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2019 Operator's Guide to Filing  
UIC Applications and Reports

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Oklahoma Corporation Commission  
Underground Injection Control

405/521-2242  
Jim Thorpe Building  
P.O. Box 52000-2000  
Oklahoma City, OK 73152-2000

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Oil and Gas Conservation Division  
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1111 W. Willow Ave  
Duncan, OK 73533

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## **Introduction**

On December 2, 1981, Oklahoma received authority from the United States Environmental Protection Agency (EPA) to administer the Underground Injection Control (UIC) program. This authority is called “Primacy” in the UIC program. In order to receive primacy, Oklahoma had to reach the federal requirements written under Part C, Section 1425 of the Safe Drinking Water Act, Public Law 93-523 as amended.

The UIC rules were written to enforce both federal and state laws governing the protection of underground sources of drinking water as mandated by the Safe Drinking Water Act of 1974.

In Oklahoma, the term “treatable” water is used instead of underground source of drinking water in order to avoid confusion with the state definition of fresh water. Treatable water as explained under OAC Rule 165:10-1-2, Definitions: Subsurface water in its natural state, useful or potentially useful for drinking water for human consumption, domestic livestock, irrigation, industrial, municipal, and recreational purposes, and which will support aquatic life, and contains less than 10,000 mg/liter total dissolved solids or less than 5,000 ppm chlorides. Treatable water includes, but is not limited to, fresh water.

The Underground Injection Control Department has written this brochure to assist industry in understanding the concept of the UIC Program and the understanding of the most common types of problems encountered when complying with the most commonly used UIC Forms. It should be stated that nothing in this brochure should be interpreted to supersede the Rules of the Oil and Gas Conservation Division. Should anything contained herein conflict with Oklahoma Administrative Code Rules, it should be understood that OAC Rules supersede all comments, statements and material contained within this brochure.

## **Permitting**

The UIC Department is responsible for the permitting of Enhanced Recovery Injection Wells (both water and gas injection), Disposal Wells (commercial and non-commercial), and Annular Injection Wells (injection of reserve pit fluids down the annulus). Most often the requested permits for injection and disposal wells are for the conversion of an existing depleted production well or a plugged well.

The rules governing the injection wells are OAC 165:10-5-1 through OAC 165:10-5-15, OAC 165:5-7-27, OAC 165:5-7-30, the request for an exception to UIC rules under OAC 165:5-7-29, and other rules governing filing, forms, notices, etc. as listed in the general rules and regulations of the Oil and Gas Conservation Division of the OCC.

An applicant will be required to file the appropriate form depending upon the type of permit needed. The form 1015 application is used for commercial disposal, non-commercial disposal, enhanced recovery injection, and LPG. The form 1015T is for annular injection. And finally the Form 1015SI is for permitting a simultaneous injection well. The required supporting documents can vary and a list of them can be found on the second or the back side of the forms. Most information required to complete the above permits can be found on previously submitted well completion reports, form 1002A, and other Commission documents found on document imaging.

Some areas of the 1015 forms that may give difficulty in obtaining are the surface casing depth, base of treatable water, porosity and permeability documentation, and “problem wells” in the immediate vicinity of the proposed injection/disposal well.

As stated earlier, the goal of UIC is to protect underground treatable water. To do this, the Commission has established curtailed requirements such as, ‘the well should have surface casing set and cemented at least 50 feet below the base of treatable water’(ref: OAC 165:10-3-4). The depth of treatable water can be obtained for any location from Commission maps through email at [ogbtw@occemail.com](mailto:ogbtw@occemail.com). In the case of an older well being converted to an injection/disposal and not having the required amount of surface casing, an alternative way will need to be found in order to comply with the previous rule. The production casing (long string) would need to be squeeze cemented a minimum of 50 feet below the base of treatable water to comply. In rare cases, an

exception to the rule can be granted after a hearing and acceptance of stringent special provisions of constant monitoring and testing requirements.

Annular Injection Permit requirements are a little different. The surface casing must be set at least 200 feet below the base of treatable water [*Reference: OAC 165:10-3-4*]. The surface injection pressure is dependent upon the depth of surface casing. The guideline is ‘for every foot of surface casing set, 1 psi pressure may be permitted with a maximum of 1500 psi, even if the surface casing is set below 1500 feet’. For example, if the base of base of treatable water is at 450 feet, the minimum surface casing required would be 650 feet and the maximum pressure that can be permitted would be 650psi. However, if the surface casing is set at 1700 feet, the maximum injection pressure that can be permitted would be only 1500psi. In a case where there is a higher injection pressure, a study would be made.

Requirements to qualify for annular injection are very simple. Only the fluids used in drilling and completion of the well in question are allowed to be injected in the annulus. A copy of all the logs run must be submitted. If no logs have been run, an affidavit so stating must be submitted. [*Reference: OAC 165:10-5-13*]

For injection and disposal applications (but not annular injection), there is a requirement that notices be published in a newspaper of general circulation within the county in which the well is located as well as an Oklahoma county publishing requirement. For commercial wells, the applicant is required to publish twice in each aforementioned newspaper. A notarized Affidavit of Publication is required from the publisher stating the date in which the required information was published. Required information in publication include: *UIC tracking number, Name and address of applicant, Location of proposed well to nearest 10 acre tract, Well name, The geological name of the injection formation, The top and bottom of the injection interval, Maximum injection pressures, Maximum BID or MCFID injection rate, The type of well (injection, disposal, commercial).*

On the following pages, we will explain the 1015, 1015T, and 1015SI Forms and how to determine which form to use for your specific needs. If you, the operator or agent, require a permit for a disposal well or enhanced recovery well, whether this well is an existing injection/disposal, to be converted, a new drill, or a directional, the 1015 Form may be used. The Following page contains a 2018 revised version of the 1015 Form. (Exhibit A-1)

# 1015 Form (Exhibit A-1)

Form 1015  
REV 10/18  
Page 1 of 2

OCC Operator No. \_\_\_\_\_

**OKLAHOMA CORPORATION COMMISSION**  
Oil & Gas Conservation Division, UIC Department  
Post Office Box 52000  
Oklahoma City, Oklahoma 73152-2000

**NOTE: Annotate one of the fee options on Page 2.**

Does well have an existing order?  Y  N

**Application For Administrative Approval**  
OAC 165:10-5-5

Application No. \_\_\_\_\_  
PD No. \_\_\_\_\_  
(If emergency order is used or application is protested)

Previous Order No(s) \_\_\_\_\_

Applicant \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
E-mail Address \_\_\_\_\_  
Well Name and Number \_\_\_\_\_  
Well Location  
SHL: 1/4, 1/4, 1/4, 1/4  
BHL: 1/4, 1/4, 1/4, 1/4  
Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
County \_\_\_\_\_  
API No. \_\_\_\_\_  
Unit Name \_\_\_\_\_

- COMMERCIAL DISPOSAL WELL  
 ENHANCED RECOVERY INJECTION WELL  
 DISPOSAL WELL  
 LPG

WELL TO BE:

- PERMIT MODIFICATION → → →  
 DRILLED  
 CONVERTED  
 DIRECTIONAL (GIVE THE BHL)  
 MORE THAN ONE LATERAL

**MODIFICATION REASON:**  
\_\_\_\_\_

Type of fluids to be disposed or injected:

- Salt Water  CO2  H2S  Fresh Water  Natural Gas

**Well Data:**

Is well within 1/2 mile of an active or reserve municipal water well?  Yes  No  
Does injection zone contain oil, gas, or fresh water within 1/2 mile?  Yes  No If yes, state which: \_\_\_\_\_  
Location of source of fluids: \_\_\_\_\_  
Geologic name(s) and depth of source(s): \_\_\_\_\_  
Geologic name or names of formations of injection zone: \_\_\_\_\_ Perforation of injection interval: top \_\_\_\_\_ bottom \_\_\_\_\_  
Unit Order Number: \_\_\_\_\_  
Base of treatable water: \_\_\_\_\_ Commission maps \_\_\_\_\_ Other source (specify): \_\_\_\_\_ Intervening thickness (top perforation minus base of treatable water): \_\_\_\_\_  
Average porosity \_\_\_\_\_ % Average permeability (Kw): \_\_\_\_\_ Present formation pressure or Shut-in static fluid level from surface: \_\_\_\_\_  
Injection rates and pressures: Requested Injection Rate \_\_\_\_\_ Approved Injection Rate \_\_\_\_\_ BPD/MCF \_\_\_\_\_ BPD/MCF Requested Injection Pressure \_\_\_\_\_ Approved Injection Pressure \_\_\_\_\_ PSI \_\_\_\_\_ PSI

Name of string	Size	Setting Depth	Sacks of Cement	Top of Cement	Determined By
SURFACE					
INTERMEDIATE					
PRODUCTION					
LINER					
TUBING					

PACKER TYPE: \_\_\_\_\_ PACKER DEPTH: \_\_\_\_\_ TOTAL DEPTH: \_\_\_\_\_ PLUG BACK TOTAL DEPTH: \_\_\_\_\_

I declare that I have knowledge of the contents of this report and am authorized by my organization to make this report, which was prepared by me or under my supervision and direction with the data and facts stated herein to be true, correct and complete to the best of my knowledge and belief.

Signature \_\_\_\_\_  
Name & Title (Typed or Printed) \_\_\_\_\_

Date \_\_\_\_\_  
Phone A/C Number \_\_\_\_\_

The back of this form contains the following instructions:

**Line #1:** Attach \$250.00 filing fee for injection and non-commercial disposal, or \$1500.00 for a commercial well application.

**Line #2:** This refers to OAC 165:10-5-5(d) and (e)

Notice that an application has been filed shall be published by the applicant in a newspaper of general circulation in the county in which the well is located and in a newspaper of general circulation published in Oklahoma City, Oklahoma. The applicant shall file proof of publication before the application is approved. The notice shall include the application number, depth of injection, interval zone, injection pressure, and volume. If no written objection is received within 15 days (30 days for commercial) from the date of publication, the application may be approved administratively.

**Line #3:** In addition to filing for 1015, an affidavit of mailing or delivery with names and addresses of those notified shall be filed not later than five (5) days after the application is filed.

**Line #4:** The well must be in the applicant's name and the applicant must have appropriate surety before the application may be approved.

**Line #5:** Attach signed analysis of fresh water from two or more producing wells within a one mile radius of the injection well or a notarized statement as to why samples were not submitted. The analysis must include at least Na<sup>+</sup>, Cl<sup>-</sup>, and TDS.

**Line #6:** Attach signed analysis of representative sample of water to be injected. The analysis must include at least Na<sup>+</sup>, Cl<sup>-</sup> and TDS, and must have the exact legal location where the sample was taken.

**Line #7:** Attach plat showing subject well and total depths of all known oil and gas wells, abandoned, drilling, and dry holes within ¼ mile radius for non-commercial wells and ½ mile radius for commercial wells.

**Line #8:** Attach completion report, Form 1002A. If well is not in applicant's name, attach a 1073i (transfer of injection well) or 1073 (transfer of O & G well) as needed.

**Line #9:** Attach electric or radioactivity log of the subject well.

**Line #10:** Attach schematic drawing of subsurface facilities, including: casing size, setting depth, amount of cement used, measured or calculated, tops of cement, intermediate (if any) and producing casing; size and setting depth of tubing; type and setting depth of packer; geologic name of injection zone (showing top and bottom of injection zone)

**Line #11:** Mail in the original application and one (1) complete set of attachments to the Corporation Commission's Underground Injection Control Department.



**Line #12:** Delivery of application to surface owner(s) and offset operators. New rules for commercial and a non-commercial well exceeding 5000 BBLs a day, refer to OAC 165:10-5-5 (c). Non-commercial Under 5000 BBLs deliver to offset-operators within 1/2 mile.

**Line #13:** A noncommercial well shall not be used for injection or disposal unless annual fluid injection report Form 1012A is filed by January 31st each year. There is a \$25 "per well" filing fee or a \$2,500 filing fee for more than 100 wells (OAC 165:5-3-1(B)(1)(T)(ii-iii)). Operators of commercial wells are required to submit a Form 1012C (Commercial Disposal Well Semiannual Fluid Disposal Report) by January 31st and July 31st of each year. There is a \$500 semiannual filing fee to file the Form 1012C (OAC 165:5-3-1(b)(T)(i)).

**Line #14:** A well must have an API number.

**Line #15:** Permit Modification: The application shall State the reason for the modification. If the only modification is tubing and/or packer, then only the information in OAC 165:5-7-30(c) shall be required.

*\*Also included on this page is space for listing the persons who received copies of the application. It is not necessary to use this space but the information must be presented in some matter. For example, on the Affidavit of mailing or an appendix attached to the application. Applications requiring a Pollution Docket Number will have an additional fee of \$200. An Emergency Order has an additional fee of \$250 plus the PD fee and the cost of the Form 1015.*

**OAC 165: 10-5-5 (c) Application for approval.**

A copy of the application for approval of injection or disposal of water or other substances in a well shall be served by the applicant within five (5) days of the date the application is filed by regular mail (Certified-Recommended) or delivered to the following:

- (1) The owner of the surface of the land on which the proposed injection or disposal well is to be located;
- (2) For a proposed commercial disposal well, to each surface owner and surface lessee of record on each tract of land adjacent and contiguous to the site of the proposed well;
- (3) For a noncommercial injection or disposal well with a requested injection rate of less than five thousand (5,000) barrels per day, to each operator of a producing spacing unit or well within one-half (1/2) mile of such proposed well;
- (4) For a noncommercial injection or disposal well with a requested injection rate of five thousand (5,000) barrels per day or more, or a commercial disposal well, to each operator of a producing spacing unit or well within one (1) mile of such proposed well;

(5) For a noncommercial horizontal injection or disposal well with a requested injection rate of less than five thousand (5,000) barrels per day, to each operator of a producing spacing unit or well within one-half (1/2) mile of the lateral of such proposed well; and

(6) For a noncommercial horizontal injection or disposal well with a requested injection rate of five thousand (5,000) barrels per day or more, or a horizontal commercial disposal well, to each operator of a producing spacing unit or well within one (1) mile of the lateral of such proposed well.

**Explanation of Line #7, Plat:**

**Noncommercial disposal well:** A plat showing the location and total depth of the well(s) and each abandoned, producing or drilling well, and dry hole within one-quarter (1/4) mile of the enhanced recovery injection well or disposal well, and identifying the surface owner of the land on which the enhanced recovery injection or disposal well is to be located, and each operator of a producing spacing unit or well within one-half(1/2) mile of each enhanced recovery injection or disposal well with a requested injection rate of less than five thousand barrels per day, and each operator of a producing spacing unit or well within one (1) mile of each enhanced recovery injection or disposal well with a requested injection rate of five thousand barrels per day or more.

**Commercial disposal well:** A plat showing the location and total depth of the well(s) and each abandoned, producing or drilling well and dry hole within one-half (1/2) mile of the disposal well, and identifying the surface owner of the land on which the disposal well is to be located, and each operator of a producing spacing unit or well within one (1) mile of each disposal well.

**Information required in newspaper publication:**

1. UIC tracking number,
2. Name and address of applicant,
3. Location of proposed well to nearest 10 acre tract,
4. Well name,
5. The geological name of the injection formation,
6. The top and bottom of the injection interval,
7. Maximum injection pressures,
8. Maximum BID or MCFID injection rate,
9. The type of well (injection, disposal, commercial).

# **AFFIDAVIT OF MAILING**

Ref: Application Number: \_\_\_\_\_

Operator: \_\_\_\_\_

Application for authority  
to inject or dispose of saltwater into the  
\_\_\_\_\_ well,

Located    /4,    /4,    /4,    /4,   

Section   , T   , R   

\_\_\_\_\_, County,

Oklahoma.

I, \_\_\_\_\_, being first duly sworn upon  
oath, state, that I am the applicant or agent of the above  
applicant. I certify that on the \_\_\_\_\_ day of \_\_\_\_\_,  
2\_\_\_\_, I mailed a copy of the application to the respondents  
named below at their respective mailing addresses:

Surface Owner and Address:

Offset Operators and Addresses within 1/2 mile (1 mile if apply  
for more than 5000 BPD):

Signed \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_ day of \_\_\_\_\_, 20\_\_

\_\_\_\_\_  
NOTARY PUBLIC

My Commission Expires: \_\_\_\_\_

**NOTICE FOR PUBLICATION (Non-Commercial Disposal or Injection Well)**

OKLAHOMA CORPORATION COMMISSION  
Oil and Gas Conservation Division  
Jim Thorpe Building  
P. O. BOX 52000  
Oklahoma City, Oklahoma 73152-2000

Application No.

STATE OF OKLAHOMA TO: All persons, owners, producers, operators, purchasers, and takers of oil and gas, and all other interested persons, particularly in \_\_\_\_\_ County, Oklahoma:

NOTICE IS HEREBY GIVEN: That (name of applicant)  
\_\_\_\_\_, (address)

\_\_\_\_\_, is requesting that the Commission, pursuant to OCC-OGR Rules 165:10-5-5, ROP 165:5-7-27 and ROP 165:5-7-30 administratively authorize the approval of disposal/injection of saltwater into a well as follows:

WELL NAME AND LOCATION: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**\*NOTE** :( Lease name, well number and location of well to nearest **10 acre** spot **OR** footages from section line; top and bottom hole locations are given for a directional or horizontal well)

NAME OF DISPOSAL ZONE AND DEPTH \_\_\_\_\_

TOP: \_\_\_\_\_ BOTTOM \_\_\_\_\_

DISPOSAL RATE AND PRESSURE: \_\_\_\_\_ Bbls/day  
\_\_\_\_\_ Psi/Surface

Objections may be filed with the Oklahoma Corporation Commission within fifteen (15) days after the publication of this notice. Objections, if any, should be mailed to Oil and Gas Conservation Division, Pollution Abatement Department, Jim Thorpe Building, P. O. Box 52000, Oklahoma City, Oklahoma 73152-2000

**NOTICE FOR PUBLICATION (Commercial Disposal Well)**

OKLAHOMA CORPORATION COMMISSION  
Oil and Gas Conservation Division  
Jim Thorpe Building  
P. O. BOX 52000  
Oklahoma City, Oklahoma 73152-2000

Application No.

STATE OF OKLAHOMA TO: All persons, owners, producers, operators, purchasers, and takers of oil and gas, and all other interested persons, particularly in \_\_\_\_\_ County, Oklahoma:

NOTICE IS HEREBY GIVEN: That (name of applicant)  
\_\_\_\_\_, (address)

\_\_\_\_\_, is requesting that the Commission, pursuant to OCC-OGR Rules 165:10-5-5, ROP 165:5-7-27 and ROP 165:5-7-30 administratively authorize the approval of disposal of saltwater into a commercial disposal well as follows:

WELL NAME AND LOCATION: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**\*NOTE** :( Lease name, well number and location of well to nearest **10 acre** spot **OR** footages from section line; top and bottom hole locations are given for a directional or horizontal well)

NAME OF DISPOSAL ZONE AND DEPTH \_\_\_\_\_

TOP:      BOTTOM

DISPOSAL RATE AND PRESSURE: \_\_\_\_\_ Bbls/day  
\_\_\_\_\_ Psi/Surface

Objections may be filed with the Oklahoma Corporation Commission within thirty (30) days after the publication of this notice. Objections, if any, should be mailed to Oil and Gas Conservation Division, Pollution Abatement Department, Jim Thorpe Building, P. O. Box 52000, Oklahoma City, Oklahoma 73152-2000

**\*NOTE** :( Dates are included for the two (2) times the notices are published in an Oklahoma County paper and a paper in the county where the disposal well is located. The protest period ends 30 days after the last publication date.

## **Problem Wells and Dry Holes within the Radius of Endangerment**

OCC Rules of Practice 165:5-7-27 (b) (1) and OAC 165:10-5-5 (b) (1) requires a plat showing the location and total depth of the well or wells and each abandoned, producing or drilling well and dry hole within ½ mile radius for commercial well and ¼ mile radius for non-commercial and enhanced recovery injection wells of the well which is the subject of the application. The plat is required in order to determine if there are any problem wells/dry holes within the radius of endangerment of the proposed well.

One way to speed up the process is for the applicant to conduct this review of the area prior to submitting the application. If there are wells within the radius of endangerment, then the applicant can submit his explanation as to why these wells will not be impacted by the subject well. In order to do this, the applicant must have a thorough understanding of what constitutes a problem well and how the radius of endangerment is defined.

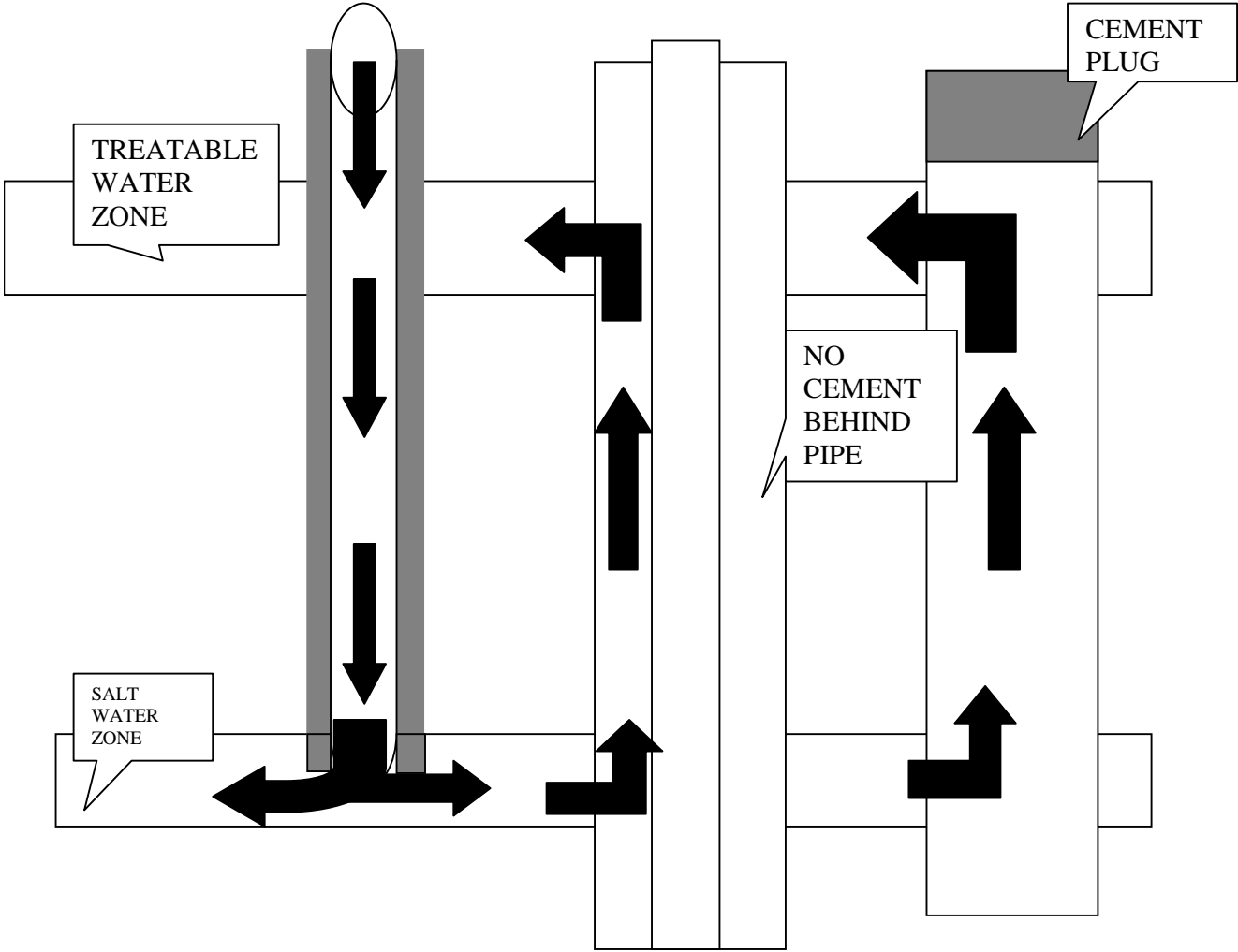
A problem well is defined in two parts.

- 1) A well or dry hole that has been drilled into or through the disposal or injection zone requested in the application and is not isolated by cement.
- 2) The surface casing or top cement plug is not set deep enough to protect the base of treatable water. (See figure B)

Under the above definition, a channel exists for fluid to escape from the injection zone and enter the treatable water. It is this problem that the applicant must overcome in order to satisfy the rules for the UIC program and obtain a permit.

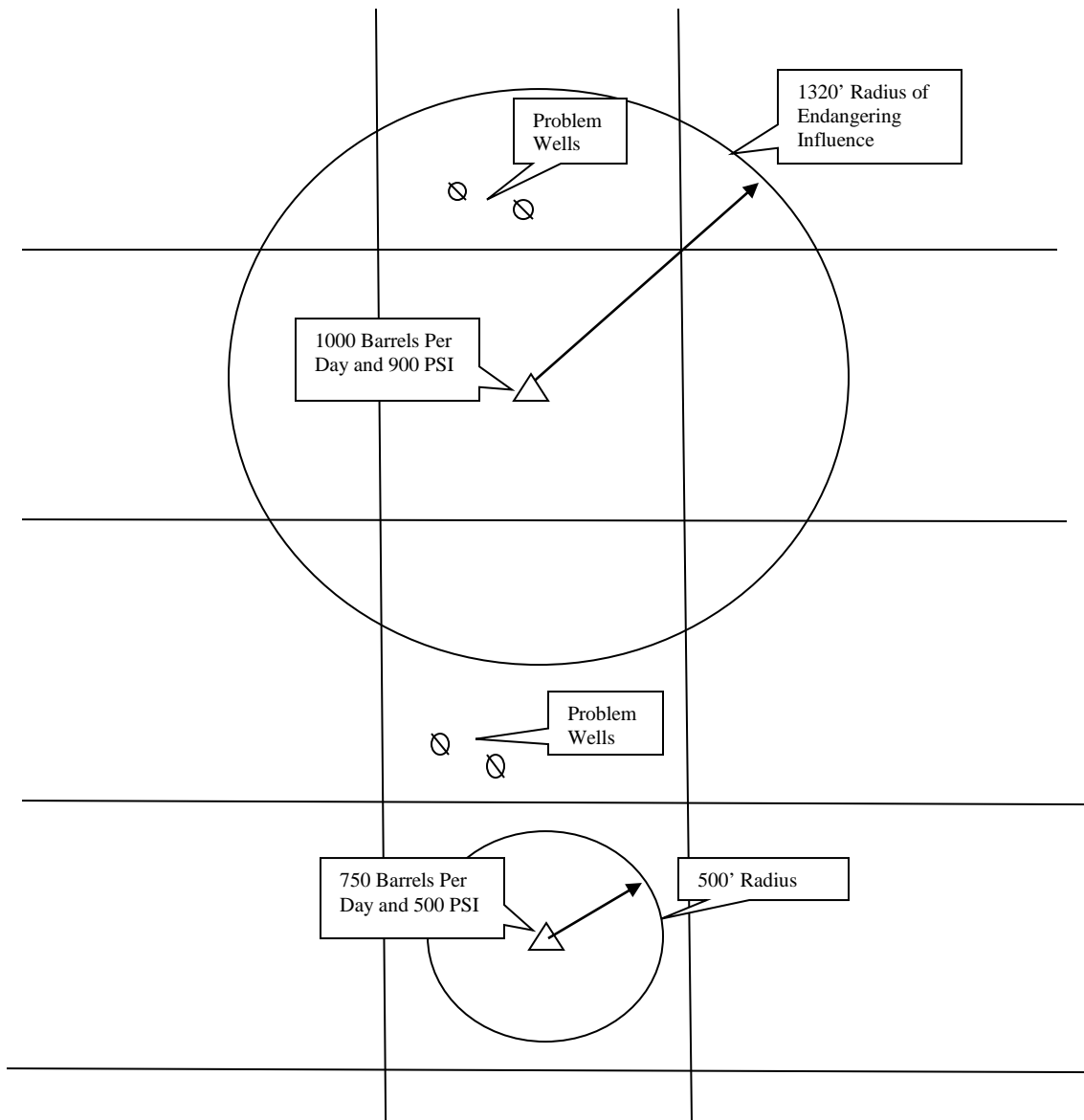
There are several possible remedies to this problem; the following list of scenarios is the most commonly accepted solutions.

**Figure B**  
**Problem Wells and Dry Holes**



**Reduction of the Radius of Endangering Influence**

The most common solution used to address problem wells is to reduce the requested rate and pressure, thus reducing the radius of endangerment. Prior to considering this option however, the applicant must know the distance between the problem well(s) and the well in the application, calculate the radius of endangerment based upon the lower values and determine if this will reduce the radius enough to solve the problem. If there are no problem wells within a ¼ mile radius of the subject well, then it is almost always considered not to be an endangerment. If the applicant cannot reduce his requested limits or the lower values do not solve the problem, then the applicant must consider the next alternative.





## Pressure Differentials

Probably the next possible solution to problem wells are pressure differentials in the well bore. It is possible for the applicant to demonstrate that the pressure in the well bore is greater than the pressure outside the well bore due to injection.

Consider the following example:

Pressure at well bore from injection zone = 600PSI

Pressure in well due to mud column

9 lb/Gal mud,

Depth to injection zone =1670 feet,

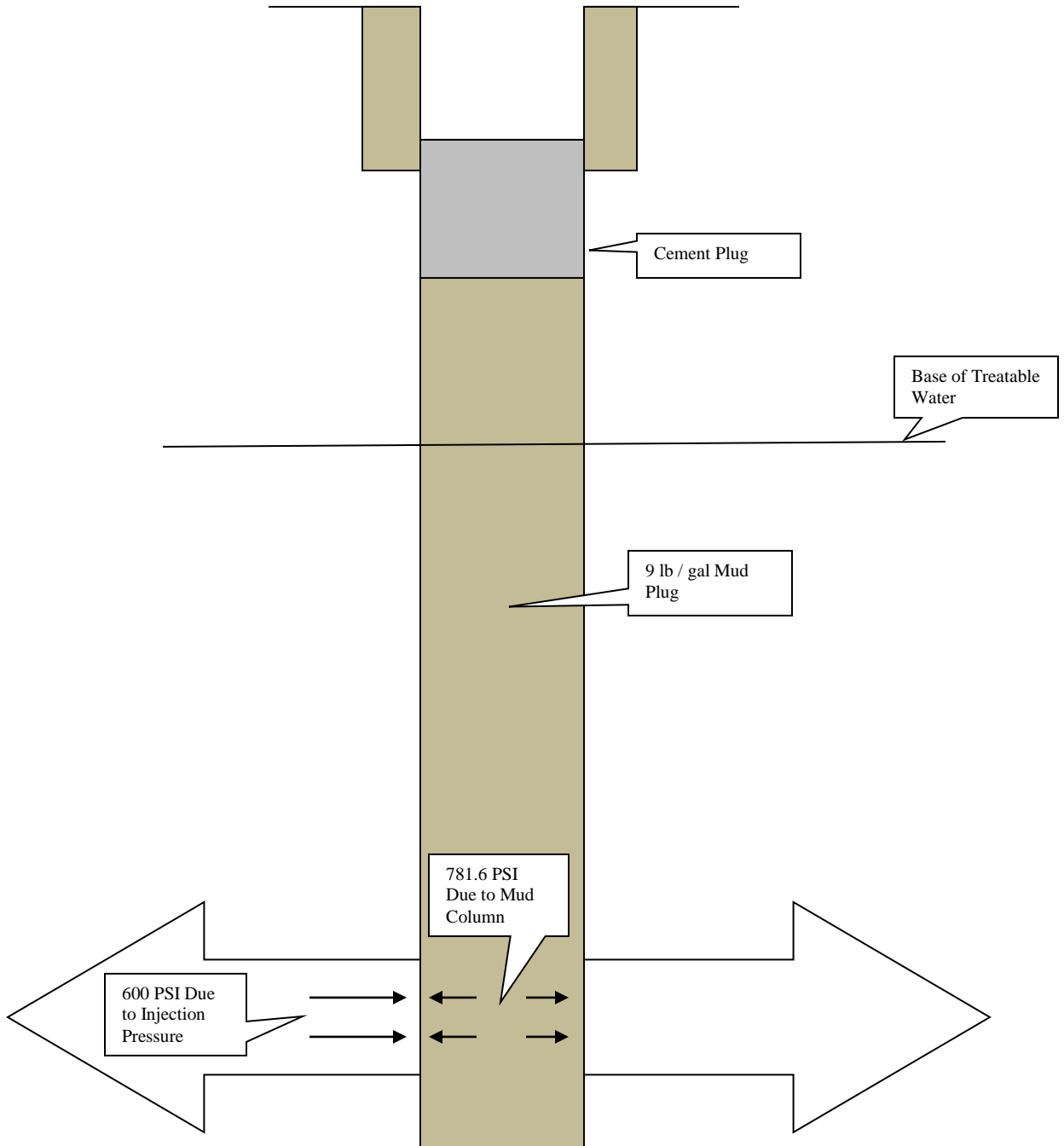
Bore Hole = 6 ½

.052 PSI / ft (1gal / lb x 9 lb / gal) = .468 PSI / ft

1670 ft. x .468 PSI / ft = 781.6 PSI

The most important factor about using pressure differentials is that the data used to calculate the pressure differentials must be properly substantiated. In other words, assumed values cannot be used for calculating the pressure inside the well bore. OCC plugging and completion reports are the most commonly accepted sources of information. However, if the application can produce work over reports or contractor billings which detail the well completion or plugging operation, i.e. Mud Weight, Volume of Mud, Cement, etc., this will also be accepted. (See Figure C)

# Pressure Differential Figure C

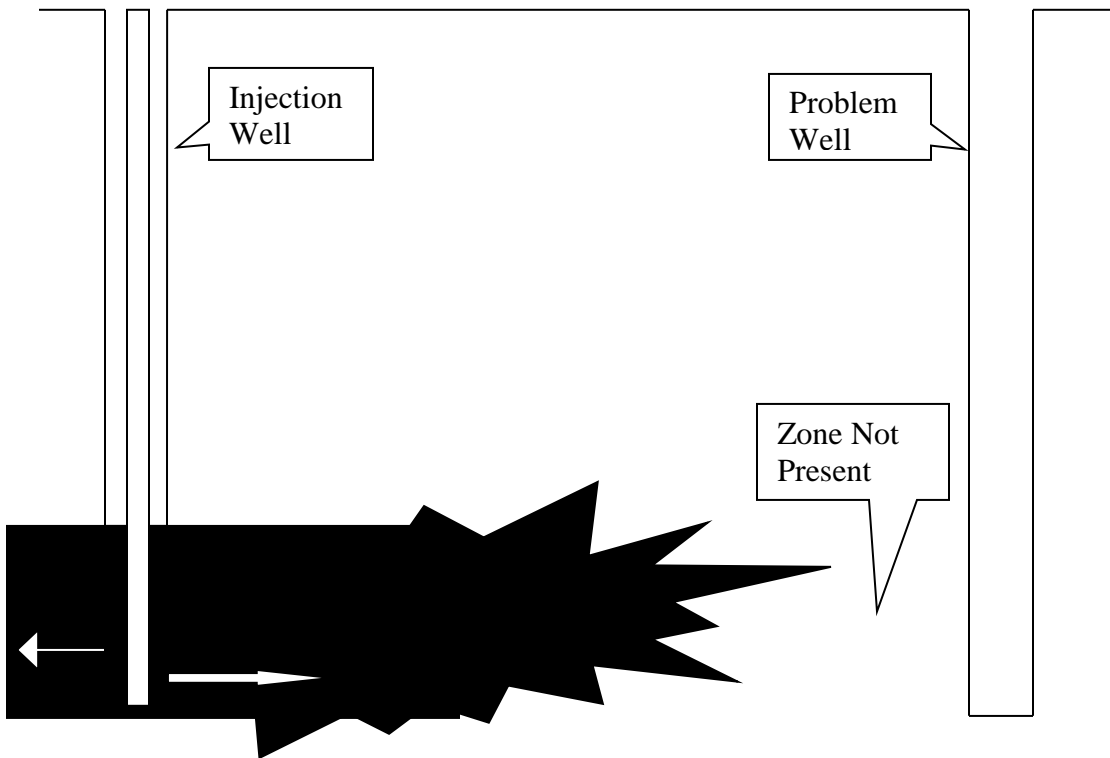


## Geological Limitations

Another possible alternative solution to problem wells is a geologic cross section demonstrating that the injection zone named in the application pinches out prior to reaching the problem well. This alternative is not commonly used; however, it may be a viable option. (See Figure D)

This option requires enough control points and well logs to properly demonstrate that the injection zone is not present in the problem well. It will necessitate a technical conference with the UIC Department prior to approval.

**Sand Pinch Out  
Figure D**



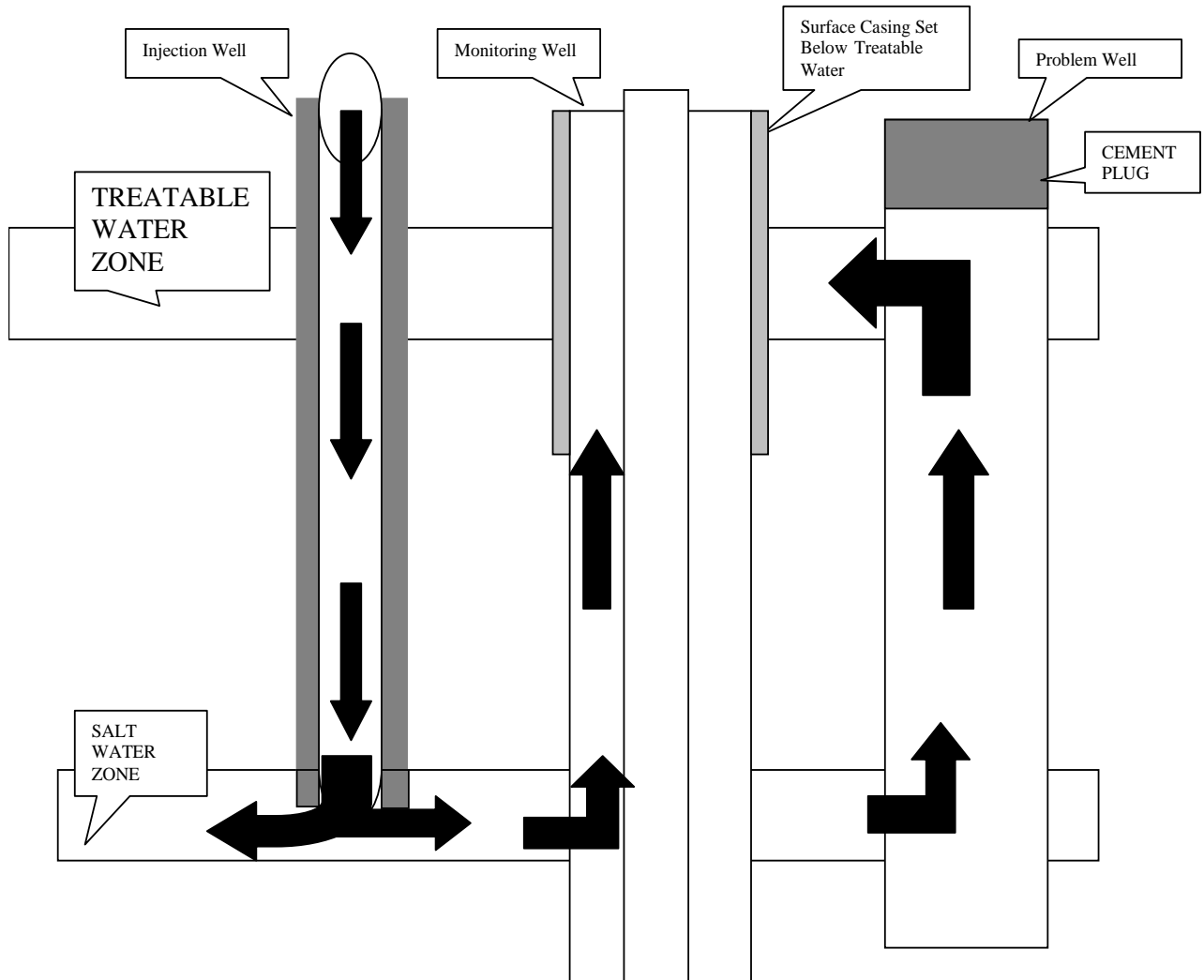
## **Monitoring Problem Wells**

Under certain circumstances, it may be possible to monitor the problem well situation. The monitoring option is cited as a condition in the Injection Order or Permit, and as long as the monitoring demonstrates that the injection operation is not allowing the injected fluid to migrate out of the injection zone, the well can continue to operate.

The monitoring program requires a special set of circumstances. In particular, one monitoring well must be closer to the injection well than the problem well(s) and it must have surface casing set below the treatable water. In addition, the backside of the casing must be open across the injection zone. If this situation exists, then it would be possible to monitor for pressure on the surface casing on the well with the deeper surface pipe. Assuming this well would be the first well to encounter pressure from the injection operation, an operator could conduct his injection or disposal operation unless pressure was encountered on the surface casing of the well being monitored.

This procedure is not highly favored by the applicant or the UIC Department. An order or permit issued on conditional operating procedures requires additional oversight by the UIC staff. In addition, it could also require immediate shut-down of the well after considerable expense by the operator to set up operation. However, under the UIC Program this is an option. (See Figure E)

**Monitoring  
Figure E**



## **Producing Wells in the Injection Zone**

### **Re-plug or Squeeze Problem Wells**

This is self-explanatory. The applicant can agree to re-plug or squeeze the problem well and thus quickly resolve the problem. However, if the problem well is not on the applicant's lease, then this may not be an option.

### **Change Injection Zones**

Finally, if none of the previously mentioned options can solve the problem, then the only option left to the applicant is to select a deeper zone for disposal. This option will be dependent on well design.

### **E.O.R. Projects**

One advantage E.O.R. (Enhanced Oil Recovery) projects have over salt water disposal applications are that they produce into the same zone they inject into. Thus it is possible to demonstrate that the producing wells will create a zero pressure differential and the problem well will not be affected by the injection operation.

## Figure F

APPLICATION OF John Doe APP# 1000000000  
 TYPE OF INJECTION Salt Water Disposal Well # 1  
 LEASE NAME Smith SEC 34 TWP 10N RGE 4W

### Estimation of Zone of Endangering Influence

Injection Rate	= Q =	<u>500</u>	b/d
Pay Thickness	= h =	<u>25</u>	ft.
Compressibility	= c =	<u>75 x 10<sup>-6</sup></u>	psi
Fluid Viscosity	= u =	<u>1.0</u>	cps
Injection Time	= t =	<u>10 x 365</u>	days
Permeability	= k =	<u>67</u>	mds.
Porosity	= Φ =	<u>18</u>	%
	Grad =	<u>0.465</u>	

Equation Used  $\Delta P = 162.6 (Qu \div kh) \log(kt \div 70.4 \Phi u cr^2)$

Top Perf = 2480 ft.      Bottom Perf = 2520 ft.  
 Mid-Point = 2500 ft.      Base of Treatable Water = 500 ft.

$$P_r = P_i + \Delta P$$

$$H_r = H_i + \Delta H$$

At  $r = 10$  ft.

$$\Delta P = 162.6 (500 \times 1.0) \div (67 \times 25) \log(67 \times 10 \times 365) \div (70.4 \times 0.18 \times 7.5 \times 10^{-6} \times 10^2)$$

$$\Delta P, P_r = \underline{\quad 359.7 \quad} \text{ psi}$$

Hydrostatic Column

$$\Delta H, H_r = \underline{\quad 773.5 \quad 2273.5 \quad} \text{ ft. @ } H = 2500 - 500 = 2000 \text{ ft.}$$

At  $r = 100$  ft.

$$\Delta P, P_r = \underline{\quad 262.6 \quad} \text{ psi}$$

Hydrostatic Column

$$\Delta H, H_r = \underline{\quad 564.8 \quad 2064.8 \quad} \text{ ft.}$$

At  $r = 1320$  ft.

$$\Delta P, P_r = \underline{\quad 153.8 \quad} \text{ psi}$$

Hydrostatic Column

$$\Delta H, H_r = \underline{\quad 330.8 \quad 1830.8 \quad} \text{ ft.}$$

From the plot of  $\Delta H, H_r$  vs.  $r$

$$\text{Radius of Endangering Influence} = \underline{\quad 200 \quad} \text{ ft.}$$

$$H_i = 1500H \text{ (from mid-point)}$$

## Radius of Endangerment

Under the UIC Program, UIC Regulatory Agencies recognize two alternatives when reviewing the radius of endangerment. UIC Agencies are allowed to use a fixed radius, or calculate the radius based upon reservoir conditions. Most states use a fixed radius usually of ¼ mile with some states using a radius of up to 1 (one) mile. Oklahoma uses a calculated radius of endangerment. This calculation is done using a derivation of the Theis equation as specified less than 40 CFR sec. 1466. This calculated value is then compared to the pressure differential calculated to the base of the treatable water.

The equation is:

$$\Delta P = (162.6) Qu/kh \log (kt \div 70.4 \Phi ucr^2)$$

$\Delta P$  = the pressure in the formation as created by the injection operation at a specified distance (r) from the well bore.

162.6 = constant

Q = injection rate

u = fluid viscosity (note: 1 cps. Is a constant)

k = permeability in millidarcys (md)

h = net pay thickness

Log (kt  $\div$  70.4ucr<sup>2</sup>)

The logarithmic value of the calculation is taken.

k = permeability in millidarcys (md)

t = 10 years

$\Phi$  = porosity

u = fluid viscosity = 1 cps.

c = total compressibility of the fluid, the value  $7.5 \times 10^{-6}$  is used (constant)

r = radius from the well bore

As you can see, in order to calculate the radius of endangerment, reservoir values must be known. This information becomes essential when problem wells are found within a ¼ mile radius of the subject well. The UIC Department cannot approve an application if there are wells within a ¼ mile radius of the subject well unless reasonable reservoir information is available to demonstrate that the injection well will not impact those wells. The key information is porosity ( $\Phi$ ), permeability as it relates to water (k), and reservoir pressure.



The most important value is reservoir pressure. If the reservoir pressure is too high, then a maximum of ¼ mile is automatically assumed as the radius of endangerment. In order to know if the reservoir pressure is going to be a critical issue, two factors must be known. The first is the fluid level in the well or the reservoir pressure of the subject injection zone. (The fluid level or bottom hole pressure is used to calculate the current reservoir pressure)

The second factor is the base of treatable water.

If the level in the well bore is high enough to reach the base of the treatable water, **then the radius of endangerment calculation is automatically ¼ mile.**

Obviously if there is pressure on the well when it is shut in, then the radius of endangerment is ¼ mile.

In the following example, (see Figure F) an injection rate of 500 bbls/day is used. The injection zone is 25 feet thick, porosity is 18%, and the permeability is 67 mds. The fluid level was measured to be 1000 feet.

$P = 359.7$  psi with an assumed radius of 10 ft.

The pressure is then converted to a hydrostatic column of fluid in the well bore. Using a fluid with a specific gravity of 1.074, the value of 0.465 psi/ft is used. Converting 359.7 psi to a water column, we get a hydrostatic column of  $359.7 \text{ psi} \div 0.465 \text{ psi/ft} = 773.5$  ft.

To obtain the height of the fluid column in the well that would occur due to the injection operation, the following calculation is required:

Fluid level is 1,000 ft.

Mid-point of perms = 2500 ft.

Fluid column in well prior to injection is  $2500 - 1000 = 1500$  ft.

Fluid column that would be generated after injection is  $1500 + 773.5 = 2273.5$  ft., the fluid in the well measured from the mid-point of the perforations.

To establish the ground level base line, the base line is drawn at the 2500 foot mark.

To establish Base of treatable water or (USDW) base line, the baseline is drawn at a depth 500 feet below the 2500 foot mark.

This means that there are 2000 feet between the BTW and the mid-point of the perforations prior to there being any fluid in the hole at the level of treatable water.

Once the ground level and BTW base lines are established, the next step is to move out a distance of 10 feet (r) from the subject well and plot the value 2273.5 feet. This value is measured from the mid-point of the perforations or the zero (0) point on the graph.

You will note that a distance of 10 feet (r) from the well bore and the fluid column is 273.5 feet above the base of treatable water. This means that a distance of 10 feet from the well bore any problem well within this radius is within the radius of endangerment.

In order to avoid doing numerous calculations to determine what radius (r) is a safe distance from the well bore and outside the radius of endangerment, the data is graphically represented to determine the radius of endangerment.

In order to graphically represent the radius of endangerment,  $\Delta P$  is calculated at  $r=100\text{ft.}$  and  $r= 1320\text{ft.}$

With three (3) points on the graph, a line can be drawn and the radius can be determined.

The radius is estimated by determining the point at which the hydrostatic column is found to be below the BTW.

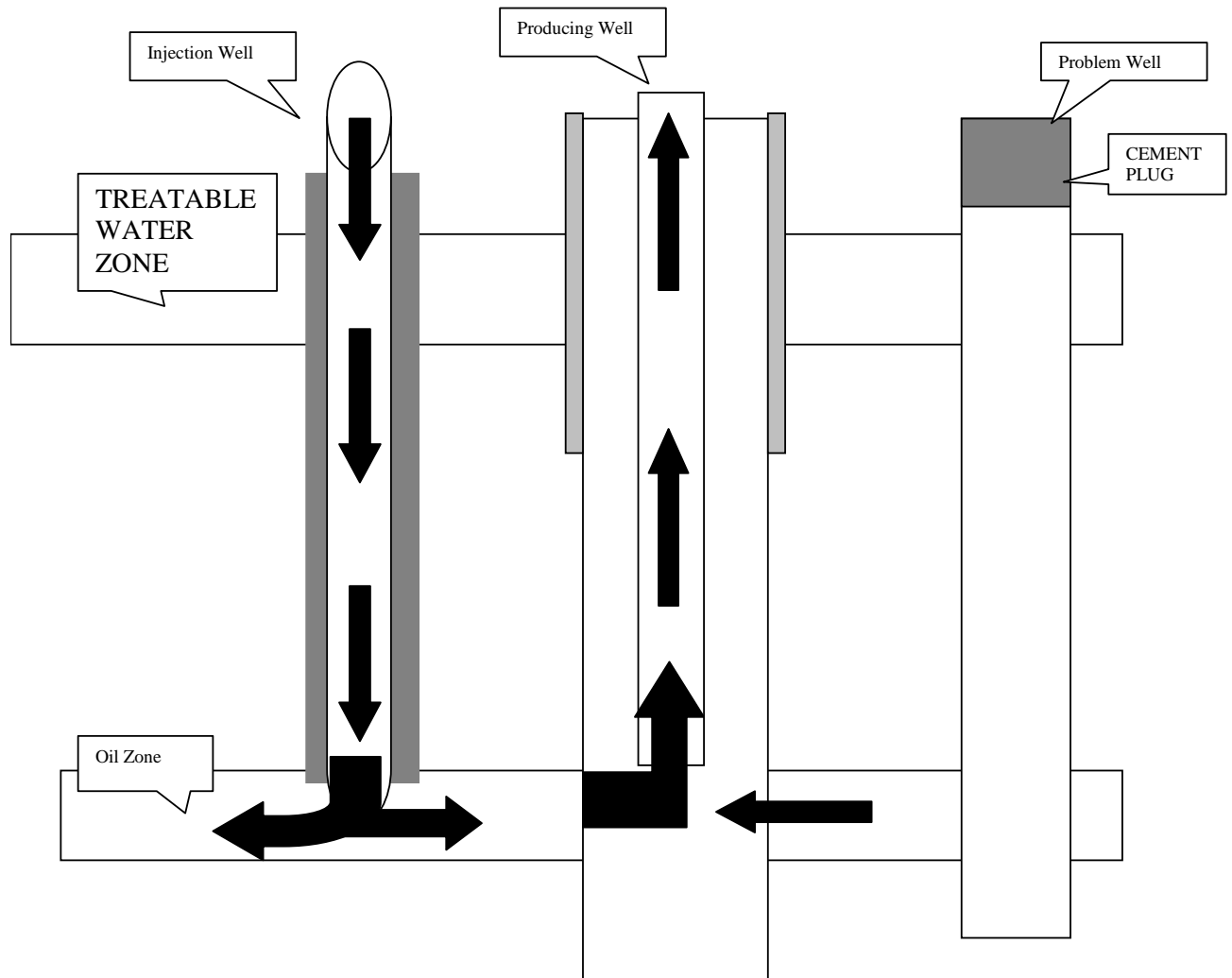
In This example, the radius is found to be 200 feet from the well bore.

Porosity information can be obtained from well logs.

Once these values are known, then the radius of endangerment can be calculated.

In most cases, the more accurate the information is the greater the advantage for the applicant. The less accurate the information requires the Pollution Abatement Department to use more conservative values.

**E.O.R.  
Figure G**

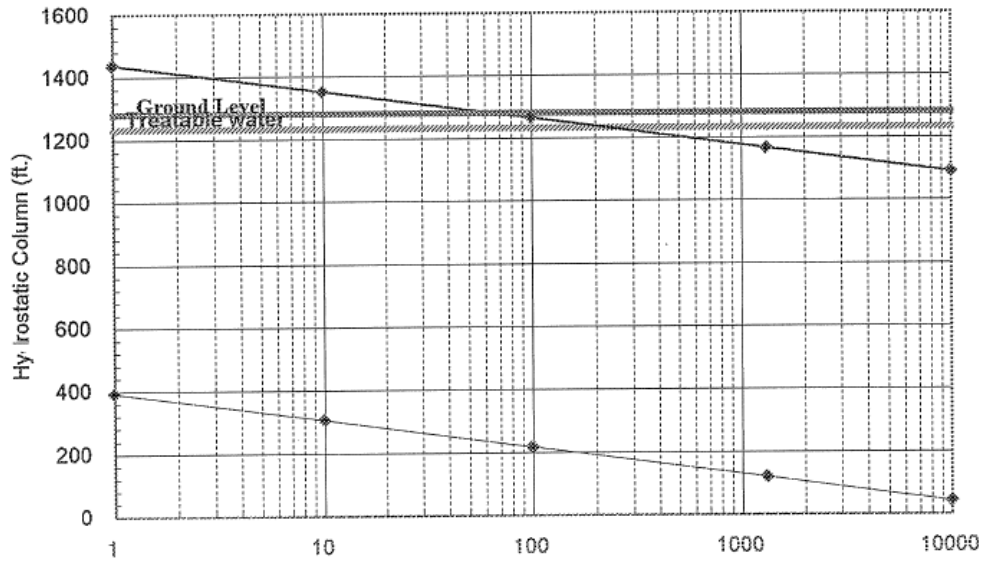


# Graph 1

## RADIUS OF ENDANGERING CALCULATION

INJECTION RATE =	200 b/d	TOP OF INJECTION =	1210 ft.	MISS/ABCK	
PAY THICKNESS =	80 ft.	BOTTOM OF INJECTION =	1350 ft.		
COMPRESSIBILITY =	7.5E-06 1/psi	MIDDLE OF INJECTION =	1280 ft.		
FLUID VISCOSITY =	1 cps.	TREATABLE WATER =	50 ft.		
INJECTION TIME =	3650 days	T.O.C PRODUCTION =	0 ft.		
PERMEABILITY =	20 mds.	INTER. THICKNESS =	1160 ft.	OK !	
POROSITY =	15 %	T.O.C TO TOP PERF. =	1210 ft.	OK !	
GRADIENT =	0.465 psi/ft.	STATIC FLUID FROM SURF.=	0 ft.	233.978495 ft. cal.	
OK !	PACKER SET AT =	1180 ft.	TREAT. WATER FR. MID POINT =	1230 ft.	
STATIC FLUID FROM MIDPOINT =	1046.02 ft.	T.O.C TO PACKER SETTING =	1180 ft.	OK !	
OK !	SURFACE CASING DEPTH=	104 ft.	PRESENT FORMATION PRESSURE	0 psi.	486.4 psi. cal.
			INJECTION PRESSURE =	500 psi.	OK !

SETTING DEPTH OF PRODUCTION CAS	1283 ft.					
TOTAL DEPTH=	1350 ft.	PLUG BACK TOTAL DEPTH =	0 ft.			
		<b>Water column equivalent</b>		<b>Fluid column height</b>		
At r =	1 ft,	Delta P =	182.21	, Hydro. Column (Delta H,Hr) =	391.84 ft.	1437.86118 ft.
At r =	10 ft,	Delta P =	141.56	, Hydro. Column (Delta H,Hr) =	304.42 ft.	1350.44182 ft.
At r =	100 ft,	Delta P =	100.91	, Hydro. Column (Delta H,Hr) =	217 ft.	1263.02247 ft.
At r =	1320 ft,	Delta P =	55.354	, Hydro. Column (Delta H,Hr) =	119.04 ft.	1165.06262 ft.
At r =	10000 ft,	Delta P =	19.605	, Hydro. Column (Delta H,Hr) =	42.162 ft.	1088.18376 ft.



## Permeability $K_w$

Permeability is by far the most controversial value in obtaining reservoir information. It is also the second most important value required in determining the radius of endangerment.

From a technical standpoint, the Pollution Abatement Department will accept any commonly acceptable engineering technique in determining permeability.

From a regulatory standpoint, the Oklahoma UIC Program believes that this determination need not be complex. Therefore, the Pollution Abatement Department has derived a simple calculation based upon the following radial flow equation:

$$Q = \frac{7.07 \times 10^{-3} K_w h (P_e - P_w)}{\ln(r_e \div r_w)}$$

$$K_w = \frac{Q \ln(r_e \div r_w)}{7.07 \times 10^{-3} \times h \times (P_e - P_w)}$$

$Q$  = rate = bbls/day

= viscosity of water (always = 1 cps)

$h$  = net thickness of reservoir

$P_e$  = injection pressure during test

$P_w$  = reservoir pressure or bottom hole pressure (bhp)

$7.07 \times 10^{-3} = .00707$  = constant

$r_w$  = radius of well bore in feet

$r_e$  = radius at which the pressure from the injection well is measured

Note: It is recognized from an engineering standpoint that  $r_e$  is the most controversial value to determine. In order to assume some reasonable approach, the following values are to be used.

( $r_e$ ) Un-spaced and E.O.R. Projects = 330

( $r_e$ ) 10 acre spacing = 660

( $r_e$ ) 40 acre spacing = 1320

( $r_e$ ) 80 acre spacing = 2640

\*These values are based upon Oklahoma Spacing Rules. If increase density wells are involved or actual reservoir conditions are known, other values may be justified.

The following is an example of a calculation for  $K_w$  from data obtained by an injectivity test:

Injection zone is 980 feet from surface

Sand is 45 feet thick

Hole size is  $5 \frac{5}{8}'' = 5.63''$

$5.63'' \div 12'' = .47\text{ft.}$

$r = .47\text{ft.} \div 2 = .235 \text{ ft.}$

From injectivity test:

Fluid level is 687 ft. from surface

Rate during test = 150 bbls/day = Q

Injection pressure = 200psi

Lease is not spaced ( $r_e$ ) = 330

$P_e = 980 \text{ ft.} \times .47 \text{ psi/ft.} + 200\text{psi} = 660 \text{ psi}$

$P_w = [980 \text{ ft.} - 687 \text{ ft. (fluid level)}] \times .47 \text{ psi/ft.}$

$K_w = [150 \text{ bbls/day} \times 1 \text{ cps} \times \ln(330 \div .235)] \div [.00707 \times 45\text{ft.} \times (660 - 137.7)]$

$K_w = (150 \text{ bbls/day} \times 7.25) \div 166.17$

$= 6.54\text{md}$

# Exhibit J Form 1015T

**OKLAHOMA CORPORATION COMMISSION**  
Oil & Gas Conservation Division, UIC Department  
Post Office Box 52000  
Oklahoma City, Oklahoma 73152-2000

Form 1015T  
Rev. 2001

**Phone:** (405) 521-2500  
**FAX:** (405) 522-0757

**Permit For One-Time Annular Injection of Reserve Pit Contents**

Operator		OTC #	
Address			
City	State	Zip	
Well Name/No.		API #	
Location	1/4	1/4	1/4
County	Sec	Twp	Rge

Date \_\_\_\_\_

Tracking No. \_\_\_\_\_

OCC approval \_\_\_\_\_

Date approved \_\_\_\_\_  
(**Note:** Permit expires 90 days after completion of the well.)

Permit No. \_\_\_\_\_

**OAC 165:10-5-13 authorizes administrative approval to inject onsite reserve pit contents. The applicant submits the following information:**

Injection well is (check one):

Drilling well, projected TD \_\_\_\_\_

Producing well, date well reached TD \_\_\_\_\_

Dry hole, date well reached TD \_\_\_\_\_

Type of onsite reserve pit fluid to be injected:  Water  Drilling Mud  Other \_\_\_\_\_

**Maximum Permit Conditions requested:**

Rate	Volume	Pressure	Top of injection interval	Base of Treatable Water
Bbls/day	Bbls	psi		
Distance from reserve pit to proposed injection well	Distance from injection well to nearest producing well	Distance from injection well to nearest fresh water well within 1/2 mile		

**CASING AND TUBING DATA**

Name of String	Diameter	Depth	Sacks	Top of Cement	TOC Determined By
Surface					
Surface					
Surface					
Surface					
TD			<b>Top of Inj. Interval</b>		<b>Base of Inj. Interval</b>

I declare that I have knowledge of the contents of this application, which was prepared under my direction, that the facts stated herein are true, correct and complete to the best of my belief, and that I am authorized to make this application.

Signature \_\_\_\_\_

Date \_\_\_\_\_

Name & Title (Typed or Printed) \_\_\_\_\_

Phone No. \_\_\_\_\_

*Instructions on Reverse Side*

## Exhibit J-2 Form 1015T (Back)

### INSTRUCTIONS

1. Attach \$35.00 filing fee for one-time annular injection permit.
2. Attach a completed and signed Form 1002A or an affidavit stating that the well has not been completed and that the form will be submitted within 30 days of the date the well is completed.
3. Submit, on the face of this form, engineering specifications including diameter, setting depth, amount of cement used, measured or calculated depths to top of cement behind all strings of casing, total depth of the well, top of injection interval and base of injection interval. If well has not been drilled, submit proposed values.
4. Deliver or mail a copy of the application **OR** a copy of the Form 1000 specifying the annular injection option to the landowner on whose land the well is located, and to each operator of a producing lease within one-half mile of the subject well.
5. Submit an affidavit of mailing or delivery, containing the names and addresses of those notified with a copy of this application or of the original Form 1000; the application will then be eligible for approval 15 days after notification. **OR** have the surface owner and offset operator sign a statement of approval that pertains to this application.
6. The original application and a complete set of any attachments shall be submitted to the UIC Department.
7. Rule 165:10-5-13 specifies that the casing comprising the water boundary of the annulus used for injection must be cemented **at least 200 feet below the Base of Treatable Water.**
8. Maximum surface injection pressure cannot be greater than 1.0 psi per foot of surface casing and **cannot be greater than 1500 psi** without supporting evidence documenting the specific fracture gradient.
9. The top of the injection interval will be the bottom of surface casing (or intermediate casing) and the bottom of the injection interval will be the bottom of production casing or TD in the case of an open hole completion.
10. The operator will give the appropriate OCC District Office **at least 48 hours notice prior to starting injection.**



# Exhibit K Form 1015SI

**OKLAHOMA CORPORATION COMMISSION**  
Oil & Gas Conservation Division, UIC Department  
Post Office Box 52000  
Oklahoma City, Oklahoma 73152-2000

Form 1015SI  
Rev. 2006

**Phone:** (405) 521-2500  
**FAX:** (405) 522-0757

**Permit for Simultaneous Injection Well**

Operator				OTC #		
Address						
City		State		Zip		
Well Name/No.			API #			
Location				Sec	Twp	Rge
SHL	1/4	1/4	1/4	1/4		
BHL	1/4	1/4	1/4	1/4		
County			Unit Order No.			
Unit Name						

Date \_\_\_\_\_

Approved \_\_\_\_\_

Date Approved \_\_\_\_\_

(Note: Permit expires 180 days after date approved if well is not recompleted or if an amended 1002A is not submitted to the OCC.)

Permit No. \_\_\_\_\_

**OAC 165:10-5-15 authorizes administrative approval to operate simultaneous injection wells. The applicant submits the following information:**

Names and addresses to whom copies of this application have been sent.

Well to be drilled     Well to be converted     Enhanced Recovery Well     Noncommercial Disposal Well     Directional (Provide BHL)

Geologic name and perforated interval of <b>producing</b> zone		
Geologic name and perforated interval of <b>injection</b> zone		
Base of Treatable Water	Present static fluid level	Total Depth
Injection Rate	Injection Pressure	PBTD

How will rate and pressure be calculated?

I declare that I have knowledge of the contents of this application, which was prepared under my direction, that the facts stated therein are true, correct and complete to the best of my belief; and that I am authorized to make this application.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name & Title (Typed or Printed)

\_\_\_\_\_  
Phone

*Instructions on Reverse Side*

## **Figure K-2 Form 1015SI (Back)**

1. Attach **\$100.00 filing fee** for simultaneous injection permit.
2. Attach affidavit of mailing or delivery with names and addresses of those notified. Operators of producing leases within 1/2 mile of the subject shall be included on the list of those notified.
3. Applicant must have appropriate surety prior to approval of this permit.
4. Attach current **Completion Report Form 1002A** and **Transfer of Ownership Form 1073I** if applicant is not shown as the operator on Form 1002A
5. Attach representative wire-line log of the subject well.
6. Attach schematic diagram of the wellbore including all casing and tubing strings, cemented intervals, producing and injection perforations, plugs and pumps.
7. The original and three copies of the application and one set of attachments shall be mailed or delivered to the Corporation Commission Underground Injection Control Department.
8. This application will be processed administratively if no written protest is received within 15 days of the applicant notifying the offset operators.
9. Subject well shall not be used as a simultaneous injection well until after inspection by an employee of the OCC Oil and Gas Division.
10. Subject well shall not be used unless **Annual Report Form 1012** is filed by April 1st of each year and an amended Form 1002A is submitted within 30 days of recompletion.

### **NOTE**

***\*No publications are needed. You must mail a copy of your 1015SI application to all operators of producing leases within 1/4 mile of the subject well. Attach an affidavit of mailing to your application. The 15-day clock starts after you've mail the last notice.***

***\*A copy of your application will be sent to the OCC District Office and they have the opportunity to protest application.***

***\*When your application has been approved, you will receive a copy of your application signed by the manager of the UIC Department. This is your authority to inject. Use the Permit No. shown on the Form 1015SI to file your Form 1012/1012C each year.***

***\*Prior to injection, the OCC District Office must be given 48 hour notification.***

## FAQ

### **If I don't have an API number, where do I get one?**

An API will be issued with the Form 1000 - Notice of Intention to Drill application: Operator shall file Form 1000 before any oil, gas, injection, disposal, service well, or stratigraphic test hole is drilled, recompleted, re-entered or deepened. Such notice shall include the name and address of the surface owner(s) of the land upon which the well is to be located. The Commission shall process the application and mail a copy of the permit to drill or reenter to the surface owner(s). Upon approval, the operator will have six months to commence the permitted operations. A six month extension may be granted without fee providing the Conservation Division staff determines that no material change of condition has occurred, if written request for such extension is received from the operator prior to the expiration of the original permit. Only one extension may be granted. A copy of the approved permit shall be posted at the well site. [*Reference 165:10-3-1 and 165:10-1-25 and OAC 165:10-7-31*]

### **When is the 1002A, completion report, supposed to be turned in?**

The operator shall furnish a complete well record on form 1002A within 60 days after completion of operations to drill, recomplete, re-enter, or convert to injection or disposal well. [*Reference OAC 165:10-3-25*]

### **What is the duration of a UIC permit or order?**

Authorization of injection into enhanced recovery injection wells and disposal wells shall remain valid for the life of the well, unless revoked by the Commission for just cause or lapses and becomes null and void under the provisions of 165:10-5-5(h). An order or permit granting underground injection may be suspended, modified, vacated, amended, or terminated during its term for cause. This may be at the Commission's initiative or at the request of any interested person through the prescribed complaint procedure of the Conservation Division. All requests shall be in writing and shall contain facts or reasons supporting the request. An order or permit may be suspended or temporarily modified by the Commission pursuant to 52 O.S. §139(D)(1), 165:10-5-7(g) and other applicable authority. An order or permit may be permanently modified, vacated, amended, or terminated after notice and hearing if:(1) There is a substantial change of conditions in the enhanced recovery injection well or the disposal well operation, or there are substantial changes in the information originally furnished. (2) Information as to the permitted

operation indicates that the cumulative effects on the environment are unacceptable. [Reference: OAC 165: 10-5-9]

**Does the UIC permit or order expire?**

Yes, if an operator fails to complete or convert a well as approved by the Conservation Division within eighteen (18) months after the effective date of the order or permit authorizing injection into the well, then the order or permit authorizing injection into the well shall expire. [Reference: OAC 165:10-5-9(d)]

**What is the MIT and how do I get one?**

Upon completion of the well, a Mechanical Integrity Test must be done, unless other testing is specified in the Permit. The well may not be operated until this is done. You must notify the District Office in advance so they may have a representative on sight for the initial test.

**Bristow, OK, District 1- (918) 367-3396**

**Kingfisher, OK, District 2- (405) 375-5570**

**Duncan, OK, District 3- (580) 255-0103**

**Ada, OK, District 4- (580) 332-3441**

**Initial test requirements:**

1. **Witnessing of the test.** The test shall be witnessed by an authorized representative of the Conservation Division. It shall be the responsibility of the well operator to secure the presence of the Commission representative.
2. **Down-hole equipment.** Injection and disposal shall be through adequate tubing and packer.
3. **Aboveground extensions and fittings.** Adequate aboveground extensions shall be installed in each annulus in the well. In addition, the operator shall install a one-fourth (1/4) inch female fitting, with cutoff valve to the tubing, so that the amount of injection pressure may be measured by the Commission representative using a gauge having a one fourth (1/4) inch male fitting.
4. **Packer setting depth under the order.** The mechanical packer shall be set within 40 feet of the packer setting depth prescribed by the order permitting the well for injection or within 75 feet of the perforations of the injection zone(s) opened.

5. **Verification of packer setting depth.** The Commission District Manager may require the operator of the well to verify the packer setting depth by running a wire line or other method approved by the Manager of the Underground Injection Control Department.

6. **Minimum testing pressure.** Noncommercial disposal and injection wells shall be tested as follows:

(i) If the maximum authorized injection pressure for the well is less than 300 psig under the order permitting the well for injection, the minimum testing pressure shall be 300 psig.

(ii) If the maximum authorized injection pressure is greater than 300 psig under the order permitting the well for injection, the minimum testing pressure shall be the lesser of 1000 psig or the maximum authorized injection pressure under the order permitting the well. **Thirty minute minimum testing period.** The minimum testing period shall be 30 minutes at the testing pressure.

(H) **Ten percent maximum permitted bleed-off.** The maximum permitted bleed-off during the testing period shall be ten percent of the maximum testing pressure used.

(I) **Test report on Form 1075.** The operators shall submit the results of the mechanical integrity test on Form 1075 within 30 days from the date the test is performed.

(J) **Cement circulated above injection zone.** The minimum cement height circulated above the injection or disposal zone in the annulus between the casing and the borehole shall be 250 feet.

(K) **Packer setting depth.** The packer must be set at a depth which is at least 50 feet below the depth of the top of cement behind the production casing. [*Reference: OAC 165:10-5-6* ]

### **When and how do I file the injection report?**

Each operator of a saltwater disposal well, LPG storage well or an authorized water flood, pressure maintenance project, gas re-pressuring project, or other enhanced recovery project shall submit Form 1012 for every well to the Conservation Division as follows:

(A) Form 1012 shall be submitted by February 1st for the previous calendar year for all noncommercial, Injection, or Enhanced Recovery wells.

(B) For commercial disposal wells Form 1012C shall be submitted by January 31 and July 31 for the previous six-month period.

(C) For well filing online, use the 1012A form for the above (A) and (B).

# How to Report the Form 1012 Online

1. Log into your OCC online account. (follow steps 1a – 5a if you need an account, otherwise skip to step 2)
  - 1a) If you do not currently have an online account with OCC, you will need to set one up. Go to [www.occeweb.com](http://www.occeweb.com)
  - 1b) Highlight “Division” on the Tool Bar (a drop down menu will appear)



- 2b) On drop down menu highlight “Oil and Gas” (a drop down menu will appear)



1c) On drop down menu highlight and click on “Electronic Forms”



1d) Click the “New Users Login Account Request” and follow the directions to setup an account. If you already have account go to #2



- Now that you have logged into your account, click on “1012A”

Welcome Linda Gore, d63.

Welcome to the Oklahoma Corporation Commission's Electronic Well Data System.

Form Type	New	In Process
1001A	0	2
1002A	14	408
1003C	0	6
1004	0	357
1006B	0	1
1012A	0	21
1015	0	2
1016EZ	0	0
1023	0	0
1534	0	2
1014S	0	1

- Now Click “Start New 1012A”

**Form 1012A Home Page**

**Non-Submitted 1012A's**

API	Operator	Well Name	Well Number	Status	Created
3513306257	13938	BEAN, MOSE	1	PENDING	2/10/2012 2:11:49 PM
3513306257	13938	BEAN, MOSE	1	PENDING	2/10/2012 2:17:57 PM
3500335453	1063	BEACH	3	PENDING	2/28/2012 3:09:05 PM
3510627294	22274	KEITH	3 WIW	PENDING	3/1/2012 4:58:31 PM
3501920561	20740	LEDBETTER A	W-9	PENDING	3/7/2012 1:12:27 PM
3501920561	20740	LEDBETTER A	W-9	PENDING	3/7/2012 1:15:43 PM
3501920561	20740	LEDBETTER A	W-9	PENDING	3/12/2012 11:15:39 AM
3503701293	19947	RIVERBED A	SWD-1	PENDING	3/13/2012 10:07:41 AM
35003201800001	7980	THOMAS	1	PENDING	3/13/2012 6:07:52 PM
3510920499	1363	WHEATLAND UNIT	20	PENDING	3/18/2012 9:40:03 AM

**Submitted 1012A's**

API	Operator	Well Name	Well Number	Assigned To	Created
3504700787	19118	SEBRANEK	2	SCHLDDR5	1/23/2012 11:51:10 AM
3504703082	19118	ESTHER M. WILCOX	1	SCHLDDR5	1/23/2012 1:09:01 PM
35053227990000	21272	DOWNING	1-31	FRDRBNJM1	1/24/2012 8:22:16 AM
35071244320000	21272	BOLING SWD	2-32	FRDRBNJM1	1/24/2012 9:11:54 AM
3512521448	20952	SCOGGIN	1	d63	1/30/2012 12:03:11 PM
3500735315	18246	EDNA DAVIDSON	1	SWTLJN1	1/30/2012 1:47:46 PM
3500920457	1640	BROWN	1	MCRSNKK4	2/2/2012 10:16:32 AM
3513709204	18313	RINGER UNIT A	6	FLDDNS7	2/2/2012 10:45:11 AM
3513709402	18313	RINGER UNIT A	3	FLDDNS7	2/2/2012 10:46:54 AM
3500721260	15484	ANNA BRYAN	2	GRSSCHRL1	2/2/2012 11:50:23 AM

Change page: < ≥ | Displaying page 1 of 3, items 1 to 10 of 21.

[Start New 1012A](#) [Reload](#)



- Now enter the order/permit number that authorizes injection or disposal and click on the magnifying glass.

Oklahoma Corporation Commission  
ENERGY • TRANSPORTATION • UTILITIES

Welcome James Phelps, G61.

**Form 1012A**

**Order Information**

Enter Order/Permit #  Status  Enter Annual Fluid Injection Report Year

**Contact Information**

Operator No.  Contact Name

Address 1  Address 2

City  State  Zip Code  Country

Phone  Fax  Email

**Well Information**

Enter API Number    Well Name  Well Number

BRACKISH WATER  FRESH WATER  GAS  LPG  SALTWATER

- 5a) If your search returns a multiple page list of wells, you must click the forward arrow, then press the search symbol to display the next page of the results.

Oklahoma Corporation Commission  
ENERGY • TRANSPORTATION • UTILITIES

Welcome James Phelps, G61.

**Form 1012A**

**Order Information**

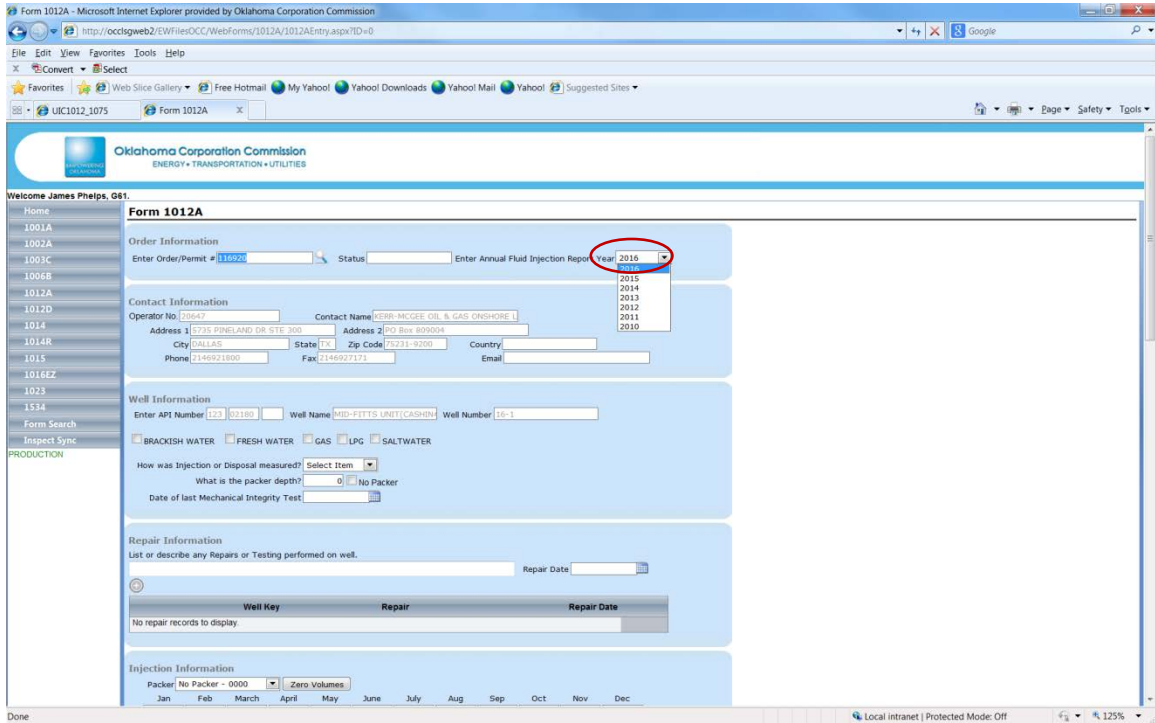
Enter Order/Permit #  Status  Enter Annual Fluid Injection Report Year

**Permit/Order Wells**

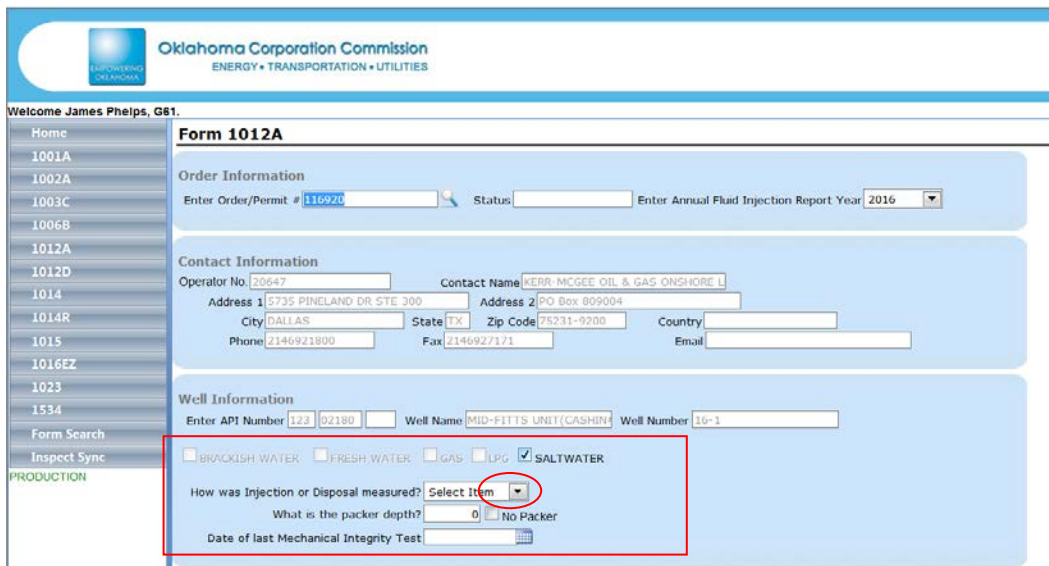
	Well Name	API	Well Number
<a href="#">Select</a>	MID-FITTS UNIT(CASHIN#1)	3512302180	16-1
<a href="#">Select</a>	MID FITTS UNIT-SIMPSON 4A	3512302363	7-4A
<a href="#">Select</a>	MID FITTS UNIT	3512302364	10-3
<a href="#">Select</a>	MID FITTS UNIT ( WIRICK 4 )	3512302365	10-4
<a href="#">Select</a>	MID FITTS UNIT (WIRICK #7)	3512302366	10-7
<a href="#">Select</a>	MID FITTS UNIT (WIRICK #8)	3512302367	10-8
<a href="#">Select</a>	MID FITTS UNIT	3512302368	10-1A
<a href="#">Select</a>	MID FITTS UNIT	3512302370	11-2
<a href="#">Select</a>	MID-FITTS UNIT	3512302376	12-5
<a href="#">Select</a>	MID-FITTS UNIT	3512302379	8A-2

Change page: Displaying page 1 of 5, items 1 to 10 of 41.

5b) Once you select the well, all the contact information and API will self-populate. The year is a drop down menu and changes to current year when you click on 'select.' Also, you can click on a year going back five years if you have been instructed to submit previous years.



5c) Next you will enter the well information. Check one of the types of fluids; select type of measurement; enter packer depth; enter last MIT date as MM/DD/YYYY



6. Next you will enter repair information and date of repair. **You must enter data here!** If no repair was done, then enter none and the date as 12/31 of the reported year. Then click the add symbol.

**Repair Information**  
List or describe any Repairs or Testing performed on well.

none Repair Date 12/31/2011




Well Key	Repair	Repair Date
No repair records to display.		

7. Next enter the injection information. Enter the PSI and volume (barrels) of fluid injected/disposed for each month. **DO NOT enter daily averages for volume.** The volume needs to be the total for the entire month. After you have entered the desired data, click the add symbol.

**Injection Information**  
Packer No Packer - 0000

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
PSI	100	100	100	100	100	100	100	100	100	100	100	100
bbbls	100	100	100	100	100	100	100	100	100	100	100	100



Well Key	Packer	Month	PSI	Volume
No injection records to display.				

Average Annual PSI  Total Annual Volume  bbbls

Save Submit Cancel

**Injection Information**  
Packer No Packer - 0000

**\*\*Ignore this Packer Injection Information. It is designed for multi-packers.\*\***

8. Once you verify that the data is correct click “save”

**Injection Information**

Packer:

PSI:

bbis:

Well Key	Packer	Month	PSI	Volume
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	JANUARY	100 psi	100 bbis
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	FEBRUARY	100 psi	100 bbis
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	MARCH	100 psi	100 bbis
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	APRIL	100 psi	100 bbis
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	MAY	100 psi	100 bbis
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	JUNE	100 psi	100 bbis
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	JULY	100 psi	100 bbis
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	AUGUST	100 psi	100 bbis
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	SEPTEMBER	100 psi	100 bbis
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	OCTOBER	100 psi	100 bbis
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	NOVEMBER	100 psi	100 bbis
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	DECEMBER	100 psi	100 bbis

Average Annual PSI:  Total Annual Volume:  bbis

9 This Message will appear at the top of the screen once data has been saved:

**Oklahoma Corporation Commission**  
ENERGY • TRANSPORTATION • UTILITIES

Welcome Linda Gore, d63.

1012A Saved Successfully - 2547384

**Form 1012A**

Order Information

Enter Order No.  Enter Annual Fluid Injection Report Year

Contact Information

10a) You can enter the injection data monthly by following Steps 1-9. However in Step 9 enter one months data, click the add symbol, and save it. This will add the well to your Non-Submitted 1012A queue.

**Injection Information**


Packer

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
PSI	100											
bbls	100											

Well Key	Packer	Month	PSI	Volume
No injection records to display.				

Average Annual PSI  Total Annual Volume  bbls

10b) Then you can log into your account. Click the “1012A” link on the left side of the screen.



**Oklahoma Corporation Commission**  
ENERGY • TRANSPORTATION • UTILITIES

Welcome Linda Gore, d63.

- Home
- 1001A
- 1002A
- 1003C
- 1004
- 1006B
- 1012A**
- 1014
- 1015
- 1016EZ
- 1023
- 1534
- Formation Maint.
- Form Search
- Inspect Sync

**Welcome to the Oklahoma Corporation Commission's Electronic Well Data System.**

Form Type	New	In Process
1001A	0	2
1002A	14	408
1003C	0	6
1004	0	357
1006B	0	1
1012A	0	21
1015	0	2
1016EZ	0	0
1023	0	0
1534	0	2
1014S	0	1

10c) In the Non-Submitted queue, click the edit symbol for the well you want to add new data too.

Welcome Linda Gore, d63.

**Form 1012A Home Page**

**Non-Submitted 1012A's**

API	Operator	Well Name	Well Number	Status	Created
3513306257	13938	BEAN, MOSE	1	PENDING	2/10/2012 2:11:49 PM
3513306257	13938	BEAN, MOSE	1	PENDING	2/10/2012 2:17:57 PM
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3510920499	1363	WHEATLAND UNIT	20	PENDING	3/16/2012 9:40:03 AM

**Submitted 1012A's**

API	Operator	Well Name	Well Number	Assigned To	Created
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3504703082	19118	ESTHER M. WILCOX	1	SCHLDDR5	1/23/2012 1:09:01 PM
35053227990000	21272	DOWNING	1-31	FRDRBNJM1	1/24/2012 8:22:16 AM
35071244320000	21272	BOLING SWD	2-32	FRDRBNJM1	1/24/2012 9:11:54 AM
3512521448	20952	SCOGGIN	1	d63	1/30/2012 12:03:11 PM
3500735315	18246	EDNA DAVIDSON	1	SWTLJN1	1/30/2012 1:47:46 PM
3500920457	1640	BROWN	1	MCRSNKK4	2/2/2012 10:16:32 AM
3513709204	18313	RINGER UNIT A	6	FLDDNS7	2/2/2012 10:45:11 AM
3513709402	18313	RINGER UNIT A	3	FLDDNS7	2/2/2012 10:46:54 AM
3500721250	15484	ANNA BRYAN	2	GRSSCHRL1	2/2/2012 11:50:23 AM

Change page: < > | Displaying page 1 of 3, items 1 to 10 of 22.

10d) You can then scroll down to the Injection Information and add the next month's data, then click add symbol.

**Injection Information**

Packer: No Packer - 0000

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
PSI		100										
bbls		100										

Well Key: OCCDataStructs.Injection  
Packer: PACKER - 0000  
Month: JANUARY  
PSI: 100 psi  
Volume: 100 bbls

10e) Once you have verified the entered data, click “Save”. You can continue to follow Steps 10a – 10e until you have entered all of your data. Then proceed to Step 11.

**Injection Information**

Packer:

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
PSI	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
bbls	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Well Key	Packer	Month	PSI	Volume
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	JANUARY	100 psi	100 bbls <input type="button" value="🗑"/>
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	FEBRUARY	100 psi	100 bbls <input type="button" value="🗑"/>

Average Annual PSI  Total Annual Volume  bbls

11) After you have entered and saved all of your data for a well, click “Submit” to send it to the OCC UIC Department. Once the 1012A is submitted it will automatically return you to your 1012A Home Page.

**Injection Information**

Packer:

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
PSI	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
bbls	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Well Key	Packer	Month	PSI	Volume
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	JANUARY	100 psi	100 bbls <input type="button" value="🗑"/>
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	FEBRUARY	100 psi	100 bbls <input type="button" value="🗑"/>
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	MARCH	100 psi	100 bbls <input type="button" value="🗑"/>
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	APRIL	100 psi	100 bbls <input type="button" value="🗑"/>
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	MAY	100 psi	100 bbls <input type="button" value="🗑"/>
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	JUNE	100 psi	100 bbls <input type="button" value="🗑"/>
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	JULY	100 psi	100 bbls <input type="button" value="🗑"/>
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	AUGUST	100 psi	100 bbls <input type="button" value="🗑"/>
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	SEPTEMBER	100 psi	100 bbls <input type="button" value="🗑"/>
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	OCTOBER	100 psi	100 bbls <input type="button" value="🗑"/>
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	NOVEMBER	100 psi	100 bbls <input type="button" value="🗑"/>
<a href="#">Edit</a> OCCDataStructs.Injection	NO PACKER - 0000	DECEMBER	100 psi	100 bbls <input type="button" value="🗑"/>

Average Annual PSI  Total Annual Volume  bbls

### **How to Transfer a Disposal or Injection Well**

An order authorizing an enhanced recovery well(s), salt water disposal well, commercial salt water disposal well, or hydrocarbon storage well(s) shall not be transferred from one operator to another without the following:

1. The new operator, or transferee, must have surety in good standing.
2. The transfer must be completed on a Form 1073I, for Individual wells or a 1073IMW, for 10 or more wells. (*note: there is a \$25 fee for the 1073I and a \$250 fee for the 1073IMW. Reference OAC 165:5-3-1*)
3. Both parties must sign the transfer form and have their signatures notarized. If the current operator cannot be found because the well in question was abandoned or is an orphan well, the due diligence statement must be signed and notarized.
4. The well being transferred must have a current mechanical integrity test. Notice of this test being performed must be on a Form 1075 demonstrating that a MIT was done within one year prior to the transfer of a non-commercial/injection well or within 30 days prior for commercial wells.(Note: See OAC 165:10-5-10 for circumstances where the test is not required)
5. A Form 1012 for that portion of the calendar year the transferor has operated the well prior to submitting the Form 1073I and all years prior to the transfer as well.
6. A current 1002A, completion report, must be on file with the Oil and Gas Division indicating the well was drilled as or converted to a disposal or injection well.

(Reference: OAC 165:10-1-10)

### **How to Terminate a UIC Well or Switch the Well Back to Production**

If an operator permanently terminates injection into a well, the operator shall submit to the Conservation Division Form 1072 within 30 days after termination of injection. Form 1072 shall state: The legal description of the well; The reason for termination; The status of other wells, if the well is in an enhanced recovery project. Submission of the Form 1072 will permanently terminate injection under that order indicated on the form as well as any orders superseded.

(Reference: OAC 165:10-5-7)



# Exhibit T Single Well Transfer

**Injection/Disposal/Commercial Disposal Wells**

OKLAHOMA CORPORATION COMMISSION  
Oil & Gas Conservation Division  
Post Office Box 52000  
Oklahoma City, Oklahoma 73152-2000

This form must be filed with the  
OCC **within 30 days of**  
transfer of the well.

Form 1073I  
Rev. 2018

**INSTRUCTIONS** (Print or Type Using Black or Blue Ink)  
A. Current Operator must attach Form 1012 report for year of transfer. (1012 form must be current and up to date).  
B. Fill in the complete legal description below.  
C. Attach Injection or disposal well's Form 1002A. (note)  
D. List O.C.C. order / permit for Injection / disposal.  
E. Attach MIT <1 year old (Commercial: <30 days). (note)  
NOTE: 1002A / MIT form filed online? Do NOT attach.  
**(Use Form 1073IMW to transfer 10 or more UIC wells.)**

**Transfer of Operator**  
Single UIC Well  
OAC 165:10-5-10

**FEE: \$25.00**  
**OAC 165:5-3-1(b)(1)(P)**  
(SEE BACK PAGE FOR PAYMENT INFORMATION)

DATE OF LAST MIT  
(within the last year):

**DO NOT WRITE INSIDE THIS BOX**

API No.		OTC Prod. Unit No.	
Surface Location	Sec.	Twp.	Rge.
		1/4	1/4 1/4 1/4 1/4
PL FSL	FL FWL	County	
Current Well Name & No.			
Original Well Name & No.			
OCC Order/Permit No.	Unit Name (if applicable)		

Transfer Date(MO/DAY/YR):    /    /

**Font Size MUST be ≥12.5 which is pre-set!**

Well Classification (see back page)     INJ     NCD     CD     SINJ     NGS     LPGS

If no current operator is available, please sign the "due diligence" statement below. NOTE: Transfer will be denied if instructions A-E above are not followed.

<p><b>CURRENT OPERATOR</b></p> <p>OCC/OTC No. _____</p> <p>Name _____</p> <p>Address _____</p> <p>City _____ State _____ Zip _____</p> <p>FAX No./E-mail: _____</p> <p>I verify that I am the legal operator of record with authority to transfer operatorship of this well, that the facts presented herein are true and correct, and that I have completed this form and attached all documents as required by the above instructions. (Signatory must be listed on company's Form 1006B Operator's Agreement)</p> <p>Signature _____</p> <p>Name &amp; Title (Print or Type) _____ (AC) Phone _____</p> <p>Signed and sworn to before me this _____ day of _____, _____</p> <p style="text-align: right;">Notary Public</p> <p>My Commission Expires: _____</p>	<p><b>NEW OPERATOR</b></p> <p>OCC/OTC No. _____</p> <p>Name _____</p> <p>Address _____</p> <p>City _____ State _____ Zip _____</p> <p>FAX No./E-mail: _____</p> <p>Being the new operator, as of the effective date of transfer, I accept the facts presented as being true and correct and accept the operational responsibility for the well on the described property. (Signatory must be listed on company's Form 1006B Operator's Agreement)</p> <p>Signature _____</p> <p>Name &amp; Title (Print or Type) _____ (AC) Phone _____</p> <p>Signed and sworn to before me this _____ day of _____, _____</p> <p style="text-align: right;">Notary Public</p> <p>My Commission Expires: _____</p>
--	---

I verify under oath that I have exercised due diligence in attempting to locate the current operator of record according to OCC records, who has abandoned the above well / lease and cannot be located to obtain a signature.

Signed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

Notary Public

Signature \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

**FOR OCC USE ONLY**

Department:	Received	Approved Date
Surety		
UIC		
Well Records		

By processing this Form 1073I, the Oklahoma Corporation Commission has approved the contents thereof as to form only. The Oklahoma Corporation Commission does not warrant that the facts provided by the operator are true.

Transfer is not effective until approved by the Well Records Department.

## Exhibit T2 Single Well Transfer (back)

This form must be sent, along with payment, to Central Processing located in the Jim Thorpe Office Building in Oklahoma City.

**OKLAHOMA CITY MAILING ADDRESS:**

Oklahoma Corporation Commission  
Attention: Central Processing  
P.O. Box 52000

Oklahoma City, OK 73152-2000  
(checks or money orders only)

**HAND-DELIVERY STREET ADDRESS:**

The Jim Thorpe Office Building  
(Take to the Cashier on the First Floor)  
2101 N. Lincoln Blvd.

Oklahoma City, OK 73105  
(cash, checks or money orders only)

Send questions about payments to:  
[OCCRevenue@occemail.com](mailto:OCCRevenue@occemail.com)

Font Size MUST be  $\geq 12.5$  which is pre-set!

**"WELL STATUS" CODES:**

INJ (injection)

NCD (noncommercial disposal)

CD (commercial disposal)

SINJ (simultaneous injection)

NGS (natural gas storage)

LPGS (liquefied petroleum gas storage)

If unable to print form correctly, click "Page Layout" and decrease the "Scale" as needed to print correctly.

Print this form in "Portrait" (narrow) (vertical) orientation only.

Use this form to transfer single UIC wells only. Use Form 1073IMW to transfer 10 or more UIC wells.

# Exhibit T3 Multi-Well Transfer (10+ Wells)

**Injection/Disposal/Commercial Disposal Wells**

**INSTRUCTIONS** (Print or Type Using Black or Blue Ink)

A. Current Operator must attach Form 1072 report for year **5/1/2020** (1072 form must be current and up to date)

B. Attach the Injection/Disposal Wells Form 3022A (well)

C. Use O.C. order / permit for Injection / disposal.

D. Attach MT < 1 year old, (<30 days for Commercial) (w/ o/s)

E. **NOTE: If 1022A / MT form was filed online, do not attach.**

**OKLAHOMA CORPORATION COMMISSION**  
Oil & Gas Conservation Division  
Post Office Box 52000  
Oklahoma City, Oklahoma 73152-2000

**Transfer of Operator**  
Multiple UIC Wells  
OAC 16C-104-10

**Font Size MUST be > 12.5 which is pre-set!**

This form must be filed with the OCC within 30 days of transfer of the wells.

Form 1073IMW  
Rev. 2018 - Front Page

**Fee: \$250.00**  
OAC 16C534(B)(1)(I)  
(SEE BACK PAGE FOR PAYMENT INFORMATION)

Use this form to transfer 10 or more UIC wells.  
Use Form 1073J to transfer single UIC wells.

**NOTE: Transfer will be denied if instructions A-E are not followed.**  
The effective date of transfer of this well is the date the transfer is approved by the Commission.  
If no current operator is available, please sign the "Use of Operator" statement below.

**CURRENT OPERATOR** OCCSOTC No. \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

FAX No./E-mail \_\_\_\_\_

I verify that I am the legal operator of record with authority to transfer ownership of these wells, that the facts presented herein are true and correct, and that I have completed this form and attached all documents as required by the above instructions. **No. of wells listed: \_\_\_\_\_**  
(Signature must be listed on company's Form 1001B Operator's Agreement)

Signature \_\_\_\_\_

Name & Title (Print or Type) \_\_\_\_\_ (A/C) Phone \_\_\_\_\_

Signed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

My Commission Expires \_\_\_\_\_

Notary Public \_\_\_\_\_

**NEW OPERATOR** OCCSOTC No. \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

FAX No./E-mail \_\_\_\_\_

Being the new operator, as of the effective date of transfer, I accept the facts presented as being true and correct and accept the operational responsibility for the wells on the described property. **No. of wells listed: \_\_\_\_\_**  
(Signature must be listed on company's Form 1001B Operator's Agreement)

Signature \_\_\_\_\_

Name & Title (Print or Type) \_\_\_\_\_ (A/C) Phone \_\_\_\_\_

Signed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

My Commission Expires \_\_\_\_\_

Notary Public \_\_\_\_\_

I verify under oath that I was contacted and informed in attempting to locate the current operator of record according to OCC records, who has abandoned these wells and I cannot be located to obtain a signature.

Signed and sworn to before me

this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

Notary Public \_\_\_\_\_

My Commission Expires \_\_\_\_\_

By processing this Form 1073IMW, the Oklahoma Corporation Commission has approved the contents thereof as to form only. The Oklahoma Corporation Commission does not warrant that the facts provided by the operator are true.

Transfer is not effective until approved by the Well Records Department.

Department:	Approved Date:
Surety	
UIC	
Well Records	

**FOR OCC USE ONLY:**

**Font Size MUST be > 12.5 which is pre-set!**

DO NOT WRITE INSIDE THIS BOX

If unable to print form correctly, click "Page Layout" and decrease the "Scale" as needed to print correctly.

Use this form to transfer 10 or more UIC wells. Use Form 1073J to transfer single UIC wells.

Print this form in "Landscape" (wide) (horizontal) orientation only.

# Exhibit T4 Multi-Well Transfer (Page 2)

LIST MULTIPLE WELLS ON  
PAGE 3 AND SUBSEQUENT  
PAGES OF THIS FORM

OPERATOR NAME / NUMBER:

TOTAL NUMBER OF WELLS LISTED  
MUST MATCH NUMBER OF WELLS  
IN "SIGNATURE BOX" ON FIRST PAGE:

**CODES - FOR THE WELLS ON YOUR TRANSFER LIST, SPECIFY A "WELL CLASSIFICATION TYPE" CODE FROM THE CHOICES BELOW:**  
**INJ** (INJECTION), **NCD** (NONCOMMERCIAL DISPOSAL), **CD** (COMMERCIAL DISPOSAL),  
**SINJ** (SIMULTANEOUS INJECTION), **NGS** (NATURAL GAS STORAGE) or **LPGS** (LIQUIFIED PETROLEUM GAS STORAGE)

This form must be sent, along with payment, to Central Processing located in the Jim Thorpe Office Building in Oklahoma City.

**OKLAHOMA CITY MAILING ADDRESS:**

Oklahoma Corporation Commission  
 Attention: Central Processing  
 P. O. Box 522000  
 Oklahoma City, OK 73152-2000  
*(checks or money orders only)*

**Send questions about payments to:**  
**OCCRevenue@occcemail.com**

**HAND-DELIVERY STREET ADDRESS:**  
 The Jim Thorpe Office Building  
 (Take to the Cashier on the First Floor)  
 2101 N. Lincoln Blvd.  
 Oklahoma City, OK 73105  
*(cash, checks or money orders only)*

**CHECKLIST FOR WELL LIST ENTRY BY COMPUTER:**

1. USE "ALL CAPS" TEXT (NO "LOWER CASE" TEXT). USE SINGLE NUMBERS FOR "HALF" SECTIONS (for example, "E2").
2. SORT WELLS IN ORDER OF "LOWEST TO HIGHEST" API NUMBER; HIGHLIGHT DATA TO SORT, THEN "SORT" IT (COLUMN HEADINGS, COLUMNS OR ROWS CANNOT BE HIGHLIGHTED OR SORTED; ONLY THE WELL DATA THAT YOU ENTERED CAN BE HIGHLIGHTED AND SORTED).
3. USE LEADING ZERO'S (AS APPLICABLE) FOR SECTION, TOWNSHIP AND RANGE (i.e., 01/01N/22E).
- 4A. PRIMARY PRINTING METHOD: SET A "PRINT AREA" AROUND YOUR LIST OF WELLS TO ALLOW EXCEL TO CORRECTLY SET THE PAGE RANGE IN THE PRE-DEFINED "HEADER" OF THE FILE.
- 4B. ALTERNATE PRINTING METHOD: IF UNABLE TO SET A "PRINT AREA" - DELETE ALL ROWS (THAT HAVE PRE-DEFINED SOLID BORDERS) BELOW THE LAST WELL YOU LISTED. THIS WILL ALLOW EXCEL TO CORRECTLY SET THE PAGE RANGE IN THE PRE-DEFINED "HEADER" OF YOUR FILE.

Font Size MUST be >12.5 which is pre-set!

NOTE

YOUR WELL LIST, NOTARIZED 1073MW FORM AND PAYMENT MUST STILL BE MAILED OR  
 DELIVERED TO ONE OF THE ADDRESSES LISTED ABOVE.

If unable to print form correctly, click "Page Layout" and decrease the "Scale" as needed to print correctly.

Use this form to transfer 10 or more UIC wells. Use Form 1073 to transfer single UIC wells.

Print this form in "Landscape" (wide) (horizontal) orientation only.

**Exhibit T5  
Multi-Well Transfer (Page 3)**

OCC USE		8-Digit API Number (NO DASHES or SUFFIXES)	OCC Order / Permit Number (5 to 10 digits)	Well Name (UPPER CASE letters only)	Well # (letters: UPPER CASE) <small>(ALL CAPS)</small>	Type <small>(M,N,C,D, S,I,N,J, NGS or LPS) [REQUIRED]</small>	SECTION	TWP <small>(i.e. 02N) [ALL CAPS]</small>	RGE <small>(i.e. 05E) [ALL CAPS]</small>	CM? If not, leave blank.	Qtr	Qtr	Qtr	Qtr	DATE OF LAST MIT <small>(MO/DAY/YR)</small>	
PRINT THESE FORMS IN "LANDSCAPE" (WIDE/HORIZONTAL) ORIENTATION ONLY. FAILURE TO COMPLY WILL RESULT IN YOUR FORM BEING REJECTED. DO NOT OMIT ANY BORDER LINES - THEY ARE CRUCIAL TO THE PROCESSING OF YOUR FORM. FAILURE TO COMPLY WILL RESULT IN YOUR FORM BEING REJECTED.																

## Exhibit L Form 1075

<b>TEST DATE</b>	<b>OKLAHOMA CORPORATION COMMISSION</b> Oil & Gas Conservation Division Post Office Box 52000-2000 Oklahoma City, Oklahoma 73152-2000	Form 1075 REV.01/09
<b>Mechanical Integrity Test</b> OAC 165:10-5-6(d)(1)		
Operator		OTC/OCC No.
Address		Phone No.
City	State	Zip
		FAX No.
<b>Test Type:</b> <input type="checkbox"/> Initial <input type="checkbox"/> Retest <input type="checkbox"/> Change of Operator <b>Well Type:</b> <input type="checkbox"/> COMMERCIAL <input type="checkbox"/> Noncommercial Disposal <input type="checkbox"/> Injector		
Authorizing OCC Order No.		Additional Orders
Well Name & Number	API	Lat   °   '   "   Long   °   '   "   "
Location	Twp	Rge   County
Unit Name	Unit Order No.	
REWORK PRIOR TO TEST? EXPLAIN <input type="checkbox"/> Yes <input type="checkbox"/> No		
PRESSURE TEST <input type="checkbox"/> PASS <input type="checkbox"/> FAIL		Csg/Tbg Annulus Tested? <input type="checkbox"/> Yes <input type="checkbox"/> No
Surf. Csg. Press. Before Test	Tbg. Press. Before Test	Annulus Press. Before Test
Max. Press. Per OCC Order	Packer Depth Per OCC Order	Actual Packer Depth
STARTING TEST PRESS.	ENDING TEST PRESS.	Positive Annulus Pressure Monitoring?
		<input type="checkbox"/> Yes <input type="checkbox"/> No
WELL SHUT DOWN? <input type="checkbox"/> Yes <input type="checkbox"/> No   REASON _____		
Alternative Testing Procedure Authorized by OCC Order No. _____		
Tracer Survey	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Casing Patched or Squeezed <input type="checkbox"/> Yes <input type="checkbox"/> No
Fluid Level	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
Tubing Pressure	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	If Yes Type <input type="checkbox"/> Mechanical Casing Patch <input type="checkbox"/> Cement Squeeze <input type="checkbox"/> Remedial Fluid
Fluid Depression	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	Describe _____
I, the undersigned, am employed by _____ and am authorized to make this report. This report was prepared under my supervision and all facts stated herein are true, correct and complete under penalty of applicable rules, regulations and statutes.		
_____ Signature of Company Representative		
<input type="checkbox"/> I Have Witnessed the performance of the Mechanical Integrity Test shown above and certify the data shown above to be true, correct & complete. <input type="checkbox"/> I Did Not Witness the performance of the Mechanical Integrity Test, the facts provided by the operator are believed to be True & Correct.		
_____ Signature of OCC Field Representative		

# Exhibit M Form 1072

## OKLAHOMA CORPORATION COMMISSION

OIL & GAS CONSERVATION DIVISION  
UNDERGROUND INJECTION CONTROL DEPARTMENT  
POST OFFICE BOX 52000  
OKLAHOMA CITY, OKLAHOMA 73152-2000

Form 1072  
Rev. 2012

### Notice of Termination

OAC 165:10-5-7a

#### OPERATOR

Name			Operator No.
Address			Phone
City	State	Zip Code	Fax
E-mail Address			

Well Name/No.				API No.			
Location 1/4      1/4      1/4      1/4				Sec.	Twp.	Rge.	County

Well Classification:

Disposal Well     
  Enhanced Recovery Injection Well     
  Enhanced Recovery Project

Order/Permit Authorizing Injection	Date Issued	Injection Zone
------------------------------------	-------------	----------------

*Note: Filing of this form terminates the order in the above space permanently and its authority to inject/dispose as a UIC well.*

#### Verification of Information

I declare that I have knowledge of the contents of this form and am authorized by my organization to complete this form, which was prepared by me or under my supervision and direction with the data and facts stated herein to be true, correct and absolute to the best of my knowledge and belief.

\_\_\_\_\_  
Signature of Authorized Agent

\_\_\_\_\_  
Date

\_\_\_\_\_  
Print or Type Name & Title

# Exhibit N Form 1012 (Front)

<input type="checkbox"/>	AMENDED FORM
<input type="checkbox"/>	THIS IS A COPY OF THE ONLINE VERSION
<input type="checkbox"/>	WELLS ON THIS REPORT HAVE MULTI-STRING INJECTION

OKLAHOMA CORPORATION COMMISSION  
Oil & Gas Conservation Division  
Underground Injection Control Department  
Post Office Box 52000  
Oklahoma City, Oklahoma 73152-2000

Form 1012  
Rev. 2018  
Page 1

## Annual Fluid Injection Report

OAC 165:10-5-7(b)1  
January 1 thru December 31 \_\_\_\_\_

**NOTE: Annotate one of the fee options on Page 3.**

**Instructions:**

- 1 File additional second pages if well count exceeds ten (10)
- 2 File one (1) copy for each enhanced recovery project, disposal or LPG storage well by January 31st for previous year's activity with fee of \$25 per well or \$2,500 for 100 wells or more.
- 3 Fresh water is defined as water containing less than 10,000 mg/l TDS or less than 5,000 PPM Chlorides.
- 4 If well was plugged, enter plugging date (from Form 1003C) and "Plugged" on back page of Form 1012 beside month well was plugged.
- 5 Complete heading, all questions which pertain to your well(s), and mail Form 1012A to the above address.

Current Operator		Current Operator No.
Listed Operator by UIC (if Different from Current due to pending 10731)		Listed Operator No.
Current Operator Address		Current Operator Telephone No.
City	State	Zip Code

**1 TYPE OF WELL**

Enhanced Recovery     
  Disposal     
  Commercial     
  LPG  
   
  First Six Months     
  Full Report

**2 TYPE OF FLUID INJECTED / DISPOSED**

Saltwater     
  Gas     
  LPG     
  Brackish Water     
  Fresh Water  
 (If checked, answer question 6.)

**2a How was injection or disposal measured?**     
 Calculated     
 Metered

**3 What was the total annual injected or disposed volume of fluids?** \_\_\_\_\_ Barrels      \_\_\_\_\_ MCF

**4 What was the average daily well head pressure?** \_\_\_\_\_ PSI      (If more than one well, use Page 2 where directed)

**5 What is the packer depth?** \_\_\_\_\_ (If more than one well, use back page where directed)

**6 If all or part of injected fluid is fresh water, from which source is it derived?**

Well (depth \_\_\_\_\_ feet)     
 Pond     
 Stream     
 Other \_\_\_\_\_  
 Where is the source located? \_\_\_\_\_ Section, \_\_\_\_\_ Township, \_\_\_\_\_ Range

**7 This section is for Disposal / LPG only (Individual Well)**

(Location) Section	Township	Range	County
Formation		Depth	Authorized by OCC Order or Permit #

**7a** API Number \_\_\_\_\_

**8 This section is for Enhanced Recovery only. (Project Basis)**

Order No.(s) / Permit No.(s)			OTC Production Unit No.	
(Location) Section	Township	Range	County (or counties if more than one)	
Pool Name		Formation	Depth	

**8a** List all API Numbers on the back of this form where directed. (Use additional back pages as needed)

**9 Date of last Mechanical Integrity Test** \_\_\_\_\_ (If project basis, attach additional page)

**9a** List or describe any repairs or testing performed on any or all wells listed on this report. (attach additional sheet if necessary)




## Exhibit N-2 Form 1012 (Page 2)

Page 2

10 This is a summary overview of previously answered questions and must be completed. A. Enter the well(s) name and number; B. Enter well(s) API No.; C. Enter well(s) legal location; D. Enter well(s) most current order / permit number; E. Enter well(s) packer depth; F. Enter monthly data for daily average pressure rate and total monthly BBLs/MCF injected; G. At the bottom of each numbered column, enter annual injected volumes.

	1		2		3		4		5	
A. Well Name & No.										
B. API No.										
C. Legal Location										
D. Order / permit No.										
E. Packer Depth										
	PSI	Bbls/MCF	PSI	Bbls /MCF	PSI	Bbls /MCF	PSI	Bbls / MCF	PSI	Bbls / MCF
F. January										
February										
March										
April										
May										
June										
July										
August										
September										
October										
November										
December										
G. Total annual Injection	0		0		0		0		0	

	6		7		8		9		10	
Well Name & No.										
API No.										
Legal Location										
Order / Permit No.										
Packer Depth										
	PSI	Bbls/MCF	PSI	Bbls /MCF	PSI	Bbls /MCF	PSI	Bbls / MCF	PSI	Bbls / MCF
January										
February										
March										
April										
May										
June										
July										
August										
September										
October										
November										
December										
Total Annual Injection	0		0		0		0		0	

**Verification of Information**

I declare that I have knowledge of the contents of this report and am authorized by my organization to make this report, which was prepared by me or under my supervision and direction with the data and facts stated herein to be true, correct and complete to the best of my knowledge and belief.

\_\_\_\_\_  
Signature Title of Authorized Agent

\_\_\_\_\_  
Name (Typed or Printed)

\_\_\_\_\_  
Address Phone

**Exhibit N-3  
Form 1012 (Page 3)**

**OCC FEE SCHEDULE EFFECTIVE 10-1-2018**

(mark only one of the check-boxes below)

OAC 165:5-3-1(b)(29)

<b>Non-Commercial Disposal and Injection Well &amp; LPG storage well report (single well)</b>	<input type="checkbox"/> \$25
<b>Non-Commercial Disposal and Injection Well &amp; LPG storage well report (more than 100 wells)</b>	<input type="checkbox"/> \$2,500

**OKLAHOMA CITY MAILING ADDRESS:**

Oklahoma Corporation Commission  
Attention: Central Processing  
P.O. Box 52000  
Oklahoma City, OK 73152-2000  
*(checks or money orders only)*

**HAND-DELIVERY STREET ADDRESS:**

The Jim Thorpe Office Building  
(Take to the Cashier on the First Floor)  
2101 N. Lincoln Blvd.  
Oklahoma City, OK 73105  
*(cash, checks or money orders only)*

*Send questions about payments to:  
OCCRevenue@occemail.com*

# Exhibit O 1012C

- This is a(n)
- ORIGINAL
- COPY OF ONLINE VERSION
- AMENDED FORM

OKLAHOMA CORPORATION COMMISSION  
Oil & Gas Conservation Division  
Underground Injection Control Department  
Post Office Box 52000  
Oklahoma City, Oklahoma 73152-2000

Form 1012C  
Rev. 10-2018  
Page 1 of 2

**Commercial Disposal Well  
Semiannual Fluid Disposal Report**

OAC 165:10-5-7  
YEAR 20 \_\_\_\_\_

**NOTE: \$500 to file this form (see bottom of Page 2 for details)**

*Instructions*

- 1 Complete heading, all questions which pertain to your well(s), and mail Form 1012C to the above address.
- 2 Submit form with \$500 semiannual fee by January 31st and July 31st for previous 6-month period.
- 3 If well was plugged, enter the plugging date as shown on Form 1003 plugging report.

<u>Operator</u>		<u>Operator No.</u>
<u>Operator Address</u>		<u>Telephone No.</u>
<u>City</u>	<u>State</u>	<u>Zip Code</u>
<u>Email</u>	<u>Fax</u>	

\_\_\_\_\_  
**Plug Date**

- 1 How was injection or disposal measured?     Calculated     Metered
- 2 List or describe any repairs or testing performed on any or all wells listed on this report. (attach additional sheet if necessary)

3 County  Formation Name(s)

4 Enter the Well's Name and Number, Legal Location, API No., Current Permit Number, and Last MIT.

Well Name & No. <input style="width: 200px;" type="text"/>	Legal Location <input style="width: 200px;" type="text"/>
API No. <input style="width: 100px;" type="text"/>	Packer Depth <input style="width: 100px;" type="text"/>
Order / Permit No. <input style="width: 100px;" type="text"/>	Last MIT Date <input style="width: 100px;" type="text"/>

5a Total bbls injected for January - June

Month	Average PSI	BBLS monthly
January		
February		
March		
April		
May		
June		
Total bi-annual Injection		<input style="width: 150px;" type="text"/>

5b Total bbls injected for July - December

Month	Average PSI	BBLS monthly
July		
August		
September		
October		
November		
December		
Total bi-annual Injection		<input style="width: 150px;" type="text"/>

↓ RECEIPT NO. ↓

(See Page 2 for Out of State Barrels)

# Exhibit O-2 1012C (back)

Form 1012C  
Rev. 10-2018  
Page 2 of 2

CHECK THE BOX BELOW THAT PERTAINS TO THIS WELL:

- THERE WERE NO OUT OF STATE BARRELS COLLECTED DURING THIS TIME FRAME.
- THE FOLLOWING OUT OF STATE BARRELS WERE COLLECTED DURING THE FOLLOWING MONTHS.

	NAME OF STATE	JANUARY-JUNE TOTAL BBLs
1	ARKANSAS _____	_____
2	COLORADO _____	_____
3	KANSAS _____	_____
4	NEW MEXICO _____	_____
5	TEXAS _____	_____
6	_____	_____

	NAME OF STATE	JULY-DECEMBER TOTAL BBLs
1	ARKANSAS _____	_____
2	COLORADO _____	_____
3	KANSAS _____	_____
4	NEW MEXICO _____	_____
5	TEXAS _____	_____
6	_____	_____

**Verification of Information**

I declare that I have knowledge of the contents of this report and am authorized by my organization to make this report, which was prepared by me or under my supervision and direction with the data and facts stated herein to be true, correct and complete to the best of my knowledge and belief.

---

Signature	Title of Authorized Agent	Date
-----------	---------------------------	------

**OCC FEE SCHEDULE EFFECTIVE 10-1-2018**

OAC 165:5-3-1(b)(1)(T)(i)

**DISPOSAL WELL SEMIANNUAL FLUID DISPOSAL REPORT**  
**\$500 ← Pay this amount when submitting this report by January to the OCC.**

**OKLAHOMA CITY MAILING ADDRESS:**  
 Oklahoma Corporation Commission  
 Attention: Central Processing  
 P.O. Box 52000  
 Oklahoma City, OK 73152-2000  
*(checks or money orders only)*

**HAND-DELIVERY STREET ADDRESS:**  
 The Jim Thorpe Office Building  
 (Take to the Cashier on the First Floor)  
 2101 N. Lincoln Blvd.  
 Oklahoma City, OK 73105  
*(cash, checks or money orders only)*

**Send questions about payments to:**  
**OCCRevenue@occcmail.com**

## **Permitting Process for Disposal, Injection and Annular Injection**

### **Administrative Approval Process**

The permit application is ready for technical review to begin. This involves checking the application itself for accuracy, completeness, well design, and compliance. In addition, all attachments must be thoroughly reviewed for compliance and suitability.

#### **A. Form 1015**

1. This form is utilized for all applications requesting authority for saltwater disposal, enhanced recovery, and commercial saltwater disposal.
2. The location of the well must be checked for accuracy against other supporting documents which will be discussed later. The spot location as well as quarter, quarter, quarter section must be correctly identified so that the final permit is accurate. Section, township, and range must be checked against the publication notice, well logs and completion report, which are all submitted with the application.
3. The well type must be correctly identified in order to allow for proper calculations to be made. While enhanced recovery injection wells must meet the same requirements as saltwater disposal wells, they are reviewed according to their function. Thus, the application must indicate the well type on the application.
4. The lease or well name is likewise checked for accuracy against supporting attachments, as there can be many leases with the same farm name.
5. The county must be correctly identified so that the notice given is proper. All documents should reflect the county in which the well is located.
6. The application states whether the well is to be converted to injection, modification of existing order/permit, or a new well to be drilled. Existing wells to be converted should have extensive well history information available such as open-hole logs, completion reports, and other necessary documents.
7. Wells yet to be drilled will not have the same information available; however, it must be submitted once the well is completed. New injection wells to be drilled must provide information on well design as it is proposed to be operated. These wells must comply with current standards which will insure that adequate groundwater safeguards are used at the offset of injection.

8. Modifications to an existing permit and whether the well had been previously pressure tested and the order it previously had or is operating currently under should be noted.
9. The nature of the zone must be reviewed as well as the location of the source of injection water. A depleted producing zone is commonly used for injection. This fact impacts the area of review calculation which uses reservoir data. The name and depths of injection source must be checked to help determine whether there is production from nearby formations or possible injection/disposal zone.
10. The location of these sources indicates whether there is production adjacent to the well. This is critical in applications for enhanced recovery injection wells, as producing wells within a unit are targeted for being affected by the injection.
11. The geologic name of the injection zone is included in the public notice and must be checked for accuracy. Offset operators may have production in this zone and may wish to protest the application based on this information.
12. The actual depth of the interval must also be included in the public notice. These are the perforations which will be receiving the injection fluid. The footages must coincide with those found on well logs as well as the Form 1002A, Completion Reports. This interval is part of the permit and must be accurate. It is important to note that using the system, series, or group of a formation on the 1015 application and notice could cause the application to be held up or protested until clarification of the narrowed zone can be made.
13. Adequate intervening thickness, distance between the base of treatable water and the injection zone, is the determination factor for authorization of the given daily rate. It states that if 1000 barrels per day is injected an intervening thickness of 200 feet is required. If more than 1000 barrels per day is injected, a thickness of at least 500 feet is required.
14. To perform the area of endangering influence calculation accurately, values for reservoir porosity, permeability, and shut-in fluid level must be checked on the Form 1015. These are then utilized as values, when available, in the calculation to determine a theoretical radius of influence of injection.
15. The injection rate and pressure must be scrutinized for accuracy as it is essential information for the permit. Maximum requested rates and pressures may determine the suitability of the well for injection. The staff must also check these figures against the publication to make sure they are identical. The injection rate and surface injection pressure are also limitations of the well's use. These figures must be considered seriously as determinants of

whether the well is to be in compliance and suitable for injection. If rates are considered too high by the staff for safe operation, the applicant is notified and requested to reduce the rate and/or pressure and required to amend the current application, Form 1015.

16. The well string information located at the bottom of the Form 1015 must be completed in its entirety. The information depicts the actual or proposed casing size and use; setting depth; amount of cement; setting depth and size of injection tubing; depth, size; and type of tubing packer; total depth of the well; method used in determining cement tops; and perforated injection interval. Whether or not the well is in compliance with the groundwater protection regulation can be readily determined by the information presented. The reviewer will check the base of treatable water on Commission maps and compare with information given by the applicant. OCC rules require 50 feet of casing or cement below the base of treatable water. If the schematic indicates non-compliance with the rule, the applicant is notified and requested to comply by an approved alternative method or exception. This could include the following: perforating the production casing below the treatable water and cementing the casing back to the surface; do additional cementing across the injection zone or across open perforations not part of the zone. A packer may be set at a depth that poses a risk and may require the applicant to reset the depth for compliance to be obtained. The packer must be set within 40 foot of the proposed location in the order or 75 foot of the perforation zone.

**B. Supporting Attachments**

1. The following attachments must be submitted along with each application and reviewed for adequacy: freshwater and saltwater analysis; plat map; Form 1002A Completion Report, if applicable; wellbore diagram, explained above; affidavits of mailing and publication; and well logs, if available.
2. The freshwater analysis must be within a one-mile radius of the injection well. If there are none or only one analysis available, a sworn statement must be submitted stating this as part of the applicant's due diligence. Analyses must be reviewed for all chemical parameters necessary for comprehensive analysis (i.e. chlorides, sodium, sulfates, and total dissolved solids).
3. For existing wells to be converted to injection, a Form 1002A can be consulted to offer supporting data such as zones opened for production or casing used. In addition, it is helpful in verifying casing and cementing data as well as correctly identifying the well location. Discrepancies between the form and the application are brought to the attention of the applicant for clarification.

4. Non-Commercial Well. A plat showing the location and total depth of the well(s) and each abandoned, producing or drilling well, and dry hole within one-quarter (1/4) mile of the enhanced recovery injection or disposal well and identifying the surface owner of the land on which the enhanced recovery injection or disposal well is to be located, and each operator of a producing spacing unit or well within one-half (1/2) mile of each enhanced recovery injection or disposal well with a requested injection rate of less than five thousand barrels per day, and each operator of a producing spacing unit or well within one (1) mile of each enhanced recovery injection or disposal well with a requested injection rate of five thousand barrels per day or more.
5. Commercial disposal well. A plat showing the location and total depth of the well(s) and each abandoned, producing or drilling well and dry hole within one-half (1/2) mile of the disposal well, and identifying the surface owner of the land on which the disposal well is to be located, and each operator of a producing spacing unit or well within one (1) mile of each disposal well.
6. The affidavit of mailing verifies that the application notified the landowner, or additional land owners as necessary for commercial wells, and offset operators within the area as noted above. The affidavit must include the names and addresses of those notified. If not, the affidavit is insufficient and a complete one is requested by the reviewer. A copy of application is acceptable to mail to offset operators and surface owners within five days of application file date.
7. The publication notice must contain in detail, the name and address of the applicant, injection rate and pressure, geologic name and depth of zone, and location of proposed well within a 10 acre tract. Any deficiency in the notice flaws it and a new publication must be required. For non-commercial wells the notice must be published in the county in which the well is located as well as a newspaper in Oklahoma County, Oklahoma. The exception to this is if the well is in Oklahoma County, only one notice is required. All notices are checked for accuracy and compliance. Commercial wells require publication twice as described above.
8. Well logs such as dual induction, gamma ray, compensated density, and cement bond are checked in detail to determine reservoir characteristics and suitability of the zone to the fluid. Values of the log presentation may be checked for freshwater picks or saltwater zones.

**C. Area of Review**

1. A review of all wells will be done. For non-commercial wells, a review for wells within a 1/2 mile and for commercial wells one mile radius for wells that



penetrate the injection zone on applications requesting 300 PSI or more surface injection pressure. This is limited to disposal well applications. This is a very time consuming process since it includes abandoned, drilling wells, and dry holes. Very deep wells are exempt from the review as are those requesting less than 300 PSI. During the review, a worksheet is completed containing the well location, casing depth cementing amounts, number and amount of plugs, and classification and status of each well. This is done on each application for all wells that penetrate the injection zone. The operator is contacted if there are wells that pose a risk of being affected by injection. The applicant is asked to reduce the injection pressure or be responsible for the well in question. Virtually all cases result in the applicant reducing the injection pressure.

**D. Notice of Deficiency**

1. Each application is received on a case by case basis. Any deficiency in the application or attachments is noted on a form letter. The letter is sent to all applicants needing some corrective action necessary for compliance.
2. The letter contains requests for attachments, and when necessary a list of wells possibly affected by injection.

**E. Pending Status for Applications**

1. Once the application has been reviewed, it is either processed for approval or filed in a pending status.
2. A deficiency status is assigned to those applications lacking attachments or not in compliance.

**F. Permit Issuance**

1. Permits and the files attached to them are reviewed by the permits coordinator and sent for approval to the Senior Hydrologist. During this time the application is checked to insure that it is within the guidelines of seismicity. If there is no seismicity problems, it is signed off by Hydrology and sent to the UIC Manager for final approval. If there were any notable problems with seismicity, the well would need to go to hearing. The hearing process will determine by evidence whether or not the permit should be granted and what conditions for permitting, if any, will be placed upon disposal.
2. The UIC Manager reviews the Permit and its attachments for accuracy, insures that the operator to receive the permit has Surety, that the Base of Treatable

Water is safe, and that the pressure granted is acceptable. When the manager is satisfied with the permit and its contents, it is signed.

3. The permit only gives the authority to use as a UIC well but it must still receive a MIT, Mechanical Integrity Test.
4. MIT is a test performed on the well to check its ability to hold pressure in the annulus, the area between the tubing and the casing, for thirty minutes with a maximum bleed off of ten percent. Noncommercial wells are tested at a minimum of 300 psi or at the requested rate up to 1000 psi for the initial test and 200 thereafter for sub-sequential testing. Commercial wells are tested at the max pressure allowable, not less than 300 psi for initial and sub-sequential testing. The periodic testing on non-commercial wells less than 20 thousand barrels is every five years. For commercial wells and non-commercial wells over 20 thousand barrels without pressure monitors, the MIT is done annually. For non-commercial wells over 20 thousand barrels, the installation of a pressure monitoring system can increase the testing cycle to 60 months. This can vary at the discretion of the UIC Manager. Also, an Exception to the rule can be explored for wells unable to pass this type of test. The most common alternative testing is the Radio Active Tracer Survey, (RAT). This test is done using radioactive iodine and a Geiger counter. A tool containing these is inserted into the tubing where the iodine is injected. The Geiger counter follows the iodine looking for areas where it may be escaping. With the completion of a successful test, the well is ready to accept fluid or gas as stated in the permit.
5. The Form 1012 is a form that is used to track injection/disposal into a UIC well. Non-commercial wells file these with the UIC Department annually on January 31<sup>st</sup> for the past year from January through December. Commercial wells report twice a year, first on July 31<sup>st</sup> for January through June and again on January 31<sup>st</sup> for July through December. These reports are taken serious and are available to the public on the OCC/Oil & Gas document imaging.

## **G. Compliance**

The SNC (SNICK) Significant Non Compliance is the term for a significant violation of Commission Rules. Such as: 1. well with no order, 2. injecting after failure, 3. Injecting with no test, 4. injecting after order is vacated, injecting after an emergency order has expired, 6. using a well as a commercial when it is permitted as non-commercial, 7. injection or disposal well causes a breakout and the operator does not repair the problem.

### ***What can be put down a Class II Injection Well?***

(This is a partial list of wastes that have been deemed exempt from RCRA Subtitle C and so are eligible for Class II injection or disposal.)

- Produced water
- Produced sediment
- Drilling fluids and mud
- Rig-wash
- Work-over wastes
- Packer fluids Well completion, treatment or stimulation fluid
- Solvents used down-hole for paraffin control BS&W and other tank bottoms from well site crude tanks
- Pit sludge from storage of exempt wastes
- Gathering line pigging wastes
- Gas plant sweetening wastes
- Gas plant dehydration wastes
- Cooling tower blow-down
- Wastes from well blow-down
- Waste from separators, treating vessels and production impoundments
- Spent filters and backwash
- Wastes from subsurface natural gas storage
- Wastes removed from produced water prior to injection or disposal
- Hydrocarbons removed from production stream but not from refining
- Gases removed from the production stream
- Light organics volatilized from exempt waste in reserve pits, impoundments or production equipment
- Waste crude oil from primary production operations
- Hydrocarbon-bearing soil and groundwater from remediation projects
- Pipe scale, sludge and other deposits removed from pipe or equipment prior to transportation
- Rain water

### ***What cannot be put down a Class II Injection Well?***

(This is a partial list of wastes that are subject to RCRA Subtitle C and are thus not eligible for injection or disposal in a Class II well.)

- Unused work-over, fracturing, treatment, acidizing, or stimulation fluid
- Painting wastes
- Service company wastes
- Refinery wastes
- Used lubricating oil
- Used hydraulic fluid
- Waste solvents used for equipment cleanup
- Waste compressor oil
- Sanitary wastes
- Boiler cleaning wastes
- Incinerator ash
- Laboratory wastes
- Transportation pipeline pigging wastes
- Pesticide wastes
- Drums, insulation and miscellaneous solids
- Industrial wastes from activities other than oil and gas exploration and production
- Any manufacturing wastes
- Water or soil contaminated by refined product
- Crude-contaminated soil impacted by a transportation pipeline

**For a full listing of wastes authorized for Class II Disposal Wells,  
see OAC 165:10-7-24**

**OKLAHOMA CORPORATION COMMISSION  
UIC Dept. (405) 521-2242**

# *What the Oil & Gas Industry Should Know About Reporting and Responding to Spills In Oklahoma*

## *If A Spill Occurs, What Should An Operator Do?*

- **Stop the spill** at its source to prevent further discharge or release. This may involve shutting off a pump or closing a valve.
- **Contain the spill** to minimize the area impacted. This could involve the use of temporary dikes, emergency pits, or containment booms on water.
- **Recover the fluids** from the impacted area using pumps, vacuum trucks or absorbent materials.
- **Report the spill** (if required to be reported) to the OCC and other agencies, as appropriate.
- **Assess the site impacts**. Determine the area and depth of soil affected, as well as any impacts to water, vegetation and animals.
- **Restore the site**. Any spill (even one not large enough to report) must be cleaned up and the site restored to beneficial use(s). This may involve treating or removing affected soils.
- **Review the remainder** of this guide for further requirements and other information. ‘Field Operations’, “OCC Guidelines for Responding To and Remediating Spills”, available from the District and Oklahoma City offices, provides more information about the above topics.

## *Which Spills Are Required To Be Reported?*

Oklahoma Corporation Commission (OCC) requirements for reporting non-permitted discharges (spills) are found in Rule OAC 165:10-7-5. Spills most commonly involve crude oil, condensate, salt water and drilling mud. Any spill to land must be reported to the OCC if it amounts to ten or more barrels of any substance used or produced in petroleum exploration or production. Also, a spill of any quantity of these substances that come in contact with water must be reported. In addition, a spill of any hazardous substance used in exploration or production activities that meets the reportable quantity under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), as found in 40 CFR Part 302.4, must be reported to the OCC and the Department of Environmental Quality (DEQ). Designated hazardous substances and their reportable quantities can be found at <http://www.epa.gov/osweroe1/docs/er/302table01.pdf>.

## **Who Should An Operator Call To Report A Spill?**

A verbal spill report must be made to the appropriate OCC District Office or Field Inspector within 24 hours of discovery. Refer to the map below that shows district boundaries. For reporting a spill after regular office hours, a list of field inspectors and their pager numbers is available on the OCC website at <http://www.occeweb.com/contactlist/ogcontacts.htm> or can be obtained by contacting the OCC Field Operations Department at (405) 521-2240. An incident number will be assigned, which will be used for tracking purposes.

## **Should Anyone Else Be Contacted About A Spill?**

- Spills of petroleum hydrocarbons into or upon navigable waters, as defined by 40 CFR 112.2, are required to be reported to the U.S. Coast Guard's National Response Center. (800) 424-8802 (24-hour)
- Any spill that affects surface water in the watershed of a water supply lake should be reported to the Oklahoma Department of Environmental Quality. (800) 522-0206 (24-hour)
- Spills that are the result of motor vehicle accidents should be reported to the Oklahoma Highway Patrol. 911 or \*55 (cellular)
- In the event any spill results in the death of fish or wildlife, contact the Natural Resources Section of the Oklahoma Department of Wildlife Conservation. (405) 522-6281 (office hours)

## **Is Any Follow-up Report Required?**

Within ten working days of discovery of a spill, a follow-up written or oral report that includes the following must be filed with the OCC District Office:

- ✓ Name of reporting party, firm name and telephone number
- ✓ Legal description of location (Section, Township, Range)
- ✓ Lease or facility name
- ✓ Operator
- ✓ Circumstances surrounding the discharge and whether it was to land or water
- ✓ Date of occurrence
- ✓ Volumes discharged
- ✓ Type of materials discharged
- ✓ Method of cleanup (if any) undertaken and completed
- ✓ Volumes recovered

## **When Can A Spill Incident Be Closed?**

The OCC District Office will likely close a spill incident upon meeting all of the following:

- ✓ If all fluids were recovered promptly or the spill was contained within a lined dike area.
- ✓ If, after cleanup, there are no soils with a significant hydrocarbon stain and/ or odor.
- ✓ If there is no likely impact to surface water or ground water.
- ✓ When the surface is re-vegetated or otherwise restored to the beneficial use(s).

If these conditions are not or cannot be met, consult with the District Office or Field Inspector to determine what should be done. Once these action(s) are performed, an operator may request closure. An Administrative Law Hearing may be requested to settle any disagreement over necessary action(s). Also, the District Office may transfer a case needing prolonged assessment or remediation to the Pollution Abatement Department.

### **How Long Should Spill Records Be Kept?**

Records of any spill reported to the OCC must be maintained for a minimum of three years.

### **How Should Impacted Sites Not Caused By Recent Spills Be Handled?**

When impacts are found at a site that is not the result of a recent spill, it is considered to be a historically impacted site. If soils are impacted by petroleum hydrocarbons or brine, the site should be reported to the District Office, which will assign an incident number. Consult with them on how to restore the site. Historically impacted sites are closed on the same basis as spill incidents. If there are complex or unusually extensive impacts, or surface water or ground water has been or could be impacted, the site should be reported to the Pollution Abatement Department at (405) 522-2761. They will give consultation on remediating the site.

COUNTY NUMBER	COUNTY NAME	DISTRICT ASSIGNED
1	ADAIR	1
3	ALFALFA	2
5	ATOKA	4
7	BEAVER	2
9	BECKHAM	3
11	BLAINE	2
13	BRYAN	4
15	CADDO	3
17	CANADIAN	2
19	CARTER	3
21	CHEROKEE	1
23	CHOCTAW	4
25	CIMARRON	2
27	CLEVELAND	3
29	COAL	4
31	COMANCHE	3
33	COTTON	3
35	CRAIG	1
37	CREEK	1
39	CUSTER	2
41	DELEWARE	1
43	DEWEY	2
45	ELLIS	2
47	GARFIELD	2
49	GARVIN	3
51	GRADY	3
53	GRANT	2
55	GREER	3
57	HARMON	3
59	HARPER	2
61	HASKELL	4
63	HUGHES	4
65	JACKSON	3
67	JEFFERSON	3
69	JOHNSTON	4
71	KAY	1
73	KINGFISHER	2
75	KIOWA	3
77	LATIMER	4
79	LEFLORE	4
81	LINCOLN	1
83	LOGAN	2
85	LOVE	3
87	MCCLAIN	3



COUNTY NUMBER	COUNTY NAME	DISTRICT ASSIGNED
89	MCCURTAIN	4
91	MCINTOSH	4
93	MAJOR	2
95	MARSHALL	4
97	MAYES	1
99	MURRAY	3
101	MUSKOGEE	1
103	NOBLE	1
105	NOWATA	1
107	OKFUSKEE	4
109	OKLAHOMA	2
111	OKMULGEE	4
113	OSAGE	1
115	OTTAWA	1
117	PAWNEE	1
119	PAYNE	1
121	PITTSBURG	4
123	PONTOTOC	4
125	POTTAWATOMIE	4
127	PUSHMATAHA	4
129	ROGER MILLS	2
131	ROGERS	1
133	SEMINOLE	4
135	SEQUOYAH	4
137	STEPHENS	3
139	TEXAS	2
141	TILLMAN	3
143	TULSA	1
145	WAGONER	1
147	WASHINGTON	1
149	WASHITA	3
151	WOODS	2
153	WOODWARD	2