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Colorado Oil and Gas Industry Spills:
A review of COGCC data (January 2003 – January 2008)¹

In Colorado, the Colorado Oil and Gas Conservation Commission (COGCC) requires companies to report spills of fluids related to any unauthorized release of exploration and production (E&P) wastes that are five barrels or more in volume. In some cases, smaller spills are reported (e.g., if the spill enters surface or groundwater).

In the five-year period between January 2003 and January 2008, there were approximately 1435 spills.² Spilled products included: crude oil/condensate, produced water, and “other” products. The “other” products included diesel fuel, glycol, amine, lubricating oil, hydraulic fracturing fluids, drilling muds, other chemicals, and natural gas leaks. It is unclear the source of most of the spills/releases based on the information provided on the COGCC database. While the operators are required by the Form 19/19A to list the type of facility, in most cases “well” or “tank battery” are listed and in many cases this section of the form is not completed at all.

¹ See <http://www.oil-gas.state.co.us/>.

²

Approximately 1435, because the COGCC contains some duplicated information on spills. In our analysis, we tried to remove any duplicated entries, but cannot guarantee that we caught every one.

Summary of Spills/Releases and Water Impacts³

Type of Spill/Release	How Many?	% Impacting Water ⁴
All Spills/Releases	1435	23
Oil & Gas	413	17
Produced Water	710	12
"Other"	127	19
Unclassified	185	69

The frequency of spills is not evenly distributed across the state. The number of spills seems to track fairly closely with the number of wells in any given county/region. For example, Weld County has the most wells in the state and also accounted for the greatest percentage of spills.

Top Colorado Oil and Gas Spills/Releases – By County

County	# of Spills/Releases	# Impacting Water ⁵
Weld	403	195
Rio Blanco	204	7
Garfield	155	18
Las Animas	152	26
La Plata	129	17

³

It is difficult to accurately portray the percentage of spills of crude oil/condensate, produced water, and other fluids for a number of reasons. First, not all spill reports in the COGIS database had values for the amount of material spilled. This is how we defined if the spill was crude oil, produced water or other (i.e., if there was a spill volume associated with one of the categories). Second, the database contains inconsistencies in how the spills are classified as "produced water" and sometimes classified as "other." Attempts were made to go through the information and accurately classify all of the spills.

⁴ Includes both ground and surface water impacts.

⁵ Includes both ground and surface water impacts.

Trend of Spills/Releases Over Last Five Years

County	Year	# Spills/Releases
Weld	2003	30
	2004	67
	2005	75
	2006	84
	2007	120
Rio Blanco	2003	20
	2004	32
	2005	42
	2006	56
	2007	40
Garfield	2003	5
	2004	16
	2005	26
	2006	47
	2007	55
La Plata	2003	20
	2004	32
	2005	22
	2006	33
	2007	18
Las Animas	2003	11
	2004	25
	2005	16
	2006	48
	2007	41

Conclusion

In Colorado, between January 2003 and January 2008, 23% of all oil and gas industry spills contaminated water sources: 16% of all spills impacted groundwater and 7% impacted surface waters. The total number of spills/releases and water impacts has grown exponentially across the state in the past five years.

The majority of oil and gas industry spills impacting ground and surface water occurred in Weld County. Between January 2003 and January 2008, over 48% of all spills/releases impacted the ground and/or surface water. La Plata County had the highest number of spills or releases impacting surface waters - 17 out of 129.