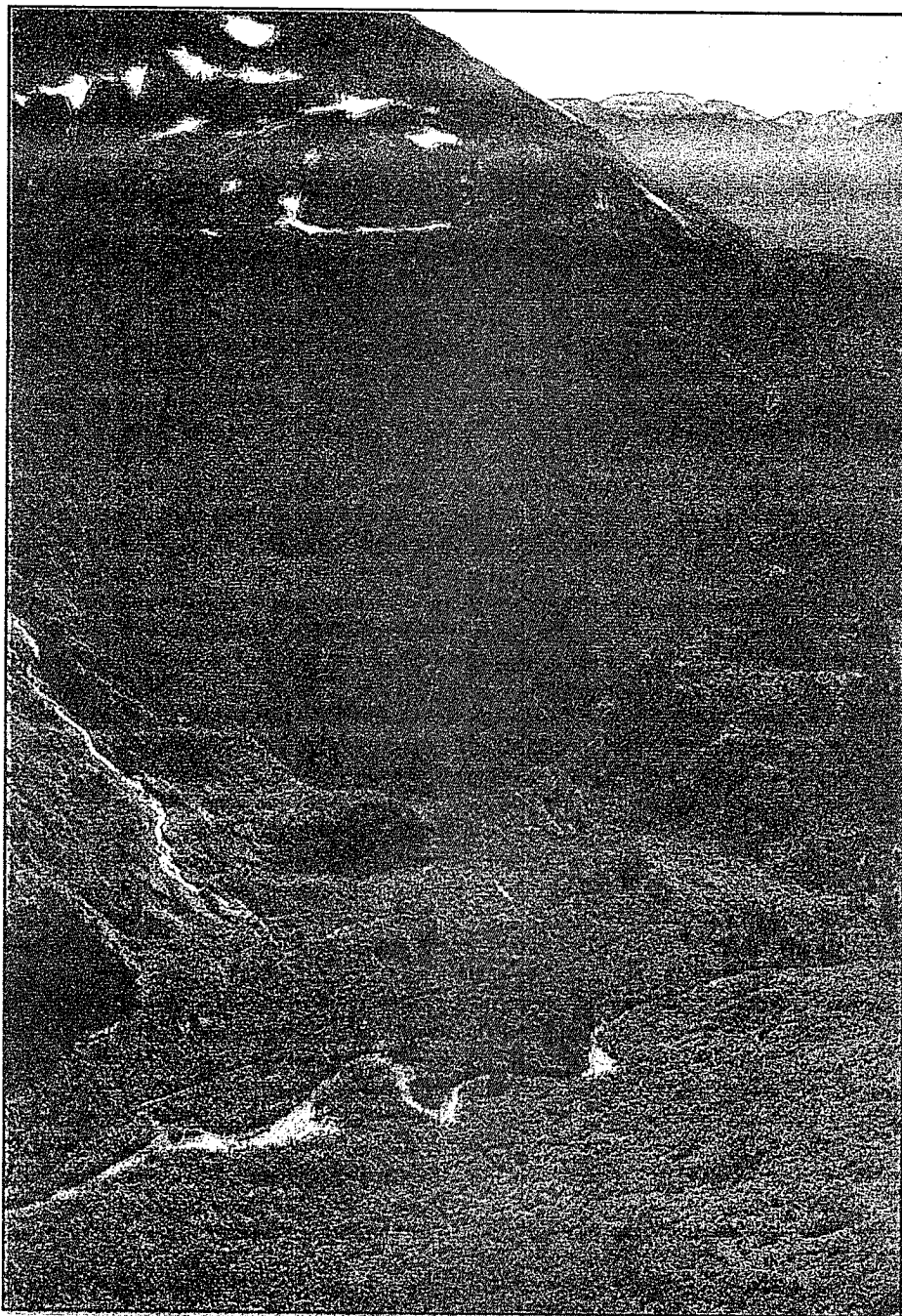


AJ MINE Review

Alaskans for Juneau

Juneau, Alaska

April 1993



The Glory Hole, created by the original AJ Mine, funnels surface runoff and groundwater into the mine. (Gold Creek and Perseverance trail are visible in the foreground.)

AJ undermines source of City's drinking water

"Glory Holes" intercept Gold Creek flow

It is hard to believe that there could be a shortage of municipal drinking water in a climate as wet as Juneau's, but according to the City and Borough of Juneau water utility engineers, that is likely if the AJ Mine is reopened.

CBJ has only two marginal sources to draw from to meet local needs, and the most important of those would be impaired by development of the mine.

According to a report prepared by city utility engineers, the Last Chance Basin aquifer—a water bearing stratum of permeable rock and gravel fed by Gold Creek—is the source of three-quarters of the city water supply. At present, surface run-off and groundwater funnel into Gold Creek from several sources, among them, huge open pits, or "glory holes," created by the original AJ. The glory holes were created through the process of subsidence, cave-ins into giant caverns that had been hollowed out by underground mining. The water is diverted into the glory holes, flows through the mine, and eventually exits through a drainage tunnel into Gold Creek.

Should the mine reopen, the drainage tunnel would be plugged to divert the water for use by the mine, and to prevent mine activities from polluting the aquifer. Studies done for the City and for the AJ Mine Environmental Impact Statement (EIS) estimate the effect of closing the tunnel would be to decrease the flow in Gold Creek and the aquifer by up to one-fourth during winter low flow periods.

According to a document prepared by the CBJ engineers, "Such a reduction in mid-winter recharge could exacerbate a critical

well-water shortfall, even without additional subsidence." The report adds, "Increasing the area of subsidence-intercepted drainage will increase both the frequency and severity of future well-water shortages by decreasing the amount of Gold Creek drainage area that remains to recharge the aquifer." The aquifer only holds enough water in reserve to meet the City's needs for two weeks or less.

"Increasing the area of subsidence-intercepted drainage will increase both the frequency and severity of future well-water shortages."

As the mine develops, subsidence would more than double in size growing to approximately 145 acres according to the EIS—although the authors have pointed out that the exact dimensions of future cave-ins can not be predicted. The actual effects of the open pits on the water supply are equally uncertain. According to the CBJ report, "Lack of detailed knowledge of the local geology and hydrology and the unpredictability of subsidence effects prevent anything like accurate forecasting in this area."

The City and Borough's other major water source, Salmon Creek, has recently fallen under more stringent federal standards for disinfection of drinking water, and is frequently off-line due to excessive turbidity. A 10 to 20 million dollar filtration system

(continued page 2)

The New AJ Mine — Advertising Rhetoric or Reality?

In newspaper and television advertisements, Echo Bay, the developer of the proposed AJ Mine, makes many statements that minimize the mine's potential impact on our community and environment. The members and supporters of Alaskans for Juneau invite you to read the AJ Mine Review, and then decide for yourself if Echo Bay's advertising is rhetoric or reality.

Echo Bay claims

"The quality of water emerging from the AJ mine will be so good that our reclamation plan includes introducing fish to the (Sheep Creek Valley tailings) reservoir."

The Environmental Impact Statement for the AJ says fish will be unable to live in the mine's waste-water during the life of the mine and for up to 12 years after closure. CBJ staff say it could be 30 years before the reservoir water will meet freshwater quality standards. The U.S. Environmental Protection Agency and the Alaska Department of Fish and Game have said that fish may never be able to live there.

Echo Bay claims

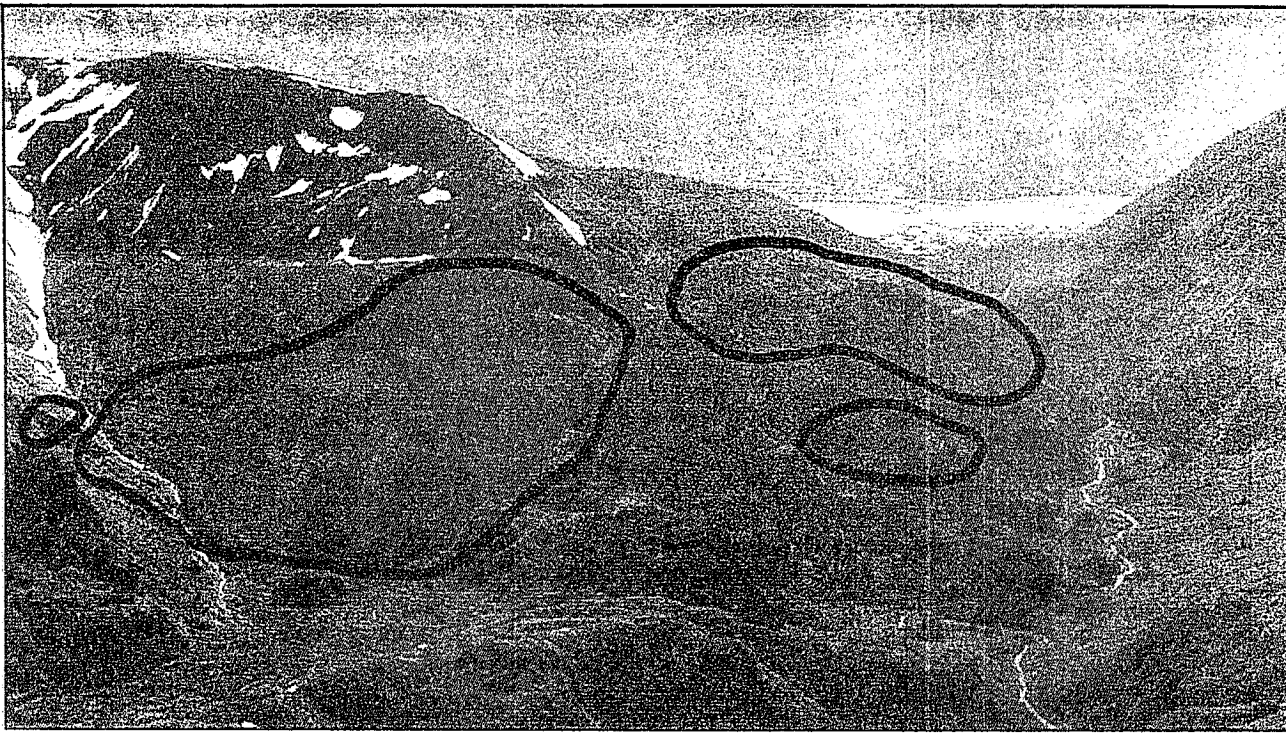
"The overall air emissions of the AJ mine will be far less than that produced by a single cruise ship."

According to city engineers, the mine's two, 60-foot high smokestacks on the shore of Gastineau Channel would produce a visible exhaust plume up to three times the size of the one created by the garbage incinerator at Lemon Creek. Unlike tour ships, the AJ would spew forth 24 hours a day, 7 days a week for 13 years or more.

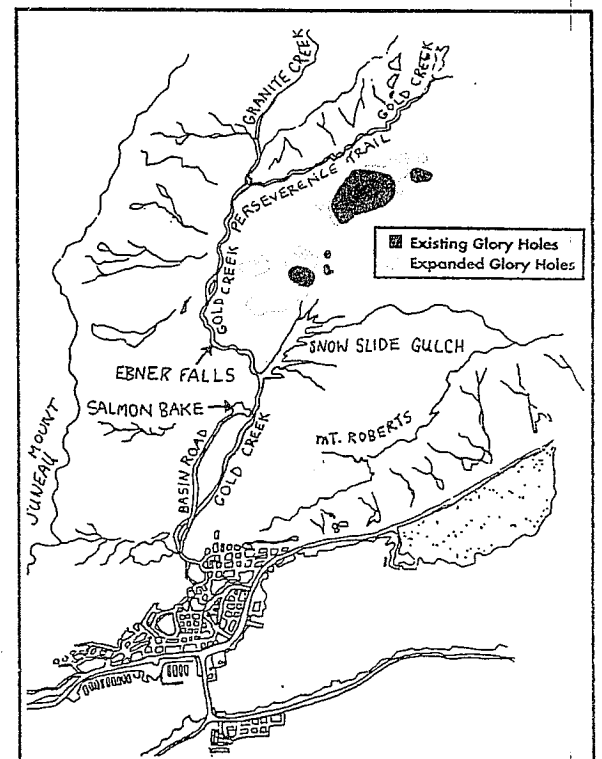
Echo Bay claims

"The water in the pollution mixing zone planned for Gastineau Channel would be suitable for raising salmon hatchery fingerlings."

The U.S. Environmental Protection Agency says the levels of toxic heavy metals and cyanide that would flow into the Channel from the new AJ would violate marine water quality standards many times over. The U.S. Fish and Wildlife Service says the Channel and its resident marine life are already so contaminated from past mining activities that any permit to allow more metals into the area should be considered with caution.



View of Glory Holes in relation to downtown Juneau, showing predicted area of future cave-ins.



It'll be the pits along Perseverance Trail

Near the headwaters of Gold Creek, beside Perseverance Trail, lies the most eye-opening legacy of the historic AJ Mine. It's an open pit a quarter of a mile wide and nearly a thousand feet deep known as the "Glory Hole." If the AJ Mine reopens, this pit and a smaller one next to it will expand and others will be formed, ultimately claiming an area 1/4 miles long by 1/4 mile wide. That's roughly the equivalent of the entire downtown Juneau area.

"Glory holes" are created by cave-ins. As ore is extracted underground during the mining process, the surface rock and soil collapse into the void beneath. The industry term for this is "subsidence."

As AJ-related subsidence increases, the resulting cave-ins would endanger hikers and dramatically alter the landscape along Juneau's most popular hiking trail.

One existing hole will expand to remove the top and much of the side of a 2,000

foot ridge, extending down to approximately 700 feet of Perseverance Trail. The result will be an enormous pit nearly a thousand feet deep near one of the trail's most popular attractions, Ebner Falls. Expansion of the other existing pit would swallow a sizeable tributary to Gold Creek.

The result will be an enormous pit nearly a thousand feet deep near one of the trail's most popular attractions, Ebner Falls.

These pits would be visible along most of the trail and be, "characterized by abrupt drop-offs and sheer rock cliffs hundreds of feet high," according to the CBJ's Recommendation Document for the Large Mine

Permit. "These depressions are anticipated to develop through a series of sudden ground failures in which large masses of rock break away and fall into the voids created by ore extraction beneath them...Neither the exact dimensions nor the timing of the failures can be predicted. Such areas are dangerous if approached too closely or unwarily; a potentially fatal fall may result. Once-familiar territory will develop new and unexpected hazards in a process that would continue over a span of years, perhaps extending well beyond the termination of mine production. A rarer but still serious threat would come from being present on the ground as active subsidence was occurring."

The Recommendation Document suggests that signs, fencing, and security guards may be used to keep people away from the subsidence areas.

It is unclear how much noise, dust and air pollution from blasting and machinery would be associated with the excavation.

It is unclear how much noise, dust and air pollution from blasting and machinery would be associated with the excavation. Echo Bay, the mine developer, contends that esthetic impacts of subsidence would be inconsequential, but Skip Gray, an Alaskan for Juneau board member who has studied the project extensively, questions the company's lack of concern. According to Gray, "It's hard to imagine that gouging out a hole big enough to drop downtown Juneau into, just a stone's throw away from the city's most popular hiking trail, will be done as unobtrusively as the mining company would have us believe."

Salmon may be up creek without water

Dam would cut flow to Sheep Creek delta

If a dam is built across Sheep Creek to hold back tailings from the AJ Mine, water flows critical to the Sheep Creek salmon hatchery and to natural salmon-spawning habitat near the mouth of the creek would be reduced by an average of 82 percent. This reduction in water "will likely have significant adverse effects on fishery resources and habitats of lower Sheep Creek and delta," according to the National Marine Fisheries Service.

As a result, Echo Bay would need to supply an alternative water supply. According to the current plan, this "make-up" water would come from either inside the mine or from the tailings impoundment if that water is of high enough quality.

The reality of providing makeup water may be harder to achieve than Echo Bay hopes. According to the CBJ Large Mine Permit Recommendation Document, it could take from 10 to 30 years for heavy metal concentrations in

the impoundment waters to subside to water quality standard levels after the tailings discharge is stopped. In addition, there is doubt about the quantity of water available from inside the mine.

The major source of water coming though the mine would be water diverted from Gold Creek. It is already clear from studies of the City's drinking water supply, that during winter cold spells, very little water would be available from the Gold Creek watershed.

Even if the company is able to supply the amount to the hatchery that is presently proposed, that quantity may still be inadequate to protect the natural salmon stocks. The Alaska Department of Fish and Game voiced its concern in comments made in response to the AJ Mine Environmental Impact Statement: "The EIS states that the predicted major impacts to anadromous salmon habitat in lower Sheep Creek will be mitigated by release of water from the Hatchery. However, we do not find these flows to be sufficient."

drinking water (continued from page 1)

would be needed to upgrade Salmon Creek to meet Juneau's current needs. However, Salmon Creek Dam and half of the metal pipe carrying the water from the reservoir to sea level are 75 years old; structural concerns preclude filling the reservoir to its original capacity. City engineers warn that upgrading the entire system may be prohibitively expensive. "For the foreseeable future," states their report, "the CBJ will be heavily dependent on the Last Chance Basin well field to meet total water utility demand."

Echo Bay Representative David Stone stated at a recent Planning and Zoning Commission meeting, that the company has "no concrete proposals" for replacing the water that would be diverted from the well field.

What will Juneau get from the AJ Mine?

Staggering liabilities

As owner of 68% of the ore body, the City shares liability with Echo Bay for toxic chemical spills, industrial accidents, and pollution. The costs for such events can be staggering. In Colorado, a large mine that opened in 1986 and went bankrupt in 1992 leaked cyanide solution into the Alamosa River, killing all aquatic life for 17 miles. Clean-up costs are expected to reach \$70 million.

Economic instability

A community that is made up of many small businesses or industries is much more secure and healthy than a community that relies mainly on a few large ones. If a small business fails, the economic and social upheavals are negligible. When a large business goes under, it hurts the whole community.

The AJ mine would cause considerable turmoil when it closes. If the Kensington were to shut down at the same time, the results would be devastating. It is not unusual for mines to shut down prematurely, as did the Greens Creek Mine.

Potential for catastrophic industrial accidents

The mine's industrial plant would be located at Thane near homes and adjacent to the popular roadside fishing area at the mouth of Sheep Creek. Storage and use of mass quantities of cyanide and other chemicals, liquified petroleum gas, and explosives would create an environment ripe for disaster. If just one of the 14, 125-foot-long LPG tanks exploded, it would burn skin up to a half mile away.

Potential limitations on future economic development

Because of contamination from past mining, Gastineau Channel is currently being considered as a candidate for "Impaired Water Body" status by EPA and DEC. If the AJ overloads Gastineau Channel's capacity to absorb industrial wastes, other more sustainable industries such as seafood processing could be prevented from getting wastewater permits.

The mine's tremendous need for fresh water and its expected impairment of the city's water supply could also limit economic possibilities.

Boom/bust

If approved, the AJ and Kensington mines would be built too soon to "fill the gap" left by the state's waning oil industry. Instead they would create a local boom, with all the usual unsavory side affects such as a housing shortage, sky-high rent, crowded schools, and increases in traffic, crime rates and drug and alcohol abuse. Then, given the short life expectancy of the mines and the unstable nature of the gold market, they could shut down during the peak of the oil bust, making a bad situation worse.

Threats to commercial fishing

Chemical spills and pollution could harm commercial fishermen directly by damaging fish stocks, and indirectly through negative public perception.

Less profit for local tourism

Echo Bay's visitor center will compete with other tourism related businesses. The mining company will have to siphon about \$600,000 annually away from competing businesses just to cover the operating costs of the center.

Housing, schools, social services would suffer

Alaska may be heading toward an economic downturn because of falling oil revenues, but surprisingly, Juneau's population won't suffer in the foreseeable future, regardless of whether or not the proposed AJ and Kensington mines are developed. That's according to socioeconomic studies prepared to determine the impacts of mine development on social and economic conditions in Juneau. Even without the mines, the population is expected to increase by 1,600 before the turn of the century, according to the AJ Mine Environmental Impact Statement (EIS). If the mines are developed, up to 3,000 additional people would move here, according to the study.

While the EIS and another study, prepared for the City and Borough of Juneau, don't usually agree on specific numbers, they both show that either one of the mines would cause a boom that would overload existing housing, schools, day care and social services. Traffic would increase and current residents would face more competition for favorite hunting, fishing and other outdoor recreation areas including softball and baseball fields and boat harbor stalls. The following are a few of the predicted impacts.

Housing

From 700 to nearly 1,000 new housing units will be needed if both the AJ and Kensington are developed consecutively. If only the AJ is developed, impacts will still be

substantial, with an estimated 400 to 570 new housing units needed. Mendenhall Valley, Auke Bay, and North Douglas were pinpointed by the CBJ study as the most likely areas for new housing development.

If the mines are developed, up to 4,600 people would move here.

The AJ Mine EIS states "A shortage of rental units would tend to increase rental costs; the increase would be major and would continue until housing is constructed." New housing construction may be hard to achieve; as the EIS elsewhere states, "Concerns of declining oil production and state revenues have taken the place of the capitol move and are now hindering construction of new housing." Lending agencies may be unwilling to finance new housing in the face of oil revenue declines that could be closely followed, or preceded, by the closing of the mines. The mines are only expected to operate for 12 to 17 years, which means they could shut down roughly concurrent with the worst of the oil bust. Most housing mortgages are for about 30 years. Another risk to housing lenders is the fact that unstable gold prices could cause the mines to shut down prematurely.

Schools

The AJ and Kensington Mines would increase enrollment in area schools by up to 650 students. The AJ alone would add 300 to 360 students to an already overcrowded system.

Even with completion of the new middle school currently under construction, there would be 114 more middle school students than the stated capacity of available facilities, according to the EIS.

According to the CBJ study, the school system would be lacking in space for 359 students during the first year of AJ operation, 243 of which would be elementary students, making it necessary to build a new school at a cost of \$14 million. It would take six years to complete a new school once a decision was made to proceed, according to the EIS. This would mean that current facilities would be overburdened, possibly for years, before a new school was completed.

...the school system would be lacking in space for 359 students during the first year of AJ operation

Daycare/Social Services

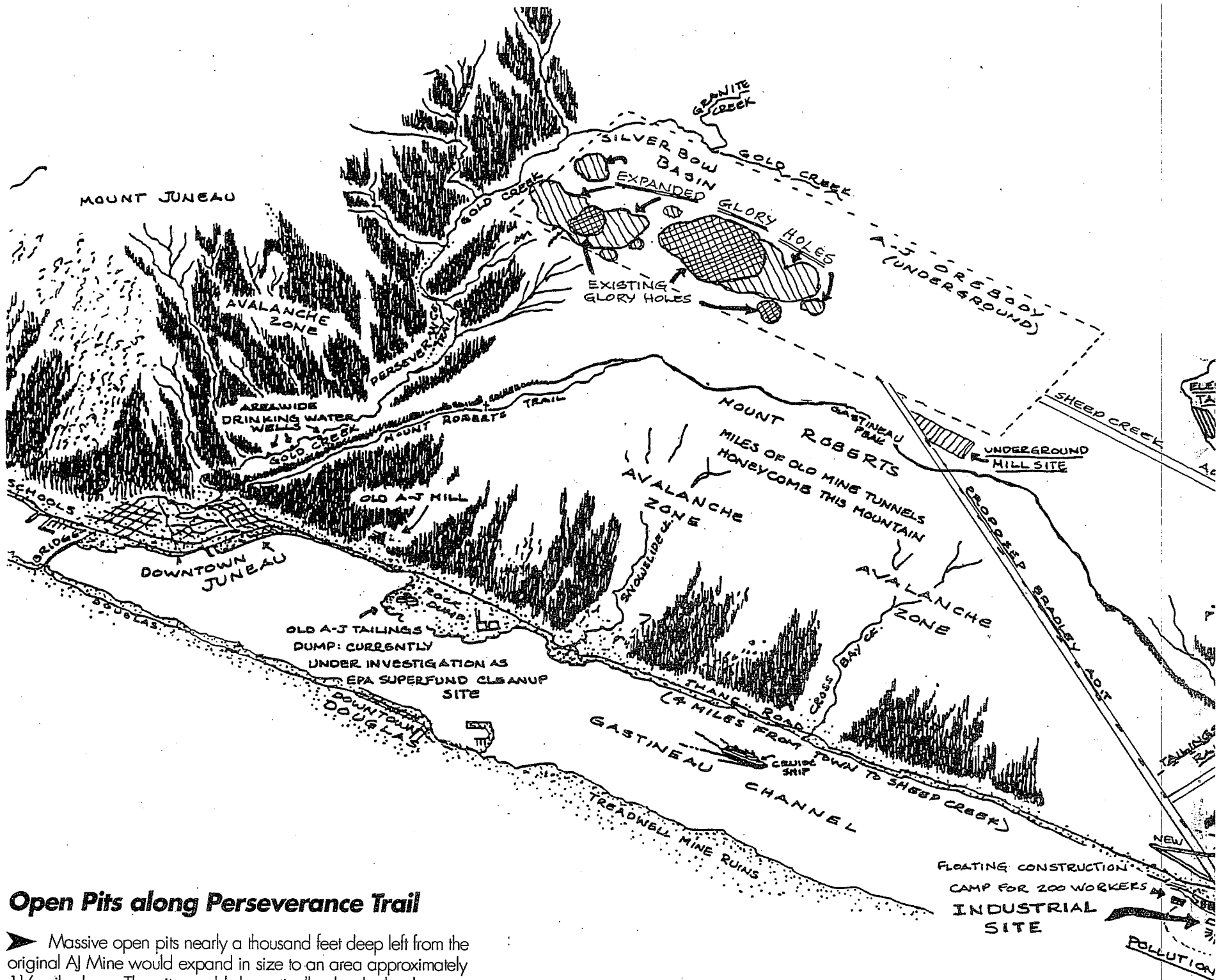
"Day care programs and services are not adequate to meet the present need, and future population growth would exacerbate the problem," according to the EIS.

The study also points out that the current drug and alcohol program already is operating at double the normal capacity for such services, and that an increased case load would have a "major impact."

A shortage of rental units would tend to increase rental costs; the increase would be major

The EIS adds, "Public health and social service agencies typically have limited resources, and additional population growth will exacerbate the continuing problem of meeting health needs for client groups." ■

Editor's note: The socioeconomic studies that this article was based on were completed before closure of the Greens Creek Mine and the associated loss of 260 jobs, and before K-mart Corporation announced plans to build a new store in Juneau that would employ 250 people. Several smaller businesses have also recently announced plans to expand, creating another 25 to 30 jobs.



Open Pits along Perseverance Trail

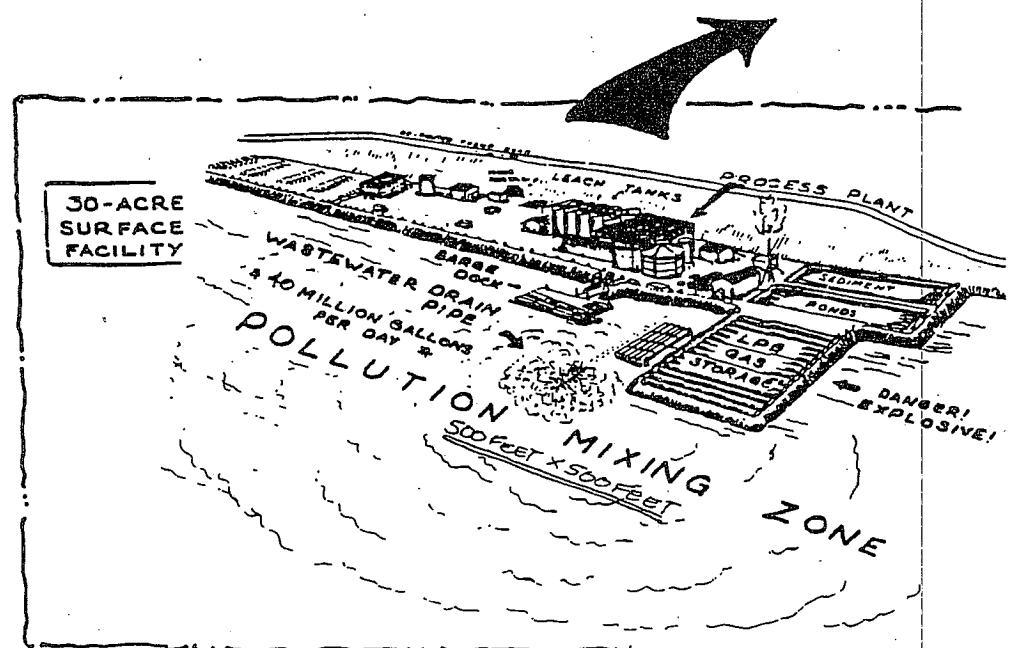
➤ Massive open pits nearly a thousand feet deep left from the original AJ Mine would expand in size to an area approximately 1 1/4 miles long. The pits would dramatically alter the landscape along much of Perseverance Trail, starting just past Ebner Falls. They would also divert ground and surface water into the mine, resulting in a critical reduction of flow to the city's drinking water supply.

Drinking Water Supply Impaired

➤ The main source of Juneau's area-wide drinking water is a well field fed by Gold Creek. The mine would reduce the flow of the creek and the wells by up to 25 percent. CBJ utility engineers have warned that the city cannot afford to lose the water.

Sheep Creek Reduced to a Trickle

➤ The flow of Sheep Creek below the tailings dam would be reduced by 85 percent, requiring an alternative source of water for the Sheep Creek salmon hatchery and the natural spawning habitat on the creek delta. The Alaska Department of Fish and Game has indicated that current plans do not adequately protect the supply of water to the fishery resources.



Plan for Reopening the Alaska-Juneau Gold Mine

THE PROPOSED AJ MINE, like the original which closed in 1944, would be one of the largest hard-rock gold mines in the world. Unlike the original, which operated for 50 years and employed more than 1,000 workers at its peak, the new mine would last only 13 years, use less than half as many workers (450), yet would move more than twice the amount of earth per day. It would use over 18 tons of cyanide daily to dissolve gold out of the ore, and burn 1.3 million gallons of liquified petroleum gas every month to generate electricity. Its power and water requirements would exceed those of the entire City and Borough of Juneau.

Industrial Site/Smokestacks

➤ Enormous quantities of cyanide, other hazardous chemicals, liquified petroleum gas, gasoline, diesel and explosives would be used and/or stored at the surface facility where ore would be processed, creating a risk of toxic spills, explosions and other industrial accidents. This is at the exact location of a submarine landslide that occurred in 1915. More than 300 feet of dock collapsed into Gastineau Channel.

- Two 60-foot-high smokestacks would emit a visible exhaust plume up to three times the size of the one produced by the garbage incinerator at Lemon Creek.
- A 200-person floating construction camp would be located at the surface facility site during two to three years of construction.
- Facilities would include offices, shops, a warehouse, refinery, assay lab, fuel powered generators, electrical substation, smokestacks and various types of fuel tanks including fourteen 135-foot-long cylinders of highly explosive liquified petroleum gas.

Valley Buried in Toxic Tailings

➤ The entire 2½ mile length of Sheep Creek Valley would be flooded with toxic mine tailings deep enough to cover a 25-story building. The tailings, made up of finely crushed rock including toxic heavy metals, cyanide and other poisonous chemicals, would be deposited in slurry form behind a 345-foot dam, creating a polluted lake. Wildlife habitat, including a cottonwood forest containing 25 percent of all cottonwoods in the Juneau area, would be destroyed, along with upper Sheep Creek which supports a healthy population of Dolly Varden trout. The polluted water of the impoundment would be accessible to any wildlife remaining in or migrating through the area and would flow directly into Gastineau Channel.

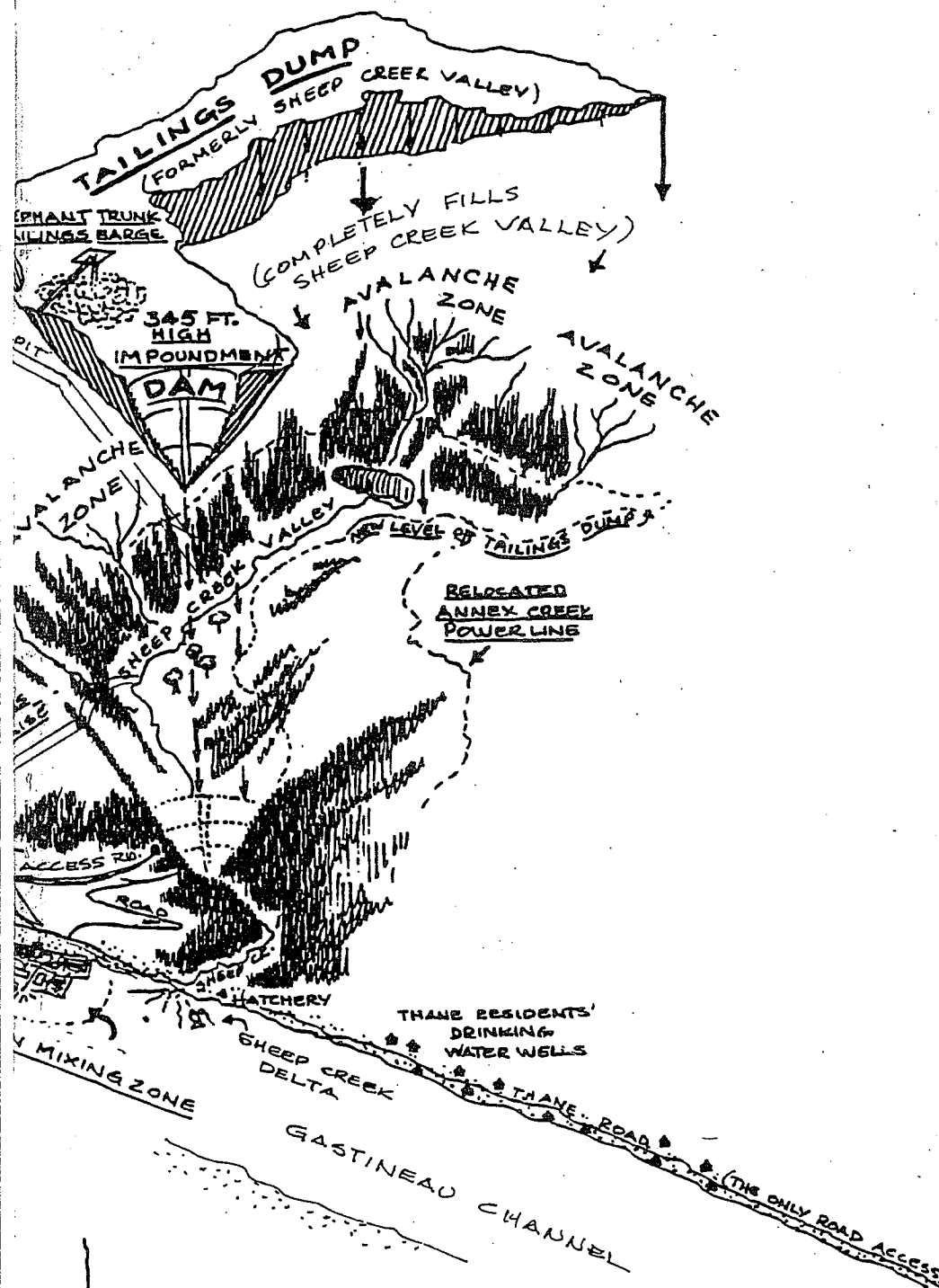
Chemicals and explosives:

➤ Annual use in millions of pounds

Sodium Cyanide	13.3
Copper Sulphate	4.9
Amyl Xanthate	2.5
Lead Nitrate	2.9
Sulphur Dioxide	10.3
Explosives	6.5

Area-Wide Impacts

➤ Up to 4,600 people would move to Juneau if both the AJ and Kensington mines were to be developed. Nearly one thousand new homes may be needed. Housing, schools and social services would be overburdened. There would be increased competition for outdoor recreation areas and facilities including favorite fishing and hunting locations. The mine's visitor center would have to divert a minimum of \$600,000 annually from the local tourist economy just to cover operating expenses, competing directly with other tourism businesses.



Gastineau Channel "Pollution Zone"

➤ More than 40 million gallons of polluted water from the Sheep Creek Valley tailings impoundment would flow into Gastineau Channel every day. Ingredients would include finely ground tailings carrying cyanide and toxic heavy metals. Echo Bay has proposed a legalized area of pollution called a "mixing zone" in Gastineau Channel. Sediments may settle to the floor of the channel and accumulate both inside and outside the mixing zone, allowing heavy metals to contaminate fish, crab, shellfish and other marine organisms, possibly endangering animal and human health.

Toxic mine tailings threaten water quality

Recent studies indicating that the proposed AJ Mine would add more toxic heavy metals to the already polluted Gastineau Channel and create a polluted lake in Sheep Creek Valley has intensified concerns about fish, wildlife and human health.

According to the Environmental Impact Statement for the AJ Mine, much of the slurried tailings that would be dumped into Sheep Creek Valley would be crushed so finely that the particles would remain suspended throughout the water column, carrying metals released from the crushed rock and chemicals used to process the ore, including cyanide.

Pollutants in the tailings impoundment will violate freshwater quality standards—cyanide by 100 times, copper 220 times, lead 115 times and mercury 50 times.

Pollutants in the tailings impoundment will violate freshwater quality standards—cyanide by 100 times, copper 220 times, lead 115 times and mercury 50 times, according to a recent Environmental Protection Agency study. Other heavy metals such as cadmium, iron, silver, nickel and zinc would also exceed standards. "These components of the ore are of concern because of their potential toxicity to fish and wildlife at very low concentrations," according to the Environmental Impact Statement for the AJ.

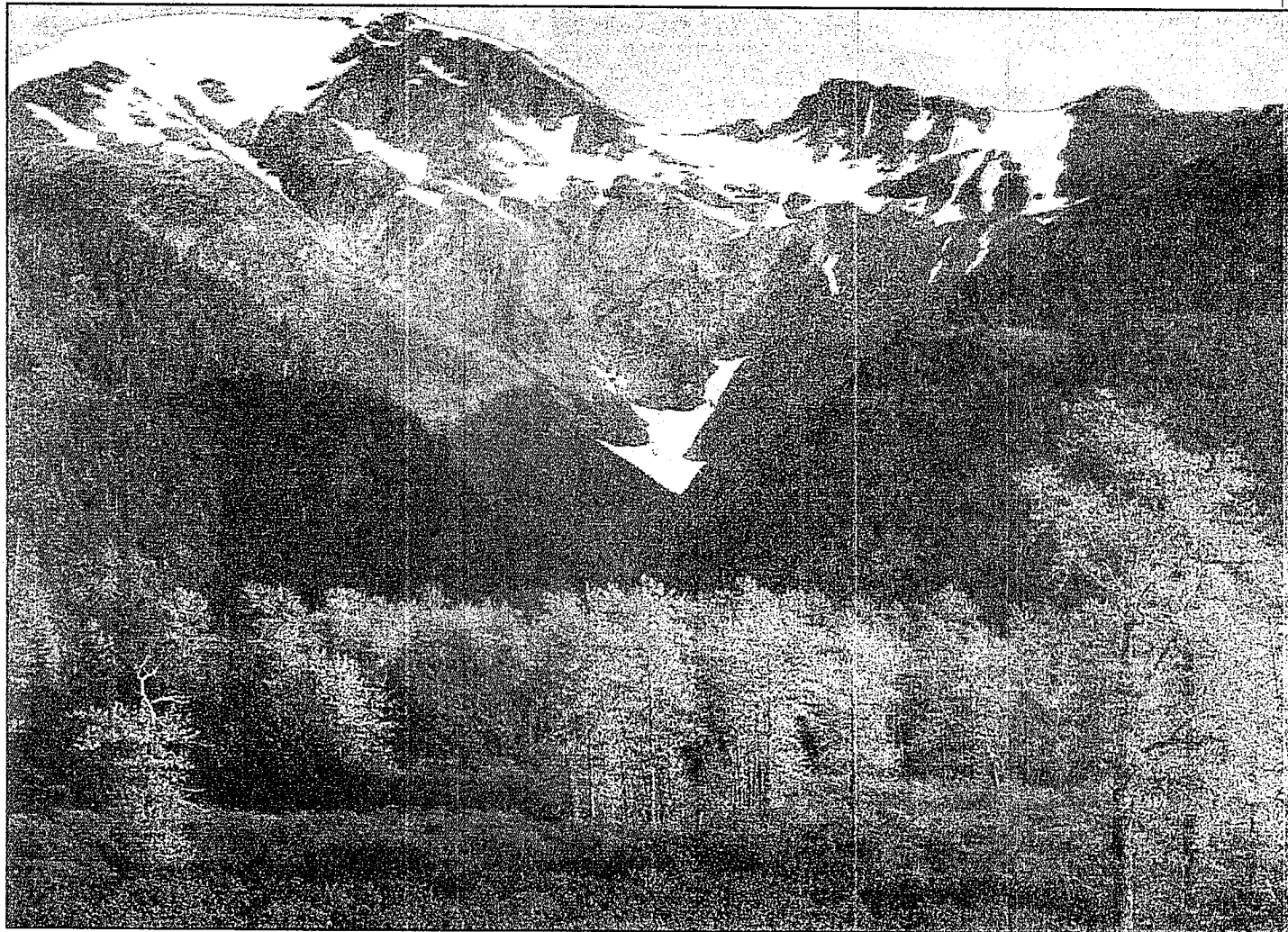
During operation of the mine and perhaps for decades to come, the quality of the water in the impoundment will not meet human drinking water standards or more stringent standards designed to protect wildlife.

Echo Bay is asking regulators to classify the two and a half mile long polluted lake as a "treatment facility," which would allow the company to ignore the standards.

People accustomed to quenching their thirst with water from the valley's presently crystal clear streams could be educated to avoid the mine's polluted water. But wildlife *will* drink from the impoundment, with potentially harmful results. Heavy metals are known to cause severe deformities, reproductive problems, cancer and death. Another danger is the possibility that cyanide concentrations in the impoundment will reach lethal concentrations as has happened time and again at mines in the lower 48 states. *Only seven drops of cyanide solution is enough to kill a 150 pound person. Echo Bay will use 18 tons of cyanide every day to dissolve gold from the ore.* They hope to keep the cyanide at safe levels by chemically neutralizing the bulk of it before it reaches Sheep Creek Valley. If their cyanide- destruct system doesn't work as well as hoped, or if it fails completely, the consequences could be deadly.

Because of the reservoir's immense size, there are currently no plans to put up fencing and netting to keep birds and other animals away from the polluted water, as is required at gold mines in other states.

The EIS points out that Dolly Varden populations in upper Sheep Creek will be



Sheep Creek Valley

Slurried tailings deep enough to submerge a 25-story building would flood 2.5 mile long Sheep Creek Valley if the AJ Mine proceeds as proposed. Deposited behind a 345-foot dam, the ingredients of finely crushed rock, toxic heavy metals and chemicals, including cyanide, would violate water quality standards.

eliminated when the Valley is inundated with tailings. Fish would not be able to live in the impoundment during the expected 13-year life of the mine. Beyond that, "It will take from 10 years to as much as 30 years for concentrations of metals in the impoundment to subside to freshwater quality standard levels after the tailings discharge is stopped," according to the CBJ Recommendation Document for the AJ Mine Large Mine Permit. Official comments from the Environmental Protection Agency and the Alaska Department of Fish and Game warn that the quality of the impoundment waters may never return to acceptable standards.

More than 40 million gallons of the wastewater, carrying thousands of tons of tailings particulates, will flow into Gastineau Channel every day.

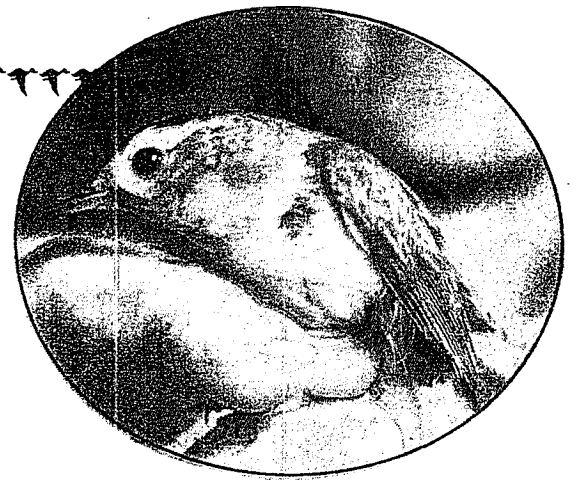
Echo Bay is hoping to circumvent marine water quality standards by applying for a permit to use a portion of Gastineau Channel as a legalized area of pollution called a "mixing zone." Beyond its borders the effluent would theoretically be diluted to meet water quality criteria. This mixing zone would be located adjacent to Sheep Creek Delta.

A study recently released by the U.S. Fish and Wildlife Service shows that sediments on the floor of the channel already have high concentrations of lead, arsenic, mercury and zinc, and that these contaminants have found their way into the tissues of, shrimp, mussels, cockles and several species of resident bottomfish. Past mining activity along the shore has been cited as the source of the majority of the pollutants.

No crabs were caught during testing, and migratory fish such as halibut and salmon were purposely excluded from the sampling because it would be impossible to attribute contaminants found in them to a specific area.

The study points out that the concentrations of metals discovered do not currently present a severe problem, but do indicate a stressed system that could be worsened with additional input of metals.

Concerns that tailings sediments will settle to the floor of the channel and accumulate, both within and far beyond the mixing zone, contaminating marine life and ultimately threatening human health, have been heightened by the Fish and Wildlife Study, which warns that any proposal to add metals to the channel through permitted effluent should be carefully considered.



Wilson's warbler, one of 47 species of birds found in Sheep Creek Valley

What have we got to lose?

Gastineau Channel

Gastineau Channel produces approximately 29 percent of the Dungeness and 65 percent of the tanner crab harvested for personal use by Juneau residents, according to the Alaska Department of Fish and Game. In addition, 67 percent of the total Juneau roadside sport harvest of pink salmon and 89 percent of the total chum salmon harvest occurs at the mouth of Sheep Creek.

Other important fishery resources listed by the National Marine Fisheries Service, include halibut, herring, walleye pollock, cod, eulachon, and several species of salmon. The agency also states that, "The shallow near-shore waters are important for juvenile salmon as a feeding and migration corridor."

An ADF&G letter gives a more detailed description of the channel's ecosystem; "Harbor seals are common in the channel year round, while humpback whales and Steller's sea lions are most often seen in late winter or early spring, probably feeding on overwintering concentrations of juvenile herring. Harbor porpoise are common in summer. Though herring have not spawned in Gastineau Channel in recent years, large schools of overwintering juveniles have been documented from the Juneau-Douglas bridge, southward to the mouth of the channel. These concentrations probably account for the presence of many herring predators in winter and early spring, including cormorants, mergansers, king salmon and harbor seals."

Sheep Creek Valley

The flat floor of Sheep Creek Valley, with its cottonwood forest and crystal clear creek, provides one of the most accessible and rewarding hikes in the Juneau area with some of the best opportunities for viewing wildlife and fall colors.

With one-quarter of all cottonwood trees in the Juneau area, the valley is especially important for migratory songbirds. Forty-seven species of birds have been documented in the valley. The populations of five of the species are declining in Alaska and biologists are concerned about the populations of 17 other species because of habitat loss in their wintering areas near the tropics.

Wolves that roam the edge of the Juneau Icefield, drop down into the valley to hunt the valley's plentiful supply of marmot.

Other inhabitants of the valley include, deer, black bear, mink, martin, lynx, wolverine, porcupine, squirrel, mountain goat, and river otter.

There is a healthy population of Dolly Varden in the valley. This group is landlocked above the cascades that separate the valley from Sheep Creek delta. But individuals are sometimes swept out to Gastineau Channel where they help replenish marine stocks. ♪

Some of the best opportunities for viewing wildlife and fall colors in the Juneau area will be lost forever if the Sheep Creek Valley is flooded for use as a tailings dump for the mine.



Anglers enjoy hot fishing in Gastineau Channel at the mouth of Sheep Creek.

Agency Comments

"It is very possible that mixing of the water column will maintain tailings particles throughout the reservoir into the indefinite future, and no fish, wildlife or recreation values will be recovered from the reservoir."

U.S. Environmental Protection Agency - Region 10

"Tailings pond water quality after mining may or may not be capable of supporting fish, and affects upon birds and mammals that may regularly drink from the impoundment are not examined fully."

Alaska Dept. of Fish and Game, Habitat Division

"We are concerned that Gastineau Channel fish and wildlife habitats and their dependent human uses may not be adequately protected by the currently proposed mixing zone."

Alaska Dept. of Fish and Game, Habitat Division

CAN THE AJ MINE BE STOPPED?

Yes.

*A message from
Alaskans for Juneau*

WHAT YOU CAN DO:

THE AJ MINE would be so destructive and polluting that we believe federal regulators will find the project unacceptable. The proposed mine would:

- Impair our drinking water supply
- Pollute our air
- Discharge toxic heavy metals and cyanide into the rich marine waters of Gastineau Channel
- Create a 2½ mile long polluted lake with no method to protect wildlife
- Destroy 450 acres of important wildlife habitat including a crystal clear mountain stream with a healthy Dolly Varden population
- Threaten a water supply critical to a salmon hatchery and natural salmon spawning habitat
- Flood one popular outdoor recreation area with tailings and create huge open pits at another

The issues outlined above and others will be expensive if not impossible to resolve. There are indications that this project is financially marginal. Echo Bay's steadfast refusal to use the less environmentally damaging, but somewhat more expensive Icy Gulch tailings disposal site is a sign that the company might not be financially able to develop the mine in an environmentally sound manner.

Echo Bay still has to obtain many state and federal permits, and has to prove that the mine can operate within the many conditions placed upon it in the CBJ Large Mine Permit.

The Clinton administration has made a commitment to protect the environment. The U.S. Environmental Protection Agency is bound to take a much harder stand than in the past. In the months to come Alaskans for Juneau will work to insure that the EPA and other agencies are fully informed about AJ issues.

We are convinced that this mine's destruction and pollution will violate state and federal regulations. As a result, development of the mine will be technically or financially impossible.

THE MORE PEOPLE THAT SPEAK OUT, the more powerful our collective voice becomes. You can add your support for a clean, healthy future for Juneau by doing any combination of the following: ■ Send a message to the Environmental Protection Agency. ■ Join Alaskans for Juneau. ■ Give financial support. ■ Volunteer your talents and expertise. Mail the appropriate coupon(s) today. Together we do make a difference!

Dear Alaskans for Juneau,

Thanks for representing my views on the AJ Mine. Here is my tax deductible contribution of:

- \$500 \$250 \$100
 \$50 \$25 other _____

Register my contribution as a:

- New member donation
 Renewal Special donation

I can volunteer my time and talents
Please give me a call!

Keep me informed! Send me newsletters and action alerts

I sent my message to EPA!

Name _____

Address _____

City _____ State _____ Zip _____

Phone (optional) (home) _____

(work) _____

Clip and send to: **Alaskans for Juneau**,
P.O. Box 22428 Juneau, Alaska, 99801,
Phone 463-5065

Dear Environmental Protection Agency,

The AJ Mine as currently proposed is unacceptable because it would:

- Impair our drinking water supply
- Pollute our air
- Discharge toxic heavy metals and cyanide into the rich marine waters of Gastineau Channel
- Create a 2½ mile long polluted lake with no method to protect wildlife
- Destroy 450 acres of important wildlife habitat including a crystal clear mountain stream with a healthy Dolly Varden population
- Threaten a water supply critical to a salmon hatchery and natural salmon spawning habitat
- Flood one popular outdoor recreation area with tailings and create huge open pits at another

Mining has caused extensive damage in the western states. Please don't let the same mistakes happen in Juneau.

Sincerely,
Signature _____

Printed Name _____

Address (please print) _____

City _____ State _____ Zip _____

Clip and send to: **U.S. Environmental Protection Agency**, Region 10, 1200 Sixth Avenue, Seattle, Washington 98101,
Attn: Charles Findley, Director, Water Division. (Or you can send it to AFJ with your membership and we will forward it to EPA for you.)