CHAPTER 21

The Prosecution and Defense of a Water Well Contamination Case

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§ 21.01. Introduction.

Any mineral extraction activity has the potential to affect underground water sources. Digging or drilling deep into the earth inevitably cuts into and through water saturation zones. Some water saturation zones qualify as aquifers,\(^1\) a geologic term for a water-bearing zone that produces sufficient water to sustain
domestic or agricultural uses. It has been noted that, while one-half of the population of the United States obtains its drinking water from groundwater, 97% of rural households rely on groundwater for potable drinking water.\(^3\)

Groundwater is generally obtained for domestic and other uses by drilling a well, which is merely a hole bored into the ground. The hole ends within or slightly below a water bearing strata, i.e., aquifer; the hole is then cased with pipe and the water that accumulates within the hole and pipe is pumped to the surface for use.

Volumes have been written about "toxic torts," their prosecution and defense, and problems attendant to toxic tort litigation.\(^4\) Indeed, volumes have been written about groundwater pollution.\(^5\) This Chapter endeavors to provide a brief overview of the plaintiff's and defendant's perspectives in a hypothetical water well contamination case. The general principles and analyses set forth below may be applicable to any case of a water source contaminated by mineral extraction activities. From the plaintiff's perspective, the Chapter will briefly discuss the potential sources of well water pollution from oil and gas operations, in particular Class II injection wells. Traditional common law theories of liability, as well as some possible state and federal statutory causes of action, will be considered, as will breach of contract. Plaintiff's choice of -- remedies, damages, injunctive relief, or some combination -- will be discussed, along with some common problems regarding plaintiff's evidentiary proof and suggestions of alternative evidentiary sources. The availability of statutory attorney fees, expert fees, and other costs will be included in this snapshot of the plaintiff's case. No personal injury from the contamination is presumed in the following discussion, although personal injury is highly probable where a domestic water supply well has been contaminated.

For the defense, this Chapter will advance a prevention strategy that could significantly reduce litigation claims of water well contamination by oil and gas operations. The Chapter will also explore traditional litigation defense strategy in such classic areas as liability, proof of causation, and damage determination.

Even where only a single water well is affected, that is obviously symptomatic of contamination of the aquifer supplying the water well, a matter of more than purely private concern.

§ 21.02. The Plaintiff's Perspective.

[1]--Sources of Contamination.

[a]--Oil and Gas Operations as a Source of Contamination.

Plaintiffs' attorneys undertaking representation of a landowner whose water supply well has been affected by an oil and gas operation must have passing familiarity with oil and gas operations to understand the various ways these operations can cause groundwater to be contaminated. Activities during oil and gas drilling and recovery operations that are likely to have an impact are activities conducted subsurface rather than on the surface.\(^6\) Of all activities involved in oil and gas recovery and storage operations, the injection of fluids into oil and gas wells to enhance recovery of oil and gas or to dispose of fluids, such as brine or process water, seem to be recurring sources of water well contamination claims.

Injection of fluids into oil and gas wells is a regulated activity in all states under the Safe Drinking Water Act\(^7\) (SDWA), and the Environmental Protection Agency's (EPA) implementing regulations.\(^8\) Wells used for injection by the oil and gas industry are classified as Class II injection wells.\(^9\)

[b]--Class II Injection Wells.
Part (c) of the SDWA requires the regulation of underground injection wells by the EPA. The EPA has adopted regulations setting the parameters of the underground injection control program (UIC). An UIC program is now required and, indeed, is in place in all states. The UIC program regulates the underground injection of fluids and hydrocarbons by requiring a permit and imposing performance standards for any new and many existing UIC wells. No underground injection may occur without authorization by permit or rule. Injection wells are classified into five categories. These classes are:

Class I -- hazardous waste disposal beneath, but within one-quarter mile of an Underground Source of Drinking Water (USDW).

Class II -- wells which inject fluids during oil and gas production operations, or for enhanced recovery of oil or gas, and for storage of liquid hydrocarbons.

Class III -- mineral extraction wells (solution mining).

Class IV -- hazardous and radioactive waste disposal into or above a formation within one-quarter mile of USDW.

Class V -- wells not within Class I, II, III, or IV.

The UIC program protects any USDW aquifer which:

1. supplies any public water system; or
2. contains sufficient water to supply a public water system; and
   a. currently supplies drinking water for human consumption; or
   b. contains less than ten thousand milligrams per liter total dissolved solids and is not an exempted aquifer.

Under the UIC program, for any oil and gas well which may later be shown to have been improperly sealed, completed, or abandoned, each applicant for a Class II injection permit "shall submit a plan consisting of such steps or modifications as are necessary to prevent movement of fluid into underground sources of drinking water" which "corrective action plan" becomes a condition of the permit. Under the UIC program, for any oil and gas well which may later be shown to have been improperly sealed, completed, or abandoned, each applicant for a Class II injection permit "shall submit a plan consisting of such steps or modifications as are necessary to prevent movement of fluid into underground sources of drinking water" which "corrective action plan" becomes a condition of the permit. In no case may injection into a well result in the contamination of an underground source of drinking water so as to create a significant risk to the health of persons. In its widely disseminated handbook, The Poisoned Well: New Strategies for Groundwater Protection, the Sierra Club Legal Defense Fund notes that there "are approximately 160,000 of these [Class II] wells concentrated in about 170 well fields, and new ones are put into use on a regular basis."

The State Underground Injection Control Programs listing provides a handy reference guide to fully delegated state UIC laws and programs fully or partially administered by the EPA.

[2]--The Plaintiff's Case.
[a]--Common Law Theories of Liability.

Common law tort theories of liability for contamination of a water source include nuisance, negligence, trespass, and strict liability. (27)

[b]--Nuisance Law Generally.

Nuisance, as a theory of tort liability, has become increasingly popular in the last two decades. Called the "fulcrum" of environmental law, (28) nuisance law provides the broadest theory of liability for contamination of a water well. Nuisance theory examines the interests invaded and the harm inflicted rather than focusing on the perpetrator's conduct. (29) However, the tortfeasor's conduct is not without scrutiny since nuisance law is based on the nature of the conduct as the vehicle to impose liability for creating the nuisance. For example, a nuisance claim may be predicated on another's lawful conduct pursuant to government authorization by permit, (30) or on negligent conduct, (31) or on an abnormally dangerous activity, (32) or on intentional lawful or unlawful conduct. (33) Some have suggested that "toxic torts" constitute an emerging new cause of action combining the historic elements of strict liability for abnormally dangerous activities with the public policy considerations of public nuisance law into the tort of "absolute nuisance." (34)

[i]--Private Nuisance.

*The Restatement (Second) of Torts* states:

One is subject to liability for a private nuisance if, but only if, his conduct is a legal cause of an invasion of another's interest in the private use and enjoyment of land, and the invasion is either

(a) intentional and unreasonable, or

(b) unintentional and otherwise actionable under the principles controlling liability for negligent or reckless conduct, or for abnormally dangerous conditions or activities. (35)

Modern private nuisance law has been heavily influenced by this *Restatement (Second).* (36) In Section 821D of the *Restatement (Second)*, private nuisance is defined as a "non-trespassory" invasion or interference with one's interest in the private use and enjoyment of land. (37) The protected interest stems from property ownership, possessory rights, and the enjoyment or use of those rights. (38)

The invasion must be significant and caused by another. (39) It has now been well established that contamination of drinking water is a significant invasion of another's property interest. (40)

*The Restatement (Second)* deems pollution of groundwater an actionable nuisance. (41) In determining the unreasonableness of the interference, many states, including Pennsylvania and West Virginia, have applied the *Restatement (Second)* balancing test, which weighs the gravity of the harm against the social value of the activity causing the harm. Section 827 lists several factors to be considered in the balance. (42)

While some commentators have noted a diminishing role for traditional private nuisance causes of action in the face of state statutory remedies, practitioners should not yet discard private nuisance theory. (43) It has shown itself to be a well-worn, but proven and reliable, vehicle for relief for a plaintiff whose water supply has been affected by oil and gas operations.
In pleading a nuisance cause of action for contamination of a private water well, the plaintiff must allege that its interest in the use and enjoyment of property and of the water on and under the property has been unreasonably, significantly, and adversely affected or interfered with by the defendant's intentional acts or by defendant's unintentional, but negligent, reckless, or abnormally dangerous activities that caused plaintiff's water to be polluted, diminished, or lost and, therefore, plaintiff has been damaged. (44)

[ii]--Public Nuisance – Class Action.

Section 821B of the Restatement (Second) of Torts defines a public nuisance as "an unreasonable interference with a right common to the general public." (45) The contamination of an aquifer, (46) which supplies drinking water to individuals as well as to a public water supply system, qualifies as a public nuisance. (47) Under the current state of the law in most jurisdictions, however, an individual can recover damages for a public nuisance only if the individual's harm is different from that suffered by the general public. (48) A direct injury to the individual's private interest is usually sufficient to distinguish it from the public nuisance. (49) The public/private nuisance distinction has been criticized by Professor Rodgers as a "relic." (50)

From a plaintiff practitioner's perspective, an allegation of a public nuisance may be sufficient to support a class action. (51) Bringing a public nuisance class action to abate groundwater pollution would appear to enhance the prospects of a successful resolution for any single affected individual. (52) In addition to the strength of numbers a class action brings, counsel for a plaintiff should plead violation of a law intended to protect the class or public from the pollution of water. A single or class plain-tiff's efforts to recover damages or abate a polluting activity is much easier where the activity has been judicially or statutorily declared to be a nuisance per se than where the plaintiff must prove both an unreasonable interference to plaintiff's property interests and that the defendant engaged in abnormally dangerous, negligent, or bad conduct.

[c]--Negligence and Negligence Per Se.

To prove negligence, the plaintiff must show that the defendant's conduct fell below the standard of a reasonably prudent person in similar circumstances. The elements of proof are: (1) a duty to conform to a certain standard of conduct that will protect others from risk of harm, (2) a breach of the duty, (3) proximate cause, and (4) damages. Where law requires a permit and sets forth the appropriate performance standards, violation of that law constitutes negligence per se. (53)

[d]--Trespass.

Historically, trespass was a cause of action arising from the unauthorized "breaking of the close" denoted as trespass quare clausum fregit, i.e., trespass q.c.f. It has now evolved as a corollary cause of action to nuisance and is a theory of recovery for the doing of an unlawful act that injures another's person or property. (54) The Restatement (Second) provides that liability for intrusions on land that cause harm to the possessor must arise from reckless, negligent, or abnormally dangerous activity. (55) Some commentators have noted that the distinction between trespass and nuisance is "blurred at best." (56)

[e]--Strict Liability.

Arising from the seminal case of Rylands v. Fletcher, (57) the theory of holding one liable without proof of fault addresses the need to protect society from human endeavors that are unduly dangerous or inappropriate to the place where they are maintained. Numerous cases have held that certain activities associated with oil
and gas operations are abnormally dangerous and, therefore, the operator can be found liable for damages without proof of fault.\(^{(58)}\)

[f]--Breach of Contract.

In those circumstances where the oil and gas operator has entered into an agreement with the affected water well owner, the agreement should be scrutinized for provisions requiring compliance with law or specifically providing for water protection. Where the landowner's water well has been contaminated by the oil and gas recovery operations, a cause of action for breach of contract will lie.

[g]--Breach of Third Party Beneficiary Contract.

A more interesting theory, which is not well reported, is the argument that adjoining landowners and nearby neighbors are intended third party beneficiaries of oil and gas operators' contracts and leases. Generally, the law requires that a third party benefit be clearly intended, those who derive some benefit, but are not intended as beneficiaries, are categorized as incidental beneficiaries.\(^{(59)}\) Adjoining landowners should examine leases and contracts of record authorizing oil and gas operations on neighboring lands for provisions which could, arguably, be intended to inure to their benefit.

Operating contracts and oil and gas leases often contain provisions requiring compliance with applicable law,\(^{(60)}\) a provision that, arguably, intends to benefit the public and one's neighbors, as well as the signatory landowner. In Illustration 10 to Section 302 of the Restatement (Second) of Contracts,\(^{(61)}\) the Reporter considers a landowner located downstream of a water discharge from a treatment facility to be an intended beneficiary to a contract between the treatment facility and one who agrees to prevent certain wastes from entering the facility because the treatment facility cannot treat those wastes. If those waters enter the facility, they move through untreated and pollute the downstream landowner's water and property. The Illustration derives from *Ratzlaff v. Franz Foods of Arkansas*,\(^{(62)}\) where the Supreme Court of Arkansas allowed the downstream landowner to maintain an action for breach of contract. The court stated that "a party who owes no obligation to third persons or the public in general may by contract assume an obligation to use due care towards such third persons or the public in general."\(^{(63)}\) Thus, it seems that this theory provides plaintiff's lawyers another arrow in their quiver of liability theories.


[a]--Federal Statutes and Regulations that Address

Groundwater Quality.

Whether you are representing the owner of a contaminated well or the potentially responsible defendant, an awareness of the federal statutes and regulations affecting groundwater quality is essential. While the application of a particular statute or regulation will depend on the specific facts of the case, Table 1 provides a list of those statutes and regulations that should be considered in any water contamination inquiry. Consideration of the citizen suit provisions found in a number of these statutes is also important. Table 2 provides a summary of these statutes and their accompanying citizen suit provisions, as well as a description of who can be sued under each provision and for what remedy.

Suits under these federal laws may be brought in the appropriate federal district court to enforce the applicable pollution control standards without regard to the amount in controversy or the citizenship of the parties.\(^{(65)}\) A federal citizen suit for contamination of a water well and its aquifer must be primarily to enforce the applicable law or regulation, not for the purpose of obtaining individual damages\(^{(66)}\) (although pleading a damage claim is generally permissible under the federal district court's pendant jurisdiction).\(^{(67)}\) The SWDA is the most pertinent federal statute of which lawyers who represent affected water well owners, particularly owners of wells that qualify as a public water supply, should be aware.\(^{(68)}\) The SWDA's regulation of underground injection wells, particularly Class II injection wells, is of particular importance.

### Table 2\(^{(69)}\)

<table>
<thead>
<tr>
<th>Statute</th>
<th>What It Covers</th>
<th>Who Can Be Sued</th>
<th>Preserved Benefits</th>
<th>Attorney Fees Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources Conservation Recovery Act, RCRA</td>
<td>Hazardous and non-hazardous waste. stores, treats, or disposes</td>
<td>Anyone who transports</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Recovery Act, RCRA</td>
<td>hazardous waste. stores, treats, or disposes</td>
<td>Prior to enforcement</td>
<td>Notice</td>
<td>Notice</td>
</tr>
<tr>
<td>§ 7002 of waste and violates a Notice</td>
<td>(42 U.S.C. § 6972)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Past violators are covered as well.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comprehensive Hazardous substances</td>
<td>Anyone (including the government) who fails to</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Environmental or pollutants.</td>
<td>prior</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response, perform cleanup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compensation, and responsibilities for</td>
<td></td>
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</tbody>
</table>
Liability Act releases of hazardous (CERCLA, or substances or pollutants Superfund), § 310 (often from inactive or (42 U.S.C. § 9659) abandoned waste sites).

Safe Drinking Water Public water systems Public water system Yes Yes 60 Days Act (SDWA), § 1449 or underground sources suppliers or operators of Prior (42 U.S.C. § 300j-8) of drinking water. underground injection wells Notice who fail to maintain drinking water standards or violate orders or regulations under the Act.

Clean Water Act Surface and ground Anyone who violates permits Yes Yes 60 Days (CWA), § 505 water. issued for discharge of Prior (33 U.S.C. § 1365) pollutants into surface Notice waters or any other order or limitation under the Act.

Surface Mining Coal mining activities Anyone who violates a permit Yes Yes 60 Days Control and both during active condition, order, or (includes a specific Prior Reclamation Act mining and restoration regulation under the Act, private right of Notice (SMCRA), § 520 of the site to its particularly the prohibition action for damages) (30 U.S.C. § 1270) pre-mined condition. against disturbing on- and off-site water quality.

Toxic Substances Chemicals and other Anyone who violates a Yes Yes 60 Days Control Act (TSCA), toxic substances. regulation under the Act Prior § 20 (15 U.S.C. regarding the safe Notice
§ 2619) manufacture, use, disposal, and processing of chemicals, including PCBs.

wells, the SDWA's Wellhead Protection Program, and its Sole Source Aquifer Program are its most significant provisions.

It is now fairly well established that federal environmental laws, such as SDWA, do not provide a remedy to protect private water supplies or provide an implied private right of action for damages. However, practitioners should evaluate the potential of a citizen suit to compel compliance with the SDWA drinking water standards or a citizen suit for abatement of the pollution under other federal statutes in conjunction with the traditional common law causes of action. Of course, when available, state statutory causes of action may provide the easiest path for replacement of a water well contaminated by oil and gas operations.

[b]--State Examples of Statutory Causes of Action for Replacement of Water.

[i]--Pennsylvania.

In 1984, Pennsylvania enacted the Oil and Gas Act. Section 601.207 provides for protection of fresh groundwater. Section 601.208 provides for protection and replacement of a public or private water supply affected by oil and gas operations. Upon notice, the state agency must investigate within 10 days and render its decision within 45 days. The statute creates a presumption that the oil and gas well operator is responsible for the contamination if the water supply is within 1,000 feet of an oil or gas well and the pollution occurs within six months of completion of drilling or other activities at the oil and gas well site. The Oil and Gas Act provides five defenses to the oil and gas operator to rebut the presumption and avoid liability for an action for replacement. These defenses are:

(1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration survey.

(2) The landowner or water purveyor refused to allow the operator access to conduct a predrilling or prealteration survey.

(3) The water supply is not within 1,000 feet of the well.

(4) The pollution occurred more than six months after completion of drilling or alteration activities.

(5) The pollution occurred as the result of some cause other than the drilling or alteration activity.

These defenses are only available if the well operator has conducted a survey and sampling of the water supplies before operations began and the water supply owner was provided copies of the pre-operations water supply survey. Subpart (f) of the Oil and Gas Act preserves any other remedy available to the landowner at law or in equity.

The water replacement provision of the Pennsylvania Oil & Gas Act has been upheld in the face of a constitutional challenge by an industry association. Violation of Section 208 of the Act is deemed a
The Pennsylvania Clean Streams Law (81) (CSL) also provides for protection of public water supplies. (82) The CSL further provides that any violation of its provisions is deemed a nuisance. (83)

[ii]--West Virginia.

West Virginia Code Section 22B-2-3 (84) provides that an oil and gas developer shall pay the surface owner compensation for any damage to a water supply in use prior to the commencement of the permitted oil and gas activity. Section 22B-1-35 (85) creates a rebuttable presumption that an oil or gas well within 1,000 feet of a water well is the cause of any contamination of that water well. Section 55-7-9 (86) provides a private right of action for damages to any person injured by reason of the violation of any statute by another. (87)

[iii]--Ohio.

Ohio has enacted an Oil and Gas Law (88) that protects private and public water supplies. Section 1509.17 provides that a production well must be encased to prevent any fluids from moving from the well out or from the ground into the well. (89) Section 1509.21 prohibits the issuance of any permit for injection or secondary recovery unless the injection will not result in any contamination of groundwater in excess of drinking water standards. (90) Section 1509.22 prohibits injection of brine or other waste substances that could cause water used for consumption by humans to exceed drinking water standards. (91)

Ohio oil and gas regulations implement the statutory intent by requiring identification of underground sources of drinking water; (92) prohibiting any contamination of water, surface or sub-surface; (93) prohibiting contamination of water from injection of salt water; (94) prohibiting oil and gas wells nearer than 100 feet of other wells; (95) and prohibiting the injection of any "fluid containing any contaminant into an underground source of drinking water." (96) Injection well permit applications must contain a contingency plan to cope with well failures to prevent migration of contamination fluids into underground sources of drinking water. (97)

In addition to the Oil and Gas Law, the Ohio Water Pollution Law (98) prohibits placing any waste where it causes pollution of any waters of the state and any such action is declared a public nuisance.

(iv) Other States.

Many other states have similar statutory provisions, including Alabama, (99) Florida, (100) Illinois, (101) Missouri, (102) North Dakota, (103) South Dakota, (104) Tennessee, (105) and Virginia. (106)

[4]--Plaintiff's Evidentiary Proof.

[a]--Parties.

In the typical case of a landowner claiming water well contamination, the parties will consist of a property owner plaintiff suing the well owner/operator. Occasionally, plaintiff's counsel may find that several persons or entities have engaged in activities at the oil and gas well site. In toxic tort cases where several potential tortfeasors contributed to the activities alleged to have caused the contamination, several theories of joint and several liability are available to the plaintiff. These are commonly known as alternative liability,
concerted action enterprise liability, and market share liability. Where successfully invoked, the burden of proving each defendant's proportional liability is shifted to the defendants. (108)

[b]--Factual Investigation.

Experience has shown that a detailed initial investigation of the facts that gave rise to a client's claim of water well contamination can set the stage for successful resolution of the claim. As in the more traditional plaintiff's tort case where a plaintiff's lawyer will hire an investigator to obtain the facts, in water well contamination cases, the author has found that employing a geologist, hydrologist, or hydrogeologist to perform the initial investigation of the physical facts and a records search produces a great deal of information as to the factual basis for the plaintiff's claim. Unless counsel comes into the case after the government has begun its own investigation or has taken action, use of an expert investigator knowledgeable in the field of geology and related disciplines greatly reduces later discovery and trial anxiety.

The expert should be instructed to visit the site and take samples of water from the water well claimed to be contaminated for purposes of analysis, and for visual demonstration at trial if appropriate. The expert should notice the appearance of the water, as well as any odors emanating from it. Experience has shown that heated water at the client's home tends to volatilize any hydrocarbons in the water making them easily smelled. The expert should also visit the oil and gas well site that is the claimed cause of the contamination, without, of course, engaging in trespassory conduct. Usually a telephone call to the landowner for permission will be sufficient. If not, a request to the oil and gas inspector for the regulatory agency to visit the site in the inspector's company can usually be easily accomplished. Of course, the oil and gas operator can be contacted directly for permission to visit and observe the well site. If access is denied, this fact can later be commented on at trial.

The expert should also be directed to go to the files of the regulatory agency and examine and copy all documents in any way pertinent to the investigation. If the file is voluminous, the expert should make copies of those documents that are important to her investigation and opinion. Counsel should make an independent examination of these files for documents pertinent and relevant at trial. The expert should also interview persons who have knowledge of the facts to gather anecdotal evidence.

After the factual investigation and records search, the expert should review scientific treatises, journals, government publications, and similar materials to assist in reaching her determination of whether the oil and gas operations have caused the contamination. Chemical analysis of the water from the well and any pit waters, process waters, or brines at the oil and gas well site should obviously be compared.

It is also important, in my view, that counsel visit the site at least once before trial to become familiar with the physical, topographic, and natural features at the site.

In all other respects, a water well contamination case should be investigated and dealt with in the same manner as any tort case. Good records and a chronological history of the events giving rise to the contamination claim will make for a successful prosecution.

[c]--Use of Government Sources.

[i]--Records.

By law in all states, oil and gas operations are regulated by permit and performance standards. They must submit information in an application process that can be of value to a plaintiff. An examination of the pertinent agency's files regarding oil and gas permits or Class II UIC permits can reveal ownership by deeds.
or leasehold rights, geologic logs of strata, geologic anomalies, pressures, water saturation zones, coal, chemical analysis of fluids and water, and other relevant information. An examination of inspection reports may reveal notices of violation, complaints from landowners, civil penalty assessments, and transcripts of administrative hearings. A review of the application files can also produce reports of geologists and engineers, protests and comments by landowners, administrative reviews, and numerous other documents required by law.

A practitioner should examine, not only the government's oil and gas files, but should inquire at any agency that issues and inspects for water discharge or NPDES permits, soil and erosion control, dams and encroachments, explosives, air pollution, historic structures and features, and other relevant agencies. Too often, government records are overlooked as a valuable source of information.

[ii]--Government Action.

Invoking government action by filing a complaint with the appropriate regulatory agency should be carefully considered. On the one hand, the government can bring enormous resources to bear, including experts and lawyers, to investigate a problem and can take prompt action. This can be of enormous benefit to the plaintiff. However, if the regulatory agency tends to be protective of the operators whom they regulate, results of the government action may be disappointing. Indeed, if the government determines that the water well contamination is not caused by the oil and gas operations, the preclusive effect of invoking government action can be the death knell to the plaintiff's case.

[d]--Experts.

Use of experts is virtually a given in any toxic tort case requiring proof of pollution. Much has been written on the topic and of necessity the reader is referred to some of those sources for in depth treatment. Counsel for plaintiffs claiming contamination should use government experts in conjunction with a private consultant when feasible. This makes for a very potent presentation in court and generally provides a winning combination. Experts should be hired early on so that they can participate in the development of an effective plaintiff's case.

Scientific evidence in toxic tort cases, especially regarding medical causation issues, has recently come under intense scrutiny. The so-called "junk science" defense has gained prominence and must be guarded against.

In 

Beech Aircraft Corp. v. Rainey,

the Supreme Court addressed the question whether public records which contained an expert's opinion constituted excludable hearsay under the Federal Rules of Evidence, Rule 803. The Court noted that Rules 702 to 705 allow expert testimony safeguarded by trustworthiness and relevancy considerations. Thus, if the opinion evidence is relevant and trustworthy, it may be admitted despite its hearsay nature.

The notion of trustworthiness arises from the seminal case 

Frye v. United States,

which held that the results of an early version of a polygraph test could not be used in evidence due to the lack of acceptance of the science in the scientific community. The evidence was deemed unreliable and untrustworthy.

Plaintiff's counsel must examine the pertinent jurisdiction's Rules of Evidence regarding introduction of scientific evidence and expert opinion. Federal Rule 705 allows an expert to express an opinion without first revealing its underlying bases. Ohio Rule of Evidence 705, in contrast, requires prior disclosure of all relevant facts before the opinion may be expressed. Pennsylvania is in accord.
As a general rule, most discovery regarding water well contamination cases can be accomplished through interrogatories, requests for production of documents, requests for admissions, and government sources. Perhaps the most important deposition to be taken by a plaintiff is that of the defendant's expert or experts to determine how the defense intends to prove that the oil and gas operator did not cause the contamination.

It is important that the plaintiff's expert work with and prepare plaintiff's counsel for deposition of the defense expert. Plaintiff's expert should attend the deposition to aid in questioning, as well as to help analyze and rebut the defense expert's points.

Almost all water well contamination cases will involve a battle of the experts regarding causation. However, occasionally questions of the pre-existing condition of the water may be raised as a defense. Without a scientific baseline of the quality and quantity of water before the oil or gas well was drilled, it becomes necessary for a plaintiff to prove the prior pureness of the well water through historical anecdotal evidence. This evidence can sometimes be found by contacting the driller of the water well if it was drilled within the last decade or so. Many water well drillers maintain their businesses in the same communities for long periods of time and often keep records of all wells they have drilled in the area for future reference. Second, counsel should contact prior owners of the property who can testify about the purity, taste, and sweetness of the well water.

Counsel should also attempt to have his expert determine if any other property owners draw their water from the same aquifer. Those people should be contacted to determine what baseline information they may have regarding their water. The expert can then infer that the water at the client's property would be the same since both are drawing from the same aquifer. This information may also prove that the aquifer is showing signs of contamination or, if these neighboring wells are not contaminated at the time of investigation, may indicate the direction of groundwater movement.

In a case recently tried in the Gallia County Court of Common Pleas in Ohio, the defendant, a coal company, seriously challenged the landowner's allegation of contamination since the particular parameters that were claimed by the owner to be elevated and thus polluting were those that, to some degree, naturally occur in that area. Since there was no historical chemical analyses of the water supply prior to mining, plaintiff was prepared to put on the stand a former owner of the property, who was, at that time in his nineties, to testify that the spring in question had always run pure and clean and had never had any sulfur smell or caused orange or black staining. The plaintiff was also prepared to put on the stand a veterinarian to testify about the effects on livestock that drink water contaminated with sulfates, iron, and manganese. However, the testimony became unnecessary when the plaintiff's motion for partial summary judgment on the issue of causation was granted.

Prior to the damage suit, the state regulatory agency had filed an enforcement action against the coal company to require replacement of the water supply. At the hearing on the appeal of the enforcement action, the agency proved that the elevated parameters in the landowner's water were caused by the mining. Although that determination was successfully used offensively in plaintiff's motion for partial summary judgment to collaterally estop retrial of the issue of causation, the administrative hearing board had also determined that the contaminated spring was not a protected water source under state law and, therefore, need not be replaced. This holding seriously hampered the plaintiff's action for damages since plaintiff's contention was that the loss of use of that spring for domestic and agricultural purposes prevented future farming. The court charged the jury that the measure of damages in a water pollution case was the cost of restoration and not the diminution in value standard typically applied in property damage cases.
returned a verdict for the plaintiff.

[f]--Proof of Causation.

Proving that defendant's activity caused contamination of the plaintiff's water is, as in most toxic tort cases, difficult. Wherever possible, the plaintiff should seek to shift the burden of going forward to the defendant by use of inferences and presumptions.

[i]--Statutory Presumptions.

Invocation of statutory presumptions shifts the burden of going forward with evidentiary proof of causation to the defendant to prove, by a preponderance of the evidence, that defendant's activities did not pollute plaintiff's water well. In the absence of countervailing evidence, the statutory presumption sustains the plaintiff's prima facia case on the issue of causation.

[ii]--Res Ipsa Loquitur.

The judicial inference of res ipsa loquitur is applicable only in the context of negligence claims. The doctrine provides an inference of negligence and, in some instances, causation in circumstances where logic or policy dictate that the harm suffered by plaintiff would not have occurred but for the negligent conduct of the defendant. To invoke the doctrine, a plaintiff must show that harm of the sort suffered would not occur in the absence of negligence, control over the instrumentality causing the injury was in the exclusive control of the defendant, and the plaintiff did nothing to contribute to the occurrence. Upon a successful invocation of the doctrine, the burden of proof of showing non-negligence shifts to the defendant.

[iii]--Violation of Law or Rule.

Highly regulated industries, such as oil and gas extraction, must comply with a myriad of federal and state regulatory standards. These standards establish minimum acceptable standard of conduct. Plaintiff's counsel should examine regulatory requirements for the conduct of oil and gas operations to determine if a particular defendant has, in fact, complied with the minimum acceptable standard. For example, Ohio establishes specific safety practices for drilling and producing oil and gas wells, for enhanced recovery operations, and for injection wells. Ohio further requires the presence of an inspector when an injection well owner intends to begin underground injection. The injection zone must be 50 feet below the deepest underground source of water. The operator's failure to comply with those safety requirements may establish liability strictly as a matter of law.

[iv]--Industry Custom and Practice.

In the unlikely event that state or federal law does not establish liability, plaintiff's expert should carefully compare the defendant's conduct with industry custom and practice. Thus, for example, where industry custom and practice in building process water holding ponds calls for an impervious liner to prevent leakage absent mitigating factors, the failure to install a liner may establish a breach of the industry's standard of care.

In a recent water well contamination case where the author represented the plaintiff, a single chemical analysis of the client's water revealed certain contaminants, which were identified by the state chemist as drilling fluids commonly associated with oil and gas drilling. Although the only defendant in the case was the owner/operator of an oil well within 1,000 feet of the plaintiff's water well, there were several other active and abandoned oil and gas wells nearby. No other sample of plaintiff's water showed the presence of
these fluids. The plaintiff was prepared to introduce evidence that the contaminant found in that single sample was a drilling detergent commonly used in the industry even though it could not be conclusively proved by the State or the plaintiff's expert that the fluid emanated from defendant's oil well. In that case, the defendant denied using those fluids at that particular well site. The case was settled before trial.\(^{(129)}\)

\section*{§ 21.03. Remedies.}

A plaintiff may seek equitable relief, monetary damages, or both. The appropriate measure of damages depends on the unique factual circumstances of each case. It is now commonly accepted that, in toxic tort cases, damages may run the gamut from loss of use to punitive damages. It is beyond the scope of this overview to discuss possible remedies and damages in detail.

\[1\]--Equitable Relief – Abatement and Replacement.

Injunctive relief -- together with loss of use, annoyance, and inconvenience damages -- requiring replacement of a contaminated water well is the only relief one may seek under statutes, such as the Pennsylvania Oil and Gas Act, which specifically provide for water replacement.\(^{(130)}\)

The statutory savings clause may allow the plaintiff to recover damages for temporary water supplies (such as obtaining bottled water), annoyance, inconvenience, and loss of use (such as going to a laundromat during the period of no water), in addition to permanent water replacement.

\[2\]--Damages.

Where the plaintiff elects to seek monetary damages, the facts of each case and the law of the jurisdiction will determine the appropriate type and measure of damages available. Some courts have determined that reclamation being the \textit{raison d'etre} for environmental statutes, the appropriate measure of damages is the cost of restoration.\(^{(131)}\)

Most jurisdictions, however, follow the rule that, in cases of property damage, the appropriate measure of damages for permanent injury to real property is the diminution in property value caused by the pollution.\(^{(132)}\) This rule has been criticized because its effect is to grant to the defendant the power of condemnation\(^{(133)}\) and the right to pollute. The true cost of the pollution is not the impact on property value, but its impact on the public health and environment. It seems, therefore, that, restoration costs should be the appropriate measure of damages in water pollution cases.

Where the plaintiff has suffered injury from using or drinking the contaminated water, damages for personal injury, impairment of quality of life, "pain and suffering," emotional distress, cancer phobias, increased risk of future illness, and medical monitoring may be recoverable.\(^{(134)}\) Where the loss of a water supply harms business, provable business losses may be recoverable.\(^{(135)}\) Response costs under CERCLA\(^{(136)}\) are recoverable.\(^{(137)}\)

\[3\]--Punitive Damages – Is the Defendant Really Stupid, Really Mean, or Both?

Punitive damages are currently in a state of flux. As this Chapter is being penned, the United States Supreme court is considering the question of punitive damages in \textit{TXO Production Corp. v. Alliance Resources Corp.}\(^{(138)}\) In \textit{TXO}, Justice Neely of the West Virginia Supreme Court opined that punitive damages may be appropriate where the defendant engaged in conduct which was "really stupid or really
Generally punitive damages are not recoverable unless the defendant's conduct is intentional or deliberate, marked by indifference and disregard for law, or amounts to outrageous conduct. In *Sterling v. Velsicol Chemical Co.*, the district court went a step further and found that the defendant's trial counsel's conduct in the litigation was sufficiently outrageous to award punitive damages. However, that part of the punitive damages award was reversed on appeal for fear it would chill trial advocacy. In *TXO*, the Supreme Court of Appeals of West Virginia chronicles cases of punitive damage awards from the date of decision of *Haslip* to date of the TXO decision in an attempt to determine if there is any "ratio" of compensatory damages to punitive damages that seems fair and rational.

[4]--Attorney and Expert Fees, Expenses, and Costs.

As a general rule, attorney fees and other litigation costs are not recoverable absent statutory authorization. Thus, plaintiff's counsel must examine the pertinent statutes to determine if fees and costs are recoverable. The Supreme Court has dealt with the issue of reasonable fees for attorneys and determined that risk enhancers are not available.

Unless required by federal mandate, state environmental statutes typically do not provide for fee shifting. In Pennsylvania, for example, the 1980 amendments to the Clean Streams Law provided for attorney and expert fees in the court's discretion. Those amendments were necessary for Pennsylvania to obtain primacy under SMCRA.


[a]--Notice to Adjacent Owners and Survey of Adjacent Lands – Water Supplies.

Whether required by law to do so or not, oil and gas operators, in the course of prudent business judgment, should give written notice, at least, to adjacent landowners that oil and gas operations are going to occur nearby. The operator should offer to conduct a pre-operation survey of adjacent property specifically to locate and confirm the quality and quantity of each water source on the land. This background information will provide evidence of baseline conditions as to any future claims of water quantity or quality loss. Indeed, surveys during dry and wet seasons can often be nearly conclusive regarding water quality and, under diminished flow conditions, quality can be influenced. Too often, operators have no background data and are faced with having to refute anecdotal evidence of water quality and quantity. Given a choice, all other things being equal, juries will generally believe the landowner's evidence of the nature of the water supply.

Oil and gas operators can take note of coal operators' recent effective use of the pre-subsidence surveys of structure, similar to the required pre-blasting survey under SMCRA, as an effective tool in establishing the baseline data points prior to operations.

[b]--Pre-Operations Agreement.

Before beginning operations, operators may approach landowners who could be affected by their operations and enter into agreements whereby the landowner waives rights under statute and common law in exchange for an up-front payment of cash together with a plan for the treatment or restoration of water. In so doing,
the operator substitutes tort litigation for a breach of contract or even an arbitration remedy, while the landowner obtains a cash payment and a promise of performance she hopes will, in some measure, be better than that provided by tort law. Of course, the agreement must be explicit to operate as an effective waiver of the landowner's statutory rights.(150)

[c]--Participation in Permit Process – Citizens as Consultants.

Historically, oil and gas operators have eschewed public participation. However, in today's climate of openness and informed decision-making, operators should not try to avoid the public participation process. In fact, operators should encourage it and welcome citizen participation. After all, citizens' comments on application deficiencies will strengthen the operator's technical position (assuming the deficiency noted can be cured) and help assure permit issuance. Often, the citizens hire engineers, geologists, and other experts who review the operator's plans and offer advice on how to improve the application process and the conduct of the activity. In this regard, the operator is obtaining free consulting services. Inviting active public participation also provides the operator with an argument that citizens' active participation constitutes an informed consent to the activity, particularly where no appeal from the issuance of the permit is taken.

[d]--Water Supply Replacement/Treatment Plan.

Operators should include in their applications a water replacement or treatment plan that, once pointed out to concerned citizens, often will help allay their fears of water loss. Not only will the plan come under scrutiny during the application process, but any later suits for water replacement by citizens who participated in the permit application review process can be defended on implied consent grounds. Having participated in the review process and having been informed by the regulatory agency that the plan approved in the permit complies with requirements of law, a citizen could not easily argue in subsequent litigation that the water replacement plan was illegal or inadequate or that a violation of law has occurred, particularly if the citizen did not appeal the permit issuance. Under this scenario, punitive damages would probably not be recoverable and any compensatory damage award could be greatly reduced.

[e]--Public Water Supply.

Where water replacement is by a cost-free public water supply, the value of the property is, arguably, enhanced by the addition of a steady, reliable, pure water supply. Water wells are often unreliable, odorous, and laden with dissolved minerals. Replacement of a water well with public water should increase the value of the affected property, thereby mitigating any damage recovery by an affected landowner.

[2]--Some Classic Litigation Defenses.

[a]--Statute of Limitations – The Permanent/Temporary Distinction in Nuisance Law.

While, as a general rule, statutes of limitations do not bar actions for continuing nuisances, some authority exists for the proposition that, once a nuisance becomes permanent and the injury to land has occurred, the plaintiff must bring an action within the prescribed time period for property damage claims.(151) Defendants often argue permanent nuisance,(152) invoking the statute of limitations defense.(153)

[b]--Equitable Defenses.
[i]--Laches.

Defined as an "unreasonable delay" in asserting a claim and corresponding prejudice to the defendant, laches depends on the individual peculiarities of each case. Occasionally, courts will accept the defense despite its current disfavored status.

[ii]--"Coming to the Nuisance," Consent, and Assumption of Risk.

The Restatement (Second) of Torts declares that who was there first is only one factor to be considered in determining if the nuisance is actionable. The defense is not popular in the courts and has been characterized by some writers as not a serious obstacle. However, where the defense is characterized as an informed consent to locate near the nuisance and plaintiff derives a benefit from the location, such as reduced land cost, the plaintiff may not be allowed to gain twice, first for the bargain sale price and then from damages for nuisance.

[c]--State of the Art, Best Available Technology, Permitted or Lawful Activity Defense.

Another defense that is rapidly losing validity is the defense that an activity allowed by law is not a nuisance, especially where it uses state of the art technology. In Sterling v. Velsicol Chemical Co., the defendant argued that, when it engaged in the business of hazardous waste disposal in 1964, "it exceeded the then known state of the art in its selection, implementation and operation of its chemical waste burial site." Velsicol also argued that its activities were legally permissible and, indeed, authorized by subsequent statutory enactments. Velsicol urged the court to view its activities, not as they might appear at the time of trial, but rather as they were from 1964 to 1973, the period of use. The district court rejected these defenses, perhaps in large part due to the egregious nature of the harm inflicted on the plaintiffs. In Branch v. Western Petroleum, Inc., the court rejected the lawful business defense finding that conducting a "wholly legitimate business . . . does not give it license to dispose of waste" in a manner that harms others.

Professor Rodgers notes in his discussion of the topic that the validation of yesterday's common law nuisance, either by regulation of place (zoning siting laws) or manner of operation (best available technology), does not generally preempt common law torts and, indeed, these enactments "continue to be used offensively by plaintiffs with ease and defensively by defendants with difficulty." Professor Rodgers finds that these defenses are "almost always unavailing." Except where the statute clearly exempts the activity from liability on preemption principles, these defenses are rapidly becoming relics of the past.

[d]--Release, Waiver, and Bar.

In Fischer v. Atlantic Richfield Co., the defendant raised the defense that a release from liability contained in a 1963 lease and several subsequent releases insulated it from liability for pollution of the landowner's property. The court rejected the defense, holding that contracts authorizing a violation of law are void as against public policy. In addition, the court rejected the releases because they did not expressly release defendant from liability for groundwater pollution.
In *Cogar v. Sommerville*, the Supreme Court of Appeals of West Virginia rejected a waiver of liability in broad form deed from damages caused by coal mining as amounting to a release of the 300 foot buffer (no mining) zone of the West Virginia Surface Mining Act and its federal counterpart, SMCRA. It held that waivers must be "knowingly made" by the releasor and the subject matter must be within the ordinary contemplation of the parties. The court stated: "It would be impossible to conceive that the parties to old severance deeds would have any contemplation of waiving future statutory rights."

Nine months later, the West Virginia court, in *Russell v. Island Creek Coal Co.*, retreated somewhat from its position in *Cogar*. Here, it found that a lease executed in 1972 waived water replacement rights under West Virginia SCMRA, enacted eight years later. Apparently, the decision in *Russell* turned on the "knowing" aspect of the contract.

In *Evangelinos v. DOR*, an appellate Ohio court agreed with the administrative agency's determination that a 1965 severance deed effectively waived the 300 foot mining buffer zone contained in the Ohio Surface Mining Law enacted nearly 15 years later.

These cases inform that, to be effective, a contract insulating an oil and gas operator from liability under a statute must expressly state what is being released, identify the law being waived, and state that compliance is shifted to the landowner in exchange for adequate consideration.

[e]--Standing.

The *Restatement (Second) of Torts* requires that one must have property rights to sue for private nuisance. Where the action sounds in public nuisance, most jurisdictions hold that, unless the plaintiff can show injury "different in kind" from that suffered by the public, the plaintiff does not have standing to sue. State statutes generally require that to have standing to sue, one must be "aggrieved" or "adversely affected."

[f]--Res Judicata and Collateral Estoppel.

Prior proceedings before a state or federal administrative agency or other tribunal on fact issues bearing on the plaintiff's claims may give rise to claim preclusion (*res judicata*) and issue preclusion (collateral estoppel) defenses. Generally, *res judicata* and collateral estoppel principles prevent subsequent litigation regarding claims or issues decided in prior litigation where the parties or their privies appeared, the issues presented were substantially similar, and the parties received a full and fair opportunity to participate. Thus, for example, where a governmental agency has taken action against an operator by issuing a notice of violation (NOV) and, after hearing, the NOV was vacated or the proceeding otherwise ended favorably to the defendant, the defendant may later use the preclusive effect of the ruling as a defense to certain issues raised in the water well pollution claim.

[g]--Preemption and Statutory or Administrative Remedy.

While, generally, statutory savings provisions preclude any preemption argument, recent decisions have given the principle new vitality. In *International Paper Co. v. Ouellette*, the Supreme Court held that the federal Clean Water Act preempts the affected state's law of nuisance in an action against an interstate polluter in favor of the law of the source state. The decision has prompted scholarly debate. As a general rule, however, state and federal statutes have seldom been held to preempt actions at common law.
Exhaustion of administrative remedies, on the other hand, is still a viable defense to an action seeking injunctive relief. In those instances where a statute, such as the Pennsylvania Oil and Gas Act, creates an alternative administrative remedy for water replacement, failure first to seek the administrative remedy may bar a civil suit for replacement water. However, a suit for damages would not be subject to the exhaustion defense since the statutory remedy does not provide for damages.

[h]--The Utility Defense.

The Restatement (Second) of Torts provides that, in considering the utility of defendant's conduct, one must examine:

(a) the social value which the law attaches to the primary purpose of the conduct;

(b) suitability of the conduct to the character of the locality; and

(c) the impracticability of preventing or avoiding the invasion.

Thereafter, in balancing the utility of the activity against the harm it creates, the Restatement (Second) requires consideration of the following factors:

(a) the extent of the harm involved;

(b) the character of the harm involved;

(c) the social value which the law attaches to the type of use or enjoyment invaded;

(d) the suitability of the particular use or enjoyment invaded to the character of the locality;

(e) the burden on the person harmed of avoiding the harm.

In a classic case of balancing the harm imposed against the utility of the activity, the West Virginia supreme court grappled with the utility of a water well intentionally drilled by Stalnaker near where he knew his neighbor, Hendricks, intended to put his septic system. Under West Virginia law, no septic system may be located within 100 feet of a water well. Since there was no other location for the septic system on his land except within 100 feet of Stalnaker's well, Hendricks sued Stalnaker for unreasonable interference with the use and enjoyment of his property. After discussion, the court essentially decided that, since the Restatement (Second) balancing test did not tip appreciably in either litigant's favor, first in time was first in right.

In the nuisance setting, the balance test still offers a defendant engaged in legitimate but polluting activities an escape from closure, if not from damages. On balance, a private plaintiff's right to the use and enjoyment of property will seldom outweigh an industrial polluter's utility in providing jobs and products. Thus, it has been suggested that any balancing should involve the remedy of damages or closure, and not the utility against harm.

Plaintiff misconduct is not a defense to a nuisance action where liability is predicated on trespass, an abnormally dangerous activity, or a violation of law. Where the plaintiff's underlying theory is negligent conduct by the defendant, plaintiff's own negligent actions are relevant as in any tort action based on the defendant's failure to exercise reason-able care.
[j]--Plaintiff's Sensibilities.

The Restatement (Second) model requires that the harm imposed be weighed by reference to a "normal person in the community." Thus, the hypersensitive plaintiff may not recover where the invasion is not "unreasonable to the person of normal sensibilities." However, it has been pointed out that the defense of "abnormal sensitivity is in retreat in nuisance cases." Since pollution policy, as expressed in legislative enactments, is for the protection of all persons, the justification of pollution on the ground that this particular plaintiff is not within the protected class runs counter to modern day social policy and environmental concerns.

[k]--Correlative Rights, Reasonable Use Doctrine, and Prescriptive Rights.

A prescriptive right to continue a nuisance and violate law is no longer a viable defense to a water well pollution case, nor is there a right to use one's water for purposes of disposing of contaminants. Professor Dellapenna finds it remarkable that allocational rules are not often used in resolution of water pollution disputes. However, Professor Sax, et al., note that "tort law seems a more logical tool" to resolve water contamination than allocation doctrines since these doctrines would place little if any constraints on groundwater pollution.

[3]--Causation as a Defense.

Probably the best all-round defense to a lawsuit for contamination of a water well is the difficulty of proving that the defendant's activities caused the contamination. Absent a statutory presumption or judicial application of res ipsa loquitur, proof of causation is the single absolutely essential element necessary for any plaintiff to be successful under any theory of liability. An emerging effective defense strategy is to attack the plaintiff's proof of causation, nearly always obtained through expert testimony, on grounds of the science base.

[a]--The "Junk Science" Defense.

Where causation emerges as a serious question of proof, defense counsel should consider requesting the court to make a preliminary ruling on the trustworthiness or the reliability of the science advanced by plaintiff as proving causation. While most of the debate rages in the arena of medical cause and effect as in the Bendectin cases, questions regarding the validity of application of certain methodologies or extrapolations to prove that an act caused a certain result continue. The requirement that, before scientific opinion evidence can be admitted as evidence, it must be of a type generally accepted in the scientific community comes from United States v. Frye.

In Renaud v. Martin Marietta Corp., Inc., the court found that use of a single water sample taken in the water was insufficiently reliable to prove, through expert testimony, that the plaintiff had been exposed to contaminants 11 years earlier. The court went on to say that a single data point is not of a kind reasonably relied on by experts in the particular field in reaching conclusions. Not without its critics, the junk science defense has achieved some prominence in recent years. The United States Supreme Court is expected to issue an opinion addressing the issue in Daubert v. Merrill Co.

If the science cannot be attacked, then the defense may introduce evidence that such factors as geology, distance, and time argue strongly against the defendant's conduct being the cause of the contamination.
or that plaintiff has not proven its case.

[4]--Defenses to Statutory Causes of Action.

Generally, federal statutes provide a 60 day window of opportunity to the government and polluters, after written notice of the plaintiff's intent to sue, to take action. Many state statutes implementing delegated federal regulatory programs as to water pollution contain similar provisions. Other questions a defendant may raise include standing, ripeness, mootness, exhaustion, and primary jurisdiction.


Federal Rule of Civil Procedure 56 provides that any party to a lawsuit may move for summary judgment if the pleadings, discovery, and supporting affidavits show that there is no genuine issue as to any material fact. A defense motion for summary judgment is particularly effective since it will require the plaintiff to produce evidence that a question of material fact exists sufficient to get the case to the jury. Thus, if discovery has not already revealed the proof of each element of the plaintiff's case, the motion for summary judgment can flush it out. While groundless summary judgment motions may subject the movant to sanctions, where the plaintiff's proof rests on science that can be attacked as untrustworthy or unreliable, court's often scrutinize the reliability, trustworthiness, and admissibility of that evidence, which can reveal, not only the plaintiff's theory of the case, but also may successfully challenge the plaintiff's proof. If nothing else, it will provide the defense with a pretrial peek at the plaintiff’s evidence.

§ 21.05. Conclusion.

As in any toxic tort case, plaintiff's counsel must evaluate the particular facts presented in a water well contamination case in light of the state's regulatory enactments, as well as its common law, and select the causes of action which have the best chance of success. Usually, causes of action based on statutory provisions have the best chance of success because the government can, and usually will, use its enormous resources to assist the plaintiff in proving a violation of law.

An effective defense strategy develops well before any litigation by inviting the participation of the potentially impacted community in the permitting process and by pre-operations surveys establishing baseline conditions. Obtaining agreements for water replacement can significantly reduce the number of claims that end up in litigation.

After litigation is filed, the defense strategy will largely be dictated by what was in place before operations began and by any governmental response to the plaintiff's claim. Comparing the relatively low cost of drilling a new water well to litigation costs, oil and gas operators may be well advised to drill a new well even in questionable cases. Ultimately, the expenditure for one well may be cheaper than defending an action to abate groundwater pollution brought by a class lead by the incensed landowner.


10. 5. 42 U.S.C. § 300h-1(c).


12. 7. 40 C.F.R. § 144.1.

13. 8. 40 C.F.R. § 144.1(g).

14. 9. 40 C.F.R. § 144.11.

15. 10. 40 C.F.R. §§ 144.6(a) & 146.5(a).

16. 11. 40 C.F.R. §§ 144.6(b) & 146.5(b).

17. 12. 40 C.F.R. §§ 144.6(c) & 146.5(c).

18. 13. 40 C.F.R. §§ 144.6(d) & 146.5(d).

19. 14. 40 C.F.R. §§ 144.6(e) & 146.5(e).

20. 15. 40 C.F.R. § 144.3.

21. 16. 40 C.F.R. § 144.55.

22. 17. 40 C.F.R. § 144.21(a)(3)(ii) & (b).

23. 18. 40 C.F.R. § 144.22.

24. 19. 40 C.F.R. §§ 144.28, 146.22(d)(2).


35. 30. Restatement (Second) of Torts § 822 at 108 (1977).


38. 33. Rodgers at § 2.4, p. 42; Richman, Klein, & Kale, "Toxic Tort Litigation: Theories of Liability and Damages," Environmental Litigation 93 (1991); Restatement (Second) of Torts § 821C at 94.

39. 34. Restatement (Second) of Torts § 821F at 105 (1977) reads:

There is liability for a nuisance only to those to whom it causes significant harm, of a kind that would be suffered by a normal person in the community or by property in normal condition and used for a normal purpose.


43. 38. "[T]he proliferation of statutes in recent times has pushed common law nuisance into a secondary role, and into the category of also-mentioned deep in counts seven or eight of the complaint." Rodgers at 1992 Supplement 4-5.


45. 40. Restatement (Second) of Torts § 821 (1977).


55. 50. Restatement (Second) of Torts § 158.


57. 52. L.R.3 H.L. 330 (1868).


59. 54. The Restatement (Second) of Contracts requires that a third party benefit be intended. Otherwise the benefit is incidental and unenforceable by the incidental beneficiary, a stranger to the contract. Restatement (Second) of Contracts § 315 (1979).

60. 55. 7 H.R. Williams & C.J. Meyers, Oil & Gas Law § 699.1, pp. 11-12, suggest the following clause for inclusion in an oil and gas lease:

Lessee shall comply with all state, federal and local laws and with the rules, regulations, and orders of any federal, state or other
governmental agency having jurisdiction in the premises with respect to the spacing of, drilling for or producing of wells, or other operations for oil or gas, and if there by any conflict between the same and the provisions of this lease, such laws, rules, regulations and orders shall modify or supersede, as the case may be, the relevant provisions of this lease.

61. 56. Restatement (Second) of Contracts § 302 at 442-43 (1979).

62. 57. 468 S.W.2d 239 (Ark. 1971).

63. 58. Id. at 241.

64. 59. The Poisoned Well 129.


69. 64. Suggested by The Poisoned Well 103.

70. 65. See 40 C.F.R. 144.147. See text, supra, at § 21.02[a] & [b].


73. 68. See, e.g., U.S. v. Price, 688 F.2d 204, 214 (3d Cir. 1982).


76. 71. Pennsylvania Department of Environmental Resources (DER).


91. 86. Ohio Rev. Code § 1509.22.


112. 107. *Id.*

113. 108. 293 F. 1013 (D.C. Cir. 1923).

114. 109. See Renaud v. Martin Marietta Corp., 972 F.2d 304 (10th Cir. 1992), holding that extrapolation of a single sample point to describe contamination over a period of 11 years is unsound scientific practice.


117. 112. The parameters were iron, sulfate, and manganese.

118. 113. See J.C. Bell, Jr., "Proving Causation," 24 *Trial* 50 (October 1988).

119. 114. See Fed. R. Evid. 301; accord, e.g., Ohio R. Evid. 301 and West Va. R. of Evid. 301; see also, text, *supra*, at § 21.02[3][b].


125. 120. Ohio Admin. Code § 1501:9-3-05(A)(5).


129. 124. See Renaud v. Martin-Marietta Corp., 972 F.2d 304 (10th Cir. 1992) (single data point not sufficiently trustworthy to allow extrapolation that plaintiff was exposed to contamination for preceding 11 years).

130. 1. See text, supra, at § 21.02[3]; see also, Citizens Organized Against Longwalling v. DOR, 535 N.E.2d 687 (Ohio Int. App. Ct. 1987) (replacement water provided by public water supply must be "cost free").


138. 9. 419 S.E.2d 8780 (W. Va. 1992). [After this Chapter was written, the Supreme Court upheld the punitive damage award, 61 U.S.L.W. 4788, __ U.S. ____ (June 25, 1993) -- Ed.]

139. 10. 419 S.E.2d at 887.


142. 13. TXO, 419 S.E.2d at 887-90.

143. 14. See Table 2, supra, at § 21.02[3][a]. An Ohio appellate court has held that, where a statutory attorney fee provision uses language that the injured party may recover damages, including attorney fees, those fees are an element of damages. Otherwise, attorney fees are taxed as costs. Lecare v. Dearing, 596 N.E.2d 1097 (Ohio Int. App. Ct. 1991).


153. 7. Rodgers at § 2.10.

154. 8. *Id*.

155. 9. *Id*.

156. 10. *Restatement (Second) of Torts* § 840D (1977) states:

The fact that the plaintiff has acquired or improved his land after a nuisance interfering with it has come into existence is not in itself sufficient to bar his action, but it is a factor to be considered in determining whether the nuisance is actionable.


158. 12. See Kellogg v. Village of Viola, 227 N.W.2d 55 (Wis. 1975); Moore v. Blythe-ville, 612 S.W.2d 327 (Ark. 1981); Rodgers at § 2.9.


161. 15. *Id*.

162. 16. 657 P.2d 267 (Utah 1982).

163. 17. *Id*. at 274.


165. 19. *Id*. But see Landowski v. Grand Trunk Western R., 822 F.2d 600 (6th Cir. 1987) (Corps of Engineers' § 10 permit offers a
complete defense to an action for navigational nuisance).


167. 21. Id. at 618.


171. 25. Cogar, 372 S.E.2d at 769.

172. 26. Id.


174. 28. Id.


176. 30. Some courts have held that an operator on whom the law has imposed an obligation to restore land cannot contract away that obligation, nor can a prior judicial decision upholding such a contract shift the obligation to the landowner. See Quality Ready Mix, Inc., v. Mamone, 520 N.E.2d 193 (Ohio 1988). [For another discussion of the validity of common law waivers under statute in the coal mining context, see J.A. Woods, "The Continuing Viability of Subjacent Support and Subsidence Waivers: Fact or Fiction," 14 Eastern Min. L. Inst. ch. 10 (1993), supra, this Volume -- Ed.]


186. 40. Restatement (Second) of Torts § 826 (1977).

187. 41. Id. at § 827.


189. 43. Id.

190. 44. See Boomer v. Atlantic Cement Co., 257 N.E.2d 870 (N.Y. 1970); Rodgers at § 2.6.


193. 47. Restatement (Second) of Torts § 821F (1977).

194. 48. Rodgers at § 2.5, p. 50.

195. 49. See generally Rodgers at § 2.10; 1 H.R. Williams & C.J. Meyers, Oil & Gas Law § 217 (1992).


199. 53. 293 F. 1013 (D.C. Cir. 1923); see text, supra, at § 21.02[4][d].

200. 54. 972 F.2d 304 (10th Cir. 1992).

201. 55. Id. at 308.


203. 57. See text, supra, at § 21.02[2].

204. 58. 1993 WL 224478, ___ U.S. ___ (June 28, 1993) [The Court handed down its decision after this Chapter was completed -- Ed.]


206. 60. See Layton v. Yankee Caithness Joint Venture, 774 F. Supp. 576 (D. Nev. 1991) (mere presence of hydrogen sulfide in air on plaintiff's property did not prove it came from defendant's plant since there were many possible sources of hydrogen sulfide, including natural ones).

207. 61. See text, supra, at § 21.02[3], Table 2.