

KARACHAGANAK OIL AND GAS FIELD THREATENS HEALTH OF CITIZENS: THE SCIENTIFIC DATA

Independent data obtained by the villagers of Berezovka, Kazakhstan on September 11, December 1, and December 2, 2004 establish that there are elevated concentrations of five toxins in the community's air that exceed the levels of concern recognized in the United States.¹ Three of these toxins—methylene chloride, toluene and acrylonitrile—are recognized by the US EPA as probable human carcinogens. These data were collected by the Berezovka villagers using an EPA recognized methodology, the Bucket Brigade, which has been successfully utilized in petroleum-impacted communities around the US and throughout the world to monitor airborne toxins.² Acute exposure to each of the toxins identified by the monitoring causes serious medical problems, including nervous system damage, severe irritation of the eyes, skin and mucous membranes, and in severe cases, unconsciousness and/or death. More detailed information on each of the toxins is listed below.

Toxin	Times by which Berezovka Concentrations Exceed Levels of Concern	Symptoms from Chronic Exposure
Hydrogen Sulfide	5	Low blood pressure, headaches, nausea, eye membrane inflammation, chronic cough, neurological problems
Carbon Disulfide	4.33	Muscle pain, headaches, fatigue
Methylene Chloride	4	Headaches, dizziness, nausea, memory loss
Toluene	1.77	Significant decrease in lung function, asthma-like reactions, bronchial constriction
Acrylonitrile	714.3	Headaches, fatigue, nausea, weakness

¹ Levels of concern are defined according to the following standards: Hydrogen sulfide: EPA Region 6 long-term exposure standards and Texas short-term screening level; Carbon Disulfide: Texas long-term screening standard; Methylene Chloride: EPA Region 6 long-term exposure standards; Toluene: American Toxic Substance and Disease Registry chronic minimum risk level; Acrylonitrile: EPA Region 6 long-term exposure standards, Texas long-term screening standard, North Carolina Annual Standard, and Louisiana 24-hour standard.

² Bucket Brigade air samples were taken in Berezovka using tedlar bags, and shipped to the Columbia Analytical Laboratory in Simi Valley, California for analysis. Results were analyzed using Bucket Brigade methodology, developed by Global Community Monitor and recognized by the United States Environmental Protection Agency.