United States
Environmental Protection
Agency Region 10

Bureau of Environmental
Health & Safety -
Idaho Division of Health

April 1999

PANTHER CREEK ARSENIC EXPOSURE PREVENTION

This fact sheet was prepared by the Bureau of Environmental Health and Safety-Idaho Division of Health and the Environmental Protection Agency (EPA) for citizens living or spending time in the Panther Creek area near Cobalt, Idaho. It is a guide for preventing or reducing your exposure to arsenic until a determination is made on whether these areas pose a potential health risk. This information is important because arsenic may cause harmful health effects, especially to children, the elderly, or those with existing health problems.

Soil sampling was conducted along Panther Creek from the Cobalt Townsite down to the Salmon River as part of the Remedial Investigation/Feasibility Study (see map). The EPA found arsenic concentrations in the soils in some areas along the banks of the creek and is in the process of determining whether the levels pose a potential risk to human health and the environment. The results of the sampling can be found in the 1998 Remedial Investigation Data Summary Report, Blackbird Mine Site, Lemhi County, Idaho, prepared by Golder Associates, February 11, 1999. This report is available at the locations listed at the end of this fact sheet.

Environmental Sources

Arsenic is an element commonly found in the environment as a mineral in combination with other elements such as oxygen, iron, and sulfur. This form of arsenic is called inorganic arsenic. Arsenic can also be found in plants and animals. This form is called organic arsenic. It is usually less harmful than inorganic arsenic.

Natural mineral deposits sometimes contain large quantities of inorganic arsenic. During mining operations at the Blackbird Mine, these minerals were brought to the surface and concentrated in soils, tailings, and waste rock. Past releases and erosion of some of these materials primarily into Blackbird Creek resulted in arsenic contaminated soils being deposited in some areas nearby and flooded by Panther Creek.

How Does Arsenic Get Into My Body?

Arsenic can enter your body several different ways. Swallowing arsenic-contaminated soil or dust, dust on food and direct skin contact are the exposure routes of greatest concern along the banks of Panther Creek. If you wear arsenic-contaminated clothing or shoes into your home, it may also become contaminated. Small children who play on the floor may get the dust into their mouths.

Arsenic levels in Panther Creek surface water meet EPA safe drinking water standards based on current data. Eating Panther Creek fish, using groundwater for drinking, and breathing the levels of arsenic found in soils or dust along Panther Creek are not expected to pose a health risk.

How Can Arsenic Affect My Health?

Many factors determine whether harmful health effects will occur, and what the type and seriousness of those health effects will be. These factors include the dose (how much), the duration (how long), the route (breathing, eating, drinking, or skin contact), and your individual characteristics (age, sex, family traits, etc.). The possible health effects by swallowing high levels of inorganic arsenic along the banks of Panther Creek follow.

Possible effects from short-term exposure:
Nausea, vomiting, and diarrhea; decreased production of red and white blood cells; abnormal heart rhythm; blood vessel damage; or a "pins and needles" sensation in hands and feet. Direct skin contact may cause redness and swelling. Arsenic damages many tissues including nerves, stomach, intestines, and skin.

Possible effects from long-term exposure:
Darkening of the skin and the appearance of small "corns" or "warts" on the palms of the hand or soles of the feet. However, all of these symptoms, both short-term and long-term, could be caused by conditions other than arsenic exposure.

Can Arsenic Cause Cancer?

The Department of Health and Human Services (DHHS) has determined that arsenic is a known cause of cancer. Swallowing arsenic increases your chances of developing tumors of the bladder, kidney, and liver.

How Can I Prevent or Reduce My Exposure to Arsenic?

INDOORS

If you work or spend time in the areas along Panther Creek where elevated arsenic has been found in soils:

- **Remove shoes** before entering the home to prevent tracking in contaminated dust or soil.

- **Dogs and cats** can carry contaminated soil into homes on their feet and fur. If possible, keep pets out of areas with contaminated soil. If possible, keep pets outside the home. Bathe your pets frequently.

- **Wash your hands** after handling your pet, and before preparing or eating food. Wash your children's hands and faces after playing outdoors.

- **Damp mop and dust** frequently to reduce contact with arsenic-contaminated dust if you believe that arsenic contaminated soil has been brought into your home. Children are more likely than adults to be exposed to arsenic in dust. Shampoo carpets with detergent and water.

OUTDOORS

- **Avoid unnecessary exposure** to the areas along Panther Creek with elevated arsenic levels in soil. Children are more likely than adults to be exposed to arsenic in soils.

- **Avoid** eating, drinking, smoking, or chewing while in the contaminated area.

- **If you must** disturb the contaminated area, wear clean, full body protective clothing (coveralls or long sleeve shirt and pants), shoes, and gloves. *Wash work clothes separately from other clothing.*

- **Your car or truck** may become contaminated with arsenic from dirt or dust on your shoes or clothing, or if you drive onto the contaminated areas. Damp dust the inside of the vehicle and shampoo the carpet with detergent and water.

- **Spray the contaminated soil** with water to prevent dust before you disturb the area.

Arsenic is naturally occurring and widely distributed in the environment, and people are exposed to it in their normal daily activities. The sampling of Panther Creek residents and dust in their homes completed by the ATSDR in 1997 did not suggest any elevated exposures to arsenic; nevertheless, it is prudent to take precautions to reduce or prevent excess exposure to arsenic. Fortunately, exposure to arsenic in soils near Panther Creek can be reduced by taking the measures listed above.

If you have any questions or concerns, or need additional information on the health effects of arsenic exposure (a general fact sheet on arsenic exposure is available), please contact:

Jean Woodward
Idaho Division of Health

Bureau of Environmental Health and Safety
450 W. State St.
Boise, ID 83720-0036
(208) 334-5544

Idaho District Seven Health Department
Steve Adams (208) 756-2122 or

Ken Anderson (208) 522-0310

For questions about the Blackbird Mine site, please contact **Fran Allans**, EPA Project Manager, at **(208) 378-5775 or leave a message at 1-800-424-4372** and Fran will call you back.

The 1998 Remedial Investigation Data Summary Report, Blackbird Mine Site, Lemhi County, Idaho, prepared by Golder Associates, February 11, 1999, and the reports that support the cleanup actions at the Blackbird Mine Site are available at the following four locations:

Salmon Public Library
204 Main Street
Salmon, ID

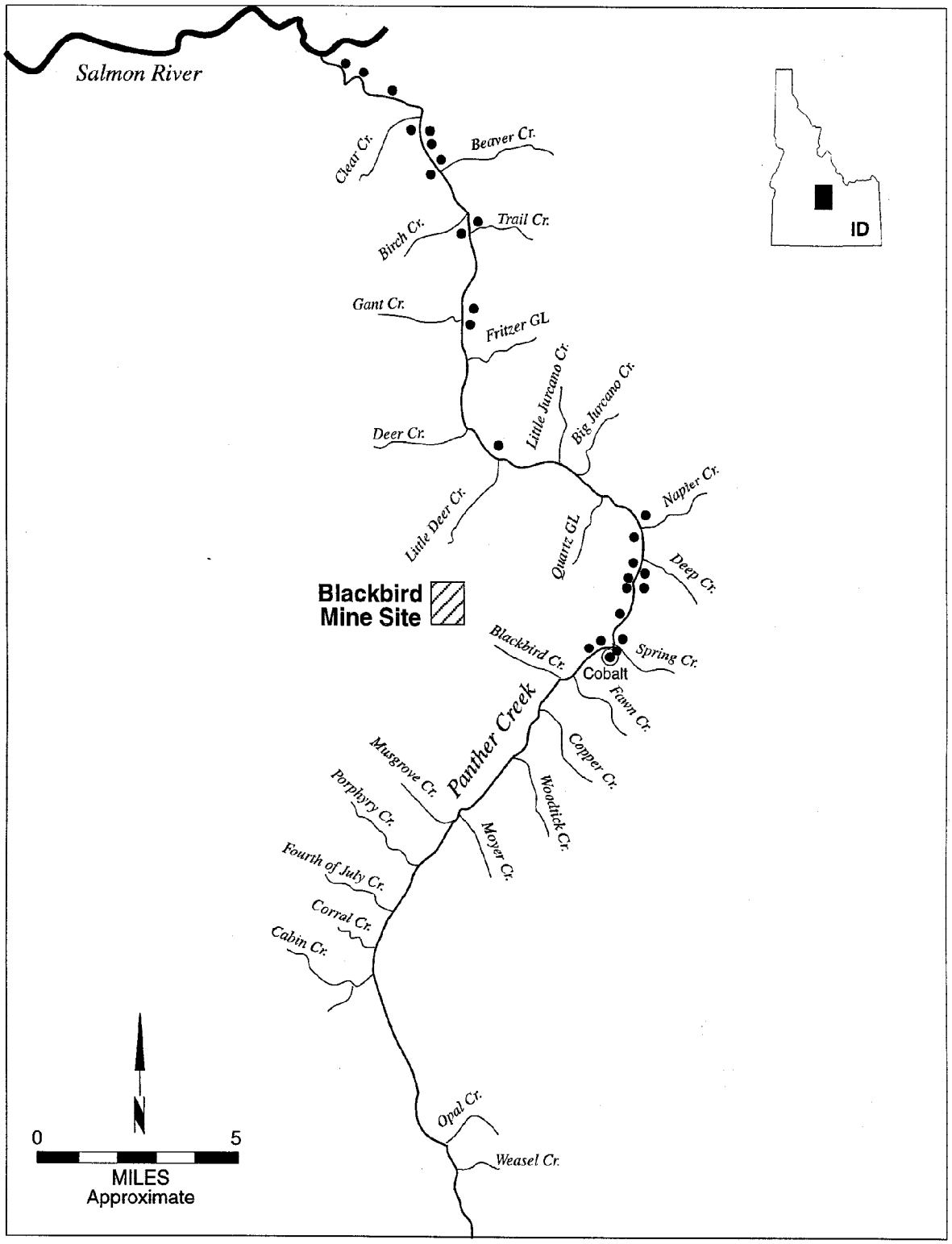
U.S. EPA
Idaho Operation Office
1435 N. Orchard
Boise, ID

U.S. EPA
1200 Sixth Avenue
7th Floor Records Center
Seattle, WA

Panther Creek Inn*
Cobalt, ID

*(This location contains some general information reports, as well as reports that support the cleanup decision at the Panther Creek Inn. Reports for future cleanup decisions at the Blackbird Mine will also be available here.)

Agencies participating in the Panther Creek Working Group are:
District 7 Health Department
Idaho Division of Health-Bureau of Environmental Health and Safety
Idaho Division of Health-Division of Environmental Quality
Idaho Division of Health-Bureau of Clinical and Preventive Services
U.S. Forest Service
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency.



LEGEND

- Sample Sites (approximate) – Potential health risks at these sites to be determined

Not to Scale

PANTHER CREEK SOIL SAMPLE LOCATIONS
BMSG/1999 SAP/ID

PROJECT NO. 943 1595.003.1252 DRAWING NO. 82286 DATE 4/16/99 DRAWN BY EA

Golder Associates

United States
Environmental Protection
Agency

EPA Region 10
Community Relations and Outreach
1200 Sixth Avenue, ECO-081
Seattle, Washington 98101-1128

BULK RATE
POSTAGE & FEES PAID
U.S. EPA
Permit No. G-35

FACT SHEET
PANTHER CREEK
Cobalt, Idaho