Oil and Gas Drilling and Production:
A Summary of Pennsylvania Law

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1. Overview and history

1.1 Prior to 1859, crude oil had been gathered from seeps and springs. It had been used for medicinal purposes and very small scale heating and lighting usage. Oil had also been found associated with water wells and other digging, but those crude oil sources were not dug for the purpose of gathering oil.

1.2 The first commercial oil well drilled for the sole purpose of finding oil in the United States was in Titusville, Pennsylvania. It was drilled in 1859 by “Colonel” Edwin Drake. Drake’s first successful well found oil at a depth of 69.5 feet below ground surface. Drake’s first well produced 20 barrels of oil per day.

1.3 From 1859 to 1901, Pennsylvania was responsible for one-half of the world’s production of oil.

1.4 Consider the following statistics:¹

1.4.1 Oil production in Pennsylvania (year / barrels of oil² produced):

1891 / 31,424,000.
1937 / 19,990,000.
1946 / 13,261,000.
1990 / 2,601,035.


² 1 barrel equals 42 gallons.
1.4.2 Natural gas production in Pennsylvania (year / Thousand cubic feet- Mcf- of gas produced):

- 1946 / 80,000,000
- 1960 / 119,671,000
- 1990 / 177,609,000
- 2000 / 137,463,310
- 2005 / 181,429,238

1.4.3 Number of wells (total oil and gas) in Pennsylvania as reported to DEP’s Bureau of Oil and Gas (year / number of wells / number of operators). It is worth noting that DEP reports that more than 350,000 oil and gas wells have been drilled in Pennsylvania. The Department also reports that it has information on more than 215,000 oil and gas well in Pennsylvania. Half of these are either inactive, abandoned or have been plugged.

- 1986 / 6,582 / 100
- 1990/ 7,942 / 100
- 2000 / 44,454 / 1,414
- 2006 / 63,566 / 1,582

1.5 For 1990, the Pennsylvania Geological Survey reported there was no (0) production in the Marcellus Formation and that the total cumulative production by the end of 1990 in the Marcellus formation was 75,930 Mcf.


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3 Oil and Gas Well Drilling and Production in Pennsylvania, DEP Fact Sheet, 5500-FS-DEP2018 (Apr. 2007) at 1.

4 Oil and Gas Well Registration, DEP Fact Sheet 5500-FS-1766 (Apr. 2007) at 1.
1.7 Bearing in mind that the estimates regarding the amount of natural gas are for the entire basin (including Pennsylvania, Maryland, New York and adjacent locations), the additional recoverable gas ranges between 50 times and 280 times more recoverable natural gas than was produced by Pennsylvania in 1990.

2. State regulatory issues

2.1 DEP’s Bureau of Oil and Gas Management (BOGM) was created in July 1982. The Bureau of Oil and Gas Management is responsible for the statewide oil and gas conservation and environmental programs to facilitate the safe exploration, development, and recovery of Pennsylvania's oil and gas reservoirs in a manner that will protect the Commonwealth's natural resources and the environment. The bureau develops policy and programs for the regulation of oil and gas development and production pursuant to the Oil and Gas Act, the Coal and Gas Resource Coordination Act, and the Oil and Gas Conservation Law; oversees the oil and gas permitting and inspection programs; develops statewide regulation and standards; conducts training programs for industry; and works with the Interstate Oil & Gas Compact Commission and the Technical Advisory Board. BOGM Regional Offices:

2.1.1 Northwest Regional Office, Meadville: 814-332-6860. Handles the entire northern half of Pennsylvania, roughly, the area north of Interstate 80.

2.1.2 Southwest Regional Office, Pittsburgh: 412-442-4024. Handles the southern half of Pennsylvania, roughly, the area south of Interstate 80.

2.2 The Commonwealth only began serious environmental regulation of some oil and gas drilling (mostly in coal areas) in 1956. Oil and Gas Well Registration, DEP Fact Sheet 5500-FS-1766 (Apr. 2007) at 1. Early regulation of well drilling in Pennsylvania involved some of the more onerous effects of oil and gas drilling. It should be noted that all of the following laws are still in effect:

2.2.1 Plugging of abandoned wells. Act of May 17, 1921, P.L. 912, 58 P.S. § 1.

2.2.2 Creation of cause of action for failure to plug abandoned well. Act of May 26, 1891, P.L. 122, 58 P.S. § 3.

2.2.3 Prescribed method for plugging abandoned wells and wells drilled through marketable coal seams. Act of May 17, 1921, P.L. 912, 58 P.S. § 4.

2.2.4 Creation of a misdemeanor for willfully allowing any oil or gas well to remain uncapped or the willful opening of any valve to admit air in a gas well. Act of May 17, 1921, P.L. 912, 58 P.S. § 6.

2.2.5 Establishment of rights of existing well owner vis a vis owners and operators of new wells. Act of May 17, 1921, P.L. 912, 58 P.S. § 9.
2.2.6 Right of action established benefiting persons performing labor or furnishing materials for any drilling, pumping or producing oil or gas well for recovery for labor done or materials furnished. Act of May 16, 1891, P.L. 41, 58 P.S. § 31.

2.2.7 Guaranteed minimum royalty payments: “A lease or other such agreement conveying the right to remove or recover oil, natural gas or gas of any other designation form lessor to lessee shall not be valid if such lease does not guarantee the lessor at lease [stet] one-eighth royalty of all oil, natural gas or gas of other designations removed or recovered from the subject real property.” Act of July 20, 1979, P.L. 183, Act No. 60, 58 P.S. § 33.

2.2.8 Escalation of royalties for existing oil and gas wells upon the alteration of the old well by new drilling, deeper drilling, etc.. Act of July 20, 1979, P.L. 183, Act No. 60, 58 P.S. § 34.

2.3 Overview of Pennsylvania’s oil and gas regulatory program.


2.3.1.1 Enacted in 1961, the Oil and Gas Conservation Law encourages the discovery, exploration and the development of resources while limiting waste of those resources. The act also regulates the drilling, equipping, locating, spacing and operating of oil and gas wells so as to protect correlative rights and prevent waste of oil and gas and to protect the rights of royalty owners and producers of oil and gas. A purpose of the act is to maximize the benefit of these natural resources. 58 P.S. §§401, 403, 405.

2.3.1.2 The OGCL recognizes that there has been extensive drilling in the upper horizons in which oil and gas have been found (the Pennsylvania and Mississippian Systems and the Upper and Middle Devonian Geological Series, the seams and strata above the Onondaga horizon). Therefore the act applies only to wells piercing the Onondaga horizon or that are over 3,800 feet deep. Act of July 25, 1961, P.L. 825 (Declaration of Policy).


2.3.2.1 Enacted in 1978, the Underground Storage Act regulates the underground storage of natural or artificial gas in natural or man-made caverns. The USA established a basis for the promulgation of regulations, bonding requirements (of $100,000 per facility) and established a regulatory basis for construction standards for underground storage facilities. It also gave the Department
regulatory enforcement authority over such facilities. 58 P.S. § 451.

2.3.2.2 The USA is very short on specifics, deferring to the Department to establish regulations governing underground gas storage.

2.3.2.3 The USA repealed the earlier Liquefied Petroleum Gas Act, Act of Dec. 27, 1951, P.L. 1793, No 475, and transferred regulatory authority from the Department of Labor and Industry to DEP’s predecessor, the Department of Environmental Resources.


2.3.3.1 Enacted in 1984, the purpose of the Coal and Gas Resource Coordination Act is to attempt to coordinate work and to resolve disputes between coal operators and gas producers. The act applies to most gas wells which penetrate a workable coal seam. By its own terms, the CGRCA does not apply to certain defined oil wells, injection wells or storage wells. The act also does not apply to wells permitted under the Oil and Gas Conservation Law, 58 P.S. §§ 401, et seq. 58 P.S. 503(b)(1).


2.3.4.1 Enacted in 1984, the Oil and Gas Act initially increased the Commonwealth’s responsibilities for permitting and regulating the oil and gas industry, over and above earlier piecemeal enactments, in order to protect the environment. The law also required reporting by drillers on drilling activities and production. The new law required either bonding or plugging of all wells, plus enforcement of regulations protecting wetlands and potable water supplies. Harper & Cozart, Oil and Gas Developments in Pennsylvania, supra at 38. The Oil and Gas Act is the principal mechanism for the regulation of the conservation of oil and gas and environmental aspects of oil and gas drilling and production in Pennsylvania.

2.3.5 Dormant Oil and Gas Act, Act of July 11, 2006, P.L. 1134, Act No. 115, 58 P.S. §§ 701.1, et seq. (DOGA)

2.3.5.1 Enacted in 2006, the act allows for the creation of trusts to benefit the owners of oil and gas rights where such owners are unknown and whose identity, present residence or present address is unknown and cannot be determined by diligent efforts. 58 P.S. § 701.4. The purpose of the DOGA is to allow for the development of oil and gas tracts where ownership of the oil and gas is
fragmented and difficult, if not impossible to determine. 58 P.S. § 701.2.

2.3.5.2 Once the trust and trustee are established, the trustee is authorized to execute and deliver oil and gas leases or other instruments allowing for the development of oil and gas. The county court of common pleas oversees the trustees and establishes conditions for terms of the leases. 58 P.S. § 701.4(c).

2.3.6 Oil and gas regulations: 25 Pa. Code chapters 78, 79.

2.3.6.1 Permits, transfers and objections, 25 Pa. Code §§ 78.11, et seq.


2.3.6.3 Well drilling, operation and plugging, 25 Pa. Code §§ 78.71, et seq.

2.3.6.4 Well reporting, 25 Pa. Code §§ 78.121, et seq.

2.3.6.5 Bonding requirements, 25 Pa. Code §§ 78.301, et seq.

2.3.6.6 Underground gas storage, 25 Pa. Code §§ 78.401, et seq.

2.3.6.7 Statements of Policy, 25 Pa. Code §§ 78.901, et seq.

2.3.6.7.1 Currently the only policy announced in the regulations is DEP’s policy on inspections. 25 Pa. Code §§ 78.902 – 78.905.

2.3.6.7.2 Other policies that are not published in the Pa. Code include the Oil and Gas Operators Manual. DEP Doc. No. 550-0300-001 (Oct. 30, 2001). Accessible at: http://www.dep.state.pa.us/dep/deputate/minres/OILGAS/Policies.htm


2.4 Permitting

2.4.1 Permitting is mandated and described in the Oil and Gas Act. 58 P.S. § 201. Explicit permitting procedures are laid out in the Act.

2.4.1.1 Well permits expire one year after issuance unless operations for drilling the well are commenced within such period “and pursued with due diligence” or unless the permit is renewed. If drilling is commenced within one year, it remains in effect until the well is plugged. 58 P.S. § 601.201(i).

2.4.1.2 An oil and gas operator who plans to drill a group of wells that will disturb five or more acres over the life of the project, must apply to DEP for a separate permit for storm water management. This “disturbed area” includes well sites and associated roads, pipelines and storage areas to be constructed.\(^5\)

2.4.1.3 Bonds are also required to be filed upon the filing of an application for a well permit and before continuing to operate any well. 58 P.S. § 601.215. The bond is a financial incentive to ensure that the operator will adequately perform the drilling operations, address any water supply problems the drilling activity may cause, reclaim the well site, and properly plug the well upon abandonment. The bond amount for a single well is $2500; a blanket bond to cover any number of wells is $25,000. Oil and Gas Well Drilling and Production in Pennsylvania, DEP Fact Sheet, 5500-FS-DEP2018 (Apr. 2007) at 2. DEP’s bonding requirements are extensive.

2.4.2 Objections to proposed permits may be filed by affected landowners. 58 P.S. § 601.202. Objections must be filed within 15 days of the receipt of notice of the plat. If no objection is filed, then DEP is required to proceed to issue or deny the permit. 58 P.S. § 601.202(a). Objections must be filed in accordance with the Act. 58 P.S. § 501.

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2.4.3 Registration: Existing and abandoned wells must be registered with DEP within 60 days of discovery of the well. 58 P.S. § 601.203.

2.4.3.1 DEP asserts that registration of wells enhances the Department’s ability to manage environmental protection and resource conservation associated with oil and gas drilling and production. By knowing the location of all wells, DEP can better coordinate resource conservation efforts and protect the interests of well operators, coal operators, water suppliers and landowners. Oil and Gas Well Registration, DEP Fact Sheet 5500-FS-1766 (Apr. 2007) at 1.

2.4.3.2 DEP also states that in areas underlain by coal, unregistered oil and gas wells can create hazards to mining operation. Registering such wells allows the Department and coal operators to be aware of wells in areas planned for mining, so they can protect miners’ safety. Id.

2.4.3.3 The registration fee is $15 per well or a blanket fee of $250 for all wells registered at the same time. A bond is not required for a registered well. Id.

2.4.4 Inactive status: Permitted and registered wells may be placed in inactive status so long as measures are taken to prevent pollution from emanating from the well. 58 P.S. § 601.204.

2.4.5 Wells may not be drilled within certain distance limitations:

2.4.5.1 Wells may not be drilled within 200 feet from any existing building or water well without the written consent of the owner thereof. 58 P.S. § 601.206(a). Variances may be granted where the distance limitation would deprive the owner of the oil and gas of the right to produce or share in the oil or gas.

2.4.5.2 Wells may not be prepared or drilled within 100 feet from any stream, spring or body of water, or within 100 feet of any wetlands greater than one acre in size. Under certain conditions, this distance limitation may be waived by DEP. 58 P.S. § 601.206(b).

2.4.5.3 Although the Oil and Gas Act does not prescribe any distance limitations for certain facilities, DEP is required to consider the impact of the proposed well on public resources, including (but not limited to):

2.4.5.3.1 Publicly owned parks, forests, game lands and wildlife areas.

2.4.5.3.2 National or state scenic rivers.
2.4.5.3.3 National natural landmarks.

2.4.5.3.4 Habitats of rare and endangered flora and fauna and other critical communities.

2.4.5.3.5 Historical and archaeological sites listed on Federal or state lists of historic places. 58 P.S. § 601.205(c).

2.5 Environmental concerns.

2.5.1 Well site restoration: owners and operators of oil and gas wells are required to restore the land surface within the area disturbed in siting, drilling, completing and producing the well. 58 P.S. § 601.206(a).

2.5.2 Erosion and sedimentation control measures: During earth moving or soil disturbing activities, erosion and sedimentation control measures are required to be implemented in accordance with the erosion and sedimentation control plan requirements of The Clean Streams Law. 58 P.S. § 601.206(b). DEP’s erosion and sedimentation control regulations may be found at 25 Pa. Code §§ 102.1, et seq.

2.5.3 The drill site is required to be restored after completion of drilling or plugging a well. Failure to properly restore the site is a violation of the Oil and Gas Act. 58 P.S. §§ 601.206(c) – (g).

2.5.4 Protection of fresh water: Well operators are explicitly required to protect fresh groundwater supplies from gas, fluids, brines and other substances relating to drilling. 58 P.S. § 601.207.

2.5.4.1 Under Pennsylvania law, groundwater is explicitly defined as a “Water of the Commonwealth” in addition to surface water. The Clean Streams Law, 35 P.S. § 691.1. Under the law, the protection of groundwater is as important as protection of surface water.

2.5.4.2 The Oil and Gas act explicitly references The Clean Streams Law, cross referencing that act into the Oil and Gas Act. 58 P.S. § 601.207(a).

2.5.5 Special protection of the environment is required where coal seams have been removed and also where coal seams are present, but have not been removed. 58 P.S. §§ 601.207(c), (d).

2.5.6 Protection of drinking water: Additional protection of water supplies are also mandated by the Oil and Gas Act. These include the restoration and replacement of water supplies when the well operator has polluted or diminished the drinking water. 58 P.S. § 601.208(a).
2.5.6.1 Rebuttable presumption: The Act contains a rebuttable presumption that the oil or gas well operator is responsible for the pollution of a water supply that is within 1,000 feet of the oil or gas well, where the pollution occurred within 6 months of the completion of drilling or alteration of that well. 58 P.S. § 601.208(c).


2.5.8 Orphan wells. An orphan well is any well abandoned prior to the effective date of the Oil and Gas Act “that has not been affected or operated by the present owner or operator and from which the present owner, operator or lessee has received no economic benefit, except only as a landowner or recipient of a royalty interest from the well.” 58 P.S. § 601.103.

2.5.8.1 In 1992, amendments to the Oil and Gas Act allowed DEP to designate an abandoned well with no identifiable operator as an orphan well. Orphan well status, when approved by DEP, exempts landowners, leaseholders and well operators from the obligation to plug such wells on their properties, provided they received no economic benefit from the well after April 1979. Oil and Gas Well Registration, DEP Fact Sheet 5500-FS-1766 (Apr. 2007).

2.5.8.2 DEP has the right to enter upon orphan well sites and plug abandoned wells and to sell any equipment at the abandoned well site used in production of the well in order to recover the costs of plugging. It should be noted that the cost of such plugging “shall have priority over all liens on the equipment and the sale is “free and clear of any such liens to the extent the costs of plugging exceed the sale price.” 58 P.S. § 601.210(e). \(^6\)

2.5.8.3 DEP advises that state funding is currently available for plugging orphan wells through use of permit fees and through the Commonwealth’s Growing Greener fund. According to the Department, it plugs “hundreds” of abandoned or orphan wells every year. Oil and Gas Well Drilling and Production in Pennsylvania, DEP Fact Sheet, 5500-FS-DEP2018 (Apr. 2007) at 2.

2.6 Reporting requirements.

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2.6.1 The Oil and Gas Act contains requirements for annual reporting on the amount of production from all wells. Such reports are kept confidential for five years. 58 P.S. § 601.212. DEP and the Department of Conservation and Natural Resources (DCNR) issue reports on production using this information in an aggregated format (not identifying individual wells).

2.6.2 Well drilling records are also required to be filed with DEP. This must be filed within 30 days of the cessation of drilling.

2.6.3 Owners and operators of wells are required to notify DEP of the sale, assignment, transfer, conveyance or exchange of any well. Any transfer does not relieve the original owner of any regulatory obligations it had prior to the transfer. 58 P.S. § 601.213.

2.7 Coal operators / oil and gas operators responsibilities

2.7.1 For any coal mine located within 500 feet of any oil or gas well (of which the coal operator has knowledge or any approved well location), prior to removing coal or other materials, the coal operator must file with DEP plans which show the pillar of coal which the coal operator proposes to leave in place in the projected mine workings around each oil or gas well. Mining may be conducted to within 150 feet of any well or approved well location. A mechanism is provided for working out disputes between coal operators and the operators of oil and gas wells. Extensive requirements are contained in the Oil and Gas Act and regulations for notice, conferences and mining adjacent to existing or proposed well locations. 58 P.S. § 601.214.

2.7.2 In an area underlain by a coal seam that can reasonably be expected to be mined by underground methods, gas well operators may not place wells closer than 1,000 feet apart. Where mining advances toward and around a gas well, the mine operator must leave an undisturbed block of coal around the gas well adequate to protect both the integrity of the well and the public health and safety. Landowners and Oil and Gas Leases in Pennsylvania, DEP Fact Sheet, 5500-FS-DEP2834 (Apr. 2007).

2.7.3 A coal operator may mine through a plugged oil or gas well in accordance with the Oil and Gas Act and regulations. 58 P.S. § 214(f).

2.8 Underground Gas Storage


2.8.2 The Oil and Gas Act contains extensive requirements for the storage of natural gas in underground formations. 58 P.S. §§ 601.301 – 601.307.
2.8.3 According to DEP, gas storage operators are now required to:

2.8.3.1 Case and cement gas storage wells to ensure no gas can leak from them.

2.8.3.2 Make monthly inspections of all gas storage wells and all wells used for observation.

2.8.3.3 Annually inspect the gas storage reservoir and storage protective area to make sure no gas is leaking or other hazardous condition exists.

2.8.3.4 Implement gas storage well monitoring and integrity testing programs once every five years.

2.8.3.5 Not exceed pressures that may cause the gas to begin leaking.

2.8.3.6 Notify DEP within 24 hours of making emergency repairs to gas storage wells and submit a written explanation of the emergency and what action was taken within five days.

2.8.3.7 Keep records of well inspection result and pressure data, integrity testing data and inspections of abandoned and plugged wells.

2.8.3.8 Notify DEP 15 days before the gas storage well is plugged to prevent migration of gas or other fluids within or outside of the well. Underground Gas Storage Fields in Pennsylvania, DEP Fact Sheet, 5500-FS-DEP2319 (Apr. 2007).

2.8.4 The Act also contains provisions allowing for the exercise of eminent domain for corporations empowered to transport, sell or store natural or manufactured gas for the use of private property for gas storage. 58 P.S. § 601.401.

2.9 Enforcement and remedies.

2.9.1 The Oil and Gas Act provides DEP extensive remedies to enforce the law. 58 P.S. §§ 601.501 – 601.511.

2.9.2 Conferences: DEP or any person having a direct interest in the subject matter of the Oil and Gas Act, may request a conference be held to attempt to resolve by agreement any dispute under the Act. 58 P.S. § 601.501.

2.9.3 Public nuisances: The Act declares that violations of Sections 206 (well site restoration), 207 (protection of fresh groundwater), 208 (protection of water supplies), 209 (use of safety devices) and 210 (plugging requirements) of the Act, or any regulation, order or permit, are public
nuisances. 58 P.S. § 601.502. Public nuisances are abatable according to the provisions of Section 504. 58 P.S. § 601.504.

2.9.4 Enforcement orders: DEP has authority to issue enforcement orders under the Act. 58 P.S. § 601.503. This authority includes the power to suspend or revoke a well permit or well registration. Appeals of any order of DEP are of right and must be filed with the Environmental Hearing Board (EHB) within 30 days of receipt of the notice of the order. 58 P.S. § 601.503(e).

2.9.4.1 The EHB is an independent state agency that conducts quasi-judicial hearings of matters from DEP. As such, it hears permit appeals, civil penalty complaints (and appeals from civil penalty assessments) appeals from enforcement orders issued by DEP and a number of other appeals. 35 P.S. §§ 7511, et seq.

2.9.4.2 It should be noted that the failure to file an appeal from an action of DEP to the EHB within 30 days of notice of the action deprives the EHB of jurisdiction over the matter. Lebanon County Sewage Council v. DER, 382 A.2d 1340 (Pa. Commw. 1978). Such a matter would become final and unappealable.

2.9.5 Restraining violations: DEP is permitted to institute a suit in equity to restrain a violation of the Act, regulations or orders and to restrain the maintenance or threat of a public nuisance. 58 P.S. § 601.504.

2.9.6 Criminal penalties: violations of the Act may constitute offences ranging from summary offenses to misdemeanors for willful violations. 58 P.S. § 601.505.

2.9.7 Civil penalties: civil penalties may be assessed by the EHB following the filing of a civil penalty action before the EHB. The penalty is limited to $25,000 for the initial offense plus $1,000 for each day of continued violation. 58 P.S. § 601.506.

2.9.7.1 Under The Clean Streams Law, civil penalties may be assessed by DEP after a hearing. 35 P.S. § 691.605(a). Such penalties may be assessed for up to $10,000 per day for each violation.

2.9.8 Inspections: DEP is authorized to enter and examine any property, facility or activity associated with the oil and gas drilling to make inspections, conduct tests and to examine records. 58 P.S. § 601.508(a). A warrant is not necessary for such a search 58 P.S. § 601.508(b).

2.9.9 Third party liability: “Where a person other than the well operator as herein defined renders a service or product to a well or well site, that person shall be jointly and severally liable with the well owner or operator
for violations of this act arising out of and caused by his actions at the well or well site.” 58 P.S. § 601.511.


3. The Susquehanna River Basin Commission (SRBC) and the Delaware River Basin Commission (DRBC).

3.1 Whereas experts say a traditional gas well may require 40,000 to 80,000 gallons of water pumped into an impoundment to increase pressure on the gas, a single Marcellus well may take from 1 to 6 million gallons of water to drill properly.

3.2 On June 6, 2008, the Susquehanna River Basin Commission notified 23 natural gas operators currently using or planning to use the river's water to develop Marcellus wells that they now must have approval from the commission and follow water consumption guidelines.

3.3 Compact: The SRBC and the DRBC and formed by Compacts between states and the Federal government. A compact is an agreement between the states (and the Federal government) and is governed by the United States Constitution.

3.3.1 A compact is essentially a law that establishes the parameters of the authority of the signatories. It provides the powers and duties of the Commission. Regulations and policies of the Commission are derived from the authority granted by the compact and, presumably, can explain or elucidate the terms of the compact, but not expand the terms of the compact.

3.3.2 The Federal government and the states often attach "reservations" to compacts which are statements by that party which attempt to limit the provisions of the compact. Such reservations are of questionable authority, since the reservations have not been agreed to by all of the parties.

3.4 SRBC:

3.4.1 The SRBC was established in 1970 as a compact between the United States, Pennsylvania, New York and Maryland. It covers the Susquehanna River Basin and its tributaries to Havre de Grace, Maryland, at the northern end of the Chesapeake Bay.
3.4.2 Primary purposes of SRBC: Control diversions, allocate water between the states, flood control, water supply and regulation of withdrawals.

3.4.3 Secondary purposes of SRBC, pollution control, watershed management, recreation, hydroelectric power.

3.4.4 Diversions: "The transfer of water into or from the basin." Projects requiring approval: any diversion of water.

3.4.5 Withdrawals: "A taking or removal of water from any source within the basin for use within the basin." Projects requiring approval: withdrawal in excess of an average of 100,000 gpd for any consecutive 30-day period from a ground water (including pumped quarries) or surface water source.

3.4.5.1 Section 806.4 of the SRBC’s regulations subjects water withdrawals from ground or surface waters that are part of a consumptive water use project to review and approval by SRBC.

3.4.5.2 Section 806.23 of the regulations grants the SRBC authority to require the sponsor of a project involving regulated water withdrawals to seek alternative water supplies, pursue mitigation measures, and maintain special monitoring.

3.4.6 Consumptive Use: "The loss of water from a ground-water or surface water source through a manmade conveyance system, due to transpiration by vegetation, incorporation into products during their manufacture, evaporation, diversion from the Basin, or any other process by which the water withdrawn is not returned to the waters of the basin undiminished in quantity." Projects requiring approval: consumptive use of water exceeding an average of 20,000 gpd for any consecutive thirty-day period. 18 C.F.R. § 803.4(a).

3.4.6.1 Section 806.22(b) allows the SRBC to charge an annual fee to users in the basin for mitigation of consumptive use.

3.4.7 Duration of Project Approvals: Section 806.31 of the SRBC’s regulations makes the duration of project approvals 15 years unless an “alternate period” is determined by the SRBC (prior to 2007, the duration of such approvals had been 25 years). The regulations offer no guidance on what criteria would be relevant to the determination of an “alternate period.” Section 806.31 also provides that project approvals expire if the project is not implemented within three years of approval. This is reduced from the five-year expiration period which was provided for by the old regulations.

3.4.8 SRBC’s Administrative Powers

3.4.8.1 Section 808.3(b)(8) gives the SRBC the power to issue subpoenas.
3.4.8.2 Sections 808.14-808.15 give the SRBC the power to issue orders.

3.5 DRBC: The DRBC was established in 1961 as a compact between the U.S., Pennsylvania, New Jersey, New York and Delaware. The DRBC covers the Delaware River and its tributaries including the Delaware Bay.

3.5.1 Original compact between New Jersey and Pennsylvania relating to the Delaware River entered in 1783.

3.5.2 Diversions (the transfer of water from or to the Delaware River Basin):

3.5.2.1 All are water diversions regulated by the DRBC under the U.S. Supreme Court decision in *New Jersey v. New York*, 347 U.S. 995, 74 S.Ct. 842 (1954).

3.5.2.2 Diversions of 100,000 gallons (average daily rate) is subject to review and approval of the DRBC.

3.5.3 Withdrawals: A ground or surface water project involving an average withdrawal of more than 100,000 gallons per day (gpd) during any calendar month may only be undertaken with approval by the DRBC.

3.5.3.1 DRBC Resolution No. 80-18 requires that new or expanded well water projects located within the delineated “Ground Water Protected Area” involving an average withdrawal of more than 10,000 gpd from a well or group of wells operated as a system are required to obtain a Protected Area Permit.

3.5.4 Consumptive use. The DRBC generally regulates consumptive use of water in the basin. Under the Compact, no project having a “substantial effect on the water resources of the basin” shall be undertaken, unless the project is first submitted and approved by the DRBC. The Commission is required to approve a project if it finds and determines that the project would not substantially impair or conflict with the Comprehensive Plan.

4. Taxation of natural gas and oil


4.2 “In IOGA, this Court determined that Section 201 [Section 201 of the General County Assessment Law, 72 P.S. § 5020-201(a) (“Section 201”)] does not provide for taxation of oil and gas interests. 814 A.2d at 183. We specifically rejected that oil and gas interests were included within two categories listed in Section 201, overruling the trial court’s determination that the statutory reference to “all real estate” encompassed oil and gas interests, as well as the Commonwealth Court’s separate conclusion that the reference to “lands” covered
oil and gas. Id. Relying on the statutory construction doctrine of ejusdem generis codified in Section 1903(b) of the Statutory Construction Act, 1 Pa.C.S. § 1903(b), this Court reasoned that the term “real estate” set forth in Section 201 is limited by the terms following it in the provision. IOGA, 814 A.2d at 183-84. We therefore determined that the only proper subjects of taxation were those listed following the term “real estate,” and rejected the trial court's reasoning to the contrary. Addressing the basis for the Commonwealth Court's holding, this Court stated that a typical layperson's understanding of the term “lands” referred to surface rights or any physical improvement “permanently affixed” to the ground. We elaborated:

“Oil and gas rights, by contrast, are quite unlike any of the other objects specifically identified in Section 201. Thus, the dissimilarity between the nature of oil and gas and those items which the General Assembly saw fit to enumerate as the proper subject of taxation militates against the conclusion that such terms are encompassed within the general term “lands” listed therein.

“Id. at 184. This Court found further support for its conclusion that oil and gas interests are not taxable under any statutory authority by looking to Section 415 of the General County Assessment Law, 72 P.S. § 5020-415, and Sections 612 and 616 of the Fourth to Eighth Class County Assessment Law, 72 P.S. §§ 5453.612, 5453.616, which provide for separate assessments of coal and do not mention oil and gas interests. IOGA, 814 A.2d at 184-85.”


4.3 Despite the Pennsylvania Supreme Court’s pronouncements in IOGA and Coolspring Township (and perhaps because of those pronouncements), pressure continues to mount to find ways to tax oil and gas rights in Pennsylvania.

5. Summary of significant environmental cases


5.1.1 The Commonwealth Court held that the Oil and Gas Act preempted a township’s ordinance when that ordinance attempted to “regulat[e] surface and land development associated with oil and gas drilling operations.” Great Lakes Energy Partners, 931 A.2d at 102 (quoting Salem Twp. Ordinance No. 02-2005) (internal quotes omitted). Great Lakes Energy Partners (“GLEP”), which was in the business of recovering methane, filed suit for declarative and injunctive relief upon Salem Township’s (“Township”) enactment of the ordinance, and alleged the Oil and Gas Act preempted it. Id. at 102 n.2. The Township adopted “a comprehensive
subdivision and land development ordinance” (“SALDO”) during the initial phase of the litigation, and adopted the oil and gas regulations as part of it. *Id.* at 103.

5.1.2 The trial court held that the Oil and Gas Act preempted the Township’s SALDO regulations because it concerned the same aspects of oil and gas drilling as did state law. *Id.* The trial court also noted that methane constituted a “gas” under the statute. *Id.* at 103-04. The Commonwealth Court, without providing much legal analysis, agreed with the trial court that the Oil and Gas Act preempted the SALDO to the extent of SALDO’s oil and gas regulations. *Id.* at 104. The Supreme Court of Pennsylvania has accepted the Township’s appeal, and the case is now pending before the court.


5.2.1 The Commonwealth Court held that Section 602 of the Oil and Gas Act preempted a borough’s attempt to regulate through ordinance the proposed installation and operation of a natural gas drill on residential property. *Huntley & Huntley, Inc.*, 929 A.2d at 1256-57. This case arose from a conditional use application filed by Huntley & Huntley, Inc. (“Huntley”) to install and operate a natural gas well on two properties within the Borough of Oakmont. *Id.* at 1253. After Huntley received the appropriate permit from the Department of Environmental Protection, the Borough Council (“Council”) called a public hearing to discuss Huntley’s conditional use permit application. *Id.* Huntley argued that Council’s consideration was preempted by the Oil and Gas Act, 58 P.S. §§ 601.101-601.605. *Id.* Council disagreed, rejecting Huntley’s conditional use application based on its Zoning Ordinance, and held that the Oil and Gas Act failed to preempt Council from regulating Huntley’s proposed operation. *Id.* The trial court affirmed Council’s decision. *Id.* at 1255.

5.2.2 The Commonwealth Court reversed the trial court, and the Commonwealth Court held Section 602 preempted Council’s attempted regulation. *Id.* at 1255-56. Section 602 states, in pertinent part:

Except with respect to ordinances adopted pursuant to . . . the Pennsylvania Municipalities Planning Code, and . . . the Flood Plain Management Act, all local ordinances and enactments purporting to regulate oil and gas well operations regulated by this act are hereby superseded. *No ordinances or enactments adopted pursuant to the aforementioned acts shall contain provisions which impose conditions, requirements or limitations on the same*
features of oil and gas well operations regulated by this act or that accomplish the same purposes as set forth in this act. The Commonwealth, by this enactment, hereby preempts and supersedes the regulation of oil and gas wells as herein defined.

§ 601.602 (internal citations omitted; emphasis added).

5.2.3 The Commonwealth Court noted that Section 602 does not preempt all local regulation of oil and gas operations, but only regulations that relate to “the same features of oil and gas features regulated by the [Oil and Gas Act].” § 602; Huntley & Huntley, Inc., 929 A.2d at 1256. Thus, the Oil and Gas Act preempted Council’s attempt to regulate “features” of oil and gas operations. Huntley & Huntley, Inc., 929 A.2d at 1256.

5.2.4 The Commonwealth Court then determined the geographic location of an oil and gas well was a “feature” the Oil and Gas Act contemplated because Section 205 of the Act “specifically addressed the location and placement of wells.” Id. Since Council relied upon an ordinance, i.e. its Zoning Ordinance, that addressed a “feature” specifically preempted by the Act, the court held the ordinance “invalid with regard to the imposition of conditions of well placement as applied in this case.” Id. at 1257.

5.2.5 The Commonwealth Court also reversed the trial court’s affirming Council’s rejection of the conditional use permit. Id. Council held that natural gas was not a mineral and therefore the proposed operation was not an “extraction of minerals” permitted as a conditional use under its Zoning Ordinance. Id. at 1254. The Commonwealth Court held that Council and the trial court erred in their interpretation, because the Municipalities Planning Code, 53 P.S. §§ 10101-11202, includes natural gas within the definition of “mineral,” and that the Borough exceeded its authority by unlawfully narrowing the scope of a statutory definition 53 P.S. § 10107; Huntley & Huntley, Inc., 929 A.2d at 1257. This case is now pending before the Supreme Court of Pennsylvania.

5.3 Requirement of showing actual environmental harm. CNG Transmission Corp. v. DEP, 1998 E.H.B. 713 (July 9, 1998).

5.3.1 The EHB held that a claimant must prove actual environmental harm would result when alleging that the issuance of a permit would cause a violation of the Oil and Gas Act; showing only potential or hypothetical harm does not suffice. CNG Transmission Corp., at * 6.

5.3.2 Two appellants claimed that DEP’s issuance of a gas well permit would “allow the drilling of two injection wells directly through” their gas storage pool, so they appealed DEP’s issuance of the permit and requested a motion for summary judgment. Id. at *2-*3. The appellants claimed the permit threatened the integrity of their gas storage pool, the safety of those
who operate it, and would therefore violate Section 201 of the Oil and Gas Act, 58 P.S. § 601.201(e)(1). Id. at *3. The EHB noted that Section 201 prohibits DEP from issuing a permit where “doing so would result in a violation of the Oil and Gas Act or other applicable environmental laws,” including safety regulations. Id. at *6 (emphasis in original). The EHB determined that Section 201 required more than a potential violation based upon hypothetical scenarios; instead, the EHB held that Section 201 requires actual proof that the actions permitted would result in a violation of environmental laws. Id. at *7.

5.3.3 The EHB denied appellants’ motion for summary judgment because they failed to present evidence proving that the issuance of the permit would result in actual environmental violations. Id. at *7-*8. Appellants’ witnesses admitted in deposition either that their allegations of potential environmental damage (including “drilling mud” seeping into their pool and escaping gas) had a minimal probability or they lacked the necessary information upon which to base a conclusion. Id. at *9-*13.


5.4.1 The EHB held that DEP has the statutory authority to order an abandoned well plugged and that it could force a well owner to reclaim his wells pursuant to a consent order. Wasson, at *8-*12. Wasson appealed a DEP order requiring him to “reclaim unlined pits for the disposal of brine,” and to plug his property’s forty-one wells. Id. at *3. One year before the appeal in this case, Wasson had agreed to a consent order requiring him to reclaim his pits. Id.

5.4.2 The EHB first considered whether the Oil and Gas Act authorized DEP to order Wasson to reclaim the brine pits. Id. at *7. EHB deferred on the resolution, however, because it found that the consent order was dispositive of Wasson’s obligation to reclaim the pits. Id. Based upon the doctrine of administrative finality, the EHB held that Wasson could not “collaterally attack the consent order” here because he could have—and should have—appealed the order itself. Id. at *9-*10.

5.4.3 Next, the EHB held the Oil and Gas Act authorized DEP to require Wasson’s wells be plugged. Id. at *11-*12. DEP established that Wasson’s forty-one wells were abandoned because he did not use them for extraction or injection purposes for over a year. Id. at *10-*11 (quoting 58 P.S. § 601.210). The EHB therefore determined that, unless DEP classified the wells as inactive, Wasson had to plug his wells under Section 210 of the Oil and Gas Act. Id. at *11.

5.5.1 [Note: Much of this case dealt with issues beyond the scope of oil and gas drilling and instead addressed concerns of administrative law and due process. The summary that follows is limited to the EHB’s discussion regarding abandoned oil and gas wells.]

5.5.2 The EHB underscored that DEP is not only justified, but “legally mandated” to require well operators and owners to plug abandoned wells. May Energy, Inc., at *9. EHB noted the threat the environment faces from abandoned wells like potential soil, water, and vegetation contamination. Id. at *10. An owner could avoid being forced to plug its wells by applying for inactive status for each of the wells. Id. at *11. The Oil and Gas Act requires DEP to “grant inactive status for a period of five years for any permitted or registered well,” without conducting any substantive review. Id. (quoting 58 P.S. § 601.204(a)). If the well owner or operator fails to apply for inactive status, however, EHB clearly indicated that DEP could require the wells be plugged. Id.


5.6.1 The EHB held that a well owned by a corporate entity was not an “orphan well” within the Oil and Gas Act when the principals and shareholders changed, but the ownership of the well remained the same, and that DEP was not equitably estopped from denying an orphan well application after failing to deny the application for almost two years. Kane Gas Light and Heating Co., at *4, *6.

5.6.2 Kane Gas Light and Heating, Inc. and Westmore Gas Producing Co., (collectively, “Appellants”), applied for “orphan well” status for its 138 wells. Id. at *1. The Oil and Gas Act defines an orphan well as:

[one] abandoned prior to the effective date of this act that has not been affected or operated by the present owner or operator and from which the present owner, operator[,] or lessee has received no economic benefit, except only as a landowner or recipient of a royalty interest from the well.

Id. at *3-*4 (quoting 58 P.S. § 601.103) (emphasis added).

5.6.3 Appellants argued that their wells were orphans because their principals and shareholders completely changed since the wells were operated, and that they “received no economic benefit from the earlier operation of the wells.” Id. at *2. The EHB rejected Appellants’ arguments, and held that the wells were not “orphans” because ownership of the wells did not change, i.e., Appellants owned the wells at all relevant times. Id. at *4.
5.6.4 The EHB also rejected Appellants’ argument that DEP was equitably estopped from denying its application. *Id.* at *6. Equitable estoppel requires that DEP “must have intentionally or negligently misrepresented some material fact and induced a party to act to his . . . detriment, knowing or having reason to know that the other party will justifiably rely on the misrepresentation.” *Id.* (quoting Ambler Borough Water Dep’t v. DER, 1995 E.H.B. 11, 26) (internal marks omitted). The EHB found no evidence of DEP misrepresenting a material fact, nor any inducement causing Appellants’ reliance. *Id.* at *7.

5.6.5 Since the wells in question were not orphans and Appellants could not establish equitable estoppel, the EHB granted DEP its motion for summary judgment and dismissed Appellants’ appeal. *Id.* at *7-*8.


5.7.1 The EHB considered whether the Department of Environmental Resources (“DER”) could force a mortgagee to plug an oil well; the EHB decided DER could not. *Pennbank v. DER,* 1989 E.H.B. 228, at *7-*8, *28.

5.7.2 The owner of four wells, Consolidated Energy Corporation (“Consolidated”) agreed to grant a mortgage and a security interest in its property to Pennbank in exchange for a loan. *Id.* at *4. Pennbank also received “the right to enter into possession and operate the collateral [i.e., the four oil wells], the right to foreclose on the mortgage, the right to repossess the collateral under the security agreement, and the right to confess judgment on the notes and issue execution thereon.” *Id.* at *5. Just before Consolidated filed for reorganization under Chapter 11, Pennbank assigned all of its rights under its agreement with Consolidated to Drake, a Pennsylvania corporation. *Id.* Drake executed its rights by repossessing part of the collateral by removing equipment located at the wells “necessary for production, extraction, or injection.” *Id.* at *6. DER then filed an order directing Drake and Pennbank “to cease removing equipment from [the] oil wells, . . . and to plug the wells in accordance with Section 210 of the Oil and Gas Act.” *Id.* at *2.

5.7.3 The EHB relied upon the Oil and Gas Act when it found that the wells were abandoned because Drake had removed equipment necessary for their operation. See 53 P.S. § 601.103; *Pennbank,* at *10. Consequently, the EHB found that the Oil and Gas Act required the owner or operator either to plug the wells or apply for inactive status, while the Act granted DER multiple options for enforcement, including civil and criminal penalties, seizure, and injunctive relief. *Pennbank,* at *11.

5.7.4 DER sought enforcement against Pennbank and Drake because they removed necessary equipment and that they had “extensive control” over
the collateral (i.e., the equipment); DER thus argued that Pennbank and Drake owned the wells. *Id.* After surveying persuasive cases concerning the role of secured creditors in environmental cases, the EHB noted that enforcing environmental laws upon secured creditors was “the exception rather than the rule.” *Id.* at *19. The EHB rejected the notion that Pennbank and Drake could be owners of the wells for purposes of the Oil and Gas Act because their control over the equipment did not suffice for ownership of the wells. *Id.* at *20. Instead, Pennbank and Drake must have had possession or control over the well realty to be considered an owner. Nor did the EHB find dispositive the fact that Pennbank and Drake had the right to posses and manage the property. *Id.* at 21. Instead, Pennbank and Drake had to have “take[n] some affirmative steps to enter into possession and control of the wells.” *Id.*

5.7.5 DER also lost the argument that Consolidated was under the control of Pennbank and Drake as secured creditors such that Pennbank and Drake became owners of the wells. *Id.* at *23. The EHB noted that until Consolidated entered Chapter 7, it could have operated the wells “by any means available.” *Id.* at *24-*25.

5.7.6 Finally, as an example of the legislature’s intent of exempting secured creditors from certain DER enforcement, the EHB highlighted the fact that the Oil and Gas Act provided for a bond to be filed to secure the plugging of the well. *Id.* at *27-*28. The EHB reserved the right, however, to hold creditors liable for environmental costs where the creditor acts with “such utter disregard of the public interest.” *Id.* at *28.

5.7.7 For additional information on the rights and responsibilities of creditors under the Oil and Gas Act, see Joel R. Burcat and Linda J. Shorey, *Lender Liability Under Pennsylvania Environmental Law*, 28 Duquesne L. Rev. 413, 440-42 (1990).


5.8.1 The EHB held the operators of an oil well violated the Clean Streams Law, 35 P.S. §§ 691.1-691.1001, and DER regulations, and that civil penalties were appropriate regardless of intent, where the operators of an oil well caused oil to discharge into waters of the Commonwealth.

5.8.2 After receiving a permit to drill a gas well, Federal Oil and Gas Company (“Federal”) hired an independent contractor to clear and grade the drilling site, but Federal never drafted an erosion control plan for the site. *Fed. Oil and Gas Co.*, at *2-*3. After Federal hired the Joyce Pipeline Company (“Joyce”) to drill the well, Joyce built three sumps at the site to retain “drilling fines” from drilling. *Id.* at *3-*4. The sumps failed to work
properly and discharged fines into common waters that eventually flowed into the Allegheny Reservoir.

5.8.3 Oil also started discharging from the underneath the drilling equipment into the same water. \textit{Id.} at *5. Oil deposits were found on rocks, while stagnant pools near the drilling site contained large amounts of oil. \textit{Id.} at *6. DER also found at least one instance of silt sediment that entered the common waters, causing substantial cloudiness in a nearby stream \textit{Id.} at *7.

5.8.4 The EHB found that both Federal and Joyce (collectively, “Defendants”) violated Section 307 the Clean Streams Law because of the discharge coming from the drilling site. \textit{Id.} at *10. Defendants did not dispute the discharge, but argued that silt and fines were not the kind of “industrial waste” contemplated by the Clean Streams Law. \textit{Id.} at *11. The EHB held that fines were similar to “rock, debris, dirt[,] or clay,” and therefore an industrial waste, but found the silt not to be an industrial waste because the silt entered the stream as the result of erosion, not as a result of an “industrial process.” \textit{Id.} at *11-*12.

5.8.5 Defendants also argued that DER could not prove a violation because it relied upon visual observations where scientific tests were available. \textit{Id.} at *13-*14 (citing Bortz Coal Co. v. Air Pollution Comm’n, 271 A.2d 388 (Pa. Commw. Ct. 1971); North Am. Coal Corp. v. Air Pollution Comm’n, 271 A.2d 356 (Pa. Commw. Ct. 1971). The EHB rejected this argument on the basis that the “scientific evidence rule” does not apply when considering unauthorized discharges, and because visual observation is a common and reputable test to determine oil’s presence. \textit{Id.} at *15-*16.

5.8.6 The EHB also found that Defendants violated a DER regulation requiring an erosion plan for all earth-moving activities. \textit{Id.} at *17-*19 (citing 25 Pa. Code § 102.4). Although Defendants’ “failur [sic] to develop an erosion control plan . . . may not have been willfull [sic], . . . it was a signification violation” of DER’s erosion control rules. \textit{Id.} at *19.

5.9 A third party appeal of DEP’s registration of a gas well is timely when the appeal was filed within thirty days of the third party receiving actual notice of the gas well registration. \textit{Emerald Coal Res., LP v. DEP, 2008 E.H.B. ___} (June 17, 2008).

5.9.1 The EHB held that a third party could appeal the issuance by DEP of a gas well for thirty days after the time the third-party received actual notice of the gas well registration, not thirty days after the actual registration date.

6. Summary of significant property and land use cases

6.1.1 The Supreme Court of Pennsylvania held that an implied covenant to develop and produce oil or natural gas exists where a lessor and lessee do not provide for the lessor’s compensation if the lessee fails to extract the resource from the land. Jacobs, 772 A.2d at 455.

6.1.2 Jacobs purchased a large land parcel subject to CNG Transmission Corporation’s (“CNG”) lease to drill and operate oil and gas wells upon the land. Id. at 446. The lease provided Jacobs with compensation, including royalties and a “Delay Rental.” Id. at 448. Jacobs’ royalties depended upon the depth of the wells. Id. CNG paid a quarterly delay rental “until a royalty-yielding well [was] drilled on the leased premises or until [CNG] used[d] the leased premises for storage and the fee for storage becomes payable.” Id. CNG never drilled on Jacobs’ property, even after Jacobs demanded that it do so. Id. at 447. Seeking to force CNG to extract gas from its land, Jacobs sued. Id. The Court received this case when the Third Circuit Court of Appeals certified it for questions of law. Id. at 446.

6.1.3 As the Court put it, the legal question “is whether Pennsylvania jurisprudence recognizes an implied covenant to develop and produce oil or natural gas that would impose upon a lessee the obligation to produce oil and gas from property leased for that purpose.” Id. at 452. The Court reviewed the only cases that touched on the issue, three from the late nineteenth century, noting they “all derive from a recognition that, in any case, the lessor’s only source of consideration for the lease is royalty payments on minerals, oil or gas extracted from the property.” Id. at 453-54. Thus, implied covenant are based on basic considerations of fairness because the lessor bargained only for the consideration of anticipated royalty payments from oil and gas drilling. Id.

6.1.4 Thus, the court noted that an implied covenant will exist when the lessor’s only compensation is royalty payments. Id. at 455. This means that the doctrine does not apply when the parties agreed to compensate the lessor even when the lessee fails to actively extract the oil or gas. “Thus, so long as the lessee continues to pay the landowner for the opportunity to develop and produce oil or gas, the lessee need not actually drill wells.” Id.

6.2 Coal severance deed does not include right to coalbed gas. U.S. Steel Corp. v. Hoge, 468 A.2d 1380 (Pa. 1983).

6.2.1 The court held when a coal severance deed reserves the surface owners the right to drill through the coal seam for oil and gas, that right does not include the right to recover coalbed gas because the coal seam owner also owns the coalbed gas, and because it would frustrate the parties’ intent reflected in their deed.
United States Steel Corporation ("USSC") owned part of a seam of coal eight hundred feet below Hoge’s property. U.S. Steel Corp., 468 A.2d at 1381. The deed reserved Hoge the right to drill through the coal for oil and gas. Id. Hoge leased to Cunningham all reserved oil and gas rights. Id. Cunningham drilled wells to recover coalbed gas using a hydrofracturing process that causes the goal to fracture, thereby yielding gas. Id. at 143 n.1. USSC filed suit to enjoin Cunningham from recovering the coalbed gas. Id. at 143. The trial court allowed Cunningham to recover coalbed gas, but prohibited use of hydrofracturing; the Superior Court affirmed. Id.

Coalbed gas is distinct from natural gas in at least two respects: (1) it is much less valuable than natural gas; and (2) it is most commonly found in a higher strata of earth than natural gas. Id. 1382-83. Regardless of the type of gas, Pennsylvania law long recognizes that “gas may be owned prior to being recovered from its natural underground habitat.” Id. at 1283 (citing Hamilton v. Foster, 116 A. 50, 52-53 (Pa. 1922)). Coal miners often ventilate the coalbed gas to prevent an explosion or inhalation. Id. Through this process the gas is “wasted” into the atmosphere. Id. When not recovered, gas belongs to the property owner in which it is contained, but when it leaves the property, the owner loses title. Id. at 1383. In this way, gas may be considered as a “mineral ferae naturae.” Id. (quoting Westmoreland & Cambria Nat. Gas Co. v. DeWitt, 18 A. 724, 725 (Pa. 1889)). Thus, so long as the coalbed gas remains in the coal seam, it belongs to the owner of the coal seam. Id.

With that background at hand, the court considered the parties’ intentions as reflected in the severance deed. Id. at 1384. Noting that the deed reserved Hoge “oil and gas” in the general sense, the court found it implausible that Hoge would have reserved all types of gas, especially “something which is only a [valueless] waste product with well-known dangerous propensities,” i.e., coalbed gas. Id. at 1384-85.


The Supreme Court of Pennsylvania held a lessor is estopped from enforcing a lessee’s oil and gas restrictions where the lessor accepts royalty payments and the lessee spends money to purchase the necessary drilling equipment.

Iroquois Trust (“Iroquois”), of which Carlson was a member, received an oil and gas lease containing a “restricted drilling clause” prohibiting it from drilling on certain areas of the property. Nat’l Forge Co. v. Carlson, 307 A.2d 902, 903 (Pa. 1973). National Forge Co. (“Forge”) bought part of the restricted area after Iroquois consummated its lease. Id. Forge notified Iroquois that Iroquois was drilling on restricted property, but the
two parties entered into a royalty agreement less than a month later.  \textit{Id.} at 904. Iroquois drilled four wells over the next three months at a cost of nearly forty thousand dollars, while paying Forge’s royalties accordingly. \textit{Id.} Forge then filed an equitable action against Iroquois “to prevent further operation of the wells on the [restricted] tract and to compel Iroquois to account for all proceeds derived from the sale of oil and to compel Iroquois to remove all of its machinery and equipment from Forge’s property.” \textit{Id.} The trial court denied Forge’s request for relief, and Forge appealed. \textit{Id.}

6.3.3 The court first held that the Forge’s purchase of the land in question was subject to the lease and that Forge could enforce the lease restrictions, as it had “step[ped] into the shoes of the original lessor.” \textit{Id.} The court further held that Forge was equitably estopped from enforcing the drilling restrictions because Forge accepted Iroquois’s royalty payments while Iroquois spent a substantial amount of money to drill the wells. \textit{Id.} at 905. The court also held that Forge could not prevent Iroquois from using an easement to access their wells because Iroquois used the access road in question at the time the two parties enter into the royalty agreement. \textit{Id.}


6.4.1 The Commonwealth Court held that a well going through a coal seam does not unduly interfere with the coal mine’s operation when the coal mine operators fail to present evidence showing the harm it would suffer due to the location of the mine. \textit{Eising v. Pa. Mines Corp.}, 452 A.2d 558, 564 (Pa. Commw. Ct. 1982). The DER may not balance the parties’ potential economic impact or competing private interests when considering whether a well’s location would unduly interfere with the operation of a coal mine. \textit{Id.} at 567.

6.4.2 Eising entered into a lease agreement to drill for oil and gas that required him to drill through a portion of Pennsylvania Mines Corporation’s (“PMC”) coal seam. \textit{Id.} at 560-61. PMC objected to the well’s location during the pendency of Eising’s permit, and argued that the well would “unduly interfere with or endanger the mine.” \textit{Id.} at 561 (quoting 52 P.S. § 2201(a)) (internal marks omitted). PMC specifically objected to the offset nature of the well, i.e., that it would be drilled less than one thousand feet from the nearest existing well. \textit{Id.} PMC argued the location would make their coal mining more dangerous and expensive. \textit{Id.} Eising accommodated PMC by allowing it to select the well’s location, and DER then issued Eising’s permit based upon PMC’s elected location. \textit{Id.} at 561-62. PMC appealed the issuance of the permit, however and the Environmental Hearing Board sustained the appeal because it found that DER abused its discretion in issuing Eising’s permit. \textit{Id.}
6.4.3 PMC argued that “unduly interfer[ing] with” incorporates a coal miner’s economic hardship in recovering the coal because of the well’s location. *Id.* PMC argued that DER should deny a permit where safety or economic consequences constitute undue interference with their coal mine. *Id.* The Board held that a coal miner will satisfy the burden of proving undue interference when

there will become unmineable or impractically expensive to mine . . . an amount of coal significantly (more then de minimis) greater than the amount of coal that similarly would have become unmineable, or impractically expensive to mine, had the well been drilled at least 1,000 feet from any already existing wells, provided that [t]he mine possesses a ‘workable coal seam” [pursuant to] 52 P.S. [§] 2102(4).

*Id.* at 563.

6.4.4 Reviewing DER’s decision under an error of law standard, the Commonwealth Court reversed DER’s legal conclusion because the Board stated PMC failed to introduce sufficient evidence to show the amount of unmineable coal or that the extra mining costs resulting from Einsing’s proposed well would be significant. *Id.*

6.4.5 The court also held that DER cannot base its review of well permits under the Gas Operations, Well-Drilling, Petroleum, and Coal Mining Act upon considerations of the potential financial hardship of either party; instead, DER must focus its inquiry only on whether the well can be drilled safely at a location where interference with a coal mine is least significant. *Id.* at 567. In other words, “DER’s statutory authority under the Act is limited to ascertainment of whether a well can be safely drilled, and, if so, where on the driller’s tract of land it can be located where it will least interfere with or endanger the mine.” *Id.* at 568. DER must find undue interference when the location of the well is “other than that place where the effect on the mine is least significant.” *Id.* Because the proposed well in this case would not unduly interfere with PMC’s coal mine, following the Board’s decision would render illusory Einsing’s right to drill for oil and gas. *Id.*


6.5.1 The Environmental Hearing Board (“EHB”) held a coal mine operator failed to establish that a proposed well would unduly interfere with the coal mine because it failed to prove the existence of a location with less

6.5.2 This case came on the heals of the Einsing case, discussed infra, when Consolidated Coal Company (“Consol”) appealed DER’s issuance of a drilling permit to George Enterprises, Inc. (“George”), that allowed George to drill for oil through Consol’s coal seam. Id. at *9. Consol asserted that George’s proposed drilling location would unduly interfere with its coal mining operations, particularly considering the proposed location’s susceptibility to landslides. Id. at *7. Consol proposed an alternative, using only an aerial survey for support of its alternative. Id.

6.5.3 The EHB first noted that Consol had the burden of proof in appealing George’s permit, because it was “an appeal from the issuance of a permit brought by a third party.” Id. at *24 (citing 25 Pa. Code § 21.101(c)(3)). Consol therefore had to prove the location of George’s proposed well unduly interfered with Consol’s mine. Id. at *25. While Einsing required that the well be located where its effect on the mine would be least significant, it failed to provide any determining criteria. Id. at *28. The EHB held, “[a] mine is significantly interfered with whenever the drilling of a well forces a non-trivial alteration of the mine’s previously projected operational plans or practices.” Id. at *29. Consol could also show that DER abused its discretion by issuing the permit where the process of drilling the well at the proposed location would be unsafe. Id. at *30.

6.5.4 Either way, Consol had the burden of proving not only the existence of an alternative location for the well where the well’s interference would be least significant, but that also that the well could be safely drilled there. Id. at *37. Although Consol presented unrefuted testimonial evidence, the EHB rejected Consol’s argument that the alternative site was safe because Consol based its observations only upon an aerial observation, and failed to conduct the “first hand, on-site observation . . . necessary in order to meet [its] burden.” Id. at *39. Consol, for example, could not determine the existence of the alternative location’s slopes to the accuracy DER required. Id.

6.5.5 The EHB therefore concluded that Consol could not meet its burden of proof of showing that the alternative site was safe for drilling; its appeal was subsequently dismissed. Id. at *40.


6.6.1 The Superior Court of Pennsylvania held that a lessee cannot adversely possess title to a leasehold interest because a lessee’s possession is permissive, not hostile. Lehman, 684 A.2d at 619. Keller leased to Lehman the right to drill for oil on her property using twelve oil and gas
wells already at the property, all rigged with pumping equipment. Id. at 619. The lease agreement failed to address each party’s rights regarding the drilling equipment. Id. at 620. When relations between the parties soured after fifteen amicable years, Lehman sued, attempting to establish title to the wells through adverse possession.

6.6.2 Adverse possession requires hostile possession, i.e., when one “enters and remains on the land without permission of the true owner.” Id. (citing Tioga Coal v. Supermarkets Gen. Corp., 546 A.2d 1, 4-5 (Pa. 1988)). Thus, permissive possession cannot be hostile possession. Id. Since Lehman occupied the property pursuant to the terms of his lease agreement, and that lease agreement constituted Keller’s permission, the court held that Lehman could not adversely possess the land. Id.

6.6.3 Possessory rights of chattels attached to leased property “are determined by classifying the chattels as either fixtures or personal property.” Id. at 621. A fixture is personal property attached to the land such that “it is regarded as part and parcel of the land.” Id. (quoting Smith v. Weaver, 665 A.2d 1218, 1218 (Pa. Super. Ct. 1995)). When attached by the lessor, the fixture is part of the leasehold estate, and cannot be removed during the lease’s duration. Id. A subset of the fixture group are trade fixtures—equipment attached to oil and gas wells are traditionally considered trade fixtures. Id. When installed by the lessee, Pennsylvania law presupposes those fixtures to be the lessee’s personal property. Id. In this case, however, the lessor (Keller) installed the equipment; therefore, the equipment was not a trade fixture. Id.

6.6.4 The court noted that the equipment in this case could be classified as either a fixture or a chattel. Id. The basic difference is whether the equipment can be removed without “materially damaging” the land or chattels. Id. If it cannot be removed without causing material damage, the equipment is a fixture. Id. If it can be removed without causing material damage, the court will examine whether the owner objectively intended “to permanently incorporate the chattel into real property, as evidenced by the proven facts and surrounding circumstances.” Id. (quoting Noll v. Harrisburg Area YMCA, 643 A.2d 81, 88 (Pa. 1988).

6.6.5 Due to the lack of evidence, the court could not determine whether the equipment could be safely removed, but it did provide some guidance for the trial court if the trial court determined that the equipment could be safely removed, and consequently requires examining the lessor’s objective intent. Id. Objective intent cannot be assessed by determining “what a particular party intended his legal rights to be,” but rather by looking at the intended use of the equipment manifested through the party’s conduct. Id. at 621-22 (quoting Noll, 643 A.2d at 88). The court provided some nonexclusive factors for consideration: “(1) the length of time which the chattels have been attached to the realty; (2) whether the
chattels are essential to the purpose for which the realty is used; and (3) whether the parties to the lease treated the chattels as part of the leasehold estate.”  Id. at 622 (internal citations omitted).


6.7.1 The Superior Court of Pennsylvania held that, pursuant to their lease agreement, a lessor could not interfere with a lessee’s right to operate an oil and gas well.  Snyder Bros., Inc. v. Peoples Nat. Gas Co., 676 A.2d 1226, 1228 (Pa. Super. Ct. 1996). The Yohes owned property upon which Snyder Brothers, Inc. (“Snyder”) had an easement that Peoples Natural Gas Company used to install a pipeline for transporting natural gas.  Id. at 1228-29. Snyder and the Yohes entered into oil and gas leases for their properties.  Id. at 1229. Yohe tried to convince Snyder to drill additional wells after Snyder completed the drilling of the initial well; Snyder refused.  Id. Yohe then blocked Snyder from accessing the property, including erecting barriers on access road and making physical and verbal threats toward Snyder’s employees.  Id. Yohe’s interference continued for almost a year to the extent that it prevented Snyder from completing a pipeline, resulting in lost tax credits.  Id.

6.7.2 Yohe argued that the lease agreement represented only a tenancy at will, and not a leasehold interest or fee simple in the oil and gas estate.  Id. The court noted that the Yohes granted Snyder a lease for minable resources.  Id. The court noted that the Yohes granted Snyder a lease for minable resources.  Id. at 1230. “A lease of minerals in the ground is a sale of an estate in fee simple until all the available minerals are removed.”  Id. This means that the lessor only holds the personal property interest of royalties to be paid under the lease.  Id. (citing Smith v. Glen Alden Coal Co., 32 A.2d 227 (Pa. 1947)). The court determined that Snyder therefore held a fee simple determinable, and Yohe held a reversionary interest.  Id.


6.8.1 The Superior Court of Pennsylvania held the Open Mine Doctrine applies when a life tenant enters into a oil and gas lease subsequent to the expiration of a previous gas lease and the grantor intended for the Doctrine to remain applicable.  Cronan, 512 A.2d at 4.

6.8.2 Cronan bought land in 1972 from Frye, reserving Frye’s grantor, Lias, a life estate of all of the oil and gas under the property’s surface.  Id. at 2. Frye had the same reservation in his deed that he bought from Lias in 1971.  Id. Lias entered into a ten-year oil and gas lease in 1963 with an oil company, but the lessee failed to conduct any activity on the land.  Id. Before Cronan bought the property in 1972, Lias entered into another ten-year oil and gas lease with Castle Gas Company (“Castle”) effective in
1973. Castle then entered Cronan’s property to begin drilling, which included cutting down trees and backfilling a roadway. Id. Cronan then brought suit alleging damage to their land, crops, and timber. Id.

6.8.3 The general rule the court considered held that a life tenant cannot extract oil or gas without the remainderman’s permission because such action is wasteful. Id. There is an exception to this rule, known as the “Open Mine Doctrine,” if the wells “were opened before his life estate began.” Id. The Open Mine Doctrine allows the life tenant to keep using the wells for his own benefit, because he “is entitled to enjoy the land in the same manner as it was enjoyed” before the grantor created the life estate. Id. at 2-3. Although the wells were never opened before Lias created the life estate, the court noted the Doctrine still applied because the original grantor (Lias) contemplated using the land for oil drilling when he granted a lease for that purpose before reserving his life estate. Id. at 3. Thus, the lease was in effect when Lias reserved his life estate. Id. The court noted the weight of authority favored considering the grantor’s intent, and that the application of the rules of construction of the deed indicated that Lias intended that the land be used for oil extraction, and the Open Mine Doctrine still applied. Id.

6.8.4 The court denied Cronan’s request for damages. Castle established that Cronan failed to mitigate its damages with respect to the trees because Cronan left the stacked timber lay instead of selling it or otherwise disposing it. Id. at 4-5. Regarding their land, Cronan failed to establish specific damages or costs incurred, and therefore, did not meet its burden of proof. Id. at 5.

7. Other concerns.

7.1 Brine.

7.1.1 DEP reports that brine is the general term used for wastewater produced along with oil or gas. It can be very salty, therefore, injurious to plants and aquatic life. Because of the small volumes of oil or gas from most wells and the sometimes large volumes of brine produced, the cost of proper waste handling and disposal can be the biggest factor in the cost of production. Finding low cost methods of waste management is very important to the economics of oil and gas production in Pennsylvania, particularly for oil production. Oil and Gas Well Drilling and Production in Pennsylvania, DEP Fact Sheet, 5500-FS-DEP2018 (Apr. 2007) at 2.

7.1.2 The Department considers it to be unlawful to put, place or allow a discharge of any substance, including brine, that would result in pollution of the waters of the Commonwealth. Roadspreading of Brine for Dust Control and Road Stabilization, DEP Fact Sheet 5500-FS-DEP1801 (May 2007) at 1.
7.1.3 It is worth noting that, “DEP considers roadspreading of brine for dust control and road stabilization to be a beneficial use of brine.” Such disposal must be done in strict conformity with DEP requirements. Roadspreading of Brine for Dust Control and Road Stabilization, DEP Fact Sheet 5500-FS-DEP1801 (May 2007) at 1.

7.2 Environmental effects of hydraulic fracturing of the rock units in which the oil and gas are found (“fracking”).

7.2.1 Concern has been registered (mostly in the press) over the process of fracking. This concern is over the alleged impacts to groundwater and alleged environmental effects of fracking solutions.

7.2.2 Concerns over the impact of fracking ought to be alleviated, however, by application of the applicable provisions of the Oil and Gas Act and The Clean Streams Law.