

Western Regional Air Partnership Oil and Gas Emissions Inventory: South San Juan Basin, New Mexico Case Study

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Abstract: The Western Regional Air Partnership (WRAP) Phase III oil and gas emissions inventory project is an effort sponsored by the Western Energy Alliance (formerly known as the Independent Petroleum Association of Mountain States) jointly with the WRAP. A 2006 base and 2012 projected year criteria pollutant emissions inventory for most of the basins in the Intermountain Western United States has been developed using consistent methodology from basin to basin. It covers a majority of area and point sources associated with the exploration, production, and gathering operations of oil and gas in the major basins throughout the six-state (CO, MT, NM, ND, UT, and WY) study region (WRAP, 2008-2010).

New Mexico has worked closely with the WRAP and other partners in this effort. The South San Juan Basin in New Mexico was one of the key basins covered by the study.

Bar-Ilan, A., Grant J., Parikh, R., Pollack, A., Henderer, D., Pring, D., and Sgamma, K. (2009) report that the primary source of information was a survey outreach effort, consisting of 26 excel spreadsheets, to the producers in the South San Juan Basin. Each spreadsheet contained a request for specific data on an oil and gas source category. Year 2006 well count and production data for the basin were obtained from a commercially available database maintained by IHS Corporation. South San Juan Basin companies representing 67% of well ownership in the basin and 82% of gas production participated in the survey. Some specific source data was unavailable or restricted.

Results show that Rio Arriba and San Juan counties are at the core of the conventional gas and coal bed methane gas production activities. "Total emissions of NO_x in the South San Juan Basin were 42,075 tons in 2006 while total emissions of VOCs in the South San Juan Basin were 60,697 tons in 2006. Overall, wellhead compressor engines accounted for almost 84% of NO_x emissions basin-wide, consistent with past inventory studies that have shown that wellhead compressors are used extensively in the South San Juan Basin. Completion venting, well blowdowns and dehydrators accounted for approximately 65% of VOC emissions. As with the findings of previous inventory efforts for other basins as part of this Phase III work, the majority of emissions are from unpermitted sources." (Bar-Ilan, et al, 2009).

The emissions inventory has helped inform the New Mexico Air Quality Bureau and other agencies on source-specific oil and gas impacts and has served as a critical planning tool. Contact Lee Gribovicz for more information on the WRAP Phase III inventory: E-Mail lg@westgov.org, Phone: 307-333-1527 or visit the website: http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html

References

- 1 Bar-Ilan, A., Grant J., Parikh, R., Pollack, A., Henderer, D., Pring, D., & Sgamma, K. (2009). Development of baseline 2006 emissions from oil and gas activity in the south San Juan Basin. Prepared for Western Governor's Association. Prepared by ENVIRON International Corporation, Novato, CA. ES-1.
- 2 Western Regional Air Partnership. (2008-2010). Oil and Gas Emissions Workgroup: Phase III Inventory. Retrieved from http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html