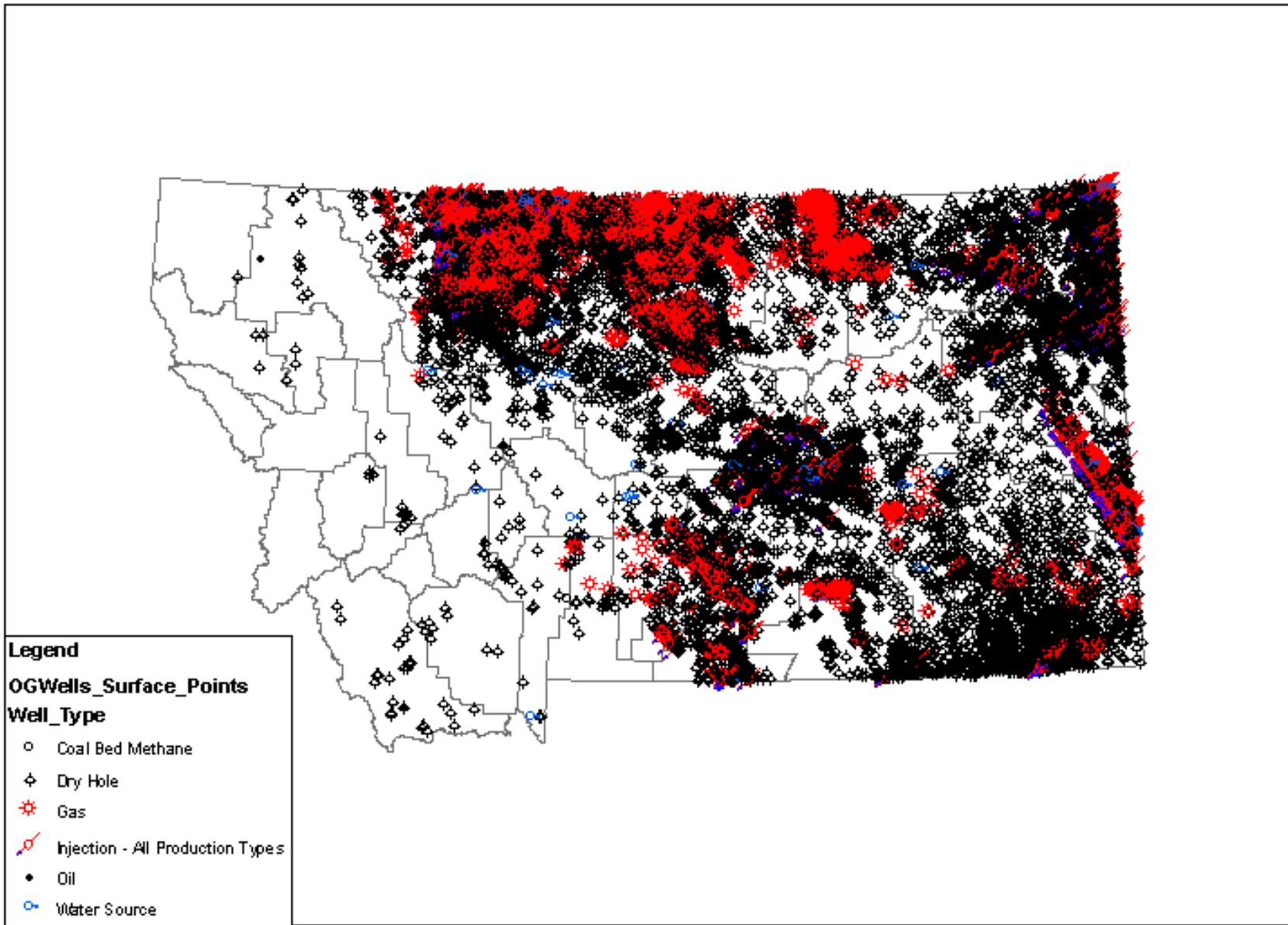




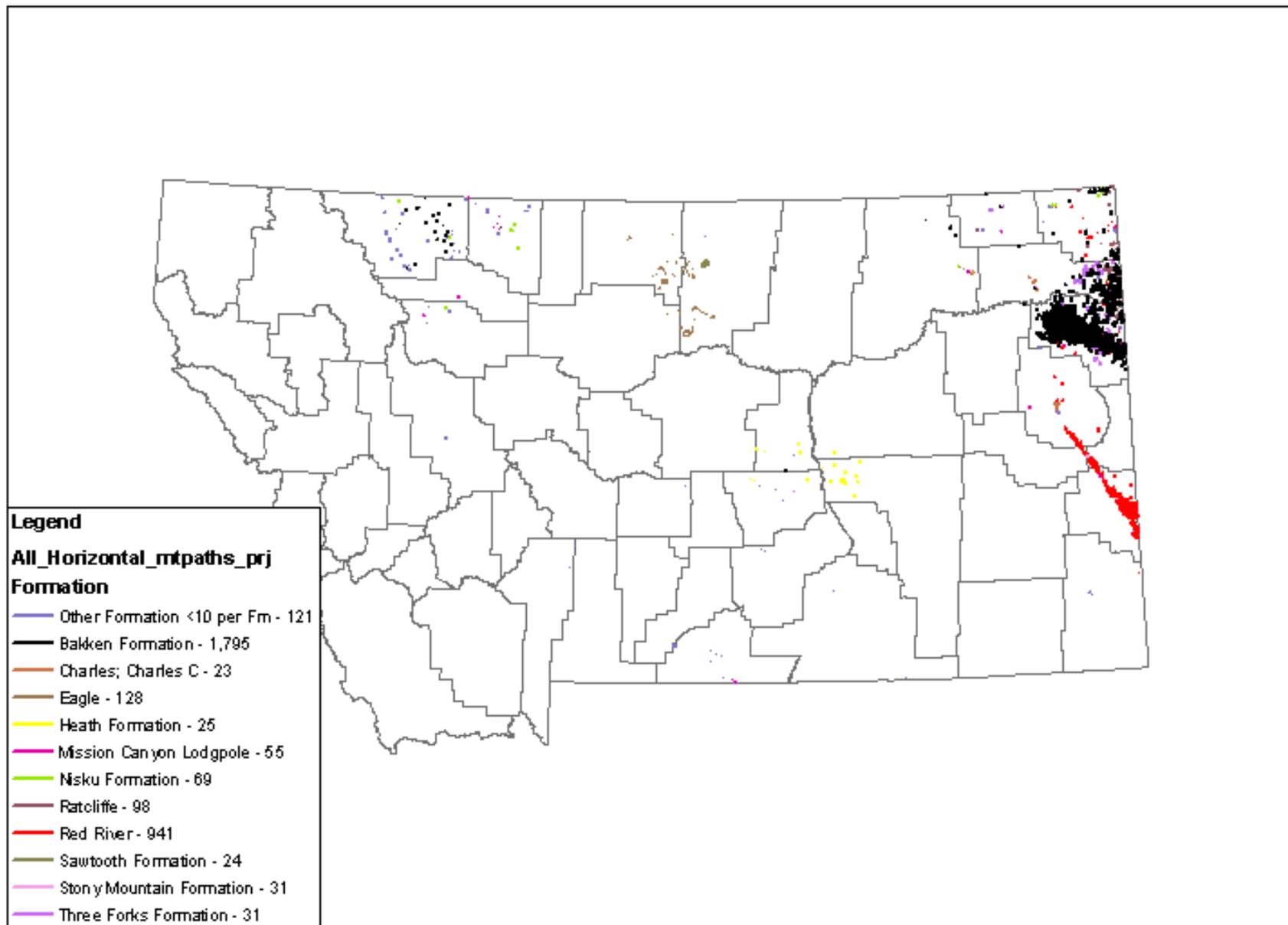
# DEQ'S ROLE IN THE BAKKEN

STEVE KILBREATH, MDEQ  
DATA FROM BOGC & NDIC

## Oil and Gas Data Analysis



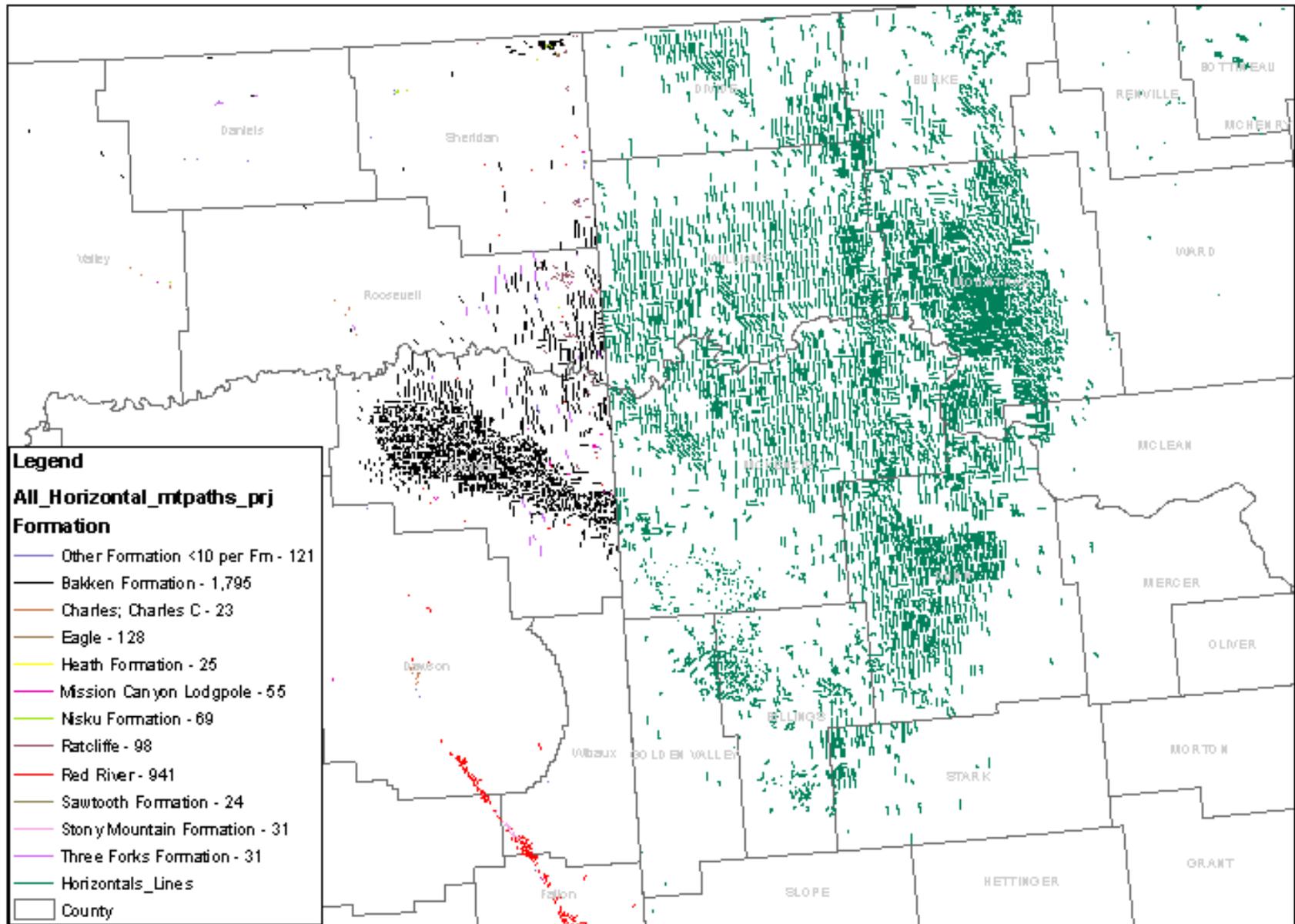
## Oil and Gas Data Analysis



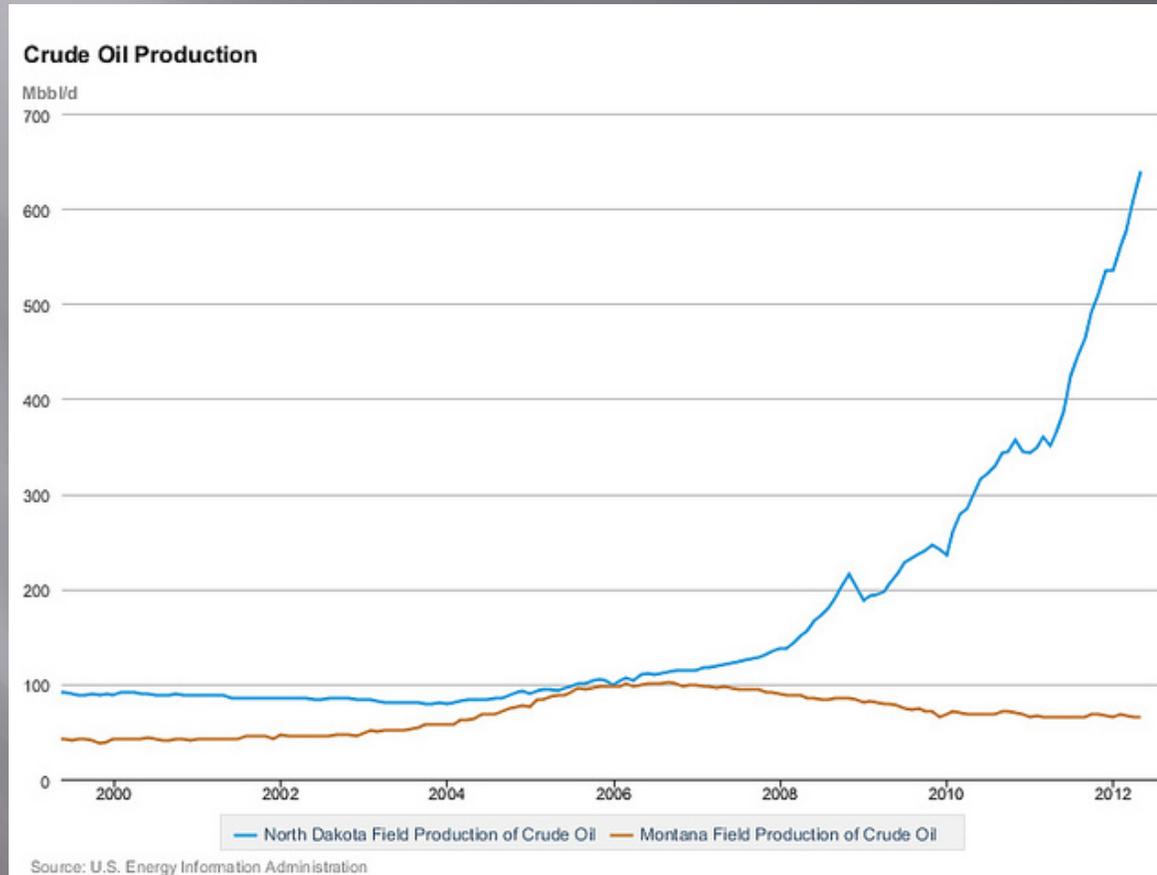
# INTERESTING DIFFERENCES MONTANA VS NORTH DAKOTA

# Oil and Gas Data Analysis

Montana and North Dakota



# Montana vs North Dakota Daily Production



# Rigs and Production

- ▣ March 2013 Production

- ▣ Montana - 2,466,969 barrels
- ▣ North Dakota - 24,272,461 barrels

- ▣ March Rig Count

- ▣ Montana - 11
- ▣ North Dakota - 184

- ▣ Completions - Horizontal

- ▣ Montana - 181 for all of 2012
- ▣ North Dakota - 142 for March 2013

# DEQ Related Issues

Permitting and Compliance

Gravel mining

Subdivision Stuff – Temporary Work Force

Wastewater, Wastewater, Wastewater

Zombies

Air registry permits

Solid Waste

Discharge permits – produced water

Sewage Pumpers

Water Quality Issues

Enforcement

# Gravel Mining



2012 - Eastern Montana  
86 Issued  
36 pending  
5 withdrawn  
75% in Eastern MT  
2 staff 1 week/month



# Temporary Work Force Housing

## RV Parks vs Work Camps



76-4 MCA – Subdivision  
75-6 MCA – Public Water  
1 engineer 2-3 days/month

# Community Challenges



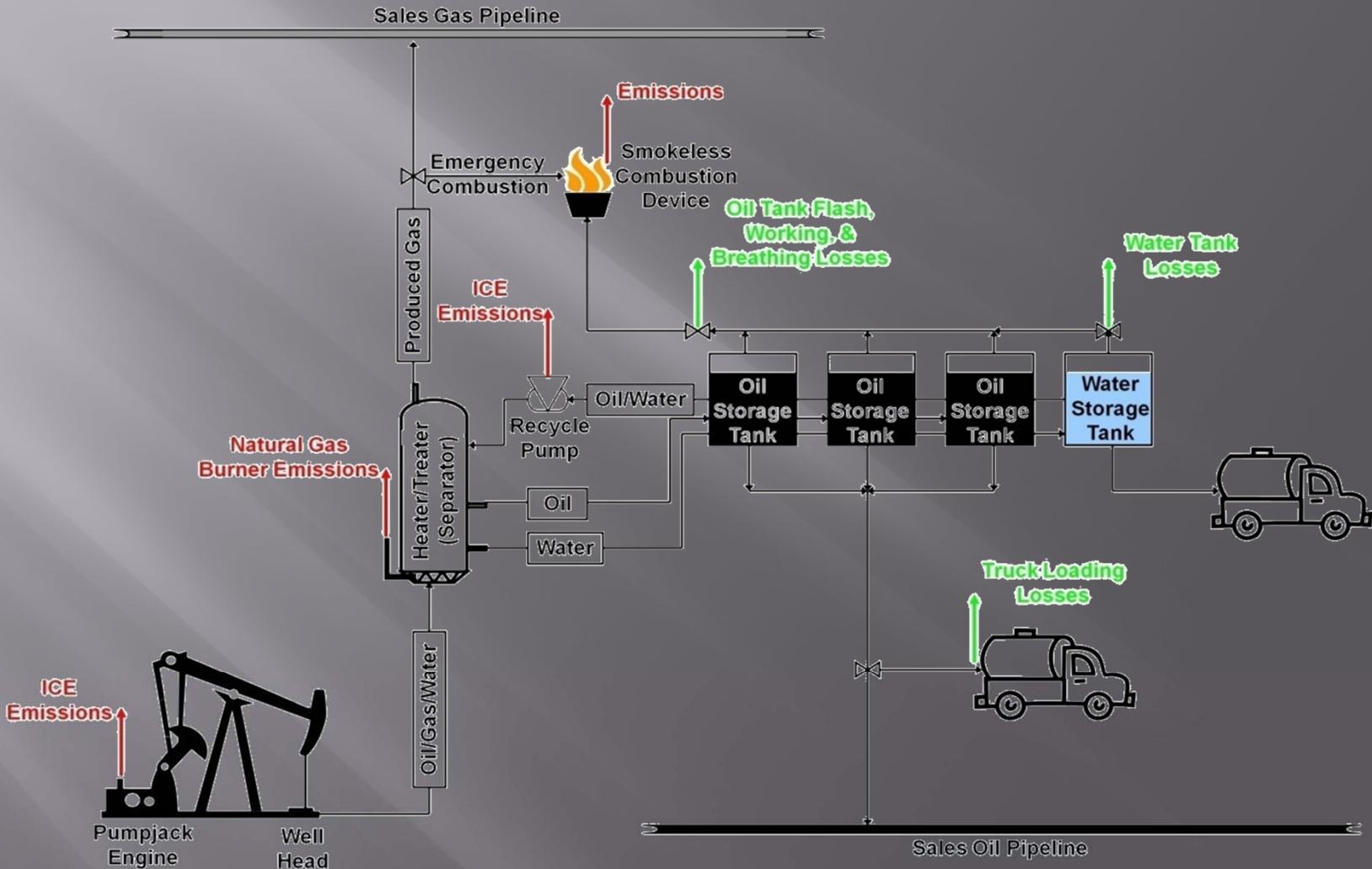
RV's and Blue water ?

# Permitting Challenges

- Example of a zombie system: this development was approved and occupied in the early 1980s, then vacated and returned to agricultural land, and is now being occupied again. How does this fit our regulations?



# Air Registry



# Solid Waste



E&P vs MSW

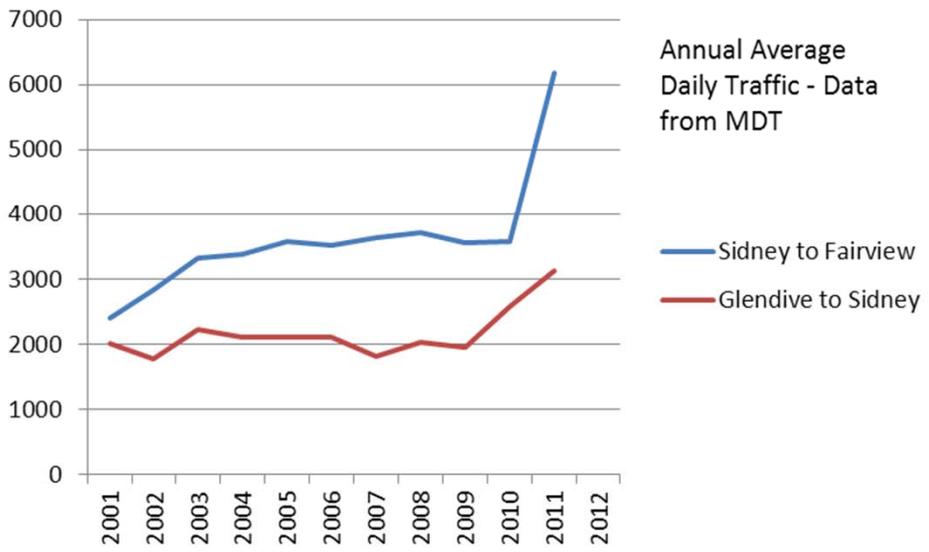
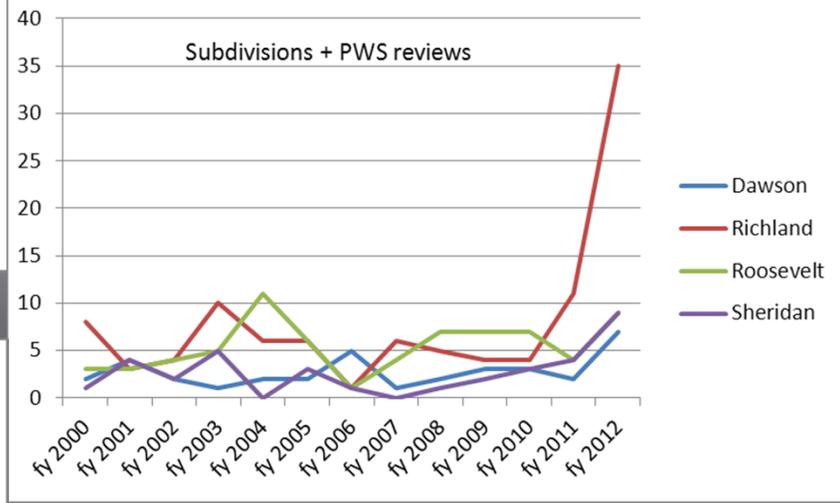
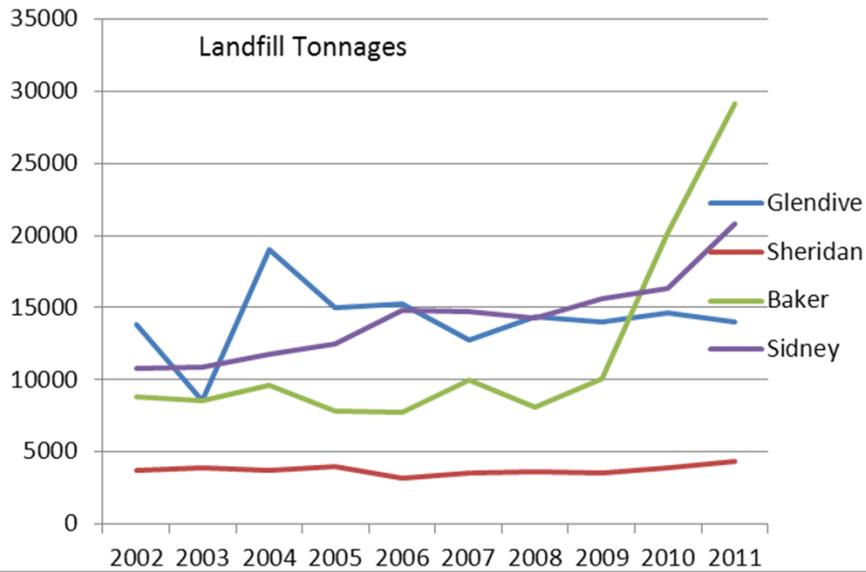


# UIC sites/ produced water



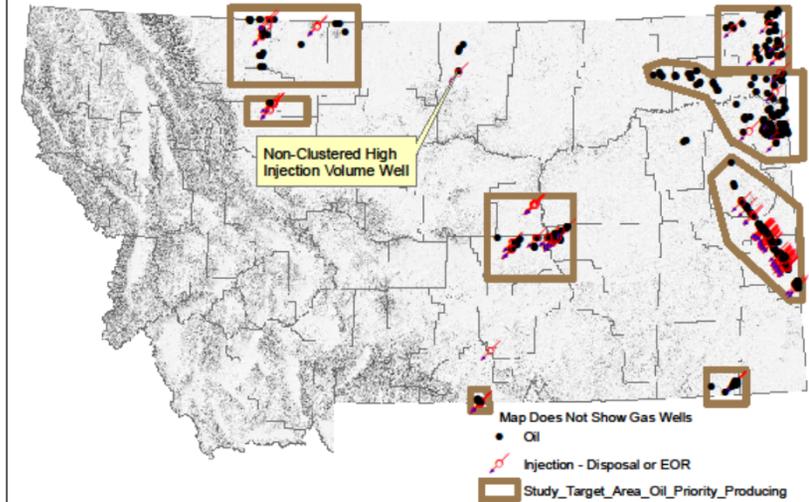
TENORM & Filter Socks  
Specialty Sites - cuttings, mud, etc

# Impact timing for Montana

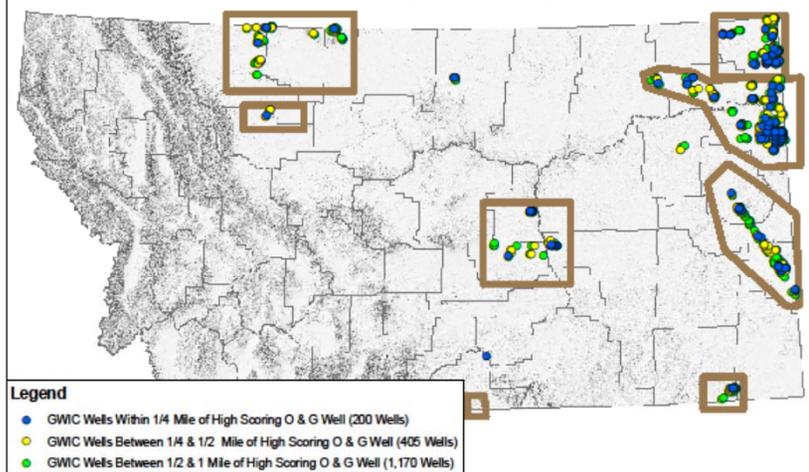


# DEQ Baseline Monitoring

Map 1 - Highest Scoring OG Wells



Map 2 - GWIC Wells in Proximity to Highest Scoring OG Wells



## DEQ GW WQ Sampling For Potential Impacts From O & G Production

Draft Site Selection Results  
May 01, 2013

Map 3 - High Scoring GWIC Wells in Proximity to Highest Scoring OG Wells

