPDES) permits under the Clean Water Act (CWA).

U. DESCRIPTION OF BUSINESS:

Submit a brief description of the nature of the business.

April 20, 2005 version