

KENTUCKY DIVISION OF OIL & GAS

KIM COLLINGS, DIRECTOR



“STATE-BID” PLUGGING AND ABATEMENT PROGRAM

Ky Division of Oil & Gas Plugging Fund

- * Oil and Gas Plugging Fund established in 1990 as a interest-bearing "special agency account" for the plugging of any abandoned wells within the authority of the Department
- * Department transferred \$1M into fund in July 1990
- * On-going funding provided by forfeiture of blanket and individual well bonds when an operator fails to correct a notice of violation.
- * ***Current plugging fund balance is approx.\$572,000.00***

Shallow Well Bond Amounts

Bonds posted for shallow wells are for plugging only

<u>Well Depth</u>	<u>Bond Amount</u>
0 to 500 feet	\$500.00
501 feet to 1,000 feet	\$1,000.00
1,001 feet to 1,500 feet	\$1,500.00
1,501 feet to 2,000 feet	\$2,000.00
2,001 feet to 2,500 feet	\$2,500.00
2,501 feet to 3,000 feet	\$3,000.00
3,001 feet to 3,500 feet	\$3,500.00
3,501 feet to 4,000 feet	\$4,000.00
4,001 feet to 4,500 feet	\$5,000.00
4,501 feet to 5,000 feet	\$6,000.00
5,001 feet to 5,500 feet	\$7,000.00
5,501 feet to 6,000 feet	\$8,000.00

Shallow Well Bond Amounts

- * Qualified Operators

- * 1 to 25 wells \$10,000
- * 26 to 100 wells \$25,000
- * 101 to 500 wells \$50,000
- * Over 501 wells \$100,000

- * Non Qualified Operators

- * 1 to 100 wells \$50,000
- * Over 101 wells \$100,000

Deep Well Bond Amounts

Bonds posted for deep wells are for plugging and reclamation

Individual Bond:

Vertical deep wells – \$25,000

Horizontal deep well – \$40,000

Oil and Gas Conservation Commission may establish higher bond for any individual well based on projected costs to plug well and reclaim well-site

Blanket Bond:

1 to 10 vertical deep wells - \$200,000

1 to 10 horizontal deep wells - \$320,000

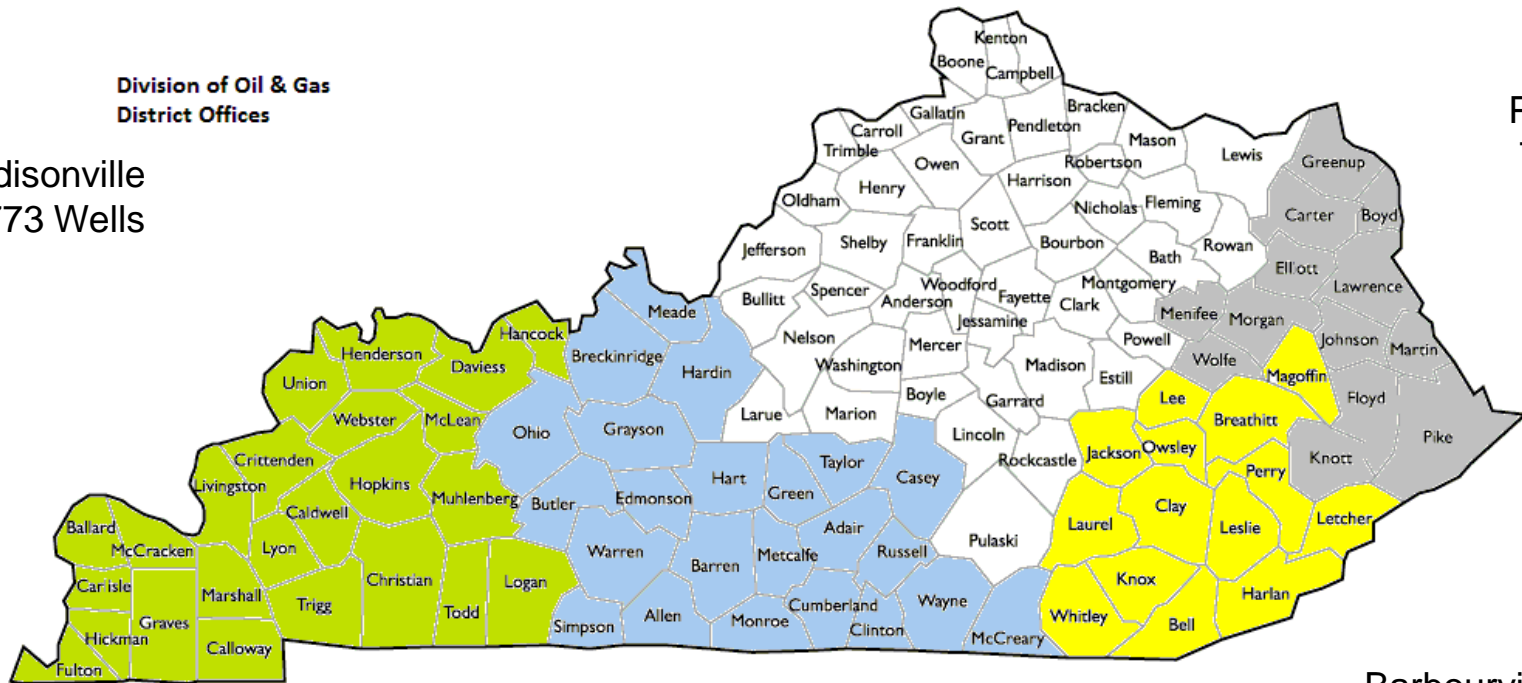
Abandoned/Orphan Well Distribution Over 7,000 wells and still counting.....

Frankfort
849 Wells

Madisonville
1,773 Wells

Pikeville
787 Wells

Division of Oil & Gas
District Offices



Glasgow
3,223 Wells

Barbourville
371 Wells

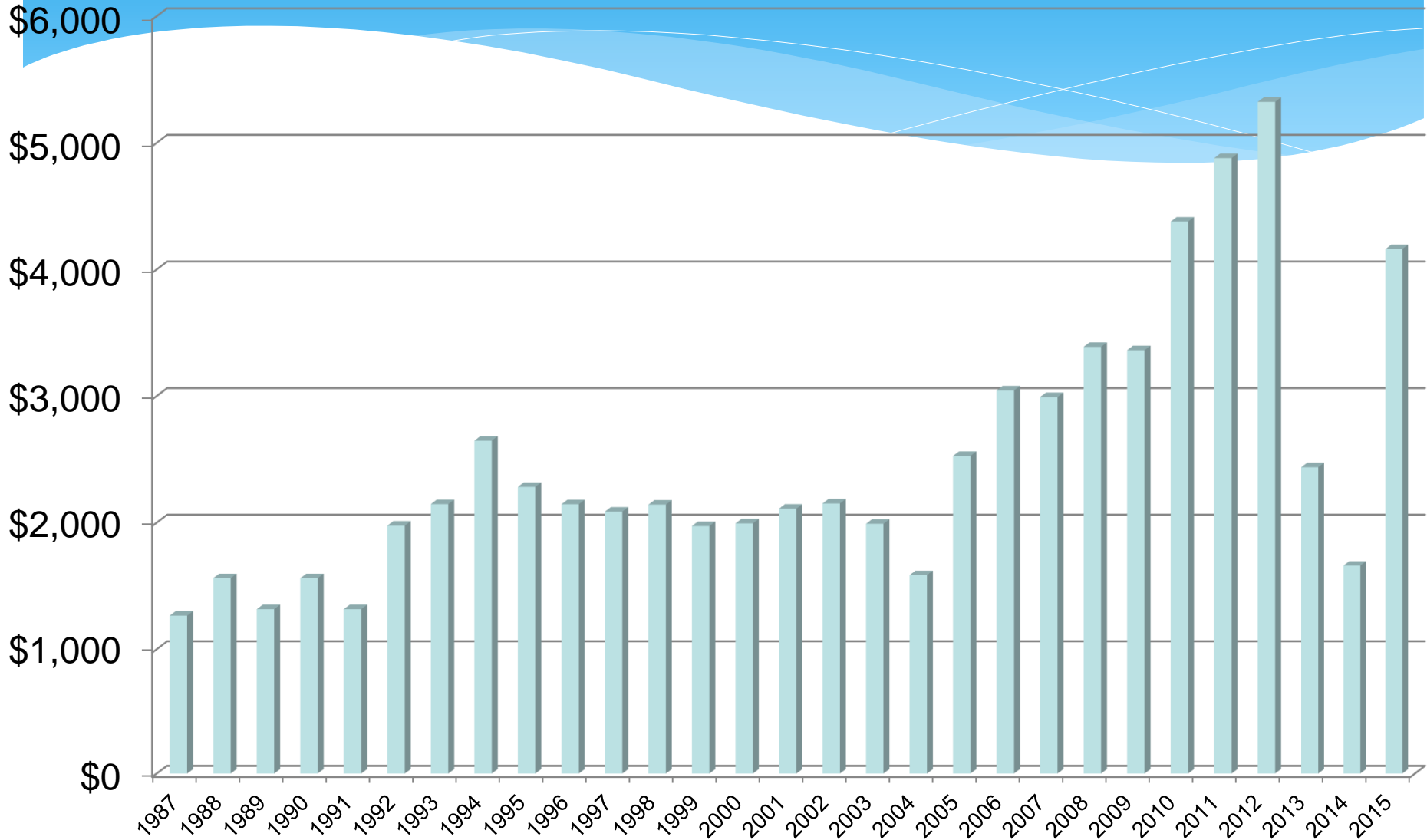
Permit N19292-Lawrence Co. in stream channel (Cat Creek Yatesville Lake Watershed)



Permit N17318-Hancock Co. Discharge from stuffing box into stream

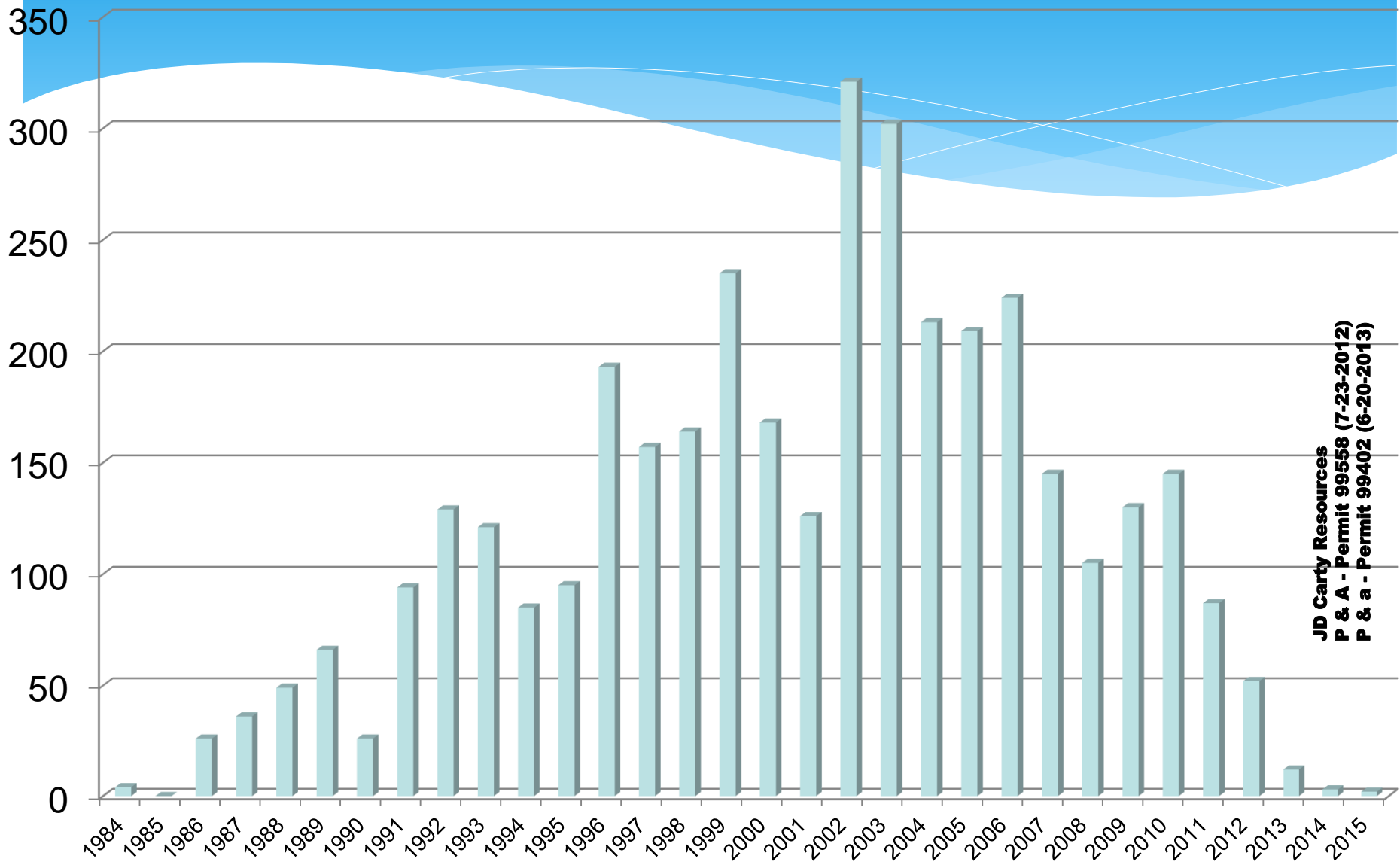


Annual Average Plugging/Abandonment Costs per Well



Annual Wells Plugged

3,724 wells plugged (8-1-15)



JD Carty Resources
P & A - Permit 99558 (7-23-2012)
P & a - Permit 99402 (6-20-2013)

Division of Oil & Gas Prioritization Schedule

WELL CONDITION	POINTS
Leaking oil well impacting environment (surface or groundwater degradation) and/or affecting public health and safety	16
Leaking H ₂ S, natural gas, crude oil or brine (no immediate environmental/safety impact)	14
Open hole @ surface, no casing visible, down-hole conditions unknown, no well data available	12
Open-hole @ surface, casing visible at surface, down-hole conditions known, well data available	10
Wellhead intact known down-hole problems (insufficient casing/cement to protect USDW or prod. zones)	8
Shut-in well with swedge or valve exhibiting good wellhead integrity (USDW and producing zones properly isolated)	6

State Bid Plugging Procedure

- * Division Inspector performs well inspection, cite appropriate violation(s).
 - * Routine inspection
 - * Public complaint
- * Insure well bond is forfeited (if bonded).
- * Inspector prepares plugging/abandonment procedure, forwards to central office.
- * Bid forms created and sent to approved plugging contractors.
- * Contractor reviews plugging procedure w/inspector at well-site to establish access to wellhead.

State Bid Plugging Procedure

- * Bid is awarded based on competitive bids (P&A contract 30 to 120 days).
- * Contractor coordinates plugging operation with Inspector.
- * Contractor submits invoice with completed Plugging Affidavit for payment.
- * Inspector files final inspection of plugging and abandonment.
- * Plugging contractors must registered with the division and have liability (min. \$1M) and workman's comp. (\$500K) insurance.

Standard Contractor Bid Form

COMMONWEALTH OF KENTUCKY

Department for Natural Resources

INVITATION TO BID

Division of Oil and Gas

P O BOX 2244, FRANKFORT, KENTUCKY

The well identified hereinafter shall be brought into compliance with KRS 353.590 by the plugging of said well. Contractor is advised to visit the well site to evaluate access and other conditions and notify and make any necessary arrangements with the surface owner. Contractor shall install a bridge plug below all cement columns or columns of suitable plugging material except in the case of the bottom hole plug. Bridge plugs may be electric, mechanical or brush and rock, or a 6% Bentonite Gel spacer may be used if plugging material is pumped through tubing. If the casing is not already cemented in the well, it must be removed by the contractor or cemented in place to seal all fluids behind the casing or an approved alternative method to isolate freshwater formations and coal seams shall be employed. All casing remaining in the well shall be cut off at a depth of three (3) feet below ground level or as requested by the landowner. A class "A" neat cement slurry that weighs at least 14 lbs./gallon is to be used for cement plugs when applicable.

The contractor shall complete work within 30 days of the contract award date and shall complete work in a diligent and workmanlike manner. Contract extensions may be granted only under exceptional circumstances. Failure to fulfill contracts may result in cancellation of contracts and removal from the plugging program. Contracts will be awarded based on bid amount, contractor's past performance, if applicable, and the techniques, materials, and equipment to be used.

See back page for location and instructions for the plugging of:

Permit 100134, ATWELL, RICKY AND MILDRED Well# 5, Green County

All Rig Time with Labor	\$ _____
All Materials	\$ _____
All Third Party Services (pumping, logging, site prep, etc.)	\$ _____
Salvageable Equipment bid (if applicable)	\$ _____
Total Bid Price	\$ _____

Contractor agrees that, if awarded this contract, to plug this well in the manner described using approved materials and approved oilfield workmanship, in the presence of the inspector. The total cost of the plugging, regardless of the unknown conditions encountered, shall not exceed \$ _____ (same as Total Bid Price).

I am not nor have I had any connections with the parties that abandoned the well described herein nor am I presently employed by anyone having any interest in said well

Company or Individual's Name _____

Address _____

Phone Number _____

Signature _____

Print Name _____

Return this form not later than March 31,2014. You will be notified in writing if your bid is accepted.

This contract does not relieve the contractor of any other state or federal regulations which may be applicable. A well may be withdrawn from this bid package at the discretion of the Department. The bids submitted by each bidder may be averaged by the Department on a same lease or location basis, if the Department is able to obtain a cumulative total bid for the grouped wells more cost efficient than using single well bidding. To receive payment for fulfillment of the contract, a properly executed Plugging Affidavit shall accompany the invoice.

Please be advised that: 1. Field conditions may alter plugging procedure; 2. All fluids from plugging operations must be contained in storage tanks or pits; and 3. Well location and pits are to be reclaimed.

Well Information:

County: Green Elevation: 788 Total Depth: 1803

Carter Coordinate:15-H-48 2730FNL 1400FEL Quadrangle: EXIE

Farm: ATWELL, RICKY AND MILDRED Well# 5 Permit No. 100134

Operator: LYLE ENERGY & DEVELOPMENT, INC

Equipment Notice:

This well has no known salvageable equipment.

Plugs shall be installed at the following measured depth intervals using not less than the cement quantities indicated, if applicable.

TYPE, INTERVAL and QUANTITY

Cement From 60 To 3 with 10 Sacks

Cement From 230 To 190 with 10 Sacks

Cement From 370 To 330 with 10 Sacks

Cement From 1035 To 1015 with 5 Sacks

Cement From 1803 To 1703 with 25 Sacks

Special Instructions

May require a pit liner in pit due to well location.

Reclaim wellsite after plugging, Cut off casing 3 ft. below surface.

Inspector:

Brian Yager

186 WINDING RIDGE ROAD

GREENSBURG, KY 42743

Phone: 606-312-7131 270-932-9812

E-mail: brian.yager@ky.gov

Abandoned Storage Tank Facilities

- In June 2015, the Kentucky Abandoned Storage Tank Reclamation Fund was established for the cleanup of abandoned storage tank facilities. A funding source has not been established as of this date.

- * **Scope of Abandoned Crude Oil/Brine Storage Tank Problem**
(estimated 4,400 abandoned sites):

- * Degradation of abandoned storage tanks results in leaks of crude oil, sludge (BS) and produced brine from facility, problem will become more pronounced with time.
- * Contamination of topsoil, surface and freshwater aquifers
- * Reduces value of property for land owners, impacts agricultural activities



Abandoned Storage Tank Facilities

- * Defines abandoned storage tank facility as a storage tank or interconnected grouping of tanks no longer being actively used and maintained in conjunction with the production and storage of crude oil or produced water.
- Tank facility is considered abandoned, the owner or operator fails to respond within 30 days to written notice by the cabinet
- Establishes criteria for identification and prioritization of leaking, abandoned storage tank facilities, including affected lands.
- If soil contamination is encountered beyond three feet in depth at the abandoned facility site, department shall consult with the Department for Environmental Protection to address possible remediation.

Testing Permit Program

- * Substantial number of abandoned wells poses a tremendous liability for the state.
- * Testing Permit program was established on July 15, 1998.
- * Allows operator to test and/or produce the well for 60 days without a permit or bond.
- * Operator must submit an application, \$25 fee & authorization to enter the property.

Qualifications for Testing Program

- * Abandoned well must have had previous bond forfeited for non-compliance
- * If pre-bonding, well must be in violation

Technical Review

- * Review performance history of testing operator. He must be in compliance with no violations on file and all licenses current
- * Review permit file to ensure no current testing permit is in place
- * Review bond of previous operator
- * If all is clear, testing permit is issued in the form of a letter

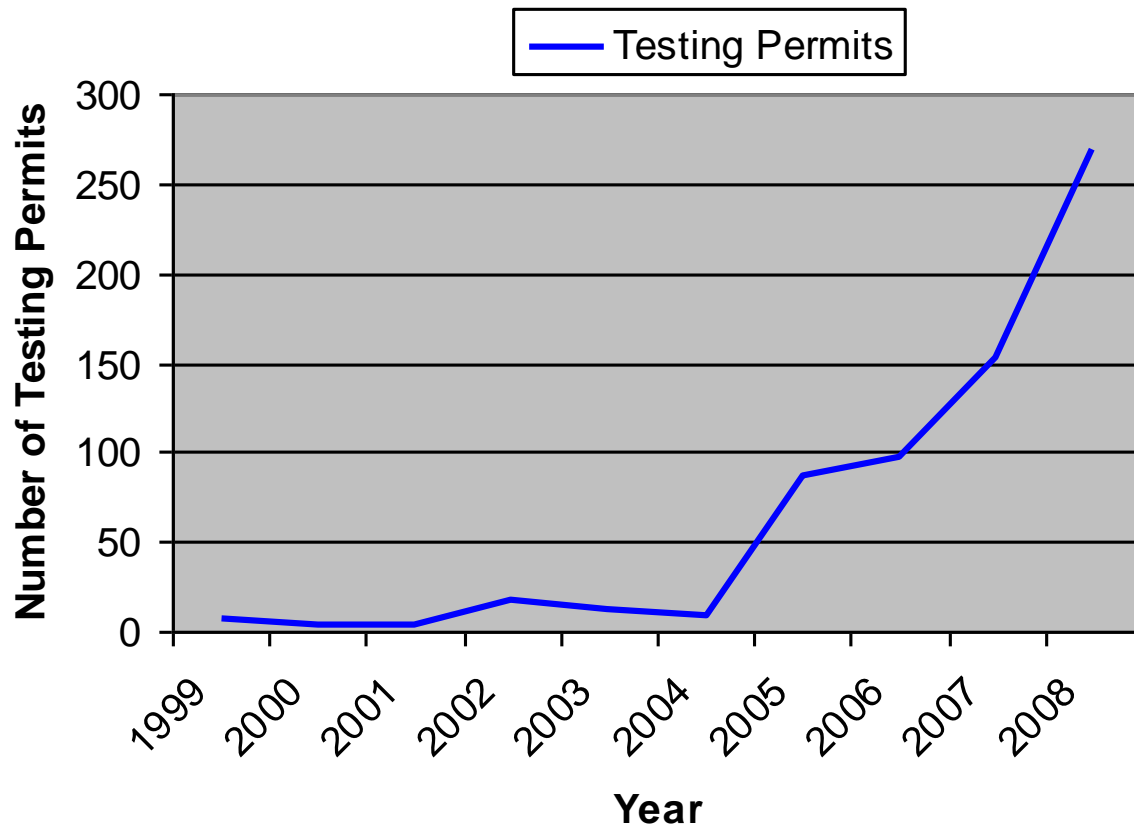
Testing Permit Conditions

- * Operator given 60 days to test the well.
- * Clock starts on date of approval letter.
- * Operator cannot:
 - * drill deeper or reopen new production zones
 - * sell crude oil retrieved from testing procedure
 - * sell any production equipment retrieved from the well
- * Operator is required to file a Report of Investigation at end of 60 day period.

Report of Investigation

- * Contains basic well information such as location, total depth, casing amounts, producing zones.
- * Asks if operator wants to assume responsibility for the well.
 - * If so, they must submit proper bonding and well is transferred to their name and bond.
 - * If no potential, operator may walk away with no liability, BUT must leave well in as good a condition or better than he found it.
- * Sometimes this report is the only information we will have on the well.

Testing Permits by Year



Success Rate

- * An average of 130 wells are tested and placed back into production each year.
- * Even if wells not found viable:
 - the division still receives new location and well information and is no worse off than before the testing process began

Conclusion

- * Ky Division of Oil & Gas has several options for dealing with abandoned wells:
 - * State Bid Plugging Program
 - * Testing Permits
 - * Abandoned Storage Tank Facilities Fund (in the future)