

ALASKA TRIBAL AIR QUALITY ASSESSMENT - PHASE II

Completing this Phase II Assessment can help tribes gather more information about air pollution hazards identified in their communities. This packet contains the Phase II Assessment tool, a guide for completing the assessment and web links for those who want additional information on the air quality topics covered by the assessment. It is suggested that you complete the Phase I Assessment first. A copy of the Phase I Assessment tool can be obtained from ANTHC's Tribal Air Quality Program.



Tribal Air Quality: Phase II Assessment

Instructions for completing the assessment

Who should complete the assessment? Ideally, this assessment will be completed by the same individual who completed the Phase I Assessment. If that is not possible, this assessment can be completed by anyone. No previous training in air quality or environmental health is required. However, environmental workers (such as IGAP employees), representatives of the tribe or people with an interest in air quality may find this guide particularly useful.

How to conduct the assessment? Potential air quality problems were identified through the Phase I Assessment. This Phase II Assessment is intended to follow the Phase I Assessment and help further define and describe the extent of the previously-identified issues. The information gathered will help to prioritize issues and develop and identify interventions to address those issues.

Start by filling in the table on page 3 to mark which issues were identified as priorities in the Phase I Assessment. Then, fill in the information for each corresponding section in the following assessment form.

Each section introduces a topic that is a potential air quality concern for a community. Within the section, specific instructions detail what information needs to be gathered and which tools to use. The assessor will complete each section to the extent possible. If applicable, review the DustTrak SOP and complete the *Quick Guide to Spot Sampling* sheet at the end of this assessment by conducting spot sampling at the three prioritized locations.

What to do after the assessment? After completing the Phase II Assessment and all applicable attachments, the assessor will summarize the assessment process and include relevant information that was not previously disclosed.

For the Findings sections, the assessor will review their results and re-prioritize the air quality issues. Each category shall include a statement about why it is important (refer back to the assessment). Recommendations could include solutions to potential problems or identifying partners and potential funding sources.

Upon completion of the Summary, Findings and Recommendations, a copy of the Assessment along with an explanation shall be provided to the Tribal Council and a copy shall be faxed, mailed or emailed to ANTHC Air Quality Program. The fax number is listed. The ANTHC Air Quality Program will then work with the assessor and the Tribal Council to develop an action plan.

AIR QUALITY ISSUE	Priority from Phase I (mark with an "x")	Section Starts on Page
ROAD DUST		4
PETROLEUM EMISSIONS		5
SOLID WASTE BURNING		6
WOOD STOVE EMISSIONS (OUTDOORS)		8
WILDFIRES		9
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INDUSTRIAL OPERATIONS		12

ALASKA TRIBAL AIR QUALITY

PHASE II ASSESSMENT



COMMUNITY:	Tribe:
COMPLETED BY (Name & Organization):	ASSESSMENT DATE:

Please read through each item in the appropriate sections of the following assessment. If this is a problem in your community, mark an “x” in the box to the left and answer the given questions.

- 1. ROAD DUST:** Road surfacing materials such as dirt, sand, silt and gravel contain small particles that, when inhaled, can go deep into the lungs and cause health problems. Road dust can be particularly harmful to young children, elders, and individuals with existing medical problems.

	<p>1A. Road surface</p> <p>1Ai. How many miles of unpaved road are in the community?</p>
	<p>1B. Road dust control</p> <p>1Bi. What, if any, road dust controls, such as water or palliatives, are used in the community to treat the road?</p>
	<p>1C. Weather conditions: Weather conditions may have a significant impact on the creation of airborne road dust.</p> <p>1Ci. When (time of year, for how long) does the community experience dry and windy weather?</p>
	<p>1D. Speed limits: Speed limits are an example of an “administrative control”. Administrative controls require residents to change their behavior. Driving slower on unpaved roads produces less dust.</p> <p>1Di. Has the council passed an ordinance establishing speed limits?</p> <p>1Dii. What is the speed limit?</p> <p>1Diii. How is the speed limit enforced?</p>

	<p>1E. Community concern</p> <p>1Ei. What are the community's concerns about pollution from road dust?</p> <p>1Eii. If you were to rate the community as a whole, is the community not very concerned, concerned, or very concerned about pollution from road dust?</p> <p>1Eiii. Why do you believe this to be true?</p>
	<p>1F. Responsibility</p> <p>1Fi. Who is the party responsible for the roads in the community (e.g. Bureau of Indian Affairs, borough, etc.)?</p> <p>1Fii. Has the responsible party been contacted about the road dust issue?</p> <p>1Fiii. Does the responsible party have funding available to address the issue?</p>
<p><i>Notes about road dust:</i></p>	
<p>2. PETROLEUM EMISSIONS: Burning fossil fuels leads to production of nitrogen oxide, volatile organic compounds, carbon monoxide, and other harmful air pollutants. These pollutants can react with ammonia, moisture, and other compounds in the air to form small particles that can penetrate into the lungs and cause or worsen respiratory disease. They can also aggravate existing heart disease.</p>	
	<p>2A. Diesel generators: Diesel generators are a common source of petroleum emissions in rural Alaska. These diesel generators should be located away from homes, schools and other places where people gather.</p> <p>2Ai. What is the distance between the diesel generator and the nearest home?</p> <p>2Aii. What is the distance between the diesel generator and the school?</p> <p>2Aiii. What is the distance between the diesel generator and the nearest community building?</p> <p>2Aiii. What is the distance between the diesel generator and the nearest gathering area?</p>

	<p>2B. Fuel farms: Fuel tank farms may release harmful vapors. Fuel tank farms should be located away from homes, schools, and community buildings to minimize exposure.</p> <p>2Bi. What is the distance between the fuel farm and the nearest home?</p> <p>2Bii. What is the distance between the fuel farm and the school?</p> <p>2Biii. What is the distance between the fuel farm and the nearest community building?</p> <p>2Biii. What is the distance between the fuel farm and the nearest gathering area?</p>
	<p>2C. Community concern:</p> <p>2Ci. What are the community's concerns about pollution from petroleum emissions?</p> <p>2Cii. If you were to rate the community as a whole, is the community not very concerned, concerned, or very concerned about pollution from petroleum emissions?</p> <p>2Ciii. Why do you believe this to be true?</p>
<p><i>Notes about petroleum emissions:</i></p>	
<p>3. SOLID WASTE BURNING: Burning solid waste (trash or garbage) produces very toxic air pollutants. Breathing these chemicals can increase the risk of heart disease; aggravate respiratory problems such as asthma and emphysema, and cause nausea and headaches.</p> <p>Nearest landfill:</p> <p>Landfill operator:</p>	
	<p>3A. Solid waste burning</p> <p>3Ai. Is solid waste burned at the landfill?</p> <p> 3Aia. If yes, who does the burning?</p> <p> 3Aib. If yes, describe any methods used to control the burning.</p>

	<p>3B. Burn container availability</p> <p>If solid waste must be burned, then it is best to burn inside a burn unit (burn box, burn barrel, burn container, etc.) because doing so reduces the amount of air pollutants produced.</p> <p>3Bi. How many burn containers are in the community?</p> <p>3Bii. Are burn containers easily accessible to the community residents?</p> <p>3Biii. What kind of containers is the solid waste burned in?</p> <p>3Biv. If specific Burn Units are available, what is the condition of the burn units?</p>
	<p>3D. Burning location</p> <p>3Di. Does burning commonly take place near homes?</p> <p style="padding-left: 40px;">3Dia. If yes, how often?</p> <p style="padding-left: 40px;">3Dib. If yes, who does the burning?</p> <p style="padding-left: 40px;">3Dic. If yes, describe any methods used to control the burning.</p> <p>3Dii. Does burning commonly take place near schools?</p> <p style="padding-left: 40px;">3Diiia. If yes, how often?</p> <p style="padding-left: 40px;">3Diiib. If yes, who does the burning?</p> <p style="padding-left: 40px;">3Diiic. If yes, describe any methods used to control the burning.</p> <p>3Diii. Does burning commonly take place near community buildings?</p> <p style="padding-left: 40px;">3Diiia. If yes, how often?</p> <p style="padding-left: 40px;">3Diiib. If yes, who does the burning?</p> <p style="padding-left: 40px;">3Diiic. If yes, describe any methods used to control the burning.</p>

	<p>3E. Separation</p> <p>If solid waste must be burned, removing items such as tires, batteries, plastics, and household hazardous wastes (strong chemicals, oils, paint, antifreeze, cleaners etc.) can reduce the amount of air pollutants that are produced.</p> <p>3Ei. Is the solid waste separated before being burned?</p>
	<p>3F. Community knowledge:</p> <p>3Fi. Are residents knowledgeable about safe burning practices (i.e. what to burn and what not to burn?)</p> <p>3Fii. Do residents factor in wind direction when deciding whether to burn or not?</p>
	<p>3G. Community concern:</p> <p>3Gi. What are the community's concerns about pollution from solid waste burning?</p> <p>3Gii. If you were to rate the community as a whole, is the community not very concerned, concerned, or very concerned about pollution from solid waste burning?</p> <p>3Giii. Why do you believe this to be true?</p>
<p><i>Notes about solid waste burning :</i></p>	
<p>4. WOOD STOVE EMISSIONS (OUTDOORS): Pollution from burning wood contains solid or liquid droplets that are small enough to get deep into the lungs and cause health problems. Particles less than 10 micrometers can settle in the bronchi and lungs, particles less than 2.5 micrometers in diameter pose the greatest problem, as they can enter the blood stream through the lungs.</p>	
	<p>4A. Wood stove heating</p> <p>4Ai. How many woodstoves are there in the community?</p> <p>4Aii. During which months of the year do community members use their woodstoves daily?</p>
	<p>4B. Community concern</p> <p>4Bi. What are the community's concerns about pollution from woodstove emissions?</p> <p>4Bii. If you were to rate the community as a whole, is the community not very concerned, concerned, or very concerned about pollution from woodstove emissions?</p>

	4Biii. Why do you believe this to be true?
<i>Notes about wood stoves:</i>	
<p>5. WILDFIRES: Wildfires can be an important source of air pollution. Wildfires include tundra fires and forest fires. Wildfires release PM_{2.5}, nitrogen oxides (NO_x), volatile organic compounds (VOCs), ammonia (NH₃) and sulfur dioxide (SO₂). Emissions from fires contribute to elevated ambient concentrations of PM_{2.5} and impairment of visibility. Similar to petroleum and woodstove emissions wildfires can also have serious effects on respiratory health.</p>	
	5A. Wildfires: Smoke from wildfires can be an air quality concern for Alaskan communities. Is smoke from wildfires commonly seen or smelled in the community? Mark an “x” in the box if smoke from wildfires is commonly seen or smelled in the community.
	<p>5B. Community concern</p> <p>5Bi. What are the community’s concerns about pollution from wildfires?</p> <p>5Bii. If you were to rate the community as a whole, is the community not very concerned, concerned, or very concerned about pollution from wildfires?</p> <p>5Biii. Why do you believe this to be true?</p>
<i>Notes about wildfires:</i>	
<p>6. NATURAL RESOURCE DEVELOPMENT: Development of natural resources is common throughout Alaska. Mines and oil and gas development can impact the community’s air quality.</p>	
	<p>6A. Oil or gas drilling: Air pollution from oil and gas exploration and production is similar to emissions coming from burning fossil fuels for heat, but on a larger scale. Sources necessary for oil and gas exploration and production create nitrogen oxide, volatile organic compounds, carbon monoxide and particulate matter. The size of the operation and distance from the community can influence its impact on the community.</p> <p>6Ai. What are the sources of air pollution from oil and gas exploration and production?</p> <p>6Aii. Are air permits held by the sources?</p>

	<p>6Aii. If yes, list the amount and type of air pollution they are releasing.</p> <p>6Aiii. How far away from the community, in miles, are the sources?</p>
	<p>6B. Mining activity: Air pollution from the mining industry is typically particulate matter. The type of mine and the distance from the village can influence the impact on the community. The mine’s air permit holds a wealth of air quality information about the source. If a mining operation is close to the community, it is helpful to review the air quality permit for limits and controls the mine is subject to. Are there mining activities near the community?</p> <p>6Ai. What are the sources of air pollution mining activity (Mine name and resource being mined)?</p> <p>6Aii. Are air permits held by the sources?</p> <p> 6Aii. If yes, list the amount and type of air pollution they are releasing.</p> <p> 6Aii. If yes, list any limits and controls the mine is subject to.</p> <p>6Aiii. How far away from the community, in miles, are the sources?</p>
	<p>6C. Community concern</p> <p>6Ci. What are the community’s concerns about pollution from natural resource development?</p> <p>6Cii. If you were to rate the community as a whole, is the community not very concerned, concerned, or very concerned about pollution from natural resource development?</p> <p>6Ciii. Why do you believe this to be true?</p>
<p><i>Notes about natural resource development:</i></p>	
<p>7. Indoor Air: Alaskans spend a lot of time indoors. Unfortunately, indoor air usually has even more pollutants than outdoor air. Activities like heating, cooking, bathing, and even breathing all impact indoor air quality. Indoor air pollutants can be chemicals, gases, and living organisms like mold. Other pollutants cause or worsen allergies, respiratory illnesses (such as asthma), heart disease, cancer, and other serious long-term conditions.</p>	
	<p>7A. Ventilation: Ventilation systems remove air pollutants from the home and bring clean fresh air into the home. Some homes have been built without ventilation and other times residents disable or</p>

	<p>turn off the home ventilation system to save money on heating fuel. Disabling or turning off ventilation systems can cause serious health problems for people, especially children or people with breathing problems.</p> <p>7Ai. How many occupied homes in the community do not have functioning ventilation systems?</p> <p>7Aii. Are ventilation systems used by residents?</p> <p>7Aiii. Are residents knowledgeable about the importance of good ventilation in the home?</p>
	<p>7B. Certified wood stoves: EPA certified wood stoves can decrease the amount of harmful particles produced by wood burning by up to 70%. These wood stoves burn more efficiently and produce the same amount of heat from less wood. EPA certified wood stoves can be identified by looking at the metal label attached to the back or side of the wood stove.</p> <p>7Bi. How many homes use a wood stove as their primary heating source?</p> <p>7Bii. How many occupied homes that are heated by wood stoves in the community do not have an EPA certified woodstove?</p> <p>7Biii. What is the condition of the woodstoves?</p> <p>7Biv. How many of the woodstoves in the community meet the following criteria: over 15 years old, visible holes, leak smoke into house when door is closed?</p>
	<p>7C. Burning wet wood: EPA recommends only burning dry, split, seasoned wood in wood stoves. Dry wood burns hotter, produces more heat and less pollution.</p> <p>7Ci. Do residents commonly split wood prior to burning?</p> <p>7Cii. Do residents commonly season wood prior to burning?</p> <p>7Ciii. Are residents knowledgeable about the benefits of only burning dry, split, and seasoned wood?</p>
	<p>7D. Moisture/Mold: Mold growth is caused when homes are too moist and have poor ventilation. Inhaling or touching mold can cause allergic reactions to individuals that are mold-sensitive. Fixing leaky pipes, drying up wet or damp surfaces, and keeping relative humidity between 30 and 60 percent will help prevent the growth of mold. Mark an “x” in the box if mold is present in many homes in the community.</p> <p>7Di. How many occupied homes have mold visibly growing?</p>
	<p>7E. Smoking indoors: Smoking releases many dangerous chemicals into the air. These chemicals are harmful to the smoker and those nearby, even those who do not smoke. Smoking indoors releases chemicals that linger for long periods of time and can affect the health of anyone who is exposed to it, especially young children, elders, and people with existing breathing problems such as asthma.</p>

	<p>7Ei. Do people smoke in their homes?</p> <p>7Eii. Do people smoke in public buildings, such as a bingo halls or community centers?</p>
	<p>7F. Indoor Air at School: Children, faculty, and staff usually spend 7 hours or more per day inside the school. The air quality inside of the school, like that of other buildings, can affect the health of those occupying it. Indoor air quality can also impact student performance.</p> <p>7Fi. Are there any known concerns about air quality at the school?</p> <p>7Fii. Do people at the school ever complain of repeatedly having headaches, feeling nauseated, dizzy, or tired?</p>
	<p>7G. Community concern</p> <p>7Gi. What are the community’s concerns about indoor air pollution?</p> <p>7Gii. If you were to rate the community as a whole, is the community not very concerned, concerned, or very concerned about indoor air pollution?</p> <p>7Giii. Why do you believe this to be true?</p>
<p><i>Notes about indoor air pollution:</i></p>	
<p>8. INDUSTRIAL OPERATIONS: Most industrial operations produce some type of air pollution. The amount of air pollution and its impact on health vary with the size and type of operation.</p>	
	<p>8A. Industrial operations</p> <p>Examples of industrial operations include fish processing plants, logging and manufacturing.</p> <p>8Ai. What industrial operations that were not covered in the above sections are located near the community?</p> <p>8Aii. How far away, in miles, are the industrial operations from the community?</p>
	<p>8B. Construction</p> <p>Construction is a type of industrial operation that commonly impacts air quality in rural Alaska. Construction usually results in more dust and vehicle emissions.</p>

8Bi. How far away, in miles, are the construction activities from the community?

8Bii. What is the estimated total duration of the construction?

8Biii. Do the construction activities affect traffic in the community?

8Biiia. If yes, how so?

8Biv. List any efforts being made to minimize the air pollution from the construction activities.

Notes about industrial operations:

Quick Guide to Spot Sampling for Particulate Matter

WHY CONDUCT SPOT SAMPLING:

- Spot sampling can provide a brief snap shot of an air quality parameter, such as particulate matter.
- Though the sample size is often too small to draw any real conclusions, an initial measurement can help to identify priority areas for air monitoring.

WHEN TO CONDUCT SPOT SAMPLING:

- Spot sampling should be conducted only after the Phase 1 Air Quality Assessment has been completed.
- **REFER TO 'IMPORTANT FINDINGS' SECTION, PAGE 10 PHASE 1 AIR QUALITY ASSESSMENT. IF IMPORTANT FINDINGS INCLUDE THINGS SUCH AS LEAKY WOODSTOVES, ROAD DUST, DIESEL GENERATORS, BURNING AT THE SOLID WASTE SITE, ETC., THEN SPOT SAMPLING MAY BE BENEFICIAL.**

HOW TO CONDUCT SPOT SAMPLING:

- **SPOT SAMPLING SHOULD BE DONE AT LOCATIONS THAT WERE IDENTIFIED IN THE 'IMPORTANT FINDINGS' SECTION, SUCH AS IN A HOME WITH A WOOD STOVE, NEAR THE SOLID WASTE SITE, OR NEXT TO A DUSTY ROAD.**
- **FOLLOW THE STANDARD OPERATING PROCEDURE TO SET UP A 5 MINUTE TEST, COLLECTING DATA POINTS EVERY 1 SECOND.**
- **AFTER A 5 MINUTE TEST IS COMPLETE, RECORD THE MINIMUM, MAXIMUM, AND AVERAGE PM_{2.5}/CO₂/CO/RH/TEMP VALUES (SPACE BELOW).**
- **AFTER SPOT SAMPLING HAS BEEN COMPLETED AND PRELIMINARY VALUES HAVE BEEN RECORDED, WORK WITH ANTHC AIR QUALITY STAFF TO PRIORITIZE THE SITES AND CREATE A PLAN FOR FURTHER SAMPLING.**

a) Site 1: (e.g.- East of solid waste site during burning)

PM_{2.5}
Min: _____ mg/m³
Max: _____ mg/m³
Avg: _____ mg/m³

b) Site 2: (e.g.- Home with leaky wood stove while burning)

PM_{2.5}
Min: _____ mg/m³
Max: _____ mg/m³
Avg: _____ mg/m³

Carbon Dioxide	Carbon Monoxide	Relative Humidity	Temperature
Min: _____ ppm	Min: _____ ppm	Min: _____ %	Min: _____
Max: _____ ppm	Max: _____ ppm	Max: _____ %	Max: _____
Average: _____ ppm	Average: _____ ppm	Average: _____ %	Average: _____

c) Site 3: (e.g.- Near diesel generator)

PM_{2.5}

Min: _____ mg/m³

Max: _____ mg/m³

Avg: _____ mg/m³

Carbon Dioxide

Min: _____ ppm

Max: _____ ppm

Average: _____ ppm

Carbon Monoxide

Min: _____ ppm

Max: _____ ppm

Average: _____ ppm

Relative Humidity

Min: _____ %

Max: _____ %

Average: _____ %

Temperature

Min: _____

Max: _____

Average: _____

9. Assessment Notes

9A. Use the space below for any notes or general comments:

** ANTHC Contact Info: For questions about completing this assessment contact an ANTHC Tribal Air Quality staff member at 907-729-3430 or 907-729-4006.*

Tribal Air Quality Assessment Summary: _____

(Community/Tribe)

Assessor: _____ Phone Number: _____

This assessment was performed to help the community describe and prioritize previously identified air quality problems.

IMPORTANT FINDINGS: The findings section allows the assessor to prioritize validated air quality problems that were detected in the assessment.

1.

2.

3.

NEXT STEPS: The next steps section provides a place for the assessor to make recommendations on how to move forward as a result of completing Phase II.

1.

2.

Please provide a completed copy to your Tribal Council and email or fax a copy to ANTHC Air Quality at: air@anthc.org / Fax: 1-888-500-1205.



Tribal Air Quality Assessment: Additional Resources

The following list provides helpful resources for understanding concerns identified in the Tribal Community Air Quality Assessment.

Road Dust:

U.S. Environmental Protection Agency (EPA), Region 10. Alaska Native Village Air Quality Fact Sheet Series: Road Dust. August 2010.

http://www.epa.gov/region10/pdf/tribal/anv_road_dust_aug2010.pdf

U.S. EPA, Region 10. Clean Air, Healthy Villages: Protecting Air Quality in Tribal Alaska Video Series. Road Dust. http://www.epa.gov/region10/videos/anv/road_dust.html

U.S. EPA, Office of Air and Radiation. Particulate Matter.

<http://www.epa.gov/pm/>

U.S. EPA, Office of Air and Radiation. Particulate Matter: Basic Information.

<http://www.epa.gov/air/particlepollution/basic.html>

U.S. EPA, Office of Air and Radiation. Rural Roads.

<http://www.epa.gov/oecaagct/trur.html>

Petroleum Emissions:

U.S. EPA, National Center for Environmental Assessment. Health Assessment Document for Diesel Engine Exhaust.

<http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=29060>

U.S. EPA, Region 10. Alaska Native Village Air Quality Fact Sheet Series: Diesel Fuel Use. August 2010. http://www.epa.gov/region10/pdf/tribal/anv_diesel_aug2010.pdf

U.S. EPA, Region 10. Clean Air, Healthy Villages: Protecting Air Quality in Tribal Alaska Video Series. Diesel Emissions. http://www.epa.gov/region10/videos/anv/diesel_emissions.html

Wood Stove Emissions:

Alaska Division of Environmental Conservation (DEC), Division of Air Quality. Wood Stove Information. <http://www.dec.state.ak.us/air/anpms/pm/wshome.htm>

U.S. EPA, Region 10. Alaska Native Village Air Quality Fact Sheet Series: Wood Smoke. August 2010. http://www.epa.gov/region10/videos/anv/wood_smoke.html

U.S. EPA, Region 10. Clean Air, Healthy Villages: Protecting Air Quality in Tribal Alaska Video Series. Wood Smoke. http://www.epa.gov/region10/videos/anv/wood_smoke.html

U.S. EPA, Burn Wise. Best Burn Practices. <http://www.epa.gov/burnwise/bestburn.html>

Wildfires:

Alaska DEC, Division of Air Quality. Wildfire Smoke/Particulate Information. <http://www.dec.state.ak.us/air/am/smoke.htm>

Alaska Section of Epidemiology. Fire and Smoke Health Concerns: Frequently Asked Questions. July 2004. http://www.epi.alaska.gov/eh/wildfire/FAQ_FireSmoke.pdf

Centers for Disease Control and Prevention (CDC). Fact Sheet: Wildfires. <http://www.bt.cdc.gov/disasters/wildfires/facts.asp>

Wildfire Smoke: A Guide for Public Health Officials. July 2008. <http://www.arb.ca.gov/smp/progdev/pubeduc/wfgv8.pdf>

Trash Burning:

State of Alaska. Burning Garbage & Land Disposal in Rural Alaska. May 2004. <http://www.akenergyauthority.org/AEAdocuments/BurningGarbage.pdf>

U.S. EPA Region 10. Alaska Native Village Air Quality Fact Sheet Series: Solid Waste Burning. August 2010. http://www.epa.gov/region10/pdf/tribal/anv_waste_burning_aug2010.pdf

U.S. EPA Region 10. Clean Air, Healthy Villages: Protecting Air Quality in Tribal Alaska Video Series. Solid Waste Burning. http://www.epa.gov/region10/videos/anv/waste_burning.html

Alaska DEC, Solid Waste Program. Open Burning in Rural Alaska. April 2009. <http://dec.alaska.gov/eh/sw/Factsheets/Docs/Open%20Burning%20in%20Rural%20Alaska.pdf>

Zender Environmental. Solid Waste Solutions in Rural Alaska. http://www.zendergroup.org/docs/swsolutions_itep_zender.pdf

Natural Resource Development:

University of Colorado Law School. Intermountain Oil and Gas BMP Project. http://www.oilandgasbmps.org/resources/air_quality.php

National Resources Defense Council. Oil and Gas Production: Clouding Western Skies.
<http://www.nrdc.org/energy/clouding.pdf>

Indoor Air Quality:

American Lung Association. Indoor Air Quality Toolkit. <http://iaq.aklung.org/>

U.S. EPA, Office of Air and Radiation. The Inside Story: A Guide to Indoor Air Quality.
<http://www.epa.gov/iaq/pubs/insidest.html>

U.S. EPA, Region 10. Alaska Native Village Air Quality Fact Sheet Series: Indoor Air. August 2010.
http://www.epa.gov/region10/pdf/tribal/anv_indoor_air_aug2010.pdf

U.S. EPA, Region 10. Clean Air, Healthy Villages: Protecting Air Quality in Tribal Alaska Video Series. Indoor Air Quality. http://www.epa.gov/region10/videos/anv/indoor_air.html