

COGCC 2013 Flood Response

November 26, 2013

COGCC continues its intensive flood response effort to oversee and support the recovery of the oil and gas industry in Northeast Colorado. COGCC has now evaluated or inspected every one of the 1614 wells that lie within COGCC's "flood-impact zone" – the area most affected by rushing flood waters. Overall, COGCC has completed a total of 2966 evaluations and inspections in its flood response so far.

COGCC continues to collect and update information about the effects of the floods upon the oil and gas industry. A total of 2608 wells were shut-in in anticipation of flooding. Of those shut-in wells, 2022 wells – 78 percent – have now returned to production.

The agency's oversight of the cleanup of flood-caused spills and contamination continues, too. COGCC has received 50 spill reports documenting flood-caused spills greater than COGCC's reportable quantities. The number of "notable" flood-caused spills remains at 14 – this is the category for single spills of oil or condensate in amounts greater than 20 barrels. The largest flood-caused spill of oil or condensate at a single location remains 323 barrels.

A total of 1149 barrels – 48,250 gallons – of oil or condensate spilled during the flooding. A total of 1035 barrels of produced water – 43,479 gallons – also spilled.

October 8, 2013

The COGCC continues its assessment of the flood-impacted area. The agency has developed a formally mapped area called the "flood-impact zone," which expands its previous assessment area. This is not due to an increase in impacted locations, but is an exercise designed to use an excess of caution in ensuring any location potentially affected receives an assessment and evaluation by COGCC personnel. The agency's estimate of assessed area remains at approximately 80 percent. The number of well sites evaluated by COGCC inspectors is 1,355.

The agency continues to refine and update its numbers as it learns more through new information from inspectors and operators. The agency is tracking 13 notable releases of oil totaling 43,134 gallons. The agency is also tracking 17 releases of produced water, totaling 26,385 gallons. The reduction in notable releases from 15 (in our October 2 update) to 13 is the result of updated information from two locations with damaged facilities where COGCC is continuing its investigation but has not confirmed notable releases. For context, the volume of oil released is comparable to more than three, standard 300-barrel storage tanks. The amount of produced water released is more than two of such tanks.

October 2, 2013

The agency is tracking 15 notable releases; a confirmed release of 28 barrels of oil at a PDC location about one-half mile east of Greeley and just south of Highway 34 is the latest addition since the last update (Monday).

This brings the cumulative total of notable oil releases to 1,027 barrels, or 43,134 gallons. For context, this is equivalent to more than three conventionally sized 300-barrel storage tanks.

The latest cumulative numbers are as follows: 13 produced water releases totaling 430 barrels, or 18,060

gallons; 16 locations with evidence of a minor release, such as a sheen, and 57 locations with some evidence of impact by floodwaters but no evidence of a release at this time.

Through Monday, COGCC field teams have evaluated 991 wells or production facilities and covered approximately 80 percent of the flood-impacted area.

September 30, 2013

The agency is tracking 14 notable releases; that's two additional releases since the last update (September 26). Both releases are at locations operated by PDC. One of those is 120 barrels (5,040 gallons) at a site due east of Greeley, on the south side of Highway 34 and the east side of the South Platte River. The other is 32 barrels (1,344 gallons), also due east of Greeley, but farther north and north of Highway 34.

This brings the cumulative total of notable releases to 1,042 barrels, or 43,764 gallons. For context, this is equivalent to more than three conventionally sized 300-barrel storage tanks.

The COGCC has also assembled estimates of known "produced water" releases. Produced water contains small amounts of dissolved hydrocarbons, and is the water that resides in the same formation as the oil and gas and is separated at the surface and stored in tanks at the site for proper disposal or recycling.

The agency is tracking 12 produced water releases, with a cumulative amount of 413 barrels, or 17,350 gallons.

The COGCC is also tracking 16 locations with evidence of a minor release, such as a sheen; that's two additional such locations since the last update.

September 26, 2013

The latest tally of impacted locations follows: The COGCC is tracking 12 notable releases (unchanged from yesterday), 14 sites with evidence of a minor release, such as a sheen in water and 60 sites with visible damage to storage tanks but no known identified release.

The COGCC has five teams in the field today and has covered roughly 70 percent of the flood-impacted area. Through Wednesday, teams have inspected 736 well locations.

September 25, 2013

The COGCC had eight teams in the field today. Through Tuesday, teams have now visited 625 well locations.

The agency is tracking 12 notable releases. One new release has been confirmed since Tuesday's update. An Anadarko tank released 67 barrels of oil at a location south of Evans and north of La Salle.

The 12 notable releases total 890 barrels, or 37,380 gallons. The amount for two of these 12 releases is unknown. This volume is approaching a volume equivalent to three, standard, 300-barrel oil storage tanks.

Cleanup efforts are underway at some impacted locations where operators have access. They are using booms to contain and absorb any materials in standing water, as well as vacuum trucks to remove affected

water. They are also cleaning up debris around locations to assess condition of equipment and, where appropriate, to prepare for bringing sites back on line.

September 24, 2013

The COGCC had nine teams in the field Monday. Teams continued to be hampered by wet and slow-going conditions. Teams on Monday assessed 157 wells and 71 tank batteries.

The agency is tracking 11 notable releases. Three new releases have been confirmed since Monday's update.

A Noble location east of Kersey near Highway 34 and Highway 56 released 121 barrels; a PDC location east of Greeley, near the intersection of Highway 34 and the bypass for Highway 34 released 60 barrels; and a Mineral Resources location north and west of LaSalle released an unknown volume.

The 11 notable releases account, in total, for more than 822 barrels, or 34,524 gallons. The amount for two of these 11 releases is unknown. This volume is approaching a volume equivalent to three, standard, 300-barrel oil storage tanks.

The COGCC considers all spills of concern, and will require full investigations and remediation of environmental impacts when appropriate and possible. At the same time, the scale of the event and the environmental impacts of a broad and voluminous flow of contaminants across industries, agriculture and wastewater treatment facilities are important to keep in mind.

September 23, 2013

The COGCC is tracking eight notable releases. Over the weekend, the agency learned of a 36 barrel release of oil at a Noble location between Evans and LaSalle and a 26 barrel release at an Anadarko location near Johnstown. At this point, COGCC has confirmed releases totaling 641 barrels, or 27,000 gallons. For context, that is equal to the oil contained in two typically sized storage tanks.

The COGCC is tracking 10 additional locations with some evidence of release of oil, such as a sheen on the water, and another 33 locations where there appears to be damage to tanks or other equipment but no obvious indication of a release. COGCC continues efforts to access all of these locations, to evaluate conditions and determine extent of releases, if any. Additional rainfall today will continue to slow efforts to reach some areas.

As of this weekend, approximately 1,300 wells remain shut-in following the flood. Some sites remain inaccessible for physical inspection, while others will require repairs ranging from minor to substantial before wells on location can return to production.

The COGCC has issued a Notice to Operators regarding start-up procedures for locations impacted by flood waters. The notice outlines a series of measures for ensuring that locations affected by the flood can be returned to operation safely.

All identified spills are required to be cleaned up, recognizing that contaminants of all kinds have been moved and dispersed with floodwaters. These conditions will create challenges in certain cases with tying impacted areas to specific parties, but operators will be accountable for cleanup when appropriate and when possible.

September 21, 2013

COGCC personnel are in the field today, continuing to conduct ground surveys. The teams have now assessed roughly 35 percent of the impacted areas. Wet, muddy and high-water conditions continue to make access slow and difficult in many areas

The COGCC is tracking six notable releases. That is one additional notable release - 74 barrels (3,108 gallons) from a Noble location near Milliken— since the information we provided in yesterday's update. This makes the total amount of known oil releases more than 25,000 gallons. That is roughly equivalent to two, 300-barrel oil storage tanks.

In addition we are tracking 12 locations with visible evidence of a release, such as a sheen or damage to equipment. No estimates of product losses are available for those sites. COGCC is coordinating with operators to develop more information about these sites as soon as practicable.

September 20, 2013

Here is an update on COGCC's assessment of oil and gas-related impacts of the flooding as of Friday morning.

Six teams of inspectors are in the field today, with one devoted to responding to larger incidents if necessary. The agency will also continue aerial surveys. The teams have now assessed roughly 30 percent of the impacted areas. Conditions continue to make access difficult in many areas.

The COGCC is tracking five notable releases, with volume amounts confirmed for four of those. Those include releases of 323 barrels and 125 barrels from Anadarko locations – both of those reported to you yesterday. Two additional releases of 56 barrels at an Anadarko location and 21 barrels at a Bayswater Exploration and Production location have also been confirmed. Both of the latter two locations are along the South Platte River near Evans.

Those four releases represent about 22,000 gallons of oil. An additional release has been reported by Anadarko, but the volume is unknown at this time.

The agency also confirmed that a location operated by PDC had its production equipment largely washed away. The agency is working with the operator to ascertain the amount of product that was on site before flooding began.

The COGCC's aerial survey Thursday revealed as many as two dozen tanks overturned. Releases from these tanks have not been confirmed but are certainly a possibility. In addition we are tracking 11 locations with visible evidence of a release, such as a sheen. No estimates of product losses are available for those sites. COGCC is coordinating with operators to reach these sites as soon as practicable.

The COGCC continues to compile reports from operators on numbers of facilities impacted. The COGCC is tracking these reports and full investigations will take place when access allows. Operators will be required to remediate environmental impacts where necessary.

September 19, 2013

Five teams of inspectors and environmental protection specialists were in the field on Wednesday, September 18. The teams were canvassing flood impacted areas in the vicinity of Coal Creek, Boulder Creek, St. Vrain, Big Thompson, and the South Platte. Today, six teams are back the field, and one COGCC staff member will be in the air with the Weld County Sheriff's Department.

As of noon today, the COGCC is tracking 10 oil releases. Two of those are notable; the remaining eight appear to be minor. Minor spills in the context of this situation would be considered spills described as sheens coming off of a piece of equipment rather than a measurable volume of petroleum product.

We reported one of those notable releases to you last night: 125 barrels from an Anadarko storage tank south of Milliken. Another Anadarko storage tank has released 323 barrels (13,566 gallons). That event occurred north of Firestone on the St. Vrain River. In both cases, it appears the oil left the site in floodwaters. Though

Anadarko deployed absorbent booms in the first case, the booms collected residual oil in standing water pooled around the tanks (not water feeding into the river). In both cases, the releases were promptly reported by the operator.

In the context of this historic event, these spills are not an unexpected part of many other sources of contamination associated with the flood. Those include very large volumes (millions of gallons) of raw, municipal sewage and other hazards associated with households, agriculture, business and industry.

A typical oil storage tank holds 300 barrels, though some tanks are larger. These two releases, then, involved approximately one and one-half tanks.

In this dynamic stage, as we continue to assess the situation in the field and gather information from operators and others, we are at times dependent on characterizations from third parties.

September 18, 2013

The Colorado Oil and Gas Conservation Commission (COGCC) received a report this afternoon from Anadarko Petroleum Corp. of a damaged oil tank that has released an estimated 125 barrels (5,250 gallons) into the South Platte River. The location is south of Milliken and north of the confluence of the St. Vrain River and the South Platte. This is one of the areas seriously impacted by the flood. Anadarko is responding and has absorbent booms in the water. The COGCC responded this afternoon and will, along with the Colorado Department of Public Health and Environment, continue to monitor the cleanup work. We will provide more information about this release when we have it.

September 18, 2013

The Colorado Oil and Gas Conservation Commission (COGCC) continues to assess the condition of oil and gas facilities in the path of flooding. The COGCC has deployed four inspection teams of engineers, inspectors and environmental protection specialists to identify facilities and situations that require the most immediate attention. COGCC will continue to

monitor affected areas as floodwaters recede and access improves.

COGCC has participated in an aerial survey, continues to review photographs and other input from the public and local authorities, is mapping all potentially impacted sites and is in contact with industry personnel. COGCC has confirmed floodwaters or debris have caused tanks to shift in place or move off a pad at some sites. Most locations observed to this point have found tanks and well pads to be intact and in place, but teams are still early in their assessment work. Where storage tanks have shifted or floated off the pad, regulators are ensuring operators are aware of the situation, responding and addressing it as case-by-case circumstances require.

The primary pollutant of concern associated with oil and gas locations is crude oil, which is stored in tanks on site. The COGCC understands public concerns about other chemicals, including those associated with hydraulic fracturing. Those chemicals are only on site during the drilling and fracturing of the well and do not remain on site once the well is in production. The vast majority of wells impacted were in the producing stage.

The COGCC is also assessing the impacts to any pits that may have been affected. Pits are seldom used in the Wattenberg Field area – the oil and gas region most impacted by flooding. Operators in flood-affected areas were aggressive about shutting in the wells – which stops the production of oil and gas - before the flooding began or very early in the event. The majority of well sites are on automated systems that allow the operator to remotely shut the well in. Operators have also deployed hundreds of personnel to evaluate facilities, address impacts and report the information to the COGCC.

September 17, 2013

The Colorado Oil and Gas Conservation Commission (COGCC) is aggressively assessing the impacts of the flood to oil and gas facilities. COGCC is tracking reports and collecting any available data on impacted locations. The agency is working closely with industry, local authorities and the public to gather this information.

Initially, the agency is using GIS mapping to identify oil and gas locations within flooded areas of the South Platte River and its tributaries, and will work to determine which locations have been affected.

The COGCC has formed teams to focus on locations north and south of the South Platte. Those teams include field inspectors, environmental protection specialists and engineers. The COGCC is also working closely with the Colorado Department of Public Health and Environment (CDPHE) on assessment and response.

Access to many areas continues to be limited by water and damaged roadways. But as the situation improves, and more information is available, COGCC will be working with state and local authorities, operators and the public to assess risks and, where necessary, provide environmental response and remediation.

Industry activities include continuous remote monitoring of operations, shutting in wells to cease oil and gas production, evaluating midstream facilities (gas transportation and processing facilities) and responding to calls and addressing damage as issues are identified and as

conditions improve. Operators have also been contributing their personnel and heavy equipment to flood rescue and relief efforts.

The Colorado Department of Public Health and Environment is advising Coloradans that many contaminants, such as raw sewage, as well as potential releases of chemicals from homes, businesses and industry, may be contained in the floodwaters. People are encouraged to stay out of the water as much as possible. If people must be in contact with floodwaters they should wash frequently with warm water and soap.

Individuals or officials who have concerns or information about a specific oil and gas location are encouraged to provide that to the COGCC with as much detail as possible. Information can be sent to DNR_floodinfo@state.co.us

Information we need:

1. Your Name and Phone Number.
2. Location of the Concern (e.g nearest crossroads, section, township, range).
3. Describe your concern (tanks, wells, pipelines, etc.).
4. If you have pictures, please attach them to your email

Concerns About Pits

We are assessing the impact to open pits, including building a count of how many pits may have been affected. Generally speaking, fewer pits are in the Wattenberg Field area where the floodwaters struck, than in areas further east where impacts were less or none at all. It's important to remember what's in the pits, and their purpose. Pits are rarely used in hydraulic fracturing operations in northeastern Colorado. Fracturing and flowback fluids are held in storage tanks and then are either recycled or transported to a disposal well. The pits that are used during hydraulic fracturing store fresh water. It is also quite rare to have a drilling pit in the western part of the DJ basin as companies have moved toward closed loop drilling as a way to reduce the size of their surface disturbance and in order to reuse the drilling fluids.