

AJ Mine Advisory Committee

Report to the City & Borough Assembly

May 2, 2011



Transmittal Letter

To: Mayor Botelho and Assembly Members
From: Donna Pierce, AJ Mine Advisory Committee Chair
Re: Transmittal of Committee Report
Date: May 16, 2011

It is with pleasure that I submit to you the final report of the AJ Mine Advisory Committee. The conditions you have before you are the result of collaborative effort by the committee members on 14 substantive topics. I commend the committee members for their hard work and their willingness to try to find common ground. The short timeframe and the complexity of the question required us to scope the issues quickly and stay focused, which necessarily left some questions and topics untouched.

The diversity of views is expressed in individual committee comments in the report, areas where a member felt the language didn't go far enough, or on the contrary, where it might prove to be too restrictive. The report also contains a summary of information the Committee gathered in the course of our work which we believe the Assembly will find helpful. In addition the AJMAC website contains a wealth of information.

Committee Process

Mayor Bruce Botelho appointed the AJ Mine Advisory Committee on February 1, 2011 and asked us to complete our task by May 1. We were charged with the question: *Under what circumstances, if any, should the CBJ pursue the development of the AJ Mine?* The Committee held 7 meetings, including one public hearing attended by 100 members of the public, with about 50 testifying. We spent considerable time gathering a variety of information, much of it provided by Rorie Watt, CBJ Engineering Director, who was Staff Liaison. A number of guest presenters provided additional perspectives and specialized expertise.

The key to the Committee's approach was a mine study authored in part by Committee member Sam Smith. This study allowed us to examine with some specificity how a mine producing about 3,500 tons per day would operate and how its operations might affect the community. We deliberated on the operational conditions that members believed were most important to the community in an effort to find collaboration. A subcommittee addressed the economic aspects of such an operation. The Committee's analysis and commentary is based on a mine producing 3,500 tons per day and are not applicable to a larger mine scenario.

Rorie Watt's contribution to the Committee's work cannot be overstated. His expertise, initiative, enthusiasm for the task, and even-handed approach have been exemplary. He has done a stellar job and the Committee is grateful to him.

We hope our work will prove valuable to the Assembly and to Juneau as a whole, and we appreciate this opportunity to serve our community.

AJ Mine Advisory Committee Final Report

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Overview

Going Forward From Here

Committee members do not represent constituencies, but do represent a cross section of community backgrounds and viewpoints. Our collaborative efforts perhaps serve to give the Assembly a picture of what this process might look like from here to the end of permitting--both the array of community issues and the possibilities for the AJ. There is common ground in this report that the Assembly can build from—in that regard, it is useful to distinguish between the underlying interests (where there is much agreement) and views about how those interests might best be served (where there is much difference of opinion.) For example, everyone agrees the community must have a continuous, safe water supply; the best way to guarantee it is subject to debate and further study.

If the Assembly chooses to proceed, it will have a dual focus—to effectively address community concerns, while designing a process that is workable for a mining company. If the enterprise is to be successful it will require the active cooperation of the Borough in permitting, obtaining surface rights for access, and facilitating storage of civil construction rock to be sold to the public.

The Committee is aware that it is easy to be too prescriptive. A more prescriptive approach will be more comfortable and reassuring for many citizens; yet these are very early days to assume that the best solutions are apparent. The less prescriptive, the more likely the project will be attractive to potential lessees.

Many have pointed out that the Assembly has two roles. It is, on behalf of the community, an owner with a fiduciary duty to promote and solicit a business partner, as outlined in the Unitization Agreement. It is also the regulator, via the Planning Commission, with a duty to address an array of environmental requirements and community issues ranging from public health to quality of life. Some believe that this sets up a conflict of interest; others that it is simply an instance of the multi-faceted role of government at all levels. It would be helpful if early for the Assembly to articulate its own views on these points.

Public Process: Build From Common Ground

It is clear from public comment that the lengthy, corrosive debate in the 80's and 90's damaged the fabric of our civic life. It was hard on everyone-- but it could and should happen differently this time. The AJMAC's circumstances were developed collaboratively, although they are far short of the whole story. The Assembly has the opportunity to take the common ground identified here and build from it.

Where and how these conditions are implemented, whether in the lease, during the permit process or in some other manner (or at all) must still be worked out. It must be determined where it is necessary to prescribe, what might best be addressed in a lease document as the owner, and what is best left to a mine plan and the permitting process.

The public process is yet to be determined; there is diverse opinion on the public's degree of involvement. There is a significant concern about how conditions that the community may find acceptable at the beginning of this process could develop and change over the life of a mine, and the ongoing ability of the community to have a strong voice in how those changes would affect them.

While finding solutions to these questions and issues is a large undertaking involving many, the bitter divisiveness of the previous debate will be less likely to take hold if we as a community keep returning to our underlying common interests.

Assembly Process

If it chooses to go forward, the Assembly will have to decide what its own bottom line requirements are, without which it is not willing to proceed. We urge the Assembly to take its time to thoroughly explore these questions in conjunction with a well designed public process. The Assembly should investigate and pursue options that afford citizens substantial assurance that their interests are being represented. The timeline for the development of a mine is long, measured in years, sometimes in decades. The Assembly, unlike this Committee, is a representative body and should build cohesive and enduring agreements among its members prior to undertaking major steps in mine development. It is critical that an inclusive process be developed to carry forward the consideration of the AJ mine.

For the CBJ to realize value from the AJ it will need to attract a mining firm. Such a firm will only be interested in economically viable opportunities. In the case of the AJ, the discussion could include CBJ incentives, the City acting as a cooperative partner, and the ability to design and operate a profitable mine while meeting the intent of the recommendations.

This report consists of a series of Committee recommendations, individual Committee member recommendations and comments, and informational sections. The report is backed by a great deal of information on the AJMAC website. While it may be tempting to jump to the task list in the report, we strongly encourage Assembly members to become thoroughly familiar with the entirety of the report, and to review the information available on the website.

Should the Assembly decide to pursue the development of the AJ, the many issues before the body will include the consideration of the Large Mine Ordinance, the Unitization Agreement, drafting of a mine lease document, and the solicitation and selection of a mining company.

We are encouraged by the Committee's ability to find a degree of agreement and progress while working on the subject of the AJ Mine, but it did not come easily. It is the result of sustained diligent efforts. To be successful for the community, the same sustained diligence will be required from this and future Assemblies for years to come.

Donna Pierce

Donna Pierce, Chair

Kurt Fredriksson

Kurt Fredriksson, Vice Chair

Frank Bergstrom

Frank Bergstrom

I OPPOSE DEVELOPMENT OF THE
AT MINE.
Laurie Ferguson Craig

Laurie Ferguson Craig

Gregg Erickson (Dissent)

Gregg Erickson

Maria Gladziszewski

Maria Gladziszewski

Sam Smith

Sam Smith

Introduction

Some CBJ residents offer a simple answer to the question of developing the AJ mine: the environmental, social and economic costs are so great that under no circumstance should the borough promote any sort of industrial mining in the AJ unit.

At the opposite end of the political spectrum, others argue that the economic benefits of mining the AJ are so self-evident, and that the environmental impacts of a mine could be satisfactorily eliminated or mitigated and therefore the CBJ should do everything possible to encourage development of the mine.

Our view is different. Our view is, "it depends." Whether and under what circumstances the CBJ should promote AJ development depends on what kind of mine is being considered.

A reincarnation of the 15,000 to 22,000 ton-per-day mining plans as promoted by Echo Bay in the 1990s, with tailings impounded behind a dam in Sheep Creek, is not the mine the mayor had in mind when he asked us to address his question. At our first meeting Mayor Botelho made it clear that the impetus for establishing the AJMAC was based on a much smaller mine.

The committee's report and recommendations are based on the assumption that a modern incarnation of the AJ mine would have several key features including the requirements to dispose of tailings underground, to build and operate an underground mill, and to require construction of a new access that minimizes disruption to the community.

This report contains Committee recommendations as well as informational sections. In discussing the AJ it is important to understand the specifics of the geography of the ore body, the drinking water system and the mine drainage systems. Drawings of those features are included in the appendices as is a possible sequence of events.

We hope that this report and the information that we have gathered will be of great assistance to the Assembly as it discusses the possibility of the development of the AJ Mine.

Committee Recommendations

Tailings Disposal

Objective: Eliminate community and federal regulatory objections to surface tailings disposal issues.

The Circumstance: All processed mine tailings must be disposed underground within the voids created by past and future mining in a manner that preserves long term development of the mine.

Comment: Surface or submarine tailings disposal are not considered viable options.

Mine Access

Objective: Minimize disturbance caused by industrial access to the mine.

The Circumstance: Require a new access adit below the elevation of the Gold Creek Drainage Tunnel that avoids Sheep Creek, Last Chance Basin and business and residential areas.

Recommendation: The CBJ should secure land for possible use by the mine developer for a surface facility and portal to access the underground workings of the AJ.

Comments: Due to poor vehicular access, the Gold Creek Adit, Ebner Adit and the Sheep Creek Adit are not suitable as primary access points for the AJ. Thane Road itself is not suitable for heavy truck traffic. A new adit to the mine would provide good year round access to underground workings, an underground mill, and would allow for maximum protection of the Gold Creek watershed. Use of the Sheep Creek Adit will be required for exploration work and for secondary egress from the mine. Because use of the Sheep Creek adit will be required for exploration and secondary egress, measures should be established to protect Sheep Creek valley and Thane properties.

Milling/Crushing

Objective: Minimize surface disturbance footprint, and noise, light, and visual impacts.

The Circumstance: All sorting, crushing, grinding, gravity concentration, flotation, dewatering and filtration activities must be conducted underground. Cyanide may not be used. Concentrates must be shipped off-site for smelting and refining.

Comment: An underground mill would substantially mitigate noise, access, and supply issues. A mill constructed on the sea-level adit would functionally prohibit mill chemicals or tailings from affecting the drinking water system.

Mine Development

Objective: Prohibit surface caving caused by new mining activities. Ensure that mining activities do not harm the drinking water system.

The Circumstance: Mine operation shall not plan for caving. Consider financial penalties for surface caving caused by new mining operations. Require any exploration or mining above the elevation of the drain tunnel to undergo rigorous oversight and frequent sampling.

Comments: Surface caving would increase long term volumes of water that would flow through the mine, could affect the recreational and scenic value of Perseverance Trail. Mine developer should work with the CBJ to stabilize and improve mine drainage systems.

Drinking Water System

Objective: Assign protection of the Gold Creek water system the highest priority.

The Circumstance: Quality of water provided by the AJ mine drainage tunnel to Gold Creek must meet water quality standards. Require frequent, unannounced monitoring of water quantity and quality by CBJ Water Division staff or, if necessary for public confidence, an independent party. CBJ and the Mine Operator must jointly prepare, maintain and implement a specific contingency plan to assure the community has a continuous safe water supply. Mine Operator must provide specific financial warranty to insure against harm to the drinking water system, catastrophic or otherwise. Additionally, ensure no reduction of water quantity and quality to Thane residents' wells as a result of mining activity.

Recommendation: CBJ should develop a strong relationship between the Water Utility and the Mine Operator. Even if the mine is not developed, The drainage tunnel should be renovated to reduce the risk of future tunnel failures or drainage upsets that would adversely impact the existing discharge to Gold Creek.

The City should make diligent efforts to increase common knowledge about the drinking water and AJ mine drainage systems, at a minimum to include information on the CBJ web page provided by the Water Utility and periodic consumer confidence reports.

Prior to proceeding with mine development, the City should comprehensively analyze a variety of water supply and mine development scenarios. This analysis should study the current risks to the drinking water system, possible improvements or expansions to the water supply, analysis of capital and O&M costs, the availability of State, federal, or other public and private funds, the benefits to the community for future growth, and the effects of these various scenarios on mine development.

Comments: A new access tunnel from the rock dump area to the ore body **may** allow for the provision of sufficient underground mine drainage control systems to protect Gold Creek water quantity and quality. Preservation of water quality in the drain tunnel is always paramount. However, preservation of quantity is only important during low flow periods, periods when both AEL&P and CBJ are maximizing use of their respective water rights, and when Salmon Creek is off line. The scope and purpose of the contingency plan should be commensurate with the risk posed to the Gold Creek water supply by a future mine development as well as natural risks.

Wastewater Treatment/Mine Discharge

Objective: Ensure that all mine wastewater is collected, treated and discharged in compliance with State water quality standards. Ensure long-term mine discharge water quality.

The Circumstance: Require outfall of any treated mill wastewater via a new access adit below the elevation of Last Chance Basin.

Comment: While the mine drainage system is extensive, it is not complicated. Currently, rain and surface water flow into the glory hole and through other surface penetrations into the mine. Through a series of underground ditches, chutes and small tunnels, the water is directed to the Gold Creek drain tunnel and then discharged to Gold Creek above the Last

Chance Basin drinking water well field. In order to afford maximum protection of the quality of the water in the drain tunnel, a mine operator will need some flexibility on mine drainage routing.

Economics

Objective: Develop the AJ to provide annual positive revenues to the CBJ treasury, provide stable local employment opportunities, and reduce the existing liabilities associated with discharge from the drain tunnel and from permit compliance.

The Circumstance: Structure royalty and lease payments to maximize return to CBJ while providing sufficient incentive to attract investment capital necessary to develop the AJ mine. Base the royalty payments on net smelter returns, with a progressive revenue structure.

Comment: Consider lease and royalty provisions established in recent years at other Alaska mines. Support connections between mine and local businesses to promote mining company business for the supply of services and equipment.

Sustainability/Energy

Objective: Maximize the use of renewable energy, promote development of hydro facilities that have long term benefits for the community, promote steady mine operations and employment opportunities.

The Circumstance: Require advance planning to consider renewable energy sources.

Comments: At a minimum, a mine operator will require stand-by power generation facilities. Use of hydro energy or other renewable energy sources should be strongly encouraged. The AJ mine was historically famous for engineering efficiency and the development of energy production. Efforts to continue that innovation should be supported. Consider lease provisions that provide an incentive for a mine operator to maintain a stable workforce. It should be noted that the "Small Mine Concept" studied by Echo Bay includes milling of only 57% of the rock mined, which by itself results in a major saving in energy. Grinding of rock consumes by far the largest portion of energy used in a mining operation. If all of the rock were processed in the mill, power consumption would be 30 to 35% greater than the quantity proposed in the Echo Bay study.

Traffic

Objective: Minimize surface transportation disturbance to downtown and other areas of the Borough.

The Circumstance: Once a mine is operational, prohibit the use of Thane Road south of the rock dumps for all but secondary access to and from the Sheep Creek adit.

Comments: Most traffic issues are best suited to be managed through the CBJ permitting process. Recommend bus transport for employees. Stockpiling, sale and distribution of construction rock must be considered in the planning process and has the potential to be a difficult issue.

Noise/Light

Objective: Noise and light pollution shall be minimized.

The Circumstance: Require construction and operation of underground mill. Require a baseline noise study prior to exploration activity. The study should include modeling to predict impacts to downtown, Douglas and Thane neighborhoods.

Comments: During initial development of a sea-level access, there would be more surface activity than would take place following commissioning of an underground mill. Noise from an electrical generating plant at the mine access area can be mitigated with insulation and advanced technology mufflers. Noise management from the stacking of waste rock and loading rock on to barges has the potential to be problematic and must be addressed in the permitting process. Recommend consideration of the use of conveyors to minimize noise impacts. Noise and Light issues are best suited to be managed through the CBJ permitting process

Local/Regional Hire

Objective: Maximize local and regional employment opportunities.

Recommendation: Encourage local hire provisions, encourage participation in UAS mine training programs.

Comments: Support UAS mine training and vocational training programs at Juneau School District and other Southeast Alaska community schools. Support Juneau as a regional mining center.

Surface Storage, Use, and Export of Sorted Mine Rock

Objective: Recover the economic and civil works value of sorted rock to the CBJ and other Southeast Alaska communities and minimize noise disturbance and impacts to surface transportation.

Recommendation: Contain in lease a negotiated low cost rock price for use on public projects.

Comments: Mined rock that is sorted and not crushed or ground for milling may be transported to the surface and stored at the existing rock dump area for local use or export. If a significant portion of the mined ore is not rejected before processing, it is unlikely that sufficient volume would be available in open stopes to accommodate the mill tailings. Availability of low cost rock will have a positive effect on the cost of local construction.

Recreation/Tourism/Sheep Creek Valley

Objective: Preserve recreational and scenic values, support tourism component in the mine.

The Circumstance: Prohibit tailings disposal and significant waste rock storage in Sheep Creek valley. Other than use of the Ebner Adit as a secondary access, prohibit surface activities in Gold Creek watershed.

Comments: Encourage mining company to provide some type of tourist facility at the mine site such as an underground tour of the mill, promote history of mining in Juneau area. Conservation measures for Sheep Creek have been proposed. Any measure considered should acknowledge that Sheep Creek is important as an access for exploration and as a secondary mine egress. Sheep Creek currently hosts tourism operations and may in the future be a candidate for a drinking water well field.

Public Process/Promotion of the Mine

Objective: Establish a clear and transparent process for voicing the community's position on whether and how the AJ mine is developed now and over time. Avoid the bitter divisiveness that has characterized previous debates on these issues.

Recommendation: To pursue development of the AJ, the CBJ must identify, develop and fund resources for this task. These efforts will include the identification and funding of dedicated professional staff, contracting for technical and legal expertise, and the development of knowledge and expertise on the Assembly itself.

Given the location and nature of the mine, CBJ should take exceptional measures to monitor and assure compliance with lease and permit conditions and to keep open lines of communication between the CBJ, other government regulatory agencies, citizens and the mine operator.

The Assembly should investigate and pursue options that afford citizens substantial assurance that their interests are being represented. The Assembly should build cohesive and enduring agreements amongst its members prior to undertaking major steps in mine development (RFP issuance, leasing, mining company selection, etc). It is critical that an inclusive process be developed to carry forward the consideration of the AJ mine.

The CBJ Assembly should form a standing advisory AJ Development subcommittee that includes members of the Assembly, the Planning Commission and knowledgeable public members appropriate to the task.

Individual Committee Member Comments

Immediate Construction of an Alternate Water Supply Is Not Warranted

Date: May 10, 2011

All members of the AJ Mine Advisory Committee agreed that the Juneau Assembly should “assign protection of the Gold Creek water system the highest priority.” Two members, however, were adamant that an alternate water supply capable of serving the entire borough be constructed and operational prior to any activity on a possible reopening of the AJ Mine. The committee’s failure to adopt this proposal led the two members to oppose moving forward with the AJ mine. We believe it is premature to mandate development of an alternative water supply.

The Committee’s very preliminary examination of the AJ mine was not an in-depth comprehensive review of possible impacts to Gold Creek and did not provide the Committee or the community with sufficient information to justify the need for construction of an alternate water supply. Simply stated, we do not fully understand risks facing the Gold Creek water supply with or without a mine, and have nothing to show that constructing a new separate water system is the only workable solution, or the best solution. We know little about the actual risks to Gold Creek, and know even less about what an alternate water supply entails, how it would be funded, and or the cost/benefit of such a proposal. Taking such a step at this time would also place the entire financial cost on the community.

Currently, the need for an alternate water supply is entirely speculative and meant to assuage fears. We believe the citizens of Juneau are fully capable of developing an informed opinion based on the science and facts of the Gold Creek water supply with or without future mine development. The citizens of Juneau through their elected officials are collectively capable of weighing costs and benefits, deciding on necessary protections, and acting upon that decision. That in fact is our public process and we cannot support leaping over it to reach a conclusion with so little information. We support the adopted language in the final Committee recommendations to complete the analysis necessary to determine the risks to the Gold Creek water system and develop solutions that are commensurate with that risk.

Donna Pierce
Kurt Fredriksson
Maria Gladziszewski

Memorandum

To: AJMAC

From: Frank Bergstrom

CC: None

Date: May 10, 2011

Re: Individual Comments on AJMAC Final Report

As a member of the Mayor's AJ Mine Advisory Committee (AJMAC), I offer the following individual comments to be appended to the group report.

Juneau needs jobs, good high paying year round jobs to grow its economy and support young families. The AJ mine could help provide those jobs. Unfortunately, the Mayor's AJMAC report offers little hope those jobs would be realized. However, jobs and the associated economic activity and royalties could be realized under the right circumstances and without adverse environmental or social impacts.

AJMAC Charge

The committee's charge was to consider circumstances under which the AJ Mine should be promoted. The term promote means to help or encourage to exist or flourish; and in this case, it means attracting a buyer for the majority of the resource. The AJMAC considered that the project would be promoted to a junior or major mining firm, which would raise significant funds and prepare an NI 43-101 resource estimate, feasibility report(s), and ultimately construction. A lease-option would be required to attract such investment. That is, the CBJ would sell the majority of its ownership and retain a royalty interest.

Circumstance

An effort to encourage a developer to invest the necessary funds might be accomplished if Juneau demonstrates its willingness to provide sufficient incentives. Such could include

- The Assembly wants the AJ to happen.
- The Assembly would augment the water supply such that the Last Chance Basin source could be offline as circumstances dictate.
- The Assembly would be a good partner and work cooperatively to permit a workable operation.
- The Assembly would acquire a land position on or near the rock dump for a potential surface facility
- The Assembly would modify the Mining Ordinance such that all large mines are permitted by the Kensington model. There is no remaining reason to predicate the AJ on payments implicit in the socio-economic impact mitigation provisions.

Discussion

The AJMAC report lists a variety of circumstances that constitute permit conditions. This is premature. Please consider these circumstances as permit issues to be considered at the appropriate time. But now – early in the process – Juneau must provide sufficient incentive for a firm to invest large amounts of time and money before the AJ can be scoped into a potentially viable project.

The AJMAC contemplated a project of roughly 3500 tons/day mine production and underground milling and tailings disposal. This is based on an excellent but dated study by Echo Bay Mines. However, it will require a multi-million dollar analysis to determine the economics of such a project and the validity of the concept, and a developer would desire some flexibility in project design requisite to a reasonable probability of success.

The most obvious issue to be resolved is the city water supply. It would be a disincentive to place the burden of solving a known and recognized issue on the shoulders of the developer. The AJMAC report suggests the CBJ should conduct a study of water supply fixes to ensure a workable system should the AJ be developed. There are mechanisms to solve this issue – it is entirely a technical fix – but if the CBJ chooses to place the burden on a developer it would be a disincentive and could likely dissuade interest.

Conclusion

The city would be selling much of its interest through a lease-option agreement; that is, the mining firm would not be a “contractor”, it would become an owner, and the CBJ would retain a royalty; such as, a net smelter return. Under no circumstances could the CBJ retain its entire ownership stake. It must dilute its interest in exchange for the large investment required. Mining is a global business and capital flows to the most profitable projects consistent with a company’s operating strategy. The Assembly would greatly improve the odds of attracting a reputable firm and the necessary investment if the circumstances and incentives listed above are implemented.

Laurie Ferguson Craig
PO Box 33306
Juneau, AK 99803
lauriecraig@gmail.com

May 5, 2011

The Honorable Bruce Botelho, Mayor
City and Borough of Juneau
155 S. Franklin Street
Juneau, AK 99801

Dear Mayor Botelho and Assembly members,

As a member of the AJ Mine Advisory Committee, I thank you for the opportunity to serve our community in this capacity. All members have worked diligently for the past three months to craft the best circumstances to guide development of the AJ should the city decide to pursue reopening the mine. My compliments go to CBJ Engineering staff Rorie Watt and his colleagues for their work for the committee, to committee chair Donna Pierce, and fellow committee members.

There are some reasonable guidelines in the report but they are inadequate to protect the city's most vital resource: its drinking water supply in Last Chance Basin. History tells us that Gold Creek is vulnerable to activities inside the mine. (Please review my *My Turn* editorial in the packet. It was published in the Juneau Empire on April 20, 2011.) Without a fully functional alternate public drinking water supply in place prior to mining, the city should not permit mining to occur. In particular, the city should be wary of how *exploration* activities will impact the water supply. We still are not protected from exploration incidents. That was the phase of mining which was responsible for allegations of "dumping at night to avoid detection" in the 1990s by Echo Bay. Both federal and state government investigators found fault with the mining company after the 1994 fish kill in Gold Creek.

Because the lessons of Echo Bay's 1990s mining activity should not be forgotten, I have submitted reference documents which I recommend reviewing as you make your decision about reopening the mine. The extensive list of newspaper articles and letters to the editor reveal the essence of the 1990s debate. I have the articles if anyone wishes to see them. Additionally, I have submitted to the city's AJMAC web site the December, 1994 State of Alaska consent decree with Echo Bay and the financial penalty for pollution of Gold Creek. You can also find the September, 1996 Alaska Supreme Court ruling that voided the city's large mine permit which was approved without a plan for tailings disposal. More significantly, I have submitted three packets of documents from FBI investigators delineating exploration problems. These reports and interviews were obtained through Freedom of Information Act requests.

A new AJ would not receive the same analysis performed in the 1990s. That is because the state -- instead of the federal government -- controls water quality. During Echo Bay's proposal, the U.S. Environmental Protection Agency held that responsibility. The agency's many experts helped us understand what was at risk. Moreover, the cumulative impacts were outlined as directed by the National Environmental Policy Act. That essential NEPA process is not mandated under state law.

I was reluctant to serve on this committee because of memories of the serious community divisiveness that occurred with Echo Bay's 1990s mine proposal. During that time I scrutinized the project while serving as issues coordinator for citizens' group Alaskans for Juneau. In remembering those years, many people have commented about the distrust and animosity created by the AJ proposal. People fear a new AJ will again split our citizenry into pro-mine and anti-mine factions, pit neighbor against neighbor, and tear the community apart. While many people are not opposed to mining the location of the AJ makes it unacceptable to them.

The AJ is still a poor low-grade orebody directly connected to the municipal water supply, adjacent to the bustling downtown business and tourism district, next to residential neighborhoods, under close scrutiny of skeptical citizens, near an avalanche zone, and beside popular recreation and fishing areas. It is not worth risking these important community assets to bolster the orebody's weak value.

Through our AJMAC review, the importance of preserving and protecting the municipal drinking water supply has been the key concern. Public testimony overwhelmingly supported such efforts. There is more to learn. In the interim we need to devote effort to maintaining mine tunnels, water quality and water quantity regardless of mine development. My most vital point to the assembly is that if the city chooses to pursue mine development, an alternative water supply should be standing by and ready to operate in case a problem occurs. Without the threat of mine activity, Juneau citizens should not be burdened with the expense of a complete operational backup system at this time. That should be a condition of mine development because that is the true source of the threat to Gold Creek's wells. This protection was rejected by the AJMAC.

Despite the effort of our committee to create guidelines for the assembly, in the end I cannot agree to approve the mine's reopening. What we could lose is not worth the meagre gain.

Respectfully,

/s/

Laurie Ferguson Craig, Member
AJ Mine Advisory Committee
Former Alaskans for Juneau Issues Coordinator

May 10, 2011

DISSENTING REPORT

by

Gregg Erickson

Summary

I dissent from the majority report not because I oppose AJ development. To the contrary. I believe the potential benefits of AJ development to Juneau are much greater than the jobs it would create or the contribution it would make to diversify Juneau's economy.

To leverage those benefits Juneau must attract over \$100 million in risk capital from investors in mining exploration. Yet mining development will increase the risks to the already problematic municipal water supply from the well field in Last Chance Basin. This risk has engendered intense public opposition to the AJ proposal.

If Juneau wishes to seek the benefits of AJ development – and I believe it should – then the borough assembly needs to do two things. It must—

- 1) send the right signal to potential developers that the assembly is ready *and able* to be a long-term supportive partner in AJ development, and
- 2) set aside the fierce opposition of many Juneau voters who deeply fear for the security of our water.

To achieve these twin goals the City and Borough of Juneau should develop an alternative water supply. As Alaska Dept. of Natural Resources reports and other information in the record of the AJ Mine Advisory Committee (AJMAC) makes clear, Juneau needs an alternative water supply regardless of AJ development. Now is the perfect time to seek state assistance in achieving true water supply security and at the same time promote high profile, non-oil, and non-government economic diversification in the capital city.

The majority of the AJ Mining Advisory Committee believe the watered-down bureaucratically comforting half steps they offer in the majority report will be sufficient. Perhaps they are right. Maybe the steps they propose will quiet the opposition and attract the millions of investor dollars we need to make AJ development a success.

My fear is that their approach will embroil us in another distracting, years-long internal fight, that it will sully Juneau's reputation elsewhere in this state, brand us as an anti-development enclave, and convince potential investors that Juneau would be a risky place to sink their dollars.

What circumstances?

Like the other members of the AJ Mine Advisory Committee (AJMAC) I agreed to consider and answer the following question.

“Under what circumstances, if any, should the CBJ promote development of the AJ Mine?”

The City and Borough of Juneau (CBJ) *should* promote redevelopment of the AJ Mine. Allow me a slight digression to explain why.

Over the past 30 years Juneau has seen progress in dealing with its unbalanced economy. Juneau's own actions and decisions enabled this progress. We made ample public investments in docks, the airport, the hospital, roads, water system, and schools. We used our political influence to secure state investments at the University of Alaska Southeast, and in federal research facilities. We maintained a clean natural environment and an enviable social environment even during the rapid population growth of the 1980s and early 1990s.

Too many Alaska communities are dysfunctional. Not so in Juneau. In the last twenty years our unified local government has become more efficient, more transparent, and strengthened its finances. We managed this in the face of deep divisions over the first AJ Mine development effort, and the ongoing dispute over "the road."

The way Juneau earns its way in the world is more diversified now than it has been at any time in its 120+ year history, but the Juneau economy remains dangerously unbalanced. State government accounts for close to 25 percent of all Juneau jobs, and 30 percent of local earnings. About half of the state jobs provide statewide services, all of which could disappear in a flash.

A sudden loss of central state government positions could set Juneau up for a sustained period of economic decline. In the wake of losing central state government jobs, regional jobs could be centralized in Anchorage in the name of efficiency, a rational with which Juneau is unfortunately familiar. The loss would erode public confidence in Juneau's future. The history of Alaska's economic development suggest this loss of confidence would likely cause public and private investment to dry up, just as it did in Juneau in the years before the 1982 capital move vote.

In terms of jobs and CBJ government revenue, the benefits of AJ Mine development would not be large, but the tangible step it would represent toward economic diversification could be crucial in terms of its effect in supporting confidence in Juneau's future. Its influence on the perceptions of public and private investors would be similarly positive, and similarly disproportionate to the mine's direct effect on the economy.

Achieving water supply security

Discussion among committee members and public testimony demonstrate that security of the public water supply tops all other potential adverse impact from the mine. Several of the AJMAC majority's recommended conditions attempt to address these concerns. All of the suggested steps to assure security are reasonable and appropriate, but taken together they are, in my opinion, wholly inadequate. Instead of being designed to win the widespread community support this project needs to move forward, they suggest that the kind of bureaucratic oversight that failed so abysmally during the last episode of AJ promotion.

How the necessary alternative water supply should be developed is not a question the committee was able to address, but there are numerous options. The existing secondary water source at Salmon Creek could be enhanced by treatment and/or storage to provide the needed security. A surface source or well field could be developed in Sheep Creek or in the various drainages on Douglas Island.

The question of locating and financing the alternative water supply should be left to the experts to decide. The current primary CBJ water source, the Last Chance Basin well field, is sufficiently insecure that the city should consider developing an alternative regardless. With currently high oil

revenues there is a good chance of obtaining state assistance, provided the project is well planned and has wide local support. That the alternative water system is needed to facilitate mining development and economic diversification makes it even more attractive to state officials.

Looking ahead

As I read the AJMAC report it is hard for me to believe that the five members of the majority were at the same public hearings I attended. Their report reflects a spectacular disregard of the deep division this proposal has reopened in our community, or appreciation of how this division is likely to affect investors and legislators from elsewhere in the state. "Not my problem," seems to be their bureaucratic posture.

I remain hopeful that the assembly will decide to move ahead with AJ development under conditions that will win wide community support and send a positive message to potential mining developers and the rest of this state. Good luck!

COMMENTS ON THE AJ MINE ADVISORY COMMITTEE REPORT REGARDING REOPENING OF THE AJ MINE

BY: Samuel R. Smith

Date: May 9, 2011

GENERAL COMMENTS ON THE COMMITTEE REPORT:

The Assembly should make all reasonable efforts to attract mining companies to make the major investment necessary to reopen the AJ Mine. It is my opinion that the mine can be reopened in a responsible manner without endangering the City's water supply or causing serious harm to the values that Juneau citizens hold dearly.

The report prepared by the Advisory Committee is a well considered effort and reflects the opinions of most of the Committee members. However, there are differing opinions among Committee members as to the conditions that the Assembly should include in any agreements with prospective investors in the project. Following are the concepts that I believe are most critical to achieving a successful outcome to the goal of reopening the AJ Mine.

- The Assembly must take great care to not over burden prospective investors with multiple permitting layers that cover the same issues.
- Water quality is the primary issue confronting reopening the AJ Mine. Proposals from mining companies should contain a discussion of the primary methods that will be used to control the quality of water entering Gold Creek from the Mine Drainage Tunnel and other points of discharge above the CBJ well field.
- A land package must be developed by the CBJ that would provide sufficient space for a mine developer to construct the mine portal, mine offices, change house facilities, freight handling facilities and reject rock storage. The land base could include outright land ownership, land leases, contracts to lease land at a future date or similar approaches. A mine operator would have the option to lease the land package from the City. It is my opinion that this approach would provide the City with the passive ability to control the location of the main mine access point.
- Mine Company proposals must contain a preliminary plan for their proposed methods of tailing disposal.
- The RFP prepared by the CBJ should allow qualified investors access to the ore reserve and other archived information relative to the AJ Mine. Access to such information should be regulated with appropriate confidentiality agreements.
- The CBJ should retain the right to negotiate with any, all or none of the proposers that respond to an RFP put forward by the CBJ.

SPECIFIC COMMENTS ON THE REPORT CONDITIONS:

- **Drinking Water System Recommendations** - The recommendation that the CBJ study existing water sources and their vulnerability to natural or man-made failures is very sound. I believe that the CBJ should go further and prepare engineering designs for water system improvements and increased reliability of the existing

system. The City should then proceed with development of at least a portion of such recommended improvements before operating leases are negotiated with mine investors.

Keeping the above recommendations in mind, it is my opinion that the risk of a major failure of the Gold Creek water system, caused by mine activity, is extremely slight. There could be minor turbidity events caused by mining activity, but such events would not result in degradation of the public water supply. This issue should be fully understood by the Assembly and the public, but the mine operator must make every reasonable effort to prevent variances of this type from occurring.

Respectfully Submitted,

Samuel R. Smith
Member
AJ Mine Advisory Committee

AJ Mine Informational Sections

AJ Mine Infrastructure

The Alaska Juneau (AJ) Mine consists of significant existing underground infrastructure. Consideration of a future mine requires a close study and understanding of the AJ as it currently exists today. Historically, the AJ Mine operated from approximately 1893 to 1944. Over time, mining properties including the Ebner, Perseverance and Alaska Gastineau were consolidated into the into the AJ Mine.

In general, there are two areas within the mine that contain gold; they are referred to as the North Ore Body (NOB) and the South Ore Body (SOB). The SOB has been mined at higher elevations, between about 500 and 2500 feet above sea level. The extents of the NOB are from about 2000 feet above sea level to about 1000 feet below sea level. The depth of the NOB is not known. As an example, parts of the Treadwell mine extend to about 2,400 feet below sea level.

There are approximately 100 miles of tunnels in the AJ. In general, there are a series of vertical or near vertical tunnels (shafts, raises and winzes) that connect a series of horizontal tunnel "levels." The levels are numbered and are spaced approximately 200 feet vertically apart. The main haulage level in the mine is called "4 Level" and is at an elevation of approximately 500' above sea level.

Historically, the AJ ore was transported on rail cars on 4 Level, exiting the mountain next to the Mining Museum in Last Chance Basin. The tunnel extension of 4 Level that leads to the Mining Museum is referred to as the "Gold Creek Tunnel". After exiting the mountain, the rail cars continued along the side of the mountain and through a shorter 2/3 mile long tunnel called the "Mill Tunnel" to the actual mill itself. The mill ruins can still be seen today above downtown Juneau. The actual ore bodies are two or more miles away from downtown and the mill.

Points of Access

There are a number of surface openings to the mine, but there are currently only two good access points. The gated Ebner Adit is at the beginning of the Perseverance Trail, at the end of Basin Road. The Ebner is only useful for foot traffic; after a walk of about one mile, there is a steep ladder that ascends approximately 100 feet up to 4 Level.

The Sheep Creek Adit is suitable for foot and motorized access and is located at an elevation of about 800' in the Sheep Creek Valley. The road to Sheep Creek Valley is not suitable for year round, industrial or public access.

All of the other mine access points are remote, caved in or dangerous to use.

Gold Creek Drain Tunnel/Mine Drainage

In the initial days of the AJ, the workings would have been relatively dry. However, extensive mining created a number of openings into which rain and snow melt flow. The largest openings (Glory Holes) contribute the vast majority of this water. To deal with the water, the AJ constructed a drainage tunnel called the Gold Creek Drain Tunnel. The Gold Creek Drain Tunnel is approximately 50' below 4 Level and the Gold Creek Tunnel.

Within the mine are a series of small ditches and drop tunnels "bean holes" that direct the water to the Drain Tunnel. The drainage system is well engineered and has functioned with little maintenance since the AJ shut down some 65 years ago.

The Gold Creek Drain Tunnel discharges from the mine upstream from the mining museum and can be seen from the lookout at the "Horn" on Perseverance Trail. All water that comes through the Drain Tunnel begins and ends in the Gold Creek watershed. Flows through the Drain Tunnel constitute about 15% of the flow in Gold Creek. The percentage of flow varies depending on the weather and the time of year and additional studies are needed to document percentage flows between Gold Creek and the Drain Tunnel.

Any water that is not captured and diverted to the Gold Creek Drain Tunnel ends up in the lower elevations of the NOB, often referred to as the "Deep North." The Deep North is very slowly filling up with water. Once filled with water, the Deep North will overflow into the Ebner and there will be a small flow out of the Ebner Adit at the Perseverance Trail Head. It is estimated that this process will take decades.

However, it is possible that a catastrophic event will change the mine drainage. Portions of the Drain Tunnel run through less competent rock. In these areas, rock is slowly collapsing into the Drain Tunnel. If the Drain Tunnel were to completely plug, the entire flow would find relief through the Ebner Adit.

Historic Mill/Mill Tunnel

There is a common misperception that the historic mill above South Franklin Street downtown is synonymous with the AJ mine. It is not, the mill is simply the location where the ore was sorted, crushed and processed and is approximately two miles from the actual mine workings. Historically, the rock was sorted by hand, and white quartz rocks were sent to the mill and grey rock was sent by conveyors to the rock dump. The rock that was sent to the rock dump was used to fill large sections of downtown and is referred to variously as waste rock or country rock.

The Mill Tunnel was cleaned out in the mid 1970's and renovated for use as a drinking water reservoir. As such, it is no longer considered part of the mine infrastructure.

Gold Creek/Last Chance Basin Drinking Water System

Gold Creek is the most important source and sometimes the only source of drinking water consumed by CBJ residents. The AJ mine is both above and under Gold Creek, and parts of Gold Creek run through the mine.

CBJ Water System

CBJ residents enjoy high quality drinking water that comes from two sources: Salmon Creek and Last Chance Basin. Of the two sources, LCB is more important; LCB is the only year round source and supplies about 2/3 of the CBJ's annual use.

As required by the State, both drinking water sources are chlorinated. Additionally, soda ash is added to Salmon Creek water to adjust pH and Alkalinity. As an unfiltered surface water source, Salmon Creek may not be used on a year round basis. As a ground water source, the State does not require the filtration of Gold Creek water.

The existing Salmon Creek infrastructure cannot provide sufficient flow to serve the entire CBJ. Salmon Creek goes off line during high turbidity events and during maintenance to the AEL&P power generation system.

The City water system is extensive and consists of 180 miles of piping, 9 reservoirs with storage capacity of 13.6 million gallons and includes more than 1200 fire hydrants. Except for areas south of the rock dump (Thane) and north of Tee Harbor, all properties in Juneau are served with CBJ drinking water.

With a budget of about \$4.7M/year and 15 employees, the Water Utility supplies the CBJ with 4-5 million gallons of water per day.

Last Chance Basin Well Field

The LCB well field is the CBJ's primary water source. The well field consists of 5 wells that are drilled into sands and silts that constitute the Gold Creek aquifer. Besides the wells, LCB infrastructure includes a water treatment and control building and emergency power generation.

The Gold Creek aquifer is downstream from the Gold Creek Drain Tunnel, Perseverance Trailhead and the Mining Museum. The surface of the well field is at an elevation of approximately 350 feet above sea level. The wells are 70 or more feet deep.

During the 1990's when Echo Bay pursued exploration of the AJ, there was significant local controversy about mine discharge through the drain tunnel into Gold Creek. Both the State of Alaska and the FBI investigated Echo Bay's operations and considered pursuing charges. Echo Bay agreed to pay significant penalties and to sign a Consent Decree with the State of Alaska. For additional information on events in the 1990's see documents listed in Appendix G. At the time of these events, water could only exit the mine through the drain tunnel or be diverted into the lower levels of the North Ore Body (NOB) – the Deep North. This dynamic still holds true and would be true for any future exploration work.

In concepts considered by Echo Bay, the construction of a sea level access and an underground mill were considered. If such an access and mill were constructed, they would be at an elevation below the Gold Creek Drain Tunnel. Mill discharge would avoid Gold Creek and Last Chance Basin and would be routed by gravity to the Gastineau Channel. This new discharge would require permits from the Alaska Department of Environmental Conservation.

Work in the upper levels of the mine (defined as those areas above the Gold Creek Drainage Tunnel) would operate under a different set of circumstances. Any water in the upper levels could drain to either the Gold Creek Drainage Tunnel or a sea level adit.

Under this conceptual approach, the mill and sea level access would be several hundred feet below the Gold Creek Drain Tunnel and the Last Chance Basin well field. The mill and access would be separated from the Last Chance Basin well field by about one mile of bedrock. For these geographical reasons, the Last Chance Basin water system has the potential to exposure from mining exploration activities, possible exposure to mining the upper levels, but not from the operation of a mill located on a sea level access.

Therefore, mining operations confined to areas below sea level (where the majority of the ore body is located) would not affect the LCB water system.

AJ Mine – The Mining Unit

In 1972, the City of Juneau and AEL&P acquired the remaining AJ Mine properties, including the AJ proper and the Treadwell Mine. The power generating features of the mine (Annex Creek and Salmon Creek) continue to supply the town with hydro-electric power.

Unitization

For the purpose of attracting a mining company, AEL&P and the CBJ decided to pool their respective mineral rights together. In 1975 the parties first "unitized" all of the properties. The CBJ and AJT (AEL&P's sister company that now manages their properties) are jointly referred to as the "Mining Unit."

In 1979 and 1980 revised agreements were signed separating the properties into two documents, one for the AJ and one for the Treadwell. The title of the AJ agreement is an "Agreement Unitizing Mining Properties – Juneau Gold". The Treadwell agreement is referred to as "Douglas Gold."

The Unitization agreement prescribes the method for dividing royalties from mining activities. If there are royalties from Juneau Gold, CBJ is to receive 2/3 and AJT is to receive 1/3. For Douglas Gold, the numbers are reversed; CBJ would receive 1/3 and AJT would receive 2/3s of royalties received.

The Unitization agreement stays in effect until the parties choose to amend or terminate the agreement.

Lease

In 1984, the Mining Unit sought to lease the properties with a mining company. This resulted in a lease with Echo Bay Exploration signed in 1985. From 1985-1987 Echo Bay conducted explorations and attempted to permit the project.

Echo Bay initially proposed a 22,000 ton per day (tpd) scenario. Under this plan, they pursued permitting for a more than 300 foot high dam across Sheep Creek valley and the creation of a tailings impoundment. Subsequently, Echo Bay made various modifications to the plan, including a reduction in tonnage and the marine disposal of tailings.

In 1997, Echo Bay withdrew its permit applications. Kvaerner Environmental was hired to close the mine and complete Echo Bay's obligations. That effort was completed in 2002.

To say the least, the process was very controversial. A lease is one way that the CBJ, through the Mining Unit, could restrict certain activities. The lease that Echo Bay signed had relatively few restrictions.

Economics

Developing a mine on the AJ property would have numerous direct and indirect effects on the Juneau economy and CBJ finances.

Royalties & Lease Payments

As owner of the mine and partner in the Mining Unit, CBJ could gain both royalties from gold mined, and from lease payments for use of the properties. It is unknown what lease and royalty payments would be negotiated into a future lease. However, the Echo Bay lease and the 1997 smaller mine concept can be used to create one scenario. The Echo Bay lease terms were as follows:

Lease Payment (Mining Unit):	1st 4 years - \$25,000/yr
	2nd 4 years - \$50,000/yr
	Thereafter - \$100,000/yr
Royalties:	1st 3.5 years – 2% of net smelter returns
	Thereafter – 3.5% of net smelter returns
	Stone, aggregate – 33 1/3% of value

Based on today's gold prices and the ore content and rates of production considered under the 1997 smaller mine analysis, theoretical royalties to the mining unit would be:

Ore Royalty: Approximately \$32M over ten years, less transportation and smelting costs (about 8% of the total), divided amongst the Mining Unit as follows: 2/3 – CBJ, 1/3 AJT. This calculation assumes a steady recovery of 78,000 ounces per year. No consideration was made in the Echo Bay lease to enact higher or lower royalty payments in the event of escalated or diminished ore prices.

Stone Royalty: No market value was established in the lease, the lease appears to not have anticipated a bulk quantity of rock. Current market value for stone could range from the \$1.60/ton charged by CBJ (Stabeler's Point quarry in Auke Bay) to a value between \$5-7/ton (private quarry operators).

This volume of rock available from the smaller mine concept is about two and one half times the average annual quantity of rock quarried from Stabeler's. There may or may not be an equivalent market demand for that quantity of rock. A lack of sufficient demand could cause a corresponding decrease in the value of rock. Demand for rock from Stabeler's and other CBJ and private quarries would likely diminish.

By lowering the cost of construction, the availability of large quantities of cheap high quality rock would have a positive economic benefit. One possibility is the opportunity for upland development, similar to those areas that were filled in early parts of the 19th century (areas below Front Street, Willoughby District).

Taxation

Both KGMC (KGMC) and Greens Creek (GCMC) mines pay significant property taxes. As a comparison, the SMC envisioned an operation that would mine ore quantities slightly greater than either of those mines. Due to the quality of the ore bodies, the KGMC appears to be a closer comparable to an AJ SMC.

The mines are taxed for both Real Property (RP) and Business Personal Property (BPP) values. RP consists of land, buildings and infrastructure, BPP consists of trucks, drills and other moveable equipment. The values of the respective ore bodies are not taxed; Alaska exempts "minerals in place" from property taxation. Even though the Greens Creek and Kensington mineral resources are not owned by the actual mining companies, the CBJ taxes the possessory interest in the leasehold estates. Therefore Hecla and Coeur (similarly to a future AJ leaseholder), they pay RP tax.

For FY 2012, preliminary taxable values for the two active mines are:

	BPP:	Real:	Total:
GCMC	\$66.5M	\$99.4M	\$162.9M
KGMC	\$36.2M	\$128.2M	\$164.4M

Since both KGMC and GCMC are located in non-roaded areas of the borough, they will pay 8.27 mils in FY12 on their combined BPP and RP values. Due to its location in a roaded portion of the borough, with fire protection available, an AJ SMC would be taxed for both BPP and RP at higher tax rate of approximately 10.51 mils.

Total property tax for the two mines for FY12 will be approximately \$1.35M each.

There is some complexity in the increase of property taxes that would be gained due to an AJ SMC due to the State of Alaska's school foundation funding formula. Since 1999, the State has provided 4 mils of funding to the CBJ for its school system.

However, the increase in the aggregate value of property in Juneau over the aggregate value from 1999 will only generate an additional 2 mil payment from the State for the school system. The CBJ is required to fund the other 2 mils. Therefore, an increase in property tax from an AJ SMC would result in an increase of 8.51 mils (10.51 – 2) times the combined BPP and RP values of the facility.

The aggregate value of property tax collections for all Juneau properties for FY12 is approximately \$42M, property tax represents about 13% of the municipal budget.

GCMC also reports that last year they paid in excess of \$9M of Alaska Mining License Tax to the State of Alaska.

Employment

The 1997 smaller mine concept estimated a need for about 200 year round employees.

Using an econometric model we estimated the economic impacts on the borough in 2011 if these new jobs had been added in 2010.¹ Results suggests the following:

1 The economic impact model we used was developed and implemented for us by Economic Modeling Specialists, Inc. (www.economicmodeling.com) of Moscow, ID.

Employment: Borough employment would grow by about 330 jobs, about 1.9 percent. There are about 17,600 jobs, borough-wide.

The 130 new jobs created outside the gold mining sector would be spread widely and thinly across the borough economy. Most sectors would see employment grow by about 1 percent.

Governments, which accounts for roughly 7,300 jobs in Juneau, would add 30 new jobs as a result of the mine, the largest absolute increase of any sector. The percentage impact of the mine on government employment would be 0.4 percent, one of the smallest.

Earnings: Total earnings would increase by about \$22 million, a 2.3 percent boost. Average wages at KGMC are reported to be nearly \$90,000/employee. Borough-wide earnings per worker would increase by 0.7 percent. The model suggest that average earnings per new mine worker would be about 2.5 percent less than the borough's current mine workers now earn.

According to data collected by the Alaska Dept. of Labor and Workforce Development, mining employees in Alaska face a greater risk of unemployment than the average Alaska worker. While mining employment is less stable than the Alaska average, the difference in stability is not large, and mining employment has become more stable since 2005.

Municipal Services

We do not anticipate that an operation similar to the AJ SMC would cause the need for additional (and direct) municipal services. Mine surface facilities would use small quantities of the municipal water and sewer, and would pay appropriate usage fees. Additionally, there appears to be sufficient capacity within the school system to provide space for children from any population increase caused by an AJ SMC. There would be costs to the municipality from offering, implementing and managing contracts with a mine operator.

Electrical Use

An operator of an AJ mine would likely be willing to purchase excess hydroelectric generated power from AEL&P. However, at this time, AEL&P has committed to selling all of its excess power to GCMC. The 1997 smaller mine scenario would have required approximate 5MW of power. The prospect for a long-term power contract could result in further development of hydro-resources by AEL&P. The next phase of the Lake Dorothy project is an obvious candidate for consideration.

Reclamation

The Alaska Department of Natural Resources (ADNR) requires all mines on public or private lands to provide the financial assurance necessary to return the mine site to a stable condition, compatible with the post-mining land use (AS 27.19.020). State law does not restrict the CBJ from establishing reclamation requirements in excess of those required by ADNR.

The Echo Bay lease required that the mine operator establish a sinking fund to cover reclamation costs. The amount of that fund was to be approved by the Mining Unit.

CBJ code section 49.65.140 requires that mining companies provide sufficient financial warranty *to ensure that, during all phases of exploration or a mining operation, the operator will carry out all those obligations or requirements of the permit or conditions*

of an exploration notice, which are necessary to protect the environmental, health, safety, general welfare and reclamation requirements.

Local Code further allows that in determining the dollar value of a mining operator's financial warranty, the CBJ may take into account the financial warranties that the operator must submit to other agencies. GCMC has a reclamation bond in place with the US Forest Service, that bond has been determined to be sufficient to satisfy local code.

Municipal Risk

The single greatest risk to the CBJ is the potential harm to the municipal drinking water system. The Last Chance Basin (LCB) well field supplies 2/3 of the annual water supply, and is the only year round municipal drinking water source. Infrastructure in LCB is valued in the tens of millions of dollars; there is no feasible replacement water supply immediately available.

Insurance, Indemnification

The Echo Bay lease required that the mine operator, indemnify, protect and defend the Mining Unit against any and all claims arising out of their actions. The Mine operator was further required to obtain liability insurance for \$15M - \$50M for various phases of activity.

Economic Effect of Not Developing the AJ Mine Property

If the AJ mine property is not developed or sold, the previously potential economic effects previously described will not be realized. Additionally, the mine infrastructure is degrading and failing over time. Wood timbers within the mine are failing, the lower levels of the north ore body are slowly filling with water, and the Gold Creek Drain Tunnel is filling with rocky debris. If the mine infrastructure is not maintained in the foreseeable future, re-opening the mine could become much more expensive at a later date.

In addition, the CBJ continues to be responsible for maintaining the property in compliance with the existing federal and state permits that govern the discharges of storm water and mine discharge water from the AJ mine outfalls. At a minimum this includes the cost of conducting monthly water quality monitoring and reporting. Civil penalties for failing to comply with the permit requirements are no more than \$32,500 per day for each violation. An active operator in the mine would defray these costs and liabilities.

Appendices

- A. Committee Charge
- B. AJ Mine Surface Topography
- C. AJ Mine Portal to Portal Plan and Profile
- D. AJ Mine Sea Level Access Section
- E. AJ Mine Underground Tailings Disposal and Mill Process Schematic
- F. Possible Sequence of Events
- G. Additional Documents Webliography

AJ Mine Advisory Committee

AJ Mine Advisory Committee created.

There is created within the City and Borough of Juneau an AJ Mine Advisory Committee composed of seven members appointed by the Mayor to serve for three months, beginning February 1, 2011, unless extended by the Mayor.

Background.

In 1979 and 1980, the CBJ and AEL&P (AJT) entered into unitization agreements, consolidating the AJ Mine and Treadwell Mine properties into a single unit. The primary purpose of the unitization was to encourage redevelopment of the mining properties. Subsequently, the assembly directed the manager to seek lessees for the unit and, in 1984, adopted Ordinance 83-69 which approved AJ and Treadwell leases to BPC Alaska Corporation (Barrick Resources). In 1985, these leases were assigned to Echo Bay Exploration, which, in turn, assigned them to Echo Bay Alaska, Inc. in 1991.

Between 1985 and 1997, Echo Bay expended approximately \$140 million in attempting to reopen the mine, using a 15,000 ton per day mine plan before terminating its development efforts.

Kvaerner Environmental, Inc. undertook closure of the project, which was completed in 1999. By that time the EPA had issued a permit that prohibited discharges of process waste water from the mine.¹

There have been no public efforts in the last ten years to develop the mine, though it remains an asset of the CBJ. In late 2010 and early 2011, the assembly set as one of its ten overriding goals for 2011 to examine development of the AJ Mine.

¹ Parallel to the leasing efforts of the CBJ and development by Echo Bay, the assembly adopted a large mine ordinance in 1986 and amended it in 1989 to include a requirement for socio-economic impact assessment (among other features). The 1989 changes were the result of substantial public involvement, primarily from two citizen-led organizations, the Thane Neighborhood Association and Alaskans for Juneau.

Echo Bay applied for the large mine permit authorized under the ordinance in late 1990 and received it in 1993, but its issuance was successfully challenged in the Alaska Supreme Court in 1996 on the basis that the CBJ had impermissibly used a "phased approach" in its permitting.

Purpose.

The charge of the advisory committee is to advise the assembly on the following question:

Under what circumstances, if any, should the CBJ promote development of the AJ Mine?

The advisory committee should examine the history of the mine, particularly since unitization, review the data currently available on development (e.g. respecting ore body, permitting, etc.), and gather other information necessary to formulate recommendations to the assembly.

The advisory committee is encouraged to solicit input from mining, environmental and other experts, so long as no fees to the CBJ are incurred and so long as the information is made available to the public.

The advisory committee may hold one or more informational meetings for public comment.

No later than May 1, 2011, the advisory committee will prepare and submit to the Assembly for its consideration a report on the committee's findings. The assembly recognizes that the advisory committee may be unable to provide a definitive answer to the question, but expects that the committee will be able to formulate a "road map" for the assembly. In short, if the advisory committee concludes that there are circumstances under which the CBJ should promote development of the AJ Mine, what specific "next steps" should the assembly undertake and in what order.

Meetings, Officers, Records, Quorum, and Staff Support.

The task force shall hold at least four meetings. All meetings shall be open to the public and advertised through the Municipal Clerk's office.

The Mayor shall appoint the chair and vice-chair.

The advisory committee shall follow the procedures used by the Assembly and other CBJ boards and commissions for transaction of its business. The advisory committee shall keep a record of its meetings, resolutions, transactions, findings, determinations, and

written public comments received, which shall be filed with the Municipal Clerk and be open to public inspection at reasonable times.

A majority of the appointed membership of the advisory committee shall constitute a quorum for the transaction of business.

The City Manager will provide staff support and assistance to the advisory committee as appropriate.

AJ MINE SURFACE TOPOGRAPHY

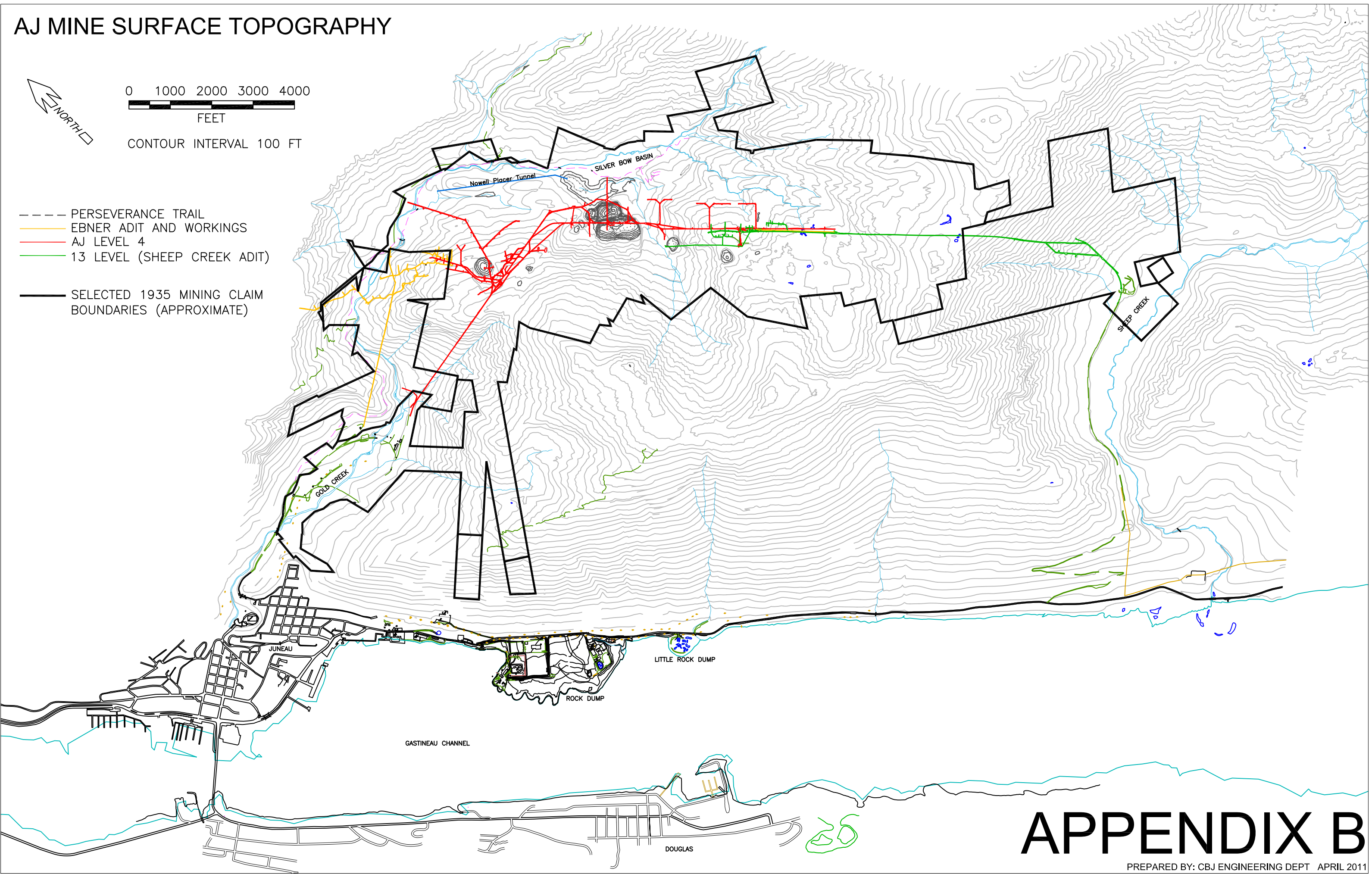


0 1000 2000 3000 4000
FEET

CONTOUR INTERVAL 100 FT

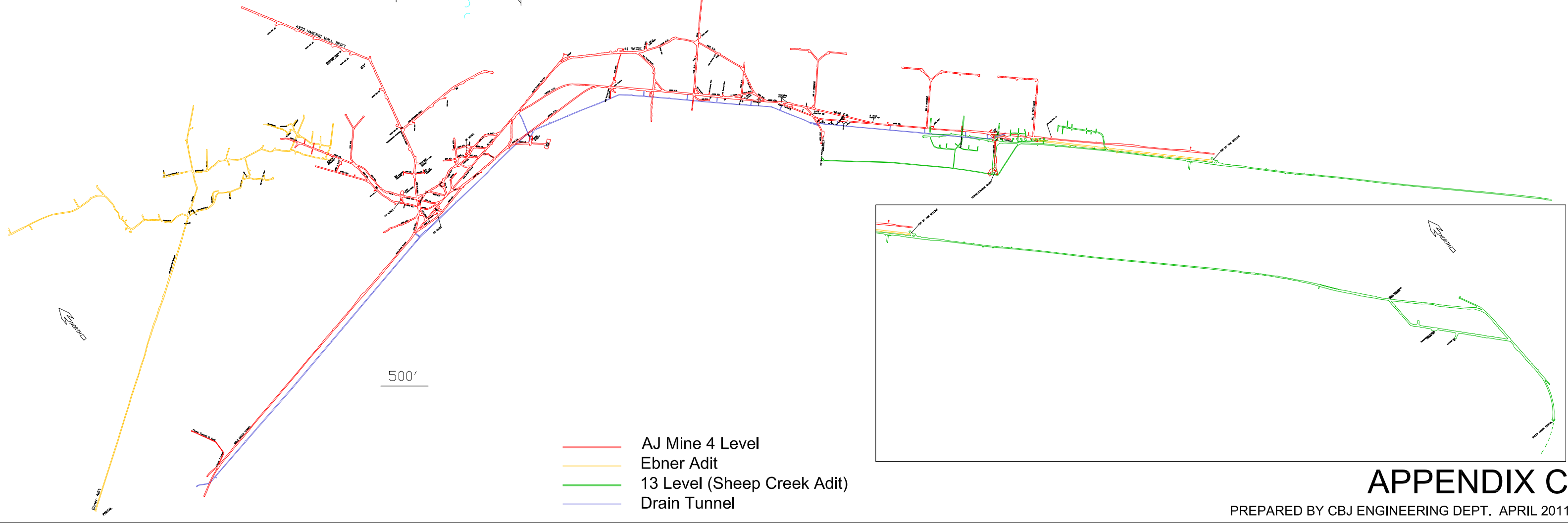
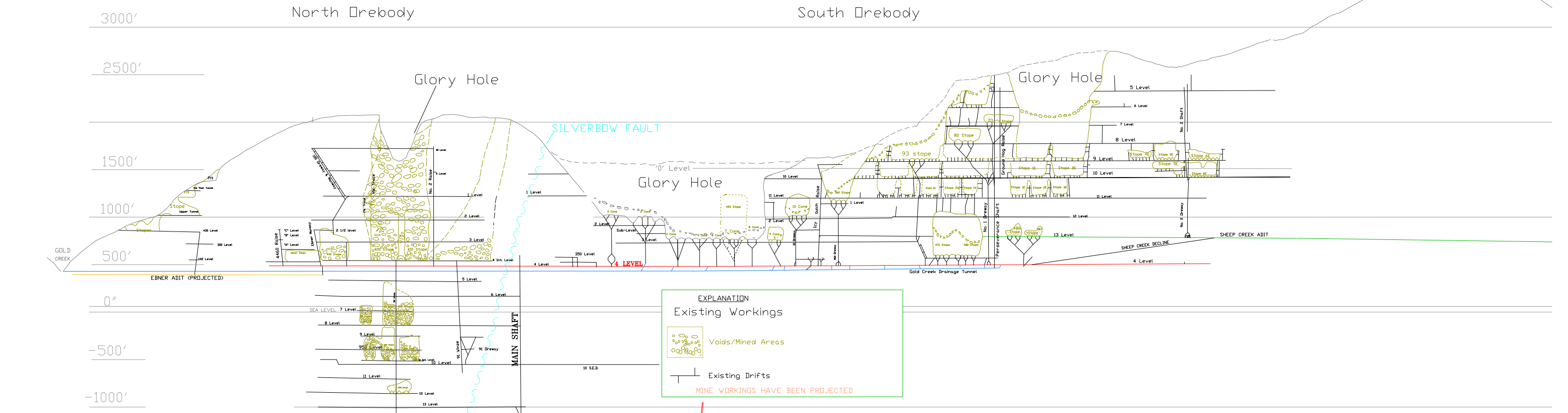
- PERSEVERANCE TRAIL
- EBNER ADIT AND WORKINGS
- AJ LEVEL 4
- 13 LEVEL (SHEEP CREEK ADIT)

- SELECTED 1935 MINING CLAIM BOUNDARIES (APPROXIMATE)



APPENDIX B

AJ MINE PORTAL TO PORTAL PLAN & PROFILE

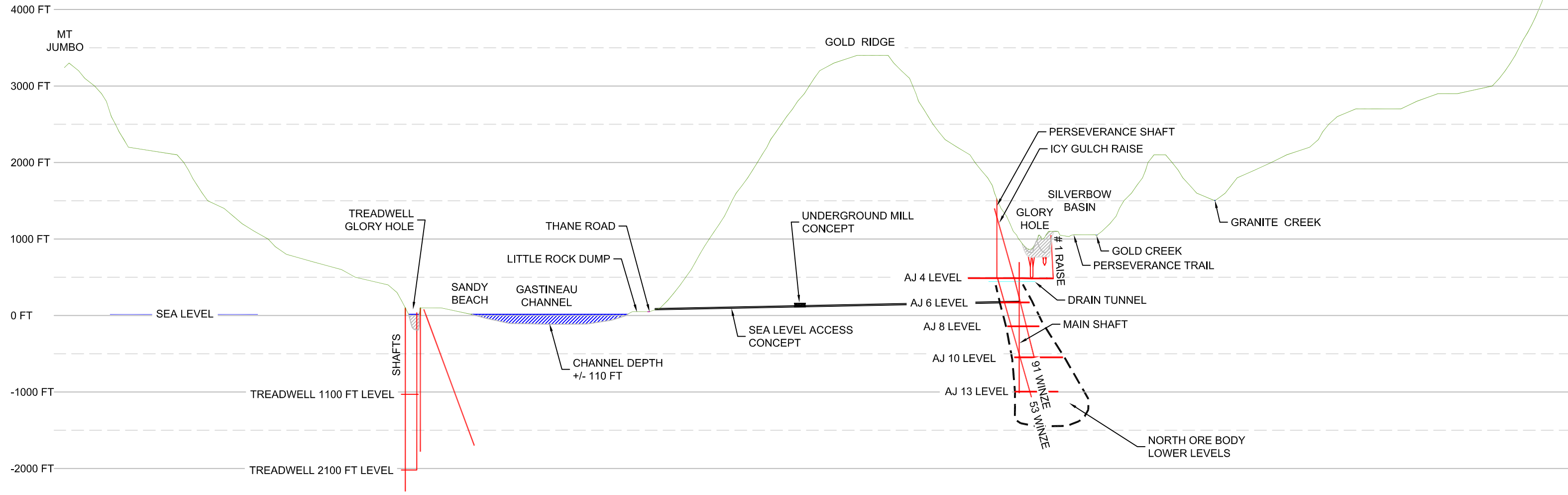


- AJ Mine 4 Level
- Ebner Adit
- 13 Level (Sheep Creek Adit)
- Drain Tunnel

APPENDIX C

AJ MINE SEA LEVEL ACCESS CONCEPT PROFILE

PASSING THROUGH TREADWELL GLORY HOLE, LITTLE ROCK DUMP, GOLD RIDGE, SILVERBOW GLORY HOLE



0 1000 2000 3000 4000
 HORIZ. FEET
 VERTICAL SCALE EXAGGERATION = 2 x

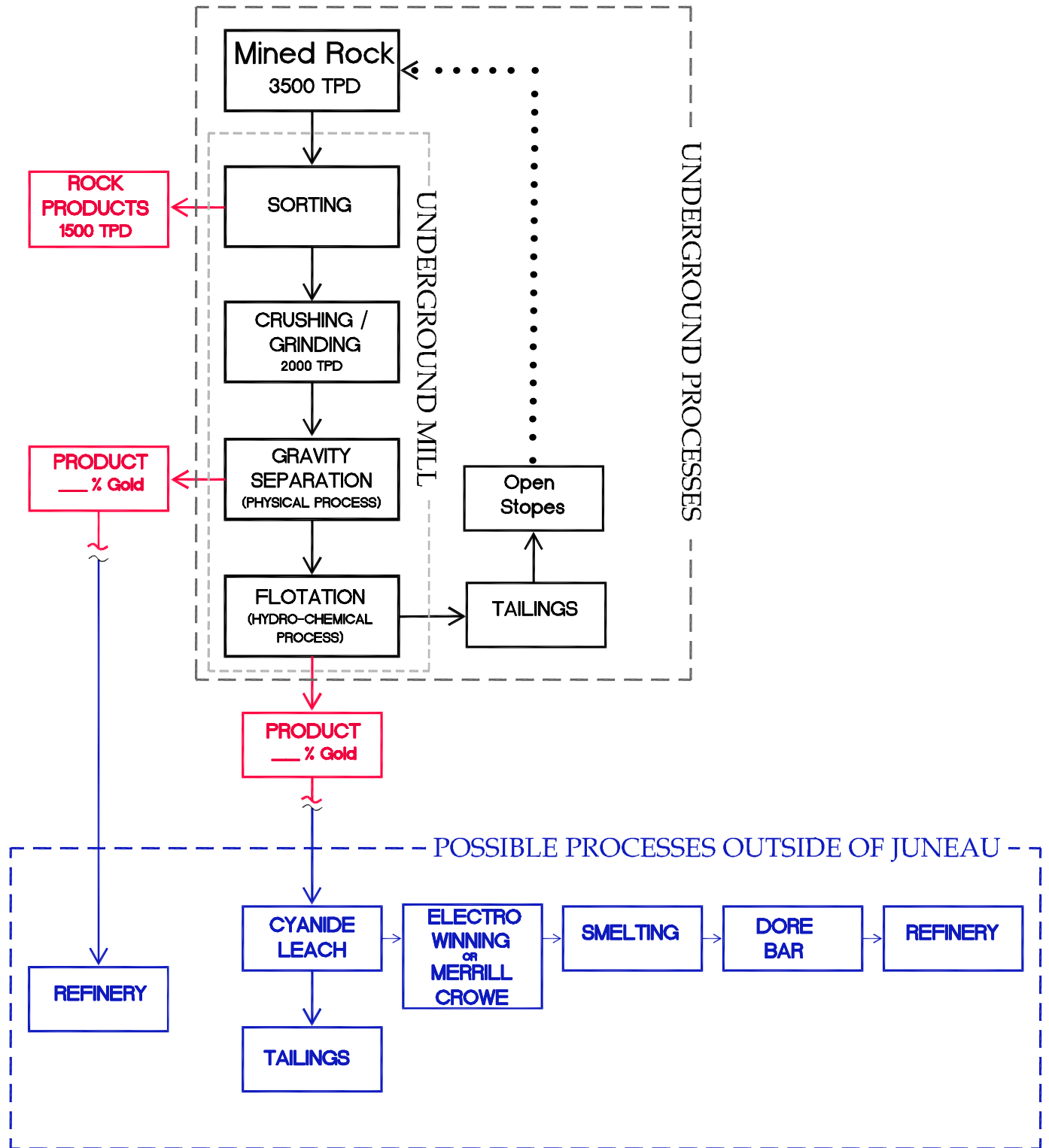
NOTE: MINE WORKINGS ARE PROJECTED IN THIS VIEW
 ELEVATIONS ARE APPROXIMATE
 SEE PLAN FOR PROFILE LOCATION

PREPARED BY: CBJ ENGINEERING DEPT APRIL 2011

APPENDIX D

AJ Mine

Underground Mill & Tailings Disposal Process Schematic



Appendix E

How the AJ could become an Operating Mine A Very Rough Sequence of Major Events (Some Activities Concurrent)

General Task	Responsible Party(ies)		Rough Duration	
AJMAC Final Report to Assembly	AJMAC		3 Months	
City Decides to Pursue Development	Assembly		1-2 Months ?	
Review of Unitization Agreement	City Attorney, City Manager, AJT		1-3 Months ?	
Consideration and Renewal of Unitization Agreement	Assembly		1-3 Months ?	
Review of Old AJ Lease, Recommendations of New Lease Provisions	City Attorney, City Manager		3 Months ?	
Negotiation within Mining Unit	City Attorney, City Manager, AJT	City as Political Body/Mine Owner City Process	3 Months ?	
Assembly Discussion and Approval of Lease Provisions	Assembly		3 Months ?	
Discussion of CBJ Mining Ordinance, Possible Modifications	City Attorney, City Manager, Planning Commission		6 Months ?	
Solicitation and Selection of a Junior (or Major) Mining Company	Mining Unit		6 Months ?	
Final Lease Negotiations	Mining Unit		1-3 Months ?	
Assembly Authorizes Lease	Assembly		1-3 Months ?	
Lease Signed with Junior (or Major) Mining Company	Mining Unit		City as Regulator Lessee Process	1-3 Months ?
Mining Company Mobilizes to AJ	Mining Company			3 Months ?
Exploration Proposed	Mining Company			3 Months ?
Exploration Permitting	Mining Company, Regulatory Authorities			1-3 Months ?
Exploration	Mining Company	6 Months ?		
Preparation of NI 43-101	Mining Company	2 Years ?		
Lease Sale/Transfer from Junior to Major Mining Company	Mining Company(s)	3 Months ?		
Mining Plan Preparation, possibly more exploration	Mining Company	1 Year ?		
Mine Permitting for Local, State, Federal Permits	Mining Company, Regulatory Agencies, Public	2-5 Years ?		
Construction of Access Tunnel, Mine Mill, Surface Facilities	Mining Company	2 Years ?		
Mining Commences	Mining Company	10 Years ?		
Price of Gold	Commodities Markets		????	

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