



RED DEVIL MINE

2012 Community Involvement Activities

In January 2012, the BLM sent letters of invitation to middle and lower Kuskokwim River communities from Bethel to Stony River regarding the ongoing Remedial Investigation at the Red Devil Mine site. This was the third year the BLM extended this offer of consultation and community meetings to interested Kuskokwim communities.

Twelve communities accepted the BLM's invitation to meet. From April through June, the BLM met with tribal, city and village corporation leaders and interested community members in the following communities:

Date	Community
April 12, 2012	Red Devil
April 17, 2012	Atmautluak, Kasigluk and Nunapitchuk (held in Nunapitchuk, 3 p.m.) and Bethel (7 p.m.)
April 18, 2012	Kwethluk
April 19, 2012	Akiak
May 1, 2012	Tuluksak
May 2, 2012	Lower Kalskag (10 a.m.) and Upper Kalskag (1 p.m.)
June 6, 2012	Sleetmute
June 27, 2012	Georgetown (held in Anchorage)

Representatives from the Alaska Department of Environmental Conservation, the Alaska Department of Health and Social Services, Division of Public Health, and the Agency for Toxic Substances and Disease Registry (CDC) accompanied the BLM to most meetings. The U.S. Environmental Protection Agency was invited to the meetings, but was unable to send a representative.

The purpose of the meetings was to provide updated information about the Red Devil Mine Remedial Investigation and fish study results. The BLM also invited comments, questions or concerns about the findings. Attached are summaries from each community meeting in chronological order.

The BLM also hosted *“What’s Happening at Red Devil Mine? A Talking Circle for Interested Kuskokwim Communities”* on Feb. 9 during the 2012 Alaska Forum on the Environment, held in Anchorage. Forty-three participants from nine communities in the Kuskokwim region attended the session to learn about the status of the investigation and share their comments and concerns. Several agency representatives also attended the session.



Meeting Notes

Red Devil Mine Community Meeting

Red Devil, Alaska

Date/Time: April 12, 2012, 1 p.m.

Location: Red Devil Airstrip DOT Building

BLM Reps: Jim Fincher, Mike McCrum, Matt Varner, Larry Beck and Teresa McPherson

Agency Reps: Anne Marie Palmieri (ADEC), Joe Sarcone (CDC) and Nim Ha (DHSS)

Community Participants: Edward Leppala, Red Devil People and Community, Inc. (RDP&C)
John Zeller, RDP&C
Theodore Gordon, RDP&C
Ruby Egrass, Postmaster
LeNore Baird

BLM Anchorage Field Manager Jim Fincher introduced the Red Devil Mine project team members and other agency representatives. He asked Red Devil community members to introduce themselves.

Fincher explained the objectives of the meeting were to ensure continued transparency of the investigation process and inform Red Devil residents about the progress of the Red Devil Mine investigation over the last year.

Red Devil Project Manager **Mike McCrum** presented an overview of the Draft Remedial Investigation report. **Matt Varner**, BLM fisheries biologist, gave a short presentation about the fish tissue and aquatic insects study BLM is conducting on the middle Kuskokwim River.

BLM invited questions and comments from participants throughout the meeting.

- **Theodore Gordon:** Relatives worked in the underground tunnels of the mine. The surface area has changed over time. There are more collapsed areas now. Maps of the village from about 2000 didn't show these depressions from collapsed mine shafts near the road. This seems to be increasing over the last several years.
- **Gordon:** He is former tribal administrator of Red Devil Traditional Council. Recalls that BLM previously considered barging out the tailings. Is that still a consideration?
McCrum: The Feasibility Study will look at various alternatives for cleanup, but we don't have an answer for that question at this time.

- **Gordon:** In the 80's and 90's, miners in the region were charged with violating the Clean Water Act. Suggested BLM consider if those violations contributed to the metals concentrations in the area.
- **Edward Leppala:** Concerned that “stirring up” the site during cleanup might make things worse. Noted a similar cleanup in Butte, MT, where this occurred.
- **Gordon:** Encouraged BLM to chart all the mine shafts.
- **Jim Fincher:** Suggested Gordon walk the site with BLM personnel this summer and note the locations of the depressions where underground shafts may be collapsing.
- **Joe Sarcone:** Encouraged residents with public health questions to contact him and Nim Ha (contact info in handout).
- **Larry Beck:** Summarized work done around the powder house; more contaminated soil removal at the powder house site may be needed (report still being prepared). BLM will continue to monitor the landspread established in 2010 to treat contaminated soil excavated around the aboveground fuel storage tanks. Grass has slowed the breakdown of hydrocarbons in the landspread, so this season BLM plans to turn the soil over to allow oxygen to speed up bioremediation of the fuel. Another small fuel spill nearby will be excavated and treated at the landspread.

Jim Fincher thanked participants for attending and said BLM will meet with the community of Red Devil again when the Feasibility Study and Proposed Plan are ready for tribal and community review in the spring of 2013.

The meeting concluded at 3 p.m.



Meeting Notes

Red Devil Mine Community Meeting Nunapitchuk / Atmautluak / Kasigluk

Date/Time: April 17, 2012, 3:30 p.m.

Location: Nunapitchuk IRA Council

BLM Reps: Jim Fincher, Mike McCrum, Matt Varner, Larry Beck and Teresa McPherson

Agency Reps: Anne Marie Palmieri (ADEC), Joe Sarcone (CDC), Nim Ha (DHSS) and Angela Matz (USFWS)

Community Participants: Moses White, Sr., President, Kasigluk Traditional Council
Leo M. Beaver, Kasigluk Traditional Council
James Nicholai, Chairman, Atmautluak Traditional Council
Edward Nicholai, Atmautluak Traditional Council
Paul Waska, Atmautluak Corporation
Eli Wassillie, Nunapitchuk IRA
Peter M. Bulish, Nunapitchuk IRA
Golga Frederick, Nunapitchuk IRA
Natalia Chase, Nunapitchuk IRA
Elaine C. Andrew, Nunapitchuk IRA
Oscar Nick

The meeting was called to order by Moses White, Sr., President of Kasigluk Traditional Council, followed by roll call of Nunapitchuk, Atmautluak and Kasigluk council members.

BLM Anchorage Field Manager Jim Fincher introduced the Red Devil Mine project team members and other agency representatives.

Fincher thanked the communities of Atmautluak, Nunapitchuk and Kasigluk for inviting BLM to consult with them. He explained the objectives of BLM's outreach to Kuskokwim River communities is to ensure continued transparency of the Red Devil Mine investigation process and inform communities about the progress of the investigation over the last year.

Red Devil Project Manager **Mike McCrum** presented an overview of the Draft Remedial Investigation report. **Matt Varner**, BLM fisheries biologist, gave a short presentation about the fish tissue and aquatic insects study BLM is conducting on the middle Kuskokwim River.

BLM invited questions and comments from participants throughout the meeting.

- **Edward Nicholai:** What percent of the mercury in the Kuskokwim River may be due to the Red Devil Mine site versus what is naturally occurring? **Mike McCrum:** Near the site, it's likely that mercury levels are largely due to the mine itself. But downriver of the site, it's less likely due to the volume of water dispersing the mercury. The levels are highest near Red Devil Creek.
- **Nicholai:** Are you sampling during spring? **McCrum:** Test wells were put in last fall, so this spring we'll take samples to compare to the fall samples.
- **Nicholai:** Want to meet again when cleanup alternatives are developed and BLM has a Proposed Plan. Also want to hear about results of spring sampling.
- **Question:** Kwethluk draws its water from the Kuskokwim. How far downriver did BLM collect water samples? **McCrum:** Crooked Creek was the farthest downriver community sampled for this study. However, Donlin Creek is collecting similar data downriver.
- **Nicholai:** Why are mercury levels in fish so high on the George River? **Matt Varner:** Pike stay in the George River year round, so they have more opportunity to accumulate methylmercury.
- General discussion about whether cooking lush changes the level of mercury. **Angela Matz:** Boiled lush was tested as part of the study, but the levels were really no different in cooked versus fresh lush.
- **Question:** Have agencies tested humans for mercury? **Nim Ha:** The State Public Health lab tests human hair samples for mercury. To date, over 1,000 women from all parts of the state have been tested. Generally, the results are low. Only 4 or 5 hair samples showed levels of concern.
- **Question:** Did you test fish at Whitefish Lake? **Matz:** The Fish and Wildlife Service did. Generally, mercury levels were low in the lake.
- **Question:** Have you tested blackfish? **Matz:** No, but we'd like to.
- **Comment:** Her niece said fish are rotting from contaminants from the old dump site in Nunapitchuk. Need to test our children; this could harm them.
- **Angela Matz:** There is renewed emphasis on cleaning up eroding landfills in Alaska under the EPA Brownfield Program. **Joe Sarcone:** Edward Nicholai was successful in getting a Brownfield Program grant when he was Nunapitchuk IGAP coordinator. **Nicholai:** It took a lot of work to get the grant, while DC routinely made grants to Indian country. Matz encouraged the council to push hard for a grant to address the landfill issue.
- General discussion about airborne mercury. Matz noted the many worldwide sources of mercury, such as forest fires and ash from volcanoes. The Kuskokwim is a mercury belt,

so all pike have mercury. But generally Alaska's fish are healthier than the fish in many other parts of the world.

- **Eli Wassillie:** What about pike from the Johnny River? **Matz:** Generally, the guidance is the same for all tributaries. Women and young children should eat smaller, younger pike and lush.
- **Question:** How would mercury affect a 3-year-old child? **Nim Ha:** High mercury levels in infants and very young children can cause subtle neurological changes, possibly resulting in learning and developmental delays.
- **Question:** Can you test the village dump site? **Joe Sarcone:** It's difficult to get funding to clean up landfills. Nonprofits may be of assistance. He encouraged IGAP coordinators to contact him for nonprofit contacts, but said it can be a long, difficult process to get funding.
- **Edward Nicholai:** The communities of Atnautluak, Nunapitchuk and Kasigluk would like to meet with BLM again during the Feasibility Study process, perhaps when BLM is halfway through the study, to remain informed about the study.

Jim Fincher thanked participants of the three villages for inviting BLM to consult with them about the Red Devil Mine investigation. BLM will contact Edward Nicholai to schedule a follow-up consultation meeting during the Feasibility Study process and again when the Proposed Plan is ready for tribal and community review in the spring of 2013.

The meeting concluded at 5:30 p.m.



Meeting Notes

Red Devil Mine Community Meeting Bethel, Alaska

- Date/Time:** April 17, 2012, 7 p.m.
- Location:** Orutsararmuit Native Council (ONC) Multi-purpose Building
- BLM Reps:** Jim Fincher, Mike McCrum, Matt Varner, Larry Beck and Teresa McPherson
- Agency Reps:** Anne Marie Palmieri (ADEC), Joe Sarcone (CDC), Nim Ha (DHSS) and Angela Matz (USFWS)
- Community Participants:** Ivan M. Ivan, Chairperson, Kuskokwim River Watershed Council (Akiak)
Rose Kalistook, KRWC Vice Chair (Bethel)
John Oscar, Executive Director, KRWC (Bethel)
Zechariah Chaliak, Sr., KRWC (Nunapitchuk)
Tommy Kusaiak, KRWC (Chefornak)
Denny Thomas, KRWC (Crooked Creek)
Adrian Boelens, KRWC (Aniak)
Greg Roczicka, ONC (Bethel)
Graham Knapp, Yukon-Kuskokwim Health Corporation (Bethel)
Don Wedll, Association of Village Council Presidents (Bethel)
Eric Whitney, Bethel City Council
Willy Keppel (Bethel)
Dave Trantham (Bethel)
Robert John (Bethel)
Grant Fairbanks (Bethel)
Pete Evans (Bethel)
Kelly Lincoln, *The Delta Discovery* (Bethel)

Elder Chuck Chaliak of Kasigluk opened the meeting with a prayer in Yupik.

BLM Anchorage Field Manager Jim Fincher asked the Red Devil Mine project team members and agency representatives to introduce themselves.

ONC Environmental Coordinator Rose Kalistook asked KRWC members and other community participants to introduce themselves.

Fincher explained the objectives of the meeting were to ensure continued transparency of the investigation process and inform Bethel area leaders and residents about the progress of the Red Devil Mine investigation since the March 2011 community meeting in Bethel.

Mike McCrum, Red Devil Project Manager, presented an overview of the Draft Remedial Investigation report and invited questions and comments from participants.

- **Question:** Are Superfund dollars funding this investigation? **McCrum:** No. BLM is using its delegated authority as lead agency to conduct the investigation under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). BLM is funding the investigation through the agency's abandoned mine lands funds.
- **Question:** Will BLM request to list the site as a Superfund site? **McCrum:** No.
- **Question:** What is the difference? **McCrum:** BLM is using the CERCLA process used in Superfund investigations and is coordinating with State and Federal regulatory agencies throughout the process.
- **Question:** How much has BLM spent on this investigation? **McCrum:** Unsure.
- **Question:** When cleanup actions start, will BLM hire local people to help with the work? **McCrum:** Contracts will encourage the use of local people and resources. The best opportunity for local hire is generally the cleanup phase of these projects.
- **Question:** The road at the Red Devil Mine site was laid using tailings, which have probably leached by now. Has BLM taken samples of the road? **McCrum:** Yes. The road contains high levels of metals, though not as high as the tailings in the main process area of the mine site.
- **Question:** Moose eat alder and willow near the site. Concerned that animals may ingest contaminants through browsing at the site. Did BLM sample moose and is there a human health risk from eating animals that browse at the Red Devil Mine site? **McCrum:** BLM sampled vegetation but not moose.
- General discussion of cancer rates in the region, which many participants felt are very high. One family in Red Devil had three deaths from cancer. Does the State track cancer cases by area? **Nim Ha:** It's difficult to assess cancer rates in small areas. Genetics, lifestyle and environment play a role. It's challenging to link cause and effect with so many variables at play.
- One participant felt agencies were downplaying the issue of metals contamination and potential cancer risk from the Red Devil Mine site.
- **Question:** Did BLM check for radioactivity at the site? A friend with a Geiger counter found positive readings at the site. **McCrum:** Nothing in the mineralogy of the site is likely to be radioactive, so BLM did not test for radioactivity.

Matt Varner, BLM fisheries biologist, gave a short presentation about the fish tissue and aquatic insects study BLM is conducting on the middle Kuskokwim River and invited questions and comments.

- **Denny Thomas:** The elevated levels of contaminants in the George River might be connected to the number of mines along the river. He would like to know when BLM samples the George River next and possibly accompany BLM personnel during sampling.
- **Question:** Did BLM sample whitefish? **Angela Matz:** Whitefish are lower on the food chain. Large pike and lush are higher on the food chain and more likely to have higher levels of contaminants, so the studies focused on those species.
- **Question:** Did BLM sample animals? **Matt Varner:** Wetlands are where mercury typically is converted into methylmercury. Animal scenarios in the Red Devil Mine risk assessment are based on models rather than actual sampling.
- **Denny Thomas:** Surprised about George River results. **Varner:** There are many known mercury deposits in the area and opportunities for mercury to form methylmercury.
- **Question:** Were hair samples collected from Red Devil and Sleetmute? **Nim Ha:** Yes, but no significant levels were found in those hair samples.

Rose Kalistook thanked BLM for meeting with Kuskokwim River Watershed Council members and community residents, and said they want to be kept informed as the investigation progresses.

Jim Fincher thanked participants for attending and said BLM looked forward to meeting with ONC, KRWC and community members when the Feasibility Study and Proposed Plan are ready for tribal and community review in the spring of 2013.

The meeting concluded at 9:45 p.m.



Meeting Notes

Red Devil Mine Community Meeting

Kwethluk, Alaska

Date/Time: April 18, 2012, 3 p.m.

Location: Kwethluk Community Hall

BLM Reps: Jim Fincher, Mike McCrum, Matt Varner, Larry Beck and Teresa McPherson

Agency Reps: Anne Marie Palmieri (ADEC), Joe Sarcone (CDC) and Angela Matz (USFWS)

Community Alexander Nicori, Organized Village of Kwethluk

Participants: Patricia David, Organized Village of Kwethluk

Christine Guy, Organized Village of Kwethluk

Joe Jackson, Organized Village of Kwethluk

Olga Uttereyuk, Organized Village of Kwethluk

Boris Epchook, City of Kwethluk

Max Angellan, City of Kwethluk

Herman Evan, City of Kwethluk

Mary Nicolai, City of Kwethluk

Paul Michael, City of Kwethluk

Irene Kerr, City of Kwethluk

Kevin Kerr, City of Kwethluk

Ivan Michael, City of Kwethluk

Nicholai J. Alexie, Kwethluk, Inc.

Jimmy Andrew, Kwethluk, Inc.

John W. Andrew

Sophie Chimegalrea

Ray Nicolai

Xenia Nicolai

Mayor Boris Epchook called the meeting to order and declared a quorum of the city, corporation and IRA council. Mayor Epchook turned the meeting over to Jim Fincher.

BLM Anchorage Field Manager Jim Fincher asked the Red Devil Mine project team members and agency representatives to introduce themselves. He also asked the Kwethluk community to introduce themselves.

Fincher explained the objectives of the meeting were to ensure continued transparency of the investigation process and inform the community of Kwethluk about the progress of the Red Devil Mine investigation over the last year.

Red Devil Project Manager **Mike McCrum** presented an overview of the Draft Remedial Investigation report. **Matt Varner**, BLM fisheries biologist, gave a short presentation about the fish tissue and aquatic insects study BLM is conducting on the middle Kuskokwim River.

BLM invited questions and comments from participants throughout the meeting.

- **Herman Evan:** Is BLM doing any work at NYAC? **Jim Fincher:** Only a small portion of the mine is on BLM land. The operator is in compliance with their plan of operations; BLM mining compliance inspections found no problems.
- **Anne Marie Palmieri:** EPA conducted a study at NYAC and found no contamination issues.
- **Max Angellan:** Are there any known harmful effects from the mine to the people at Red Devil? **Joe Sarcone:** The state has an ongoing program to test hair samples of women and young children for mercury. About a half dozen or so samples were taken from people in Red Devil, and none were elevated. The State has analyzed about 170 samples from the Kuskokwim region, with no alarming levels found.
- General discussion about why mercury was mined in the past. There is no longer a market for mercury today.
- **Evan:** Are mercury levels higher in summer or winter? **Angela Matz:** Winter lush samples were lower than summer. We're not sure why.
- **Evan:** Is it safer to eat fish caught in winter? **Matz:** Possibly, but we can't say for certain since we don't know why they tested lower.
- **Evan:** Which has higher mercury concentrations—dried or fresh fish? **Matz:** Dried pike, since drying the fish concentrates the mercury and because people tend to eat more dried pike than fresh. So it's better to eat more fresh pike than dried pike.
- **Sarcone:** Public health agencies encourage people to decrease their exposure to mercury by eating fish known to be lower in mercury, such as salmon, grayling and sheefish.

Jim Fincher said agencies know more today about locations and concentrations of the three contaminants of concern than they did prior to this investigation. The next step is to develop alternatives for cleanup. BLM has heard a range of concerns from communities. These concerns range from encouraging a complete and thorough cleanup to advising agencies to leave the site alone to avoid making things worse. BLM wants to find a balanced way to address contamination issues that considers both these perspectives.

Fincher thanked participants for attending and said BLM will contact the Kwethluk community to set up a joint consultation meeting when the Feasibility Study and Proposed Plan are ready for tribal and community review in the spring of 2013.

The meeting concluded at 5:30 p.m.



Meeting Notes

Red Devil Mine Community Meeting

Akiak, Alaska

Date/Time: April 19, 2012, 1:20 p.m.

Location: Akiak Community Center

BLM Reps: Jim Fincher, Mike McCrum, Matt Varner, Larry Beck and Teresa McPherson

Agency Reps: Anne Marie Palmieri (ADEC), Joe Sarcone (CDC) and Angela Matz (USFWS)

Community Participants: David Gilila, Sr., Kokarmuit Corporation
Ivan M. Ivan, Chief, Akiak Native Community
Mike Williams, Akiak Native Community
Shelia Williams, Akiak Native Community
Norma Williams, Akiak Native Community
Faith Attatayuk, Akiak Native Community
Anna Ivan, Akiak City Council
Ron Andrews, Akiak City Council
Olinka M. Jones, Akiak City Council
Ida Jasper, Akiak City Council
Debbie Jackson, Akiak School
William Miller, Akiak School
Robert Sigler, Akiak School
Ian Jasper, Akiak School
K. Evon, Akiak School
Franklin Lott
Martha Nicolai
Molly Napoka
Helen N. Ivan
Lily Ivan
Lena Pete
Russell Pete
William Pete
Gregory S. Lake
Robert Lake
Amelia Nicolai
Samuel Jasper
Ted M. Jones

Akiak IRA Council Chief Ivan M. Ivan called the meeting to order. Chief Ivan introduced David Gilila, Sr., of Kokarmuit Corporation, Akiak IRA Council officers and staff, and City Council members.

Ivan asked BLM to share meeting notes and sign-in sheet for the IRA Council's records. He then turned the meeting over to **BLM Anchorage Field Manager Jim Fincher**.

Fincher asked the Red Devil Mine project team members and agency representatives to introduce themselves. He said this was BLM's third visit to the community of Akiak to discuss the Red Devil Mine investigation. BLM appreciates the community's hospitality and interest in this project.

Red Devil Project Manager **Mike McCrum** presented an overview of the Draft Remedial Investigation report. **Matt Varner**, BLM fisheries biologist, gave a short presentation about the fish tissue and aquatic insects study BLM is conducting on the middle Kuskokwim River.

BLM invited questions and comments from participants throughout the meeting.

- **David Gilila:** Heard that mercury is one of the most dangerous contaminants on earth. Heard of a case where the release of mercury required evacuating people at the site. How far down the Kuskokwim River will BLM monitor and test for mercury contamination? **McCrum:** Referred to handouts showing areas tested as part of the study (Stony River to Crooked Creek).
- **Ivan M. Ivan:** Did BLM research company records of former mine owners for violations of mining laws and regulations? **McCrum:** Unfortunately, older mining laws didn't include adequate requirements to regulate mining and the handling of contaminants. Also, there is limited documentation of specific practices during the mine's operation.
- **Ivan:** Define groundwater and surface water. **McCrum:** Groundwater is found in a well, while surface water flows above ground, such as Red Devil Creek. Sometimes the two merge, as in the valley at the creek.
- **Ivan:** Explain "conservative" risk assessment assumptions. **McCrum:** Conservative assumptions are based on a worst case scenario, so every level of risk is captured in the assessment.
- **Joe Sarcone:** Mercury occurs all over the world. One of the primary ways humans come in contact with mercury is by fish. Predator fish—those higher on the food chain—have higher levels of mercury. In freshwater, pike show the higher levels of mercury. So public health officials developed fish consumption guidelines advising that women and young children eat fewer pike, especially older, larger pike that have higher mercury concentrations. While fish are an important part of traditional diets, it's safer to eat smaller pike and other types of fish like salmon, sheefish and grayling.

- **Angela Matz:** Drying a pike does not increase the amount of mercury in the fish. When the fish is dried and that water is removed, the weight of the fish is less. Concentration is the amount of mercury per the amount of fish. When the weight of the fish goes down due to drying and the amount of mercury stays the same, the concentration goes up. So dried pike has higher concentrations of mercury by volume than fresh pike. Also, people tend to eat more dried pike per meal than fresh.
- **Question:** Do lush eggs contain mercury? **Matz:** Eggs are not as high as lush liver, since liver is a detoxifying organ. Generally, livers and kidneys have higher concentrations and eggs are lower.
- **Question:** Did the study include blackfish? **Matt Varner:** No, they don't live that long, so blackfish were not included in the study. Long-lived fish that eat other fish have higher levels of mercury.
- **Question:** Did BLM test fish for arsenic also? **Varner:** Yes.
- **Question:** Was there a difference in summer versus winter samples? **Varner:** Fall and winter samples of lush tested lower for contaminants than summer samples, but this variability may not mean anything since fish move about.
- **Question:** Did the study include lake pike? **Matz:** Yes. However, whether samples are collected from a lake or river isn't significant—it's the region or area that appears to determine concentrations.
- **Question:** Can you see mercury contamination by looking at the fish? **Matz:** No, you don't see visible signs or symptoms, but you may see evidence of lowered resistance to other things such as disease.
- **Mike Williams:** Deeply concerned about cancer and stroke rates in the region, and other health issues such as suicide. People of the region have been eating a variety of animals for a long time. Concerned about the possible health effects of airborne mercury. Are people who live closer to the site in more danger? **Matz:** That's hard to say. There are so many things that affect human health. It's not possible to know what is directly caused by the mine site. But we know we have to clean it up. We know it's not good for people or animals.
- **Mike Williams:** Are laws in place today to ensure mining is done in a safer and more responsible way than in the past? **Anne Marie Palmieri:** Yes, state and federal agencies have regulations in place to protect humans and the environment during mining activities. But we have a legacy of former mines to deal with.
- **Matz:** Alaska is the only state with a mercury testing program. Alaskans in general have low levels of mercury. Only a small handful of women have been found to have elevated levels, due to eating a specific diet such as whale livers.

- **Mike Williams:** The Red Devil Mine site needs to be cleaned up as soon as possible and as thoroughly as possible. And other new mine operations must be held accountable and monitored carefully. Communities need to support cleaning up contaminated sites and participate actively in the watershed council. Grandfather spoke of working at Red Devil Mine, and he became paralyzed in later life. Deeply concerned about the health effects of contaminated sites.
- **Ivan:** What are the next steps in this investigation? **Fincher:** To develop cleanup alternatives based on the information collected and analyzed in the Remedial Investigation. From those alternatives, BLM will develop a Proposed Plan. At that time, BLM would like to come back to communities to explain the plan and invite feedback. **Ivan:** The Akiak community wants to be engaged at that time.
- **Ivan:** Do you have the necessary funding for this project? **Fincher:** Our Washington Office is working to find the funding to do the right thing for this site in terms of cleanup.
- Discussion about a local road project where the contractor is using red rock and whether the rock contains cinnabar. **Matz:** Iron in rock is usually red/brown, while cinnabar is somewhat red/yellow/orange. **Palmieri:** Cinnabar in its original form isn't dangerous. Melting the ore to liquid form is where it becomes dangerous.
- **Ivan:** The IRA Council will follow up with the contractor performing the road work to inquire about dust issues.

The meeting concluded at 3:40 p.m.



Meeting Notes

Red Devil Mine Community Meeting

Tuluksak, Alaska

Date/Time: May 1, 2012, 1:50 p.m.

Location: Tuluksak Native Community

BLM Reps: Mike McCrum, Matt Varner, Larry Beck and Teresa McPherson

Agency Reps: Anne Marie Palmieri (ADEC), Joe Sarcone (CDC) and Angela Matz (USFWS)

Community Participants: Wascca Fly, President, Tuluksak Native Community
Noel Owen, Tuluksak Native Community
Noah C. Alexie, Sr., Tuluksak Native Community
Andrew Alexie, Tuluksak Native Community
Mike Alexie, Tuluksak Native Community
Roy Nicholai, Tuluksak Native Community
Elena Gregory, Tuluksak Native Community
Gloria Gregory, Tuluksak Native Community
Nastasia Hawk, Tuluksak Native Community
Noah M. Andrew, Sr., Tuluksak Native Community
Elizabeth Andrew, Tuluksak Native Community
Margaret Andrew, Tuluksak Native Community
David Andrew, Sr., Tuluksak Native Community
Middy Peter, Tuluksak Native Community
Sonny Jones, Tuluksak Native Community
Anastasia Jones, Tuluksak Native Community
Lucy Evan, Tuluksak Native Community
Laura Kashatok, Tuluksak Native Community
Andrew Kashatok, Tuluksak Native Community
Henry T. Alexie, Sr., Tulkisarmute, Inc.
Margaret Nicholai, Tulkisarmute, Inc.

Tuluksak Native Community President Wascca Fly asked Elder Elizabeth Andrew to offer the invocation. Fly called the meeting to order and asked for roll call. He then turned the meeting over to BLM to discuss the Red Devil Mine environmental investigation.

Larry Beck asked Red Devil Mine project team members and agency representatives to introduce themselves. He also asked the Tuluksak community to introduce themselves.

Beck explained the objectives of the meeting were to ensure continued transparency of the investigation process and inform Kuskokwim River communities about the progress of the Red Devil Mine investigation over the last year.

Red Devil Project Manager **Mike McCrum** presented an overview of the Draft Remedial Investigation report. **Matt Varner**, BLM fisheries biologist, gave a short presentation about the fish tissue and aquatic insects study BLM is conducting on the middle Kuskokwim River.

BLM invited questions and comments from participants throughout the meeting.

- **Question:** Will this investigation include NYAC Mine? **Beck:** No, this is an investigation of the Red Devil Mine site only.
- **Question:** Why is the cleanup investigation at Red Devil Mine taking so long? **Beck:** BLM's earlier work at the site focused on hazardous structures, fuel drums, open shafts, and petroleum contaminated soil. As BLM learned more about the site, BLM began addressing mercury issues. The data collected during the Remedial Investigation will help BLM develop cleanup alternatives.
- There was discussion about the tailings area and concerns that contaminated water from the tailings was entering the Kuskokwim River.
- **Anne Marie Palmieri:** Mining laws when the Red Devil Mine operated were different from today. The practice of the day was to keep piling up tailings in one area. This is why metals concentrations in Red Devil Creek are highest where it enters the river, and why agencies want to see the site cleaned up.
- **Comment:** Glad to hear mining laws and regulations are stronger today. Has ancestors who died of cancer; concerned about health impacts of metals. Would like to see the river tested for heavy metals.
- **Comment:** Concerned about NYAC Mine. Has commented to BLM in the past about NYAC lands that were turned over to Tuluksak. Agencies consult about other mines such as Red Devil, but he would like to hear more about NYAC Mine. **Beck:** BLM administers three Federal mining claims at NYAC, but most of the NYAC Mine is on Calista lands.
- **Question:** Has BLM talked to people who used to work at the mine to learn more? **McCrum:** Most of the people who worked at the mine are no longer living, since the mine stopped operating decades ago.
- **Question:** Do salmon accumulate mercury? **Matz:** Kuskokwim salmon were tested previously for heavy metals. Salmon showed low concentrations of contaminants. But pike tested higher, so the Alaska Division of Public Health advises that women and young children should avoid larger, older pike.

- **Comment:** Glad to see the team is addressing the issue of heavy metals. People in villages along the Kuskokwim River are dying of cancer at alarming rates. Pike has the highest levels of contaminants and people here live on pike. It's important to look at what can be done to address contaminants in pike. Would like to see agencies monitor mercury levels in the Kuskokwim.
- **Joe Sarcone:** The main way people come into contact with methylmercury is through fish. Methylmercury levels in pike are of concern to public health agencies. Public health guidelines encourage women of childbearing age and young children to avoid eating large pike, and substitute other fish like salmon and sheefish. The State public health lab will test human hair samples for mercury, if women would like to know what their mercury levels are.
- **Question:** Have agencies tested whitefish? **Matz:** Yes. Whitefish are generally safer than pike, especially large pike.
- **Comment:** Concerned about eating pike. Thinks there is a cancer connection; why are so many people dying of cancer? Why wasn't this known when the mine operated?
Sarcone: Cancer is a concern across Western Alaska. People are living longer; diets are different today than in the past. Mercury is a neurotoxin—it affects the nervous system, but it is not a carcinogen. Other metals at the site, such as arsenic, are carcinogenic.
- **Comment:** A woman said her hair was tested and the mercury level was very low. She plans to continue eating pike.
- **Comment:** One resident said they would like to have a road between the village and NYAC Mine. **Matz:** Talk to Gene Peltola.

Larry Beck thanked Tuluksak community members for allowing BLM to come talk with them about the Red Devil Mine investigation. BLM will contact the community for a follow-up meeting when the Feasibility Study and Proposed Plan are ready for tribal and community review in the spring of 2013.

The meeting concluded at 3:45 p.m.



Meeting Notes

Red Devil Mine Community Meeting

Lower Kalskag, Alaska

Date/Time: May 2, 2012, 11 a.m.

Location: Lower Kalskag Town Hall

BLM Reps: Mike McCrum, Matt Varner, Larry Beck and Teresa McPherson

Agency Reps: Anne Marie Palmieri (ADEC), Joe Sarcone (CDC) and Angela Matz (USFWS)

Community Participants: Nastasia “Jackie” Levi, President, Village of Lower Kalskag
Vivian Changsak, VP, Village of Lower Kalskag
Minnie Nook, Mayor, City of Lower Kalskag
Elia Abruska
Clara Evan
Nicanoff C. Evan, Jr.
Kalela Evan, I
Paul Evan, Jr.
Olga S. Evan
Crim Evan
Alice M. Kameroff
Artie Kameroff
Andrew Kameroff, Sr.
Greg Levi
Alexander Levi
Moses Littlefish
Steven Littlefish
Mary Jane Nicholi
Allen Nook
John Parka
George Sam
Edna Sergie
Elena Sergie
Clement Takumjenak, Sr.
Molly M. White
Anita K. Williams
Alexie N. Wise
Bernice Wise

Vivian Changsak, Vice President of Lower Kalskag / IGAP Coordinator, opened the meeting. She explained the purpose of the meeting was to talk about the ongoing environmental investigation at the Red Devil Mine site on the Kuskokwim.

Larry Beck asked Red Devil Mine project team members and agency representatives to introduce themselves. He also asked the Lower Kalskag community to introduce themselves.

Beck explained the objectives of the meeting were to ensure continued transparency of the investigation process and inform Kuskokwim River communities about the progress of the Red Devil Mine investigation over the last year.

Red Devil Project Manager **Mike McCrum** presented an overview of the Draft Remedial Investigation report. **Matt Varner**, BLM fisheries biologist, gave a short presentation about the fish tissue and aquatic insects study BLM is conducting on the middle Kuskokwim River.

BLM invited questions and comments from participants throughout the meeting.

- **George Sam:** How far is the mine from the Kuskokwim River? **McCrum:** About ¼ mile, or a few minutes' walk.
- **Jackie Levi:** Concerned that the area of the Kuskokwim River sampled is not broad enough; would like to see sampling occur farther downriver. **McCrum:** BLM determined the sampling perimeter at the beginning of the investigation based on subsistence use patterns.
- **Jackie Levi:** The Village of Lower Kalskag would like the notes of today's meeting to reflect their request for a broader sampling area along the Middle Kuskokwim River.
- **Anne Marie Palmieri:** One of the things ADEC considers when they review project reports like the Red Devil Mine Remedial Investigation is whether there are data gaps.
- **Jackie Levi:** Heard that rocks can be specific to certain areas, and that it's possible to tell what region the rock came from. **McCrum:** This isn't possible given the mixed types of rock in the Kuskokwim River.
- **George Sam:** Concerned that flooding at the mine during operation caused metals to migrate to downriver communities. He used to transport people (at the site?) from low areas to higher areas during flood events. There were heavy snows when the mine operated. Concerned that metals from the mine site have migrated downriver.
- **George Sam:** Would like to see youth and teens at these meetings; they will represent the community in a few years. **McPherson:** BLM will work with the community to schedule future meetings at a time when students can attend.
- **Question:** Why didn't the study include salmon and other fish species? **Varner:** Other studies of salmon showed very low concentrations of metals. The larger predatory fish like pike and lush accumulate more metals.

- **Joe Sarcone:** Public health guidelines encourage women of childbearing age and young children to avoid eating large pike, and substitute other fish like salmon, whitefish and sheefish. The take home message: eat as much fish as possible but avoid older, larger pike and substitute other fish if possible.
- **Jackie Levi:** Each year Fish and Game sends residents calendars to record the types of fish they catch. Ice fishing occurs all winter. BLM might want to send out a pike/lush survey to learn how much people consume these species.
- **Question:** Did the study include Yukon pike? **Matz:** Used informal survey data for Lower Kuskokwim and Yukon River. Some pike studies were done on Refuge lands. Generally, the levels of contaminants in Alaska's fish are low and are not harmful if women and young children follow the State's fish consumption guidelines.
- **Comment:** People living up and down the river catch and consume the larger pike. **Matz:** Again, larger pike mean higher levels of metals.
- **Vivian Changsak:** Kuskokwim Native Association collects data for the Fish and Wildlife. Are agencies sharing data? **Matz:** The fish group at the Refuge partners with KNA to share resources and collect data.
- **Jackie Levi:** One community member would like to know if frozen fish can spread metals contaminants to other foods in the same freezer. **Matz:** No.
- **Jackie Levi:** Can our bodies eliminate mercury? **Matz:** Yes, but it happens very slowly so it's important to reduce exposure. The State has a monitoring program to test hair samples, since our hair and nails are how our bodies eliminate mercury. If you're concerned, you can have your hair tested. Very few women in Alaska have tested high, and they were from areas where people consume marine mammals. When they stop consuming the animals, then levels slowly subside.
- **Jackie Levi:** Donlin Creek Mine is coming to Lower Kalskag next week to collect baseline data through hair samples.
- **Question:** Is eating fresh pike safer than eating dried pike? **Matz:** Drying pike doesn't get rid of mercury. People tend to eat more dried fish at a meal. The important thing is for women of childbearing age and young children to limit their intake of larger, older pike; that's more important than the cooking method.
- **Question:** Red Devil Mine has been closed for decades, so why are communities hearing about the mercury concerns now? **Sarcone:** Public health officials have known mercury is harmful since the 1970s. **Matz:** Mercury levels are lower in the U.S. than other countries, but we're also paying attention to the effects of lower levels of exposure today.

- **George Sam:** Communities are seeing “epidemic” levels of cancer, and some are fast growing cancers. **Sarcone:** The causes of cancer are not well known. We know genetics, lifestyle and environment play a part. Mercury is not a carcinogen; arsenic is.
- **Crim Evan:** Concerned that people in villages are eating more and more non-traditional foods, packaged foods instead of subsistence foods. People need a diet that consists of both modern and traditional foods, not all one or the other.
- **Jackie Levi:** Does smoking fish affect the mercury content? **Matz:** No, but don’t use Deet products or insect coils to repel insects around the fish; that’s not healthy. **George Sam:** We choose our wood carefully for smoking fish.
- **Jackie Levi:** What is a “large” pike? **Matz:** Two feet.
- **George Sam:** Encouraged BLM to use every opportunity to recruit and hire young people from villages, and help introduce the youth to BLM jobs and careers.
- **Jackie Levi:** If community members have questions or comments but don’t wish to speak at this time, send them to her and she will forward to BLM for responses.
- **Jackie Levi:** Requested that BLM use a local interpreter for Lower Kalskag community meetings in the future.

Larry Beck thanked community members for allowing BLM to come talk with them about the Red Devil Mine investigation. BLM will contact the community for a follow-up meeting when the Feasibility Study and Proposed Plan are ready for tribal and community review in the spring of 2013.

The meeting concluded at 1:15 p.m.



Meeting Notes

Red Devil Mine Community Meeting

Kalskag, Alaska

Date/Time: May 2, 2012, 2 p.m.

Location: Kalskag Tribal Multi-purpose Building

BLM Reps: Mike McCrum, Matt Varner, Larry Beck and Teresa McPherson

Agency Reps: Anne Marie Palmieri (ADEC), Joe Sarcone (CDC) and Angela Matz (USFWS)

Community Participants: Bonnie Persson, Tribal Administrator, Village of Kalskag
David L. Dorris, Sr., Mayor, City of Kalskag
Billy Alexie, Traditional Council/City Council
Theresa Morgan, Elder
Dunia K. Holmberg, Elder
Margaret Alexie
Martha A. Evan
Jaelene Evan
Willie Pitka, Jr.
Frank One
Kevin Morgan
Darren Deacon
Adrienne Kerr
Tenille Ausdahl

Kalskag Tribal Administrator Bonnie Persson opened the meeting and welcomed everyone. She explained some council members were out of town and the river could go out anytime, so some were not able to attend. Persson turned the meeting over to BLM to discuss the Red Devil Mine environmental investigation.

Larry Beck asked Red Devil Mine project team members and agency representatives to introduce themselves. He also asked the Kalskag community to introduce themselves.

Elder Theresa Morgan said she was born in 1935 and had lived in Kalskag all her life. Morgan noted the importance of traditional diets to the people of the Kuskokwim. She said she had always heard there was mercury in the pike, has eaten pike all her life, and suggested maybe the mercury has always been there.

Beck explained the objectives of the meeting were to ensure continued transparency of the investigation process and inform Kuskokwim River communities about the progress of the Red Devil Mine investigation over the last year.

Red Devil Project Manager **Mike McCrum** presented an overview of the Draft Remedial Investigation report. **Matt Varner**, BLM fisheries biologist, gave a short presentation about the fish tissue and aquatic insects study BLM is conducting on the middle Kuskokwim River.

BLM invited questions and comments from participants throughout the meeting.

- **Question:** Referenced the mine worker scenario in the presentation graphics. Does this mean the mine might reopen in the future? **McCrum:** Not likely, since there is no market for mercury today. But BLM included all scenarios in developing the risk assessment.
- **Question:** Will BLM hire an outside company to do the cleanup? Will there an opportunity for local hire? **McCrum:** Large contracts are typically awarded to larger companies, and BLM will encourage local hire by the contractor.
- **Comment:** Referenced the presentation graphic about risks; why wait to begin cleanup? It seems bad enough to get started now. **McCrum:** We need a cleanup plan so we'll know what to do at the site, and that's the process BLM is working through now.
- **Question:** Why were laws not in place to prevent this kind of contamination? Did the operator have a plan and did the company follow that plan? **McCrum:** The mine changed ownership many times. Old mining laws didn't do a good job of preventing this kind of thing.
- **Question:** Did BLM sample smelt? **Matz:** The State has some smelt data from Southeast Alaska. But smelt isn't a large concern since top predators normally have higher levels of metals.
- **Theresa Morgan:** Some fish look sick with spots and pus. They go bad fast. **Matz:** We're seeing more diseases in some species. Warming ocean temperatures—climate change—may be a factor.
- **Comment:** Concerned about the effect of oil spills on fish that are exposed in the ocean and travel upriver. **Matz:** Spills are part of our world and companies have oil spill plans in place to address them. Fish contaminated with fuel will smell like fuel; avoid eating those fish.
- **Dunia Holmberg:** When they catch fish with spots, they cut away the flesh with bad spots and use for dogfood.
- **Joe Sarcone:** Fish are an important part of traditional diets, and generally very healthy to eat. Because mercury is a neurotoxin, it can affect the developing brain. So public health guidelines encourage women of childbearing age and young children to avoid eating large pike, and substitute other fish like salmon and sheefish. The State Public Health lab has tested over 1,000 women, and only a few had elevated mercury levels. Contact your health provider or Public Health to have a hair sample tested.

- **Question:** Has anyone tracked people who worked at the mine who have since become sick with cancer? **Sarcone:** There's really no way to track former mine employees. There are many causes of cancer. It would be difficult to link exposure at the mine site to cancer.
- **Mayor Dorris:** What are the effects of low exposure to mercury over time, such as 30 or 40 years? Would like area wells tested for arsenic. **Matz:** Arsenic occurs in wells across Alaska, including hers. We must do what we can to stay healthy. Eat a diet high in healthy foods, especially subsistence foods. Keep active and choose healthy lifestyles.
- Several residents expressed concerns about high cancer rates in the region. **Sarcone:** Yes, cancer is a concern everywhere. The State has a Cancer Registry that provides cancer statistics by region.
- **Kevin Morgan:** Concerned about the combined effects to the watershed of Donlin Mine in addition to the heavy metals from Red Devil Mine. **Palmieri:** DNR considers cumulative effects in the mine permitting process as does DEC in water quality permitting. **Matz:** The Division of Health and Social Services conducts health impacts assessments for large projects.
- **Kevin Morgan:** Pleased that other agencies come with BLM to community meetings, but he would like EPA to come with BLM for the next Red Devil Mine community meeting in Kalskag.
- **Mayor Dorris:** Would like the meeting notes to reflect that the community of Kalskag invites BLM to return for a follow-up community meeting in the spring of 2013 and requests that EPA attend the meeting.

Larry Beck thanked community members for allowing BLM to come talk with them about the Red Devil Mine investigation. BLM will contact the community for a follow-up meeting when the Feasibility Study and Proposed Plan are ready for tribal and community review in the spring of 2013.

The meeting concluded at 4:15 p.m.



Meeting Notes

Red Devil Mine Community Meeting

Sleetmute, Alaska

- Date/Time:** June 6, 2012, 1:40 p.m.
- Location:** Sleetmute Community Center
- BLM Reps:** Karen Kelleher, Jolie Pollet, Mike McCrum, Larry Beck and Teresa McPherson
- Agency Reps:** Joe Sarcone (CDC) and Nim Ha (AK Public Health)
- Community Participants:** Sophie B. Gregory, President, Sleetmute Traditional Council
Lucy Goode, Tribal Administrator, Sleetmute Traditional Council
Cheryl Mellick, Sleetmute Traditional Council/ICWA
Anthony Zaukar, Sleetmute Traditional Council Accountant
Terrence Morgan, Sleetmute Traditional Council/IGAP
Jonah Gregory, Sleetmute Traditional Council/IGAP
Wassillie J. Gregory, Sr.
Andrew Fredericks
Mary Mellick
Margie Mellick
John Fredericks
Paul John Rosado II
Warren Mandregan
Ellen Yako
Laura Crane
Balasha M. Barnes

BLM Anchorage District Manager Karen Kelleher opened the meeting and welcomed everyone. She asked Sleetmute community members and the Red Devil Mine project team to introduce themselves.

Kelleher explained the objectives of the meeting were to ensure continued transparency of the investigation process and inform Kuskokwim River communities about the progress of the Red Devil Mine investigation over the last year.

Red Devil Project Manager **Mike McCrum** presented an overview of the Draft Remedial Investigation report and the fish tissue and aquatic insects study BLM is conducting on the middle Kuskokwim River.

BLM invited questions and comments from participants throughout the meeting.

- **Wassillie Gregory:** Is BLM considering removal of the tailings from the site? Given the metals concentrations in the tailings, is there any option other than removing them?
McCrum: The next step in the investigation is to formulate alternatives. BLM will look at different treatment options as part of this process, and will come back to communities next spring to discuss a proposed plan.
- **Gregory:** Is it best for residents to avoid the site at this time? **McCrum:** Yes. BLM will install a new gate and signs this season asking people to not enter the site for safety reasons.
- **Nim Ha:** Last year the Alaska Division of Public Health learned of health concerns among Kuskokwim River communities about whether it was safe to eat fish from the Kuskokwim. The Division of Public Health worked with the U.S. Fish and Wildlife Service to develop fish consumption guidelines for the area. The guidelines recommend that women ages 15-45 and children under 13 limit the number of servings they consume of pike and lush due to concerns about mercury in the fish. People not in these categories may safely consume as much as they like.
- **Question:** Does the guidance also apply to salmon? **Ha:** No, because salmon generally have low levels of mercury compared to predatory fish like pike and lush.
- **Gregory:** Isn't mercury harmful to everyone? **Ha:** All fish have some level of mercury. Methylmercury is a neurotoxin that can affect the developing brain, so the guidance targets women and children.
- **Lucy Goode:** What about mercury levels in seal and whale? **Ha:** Many factors influence mercury levels in marine mammals, such as the part of the animal you eat (type of tissue) and region the animals are from. There are some available data about marine mammals, and people can contact her for more information.
- **Goode:** Why does the guidance recommend eating less dried pike? **Ha:** Drying doesn't remove the mercury, it merely reduces the volume of the fish. People tend to eat more dried fish at a meal than fresh fish. When they do, they take in more mercury.
- **Joe Sarcone:** Fish are an important part of traditional diets, and generally very healthy to eat. So the take home message for women of childbearing age and for children is to limit the servings of pike and lush, and to eat smaller, younger fish with lower levels of methylmercury.
- **Nim Ha:** Testing human hair is a great way to measure mercury in the human body. The State offers a hair testing program for women of childbearing age. Approximately 1,300 women have been tested around the state, and only 4 or 5 had elevated levels of mercury.
- **Gregory:** How will you go about cleaning up the mine? **McCrum:** The Feasibility Study will examine various alternatives for cleanup, and BLM will use that to develop a proposed plan. BLM will consult with Sleetmute and other Kuskokwim communities next spring to discuss the proposed plan and specific treatment options.

Karen Kelleher thanked Sleetmute Traditional Council and community members for allowing BLM to come talk with them about the Red Devil Mine investigation. BLM will contact the community for a follow-up meeting when the Feasibility Study and Proposed Plan are ready for tribal and community review in the spring of 2013.

The meeting concluded at 3:30 p.m.



Meeting Notes

Red Devil Mine Consultation Meeting Native Village of Georgetown

Date/Time: June 27, 2012, 1 p.m.

Location: BLM Anchorage Field Office

BLM Reps: Jim Fincher, Mike McCrum, Matt Verner, Larry Beck and Teresa McPherson

Agency Reps: None

Community Will Hartman, Georgetown Tribal Administrator

Participants: Kate Thalhauser, Georgetown Environmental Coordinator

BLM Anchorage Field Manager Jim Fincher thanked Mr. Hartman and Ms. Thalhauser for meeting with the BLM and introduced BLM staff members.

Fincher explained the objectives of the spring 2012 consultation meetings were to ensure continued transparency of the investigation process and inform Kuskokwim River communities about the progress of the Red Devil Mine investigation over the last year.

Red Devil Mine Project Manager **Mike McCrum** presented an overview of the Draft Remedial Investigation report. **Matt Varner**, BLM fisheries biologist, discussed the fish tissue and aquatic insects study BLM is conducting on the middle Kuskokwim River.

BLM invited questions and comments throughout the meeting.

- **Will Hartman:** Is removal of the tailings feasible? **McCrum:** It's certainly one of the options to be examined in the Feasibility Study. With more than 100,000 cy of tailings, one of the challenges is whether there is a site that could take that much material.
- **Kate Thalhauser:** Are there any health related studies of former mine workers? **McCrum:** Not really; few records exist anymore. The mine operated sporadically and changed ownership a number of times.
- **Thalhauser:** How did BLM acquire the information about the mine workings? **Beck:** One former mine worker developed a photo library and worked w/USGS to archive some of his images. BLM used those images to stitch together what we know of the mine's operation.

- **Thalhauser:** Are other agencies involved in the fish study? **Varner:** Yes, BLM is working with Alaska Department of Fish and Game and with Kuskokwim Native Association to help collect samples. A U.S. Fish and Wildlife Service fish toxicologist is analyzing the data. **Thalhauser:** Her brother, Mike Thalhauser, works for KNA and helped collect samples.
- **Hartman:** He grew up near the mine, and is deeply concerned about concentrations of contaminants noted in the presentation charts. During the 2011 regional workshop in Anchorage, one village expressed concerns about disturbing the site during cleanup or removal, and wanted the site left intact. Georgetown does not share that perspective, and would like to see a thorough investigation and cleanup proposal.
- **Thalhauser:** What are the next steps? **McCrum:** BLM will use the data from the Remedial Investigation to develop alternatives for the Feasibility Study this winter and a Proposed Plan for the site for review and comment next year. BLM will meet with tribes and communities again at that time.
- **Fincher:** BLM recently installed a second gate at the site to limit access at the creek delta and posted additional signs. Other next steps include tilling petroleum contaminated soil at the landsread to encourage bioremediation.
- **Hartman:** Are any site visits planned this year? **McCrum:** BLM's contractor will do some additional sampling at the site for monitoring purposes. The contractor will also sample blueberries this fall; they were unable to find berries for sampling last fall. No agency visits are planned at this time.
- **Gregory:** How will you go about cleaning up the mine? **McCrum:** The Feasibility Study will examine various alternatives and BLM will then develop a Proposed Plan. BLM will consult with Georgetown and other Kuskokwim communities next spring to discuss the Proposed Plan and specific treatment options.

Fincher thanked Hartman and Thalhauser for meeting with the BLM and said BLM will contact them for a follow-up consultation when the Feasibility Study and Proposed Plan are ready for tribal and community review in 2013.

The meeting concluded at 2:45 p.m.