Water Management Plan Update:
Oil and Gas Workshop, 05/15/2014

Presented by:
Jason Harmon
Agenda items

• WMP Pad Plans
  – Overview
  – Logistics

• Questions
WMP approval per well

First well on a pad
Overview

With subsequent wells, information is often redundant

duplicated effort
Overview

There should be a way to condense all this identical information into a single, comprehensive plan...

duplicated effort  
reduced effort
Overview

When drilling schedules change, modifying every WMP on the pad is tedious and introduces sources of error.
Program change: Well Pad WMPs

Every well work permit must be accompanied by a water management plan meeting the requirements of §22-6A-7 and §35-8-5.6.
WMP Pad Plan Application

Remodeled application

- New application sub-types
- New coverage details
- New water use estimates
- New date range stipulations
WMP Pad Plan Application Terminology

- **Well-WMP**: WMP application for a traditional, well-based WMP approval

- **Pad-WMP Application**: WMP application for a comprehensive, well pad-based WMP approval

- **WMP Short-Form Application**: Sections I-III of the pad-WMP Application.
Pad planning scenarios

- First well on the pad (singular permit submission)
Pad planning scenarios

- First well on the pad (singular permit submission)
Pad planning scenarios

- First well on the pad (singular permit submission)
Pad planning scenarios

- Co-pending applications (multiple permit submission)
Pad planning scenarios

- Co-pending applications (multiple permit submission)

**Well Pad Name**

- Well 1
- Well 2
- Well 3

**Section II(b) – Water Management Plan Coverage Detail (for pad plans only)**

<table>
<thead>
<tr>
<th>Well Pad Name (for all well and well pad plans):</th>
<th>County:</th>
</tr>
</thead>
<tbody>
<tr>
<td>WMP (old)</td>
<td>Well Number</td>
</tr>
<tr>
<td>Well 1</td>
<td>Lat</td>
</tr>
<tr>
<td>Well 2</td>
<td>Lat</td>
</tr>
<tr>
<td>Well 3</td>
<td>Lat</td>
</tr>
</tbody>
</table>
Pad planning scenarios

- Co-pending applications (multiple permit submission)
Pad planning scenarios

- Applications with approved WMPs (pad plan exists as part of issued permit)
Pad planning scenarios

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<table>
<thead>
<tr>
<th>Well Pad Name</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lat</td>
<td>Long</td>
</tr>
<tr>
<td>Well 1</td>
<td>47-000-00001</td>
</tr>
<tr>
<td>Well 2</td>
<td>47-000-00002</td>
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<tr>
<td>Well 3</td>
<td>47-000-00003</td>
</tr>
<tr>
<td>Well 4</td>
<td></td>
</tr>
</tbody>
</table>
Pad planning scenarios

- Applications with approved WMPs (pad plan exists as part of issued permit)
Pad planning scenarios

- WMP Modifications

![Diagram](image_url)

**Section II(a) - Water Management Plan Overview**

- **Plan Type**
  - Well (individual)
  - Well Pad

- **Plan Status**
  - New (include full application)
  - Co-pending (include full application)
  - Approved (include previously approved pad plan plus sections I - III)
  - Modification (include full application)

- **Well Pad Name**
  - Lat
  - Long
  - County

*All modifications for well WMPs will be converted to Well Pad WMPs unless otherwise requested.*
Pad planning scenarios

- Applications with approved WMPs (pad plan exists as part of issued permit)
Pad planning scenarios

- WMP Modifications

<table>
<thead>
<tr>
<th>Well Pad Name</th>
<th>WMP (old)</th>
<th>Well Number</th>
<th>API</th>
<th>Lat</th>
<th>Long</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well 1</td>
<td>01000</td>
<td>47-000-00001</td>
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<tr>
<td>Well 2</td>
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<tr>
<td>Well 3</td>
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<td></td>
</tr>
<tr>
<td>Well 4</td>
<td>01002</td>
<td>47-000-00004</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
Pad planning scenarios

- Water use estimates and date ranges

### Section III(a) – Source Water Overview

<table>
<thead>
<tr>
<th>Estimated Water Needs</th>
<th>Gallons</th>
<th>Anticipated Withdrawal Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction (compaction)</td>
<td>#</td>
<td>Pad Construction Start: 5/15/2014</td>
</tr>
<tr>
<td>Drilling (cement, mud systems)</td>
<td>#</td>
<td>Pad Reclamation End: 5/15/2019</td>
</tr>
<tr>
<td>Hydraulic Fracturing</td>
<td>#</td>
<td></td>
</tr>
<tr>
<td>Post-Fracturing (coffin, drill-outs)</td>
<td>#</td>
<td></td>
</tr>
<tr>
<td>Reclamation (hydroseeding)</td>
<td>#</td>
<td></td>
</tr>
<tr>
<td>Incidental Use (dust suppression)</td>
<td>#</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>#</td>
<td></td>
</tr>
<tr>
<td>Onsite storage capacity</td>
<td>#</td>
<td></td>
</tr>
</tbody>
</table>

The following water consumption estimates (in gallons) have been reported for this plan:

| Construction: | 210,000 | Est. Construction Start: 5/15/2014 |
| Drilling Activities: | 840,000 | Est. Reclamation End: 5/15/2019 |
| Hydraulic Fracture: | 33,600,000 |                              |
| Post-Fracture: | 210,000 |                              |
| Incidental Uses: | 210,000 |                              |
| Reclamation Activities: | 210,000 |                              |
| Total Water for Well Pad | 210,000 |                              |
Summary

• Every permit application MUST be accompanied by a WMP
  – WMP = full application if a pad WMP has never been issued with an approved permit; or
  – WMP = approval + short form (sections 1-3 of WMP application)
• Withdrawal date range restrictions of 1 year have been removed
• Expanded water use estimates are required to better capture well pad water use needs
Questions?

• Contact

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