

## Journal Articles

- Brown S.G., Penfold B.M., Mukherjee A., Landsberg K., and Eisinger D. (2019) Conditions leading to elevated PM<sub>2.5</sub> at near-road monitoring sites: case studies in Denver and Indianapolis. *International Journal of Environmental Research and Public Health*, 16(9), 1634, doi: 10.3390/ijerph16091634 (STI-7047), May 10.
- Brandt S., Dickinson B., Ghosh R., Lurmann F., Perez L., Penfold B., Wilson J., Kuenzli N., and McConnell R. (2017) Costs of coronary heart disease and mortality associated with near-roadway air pollution. *Sci. Total Environ.* (Published online), 601, 391-396, doi: 10.1016/j.scitotenv.2017.05.073, May 29.
- Penfold B.M., Hafner H.R., and Brown S.G. (2013) Predicting areas of high diesel particulate matter emissions in Phoenix, Arizona, using spatial analysis techniques. *Journal of Environmental Engineering and Science*, 8(4), 493-504, doi: 10.1680/jees.2013.0050 (STI-3088), November. Available at <http://www.icevirtuallibrary.com/content/article/10.1680/jees.2013.0050;jsessionid=1bh0fwopoonsj.x-telford-live-01>.
- Volk H.E., Lurmann F., Penfold B., Hertz-Picciotto I., and McConnell R. (2012) Traffic-related air pollution, particulate matter, and autism. *Arch Gen Psychiatry* (1-7) (doi:10.1001/jamapsychiatry.2013.266), November.
- Franklin, M., Vora, H., Avol, E., McConnell, R., Lurmann, F., Liu, F., Penfold, B., Berhane, K., Gilliland, F., and Gauderman, W.J. (2012) Predictors of intra-community variation in air quality. *Journal of Exposure Science and Environmental Epidemiology*, 1-13.
- Penfold B.M., Hafner H.R., and Brown S.G. (2010) Predicting areas of high diesel particulate matter emissions in Phoenix, Arizona, using spatial analysis techniques. *Canadian Journal of Civil Engineering* 37(2), 354-365, doi: 10.1139/L09-162 (STI-3088). Available at <http://www.nrcresearchpress.com/doi/abs/10.1139/L09-162?journalCode=cjce>.
- Tager I.B., Lurmann F.W., Haight T., Alcorn S., Penfold B., and Hammond S.K. (2010) Temporal and spatial patterns of ambient endotoxin concentrations in Fresno, California. *Environ. Health Perspect.* 118 (10), 1490-1496 (doi:10.1289/ehp.0901602).
- Kunzli N., Perez L., Lurmann F., Hricko A., Penfold B., and McConnell R. (2008) An attributable risk model for exposures assumed to cause both chronic disease and its exacerbations. *Epidemiology* 19, 179-185.

## Meeting Presentations, Webinars, and Conference Proceedings

- Pavlovic N., Brown S., O'Brien T., Huang S., Craig K., Zahn P., Penfold B., and Jaffe D. (2018) Wildland fire smoke from long-range transport enhances ozone in the Southeastern U.S. Presentation given at the *National Ambient Air Monitoring Conference, Portland, OR, August 16*, by Sonoma Technology, Inc., Petaluma, CA, and the University of Washington, Bothell, WA. STI-6934.
- Minor H.A., Lurmann F.W., and Penfold B.M. (2017) Improving the accuracy and usability of residential histories for exposure assessment. Poster at the *Annual Meeting of the International Society of Exposure Science, Research Triangle Park, NC, October 15-19*, by Sonoma Technology, Inc., Petaluma, CA. STI-6729.

- Dumas J., Penfold B., Healy A., MacDonald C., and Dye T. (2016) eSIMS: Electronic Site Information Management System. Webinar, March 17, presented by Sonoma Technology, Inc., Petaluma, CA. STI-6473.
- McCarthy M., Ekstrand A., Huang S., and Penfold B. (2015) Oil Sands ambient air monitoring network evaluation: analysis results. Webinar presented to Alberta Environment and Sustainable Resource Development, Edmonton, AB, Canada, April 16, by Sonoma Technology, Inc., Petaluma, CA. STI-914049-6241.
- McCarthy M., Ekstrand A., O'Brien T., and Penfold B. (2015) Peace River network evaluation: analysis results webinar. Presented to Alberta Energy Regulator, Edmonton, AB, Canada, April 15, by Sonoma Technology, Inc., Petaluma, CA. STI-915001-6236.
- Hafner H.R. and Penfold B.M. (2016) Technique for relocating an air quality monitoring site. Presented at the *AWMA Air Quality Measurement Methods and Technology Conference, Chapel Hill, NC, March 15-17*. STI-6468.
- McCarthy M., Ekstrand A., O'Brien T., and Penfold B. (2015) Calgary Region Airshed Zone network evaluation. Webinar presented to the Calgary Region Airshed Zone, Edmonton, AB, March 11, by Sonoma Technology, Inc., Petaluma, CA. STI-915007-6214.
- McCarthy M., Ekstrand A., O'Brien T., and Penfold B. (2015) Peace River network evaluation: conceptual model webinar. Presented to Alberta Energy Regulator, Edmonton, AB, February 11, by Sonoma Technology, Inc., Petaluma, CA. STI-915001-6193.
- McCarthy M., Ekstrand A., Huang S., and Penfold B. (2014) Oil sands ambient air monitoring network evaluation: conceptual model webinar. Presented to Alberta Environment and Sustainable Resource Development, Edmonton, AB, November 19, 2014, by Sonoma Technology, Inc., Petaluma, CA. STI 914049-6123.
- McCarthy M., Ekstrand A., Huang S., and Penfold B. (2014) Oil sands ambient air monitoring network evaluation: data verification webinar. Webinar presented to Alberta Environment and Sustainable Resource Development, October 16, by Sonoma Technology, Inc., Petaluma, CA. STI-914049-6093.
- Hafner H., Penfold B., and McCarthy M. (2014) Monitoring network assessments: best practices and analysis insights. Webinar presented online, September 30, by Sonoma Technology, Inc., Petaluma, CA. STI-6077.
- Hafner H.R., Penfold B.M., and McCarthy M.C. (2014) Monitoring network assessments: best practices and lessons learned. Presented at the *National Ambient Air Monitoring Conference, Atlanta, GA, August 11-14*. STI-5967.
- McCarthy M., Penfold B., Lorentz K., O'Brien T., and Ekstrand A. (2014) Florida network assessment results webinar. Presented to the Florida Department of Environmental Protection, June 5, by Sonoma Technology, Inc., Petaluma, CA. STI-914024-5988.
- McCarthy M., Penfold B., Lorentz K.A., and Ekstrand A. (2014) Florida network assessment: conceptual model webinar. Presented to the Florida Department of Environmental Protection, May 8, by Sonoma Technology, Inc., Petaluma, CA. STI-914024-5966.

- McCarthy M., Penfold B., Ekstrand A., and O'Brien T. (2014) Alberta's North Saskatchewan region analysis results. Webinar presented to Alberta Environment and Sustainable Resources Development, Edmonton, AB, March 3, by Sonoma Technology, Inc., Petaluma, CA. STI-914001-5922.
- McCarthy M., Penfold B., Ekstrand A., and O'Brien T. (2014) Alberta's North Saskatchewan region conceptual model webinar. Webinar presented to Alberta Environment and Sustainable Resources Development, Edmonton, AB, January 30, by Sonoma Technology, Inc., Petaluma, CA. STI-914001-5899.
- Penfold B., Ekstrand A., Lorentz K., and McCarthy M. (2013) Fort Air Partnership: Scotford 2 ambient air monitoring station relocation scenario output. Webinar presented to the Fort Air Partnership Technical Working Group by Sonoma Technology, Inc., STI-913048-5764, November 21.
- McCarthy M., Penfold B., and Ekstrand A. (2013) Alberta's South Saskatchewan region analysis results webinar. Presented to the Alberta Environment and Sustainable Resources Department, Edmonton, Alberta, November 4, by Sonoma Technology, Inc., Petaluma, CA. STI-913051-5821.
- McCarthy M. and Penfold B. (2013) PAZA network evaluation overview. Presented to the Peace Airshed Zone Association Board of Directors, Grande Prairie, Alberta, Canada, October 2, by Sonoma Technology, Inc., Petaluma, CA. STI-913032-5778.
- McCarthy M., Penfold B., Ekstrand A., and Lorentz K. (2013) Alberta's South Saskatchewan Region conceptual model webinar. Presented to Alberta Environment and Sustainable Resources Development, September 22, by Sonoma Technology, Inc., Petaluma, CA. STI-913051-5752.
- McCarthy M., Penfold B., Ekstrand A., and O'Brien T. (2013) PAZA network analysis webinar. Presented to the Peace Airshed Zone Association Technical Working Group, Grande Prairie, Alberta, Canada, August 7, by Sonoma Technology, Inc., Petaluma, CA. STI-913032-5737.
- Penfold B., Hafner H., and Minor H. (2013) Project status update. Presented to the Arizona-Sonora Border Air Monitoring Network Project Team, Arizona Department of Environmental Quality, Tucson, AZ, June, by Sonoma Technology, Inc., Petaluma, CA. (STI-910440-5688).
- McCarthy M., Ekstrand A., and Penfold B. (2013) PAZA conceptual model webinar. Presented to the Peace Airshed Zone Association Technical Working Group, Grande Prairie, Alberta, Canada, June 12, by Sonoma Technology, Inc., Petaluma, CA. (STI-913032-5682).
- McCarthy M.C., Ekstrand A., Minor H., and Penfold B. (2013) Stakeholder webinar. Presented to Alberta Environment and Sustainable Resources Development, Edmonton, Alberta, Canada, March 22, by Sonoma Technology, Inc., Petaluma, CA. (STI-913014-5616).
- McCarthy M., Ekstrand A., and Penfold B. (2013) Analysis results. Presented to Alberta Environment and Sustainable Resources Development, Edmonton, Alberta, Canada, February 8, by Sonoma Technology, Inc., Petaluma, CA. (STI-912055-5591).
- Penfold B.M. and DeWinter J.L. (2012) Using GIS to assess air quality monitoring networks. Poster presented at the *AAG Annual Meeting, New York, February 24-28*, by Sonoma Technology, Petaluma, CA (STI-4240).

- McCarthy M.C. and Penfold B.M. (2012) Fort Air Partnership network assessment evaluation. Webinar presented to the Fort Air Partnership Stakeholder Session, Fort Saskatchewan, Alberta, Canada, February 14, by Sonoma Technology, Inc., Petaluma, CA (STI-911052-4352).
- McCarthy M.C., Penfold B.M., Jumbam L.K., O'Brien T.E., and Minor H.A. (2011) Fort Air Partnership network assessment results. Webinar presented to the Fort Air Partnership Technical Working Group, Fort Saskatchewan, Alberta, Canada, November 23, by Sonoma Technology, Inc., Petaluma, CA (STI-911052-4283).
- Lurmann F.W., Tager I., Haight T., Alcorn S., Penfold B.M., Noth B., Perrino C., and Hammond S.K. (2010) Temporal and spatial patterns of ambient endotoxin concentrations in Fresno, California. Presented at the *American Association for Aerosol Research, San Diego, California, March 22* (STI-3835).
- Penfold B.M. (2009) Using GIS in Air Quality Research. Presented at *Sonoma County GIS Day, Santa Rosa, CA, Nov. 18* (STI-3760).
- Hafner H.R., Funk T.H., and Penfold B.M. (2009) Monitoring network assessments: lessons learned. Presented at the *National Air Quality Conference, Dallas, TX, March 2-5*, by Sonoma Technology, Inc., Petaluma, CA (STI-3547). Also presented at the *EPA Region 5 State/Local/Tribal Contacts Meeting, Chicago, IL, April 21* (STI-3620).
- Reid S.B., Chinkin L.R., Penfold B.M., and Gilliland E.K. (2007) Emissions inventory validation and improvement: a Central California case study. Paper presented at the *U.S. Environmental Protection Agency's 16th Annual Emission Inventory Conference, Raleigh, NC, May 14-17*, by Sonoma Technology, Inc., Petaluma, CA (STI-3109).
- Reid S.B., Sullivan D.C., Penfold B.M., Raffuse S.M., and Funk T.H. (2007) Activity trends for key emission sources in California's San Joaquin Valley, 1970-2030. Paper presented at the *U.S. Environmental Protection Agency's 16th Annual International Emission Inventory Conference, Raleigh, NC, May 14-17*, by Sonoma Technology, Inc., Petaluma, CA (STI-3121).
- Hafner H. and Penfold B.M. (2006) An introduction to monitoring network assessment. Presented at the *National Air Monitoring Conference, Las Vegas, NV, November 6-9*, by Sonoma Technology, Inc., Petaluma, CA (STI-3062).
- Penfold B.M., Hafner H., and Raffuse S. (2006) Analytical techniques used for regional-scale network assessments. Presented at the *National Air Monitoring Conference, Las Vegas, NV, November 6-9*, by Sonoma Technology, Inc., Petaluma, CA (STI-3061).
- Wheeler N.J., Craig K.J., and Penfold B.M. (2006) Generating shapefiles from CMAQ, SMOKE, and CAMX files. Poster presentation at the *Community Modeling and Analysis System (CMAS) Conference, Chapel Hill, NC, October 16-18*, Sonoma Technology, Inc., Petaluma, CA (STI-3008).
- Hafner H.R., Penfold B.M., and Brown S.G. (2005) Using GIS tools to select suitable DPM monitoring locations: Phoenix, Arizona. Presented at the *2005 Air Toxics Summit, Seeking Solutions for our Rural and Urban Communities, Portland, OR, October 18-19*, by Sonoma Technology, Inc., Petaluma, CA (STI-904234-2755).
- Brown S.G., Penfold B.M., and Hafner H.R. (2005) Selecting monitoring locations using GIS-based spatial analysis techniques. Presented at *Air & Waste Management Association Environmental Data Analysis:*

*Assessing Health and Environmental Impacts, Oak Brook, IL, October 4*, by Sonoma Technology, Inc., Petaluma, CA (STI-2711).

- Sullivan D.C., Reid S.B., Penfold B.M., and Chinkin L.R. (2005) Development of agricultural dust emission inventories for the Central States Regional Air Planning Association. Presented at the *U.S. Environmental Protection Agency's 14th International Emission Inventory Conference, Las Vegas, NV, April 11-14*, by Sonoma Technology, Inc., Petaluma, CA (STI-2713, STI-2720).
- Hafner H.R., Penfold B.M., and Brown S.G. (2005) Using spatial analysis techniques to select monitoring locations. Presentation at the *U.S. Environmental Protection Agency's 2005 National Air Quality Conference: Quality of Air Means Quality of Life, San Francisco, CA, February 12-13* (STI-2645).
- Funk T.H., Penfold B.M., Raffuse S.M., and Stiefer, P.S. (2004) Using GIS technology for emission inventory development and improvement (case studies). Presented at *WESTAR GIS & Emission Inventory Development Workshop, Snowbird, UT, September 30 to October 1, 2004* (STI-904490-2614).
- Hafner H.R., Brown S.G., Penfold B.M., and Funk T.H. (2004) Use of GIS tool to investigate suitable diesel emissions monitoring locations in Detroit, Michigan. Paper No. 35 presented at the *Air & Waste Management Association Symposium on Air Quality Measurement Methods and Technology, Research Triangle Park, NC, April 19-22* (STI-2444).
- Penfold B.M., Funk T.H., and Hafner H.R. (2003) Exploring the use of suitability modeling to locate air toxics monitors in Massachusetts. Paper and presentation prepared for the *ESRI International User Conference 2003, San Diego, CA, July 7-11* (STI-2388).
- Funk T.H., Dye T.S., Chan A.C., Anderson C.B., and Penfold B.M. (2003) Mapping PM<sub>2.5</sub> – methods and uncertainties. Presented at the *U.S. EPA National Air Quality Conference, San Antonio, TX, February 2-5* (STI-902090-2324).
- Hafner H.R., Brown S.G., Penfold B.M., and Funk T.H. (2003) Suitability analysis for monitoring diesel particulate matter in the Detroit area. Presented at the *National Workshop on Air Toxics Monitoring, Chicago, IL, May 13-14* (STI-902530-2372).
- Hafner H.R., Funk T.H., Penfold B.M., and Anderson D. (2002) Assessment of the toxics monitoring network in Phoenix, Arizona. Presented at the *Symposium on Air Quality Measurements, Methods, and Technology, San Francisco, CA, November 13* (STI-901483-2232).

## Formal Reports

- Scarborough C. and Penfold B. (2023) Sixty-Third Quarterly Report of Ambient Air Quality Monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School. Quarterly report prepared for Planning Department, City of Los Angeles, and the Los Angeles County Department of Regional Planning, Los Angeles, CA, by Sonoma Technology, Petaluma, CA, STI-8043, December.
- Scarborough C. and Penfold B. (2023) Sixty-Second Quarterly Report of Ambient Air Quality Monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School. Quarterly report prepared for Planning Department, City of Los Angeles, and the Los Angeles County Department of Regional Planning, Los Angeles, CA by Sonoma Technology, Petaluma, CA, STI-7966, August 17.

- Scarborough C., Penfold B., Hafner H., and Smith K. (2023) Fifteenth annual report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: a fifteen-year summary, November 22, 2007–November 21, 2022. Annual report prepared for Planning Department, City of Los Angeles, Los Angeles, CA, by Sonoma Technology, Petaluma, CA, STI-915026-7929, June 30.
- Scarborough C. and Penfold B. (2023) Sixty-First Quarterly Report of Ambient Air Quality Monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School Quarterly report for Planning Department, City of Los Angeles, and the Los Angeles County Department of Regional Planning, Los Angeles, CA, by Sonoma Technology, Petaluma, CA, STI-7901, April.
- Scarborough C. and Penfold B. (2023) Sixtieth quarterly report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School Quarterly report prepared for the Planning Department at the City of Los Angeles, Los Angeles, CA by Sonoma Technology, Petaluma, CA, STI-922030-7845, January 13.
- Scarborough C., Wang N., Penfold B., Hafner H., and Smith K. (2022) Fourteenth annual report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: a fourteen-year summary, November 22, 2007–November 21, 2021. Annual report prepared for Planning Department, City of Los Angeles, Los Angeles, CA, by Sonoma Technology, Petaluma, CA, STI-915026-7760, July 30.
- Lavezzo T. and Penfold B. (2022) Cloverdale fire protection district community wildfire protection plan. CWPP prepared for Cloverdale Fire Protection District, CA by Sonoma Technology, Inc., Petaluma, CA, July.
- Scarborough C., Wang N., and Penfold B. (2022) Fifty-sixth quarterly report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School Quarterly report prepared for Planning Department, Los Angeles, CA by Sonoma Technology, Petaluma, CA, STI-915026-7652, January.
- Scarborough C., Wang N., and Penfold B. (2022) Fifty-fifth quarterly report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School. Quarterly report prepared for Planning Department, Los Angeles, CA by Sonoma Technology, Petaluma, CA, STI-915026-7651, January.
- Penfold B. and Lavezzo T. (2021) Upper-air wind profiler pilot study results. Technical memo prepared for the California Energy Commission, Sacramento, CA by Sonoma Technology, Inc., Petaluma, CA, 919039-7522-TM.
- Penfold B., Wang N., and Gostic C. (2021) Network evaluation of the Strathcona Industrial Association. Final report prepared for the Strathcona Industrial Association, Edmonton, Alberta, Canada by Sonoma Technology Inc., Petaluma, CA, STI-921046-7631-FR, December.
- Scarborough C., Wang N., Penfold B., Hafner H., and Smith K. (2021) Thirteenth annual report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: a thirteen-year summary November 22, 2007–November 21, 2020. Annual report prepared for Planning Department, City of Los Angeles and Los Angeles County Department of Regional Planning, Los Angeles, California by Sonoma Technology, Inc., Petaluma, CA, STI-915026-7564-FR.
- Scarborough C., Wang N., and Penfold B. (2021) Fifty-Fourth quarterly report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School Quarterly report prepared

for Planning Department, City of Los Angeles and Los Angeles County Dept. of Regional Planning, Los Angeles, CA by Sonoma Technology, Inc., Petaluma, CA, STI-915026-7570, August.

Lavezzo T.L., Penfold B.M., Huang S.M., and Scarborough C.R. (2020) Marin County Community Wildfire Protection Plan. Prepared for the Marin County Fire Department, Woodacre, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-7472, December. Available at [http://www.sonomatech.com/sites/default/files/filedepot/MarinCountyCWPP\\_2020.pdf](http://www.sonomatech.com/sites/default/files/filedepot/MarinCountyCWPP_2020.pdf).

Penfold B. and Wang N. (2020) Fifty-first quarterly report of ambient air quality monitoring at sunshine canyon landfill and Van Gogh Elementary School: June 1, 2020-August 31, 2020. Prepared for the Planning Department, City of Los Angeles, and Los Angeles County Department of Regional Planning, Los Angeles, CA by Sonoma Technology, Inc., Petaluma, CA, STI-915026-7481, December 9.

Wang N., Penfold B., Hafner H.R., and Smith K. (2020) Twelfth annual report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: a twelve-year summary (November 22, 2007–November 21, 2019). Final report prepared for the Los Angeles City Planning Department and the Los Angeles County Department of Regional Planning by Sonoma Technology, Inc., Petaluma, CA, STI-915026-7404-AR, July 17.

Wang N. and Penfold B. (2020) Forty-ninth quarterly report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: December 1, 2019–February 26, 2020. Prepared for the Planning Department, City of Los Angeles, and Los Angeles County Department of Regional Planning, Los Angeles, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-915026-7289, May 7.

Dunn M. and Penfold B. (2020) Forty-eighth quarterly report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: September 1, 2019–November 30, 2019. Prepared for the Planning Department, City of Los Angeles, and Los Angeles County Department of Regional Planning, Los Angeles, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-915026-7246, January 21.

O'Brien T. and Penfold B. (2019) Forty-seventh quarterly report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: June 1, 2019 – August 31, 2019. Quarterly report prepared for the Planning Department, City of Los Angeles, and Los Angeles County Department of Regional Planning, Los Angeles, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-915026-7184-IR, October 15.

O'Brien T. and Penfold B. (2019) Forty-sixth quarterly report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: March 1, 2019 – May 31, 2019. Quarterly report prepared for the Planning Department, City of Los Angeles, and Los Angeles County Department of Regional Planning, Los Angeles, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-915026-7159-QR, August 2.

Penfold B., Hafner H.R., O'Brien T., and Smith K. (2019) Eleventh annual report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: an eleven-year summary (November 22, 2007–November 21, 2018). Prepared for the Planning Department, City of Los Angeles, CA, and the Los Angeles County Department of Regional Planning by Sonoma Technology, Inc., Petaluma, CA, STI-915025-7149-AR, July 22.

O'Brien T. and Penfold B. (2019) Forty-fifth quarterly report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: December 1, 2018 – February 28, 2019. Quarterly

report prepared for the Planning Department, City of Los Angeles, and Los Angeles County Department of Regional Planning, Los Angeles, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-915026-7106, April 18.

- O'Brien T. and Penfold B. (2019) Forty-fourth quarterly report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: September 1, 2018–November 30, 2018. Prepared for the Planning Department, City of Los Angeles, and Los Angeles County Department of Regional Planning, Los Angeles, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-915025-7076-QR, February.
- O'Brien T. and Penfold B. (2018) Forty-third quarterly report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: June 1, 2018–August 31, 2018. Prepared for the Planning Department, City of Los Angeles, and Los Angeles County Department of Regional Planning, Los Angeles, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-915025-7027-QR, November 21.
- Hafner H.R., Stanton L.G., Penfold B.M., and Smith K.M. (2018) Air quality monitoring plan for Humphreys Compressor Station (Barnesville, Ohio). Prepared for MarkWest, Cadiz, OH, by Sonoma Technology, Inc., Petaluma, CA, STI-918030-7011, October.
- Penfold B.M. and Brown S.G. (2018) Standard operating procedure for Teledyne Model 640x real-time continuous PM monitor. By Sonoma Technology, Inc., Petaluma, CA, 915415-7129-SOP, September 14.
- O'Brien T. and Penfold B. (2018) Forty-second quarterly report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: March 1, 2018–May 31, 2018. Prepared for the Planning Department, City of Los Angeles, and Los Angeles County Department of Regional Planning, Los Angeles, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-915025-6968-QR, August 6.
- Penfold B.M. and Brown S.G. (2018) Standard operating procedure for Teledyne Model 640 real-time continuous PM monitor. By Sonoma Technology, Inc., Petaluma, CA, STI-915415-7128-SOP, July.
- Penfold B., Hafner H.R., O'Brien T., Smith K., and Seagram A. (2018) Tenth annual report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: a ten-year summary (November 22, 2007–November 21, 2017). Prepared for the Planning Department, City of Los Angeles, CA, and the Los Angeles County Department of Regional Planning by Sonoma Technology, Inc., Petaluma, CA, STI-915025-6935-AR, May 31.
- Penfold B. and O'Brien T. (2018) Forty-first quarterly report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: December 1, 2017–February 28, 2018. Prepared for the Planning Department, City of Los Angeles, and Los Angeles County Department of Regional Planning, Los Angeles, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-915024-6915-QR, April 27.
- Pavlovic N., Penfold B., Zahn P., Craig K., Huang S., O'Brien T., and Brown S. (2018) Tier 1 and 2 smoke exceptional event analyses for Louisiana, September 14, 2017. Final report prepared for the Louisiana Department of Environmental Quality, Baton Rouge, LA, by Sonoma Technology, Inc., Petaluma, CA, STI-918003-6876, February 20.
- Seagram A., Brown S., Huang S., Penfold B., and Eisinger D. (2018) National near-road data assessment: report No. 3 with 2016 data. Final report prepared for the Washington State Department of



Transportation, Olympia, WA, by Sonoma Technology, Inc., Petaluma, CA, STI-914203-6821, February 15.

- Hafner H.R. and Penfold B.M. (2018) PAMS data validation and analysis training material. Workbook prepared for the U.S. Environmental Protection Agency by Sonoma Technology, Inc., STI-915308-6834, January 4.
- Penfold B. and Kong M. (2018) Standard operating procedure: Met One BAM 1022 real-time continuous PM monitor. Prepared for the U.S. Environmental Protection Agency, Research Triangle Park, NC, by Sonoma Technology, Inc., Petaluma, CA, STI-915313-6847, January.
- McCarthy M.C., O'Brien T.E., Vaughn D.L., Penfold B.M., and Hafner H.R. (2017) Sunshine Canyon VOC and carbonyl monitoring report. Final report prepared for the City of Los Angeles Planning Department, Los Angeles, CA, and the Los Angeles County Department of Regional Planning, Los Angeles, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-916007-6823-FR, November.
- Huang S., Penfold B., Brown S.G., Hafner H.R., Vaughn D.L., and Roberts P.T. (2017) Ninth annual report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: a nine-year summary (November 22, 2007–November 21, 2016). Prepared for the Planning Department, City of Los Angeles, CA, and the Los Angeles County Department of Regional Planning by Sonoma Technology, Inc., Petaluma, CA, STI-915023-6710-AR, April 11.
- McCarthy M., Penfold B., and Hafner H. (2017) Development of GIS-based dataset and methods to identify high-risk locations. Technical memorandum prepared for the U.S. Environmental Protection Agency, Research Triangle Park, NC, by Sonoma Technology, Inc., Petaluma, CA, STI-9152180-6641, January 4.
- Lavezzo T., Penfold B., Craig K., Hafner H., and Brown S. (2016) Delaware trajectory assessment. Technical memorandum prepared for the Delaware Department of Natural Resources and Environmental Control, Division of Air Quality, STI-916030-6585-TM, October.
- Minor H.A., O'Brien T., Penfold B.M., and Hafner H.R. (2016) Ambient air quality monitoring in Nogales, Sonora. Final report prepared for the Arizona Department of Environmental Quality, Phoenix, AZ, STI-916013-6534-FR, October.
- Lavezzo T.L., Huang S., Pavlovic N.R., Hafner H.R., and Penfold B.M. (2016) Marin County Community Wildfire Protection Plan. Prepared for FIREsafe MARIN, San Anselmo, CA, by Sonoma Technology, Inc., Petaluma, CA, 915038-6398, August. Available at [drive.google.com/file/d/0Bx15pyv0JoJZWXE2WXIwMWtENUE/view](https://drive.google.com/file/d/0Bx15pyv0JoJZWXE2WXIwMWtENUE/view).
- Dillon M.D. and Penfold B.P. (2016) Instituto Tecnológico de Nogales, Mexico, audit report. Prepared for the Arizona Department of Environmental Quality, Phoenix, AZ, by Sonoma Technology, Inc., Petaluma, CA, STI-916013-6536-FR, June 30.
- Minor H.A., O'Brien T., Penfold B.M., and Hafner H.R. (2016) Report of Ambient Air Quality Monitoring in Nogales, Sonora. Interim report prepared for the Arizona Department of Environmental Quality, Phoenix, AZ, by Sonoma Technology, Inc., Petaluma, CA, STI-916013-6498-IR, April 15.
- Minor H.A., Pavlovic N.R., Penfold B.M., Vaughn D.L., and Hafner H.R. (2015) Report of ambient air quality monitoring at Sonora, Nogales. Interim report prepared for the Arizona Department of Environmental Quality, Phoenix, AZ, by Sonoma Technology, Inc., Petaluma, CA, STI-914061-6350, September 11.

- Penfold B., McCarthy M., Du Y., and O'Brien T. (2015) Wyoming statewide air monitoring network assessment. Technical memorandum prepared for the Wyoming Department of Environmental Quality by Sonoma Technology, Inc., Petaluma, CA, STI-915008-6323-TM, July 24.
- McCarthy M.C., Ekstrand A.L., O'Brien T.E., Huang S., and Penfold B.M. (2015) Assessment of ambient air monitoring in the Oil Sands area of Alberta. Final report prepared for Alberta Environmental Monitoring, Evaluation, and Reporting Agency, Edmonton, Alberta, Canada, by Sonoma Technology, Inc., Petaluma, CA, STI-914049-6283-FR, June 25.
- McCarthy M.C., Ekstrand A.L., O'Brien T.E., and Penfold B.M. (2015) Peace River air monitoring network assessment. Final report prepared for Alberta Energy Regulator, Edmonton, AB, Canada, by Sonoma Technology, Inc., Petaluma, CA, 915001-6257-FR, May.
- McCarthy M.C., Ekstrand A.L., O'Brien T., and Penfold B.M. (2015) Calgary Regional Airshed Zone (CRAZ) Network Assessment. Technical memorandum prepared for the Calgary Regional Airshed Zone by Sonoma Technology, Inc., Petaluma, CA, STI-915007-6227-TM, March.
- McCarthy M., Ekstrand A., Huang S., and Penfold B. (2014) Summary of data available for the assessment of ambient air monitoring in the oil sands area of Alberta. Technical memorandum prepared for the Alberta Environment and Sustainable Resource Development by Sonoma Technology, Inc., Petaluma, CA, STI-914049-6088-TM, October 13.
- Penfold B., Vaughn D., and Hafner H. (2014) Summary of PM<sub>10</sub> monitoring operations in Nogales, Mexico. Technical memorandum prepared for the U.S. Environmental Protection Agency, Region 9, San Francisco, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-910512-6073-TM, October 1.
- Hafner H., Vaughn D., and Penfold B. (2014) PM<sub>10</sub> and meteorological monitoring in Nogales, Mexico: quality assurance project plan. Prepared for the U.S. Environmental Protection Agency, Region 9, San Francisco, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-910512-5998-QAPP, August 1.
- McCarthy M.C., Penfold B.M., Ekstrand A.L., Lorentz K.A., and O'Brien T.E. (2014) Florida air monitoring network assessment and optimization study. Final report prepared for the Florida Department of Environmental Protection, Tallahassee, FL, by Sonoma Technology, Inc., Petaluma, CA, STI-914024-6009-FR, June 30.
- Penfold B., Vaughn D., and Hafner H. (2014) Revised recommendations for operations and associated equipment in Nogales, Mexico. Technical memorandum prepared for the U.S. Environmental Protection Agency, Region 9, San Francisco, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-910512-6008-TM, June 26.
- Penfold B., Vaughn D., and Hafner H. (2014) Report on monitor status and recommendations for operations and associated equipment in Nogales, Mexico. Technical memorandum prepared for the U.S. Environmental Protection Agency, Region 9, San Francisco, CA by Sonoma Technology, Inc., Petaluma, CA, STI-910512-5864-TM, May 6.
- McCarthy M.C., Penfold B.M., Ekstrand A.L., and O'Brien T.E. (2014) Ambient air monitoring network assessment of the North Saskatchewan Region. Final report prepared for the Alberta Ministry of Environment and Sustainable Resource Development by Sonoma Technology, Inc., Petaluma, CA, STI-914001-5933-FR, March 28.

- McCarthy M., Penfold B., Ekstrand A., and O'Brien T. (2014) Ambient air monitoring network assessment of the South Saskatchewan Region. Final report prepared for the Alberta Ministry of Environment and Sustainable Resource Development, Calgary, Alberta, Canada, by Sonoma Technology, Inc., Petaluma, CA, STI-913051-5854-FR2, January.
- McCarthy M.C., Penfold B.M., and Ekstrand A.L. (2013) Scotford 2 ambient air monitoring station relocation. Final report prepared for the Fort Air Partnership, Fort Saskatchewan, Alberta, Canada, by Sonoma Technology, Inc., Petaluma, CA, STI-913048-5771-FR, December 6.
- McCarthy M.C., Penfold B.M., Ekstrand A.L., and O'Brien T.E. (2013) Network evaluation of the Peace Airshed Zone Association. Final report prepared for the Peace Airshed Zone Association, Grande Prairie, Alberta, by Sonoma Technology, Petaluma, CA, STI-913032-5747-FR, October 28.
- McCarthy M.C., Ekstrand A.L., Penfold B.M., Minor H.A., and O'Brien T. (2013) Network assessment of the Edmonton Capital Region. Prepared for Alberta Environment and Sustainable Resource Development, Edmonton, Alberta, by Sonoma Technology, Inc., Petaluma, CA, STI-912055-5601-FR, March 28.
- McCarthy M.C., Penfold B.M., O'Brien T.E., Jumbam L.K., and Minor H.A. (2012) Evaluation of Fort Air Partnership ambient air quality monitoring network. Final report prepared for the Fort Air Partnership Technical Working Group, Fort Saskatchewan, Alberta, Canada, by Sonoma Technology, Inc., Petaluma, CA, STI-911052-4316-FR, March 21.
- Hafner H., Penfold B.M., and O'Brien T.E. (2010) Wyoming statewide air monitoring network assessment Task A: quality assurance. Technical memorandum prepared for the Wyoming Department of Environmental Quality, Cheyenne, WY, by Sonoma Technology, Inc., Petaluma, CA, STI-910019-3883, September 16.
- McCarthy M., Hafner H., and Penfold B.M. (2010) Wyoming statewide air monitoring network assessment Task B: statistical analysis. Technical memorandum prepared for the Wyoming Department of Environmental Quality, Cheyenne, WY, by Sonoma Technology, Inc., Petaluma, CA, STI-910019-3903-TM, September 13.
- Reid S.B., Pollard E.K., DeWinter J., and Penfold B.M. (2010) Wyoming statewide air monitoring network assessment Task F: pollutant residence time analysis. Technical memorandum prepared for the Wyoming Department of Environmental Quality, Cheyenne, WY, by Sonoma Technology, Inc., Petaluma, CA, STI-910019-3961, September 7.
- Penfold B.M. and Hafner H. (2010) Wyoming statewide air monitoring network assessment Task C: area-, population-, and emissions-served analyses. Technical memorandum prepared for the Wyoming Department of Environmental Quality, Cheyenne, WY, by Sonoma Technology, Inc., Petaluma, CA, STI-910019-3915-TM, July 9.
- Funk T.H., Penfold B.M., Pasch A.N., MacDonald C.P., and Stone J.M. (2009) Ambient air quality monitoring network assessment for the San Joaquin Valley. Final report prepared for the San Joaquin Valley Unified Air Pollution Control District by Sonoma Technology, Inc., Petaluma, CA, STI-908072.04-3643-FR, July.
- Penfold B.M., Lurmann F.W., and Alcorn S.H. (2009) Summary of SAGE traffic metrics. Technical memorandum prepared for the University of California, Berkeley, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-908008.01-3631, June.

- Hafner H.R. and Penfold B.M. (2007) British Columbia network assessment analysis results. Technical memorandum prepared for the Ministry of Water, Land, & Air Protection, British Columbia, Canada, by Sonoma Technology, Inc., Petaluma, CA, STI-906059.02-3186-TM, June.
- Raffuse S.M., Sullivan D.C., McCarthy M.C., Penfold B.M., and Hafner H.R. (2007) Ambient air monitoring network assessment guidance: Analytical techniques for technical assessments of ambient air monitoring networks. Guidance document prepared for the U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, by Sonoma Technology, Inc., Petaluma, CA, EPA-454/D-07-001 (STI-905212.02-2805-GD), February.
- Reid S.B., Sullivan D.C., Cozzo E.M., Penfold B.M., Raffuse S.M., and Funk T.H. (2006) Compilation of emission growth factors, emission growth surrogates, and activity projections used in forecasting area, point, or mobile source emissions. Final compilation prepared for the San Joaquin Valley Unified Air Pollution Control District, Fresno, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-905032-2868-FC, December.
- Reid S.B., Penfold B.M., and Chinkin L.R. (2006) Emission inventory for the Central California Ozone Study (CCOS)—review of spatial variations of area, non-road mobile, and point sources of emissions. Technical memorandum prepared for the California Air Resources Board, Sacramento, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-906036-3057-TM, November.
- Penfold B.M. and Lurmann F.W. (2005) Alternate traffic assignments for the NIEHS Atherosclerosis Risk in Communities (ARIC) Study. Technical memorandum prepared for the National Institute of Environmental Health Sciences, Research Triangle Park, NC, by Sonoma Technology, Inc., Petaluma, CA, STI-904771.03-2850-TM, November.
- Raffuse S.M., Sullivan D.C., McCarthy M.C., Penfold B.M., and Hafner H.R. (2005) Analytical techniques for technical assessments of ambient air monitoring networks. Guidance document prepared for the U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, by Sonoma Technology, Inc., Petaluma, CA, STI-905104.02-2805-GD, September.
- Chinkin L.R., Penfold B.M., Brown S.G., and Hafner H.R. (2005) Emission inventory evaluation and reconciliation in the South Coast Air Basin. Final report prepared for South Coast Air Quality Management District, Diamond Bar, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-904045-2728-FR, August.
- Sullivan D.C., Hafner H.R., Brown S.G., MacDonald C.P., Raffuse S.M., Penfold B.M., and Roberts P.T. (2005) Analyses of the causes of haze for the Central States (Phase II) summary of findings. Executive summary prepared for the Central States Regional Air Planning Association by Sonoma Technology, Inc., Petaluma, CA, STI-904780.08-2754-ES, August.
- Sullivan D.C., Reid S.B., Penfold B.M., and Cozzo E.M. (2005) Preparation of emission inventories of toxic air contaminants for the Bay Area. Final report prepared for the Bay Area Air Quality Management District, San Francisco, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-905019-2771-FR2, August.
- Sullivan D.C., Reid S.B., Penfold B.M., and Raffuse S.M. (2004) An emission inventory of toxic air pollutants for South Phoenix and recommendations for further inventory development. Final report prepared for the Arizona Department of Environmental Quality, Phoenix, AZ, by Sonoma Technology, Inc., Petaluma, CA, STI-903773-2670-FR, December.

- Reid S.B., Sullivan D.C., Penfold B.M., Funk T.H., Tamura T.M., Stiefer P.S., Raffuse S.M., and Arkinson H.L. (2004) Emission inventory development for mobile sources and agricultural dust sources for the Central States. Final report prepared for The Central States Air Resource Agencies and The Central Regional Air Planning Association, Oklahoma City, OK, by Sonoma Technology, Inc., Petaluma, CA, STI-903574-2611-FR, October.
- Reid S.B., Sullivan D.C., Funk T.H., Tamura T.M., Stiefer P.S., Penfold B.M., and Raffuse S.M. (2004) Emission estimation methods for mobile sources and agricultural dust sources in the Central States. Methods document prepared for The Central States Air Resource Agencies and The Central Regional Air Planning Association, Oklahoma City, OK, by Sonoma Technology, Inc., Petaluma, CA, STI-903574-2610-MD, September.
- Coe D.L., Reid S.B., Stiefer P.S., Penfold B.M., Funk T.H., and Chinkin L.R. (2004) Collection and analysis of weekend/weekday emissions activity data in the South Coast Air Basin. Final report prepared for the California Air Resources Board, Sacramento, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-901140/901150-2477-FR; ARB Contract Nos. 00-305 and 00-313, May.
- Hafner H.R., Brown S.G., Tamura T.M., Arkinson H.L., and Penfold B.M. (2003) Site selection, data acquisition, data validation, and MOBILE6 sensitivity. Technical memoranda prepared for the Federal Highway Administration, Washington, DC, by Sonoma Technology, Inc., Petaluma, CA, STI-903631-2454, December.
- Funk T.H., Chinkin L.R., Ryan P.A., and Penfold B.M. (2003) Top-down evaluation of urban area and mobile source SO<sub>2</sub>, CO, and NO<sub>x</sub> emission estimates in the 1996 National Emission Inventory. Final report prepared for EPRI, Palo Alto, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-902190-2279-FR, March.
- Hafner H.R., Brown S.G., Penfold B.M., and Funk T.H. (2003) Designing a monitoring regimen for air toxics from landfills. Final report prepared for Massachusetts Department of Environmental Protection, Boston, MA, by Sonoma Technology, Inc., Petaluma, CA, STI-902133-2335-FR, March.
- Main H.H., Funk T.H., and Penfold B.M. (2002) Arizona Department of Environmental Quality toxics network assessment. Report prepared for the Arizona Department of Environmental Quality, Phoenix, AZ, by Sonoma Technology, Inc., Petaluma, CA, STI-901483-2226-FR, September.

## Courses Taught

- Penfold B.M. and DeWinter J.L. (2009) GIS training. Prepared for the Salt River Pima-Maricopa Indian Community, Scottsdale, AZ, by Sonoma Technology, Inc., Petaluma, CA, STI-908057-3679, August.