10th Western Canada Sedimentary Basin Working Group Meeting, Victoria, BC, June 4 – 5th, 2009.

Minutes

AGENDA – JUNE 4

8:30 – 8:45 a.m.	Welcome, introductions and approval/modification of meeting Agenda.
8:45 – 10:15 a.m.	**Territorial /Provincial highlights** (15 min Max), please focus on items of broad WCSB interest: NWT (Adrienne Jones); Yukon (Carolyn Relf); British Columbia (Vic Levson), Saskatchewan (Chris Gilboy/Melinda Yurkowski), Alberta (Kevin Parks), Manitoba (Michelle Nicolas)
10:15 – 10:45 a.m.	***Coffee break***
10:45 – 11:30 a.m.	**Federal highlights:** NEB (Brent Hogue), GSC Calgary (Kirk Osadetz), GEMS (Martin Fowler).
11:30 a.m. - noon	Carbon Capture and Storage (Alf Hartling)
12:00 - 1:00 p.m.	***Lunch (provided)***
1:00 –1:30 p.m.	Petroleum Systems Elements in the Peel Plane & Plateau (Len Gal)
1:30 – 2:00 p.m.	Foothills/Liard Basin geology (Fil Ferri)
2:00 - 2:30 p.m.	Applications of Quaternary Geology to oil and gas in the WCSB (Adrian Hickin)
2:30 - 3:00 p.m.	WCSB Website online demo (Adrienne Jones).
3:00 – 3:15 p.m.	***Afternoon coffee break***
3:15- 3:45 p.m.	Groundwater applications in WCSB (Elizabeth Johnson/Kevin Parks)
3:45-4:15 p.m.	Can the WCSB Forum grow into an NGSC Energy Sub-Meeting (Kevin Parks)
4:15 – 4:45 p.m.	**Discussion/Decisions -** Roundtable to identify common interests and collaborative activities to be completed within defined time periods, any concerns/ issues from each jurisdiction. Discussions on having an industry panel at the next meeting. Decision on the host and location of the next (2010) meeting.
4:45 – 5:00 p.m.	**CONCLUSIONS** and closing remarks.
Evening	***Dinner at a common location will be arranged for those who are staying over.***

Present:

Vic Levson, Ed Janicki, Adrian Hickin, Alf Hartling, Elizabeth Johnson, Janet Riddell, Filippo Ferri – **Resource Development and Geoscience Branch, BC Ministry of Energy, Mines and Petroleum Resources**

Adrienne Jones, Len Gal – **Northwest Territories Geoscience Office**

Michelle Nicolas – **Manitoba Geological Survey**

Martin Fowler, Kirk Osadetz – **Geological Survey of Canada**

Kevin Parks – **Alberta Geological Survey**

Brent Hogue – **National Energy Board of Canada**

Carolyn Relf – **Yukon Geological Survey**

Chris Gilboy, Melinda Yurkowski – **Saskatchewan Geological Survey**

Minutes:

Introductory remarks by Vic Levson, approval and/or modification of agenda.

The following are the main points from presentations from members of each jurisdiction. The actual PowerPoint presentations can be seen at the WCSB website (http://www.wcsbgroup.org/).

Vic Levson – Highlights from British Columbia

- Shale gas was the talk of BC; highlights:
- Land sales attributed to shale gas in 2008 ~$2.5B
  ~41% Montney rights; 49% Horn River area
- All land tied up in best part of Horn River Basin; future expenditures from development and production
- Montney play saw most development in SE part of NEBC, just north of the Deep Basin
- Biggest factor in Montney play was use of horizontal drilling; daily average production was 0.5-1.2 mmcf/day
- Some exploration activity in the Liard Basin

Discussion:

- Kirk Osadetz commented that the Canadian Gas Potential Committee has problems with estimating amount of gas in place for unconventional plays – more data is needed.

Adrienne Jones – Highlights from the NWT

- Geoscience brings together federal and territorial geologists

- Has a joint advisory committee of industry and academia
- 6 geologists in the petroleum geology group
- Project highlights:
    - Peel Petroleum Project
    - 2008 release of formation tops
    - Mackenzie Plain gravity survey
- Peel Project: 2005-2009 with final report just published
    - GSC/Yukon/NWT collaboration together with universities and industry
    - ~90 papers, posters and presentations
    - Project Volume: 10 chapters together with a digital atlas (~1GB data)
        - Petroleum systems, structure, stratigraphy, maps, etc.
- Issues:
    - Maintaining staff – many have left or will be leaving in the next year
    - Lack of in house expertise (geophysics)
    - Making partnerships with other groups
    - Geoscience outreach, education and land use

Discussion:

- Martin Fowler indicated that new federal grants to NWT geoscience will be going to minerals projects.
- Kirk Osadetz commented on policy-regulatory issues around tenure for gas hydrates; MGM will try to drill hydrates wells in NWT in next few years.

Carolyn Relf – Highlights from YGS

- Oil and gas activities are currently part of the Assessment and Outreach Branch
- 3 geologists focusing on resource assessments
- Industry asked YGS to carry out more geological studies to understand basins, etc.
- Land use planning has started in various parts and oil and gas group is heavily part of this
- Involved with hazards assessment for portion of Alaska gas pipeline
- 2009-2011 GEM program
    - Eagle Plains – research priorities still evolving
- Need an advisory group

Highlights from Saskatchewan Geological Survey

- Williston Basin Conference 2009;
    - ~929 registrants
    - Took approx. 3 months of work by all geologists.
- Framework projects
    - CO_2 projects: Weyburn, Storage Atlas, capture and storage initiative (4 year project between Saskatchewan Gov't, academia and industry)

    - Lineament program (still to be done)
    - Special projects
- Stratigraphy and geoscience studies
    - Devonian and Mississippian of south central Saskatchewan
    - Bakken; well count up to 1200
    - Conventional and unconventional gas
    - Prairie evaporate and potash
    - Oil sands
- Outreach
- Warehouse expansion; ~284 cores in 2008; considerable potash core.

Kevin Parks – Highlights from AGS

- ~61 staff; part of Energy Conservation Board; AGS historically not into oil and gas activities
- Most of staff work on issues related to Quaternary geoscience.
- In midst of an organizational change and looking into studying unconventional resources
- 5 programs:
    - Bedrock Mapping and Quaternary studies (15 staff); at 1:1M scale over next 5 years
    - Resource assessment (11 staff); mostly metals and industrial minerals; some shale gas and CBM
    - Geological hazards (8 staff); landslides, formation integrity (oil sands).
    - Ground Water and geosystems (12 staff and 2 from AB Environment); inventory of groundwater, CCS, geothermal, brine waters, formation conductivity
    - Knowledge management (12 staff); GIS, data bases, publications, web site
- Office of the provincial geologists (4 staff); administrative business, regulatory reports, outreach

Michelle Nicolas – Highlights from MGS

- Petroleum Branch – regulatory function
- Manitoba Geological Survey has 5 geologists; only one (Michelle) is the petroleum geologist
- Petroleum Project: Devonian Three Forks Formation
    - New picks
    - New definition (Three Forks Group; Bakken and Torquay Fms)
- Cretaceous shale gas project
- National Atlas for CO_2
- Bedrock geology compilation map
- Potash
- 3D geological mapping and part of International One Geology project
- Finished TGI Williston Basin 3D model; free viewer available for this
- TGI2 Williston Basin Project; well on way to being completed; regional cross-sections to be done; Saskatchewan final report to be done.

Brent Hogue – Highlights from NEB

- Hired 2 new geologists and 2 new geophysicists
- Jim will be moving into management
- New website and tops data base
- Working on northern resources report; ~80% of data collected; release expected in 2010
- Concerns on delays in reporting production numbers from various provinces

Discussion:

- Kirk Osadetz asked who at the NEB is leading an unconventional resource assessment: Mike Johnson; this is not a formal publication but more of an internal study.
- Some at the table want this report for viewing.

Kirk Osadetz – Highlights from the GSC Calgary

- Commented on the management matrix structure
- Transition from the Secure Canada Energy Program (SCEP) to GEMS
- Partner programs (SCEP) with provinces and territories
- Pressure (by law) to respond to demands for energy and mineral assessments throughout Canada – this has put demands on GSC staff (these demands can or cannot fit into GSC priorities)
- SCEP is now complete; although some left to be done; some being transferred to GEM (Eagle Plain, etc). Outstanding: Intermontane and PANEC
- Geoscience for Future Energy Resources; not approved
- Geothermal, CCS, unconventional gas (CBM?); for 2009-10
- Laboratory: strong demand from all stakeholders; some samples from provincial and territorial partners need a lot of interpretation – look at transferring some interpretation skills to the provinces and territories?
- six new scientific positions identified but only 2 filled; staffing has been difficult
- GSC Calgary Director now in Ottawa for a year of French training

Conclusions

- Better results when GSC and Provinces/Territories are more integrated in projects
- Storefront laboratory data services were successful for the Provinces/Territories but need to develop an interpretational capacity in these jurisdictions.
- Need to transfer technology and expertise for petroleum assessment to the Provinces/Territories.
- Program goals are too ambitious for the number of staff; project timelines should be longer
- Matrix organization may not be good for scientific projects; some changes coming.
- GEM energy good for north but not for provinces

Discussion:

- Vic Levson had concerns on the transfer of resource assessment to the provinces. Martin Fowler indicated that the software is being changed to make it more user friendly.
- Kirk Osadetz indicated that the unconventional resource assessment is an issue
- Vic Levson: put a motion forward that this group support someone to further investigate unconventional gas resource assessment and remote basin assessment. Recognizes that the capacity to do this is currently not available and get someone to make recommendations towards increasing the capacity.
- Vic Levson doesn't think any transfer of knowledge from the GSC to the other jurisdictions is happening.

Action:

Kirk Osadetz suggests NWT (Len Gal) and provinces (Fil Ferri) and NEB (Brent Hogue) and GSC (Kirk Osadetz) get together to make recommendations – these would include interim ones and final report for next meeting.

Martin Fowler – Further highlights from GSC; re: Energy Program

- GEM program announced in the 2008 budget; focused on northern development; has a mentoring program with it
- Commented that community engagement is consuming too much time.
- GEMS was initially a 5 year program; $100M, $12M in 08/09 and $22M in years afterward
- Now GEMS is $130M for 09/10 and $18M in remaining years; most is earmarked for minerals projects; 75% of funding for projects north of 60^{o}N and co-shared with provinces/territories.
- No pre-determined split on funds directed to energy and minerals
- Data for tri-territorial bedrock mapping compilation
- GEM energy – better knowledge of conventional and unconventional resources
- Also will look at basins with uranium potential.
- This will ultimately lead to detailed resource assessments.
- Projcets:
    - Yukon
    - Mackenzie delta and corridor (Beaufort Sea).
    - Arctic – east and west islands
    - Hudson's Bay
    - Uranium
    - Data management (GIS)
- Any project must show that there will be an economic impact
- Asked for 8 PDF's over the next three years together with grants and contributions

Issues/Discussion:

- Economic down turn, exploration budgets are down

- Change in North American supply fundamentals; do we need the Mackenzie Valley pipeline with upcoming shale gas supply?
- New northern and marine parks
- Impact of cleaner forms of energy
- Capacity at the GSC to accommodate these new projects.
- Adrienne Jones: will there be 5 years for GEM after the first 5 years have finished.

Technical Presentations:

I will not summarize the talks as one can go to the web site and view the various talks. I will sum up any discussion around the talk that seemed pertinent.

Carbon Capture and Storage (Alf Hartling)

- Kirk Osadetz: Why should one sector of the economy (oil and gas) carry the costs of CCS
- Alf H. They can afford it.
- Alf H. Public feedback: NGO's concern is that it will perpetuate the oil and gas industry through enhanced oil recovery
- Kirk O: There is a net reduction in CO_2 emissions with EOR projects.

Groundwater applications in WCSB (Kevin Parks)

- General comment that there are too many agencies (federal/provincial) looking at groundwater

Final Comments/Discussion:

- Adrienne Jones: WCSB Working Group web page is hosted by NWT server (www.wcsbgroup.org)
- Everyone should check it out for completeness; this is a good place to place items for everyone to share; has links to specific or shared projects
- Do we need more on the website?
- Kirk O. This website may be a good way for members and other stakeholders to obtain data that may be held back in other parts of government (GSC); build in tracking of data downloads
- One of the main issues is the amount of time and resources to set data site up and maintain it; perhaps set up a link from the WCSBWG web site to the data site?
- There must be an effort to make data more accessible to the public through web queries
- It may be impracticable for the WCSBWG to do this due to funds/time/human resources
- Suggestions included setting up a WCSBWG user account on the NRCan data server
- Kirk O. Indicated that this request should go through Calgary, at the Director level; Kirk O. will look into this.
- Kirk O. indicated that the GSC has to establish more projects in the southern part of the basin; i.e. south of 60^{o}N.

NGSC and WCSB

- The NGSC could provide a larger forum and raise the profile of the WCSB working group. The NGSC could be expanded to include the WCSB or a new subcommittee of the NGSC could be created. The WCSB group generally supports the concept of meeting with NGSC.
- Action: Kevin Parks will present a proposal to NGSC which may include meeting at GeoCanada in Calgary rather than in Toronto next year.

Government Labs

- The WCSB group has a strong interest in providing input into restructuring of federal labs providing data on geochem, geochron, stable isotopes, etc.

Action:

- Kirk Osadetz will keep the WCSB group informed of any potential changes coming up.

Geoscience for Future Energy Resources or TGI4

- These programs are important to the provinces.

Action:

- Kevin Parks will draft a letter to Marc Corey and copy it to the CPG.

Next WCSB Meeting

- Alberta to host. Suggestion: invite representatives from CSUG and CAPP research committee.

Action:

- Kevin Parks, Kirk Osadetz, Martin Fowler and the ISPG Acting Director will coordinate.