MEMORANDUM

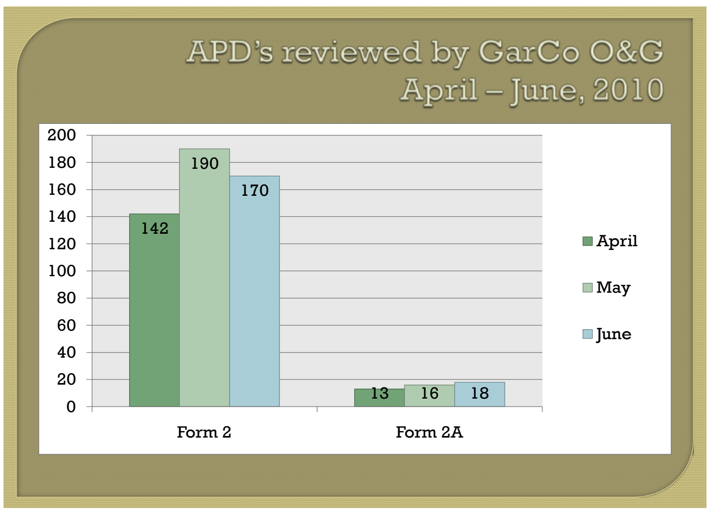
TO: BOCC
FROM: Judy Jordan
RE: O&G 2nd Quarter Report: April – June 2010
DATE: July 14, 2010
CC: Ed Green, Department Heads, Elected Officials

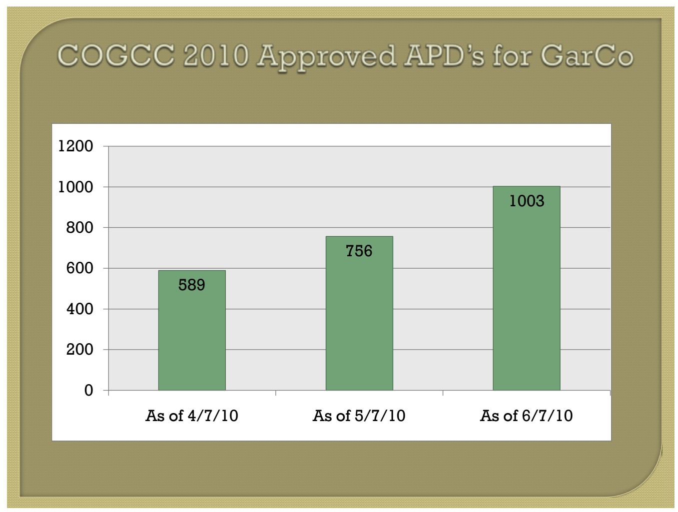
Staffing

Administrative assistant Wendy Swan resigned because of family/location reasons and we wish her all the best. Our new administrative assistant, Denice Brown, began work on July 12, and we welcome her aboard.

Oil and Gas Permits

The following charts reflect the numbers of applications for permits to drill (APDs) submitted to the Oil and Gas Department and issued by the COGCC during the second quarter of 2010.

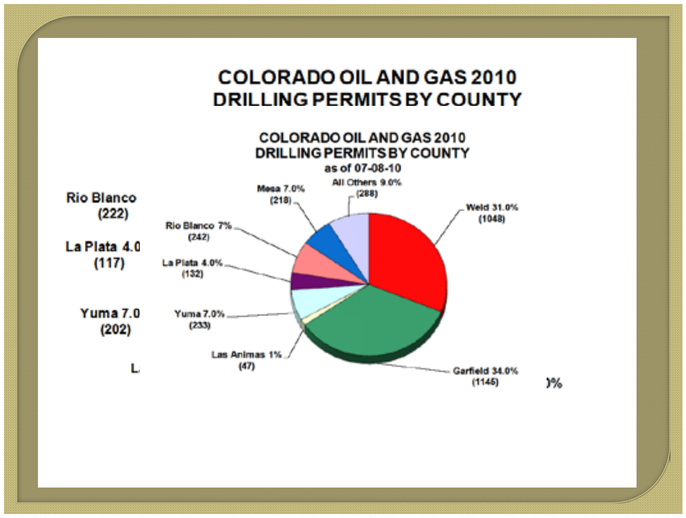




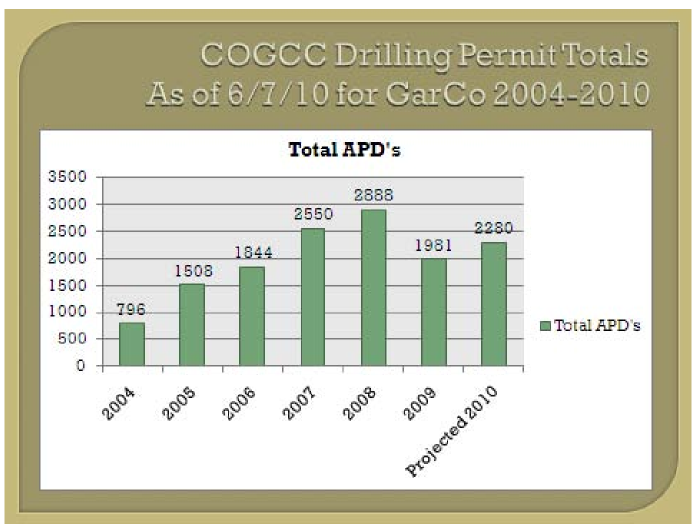
The following chart summarizes the permit applications and notices of decision the Department reviewed during the 2nd quarter.

April 2010 Permit Review	Form 2	Form 2A	Total of Form 2+2A	Form 2 Notice of Decision	Form 2A Notice of Decision	Total of Form 2+2A Notices	Permit Review Time
Total	143	13	**156**	21	8	**29**	**14**
May 2010 Permit Review	**Form 2**	**Form 2A**	**Total of Form 2+2A**	**Form 2 Notice of Decision**	**Form 2A Notice of Decision**	**Total of Form 2+2A Notices**	**Permit Review Time**
Total	190	16	**206**	0	0	**0**	**11**
June 2010 Permit Review	**Form 2**	**Form 2A**	**Total of Form 2+2A**	**Form 2 Notice of Decision**	**Form 2A Notice of Decision**	**Total of Form 2+2A Notices**	**Permit Review Time**
Total	170	18	**188**	87	9	**96**	**16**

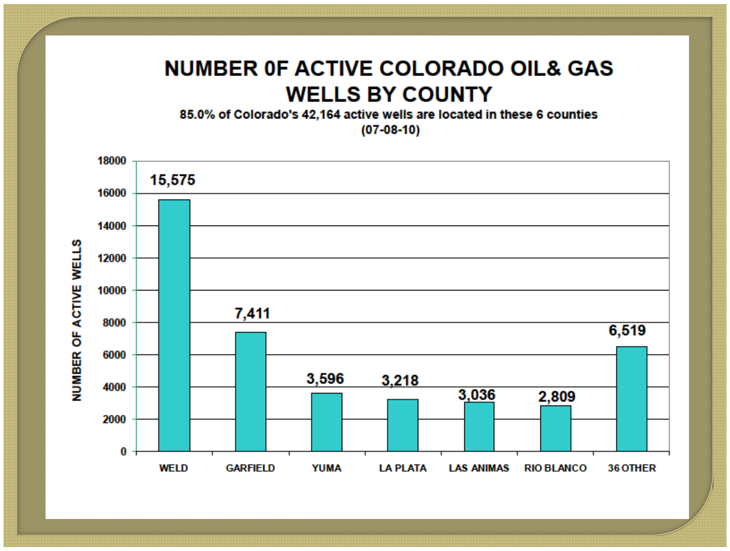
The following chart shows the numbers of APDs approved by COGCC for the quarter by county. As in previous years, Garfield County leads the state in numbers of APDs issued.



The following chart shows the number of APDs issued by COGCC for Garfield County by year since 2004. The peak year was 2008, when 2888 APDs were issued, followed by 2007, when 2550 APDs were issued. If the permitting activity continues at the same rate for the second half of 2010 as for the first, the total number of APDs for 2010 would be about 2280. Since the natural gas boom of the first decade began in 2004, this year would mark the third highest in Garfield County history.

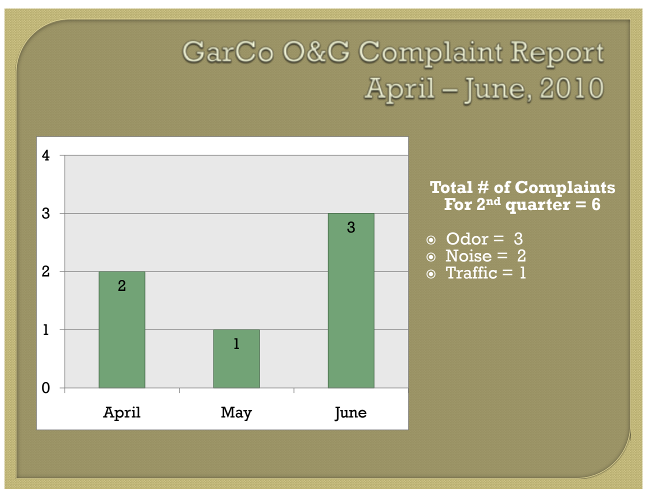


The final chart shows the number of active wells in Colorado, broken down by county. Garfield County continues to trail Weld County by far in the total number of active wells, but also leads the other jurisdictions in the State.



Complaints

The following chart shows the complaints received by the O&G Department in each month of this reporting period, and are broken down by type.



Activity Level

As of June 7, 20 drilling rigs were operating in Garfield County. Fifty six rigs are working in the State of Colorado in the month of July (up by 3 from June), 86 in Pennsylvania (up 4 from June), 68 in New Mexico (up 3 from June), 44 in Wyoming (up 6 from June), 17 in Kansas (even with June), and 28 in Utah (up 2 from June). As indicated by the number of operating rigs both in the Rockies and in the eastern region of the country, it appears that the activity level is increasing, however, it is not clear whether this trend is likely to continue.

Market Conditions

The Energy Information Agency reported that for the week ending July 7, the Henry Hub spot price for gas increased by $0.23 to $4.76 per MMBtu, while oil is at about $77/Bbl. Other sources predict that gas prices will stay within the high $4 to low $5 range for the rest of the year. Our understanding of development costs and profit margins is that, with all other factors equal, Piceance operators generally need between about $5 and $7/MMBtu for it to be profitable to drill new gas wells. Yet the County is on track to permit the greatest number of wells of any year in history, except 2007 and 2008, when the gas prices were in the range of $10 - $13/MM Btu. Although it is not entirely clear why the activity level appears to be high in spite of low gas prices, a few factors seem to be at play. First, COGCC extended the length of time that drilling permits are effective from 1 year to 2 years. The number of wells drilled used to be fairly closely reflected in the number of wells permitted, but this may no longer be the case. Therefore, there may be a gap between the number of wells permitted and the number of wells actually drilled this year. At this point, we have no reliable way of tracking the number of wells placed into production in real time, compared with the number of wells permitted. Another factor is that for the first time in recent history, the prices of natural gas and oil have diverged. The prices of the two commodities used to track very closely. But currently, oil is at a medium-high historic price of $77/Bbl while natural gas is in a medium-low range. This can alter the strategy of gas companies, depending on the nature of their businesses, available capital and ability to acquire new interests in various plays. Economic factors now favor wet gas plays where producers can take advantage of higher oil prices. Obviously, much of the Piceance produces wet gas. Another factor is that Piceance operators have been working to reduce production costs. For example, some operators are reporting huge reductions in well drilling times over the past several years from one to two weeks to several days. New technology, innovation and a decade of experience have allowed savvy operators to squeeze more “bang for the buck” out of their Piceance wells. Also, the long term outlook is for natural gas use to increase dramatically, so operators may be looking to describe themselves as big players in the natural gas industry. Finally, there may be a psychological factor that is driving development in spite of low prices. The natural gas industry has applied new deviated drilling and fracing technology to shale plays that were uneconomic with old production techniques. As a result, there is a frenzy over new shale plays, such as the Barnett, Haynesville, Fayetteville and Marcellus. Industry enthusiasm over the Marcellus, which is estimated by some to hold as much as 350 TCF – an enormous volume (the Piceance is estimated to hold about 31 TCF) of gas, has generated a rush to acquire leases over competitors. Encana, Antero and Williams have made forays into Pennsylvania within the past year. The sheer volume of recoverable gas thought to be available in the eastern US, proximal to the biggest consumer market (which obviously reduces transportation expenses) has produced a kind of see-saw effect in which the tight sand plays of the Rockies are competing with the shale plays of the eastern and southern US. Up until this last month, rig counts in Colorado would rise when Pennsylvania counts fell and vice versa. But this month, rig counts in both states rose. Since standard lease agreements contain hold clauses that require the lessee to drill within a handful of years, it may be that operators are scrambling to acquire leases that will prove more profitable when the price of gas eventually recovers, and they simply have to drill some amount in the meantime. They have to explore the resource in these new shale plays as well as prove their reserves to investors. Meanwhile, it is critical to hold their positions in the Rockies, where the reserves are already proven. The risk of the shale plays is that no one knows whether they can actually produce as much gas as they hold. Early data seem to indicate that at least some of the shales may generate decline curves that are much steeper than the tight sands, which, in conjunction with the existence of pipeline, compression and treatment infrastructure, may be making the Rockies appear to be the safer investment.

Studies

Little progress is being made on the Hydrogeologic Study Phase III because of continued inability to locate monitoring well drilling sites.

Site Visits

Nikki attended 24 visits to well, compressor, centralized frac and water storage sites with BLM. This advances the Department’s 2010 goal of building rapport with BLM as well as enhancing the County’s familiarity with oil and gas activities within the County.

Conferences/Meetings/Workshops:

- Attended odor certification class in April.

- Met with Northwest COGCC Office on April 15, 2010 to learn about new staff additions to the NW region and the restructuring within COGCC. This advanced Department's goal of building relationship with local COGCC staff.
- Participated in conference call convened by Commissioner Samson with COGCC's Neslin and Baldwin on April 27.
- Met with COGCC on May 11, 2010 regarding problems with the Epermit system that both our office and the operators are encountering. Also in attendance were permitters from Williams Productions, Noble Energy, and Bill Barrett Corporation. Provided a summary of the meeting to the Garfield County Operators Group. This advanced Department's goal of building relationship with operators.
- Attended COGCC conference call on pit liners and netting May 17.
- Attended EnCana Energy Expo in May.
- Gave presentation about groundwater quality to the River Network on May 22.
- Toured Heartland Water Treatment facility on June 23.
- Conferenced in on meetings convened by CDPHE in May and June about their emerging occupational health program.

Waivers

The Local Government Designee (LGD) granted two 305 c waivers during the quarter to Antero for the McLin and Frei pads.

Other Agency Information

- COGCC provided notice on April 2 that Encana and BBC had each reported finding thermogenic methane in domestic well water that they sampled. We requested follow up information from COGCC and were informed that the agency was developing additional information that would be made available to the public. That information was presented to the BOCC on July 12, 2010 by COGCC and Encana.
- COGCC had said that it would announce a decision about the Prather Springs release in April 2010, but still has not done so. The Prathers have been in contact and have expressed frustration with the COGCC staff's numerous announcements and failures to comply with their own stated deadlines for resolution.
- Per BOCC's direction, Judy drafted a letter to COGCC for the Chairman's signature to the director of the DNR and the Chair of the COGCC requesting that the COGCC staff meet with us and provide data concerning the Divide Creek area. The letter was mailed on June 25. No response has been received to date.
- The Colorado Petroleum Association (CPA) has petitioned the COGCC to change their rules to allow pit liners to be buried on site. The Colorado Department of Natural Resources is unsure whether it has the authority to grant CPA's petition because it turns on whether pit liners are "Exploration and Production" waste that is uniquely associated with the petroleum industry and therefore exempted from the federal solid waste law. EPA is preparing a guidance letter on the status of pit liners under federal law, therefore the COGCC commissioners voted on July 8th to defer their ruling until their September meeting, when they expect to have the benefit of EPA's determination.

Severance Tax/Employee Residence Reports

This year the Colorado Department of Local Affairs (DOLA) again revised its procedure for reviewing employee residence reports, which are used as a factor to gauge energy activity in local jurisdictions and severance tax distributions. Instead of sending us spreadsheets with the addresses of energy employees, DOLA emailed us notices of receipt from each reporting entity. The County was then required to log into DOLA's website and access each report from each separate entity. Obviously, whereas some other local governments may have only a few operations in their boundaries, we received hundreds of these notices. In addition, rather than simply work with the other jurisdictions as we have in the past to reach consensus on disputed addresses, DOLA required us to "prove" *to them* that any challenged address was in our jurisdiction. We began by providing tax parcel information, which is solid evidence, but DOLA eventually rejected this as "inadequate proof." They ultimately required us to submit a map of each challenged address showing that it resides within the County. Fortunately, Rob Hykys was available to assist and he provided DOLA with a map in every instance where an address was disputed. We appreciate Rob's expertise and good cheer in fulfilling DOLA's requirements. By the same token, the process of reviewing the reports and generating a map for each challenge was a labor intensive operation, and arguably beyond what DOLA should have required of us. The BOCC should be aware that DOLA's insistence on receiving maps is no problem as long as Rob is available, but if for any reason our GIS staff were unavailable to dedicate an entire week or more to this task, we would not be able to comply with DOLA's mapping requirements. It would be more reasonable for them to accept readily available tax parcel information instead.

This year, all of the employee reports were submitted by the employers on time, and as a result, the County submitted all of its challenges on time as well. Our preliminary estimate of direct distributions for this year is roughly 20% of last year's, or about $2MM.

Other

Obviously, this past quarter has featured several high profile oil and gas events, including a pipeline leak in Utah, a well blowout in Pennsylvania, the highly publicized release of the movie, *Gasland,* and the BP disaster in the Gulf of Mexico. Some of the incidents provide lessons that we could learn from. For example, the pipeline leak in Salt Lake City, UT, was reported to have been caused by an electrical arc from high voltage power lines over a utility fence post that was located close to the pipeline. The County may wish to double check our own pipeline regulations to ensure that we preclude this kind of situation for the pipelines over which we have jurisdiction.

In Pennsylvania, the failure to install a backup pressure control device resulted in the 16 hour discharge of a mixture of gas, produced water and hydrocarbons into the sky on June 3. This appeared similar to the discharge experienced by Antero in 2008, although the cause of Antero's loss of well control has never been reported to us. In general, COGCC states that most incidents involving loss of well control result from human error, such as where drilling personnel fail to properly balance mud weights or to notice increased mud returns. In the Pennsylvania case, the Department of Environmental Protection immediately ordered the operator, EOG Resources, to cease operations until the cause of the incident was determined, and they have already fined EOG and their contractor more than $400,000. The Pennsylvania regulations required the use of the backup device, but the operator failed to comply. For a video report of this incident and the State's apparent consideration of new regulations on the industry, see **http://www.wjactv.com/news/24241381/detail.html.** Activities in the Marcellus of Pennsylvania and New York are relevant to us because operators state that state regulation is an important factor in their decisions on where to deploy drilling and production assets. COGCC currently has rules that are similar to Pennsylvania's, requiring the operator to utilize safety equipment to prevent losses of well control. But if Pennsylvania tightens their regulations, Colorado may appear more favorable.

The BP spill was reportedly caused by a gas kick that exploded and opened the well casing at the floor of the Gulf, allowing the oil to discharge into the water. Evidently, the blowout preventer, which is intended as a failsafe device of last resort, should have controlled the kick. It was inoperable due to both power and mechanical failures. The US government's investigation of the incident is underway, but media reports indicate that the blind shear ram that was supposed to cut the well casing ended up only crimping the casing instead. News articles indicate that blowout preventers often failed in tests of deepwater applications. Blowout preventers are used throughout the industry, including by local operators above ground, although we have not reviewed any information indicating that they have been tested and known to fail often in onshore settings. COGCC does require testing of blowout preventers prior to deployment at a drilling site and periodically thereafter.

However, gas kicks in the Piceance are common, and the effects on water, as in offshore operations, can be serious and measurable. In our case, the most prominent example of a consequential gas kick was the one experienced by Encana at the Arbaney well on the P3 pad in 2004. In that instance the result of the kick was that gas was released in the subsurface contaminated groundwater and soil with methane. Encana's soil gas probes continue to register methane in the ditch south of the P3 pad and this year they reported increased methane concentrations in the domestic water supply of the adjacent Moon residence. The recent increase in methane at these sites is unexplained by COGCC, but they agree with Encana's conclusion that the gas in recent monitoring samples' resemblance to gas from the Arbaney well indicate that it is just surfacing 6 years after the initial kick. Methane concentrations measured in the soil in 2004 declined precipitously and rapidly in the months following the kick. Many would interpret this to mean that the gas from that kick followed faults and fractures, and rose quickly to discharge into shallow groundwater and the atmosphere, with only residual amounts remaining dissolved in the groundwater or adhered onto soil particles. This scenario would make it unlikely that any significant volume of gas from 2004 was somehow lost in the subsurface for 6 years. However, COGCC staff are at a loss as to how to explain the recent appearance of thermogenic methane, except to say that its similarity to Arbaney gas must mean that it came from 2004. There may be investigative techniques that could be brought to bear on this question, which COGCC has not yet used. COGCC intends to hire a third party consultant to assist with their investigation, so it is possible that outside expertise may exploit techniques that will more clearly explain the conditions found in the Divide Creek area.

The controversial movie, *Gasland,* was released in June, and was heavily advertised and broadcast on HBO. The movie was produced by an independent filmmaker, Josh Fox, who visited natural gas sites from Pennsylvania, his home state, to Texas, Colorado and Wyoming. The movie features scenes of homeowners lighting the vapors from their faucets on fire, well sites, interviews with state regulators such as COGCC director Dave Neslin, and citizens who assert that natural gas development has impaired their health. Industry refutations of claims made in the film are presented on Energy in Depth's website at http://www.energyindepth.org/2010/06/debunking-gasland/ and it is true that some of the statements made in *Gasland* are somewhat exaggerated on the surface, even without doing extensive fact checking research. For example, Fox claims that the natural gas industry is exempted from all the major federal environmental laws. While it is true that some type of exemption has been written into most of the major environmental laws, the exemptions are not generally wholesale. Instead, most exemptions are similar to the one in the Resource Conservation and Recovery Act, in which industry waste is exempted from the hazardous, but not the solid waste provisions of the statute. The film won a special jury prize for a documentary at the 2010 Sundance Film Festival. The petroleum industry is reportedly developing a rebuttal film, although the release date is not yet known.

Finally, in business developments, Encana has announced that it has entered a joint venture with China National Petroleum to pursue unconventional gas assets in British Columbia. Although joint ventures are not uncommon in the extractive industries, China's movement to secure foreign sources of energy in partnership with a western operator represents a very significant development in geopolitics.