Technical Excellence Update

2000 and 2001 calendar years

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Laurier L. Schramm President and CEO March 2009



Saskatchewan Research Council

2000 Calendar Year

A Framework for Assessing Climate Change Impacts and Adaptation Options in the Forest Sector for the Prairie Provinces, Invited Presentation, Government of Canada's Climate Change Action Fund, Prairie Adaptation Research Collaborative (PARC) Workshop, Winnipeg, MB and Edmonton, AB, Johnston, M. and E. Wheaton, March 2000

A Laboratory Investigation of Horizontal Well Heavy Oil-Water Flows, Journal Article, Canadian Journal of Chemical Engineering, 78, p. 743-751, McKibben, M.J., R.G. Gillies and C.A. Shook. 2000

A Study to Establish the Sarawak Technology Park, Report, State Planning Unit, Government of Sarawak, Malaysia, Kuching, *Grier, D.H. and A. Beggs*, October 2000

Adaptations of Prairie Cities to Climate Change, Invited Presentation, Costing Canadian Climate Change Impacts and Adaptation Collaborative Workshop, Vancouver, BC; Alberta's Climate Change Workshop, *Wittrock, V.. E. Wheaton and C. Beaulieu*, 2000

Analysis of Miscibility Development by Rising Bubble Technique for CO2 Miscible Injection, Conference Publication, Petroleum Society's 1st Canadian International Petroleum Conference (CIPC), Calgary, AB, paper 2000-37, *Dong, M., S. Huang, B. Schnell and G. Meyer,* June 4-8, 2000

Bitumen Effects on Pipeline Hydraulics During Oil Sand Hydrotransport, Journal Article, Canadian Journal of Chemical Engineering, 78, p. 731-742, *Sanders, R.S., A.L. Ferre, W.B. Maciejewski, R.G. Gillies and C.A. Shook,* 2000

Climate Change Impacts in Saskatchewan, Invited Presentation, Government of Canada's Climate Change Action Fund, Saskatchewan Environment and Resource Management (SERM), Sustainable Land Management Branch Annual Meeting, Moose Jaw, SK, Johnston, M. and E. Wheaton, November 2000

Climate Change, Impacts and Adaptation - A Backgrounder, Invited Presentation, Regina Urban Advisory Council, Regina, SK, Wheaton, E., May 10, 2000

Climatic Change, Invited Presentation, Resource Management in a Changing World, Saskatchewan Environment and Resource Management (SERM), Saskatoon, SK, Wheaton, E., October 24, 2000

Coreflood Studies of Tertiary CO2 Flood in Naturally Fractured Midale Formation in Southeast Saskatchewan, Conference Publication, Petroleum Society's 1st Canadian International Petroleum Conference (CIPC), Calgary, AB, paper 2000-11, *Dong, M., S. Huang and R. Srivastava*, June 4-8, 2000

Deposition Velocities for Newtonian Slurries in Turbulent Flow, Journal Article, Canadian Journal of Chemical Engineering, 78, p. 707-708, *Gillies, R.G., J. Schaan, R.J. Sumner, M.J. McKibben and C.A. Shook,* 2000

Effect of Solution Gas in Oil on CO2 Minimum Miscibility Pressure, Journal Paper, Journal of Canadian Petroleum Technology, Volume 39, No. 11, p. 53-61, Dong, M., S. Huang and R. Srivastava, 2000

Field Pipelines - New Role for an Old Oilpatch Symbol, Magazine Article, Saskatchewan Business Magazine, Gillies, R.G., October 2000

Forest Fire Potential Hazards Linked with Climate, Invited Presentation, Forest Protection Branch, Saskatchewan Environment and Resource Management (SERM), Prince Albert, SK, Wheaton, E. and V. Wittrock, March 15, 2000

Global Climates and Climate Change, Presentation, Televised interview for University of Saskatchewan, Geography 101/111.3.11182-5D00, Wheaton, E. and M. Johnston, October 18, 2000

How Global Warming Could Affect Saskatchewan's Forests, Magazine Article, Saskatchewan Business Magazine, Wheaton, E., February 2000

How is the Climate Changing in the Prairie Provinces? What Can We Expect in the Future?, Invited Presentation, Agriculture and Greenhouse Gas/Climate Change Workshop, Saskatoon, SK, Wheaton, E., December 11-12, 2000

Hydrogeology of the Coastal Region of Jakarta, Indonesia, Conference Publication, Proceedings of the International Association of Hydrogeologist's (IAH) Congress on Groundwater: past achievements and future challenges, Sililo et al, (eds.), A.A. Balkema, Rotterdam, p. 209-213, *Maathuis, H., W. Mak and S. Adi,* 2000

Laboratory Investigation of Weyburn CO2 Miscible Flooding, Journal Paper, Journal of Canadian Petroleum Technology, Volume 39, No. 2, p. 41-51, *Srivastava, R., S. Huang and M. Dong*, 2000

Migration and Attenuation of Natural Gas in Groundwater Near Oil Production Wells in Western Canada, Conference Publication and Presentation, Program and Abstracts, 35th Central Canadian Symposium on Water Pollution Research, Canada Centre for Inland Waters, Burlington, ON, Van Stempvoort, D.R., H. Maathuis and G. Lorenz, February 7-8, 2000

Modelling High Concentration Settling Slurry Flows, Journal Article, Canadian Journal of Chemical Engineering, 78, p. 709-716, *Gillies, R.G. and C.A Shook,* 2000 **Prairie Adaptation Research Cooperative,** Invited Presentation, Modelling Workshop, University of Saskatchewan, Saskatcon, SK, *Wheaton, E.,* June 14, 2000

Prairie Cities Adaptive Capability: The Role of Climate, Invited Presentation, Adaptation to Climate Change Workshop, University of Alberta, Edmonton, AB, Wittrock, V., C. Beaulieu and E. Wheaton, March 27, 2000

Predicting Pressure Gradients in Heavy Oil-Water Pipelines, Journal Article, Canadian Journal of Chemical Engineering, 78, p. 752-756, *McKibben, M.J., R.G. Gillies and C.A. Shook,* 2000

Price at the Pumps: Just One Good Reason for NGV's, Magazine Article, Saskatchewan Business Magazine, Sulatisky, M., May 2000

Role of a Research Park in the Development of Saskatoon's Agricultural Biotechnology Research Industry, Presentation, 2000 International Conference on Business Incubation and Technology Innovation, Shanghai, China, *Grier, D.H.*, April 2000

Saskatchewan Water Presents Special Challenges, Magazine Article, Saskatchewan Business Magazine, Stanek, B., August/September 2000

Shallow Subsurface Geological Mapping Applied to Groundwater Resource Management in Saskatchewan, Poster Presentation, Abstract 856, GeoCanada2000, Calgary, AB, *Maathuis, H. and J.E. Campbell,* May/June 2000

Tax-Free Dividends from some Simple Home Investments, Magazine Article, Saskatchewan Business Magazine, Dumont, R., November/December 2000

The Effect of Particle Shape on Pipeline Friction for Newtonian Slurries of Fine Particles, Journal Article, Canadian Journal of Chemical Engineering, 78, p. 717-725, *Schaan, J., R.J. Sumner, R.G. Gillies and C.A Shook,* 2000

Saskatchewan Research Council

The Next Hundred Years Could be the Century of Biology, Magazine Article, Saskatchewan Business Magazine, Brown, G., March/April 2000

Toxicity of Four Pure Metals to Lemna Minor using Environment Canada Procedure EPS 1/RM/37, Invited Poster Presentation, Abstract in: Penney, K.C., K.A. Coady, M.H. Murdoch, W.R. Parker and A.J. Nimi (eds.), 27th Annual Aquatic Toxicity Workshop, St. John's, NL, *Moody, M.*, October 2000

Weathering Book Writing: But It's a Dry Cold, Invited Presentation, Centre of the Canadian Meteorological and Oceanographic Society Annual General Meeting, University of Saskatchewan, Saskatoon, SK, *Wheaton, E.*, February 10, 2000

Which Way is up or Does it Matter?, Magazine Article, Saskatchewan Business Magazine, Kristoff, B.J., June/July 2000

2001 Calendar Year

A Comparison of CO2 Minimum Miscibility Pressure Determination for Weyburn Crude Oil, Journal Paper, Journal of Petroleum Science and Engineering, 31, p. 13-22, Dong, M., S. Huang, S.B. Dyer and F.M. Mourits, 2001

A Laboratory Study on Near-Miscible CO2 Injection in Steelman Reservoir, Journal Paper, Journal of Canadian Petroleum Technology, Volume 40, No. 2, p. 53-61, *Dong, M., S. Huang and R. Srivastava*, 2001

Adaptability of Prairie Cities: The Role of Climate - City Climate Advisory Group Project Update, Invited Presentation, City Climate Advisory Group, Regina, SK, Wittrock, V. and E. Wheaton, June 21, 2001

Adaptability of Prairie Cities: The Role of Climate - Project Overview, Invited Presentation, Climate Change Action Fund (CCAF) Impacts and Adaptation Workshop, Calgary, AB, *Wittrock, V. and E. Wheaton*, October 2001

Adaptability of Prairie Cities: The Role of Climate - Report Results in Brief, Invited Presentation, City Climate Advisory Group, Regina, SK, Wittrock, V. and E. Wheaton, June 21, 2001

Adaptability of Prairie Cities: The Role of Climate Current and Future Impacts and Adaptation Strategies, Research Report, Government of Canada's Climate Change Action Fund (CCAF), *Wittrock, V., E. Wheaton and C. Beaulieu*, 2001

Adaptability of Prairie Cities: The Role of Climate Current and Future Impacts and Adaptation Strategies - Executive Summary, Research Report, Government of Canada's Climate Change Action Fund (CCAF), Wittrock, V., E. Wheaton and C. Beaulieu, 2001

Adaptability of Prairie Cities: The Role of Climate Current and Future Impacts and Adaptation Strategies - Media and Presentations, Research Report, Government of Canada's Climate Change Action Fund (CCAF), Wittrock, V., 2001

Adaptability of Prairie Cities: The Role of Climate Current and Future Impacts and Adaptation Strategies - Interview Notes, Research Report, Government of Canada's Climate Change Action Fund (CCAF), Wittrock, V., 2001

Adaptability of Prairie Cities: The Role of Climate Current and Future Impacts and Adaptation Strategies - A Bibliography, Research Report, Government of Canada's Climate Change Action Fund (CCAF), Wittrock, V., 2001

Agroforestry in the Prairie Landscape: Opportunities for Climate Change Mitigation Through Carbon Sequestration, Journal Paper, Prairie Forum 25:195-213, *Johnston, M., S. Kulshreshtha and T. Baumgartner,* 2001

An Electronic Regulator for Automotive Gaseous Fuel Applications, Technical Paper, Canadian Hydrogen Conference, Victoria, BC, Hill, S., M. Sulatisky, K. Young, H. Portmann and U. Imhof, June 2001

An Integrated Economic-Ecological Analysis of Land Use Decisions in Forest-Agriculture Fringe Region of Northern Saskatchewan, Journal Paper, Geological and Environmental Modelling 5:159-175, Dore. M., S. Kulshreshtha and M. Johnston. 2001

Applying Climate Change Analysis to Forest Land Use Planning, Invited Presentation, Government of Canada's Climate Change Action Fund (CCAF), Fort à la Corne Forest Land Use Planning Team, Tisdale, SK, Johnston, M., E. Wheaton, J. Thorpe, S. Kulshreshtha and S. O'Shaughnessy, June 2001

Applying Seasonal Forecasts to User Needs, Invited Presentation, Long-Range Weather and Crop Forecasting in North America - Workshop IV, *Wittrock, V.,* 2001 **Changing Climates: Exploring Possible Future Climates of the Canadian Prairie Provinces,** Research Report, Government of Canada's Climate Change Action Fund

(CCAF), Wheaton, E., 2001

Changing Fire Risk in a Changing Climate: A Literature Review and Assessment, Research Report, Government of Canada's Climate Change Action Fund (CCAF), Wheaton, E., 2001

Chemical Methods for Heavy Oil Recovery, Journal Article, Journal of Canadian Petroleum Technology, *Thomas, S., S.M. Farouq Ali, R.J. Scoular and B. Verkoczky,* March 2001 Climate Change and Prairie Cities: Public Education and Outreach, Invited Presentation, Climate Change Saskatchewan Public Education and Outreach Hub Advisory Committee, Regina, SK, *Wittrock, V. and E. Wheaton*, November 28, 2001

Climate Change in North America, Research Report, Overview of the Intergovernmental Panel on Climate Change (IPCC) Third Assessment Report presented to the Ecosystem Section, SRC, Saskatoon, SK, Wheaton, E., December 2001

CO2 Flooding - A Golden Opportunity for Black Gold and the Environment, Magazine Article, Saskatchewan Business Magazine, *Huang, S.,* September/October 2001 **Dictionary of Colloid and Interface Science,** Book, John Wiley & Sons, New York, 218 pp., *Schramm, L.L.,* 2001

Effect of Temperature on Foamy Oil Flow in Solution Gas-Drive in Cold Lake Field, Journal Article, Journal of Canadian Petroleum Technology, Volume 40, No. 3, p. 48-55, Zhang, Y.P., B.B. Maini and A. Chakma, 2001

Ethanol: A New Economic Engine for Rural Saskatchewan?, Magazine Article, Saskatchewan Business Magazine, Hutchence, K., August 2001

Flue Gas Injection for Heavy Oil Recovery, Conference Publication, 9th Petroleum Conference of the South Saskatchewan Section, Petroleum Society of Canadian Institute of Mining (CIM), held in conjunction with the Ninth Williston Basin Horizontal Well Conference, Regina, SK, paper 2001-229, Dong, M. and S. Huang, April/May 2001

Saskatchewan Research Council

Forest Ecosystem Vulnerability to Climate, Invited Presentation, Government of Canada's Climate Change Action Fund (CCAF), Ecological Monitoring and Assessment Network Annual Meeting, Calgary, AB, Johnston, M., E. Wheaton, J. Thorpe, S. Kulshreshtha and S. O'Shaughnessy, May 4, 2001

Forest Ecosystem Vulnerability to Climate Change: An Assessment of the Western Canadian Boreal Forest, Invited Presentation, Saskatchewan Research Council Publication, Johnston, M., E. Wheaton, S. O'Shaughnessy and S. Kulshreshtha, 2001

Forest Ecosystem Vulnerability to Climate Change: Conceptual Framework for Economic Analysis, Invited Presentation, Social and Economic Perspective of Boreal Forest Ecosystem Management Conference, Edinburgh, Scotland, Kulshreshtha, S., M. Johnston and E. Wheaton, June 5-8, 2001

Forest Ecosystem Vulnerability to Climate: An Assessment of the Western Canadian Boreal Forest: Executive Summary, Research Report, Government of Canada's Climate Change Action Fund (CCAF), Johnston, M., E. Wheaton, S. Kulshreshtha, V. Wittrock and J. Thorpe, 2001

Forest Vulnerability to Climate: An Assessment of the Western Canadian Boreal Forest, Invited Presentation, Government of Canada's Climate Change Action Fund (CCAF), Prairie Adaptation Research Collaborative (PARC)/Prince Albert Model Forest Workshop Climate Change Impacts and Adaptation Options for the Prairies' Forestry Sector, Prince Albert, SK, Johnston, M., E. Wheaton and J. Thorpe, January 2001

From Idea to Entrepreneur, Magazine Article, Saskatchewan Business Magazine, Haskey, J., March/April 2001

Genetic Technologies Creating New Opportunities for Saskatchewan, Magazine Article, Saskatchewan Business Magazine, Bekkaoui, F., June/July 2001

Interfacial Properties and Oil Recovery From the Warm/Hot-Water Process for Athabasca Oil Sands, Presentation, 51st Canadian Chemical Engineering Conference, Halifax, NS, paper 00025, Schramm, L.L. and E.N. Stasiuk, October 14-17, 2001

Introducing a Scheme for Comparing Sublethal Toxicity and Field Survey Results from EEM Studies, Abstract, in: McKernan, J.M., B. Wilkes, K. Mathers, and A.J. Niimi (eds.), 28th Annual Aquatic Toxicity Workshop, Winnipeq, MB, Borgmann, A.I., M. Moody and R.P. Scroggins, September 2001

Introducing a Scheme for Comparing Toxicity and Field Survey Results from EEM Studies, Presentation, Proceedings of the 28th Annual Aquatic Toxicity Workshop, Winnipeg, MB, Borgmann, A.I., M. Moody and R.P. Scroggins, September/October 2001

Involving Canadian Communities in Determining Climate Change Impacts and Adaptations: A Scoping Paper, Research Report, Prairie Adaptation Research Collaborative (PARC), Wheaton, E., E. Cloutis, D. Gauthier, V. Wittrock and C. Beaulieu, 2001

Livestock Industry Gets a Real Boost From Science, Magazine Article, Saskatchewan Business Magazine, Plante, Y., February 2001

Mining for Diamonds, Magazine Article, Saskatchewan Business Magazine, Holsten, A., May 2001

Novel Water Treatment Technology for Steam Production, Publication, Institutional Adaptation to Climate Change Ninth Williston Basin Horizontal Well and Petroleum Conference, Regina, SK, Soveran, D., C. Jackson and R.J. Scoular, April/May 2001

Past Climate Changes of the Canadian Prairie Provinces, Research Report, Government of Canada's Climate Change Action Fund (CCAF), Wheaton, E., 2001

Prairie Adaptation Research Collaborative, Invited Presentation, Atmospheric and Hydrological Sciences Division, Environment Canada Science Forum, Saskatoon, SK, Wheaton, E., May 24, 2001

Prairie Climate Change: Past and Future Trends, Invited Presentation, Ecological Monitoring and Assessment Network (EMAN) National Science Conference, Calgary, AB, Wittrock, V. and E. Wheaton, May 4, 2001

Screening and Coreflood Testing of Gel Foams to Control Excessive Gas Production in Oil Wells, Journal, Society of Petroleum Engineers (SPE) Reservoir Evaluation and Engineering, p. 187-194, Wassmuth, F., L. Hodgins, L.L. Schramm and S.M. Kutay, June 2001

Shallow Subsurface Geological Mapping Applied to Groundwater Resource Management in Saskatchewan, Presentation, Geological Society of America (GSA) North-Central Section Meeting, Workshop: Geological Models for Groundwater Flow Modeling, Bloomington, Ill, *Maathuis, H.*, April 21-24, 2001

The Influence of Bituminous Froth Components on Water in Oil Emulsion Stability as Determined by the Micropipette Technique, Article, Colloids and Surfaces A. 192, p. 15-24. Vander Kloet, J., L.L. Schramm and B. Shelfantook, 2001

The Influence of Interfacial Tension in the Hot-water Process for Recovering Bitumen from the Athabasca Oil Sands, Conference Publication, Proceedings of the Canadian International Petroleum Conference (CIPC), Calgary, AB, paper 2001-136, Schramm, L.L., E.N. Stasiuk and D. Turner, June 12-14, 2001

The Influence of Solvent and Demulsifier Additions on Nascent Froth Formation During Flotation Recovery of Bitumen from Athabasca Oil Sands, Article, Fuel Processing Technology, 73 (2), p. 95-110, Stasiuk, E.N. and L.L. Schramm, 2001

The SaskMesonet, Article, Extended Abstract for the Long-Range Weather and Crop Forecasting in North America Workshop, Shewchuk, S.R., March 5-6, 2001

The Winds of Change - Climate Change in the Prairie Provinces, Poster, Geological Survey of Canada, Ottawa, ON, SRC contributors: Beaulieu, C., J. Campbell, H. Maathuis, J. Thorpe, E. Wheaton and V. Wittrock, 2001

Transient Climate Change Scenarios for High Resolution Assessment of Impacts on Canada's Forest Ecosystems, Research Report, Climate Change Action Fund (CCAF), Canadian Forest Service, Northern Forestry Centre, Edmonton, AB, 42 pp., *Price, D.T., D.W. McKenney, D. Caya, H. Côté (Authors), M.D. Flannigan, R. Benton, B. Hogg, E. Raylor, E. Wheaton, B.M. Wotton (Collaborators),* July 2001

Trees: A New Crop Option for Saskatchewan Farms?, Magazine Article, Saskatchewan Business Magazine, *Johnston, M.,* November 2001 Value of Carbon Storage in Canadian Forests, Journal Paper, Journal of Sustainable Forestry 12:123–151, *Dore, M. and M. Johnston*, 2001

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