Oil and Gas Potential in Bowser and Nechako Basins

Presentation to Minerals North 2005

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My key messages

• Interior Basins are at the very early stage of oil and gas development
• There is oil and gas potential here, but staged exploration activities are needed to learn more about resource potential and local environmental/social issues
• The communities and First Nations have opportunities to be involved at each stage
## BC Oil and Gas Industry

<table>
<thead>
<tr>
<th></th>
<th>2002/03</th>
<th>2003/04</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oil and Gas Activity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Wells Drilled</td>
<td>821</td>
<td>1281</td>
</tr>
<tr>
<td>Raw Natural Gas Production (TCF)</td>
<td>1.072</td>
<td>1.070</td>
</tr>
<tr>
<td>Oil Production (MBB)</td>
<td>14.715</td>
<td>13.959</td>
</tr>
<tr>
<td><strong>Oil and Gas Revenue ($Billions)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Royalties</td>
<td>1.174</td>
<td>1.350</td>
</tr>
<tr>
<td>Tenure Sales</td>
<td>0.280</td>
<td>0.626</td>
</tr>
<tr>
<td>Fees and Rentals</td>
<td>0.052</td>
<td>0.056</td>
</tr>
<tr>
<td><strong>Total Oil and Gas Revenue</strong></td>
<td>1.506</td>
<td>2.032</td>
</tr>
</tbody>
</table>
Benefits of Oil and Gas

• Local Economic Diversification
• Employment
• Provincial Revenues for public services (e.g. health care, education)
• Secure Energy Source
MEM/OGC Roles & Responsibilities

MEM

- Policy
- P&NG tenure
- Resource development
- Geoscience expertise
- Stakeholder expertise
- Community relations
- First Nations relations

OGC

- "One window" Regulatory body
- Operational issues
- Compliance and enforcement
- Technical expertise
- Operational stakeholder relations
- Operational First Nations relations
Interior Basins Oil and Gas Potential

- High risk level
- General lack of awareness
- Limited geoscience information
- Rugged Terrain (locally)
- Lack of Infrastructure

Tcf = trillion cubic feet gas
BBO = billion barrels of oil
(These are theoretical in-place numbers)
Klappan & Groundhog 8 Tcf
Peace River 60 Tcf
Kootenay 19 Tcf
Comox 0.8 Tcf
Hat Creek 0.5 Tcf
Telkwa 0.13 Tcf
Tuya River 0.07 Tcf
Coal River 0.003 Tcf
Princeton 0.08 Tcf

Interior Basins Coalbed Gas Potential

- High risk level
- General lack of awareness
- Limited geoscience information
- Rugged Terrain (locally)
- Lack of Infrastructure
Industry Activities To Date

• Bowser Basin
  – 2 wells drilled in 1969 & 1972
  – Shell Canada’s CBG Exploration Program in Klappan-Groundhog Coalfields

• Nechako Basin
  – 12 exploratory wells and 1100km seismic data (1930’s – 80’s)
  – No current industry activity
Oil and Gas Development Paths

- Initial Exploration
  - geoscience, seismic etc.
- Obtaining P&NG Rights
- Evaluation
  - geoscience, drilling, seismic etc.
- Development
- Production
- Reclamation

Staged Approach to understand resource & issues
MEM Activity To Date

• “Interior Basins Strategy” & “Team”
• Improve geoscience knowledge and refine oil and gas potential estimates
  – Federal / Provincial Joint Programs
• Promotion of opportunities to industry
• Tenure disposition to Shell Canada for Coalbed gas project in Klappan-Groundhog
• Community and First Nations Relations
• “Geoscience BC” funding for oil and gas projects in Interior Basins
  – $5 mil out of $25 mil (BC Yukon Chamber of Mines)
Federal/Provincial Joint Programs

- **Geological Mapping in Bowser Basin**
  - Partnered with Geological Survey of Canada (NRCan)
  - 2003 to 2007
  - $4 million project
  - Mapped 7700 km² in 2003 & 13,000 km² in 2004
  - Annual Industry workshop in Calgary
  - Discovery of dinosaur footprints and a turtle fossil

- **Resource Assessment Study in Bowser/Nechako**
  - Partnered with Geological Survey of Canada (NRCan)
  - Ongoing since 2001
Bowser Basin Information:
www.bowserbasin.com
- Research History
- Geology
- Maps
- Technical Publications
- Presentations
- Photo Gallery
- Future Works

Nechako Basin Information:
www.em.gov.bc.ca/oilandgas
- Resource - Conventional Oil and Gas - Interior Basins
Community and First Nations engagement

• Communities involved and engaged at each stage
• First Nations community engagement and meaningful consultation
• Aboriginal Relations Branch is a resource for First Nations
MEM is continuing to:

• Develop and publish new geoscience information
• Refine oil and gas potential numbers
  – Keep working in Bowser, more focus on Nechako
• Promote opportunities to the industry
• Engage communities and First Nations
• Work with stakeholders to achieve responsible resource development
Summary of my presentations

• Interior Basins are at the very early stage of oil and gas development
• There is oil and gas potential here, but staged exploration activities are needed to learn more about resource potential and local environmental / social issues
• The communities and First Nations have opportunities to be involved at each stage
Thank you! We welcome your feedback and opinions.
http: www.em.gov.bc.ca/oilandgas

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