CLARIFICATION
Of
UIC PERMIT APPLICATION
REOUIREMENTS
For Class II Wells

The intent of this guidance document is to clarify the UIC permit application requirements for Class II operators as specified in the attachments to UIC Form 7520-6. This document is intended to clarify, not replace, the UIC regulations covering application requirements. The applicant should also consult the UIC permitting regulations at 40 CFR Parts 144, 146, and 147.

The applicant should follow the instructions in this guidance document when they differ from those given in the UIC application form since this document has been developed to be consistent with UIC permitting regulations.

Application UIC Form 7520-6 - Signature Requirements

The UIC Application Form 7520-6 must be signed at the bottom as follows:

1. For a corporation: by a responsible corporate officer (i.e. president, secretary, treasurer, vice president, or equivalent person) who performs policy or decision making functions; or

2. The manager or one or more manufacturing, production, or operating facilities employing more than 250 persons or having a gross annual sales or expenditures exceeding $25 million if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures; or

3. For a partnership, by a general partner or the proprietor; or

4. By a duly authorized representative only if:

    a. The authority is made in writing by a person described in 1, 2, or 3;

    b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

    c. The written authorization is submitted to the Director.

Attachment A - Area of Review

This attachment, required for all wells, must discuss the method used to determine the size of the area or review (AOR) as specified by 40 CFR § 146.6 and § 147.905. These regulations require that the AOR shall be a minimum fixed radius of 1/4 mile from the well bore (1/4 mile from the project boundaries for area permits) unless the use of a mathematical model such as the modified "Theis equation" given in 40 CFR §146.6(a)(2), as approved in advance by the Director.

In determining the "fixed radius", the following factors shall be taken into consideration: chemistry of the injected and formation fluids; hydrogeology; population; ground water use and dependence; and historical injection practices in the area.

The AOR must be clearly marked and must circumscribe a distance as determined by the use of the mathematical model or by the use of the "fixed radius" of 1/4 mile, in the map required under Attachment B (i.e., maps of Wells/Area & Area of Review).

ATTACHMENT B - Maps of Wells/Area and Area of Review

This attachment must be submitted for both existing and new injection wells. Under 40 CFR §144.31(e)(7), applications must include a topographic map (or maps if necessary) which extends one mile beyond the property boundary showing the injection well(s) where fluids from the facility are injected, the project area for which an area permit is sought, and the AOR. In addition, the maps for all the applications must indicate within the AOR: all intake and discharge structures; all hazardous waste treatment, storage, or disposal facilities; the number/name and location of those wells, springs and other surface bodies of water, and drinking water wells listed in public record or otherwise known to the applicant. If any of these features are not present, please state so. All the information does not have to be included in the map itself, but instead can be submitted in tabular form.

A list of all landowners in the AOR and their addresses must be submitted.

Applicants must also show: (1) the number or name and location of all existing producing wells, injection wells, abandoned wells, dry holes, and water wells; and (2) mines (surface and subsurface) quarries and other pertinent surface features including residences and roads, and faults which are known or suspected. Only information of public record and pertinent information known to the applicant is required.

For those injection wells operating from a common manifold, the map must show the distribution manifold applying injection fluid to all wells in the area including all system monitoring points.

ATTACHMENT C - Corrective Action Plan and Well Data

This attachment applies to all new Class II wells; this attachment may be required for existing Class II injection wells where EPA determines that there exists contamination of fresh water which may be due to injection. This attachment must include:

1. A tabulation of data, reasonably available from public records or otherwise known to the applicant, on all wells within the AOR. Include a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information:

2. The record of completion and plugging for each well in the AOR which penetrates the injection zone. A copy of the data in the State Well Log and Completion Report record of Plugging for each well is acceptable;

3. In the case of Class II wells which are proposed to operate over the fracture pressure of the injection formation, provide the information described in Attachment B above for all known wells within the AOR which penetrate formations affected by the increase in pressure.

4. For any wells in the AOR which are improperly sealed, completed, or abandoned, submit a "corrective action plan" which consists of such steps or modifications as are necessary to prevent movement of fluid into an underground source of drinking water (USDWs). The plan must consider the following criteria and factors (see 40 CFR § 146.7):

   - Nature and volume of injected fluid;
   - Nature of native fluids or by-products of injection;
   - Potentially affected population;
   - Geology;
   - Hydrology
   - History of injection operation:
   - Completion and plugging records;
   - Plugging procedures at the time of abandonment; and
   - Hydraulic connections with USDWs.

ATTACHMENT D - Maps and Cross Sections of USDWs

This application requirement does not apply to Class II wells.

ATTACHMENT E - Name and Depth of USDWs

This attachment is required for all Class II wells.

Include the geological name and depth of bottom of all USDWs in the AOR. USDWs include all aquifers with water quality less than 10,000 milligrams per liter of total dissolved solids (TDS) and capable of yielding 2 gallons per minute of water. These aquifers need not presently supply drinking water to be considered a USDW. Additionally, any zone currently supplying drinking water regardless of quality is a USDW.

The depths of the USDWs are to be determined, if possible, from evaluation of the borehole electric log and, in some case, the porosity log in combination with available information on the geologic formations present in the area. The water resistivity of the deepest USDW is to be calculated by the static spontaneous potential method and converted to TDS (mg/l) or sodium chloride equivalent to verify that the zone in question has less than 10,000 mg/1 TDS. It may be necessary to calculate TDS in lower geologic units to verify that the overlying unit is the lowest USDW. Where information is available on USDWs in an area, it may not be necessary to calculate TDS. However, the site-specific depths of the USDWs should be determined from the borehole logs. The entire log should be provided in the permit application and the depth and name of all formations should be indicated on the log. The water resistivity calculations and TDS conversion factors should also be provided.

If an electric log is unavailable or not useable for the well, a log from a nearby well (preferably within the AOR) may be substituted. If no log is available from the well or any well in the vicinity, the USDWs are to be identified on the basis of the best available information (i.e. geologic references; driller's logs; etc.).

For existing wells or proposed well conversions: The permit application for any existing well or any well convened after the effective date of the program must provide an electric log through the entire wellbore unless logs are available from a well within the AOR. Per 40 CFR §146.22(f), the logs should be evaluated by a knowledgeable log analyst. All formations should be identified on the log or a separate listing provided with the names and depths to bottom.

For proposed new wells: The permit application must propose a geophysical logging program to identify the USDWs. At a minimum, a spontaneous potential and dual induction log will be required. In some cases, a porosity log will also be required. Per 40 CFR § 146.22(f), the logs should be analyzed by a knowledgeable log analyst. All formations should be identified on the logs or a separate listing provided with names and depths to bottom. The permit will require that these logs, with an interpretation, be submitted to EPA for consideration before authorization to inject is granted.

For Area Permits: The above site-specific information requirements apply, including the name and depths of the USDWs within the area of review of a field to be determined on the basis of electrical logs from a selected number of wells spatially distributed in the field and representing any variations in the geology of the field that might occur.

ATTACHMENT F - Maps and Cross sections of Geologic Structure of Area

This application requirement does not apply to Class II.

ATTACHMENT G - Geologic Data on the Injection and Confining Zones

This attachment is required for all Class II wells.

For all injection and confining zones, provide: The geologic name, a lithologic description, the thickness, and the depth to bottom or top of each unit. (Where a USDW is present below the injection zone, a lower confining zone must be present and the above information is required.) Please give geologic names that are commonly used in the geologic literature. Driller's terms may be unfamiliar to the EPA reviewer.

A confining zone is a geologic formation or part of a formation or a group of formations that has sufficiently low permeability so that injected fluids are isolated in the injection zone and will not migrate into USDWs. It is the applicant's responsibility to demonstrate that such a geologic unit exists. The applicant should provide as much information as is available on the character of the confining zone, including its physical characteristics, thickness and areal extent.

Faults and fractures within the AOR that penetrate the confining zone must be identified. The applicant should provide any information available or within his knowledge to support that the fault plane is sealed to fluid movement and will not provide a pathway for fluid migration into a USDW. If the amount of displacement along the fault plane is known, please provide this information.

All logs submitted should show names and depths of all formation tops. The confining zone(s) should be identified on a log that identifies "confining characteristics" (i.e., for shales, a spontaneous potential/dual induction log; for dense limes, a density/porosity log). An electric log through both the confining and injection zones should also be submitted. An interpretation by a knowledgeable log analyst of the nature of the confining zones, including lithology, must be provided. Any other available information (i.e., driller's logs, information from geologic literature, etc.) should be incorporated into the description of the units.

For existing Class II wells or conversions, information on the injection and confining zones should be provided from existing information, preferably from borehole logs in addition to other available information. If logs on the injection well are not available, then logs from a nearby well (preferably within the AOR) may be substituted.

For proposed new wells, the application must propose a geophysical logging program to collect the required information on the injection and confining zones. At a minimum, a caliper log, a gamma ray log, and a spontaneous potential/dual induction log with shallow and deep resistivity curves will be required. Other data such as lithologic samples, lithologic logs and other appropriate data may also be required. The permit will require that the logs be submitted to EPA for consideration before authorization to inject is granted.

For area permits, the above information requirements must be provided from borehole logs and other information from a selected number of wells spatially distributed within the AOR and must represent any variation in the geology of the field.

ATTACHMENT H - Operating Data

This attachment is required for all Class II wells. The following must be submitted:

1. Average daily rate or volume of fluid to be injected.

2. Maximum daily rate or volume of fluid to be injected.

3. Average injection pressure.

4. Maximum injection pressure.

If the maximum daily rate is not known, submit the injection pump capacity.

Include evidence to show that the injection pressure will not initiate new fracture or propagate existing fractures in the confining zone adjacent to USDWs. This documentation may include calculations. Data from a service company, pressure test results, well treatment data, instantaneous shut-in pressure, or some other source that can be referenced.

The following information must also be submitted:

1. Nature of the annulus fluid (air is considered a fluid). This should include the type of fluid to be used in the annulus between the tubing and the casing, and the corrosivity of the annulus fluid. Any corrosion inhibitors should be analyzed, or a report of the chemical name and company should be submitted. The amount of inhibitor to be added should be included.

   Source and analysis of the physical and chemical characteristics of the injection fluid. The source of the injection fluid must be specific and include well numbers, names and locations. Test methods and procedures shall be as specified at 40 CFR § 136.3 or 40 CFR Part 261, Appendix III. The analysis should be thorough and must include:

   a. Total dissolved solids, pH, and specific gravity

      Other parameters may be required on a case-by-case basis.

   b. A list of any inhibitors used to prevent scaling, corrosion or bacterial growth. An estimation of the quantity of any chemical additives. If the chemical composition of the additives is unknown, give the brand name of the product and the manufacturer's address.

ATTACHMENT I - Formation Testing Program

Although this attachment is listed as optional, it will be required as allowed at 40 CFR §146.24(6)(1) as additional information to be considered by the Director.

This requirement is only for new Class II wells and conversions. A formation testing program must obtain data on the fluid pressure, fracture pressure, and physical and chemical characteristics of the injection zone.

The permit application must propose to obtain the following information:

1. Formation fluid pressure must be determined by measuring the static fluid level in the well, drill stem testing, pressure transducer, or other appropriate method.

2. Formation fracture pressure may be based on historical fracturing data in the same field and formation or may be obtained from actual field data. The formation fracture pressure must be documented or be from readily available sources.

3. Physical and chemical characteristics of the injection zone must include methods to obtain data on the formation water quality, and in some cases, porosity and permeability:

    a. Formation water quality - produced water from the same lease and same formation may be analyzed; or the program must propose that the well be pumped, jetted, swabbed, backflowed or otherwise produced until a representative sample of the injection zone formation fluid can be obtained. It is recommended that conductivity or some other parameter be measured and recorded during the water retrieval process until the chemistry of the water stabilizes, then several gallons or barrels collected.

    At a minimum, the program must propose to analyze for the parameters listed under Attachment H.

    b. Porosity and permeability - If there are wells in the AOR which penetrate the injection zone for which there are no records, or are improperly plugged or abandoned, it may be necessary to evaluate the effects of injection to determine pressure build-up and potential USDW contamination through these conduits. These parameters may be obtained from data collected during drill stem testing, injectivity or production testing, geophysical logs and/or core analysis, or other appropriate methods.

Proposed well conversions are required to supply the same information as a proposed new well. The fluid pressure or fluid level in the well must be provided. Fracture pressure may be base on historical data. In cases where there may be improperly plugged and abandoned wells in the AOR, data on permeability and porosity are required to evaluate pressure build-up in the injection zone. There may be other cases where porosity and permeability data is necessary. This will be evaluated on a case-by-case basis. This data may be provided from existing information, if available.

On a case-by-case basis, additional data may be required to support the permit application.

ATTACHMENT J - Stimulation Program

Although this attachment is listed as optional, it will be required, as allowed at 40 CFR §146.24(6)(2) as additional information to be considered by the Director.

This attachment is required for all wells. If no stimulation program is proposed, please state so.

The program should include a list and the amount of all chemicals to be used or already used for well stimulation, acidizing, and fracturing. The methods to be used should be detailed. When fracturing is proposed, include probabilities of fracture prorogation, fluid movement into or between USDWs, and basis for the predictions.

ATTACHMENT K - Injection Procedures

Although this attachment is listed as optional, it will be required for all wells as allowed at 40 CFR §146.24(6)(3).

For manifold monitoring systems only, submit a lease map and flow diagram showing the piping system layout, valve locations, monitoring point locations, and a narrative explanation of the operation of the system.

ATTACHMENT L - Construction Procedures

Although this attachment is not listed as applicable to Class II wells, it will be required for new wells as allowed at 40 CFR § 146.22.

For Class II wells not yet drilled, a step by step schedule of the construction program must be submitted. The schedule must identify the order in which each individual step of the construction, logging and testing phase will be done. For well conversions where the well has already been drilled and cased, a modified construction schedule with information on applicable sections of the construction program must be submitted.

The major elements of the construction program should include:

1. Drilling Methods - the type of drilling method to be utilized, such as rotary or cable tool, should be described. Also, deviation checks are required on all holes which are proposed to be constructed by first drilling a pilot hole and then enlarging the pilot hole by reaming or another method. Such checks shall be sufficiently frequent intervals to assure that vertical avenues for fluid movement in the form of diverging holes are not created during drilling.

2. Formation Evaluation - the coring program, physical and chemical testing, and determination of estimated fracture pressure should be included as part of the evaluation. Please refer to Attachment I for more specific information.

3. Logging Program - a proposed logging and testing program must be submitted with the application. However, existing logs and tests from nearby wells that have similar geologic conditions may be acceptable to document the USDW(s) and confining zones. In either case, a descriptive report interpreting the results of that portion of the logs and tests which specifically relate to USDW(s) and confining zones adjacent to it, and the injection zone and adjacent formations, shall be prepared by a knowledgeable log analyst and submitted with the application. Where all the data requested cannot be obtained by logging or testing the well, the applicant will be responsible for providing data from other sources. The applicant may be required to drill monitoring wells to obtain data necessary to support the permit application. The logging program at a minimum shall include:

   a. Open Hole:

      i. Dual induction or electric gamma ray-neutron with porosity scale, and caliper logs for the entire hole.

      ii. Other logs may be required on a case-by-case basis.

   b. Cased Hole:

      i. Cement evaluation log on entire cased interval. If a cement bond log is run, five curves are required: gamma ray, casing collar locator, amplitude, travel time, and composite wave. Cement bond logs should be run with a dual receiver with 3 and 5 foot spacing.

      ii. Temperature log within 48 hours after cementing to determine top of cement if cement is not circulated to the surface.

4. Casing and Cementing Specifications - Class II injection wells must have adequate casing and cement designed for the life expectancy of the well to protect USDWs. See EPA Region 4's Casing and Cementing Guidance for Class II injection wells for specific requirements.

5. Tubing and Packer Specifications - all Class II wells shall be completed with a tubing and packer. Completions without tubing and packer may be considered on a case-by-case basis only if detailed justification is submitted with the application documenting that corrosion of the casing will not cause loss of integrity during the life of the well.

ATTACHMENT M - Construction Details

This attachment is required for all Class II wells. A schematic drawing of the surface and subsurface construction details of the well must be provided. For area permits, a representative sample of all the different well construction types will be acceptable. The drawing must include:

1. The size, type, weight, grade and depth for the surface casing, long string casing, and any other casing or liner.

2. The size, type, weight, grade and depth of the tubing string.

3. Sketches and descriptions of the wellhead and packer.

4. Kelly bushing and/or ground surface elevations.

5. Total depth, injection interval and hole diameter of the well.

6. Number, type and location of centralizers and/or cement baskets if used.

7. Class type, slurry weight, slurry volume, location and quantities of cement. This information should be documented by the Kentucky Oil and Gas Division Well Record, cement tickets, receipts, etc.

8. External pressure (collapse resistance), internal yield pressure, and axial loadings (joint strength) for both the casing and tubing.

ATTACHMENT N - Changes in Injection Fluid

This application requirement does not apply to Class II wells.

ATTACHMENT O - Plans for Well Failures

Although this attachment is listed as optional in the application form, it is required for all Class 11 wells under 40 CFR §146.24(6)(4). Therefore, with all Class II injection well permit applications, submit a proposed contingency plan outlining methods to prevent migration of fluids into any USDW in the event of a well failure. The plan should list types of well failures with the proposed methods of shutdown for each type of well failure. The plan should also include an alternative method to dispose of produced brine.

ATTACHMENT P - Monitoring Program

Although this attachment is listed as optional in the application form, it is required for all Class II wells under 40 CFR § 146.24(b)(5). Therefore, submit a monitoring program including the type

of monitoring devices to be used to measure pressures and volumes. The annulus should be monitored with a gauge designed to indicate both a vacuum (below atmospheric) and positive pressure (above atmospheric). The operator will be required to monitor injection pressure, annulus pressure, flow rate, and cumulative volume of the injected fluid.

For enhanced recovery and hydrocarbon storage wells, monitoring may be done on a field or project basis by manifold monitoring. Separate monitoring systems for each well are not required provided the owner/operator demonstrates that manifold monitoring is comparable to individual well monitoring.

ATTACHMENT Q - Plugging and Abandonment Plan

All Class II wells must submit a plan for plugging and abandonment. The plan must describe how the well(s) will be plugged with cement in a manner which will not allow the movement of fluids either into or between USDWs. For an area permit for which all wells are constructed the same and for which all wells will be plugged and abandoned in the same manner, one description will be acceptable.

The plan must include detailed descriptions of the following information:

1. The method to place the well(s) in static equilibrium. The regulations at 40 CFR §146.10(c) require that each well to be abandoned must be in a state of static equilibrium with the mud weight equalized top to bottom by circulating the mud in the well at least once prior to the placement of the cement plug(s).

2. The type, number, and method of placement (including elevation of the top and bottom) of plugs to be used. Include tagging of plugs unless a bridge plug is used.

3. The type, grade and quantity of cement to be used.

4. The cost of plugging and abandoning the well(s) properly in accordance with 40 CFR § 146.10. EPA Region 4 has determined the average costs of plugging and abandonment. The cost schedule and explanation of how it was developed can be found on the information sheet “Financial Responsibility Requirements: Plugging and Abandonment Costs.”

Part of the plugging and abandonment may be submitted on EPA Form 7520-14. If Form 7520-14 is used, every item must be completed and the form must be signed by the appropriate authority. If more than one well in an area permit will be plugged and abandoned in the same manner, one form 7520-14 may be completed and referenced for all wells.

Please note that plugging the well(s) in accordance with the State does not necessarily guarantee approval by EPA.

ATTACHMENT R - Necessary Resources

As required by 40 CFR §§144.28(d), 144.52 (a)(7), and 146.24(a)(9), all Class II applicants must demonstrate and maintain financial responsibility and resources to close, plug and abandon the underground injection operation of permitted and rule-authorized wells as prescribed in accordance with these regulations. The applicants must submit acceptable financial coverage for the wells to EPA.

The above referenced CFR Regulations and the financial responsibility forms are included as part of this application package.

Refer to EPA's Guidance "Federal Financial Demonstrations for Owners and Operators of Class II Oil-and Gas-Related Injection Wells."

ATTACHMENT S - Aquifer Exemptions

Class II wells may not inject into a USDW. A USDW is defined at 40 CFR §144.3 as follows:

> Underground source of drinking water (USDW) means an aquifer or its portion:
>
> 1. a. Which supplies any public water system; or
>
> b. Which contains a sufficient quantity or ground water to supply a public water system; and
>
> i. Currently supplies drinking water for human consumption; or
>
> ii. Contains fewer than 10,000 mg/1 total dissolved solids; and
>
> 2. Which is not an exempted aquifer.

EPA's aquifer exemption mechanism was promulgated because of the Agency's decision to adopt a very broad definition of USDWs. This broad definition ensures that any aquifer even potentially usable as drinking water will be considered a USDW, but also results in classifying as USDWs some aquifers that are contaminated, inaccessible, or otherwise unsuitable or unlikely to be used as drinking water. In 40 CFR § 144.7, existing regulations set forth various criteria for exemption of aquifers relating to the quality or accessibility of the ground water contained and the potential for use as drinking water. If an aquifer is not currently being used for drinking water, and meets one of the specified criteria, EPA may exempt the aquifer. The use of the word "may" reserves to the Agency the discretion to decline to exempt an aquifer, even if it meets one of the criteria, if the Agency believes that other considerations warrant maintaining the USDW classification.

If an aquifer exemption is required by the applicant to allow underground injection of fluids associated with the production of oil and gas, data must be submitted by the applicant to show that the aquifer or a portion thereof meets the following criteria as found at 40 CFR § 146.4:

1. It does not currently serve as a source of drinking water and

2. It cannot now and will not in the future serve as a source of drinking water because:

    a. It is mineral, hydrocarbon, or geothermal energy producing, or it can be demonstrated by permit application to contain minerals or hydrocarbons that, considering their quantity and location, are expected to be commercially producible;

    b. It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;

    c. It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption;

    d. It is located over a Class III well mining area subject to subsidence or catastrophic collapse; or

3. The Total Dissolved Solids content of the ground water is more than 3,000 and less than 10,000 mg/l and it is not reasonably expected to supply a public water system.

The data must identify clearly and definitively all aquifers or parts thereof for which an exemption is being requested. Data may be presented by narrative description, illustrations, maps or other appropriate means. The specific purpose for requesting the exemption must be defined since EPA will approve aquifer exemptions for only specific purposes. All exemption approvals will include a description of the injection activities allowed and a statement that additional approvals would be needed for other injection activities (e.g., hazardous waste disposal into an aquifer exempted for oil and gas production). Further information can be obtained from EPA upon the permit applicant's request.

ATTACHMENT T - Existing Permits

1. Provide a listing by program and permit number of all permits or construction approvals received or applied for under any of the following programs:

    a. Hazardous Waste Management program under the Resources Conservation and Recovery Act (RCRA)

    b. UIC program under the Safe Drinking Water Act (SDWA)

c. NPDES program under the Clean Water Act (CWA)

d. Prevention of Significant Deterioration (PSD) program under the Clean Air Act (CAA).

e. Nonattainment program under the CAA.

f. National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the CAA.

g. Ocean dumping permits under the Marine Protection Research and Sanctuaries Act.

h. Dredge and fill permits under Section 404 and CWA.

i. Other relevant environmental permits, including State permits, and State construction approvals for production and injection wells. Be sure to provide the state permit number and location for each well covered by the application.

2. The list must cover all permits or construction approvals for any facility owned and/or operated by the applicant in the areas covered by the application.

3. If no permits or construction approvals are held, state so.

ATTACHMENT U - Nature of Business

Briefly state the nature of the business, such as an oil production company or a brine disposal company.

MECHANICAL INTEGRITY TESTING (MIT)

Under 40 CFR §144.52(a)(8), no Class II well which is permitted may inject unless the permittee shows to the satisfaction of the Director, under 40 CFR § 146.8, that the well has mechanical integrity. If MIT data is not available, the well must be tested for mechanical integrity before the permit is issued. For all new Class II wells, a plan to demonstrate mechanical integrity must be submitted with the permit application per 40 CFR §146.24(b)(5).

The demonstration of mechanical integrity is a two part test. The first part must demonstrate there is no significant leak in the casing, tubing, or packer. Generally, one of the following methods must be used to evaluate the absence of significant leaks:

1. Continuous monitoring of a positive annulus pressure provided that an initial pressure test has been run; or

2. Pressure test of the annulus once every five years.

The second part of the MIT must demonstrate the absence of significant fluid movement into an underground source of drinking water through vertical channels adjacent to the injection well bore. One of the following methods must be used:

1. A temperature log, provided that a baseline temperature log was run when the well was completed; or

2. A noise log; or

3. Cementing records demonstrating adequate cement to prevent significant fluid movement. This may require a cement evaluation log.