

ALASKA TRIBAL AIR QUALITY PHASE I ASSESSMENT



COMMUNITY:	Tribe:
COMPLETED BY:	ASSESSMENT DATE:
<p>Please read through each item in the table. If this is a problem in your community, check the box to the left.</p>	
<p>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>	
	<p>1A. Road surface: Paving roads with asphalt surfacing material is an ideal because these materials do not easily release small particles into the air. Are most roads paved with asphalt? Check the box if most roads are <u>not</u> paved with asphalt.</p>
	<p>1B. Road dust control: Road dust is commonly controlled in rural Alaska by spreading water on dusty roads or by treating roads with a palliative (road surface coating). Check the box if there are <u>no</u> dust control measures are available.</p>
	<p>1C. Condition and use of Controls Measures: Sometimes dust control measures are available but not in good condition or not used. Water trucks should be operational and used when needed. Palliatives should be applied properly and re-applied as needed. Check the box if operating conditions and utilization of dust controls are <u>inadequate</u>.</p>
	<p>1D. Weather conditions: Weather conditions may have a significant impact on the creation of airborne road dust. Does the community frequently experience dry and windy weather? Check the box if dry and windy conditions commonly add to the production of road dust.</p>
	<p>1E. Speed limits: Speed limits are an example of an “administrative control”. Administrative controls do not rely on construction or expensive equipment to reduce road dust. Instead, administrative controls require residents to change their behavior. Driving slower on unpaved roads produces less dust. Check the box if there has been NO ordinance passed by the council establishing speed limits OR if a speed limit has been established but is not enforced.</p>
	<p>1F. Community concern: Are community residents concerned about road dust? Check the box if you and/or residents are concerned about road dust your community.</p>

<i>Notes or observations about road dust:</i>	
<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. <i>Check the box if diesel generators are located near homes, schools and other gathering areas.</i></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. <i>Check the box if fuel tank farms are located near homes, schools and other gathering areas.</i></p>
	<p>2C. Ultra low sulfur diesel: Ultra low sulfur diesel is a type of diesel fuel that produces less air pollution. Many communities in rural Alaska do not have ultra low sulfur diesel. The person selling the fuel should be able to tell you if the fuel is low sulfur. <i>Check the box if ultra low sulfur diesel fuel is NOT available in the community and/or if the person selling the fuel did not know if the fuel is low sulfur.</i></p>
	<p>2D. Community concern: Are community residents concerned about petroleum emissions? <i>Check the box if you and/or other residents are concerned about petroleum emissions your community.</i></p>
<i>Notes about petroleum emissions:</i>	
<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>3A. Solid waste burning: The best practice is to not burn solid waste at all. <i>Check the box if solid waste is commonly burned.</i></p>
	<p>3B. Burn container availability: 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. <i>Check the box if a burn unit is NOT available if solid waste is commonly burned.</i></p>
	<p>3C. Burn unit condition: Burn units need to be in good condition to produce the high temperatures necessary for safer burning. <i>Check the box if the community burn unit is in POOR condition if solid waste is commonly burned.</i></p>

	3D. Burning location: Burning solid waste near homes, schools and places where people gather can impact more people. <i>Check the box if solid waste burning takes place near homes, schools and community buildings.</i>
	3E. Separation: If solid waste must be burned, removing items such as tires, batteries, and household hazardous wastes (strong chemicals, oils, antifreeze, cleaners etc.) can reduce the amount of air pollutants that are produced. <i>Check the box if hazardous items are NOT removed from solid waste before burning.</i>
	3G. Community concern: Are community residents concerned about solid waste burning? <i>Check the box if you and/or other residents are concerned about solid waste burning in your community.</i>
<i>Notes about solid waste burning :</i>	
<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>	
	4A. Wood stove heating: Wood stoves are a source of outdoor air pollution. <i>Check the box if heating with wood stoves is common in the community.</i>
	4B. Community concern: Are community residents concerned about pollution from wood stoves? <i>Check the box if you and/or residents are concerned about pollution from wood stoves.</i>
<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. <i>Check the box if smoke from wildfires is commonly seen or smelled in the community.</i>

	<p>5B. Community concern: Are community residents concerned about pollution from wildfires? <i>Check the box if you and/or residents are concerned about pollution from wildfires.</i></p>
<p><i>Notes about wildfires:</i></p>	
<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. If any air permits are held by the sources, these can provide useful information on the amount and type of pollution they are releasing. <i>If oil or gas drilling IS occurring near the community please check the box.</i></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. <i>Check the box if mining IS occurring near the community.</i></p>
	<p>6C. Community concern: Are community residents concerned about natural resource development? <i>Check the box if you and/or other residents are concerned about pollution from natural resource development.</i></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 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. <i>Check the box if residents are</i></p>

	<i>disabling or turning off ventilation systems (disabling/altering ventilation systems could include blocking vents, turning off HRVs, etc.) OR if you know of many homes without a working ventilation system.</i>
	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. <i>Check the box if non-EPA certified wood stoves are common in the community.</i>
	7C. Burning wet wood: EPA recommends only burning dry, split, seasoned wood in wood stoves. Seasoning commonly takes approximately 6 months. Dry wood burns hotter, produces more heat, less pollution and enables less creosote build-up. <i>Check the box if burning wet wood in the wood stoves IS common.</i>
	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. <i>Check the box if mold IS present in many homes in the community.</i>
	7E. Tobacco/Marijuana smoke: Tobacco smoke contains at least 250 chemicals and marijuana and tobacco release particulates into the air that are known to be harmful to human health. The only way to fully protect nonsmokers from environmental tobacco and marijuana smoke is to not smoke indoors. Exposure to children is especially harmful and has been linked to colds, pneumonia, bronchitis, and asthma. <i>Check the box if it's common for residents to smoke in the home.</i>
	7F. Pesticides & chemicals: Misuse of pesticides and chemicals can often be doing more harm to human health than good. Using items properly with adequate ventilation can be helpful. <i>Check the box if pesticide and/or chemicals are being misused in homes with or without proper ventilation.</i>
	7G. Community concern: Are community residents concerned about indoor air pollution? <i>Check the box if you and/or other residents are concerned about indoor air pollution.</i>
<i>Notes about indoor air pollution:</i>	
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.	
	8A. Industrial operations: Industrial operations that were not covered in the above sections can be noted here. Examples of industrial operations include fish processing plants, logging and manufacturing. <i>Check the box if there are any industrial operations impacting the community's air quality if not previously identified in this assessment.</i>

8B. **Construction:** Construction is a type of industrial operation that commonly impacts air quality in rural Alaska. Construction usually results in more dust and vehicle emissions. Controlling dust through application of water, reducing speed limits, and treating dirt roads with a palliative are a few mechanisms for controlling dust at construction sites. Vehicle emissions can also be reduced through minimizing idling. ***Check the box if construction is affecting the community's air quality.***

Notes about industrial operations:

9. Assessment Notes

IMPORTANT FINDINGS: The findings section details potential air quality problems detected in the assessment.

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

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** ANTHC Contact Info: For questions about completing this assessment contact an ANTHC Environmental Health Consultation staff member at 907-729-3430.*

