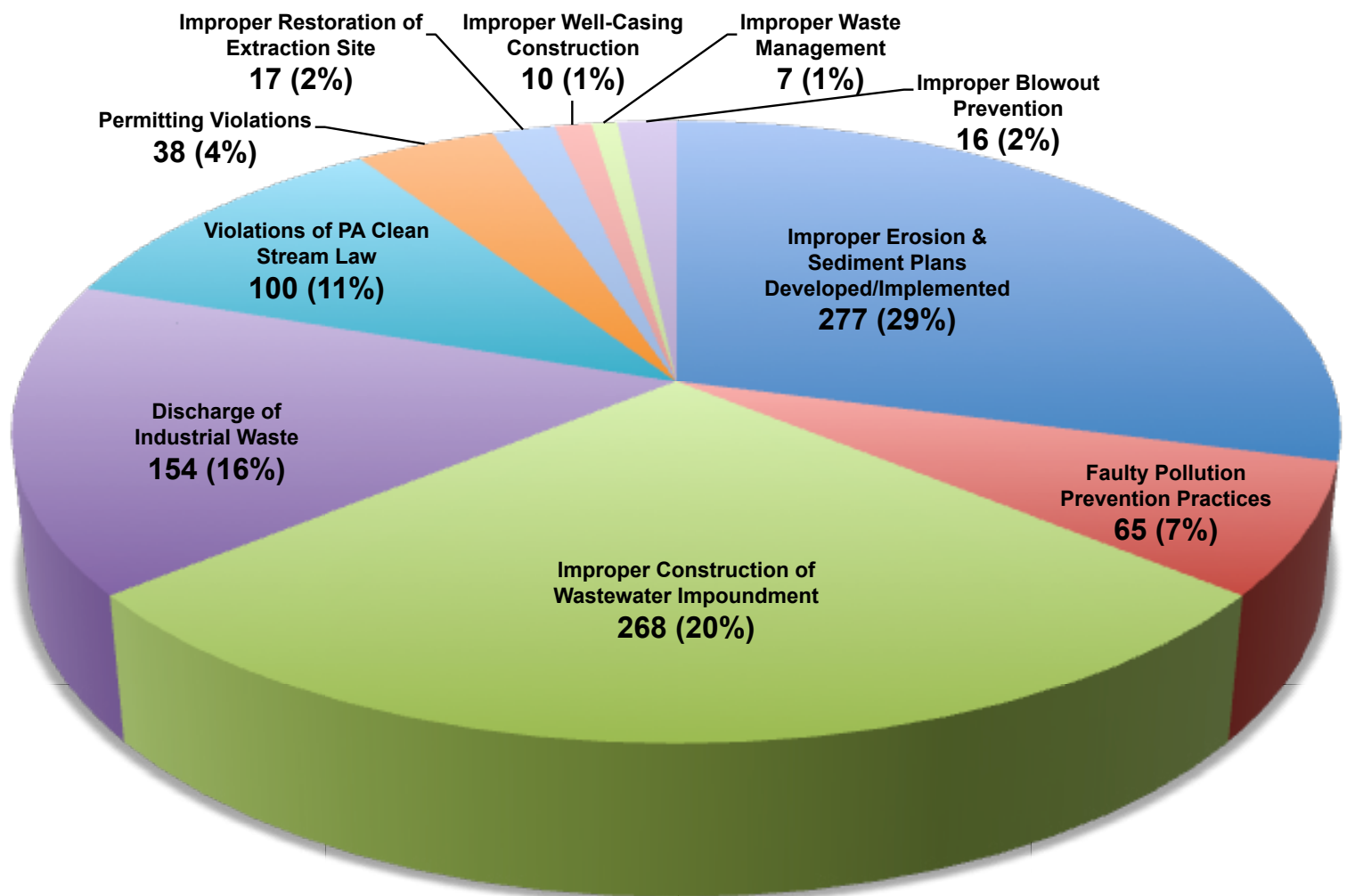


Marcellus Shale Drillers in Pennsylvania Amass 1435 Violations in 2.5 Years

952 Identified as Most Likely to Harm the Environment

The Pennsylvania Land Trust Association identified a total of **1435 violations** accrued by 43¹ Pennsylvania Marcellus Shale drillers between 1/1/2008 and 7/25/2010, using records obtained by the PA Department of Environmental Protection. Of these, the Association identified 483 where the violations seemed unlikely to directly endanger the environment and/or the safety of communities. This report focuses on the remaining **952** violations which were judged as having the most potential for direct impact on the environment. These violations do not include violations incurred by drilling wastewater haulers. During a 3-day enforcement blitz in June 2010, **669 traffic citations** and **818 written warnings** were issued to trucks hauling Marcellus Shale drilling wastewater.²



1 PALTA identified companies that have had violations, according to news reports, but are not included in the data, received on 5/10/2010 and 7/10/2010, from the PA Department of Environmental Protection. The Association has not been able to reconcile this difference.

2 Pennsylvania Department of Environmental Protection News Release (6/23/2010)

Corporations with the Most Violations in PA (1/1/08-6/25/10)

Company Name	Total	# Wells
East Resources INC	138	140
Chesapeake Appalachia LLC	118	153
Chief Oil & Gas LLC	109	45
Cabot Oil & Gas Corp	94	60
Talisman Energy USA Inc	65	121
EOG Resources Inc	51	45
Atlas Resources LLC	48	147
PA Gen Energy CO LLC	45	17
Range Resources Appalachia	35	83
Seneca Resources Corp	34	34
Ultra Resources Inc	31	14
XTO Energy Inc	18	14
Eastern Amer Energy Corp	17	19
Citrus Energy Corp	14	2
Southwestern Energy Prod Co	13	11
JW Operating CO	11	1
Samson Res Co	10	16
Anadarko E&P Co LP	10	91
ALTA Opt CO LLC	9	10
REX Energy Operating Corp	7	16
Phillips Exploation	7	125
MDS Energy LTD	6	2
Stone Energy Corp	6	4
Tanglewood Expl LLC	5	3
Guardian Exploration LLC	5	5

Number of Average Violations per Well Drilled

Company Name	Avg#
JW Operating CO	11.0
Citrus Energy Corp	7.0
Penn Virginia Oil & Gas Corp	4.0
MDS Energy LTD	3.0
PA Gen Energy CO LLC	2.6
Chief Oil & Gas LLC	2.4
Ultra Resources Inc	2.2
Carrizo Oil & Gas Inc	2.0
Tanglewood Expl LLC	1.7
Cabot Oil & Gas Corp	1.6
Stone Energy Corp	1.5
Burnett Oil Co Inc	1.3
XTO Energy Inc	1.3
Southwestern Energy Prod CO	1.2
EOG Resources INC	1.1
Seneca Resources Corp	1.0
Guardian Exploration LLC	1.0
Antero Resources Appalachian	1.0
St Mary Land & Expl Co	1.0
Baker Gas INC	1.0
Interstate Gas MKT INC	1.0
East Resources Inc	1.0
Alta OPR CO LLC	0.9
Eastern Amer Energy Corp	0.9
Chesapeake Appalchia LLC	0.8

These numbers are based on the subset of 952 violations identified as most likely to harm the environment.

Total Violations by Marcellus Drilling Companies in PA

100 Violations of PA Clean Stream Law

Pennsylvania's Clean Stream Law gives the state the right to protect streams from pollution. The goal of the law is to preserve and improve the purity of the waters of the Commonwealth for public health, animal and aquatic life, recreation, and industrial use. It includes the ability to regulate discharges of sewage and industrial wastes.

10 Improper Well-Casing Construction

Well casings and cementing are vital to protecting groundwater supplies from the gas and drilling chemicals that travel through the deep underground drill wells. Marcellus wells are drilled through groundwater supplies, and metal casing and cement are used to form a barrier between ground water and the drilling chemicals, wastewater and natural gas that flow through the well.

268 Improper Construction of Waste Water Impoundments

After fracturing a well, about 20 percent of the fluid used returns to the surface where it is stored in tanks or open pits on the well site for later transport to disposal facilities. In addition to the fracturing chemicals, this wastewater also contains heavy salts and minerals picked up during the fracturing process. Violations in this category include improperly lining the pits and the impoundments not being structurally sound.

277 Improper Erosion & Sediment Plans Developed/ Implemented

Marcellus Shale natural gas well construction involves extensive earth disturbance that can speed erosion, including building roads, drilling pads and installing pipelines. Proper implementation of carefully developed erosion and sediment plans minimize erosion that could cause harm to our streams and rivers. Violations in this category include inadequate erosion and sediment plans and failure to implement an erosion and sediment plan.

17 Improper Restoration of Extraction Site

Once a well is no longer producing, the operator must plug the well and restore the site within nine months of plugging the well. Improperly plugged wells can cause health, safety, and environmental problems and non-restored sites leave Pennsylvania's landscape scarred and plant and wildlife habitat damaged.

154 Discharge of Industrial Waste

Violations in this category include discharge of industrial waste onto the ground; pollution of Commonwealth waters; and drill cuttings, brine and oil discharged into streams. Of the hydraulic fracturing chemicals the Endocrine Disruption Network was able to analyze, it found that over 94% can cause skin, eye and respiratory harm, 93% can harm the gastrointestinal system and 83% have brain and nervous system effects. Over 40% can affect the kidneys, over 40% can affect the immune system and over 20% are endocrine disruptors. (The Endocrine Disruption Exchange: "Products and Chemicals Used in Fracturing" February 2009).

38 Permitting Violations*

The DEP permit review process allows state regulators to ensure that drilling activities are done in a manner that best protects the environment. Violations in this category include drilling, altering or operating a well without a permit; drilling close to a wetland or body of water without a permit; and failure to comply with the terms and conditions of a permit. (*These include only those violations the Association has identified as likely having direct impact on the environment. 103 other permitting violations were also identified.)

65 Faulty Pollution Prevention Practices

Each step of the drilling process involves opportunities for the toxic chemicals used for gas extraction to pollute land, surface and ground water, and the air. Specific precautions must be taken by drillers to prevent pollution. Violations in this category include exceeding the level of wastewater in the impoundment that is needed to prevent wastewater overflow when it rains and failure to take all necessary measures to prevent spills.

7 Improper Waste Management

The drilling process produces many harmful waste products, which must be carefully disposed of to avoid environmental contamination. Violations in this category include improperly burying drill cuttings, which can cause ground water pollution.

16 Blowout Prevention

Inadequate blowout prevention led to the June 3rd well blowout in Clearfield County in which 1 million gallons of gas and water polluted with drilling chemicals to shot 75 ft into the air over a 16 hour period. Violations in this category include inadequate or improperly installed blowout preventers, no certified blowout preventer on site, and hazardous well venting.