Oil and Gas Development: Land Use Considerations

Planning Commission
January 14, 2014
Activity within Greeley city limits

- Working numbers
  - 431 active wells
    - All require Use by Special Review
    - Equals about 800 ac (1.3 sq miles) surface (2.7%)
  - 1,221 within city + LREGA
  - 259 inactive wells
    - Includes 161 abandoned & 55 plugged/abandoned

- Generally clustered – multiple wells at each site
New jobs create demand for housing
Higher salary helps increase per capita and median household income
New Noble Energy Schneider Energy offices creating 300-400 new jobs
Weld County over 20,000 wells
40+% Weld operating revenue

<table>
<thead>
<tr>
<th>Greeley FY</th>
<th>Tax revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>505,712</td>
</tr>
<tr>
<td>2006</td>
<td>441,280</td>
</tr>
<tr>
<td>2007</td>
<td>314,537</td>
</tr>
<tr>
<td>2008</td>
<td>599,446</td>
</tr>
<tr>
<td>2009</td>
<td>1,611,013</td>
</tr>
<tr>
<td>2010</td>
<td>450,831</td>
</tr>
</tbody>
</table>
### 2012 Realized Revenues to City of Greeley due to oil/gas:

<table>
<thead>
<tr>
<th>Revenue Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral royalty payments (city property)</td>
<td>$230,000</td>
</tr>
<tr>
<td>Leasehold Payments</td>
<td>4,000</td>
</tr>
<tr>
<td>Sales &amp; use tax receipts</td>
<td>180,000</td>
</tr>
<tr>
<td>Property tax</td>
<td>690,000</td>
</tr>
<tr>
<td>Severance tax</td>
<td>1,400,000</td>
</tr>
<tr>
<td>Federal mineral lease distribution</td>
<td>687,000</td>
</tr>
<tr>
<td><strong>TOTAL – 2012 direct revenue to City</strong></td>
<td><strong>3,191,000</strong></td>
</tr>
</tbody>
</table>
### Economic Impacts

(Projecting 10x increase in current City O&G activity)

**Assumptions:** 250 Horizontal Wells over 10 years in Greeley Area
- Well Cost: $5M per well
- Total Capital Expense: $1.25 Billion

**Royalties from Production (Lifetime – approximately 20-25 years)**
- University of Northern Colorado: $22 Million
- Greeley Evans School District #6: $21.6 Million
- Aims Community College*: $21.5 Million
- City of Greeley: $27 Million
- Private Owners (Res & Business): $808 Million
- Total Projected Royalties: $900.1 Million

**Taxes (Lifetime – approximately 20-25 years)**
- Sales Tax (Greeley): $11.25 Million
- Sales Tax (State of Colorado): $9.06 Million
- Ad valorem Tax (on minerals): $360 Million
- Severance Tax (State collected/distributed): $45 Million
- Conservation Tax (COGCC collected): $4.2 Million
- Total Projected Taxes: $429.5 Million

**Employment/Jobs**
- Primary Industry Jobs: 300
Greeley Long-Range Growth Area
How does oil and gas mineral extraction take place?

- Overview at http://www.norternoil.com/drilling-video
± 7,500 FEET BELOW SURFACE

APPROXIMATELY 1 MILE
Context

- **Land use process**
  - Trained for all types of land use scenarios
  - Regulations start with the general, go to specific
  - Zoning, subdivision, site planning

- **Public education process**
  - Oil and gas mineral extraction process
    - Resource page on website
    - [www.greeleygov.com/oilandgas](http://www.greeleygov.com/oilandgas)
Jurisdictional Considerations

- Mineral extraction is exercising a private property right
- Mineral rights may or may not be severed from the surface property right
- Operations are regulated by the state
- Basic land & surface regulation is relegated to local government
- Handled in context of broader land use controls
Considerations during the early site planning process
Colorado law sets rules for downhole spacing of wells.
Surface locations are different if drilling comes before vs. after surface development.
Spacing can change with a mutual Surface Use Agreement.
If drilling (or potential drilling) comes BEFORE development, then:
  - Subdivision plats accommodate drilling windows (or Surface Use Agreement)
  - Or, if no objection from mineral owners, plat as desired.
Example of a subdivision plat designed around oil/gas well locations (example is not in Greeley)
Notice must be provided to mineral owners at least 30 days prior to platting/surface development decisions (i.e., zoning, preliminary plan, USR)

Key addition to state law to ensure mineral owners are notified of surface plans
If drilling comes AFTER surface development in the area, then

- Drilling facility must meet 500’ setback (set by the State), OR per variance criteria set by State statutes
- Some other setback might be allowed by local regulations
Greeley oil & gas setbacks

- 150’ from roads, trails, railroads, and “low-density areas”
- 200’ from occupied buildings (“high-density”)
- 350’ from educational, hospital, etc. (“high-density”)
- Option for less (blast wall, etc.)
Vertical vs. directional in a section of land

Vertical Wells

Directional Wells
Site Considerations

- COGCC setback to 500’ on August 1
- Other COGCC considerations:
  - Mitigation of impacts
  - Downhole monitoring
  - Coordination with state/fed (water/air)
  - Surface monitoring (drill setup, noise)
  - Chemical tracking/records management
Chapter 18.56, Oil & Gas Operations

USR §18.20.070

- Comp Plan
- Compatible with surrounding land uses
- Site physically suitable
- Traffic flow/parking
- Cumulative effect of USRs in area
Low profile tanks, landscaping

Standard tanks, industrial setting, battery of tanks & separators on group directional drill installation
Effects & opportunities from directional / horizontal

“Leap-frog” concerns

- Doubling setbacks (4.5 ac → 18 ac)
- Conceptually, if no development within 500’ of existing wells, 1/3 of future would be unbuildable
Theoretical land use impacts

DATA SPECIFICS
Buffer Impact Area for active** well locations within the Greeley City limits

<table>
<thead>
<tr>
<th>Buffer Distance</th>
<th>Acres</th>
<th>Sq. Mi.</th>
<th>% of City (47.25 sq. mi.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing City (200')</td>
<td>828</td>
<td>1.3</td>
<td>2.7%</td>
</tr>
<tr>
<td>Proposed COGCC (500')</td>
<td>4,738</td>
<td>7.4</td>
<td>15.7%</td>
</tr>
<tr>
<td>Proposed COGCC (1000')</td>
<td>11,668</td>
<td>18.2</td>
<td>38.6%</td>
</tr>
</tbody>
</table>

* Active wells are those with status codes for permitted, drilling, shut-in, and producing
** See attached map for visual representation

- Buffer Impact Area for active** well locations within the Greeley Future Growth Area – i.e., the Long Range Expected Growth Area (includes existing built City limits)

<table>
<thead>
<tr>
<th>Buffer Distance</th>
<th>Acres</th>
<th>Sq. Mi.</th>
<th>% of LREGA (91.1 sq. mi.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing City (200')</td>
<td>2,540</td>
<td>4.0</td>
<td>4.4%</td>
</tr>
<tr>
<td>Proposed COGCC (500')</td>
<td>14,923</td>
<td>23.3</td>
<td>25.6%</td>
</tr>
<tr>
<td>Proposed COGCC (1000')</td>
<td>36,157</td>
<td>56.5</td>
<td>62.0%</td>
</tr>
</tbody>
</table>

** Active wells are those with status codes for permitted, drilling, injecting, shut-in, and producing
Common Questions

- Fracking impact on water quality
- Quantity of water used in fracking
- Disposal of fracking waste water
- Composition/environmental aspects of drilling fluids
- Forced ‘pooling’ arrangements
- Noise, traffic, air quality for adjacent properties
- Sub-surface degradation/impact on surface uses
Memorandum of Understanding is a statement of intent.

Both parties acknowledge each others’ role (read: jurisdiction) in regard to matters of joint interest (read: regulation of oil/gas).

Level of State deferral.
City Interest

- Local control on matters that are not state interest
  - Colorado Supreme Court ruling in 1992
  - Traditional function of local land use control

- Matters of State interest vs. matters of local
  - Not always easy to discern
  - A matter of administration
  - Working with mutual understanding & trust (through an MOU) creates better outcome
MOU Clauses

- Commitment to communication & coordination
- Recognize respective authorities
  - Of city: local land use code, including design & development standards
  - “Harmonize” such regulations
  - COGCC will defer to City, where existing plans
Other considerations?

- Staff research
- No conclusions
- Outreach plans for 2014
  - City Manager work program: Convene a Community Dialogue Regarding Oil and Gas Land Use
Questions?
## Weld County Oil and Gas Taxes

### OIL AND GAS

<table>
<thead>
<tr>
<th>Years</th>
<th>Value</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>$375,435,010</td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>$297,691,990</td>
<td>-20.7%</td>
</tr>
<tr>
<td>1997</td>
<td>$334,221,680</td>
<td>12.3%</td>
</tr>
<tr>
<td>1998</td>
<td>$345,162,450</td>
<td>3.3%</td>
</tr>
<tr>
<td>1999</td>
<td>$283,818,260</td>
<td>-17.8%</td>
</tr>
<tr>
<td>2000</td>
<td>$334,270,140</td>
<td>17.8%</td>
</tr>
<tr>
<td>2001</td>
<td>$624,037,760</td>
<td>86.7%</td>
</tr>
<tr>
<td>2002</td>
<td>$649,020,570</td>
<td>4.0%</td>
</tr>
<tr>
<td>2003</td>
<td>$553,638,730</td>
<td>-14.7%</td>
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<tr>
<td>2004</td>
<td>$967,273,770</td>
<td>74.7%</td>
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<tr>
<td>2005</td>
<td>$1,279,812,120</td>
<td>32.3%</td>
</tr>
<tr>
<td>2006</td>
<td>$1,736,199,450</td>
<td>35.7%</td>
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<tr>
<td>2007</td>
<td>$1,744,572,440</td>
<td>0.5%</td>
</tr>
<tr>
<td>2008</td>
<td>$1,710,307,180</td>
<td>-2.0%</td>
</tr>
<tr>
<td>2009</td>
<td>$2,868,050,190</td>
<td>67.7%</td>
</tr>
</tbody>
</table>

### Tax Receipts

- **1995**: $0
- **1996**: $500
- **1997**: $1,000
- **1998**: $1,500
- **1999**: $2,000
- **2000**: $2,500
- **2001**: $3,000
- **2002**: $3,500
- **2003**: $4,000
- **2004**: $4,500
- **2005**: $5,000
- **2006**: $5,500
- **2007**: $6,000
- **2008**: $6,500
- **2009**: $7,000

### Graph

- **OIL AND GAS**
  - The graph shows the assessed valuation of oil and gas from 1995 to 2009, with a significant increase in valuation over the years.