

David S. Chadder, Hon. B.Sc., QEP

Vice-President, Western Operations / Project Director

RWDI Responsibility

Expert Project Leadership
 Overall Technical Supervision of Project Teams
 High Level Contact with Clients
 Overall Quality Control on Projects
 Business Development / Marketing
 Corporate Planning Including Technical Standard Setting
 Expert Testimony at Hearings / Trials
 Presentations at Conferences, Workshops, Public Meetings, etc.

Education

Honours Bachelor of Science Degree (Physical Sciences), University of Guelph, 1977

Qualifications

Qualified Environmental Professional
 Qualified Expert (Air Quality) within Ontario Municipal Board (OMB)
 Qualified Expert (Air Quality, Hazard and Risk) within Alberta Energy Resources Conservation Board (ERCB)

Membership

Air and Waste Management Association (AWMA)
 Canadian Meteorological and Oceanographic Society (CMOS)

Contact Information

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RWDI AIR Inc.

David is a Vice-President, Western Operations and Project Director at RWDI AIR Inc. with experience in environmental consulting dating back to 1978. His area of specialty as Project Director involves the technical supervision of engineering teams involved with air quality, hazard and risk assessments, stack emissions testing and ambient air quality monitoring studies. Recently, he has supervised engineering teams that have provided air quality, odour, noise and vibration assessments, air emission audits, facility approvals and impact assessments over a broad range of applications. These have included continuous, emergency and intermittent flaring, sour gas handling and compression facilities, sour gas well test, SAGD and oil sands extraction, municipal and hazardous waste landfills, composting facilities, pipeline transmission, roadways, airports, pulp and paper facilities, hospitals, universities, and power generation plants. He is a member emeritus of the Air and Waste Management Association (AWMA) and the Canadian Meteorological and Oceanographic Society (CMOS). David is accredited as a Qualified Environmental Professional (QEP) and is recognized by the ERCB as an expert witness in air quality, hazard and risk.

1988 – Present

Flaring, Sour Oil and Gas Facilities, Accidental Release, Oil Sands Extraction and Upgrader Studies

- Duvernay Oil, 8-13-54-19 W5M, Edson, AB, Canada
- North American Oil Sands (STATOIL) Kai Kos Dehseh SAGD, AB Canada
- West Energy, 04-01-50-07 W5M, Rocky Rapids, AB, Canada
- Berkley Resources et al. 11-9-28-1 W5M Crossfield, AB, Canada
- Imperial Oil Quirk Creek Gas Plant, Quirk Creek, AB, Canada
- Shell Scotford Upgrader (SU2), Fort Saskatchewan, AB, Canada
- Shell Scotford Upset Flaring, Fort Saskatchewan, AB, Canada
- Encana Corporation Shallow Gas Infill, Suffield, AB, Canada
- Shell Canada Tay River, Rocky Mountain House, AB, Canada
- Devon Coleman 5-26-9-4 W5M, Coleman, AB, Canada
- ARC Valhalla, Elmsworth, AB, Canada
- Talisman RAM, Rocky Mountain House, AB, Canada
- Highpine et al. Pembina, 11-32-48-9 W5M, Drayton Valley, AB, Canada
- Anadarko 13-31-76-10 W6M, AB, Canada
- Paramount Resources 2M-25, Ft Liard, NWT, Canada
- Devon J2 EIA, Conklin, AB, Canada
- ARC Resources, CO2 EOR Pilot, Redwater, AB, Canada
- WBEA Ambient Monitoring Network Audit, Ft McKay, AB, Canada

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- ConocoPhillips Soil Remediation, Grande Prairie, AB, Canada

Studies for sour gas production, accidental releases, incineration and oil sands extraction or upgrading typically require detailed air quality modelling using traditional or dense gas dispersion models, compliance evaluation, mitigation analysis, approvals, attendance at public meetings, and testifying at NEB and ERCB hearings. Regional air shed modelling is required for the oil sands EIA's. Sour gas well and acid gas pipeline accidental release studies may include detailed hazard, risk or probabilistic exposure assessments.

Pipeline Compressor Exhaust and Tank Farm Studies

- Access Pipelines Sturgeon Terminal, Redwater, AB, Canada
- Enbridge Pipelines Athabasca Terminal, Fort McMurray AB, Canada
- TransCanada Pipelines, Calgary (Three Mainline Facilities Applications (1997-98, 1998-99 and 1999-00); over 35 Compressor Stations), AB, Canada.
- Enbridge Sarnia Terminal, Sarnia, ON, Canada.
- Enbridge Tecumseh Compressor Station, Tecumseh, ON, Canada.
- Enbridge Lisgar, Richmond Hill and Gate Stations, ON, Canada.
- Union Gas Dawn Compressor Station, Chatham, ON, Canada.

Power Generation Studies

- Air Liquide Baseline NOx and GHG Emission Audits, Fort Saskatchewan, AB, Canada
- Atco Power Fogging Study, Fort Chipewyan, AB, Canada
- University of Calgary Cogeneration Facility, Calgary, AB, Canada
- Sithe Energies Goreway and Southdown Plants, Brampton and Mississauga, ON, Canada.
- Atco Power Baseline NOx and SOx Emission Audits (13 units), AB, Canada
- Maxim Power Baseline NOx and GHG Emission Audits, Hinton, AB, Canada
- Imperial Oil Cogeneration, Sarnia, ON, Canada.
- Toronto Hydro/Boralex Portlands, Toronto, ON, Canada.
- Hamilton District Energy, Hamilton, ON, Canada.
- Northland Power Cogeneration, Thorold, ON, Canada.
- Jack Fish Lake, NT, Canada.
- Ontario Power Generation Headquarters, Toronto, ON, Canada.
- North York Hydro, North York, ON, Canada.
- TransCanada Power; (Five Plants), Northern ON, Canada.
- Doctor Bird Plant, Kingston, Jamaica.
- York University SSOB Building, Toronto, ON, Canada.
- Brighton Beach Plant Peer Review, Windsor, ON, Canada.
- Wartsilla Plains End Power Plant, Denver, CO, USA.

Studies for power generation and pipeline compressor stations typically require detailed air quality modelling, dispersion model calibration, NOx, SOx and GHG emission audits, noise assessments, vibration analysis, ambient air quality monitoring, compliance evaluation, mitigation analysis, permitting and attendance at public meetings and hearings. Regional airshed

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modelling of photochemical contaminants such as ozone and secondary fine particles is sometimes required.

Waste Management Including Landfills and Composting Facilities

- City of Guelph Legal Defense, Guelph, ON, Canada.
- Walker Landfill Expansion EA, Thorold, ON, Canada.
- Sheldrick Waste Transfer, Smithville, ON, Canada.
- Eastview Landfill, Guelph, ON, Canada.
- Clean Harbors, Corunna and London, ON, Canada.
- Trail Road Landfill, Ottawa, ON, Canada.
- Elm St. Landfill, Port Colborne, ON, Canada.
- Humber Stone Landfill, Niagara Falls, ON, Canada.
- Ridge Landfill, Blenheim, ON, Canada.
- Safety-Kleen Landfill, Corunna, ON, Canada.
- Keele Valley Landfill, Toronto, ON, Canada.
- Erb Street Landfill, Region of Waterloo, ON, Canada.
- Caledon Landfill, Caledon, ON, Canada.
- Britannia Road Sanitary Landfill, Mississauga, ON, Canada.
- North Sheridan Landfill, Mississauga, ON, Canada.
- Interim Waste Authority Peer Review, Durham and Markham, ON, Canada.
- Taro Landfill, Stoney Creek, ON, Canada.
- Waste Transfer Facility, Guelph, ON, Canada.
- Wet/Dry Recycling Facility, Guelph, ON, Canada.
- Tom Howe Landfill, Halton, ON, Canada.
- Pelham Road Landfill, St. Catharines, ON, Canada.
- Port Colborne Composting, Port Colborne, ON, Canada.
- Canadian Waste Blackwell Flare, Sarnia, ON, Canada.

These waste management studies typically consider landfills, waste transfer and composting facilities. Field air quality and odour measurements (source such as flux chamber, bulk and ambient) coupled with dispersion modelling assessments for air quality, odour and dust impact assessments are completed. Both long-term noise measurements and noise propagation assessments are also typically required. Detailed analyses are completed for dust, odour, air quality, noise, greenhouse gases and blowing litter. Mitigation analyses are frequently required. Public meetings are common.

Roadway and Transportation Studies

- Seasonal Overland Road, Yellowknife, NWT, Canada
- North Ring Road, Edmonton, AB, Canada
- East Ring Road, Calgary, AB, Canada
- Stoney Trail, Calgary, AB, Canada
- Highway 402 Widening, Sarnia, ON, Canada.

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- Highway 417 Widening, Ottawa, ON, Canada
- Updated Toronto Pearson International Airport Air Quality Assessment, Mississauga, ON, Canada.
- Highway 404 Widening and Extension, North York, ON, Canada.
- Lakeshore West Corridor Rail Expansion, Toronto, ON, Canada.
- Bradford Bypass Highway 400 to 404, Newmarket, ON, Canada.
- Air-Rail Link, Georgetown, ON, Canada.
- Mid-Peninsula Corridor, Niagara Region, ON, Canada.
- Red Hill Creek Expressway, Hamilton, ON, Canada.
- Peace Bridge Plaza, Buffalo, USA.
- Peace Bridge Commercial Vehicle Processing Centre, Fort Erie, ON, Canada.
- QEW Widening, Oakville and St. Catharines, ON, Canada.
- Vehicle Related Emission Study, Toronto, ON, Canada.
- Niagara Needs Study, Niagara Region, ON, Canada.
- Oshawa Airport, Oshawa, ON, Canada.
- Toronto City Centre Airport, Toronto, ON, Canada.
- North Channel Seaway Bridge Reconstruction, Cornwall, ON, Canada.

These studies typically include emissions inventories for tailpipe, aircraft and roadway sources, detailed dispersion modelling, ambient air quality monitoring, noise and vibration monitoring and modelling, mitigation analysis and presentations at public meetings.

Pulp and Paper Industry Studies

- Domtar Paper, Cornwall and Espanola, ON, Canada.
- Provincial Papers, Thunder Bay, ON, Canada.
- Interlake Papers, St. Catharines, ON, Canada.
- Cascades Hartman, Brantford, ON, Canada.
- Tembec, Pine Falls, MB, Canada.
- Bowater, Thunder Bay, ON, Canada.
- UPM-Kymmene, Miramichi, NB, Canada.
- Marathon Paper, Marathon, ON, Canada.
- Abitibi Consolidated Inc. (Five Plants), ON, Canada.
- Neenah Papers, Terrace Bay, ON, Canada.
- Pine Falls Paper, MB, Canada.
- Weyerhaeuser, Dryden, ON, Canada.

These studies typically include detailed emission inventories, stack and source testing, dispersion modelling, STAC submissions, noise monitoring and assessments, emissions, mitigation analysis, compliance evaluation, strategic planning, permitting, emissions reporting (Reg. 127/NPRI) and ambient air quality monitoring.

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Hearing Testimony

- Alberta Energy Utilities Board, Duvernay Oil, Sour Gas Well and Associated Facilities (2007), Edson AB, Canada
- Alberta Energy Utilities Board, West Energy Rocky Rapids, Two Sour Crude Oil Wells (2007), Drayton Valley, AB, Canada
- National Energy Board Hearings for TransCanada Pipelines for Mainline Expansions (1997 & 1999), Winnipeg, MAN and Calgary, AB, Canada.
- Ontario Municipal Board, Jannock Properties Development, Mississauga, ON, Canada.
- Environmental Assessment Board, Eastview Landfill Expansion, Guelph, ON, Canada.

Hearing Written Submissions

- Alberta Energy Resources Conservation Board, Acted on Behalf of Intervenor, Indian Graves Campground, PetroCanada Sullivan Field Development Project, Calgary, AB, Canada
- Joint Review Panel (NEB and CEAA), EnCana Shallow Gas Infill Development Project, Calgary, AB, Canada
- National Energy Board Hearing for TransCanada Pipelines for Mainline Expansion (1998), Calgary, AB, Canada.

Presentations at Universities

- Guest Lecturer, University of Calgary, AB, Canada.
- Guest Lecturer, University of Guelph, ON, Canada.
- Guest Lecturer, University of Toronto, ON, Canada.

Presentations at Workshops

- Dealing with Air and GHG Emissions, Envirogate Event Management, Calgary, AB,
- Corporate Social Responsibility, University of Toronto, ON, Canada.
- Southdown Area Community Stakeholder Forum, Mississauga, ON, Canada.
- University of Guelph Engineering Chapter, ON, Canada.

Presentations at Conferences

- AD Latornell Lectures, Alliston, ON, Canada.
- AWMA International Conferences (1992, 1994 (Two Papers), 1997).
- AWMA-Ontario Section Annual Meeting, ON, Canada.

Presentations at Public Meetings

- West Energy, Rocky Rapids, AB, Canada.
- University of Calgary, Calgary, AB, Canada
- Berkley Resources et al. (Three Open Houses) Crossfield, AB, Canada
- Clean Harbors, London, ON, Canada.
- Walker Industries (Two Presentations), Thorold, ON, Canada.

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- Safety Kleen, Corunna, ON, Canada.
- Ridge Landfill Expansion, Blenheim, ON, Canada.
- Uniroyal Chemicals (Three Presentations), Elmira, ON, Canada.
- Sithe Energies (Two Presentations), Mississauga, ON, Canada.
- Wet/Dry Recycling Facility (Three Presentations), Guelph, ON, Canada.
- Eastview Landfill (Two Presentations), Guelph, ON, Canada.
- Red Hill Creek Expressway (Five Presentations), ON, Canada.
- Peace Bridge Expansion, Fort Erie, ON, Canada.

Professional Association Involvement

- Calgary Luncheon Director, Canadian Prairie and Northern Section, Air and Waste Management Association
- Chair, Industry Association Liaison Committee, Air and Waste Management Association, Annual Conference and Exhibition, June 2010

Work History

1978-1988, Promet Environmental Group Ltd.
Principal

Publications

Penton, R.L. Scott, P. Vandelden and D.S.Chadder (2004), The Current State of Noise Requirements for Federal Environmental Assessment Purposes. Presented at the Canadian Acoustical Association Conference.

Schajnoha, S., M. Ratcliffe, J.J. Alberico and D.S. Chadder (2002), Comparison of ISC-Prime and Wind Tunnel Modelling. Presented at the Air and Waste Management Association's 95th Annual Meeting and Conference.

Bryant, D.W., D.S. Chadder and C. Bacigalupo (2002), Exposure Assessment to PM₁₀ for Local Residential Areas in Urban Environment, Presented at the Air and Waste Management Association's Specialty Conference, Banff, Alberta.

Smeaton, W.S., D. S. Chadder, S. Lacy and T. Braun (1997), Prediction of Ambient NO₂ Impacts from Compressor Exhaust Using Ambient Air Quality Data, Presented at the Air and Waste Management Association's 90th Annual Meeting and Exhibition.

Alberico, J.A., B. Handy and D.S. Chadder (1997), Calibration of the U.S. EPA's Landfill Air Emission Estimation Model for Dispersion Modelling of Vinyl Chloride at Municipal Landfill, Presented at the Air and Waste Management Association's 90th Annual Meeting and Exhibition.

Chadder, D.S., M.F. Lepage, A.E. Davies and J. Bull (1994), Ambient Monitoring for Vinyl Chloride at a Municipal Landfill, Presentation at the Air & Waste Management Association's 87th Annual Meeting and Exhibition.

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M.D. Vanderheyden, D.S. Chadder and A.E. Davies (1994), A Novel Methodology for Predicting the Impact of Mobile Sources on Air Quality, For Presentation at the Air & Waste Management Association's 85th Annual Meeting and Exhibition.

Chadder, D.S., K.C. Heidorn, A.E. Davies and J.M. McAndless (1992), Ambient Monitoring Programs in Support of Destruction of Chemical Warfare Agents, Presented at AWMA Annual Meeting.

Chadder, D.S., W.A. Murray, R.D. Brymer and A.H. Jamal (1984), Improved Measurement System for SO₂ Dry Deposition Rates, Alberta Environment.

Jamal, A.H., D.S. Chadder, W.A. Murray and R.D. Brymer (1984), Dry Deposition of Sulphur Dioxide in the Athabasca Oil Sands Area, Alberta Environment.

Hunt, J.E., T. Low, W.A. Murray and D. Chadder (1981), An Analysis of Techniques for Measuring the Dry Deposition Rate of SO₂, Alberta Environment.