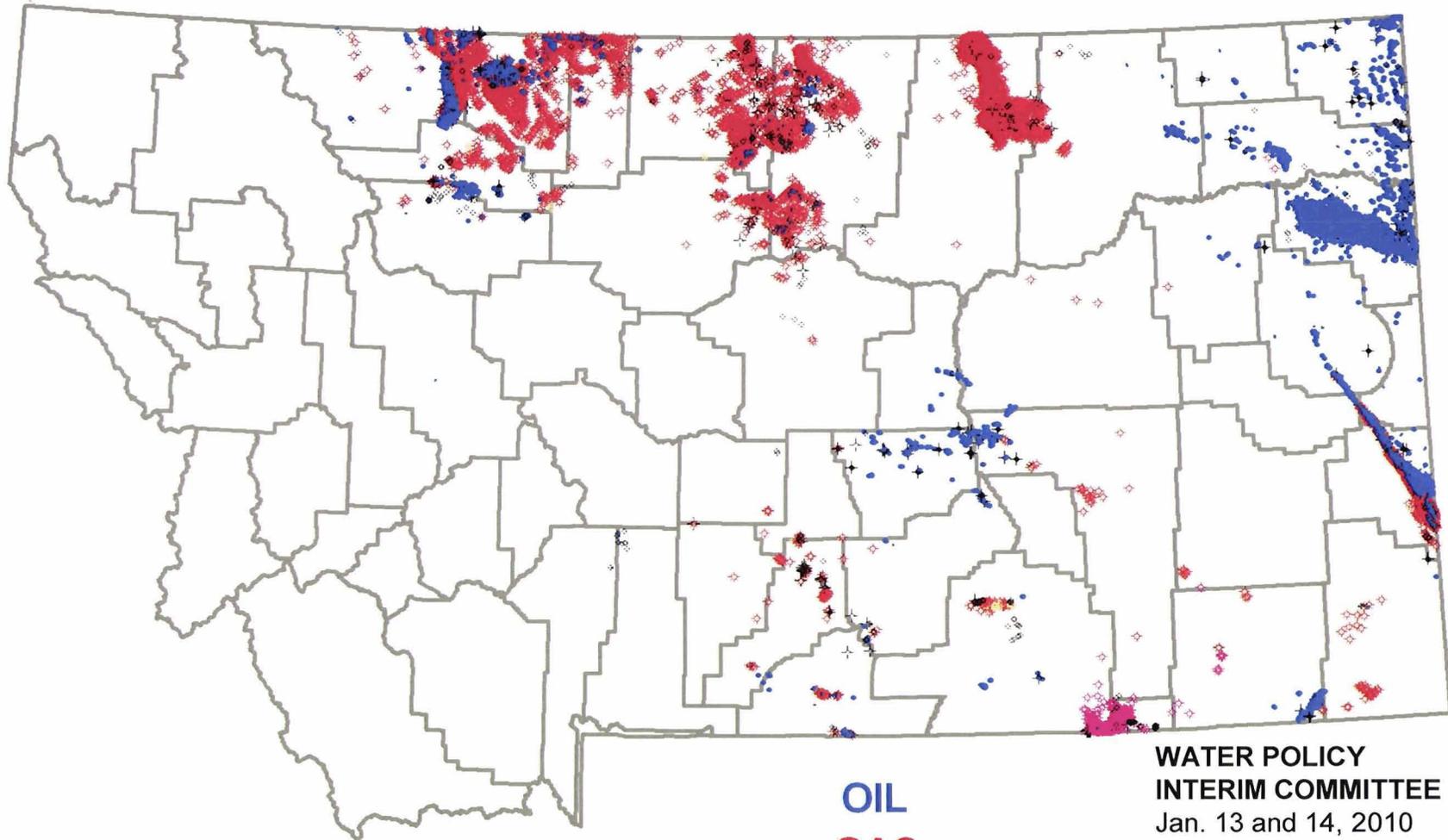


# Montana Board of Oil and Gas Conservation

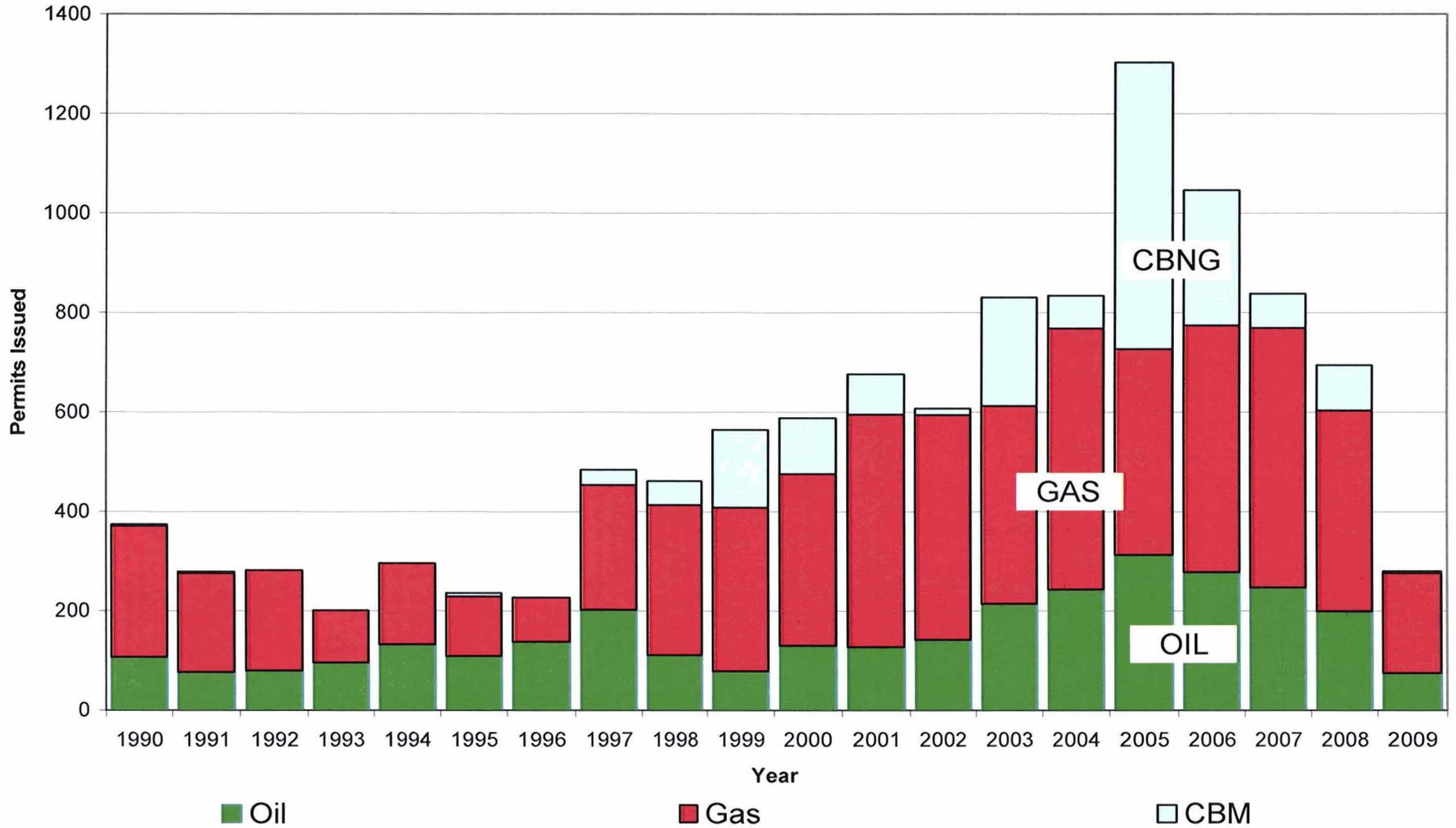


Well Activity Locator Map

**OIL**  
**GAS**  
**COAL BED METHANE**

WATER POLICY  
INTERIM COMMITTEE  
Jan. 13 and 14, 2010

# Drilling Permits 1990 through Current 2009



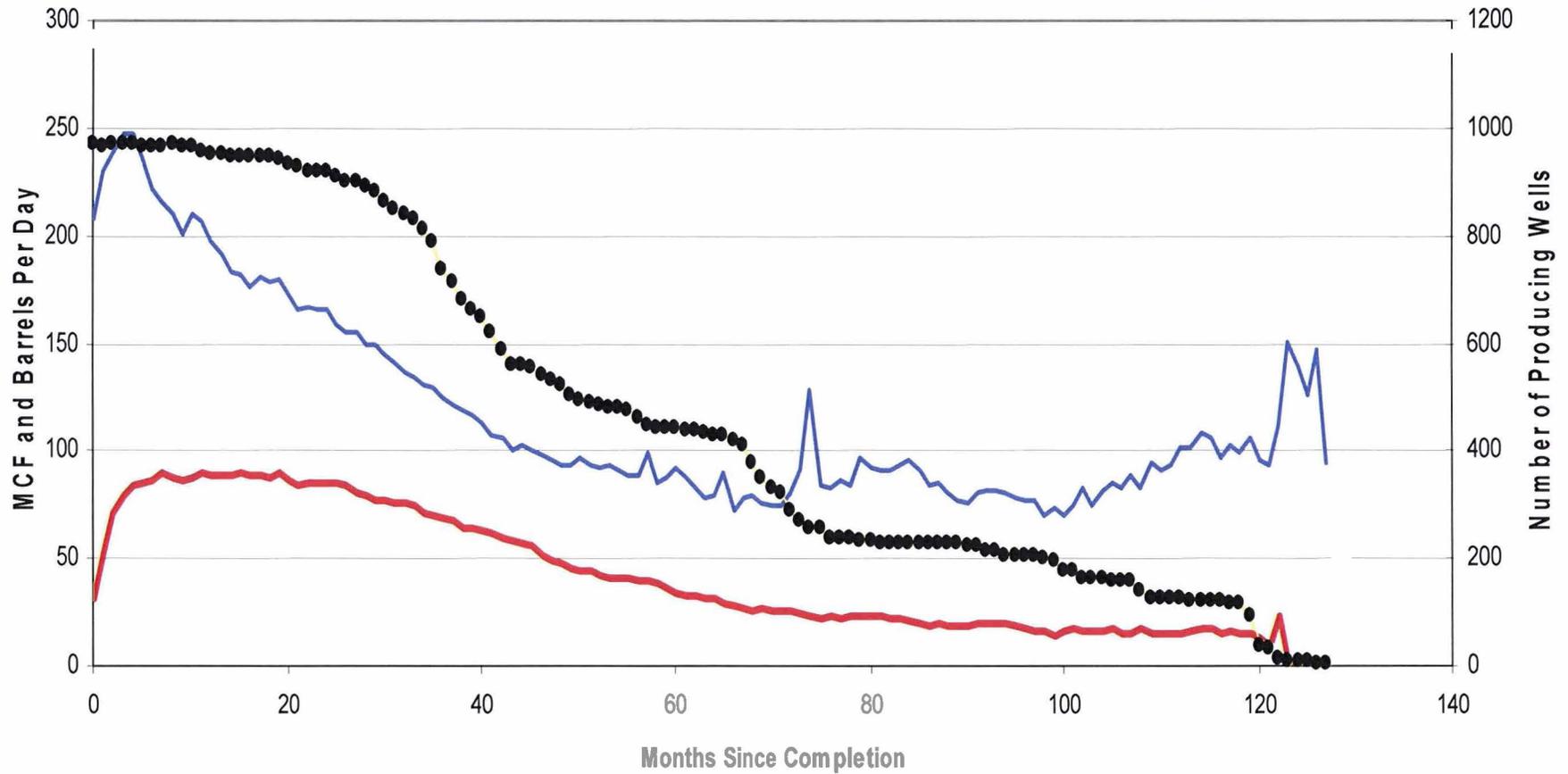
## Five-Year Completion Summary

<b>2005</b>	<b>Oil</b>	<b>Gas</b>	<b>CBM</b>	<b>Gas Storage</b>	<b>Dry</b>	<b>Injection</b>	<b>Disposal</b>	<b>Other</b>	<b>Total</b>
Quarter 1	50	25	54	0	11	1	1	0	142
Quarter 2	49	76	6	0	24	0	0	1	156
Quarter 3	63	138	66	0	28	3	1	0	299
Quarter 4	49	129	37	0	12	0	0	0	227
<b>Total 2005</b>	<b>211</b>	<b>368</b>	<b>163</b>	<b>0</b>	<b>75</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>824</b>
<b>2006</b>	<b>Oil</b>	<b>Gas</b>	<b>CBM</b>	<b>Gas Storage</b>	<b>Dry</b>	<b>Injection</b>	<b>Disposal</b>	<b>Other</b>	<b>Total</b>
Quarter 1	59	47	58	0	12	0	4	0	180
Quarter 2	56	63	136	0	23	3	1	0	282
Quarter 3	63	115	81	0	14	2	3	2	280
Quarter 4	36	123	42	0	16	1	1	1	220
<b>Total 2006</b>	<b>214</b>	<b>348</b>	<b>317</b>	<b>0</b>	<b>65</b>	<b>6</b>	<b>9</b>	<b>3</b>	<b>962</b>
<b>2007</b>	<b>Oil</b>	<b>Gas</b>	<b>CBM</b>	<b>Gas Storage</b>	<b>Dry</b>	<b>Injection</b>	<b>Disposal</b>	<b>Other</b>	<b>Total</b>
Quarter 1	45	55	18	0	10	2	0	1	131
Quarter 2	47	61	15	0	13	0	1	1	138
Quarter 3	64	141	22	0	21	0	3	0	251
Quarter 4	33	143	7	0	21	0	4	1	209
<b>Total 2007</b>	<b>189</b>	<b>400</b>	<b>62</b>	<b>0</b>	<b>65</b>	<b>2</b>	<b>8</b>	<b>3</b>	<b>729</b>
<b>2008</b>	<b>Oil</b>	<b>Gas</b>	<b>CBM</b>	<b>Gas Storage</b>	<b>Dry</b>	<b>Injection</b>	<b>Disposal</b>	<b>Other</b>	<b>Total</b>
Quarter 1	32	83	20	0	8	0	0	1	144
Quarter 2	39	38	5	0	8	3	0	1	94
Quarter 3	30	118	2	0	20	0	1	0	171
Quarter 4	31	60	15	0	8	0	1	0	115
<b>Total 2008</b>	<b>132</b>	<b>299</b>	<b>42</b>	<b>0</b>	<b>44</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>524</b>
<b>2009</b>	<b>Oil</b>	<b>Gas</b>	<b>CBM</b>	<b>Gas Storage</b>	<b>Dry</b>	<b>Injection</b>	<b>Disposal</b>	<b>Other</b>	<b>Total</b>
Quarter 1	13	77	1	0	6	0	1	0	98
Quarter 2	6	7	1	0	5	0	0	0	19
Quarter 3	5	5	0	0	1	0	1	0	12
Quarter 4	6	1	8	0	2	0	0	0	17
<b>Total 2009</b>	<b>30</b>	<b>90</b>	<b>10</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>146</b>

Completions

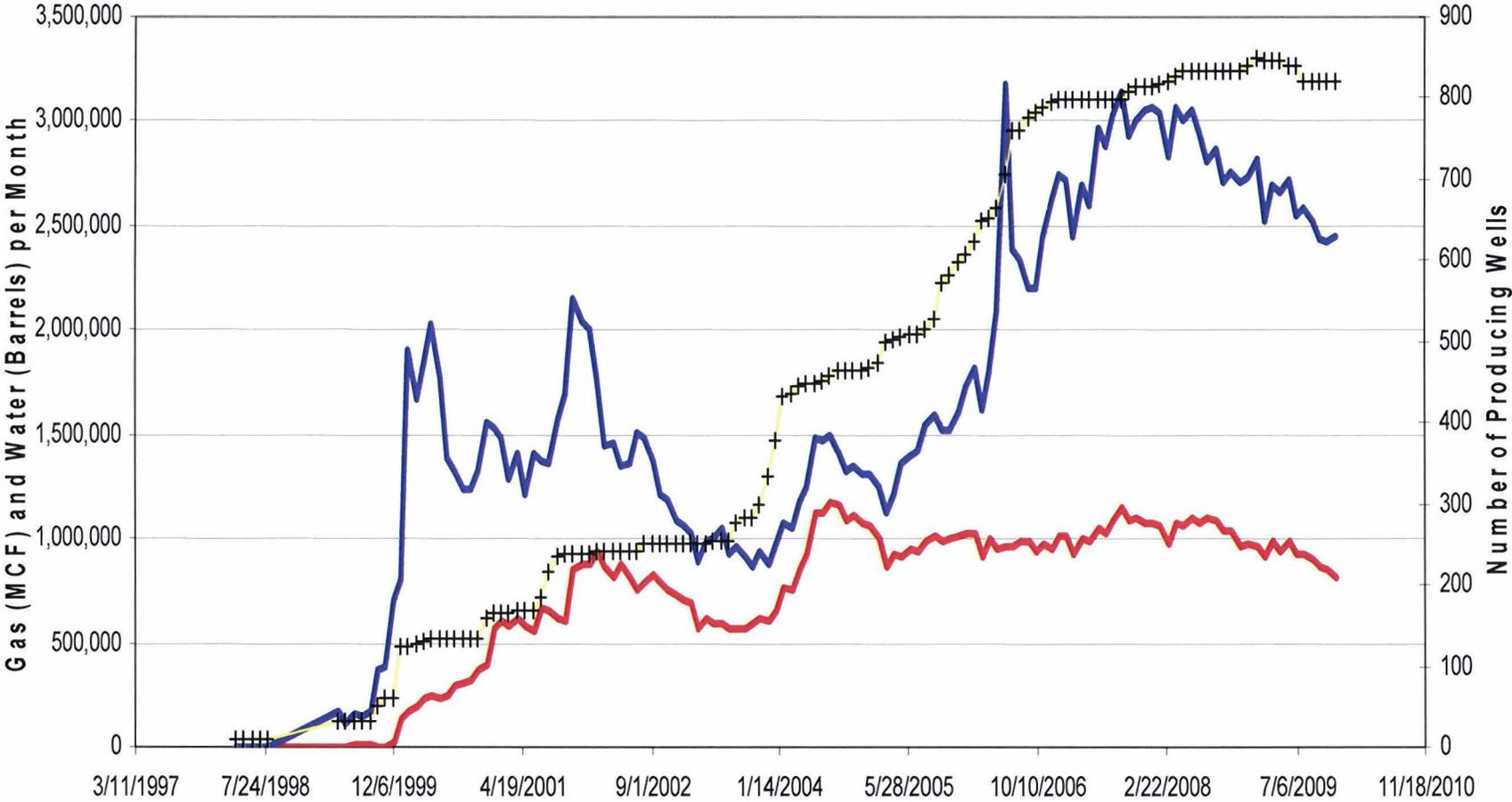
# Normalized CBM Production – All Wells

Average CBM Well Production



# CX Field Production

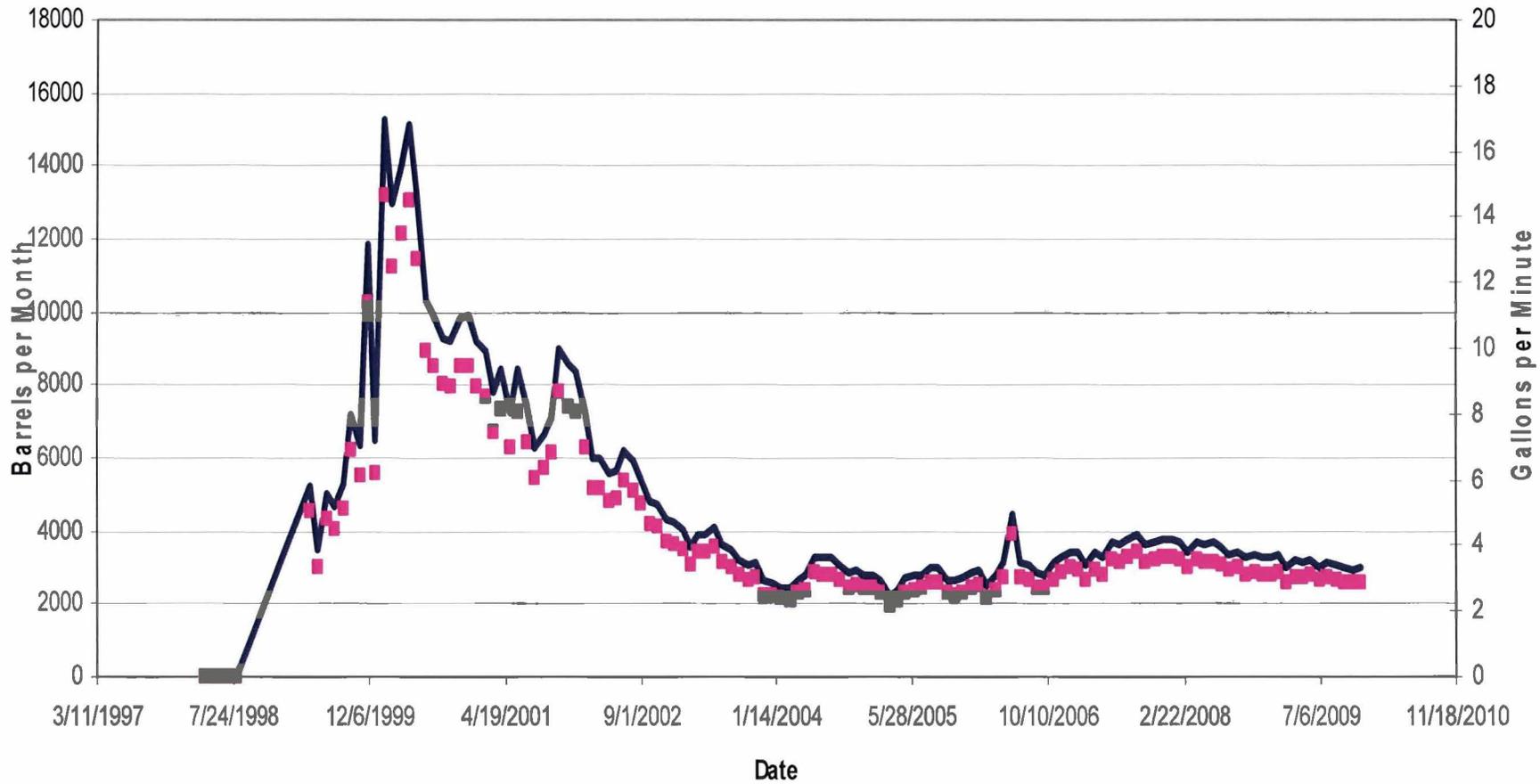
CX Field Monthly Production



SumOfMCF\_GAS SumOfBBLS\_WTR CountOfAPI\_WELLNO

# CX Field Water Production

CX Field Average Water Production (Well)



— BWPM\_Well

■ GPM

## **2.2 Approved Oil and Gas Program Amendments (Conditions)**

The amendments under consideration consist of a number of oil and gas related determinations for CBM development. These determinations would apply to state and fee mineral operations regulated by the MBOGC. The determinations include the following:

1. Exploration and development of CBM resources on MBOGC regulated lands are allowed subject to agency decisions, lease stipulations, permit requirements, and surface owner agreements.
2. Operators will be required to submit to the MBOGC a Project Plan of Development (POD) outlining the proposed environmentally responsible development of an area when requesting CBM well densities greater than 1 well per 640 acres.
3. The POD will be developed by the CBM operator in consultation with affected surface owner(s), and other involved permitting agencies.
4. The POD is to be submitted in draft form so that it can be reviewed and any changes made prior to submission to the MBOGC for approval.
5. The POD will include the following sub-plans: a Water Management Plan, a Surface Use Plan, and a Reclamation Plan.
6. A Water Management Plan for Exploration will be required for CBM exploration wells drilled under statewide spacing rules and for each POD.
7. Produced Water Management Plans and permits would be approved by the MBOGC. The MBOGC may request copies of surface agreements, water well mitigation agreements, or certifications that such agreements were offered, as part of the permit or POD submission.
8. MBOGC will permit the construction of CBM water impoundments under its current regulatory authority for oil and gas related earthen pits. The MBOGC intends to conduct a scientific investigation of the siting, construction, and operation of such impoundments and will use the results of that investigation to review its existing rules and policies. If necessary the MBOGC will adopt new rules or modify existing rules as appropriate.
9. There would be no discharge of produced water (treated or untreated) into the watershed unless the operator has an approved MPDES permit or a non-significance review by MDEQ (see section 5.3.3 "Montana Water Quality Act" below) and can demonstrate in the Water Management Plan how discharge could occur in accordance with water quality laws without damaging the watershed.
10. To minimize surface disturbance as many wells as economically and technically feasible will be co-located on a single well pad.
11. Well spacing rules would determine the number of wells per coal seam per designated spacing unit.
12. The number of wells connected to each compressor would be maximized and natural gas -fired engines for compressors and generators or other emission controls would be required.
13. In areas where sensitive resources including people are present alternative fuels (including electricity) or other sound mitigation measures may be used for compressor operations if it helps to reduce the sound level. The MBOGC may consider establishing

# SITING, DESIGN, CONSTRUCTION AND RECLAMATION GUIDEBOOK FOR COALBED NATURAL GAS IMPOUNDMENTS



PREPARED FOR:  
U.S. DEPARTMENT OF ENERGY  
NATIONAL PETROLEUM TECHNOLOGY OFFICE

PREPARED BY:  
ALL CONSULTING

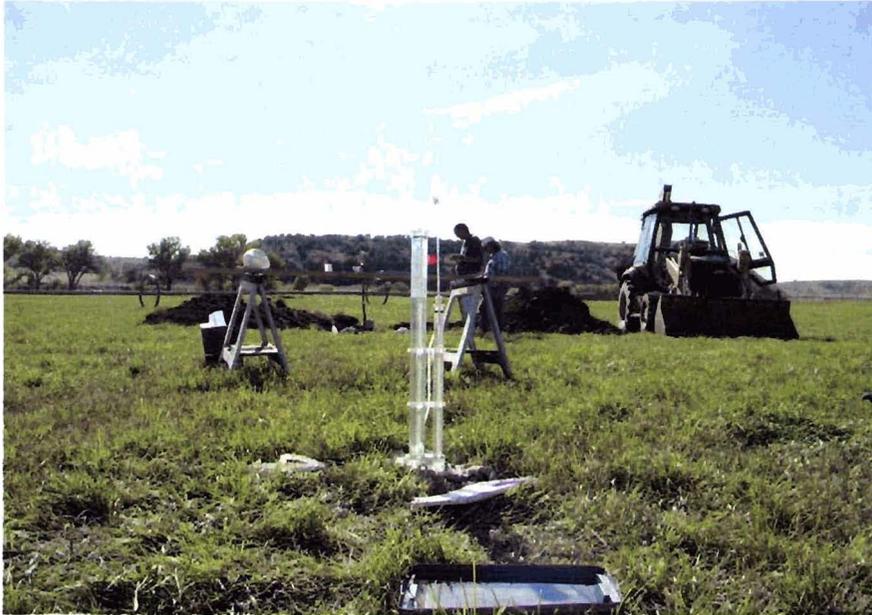


AND THE  
MONTANA BOARD OF  
OIL AND GAS CONSERVATION



MAY 2006

**2009 Progress Report**  
**Tongue River Agronomic Monitoring  
and Protection Program**  
**Tongue River Information Program**



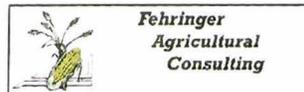
*Prepared for:*  
**Montana Board of Oil & Gas Conservation**  
*Montana Department of Natural Resources and Conservation*

*Prepared by:*

William Schafer, Ph.D.,



Neal Fehringer, CPAg



Dina Brown, CPSs



and HydroSolutions Inc



*Date:*  
September 2009