

**APPENDIX 3-S
PUBLIC AND STAKEHOLDER ISSUES
AND RESPONSES**

Appendix S. Public and Stakeholders' Issues and Responses

Table S-1. Issues raised by Public and Stakeholders during the pre-Application Review Stage

No.	Issue	Seabridge Response	Where Raised
Consultation and EA Process			
1	Implications of change in Project ownership	If a certified project is transferred or sold to another owner, the holder of the Environmental Assessment (EA) certificate must apply to the British Columbia Environmental Assessment Office (BC EAO) to amend the Certificate (see Section 19 of the British Columbia <i>Environmental Assessment Act</i>) (2002). EA Certificate amendments require BC EAO approval. Commitments contained in an EA Certificate are binding on future owners.	Stewart Open House (July 7, 2010) Ketchikan Open House (October 5, 2011)
2	Scope of cumulative effects assessment	The requirements for assessing potential residual and cumulative effects are set out in the Application Information Requirements (AIR) issued by the BC EAO On January 31, 2011 (see Part B, section 10 and Part E, section 30 of the AIR). Seabridge's approach follows methodologies prescribed by the Canadian Environmental Assessment Agency, including ' <i>Determining Whether a Project is Likely to Cause Significant Adverse Environmental Effects</i> ' (CEA Agency 1994) and ' <i>Cumulative Effects Practitioner's Guide</i> ' (CEA Agency 1999). It also follows BC EAO requirements.	Ketchikan Open House (October 5, 2011)
3	Alaska government role in regulating the Project	The Project is located in British Columbia and is subject to British Columbia and Canadian laws. United States (US) federal and Alaska State government representatives are participating on the KSM Project EA Working Group because the Project is located approximately 30 km from the BC/Alaska border along the Unuk River, and is subject to the federal <i>International River Improvements Act (1985b)</i> .	Ketchikan Open House (October 5, 2011)
4	Consultation with Alaskan Aboriginal groups	Consultation with Alaska-based Aboriginal groups is a responsibility of the US government. Following through on a commitment to the US Department of the Interior, Seabridge wrote to the following Alaskan Aboriginal groups and provided Project information on March 30, 2011. These groups included the Hydaberg Cooperatives Association; Ketchikan Indian Community; Klawock Cooperative Association; Organized Village of Saxman; and Central Council of Tlingit and Haida Indian Tribes of Alaska. On September 10/11, 2011, Seabridge wrote again, advising them of an October 5, 2011 open house, to be held in Ketchikan, Alaska.	Ketchikan Open House (October 5, 2011)

(continued)

Table S-1. Issues raised by Public and Stakeholders during the pre-Application Review Stage (continued)

No.	Issue	Seabridge Response	Where Raised
Consultation and EA Process (cont'd)			
5	Relationship of KSM and Brucejack projects	Pretivm Resources is the proponent of the Brucejack Project. Pretivm and Seabridge have an agreement to share project data. The Brucejack Project is a separate project, and is not part of the EA process for the KSM Project.	Ketchikan Open House (October 5, 2011)
Project Design and Operation			
6	Implications of expanding the Project	The EA focuses on the Project Description presented in the Application/EIS. For the Project to expand subsequent to the issuance of an EA certificate, it would be necessary for the Certificate to be amended, if the expansion is substantial enough to trigger review under the BC <i>Environmental Assessment Act</i> and/or the <i>Canadian Environmental Assessment Act</i> . If not, the expansion would still need to be permitted by provincial (and possibly also federal) regulatory agencies.	Terrace Open House (June 28, 2010)
7	Port of Stewart capacity	The Port of Stewart has onshore storage for about 40,000 tonnes of concentrate and capacity for docking vessels of about 50,000 dead weight tonnes. The Port's ship loader conveyor system has capacity for about 750 tonnes per hour or about 18,000 tonnes per day. The Wolverine and Huckleberry mines currently ship concentrate through the Port. The KSM Project has an average production rate of 1,200 tonne per day of concentrate so one ship would be required every 25 to 30 days.	Terrace Open House (June 28, 2010)
8	Project power requirements	Electrical power (171 MW) will be provided from the provincial grid (Northwest Transmission Line or NTL), supplemented by small-scale on-site hydroelectric power generation (5.5 MW) from turbines installed at the Mitchell Diversion Tunnel, McTagg Diversion Tunnel, and Mine Site Water Treatment Plant (WTP). These turbines will continue to operate after closure to provide electricity to power the long term operation of the WTP. Diesel generators will be used initially to supply construction power for tunnel driving and other initial construction activities.	Ketchikan Open House (October 5, 2011)
9	Tailing Management Facility (TMF) design and long-term integrity	The TMF will be designed to meet the BC <i>Mines Act</i> (1996), Health, Safety and Reclamation Code for Mines in BC (MEMNG 2008) as well as the Canadian Dam Safety 2007 guidelines. Instrumentation will be installed in the main dams to monitor phreatic levels and surface settlement. TMF management, including long-term monitoring and maintenance and safety inspections, will continue after mine closure. Management procedures will be detailed in an Operation, Maintenance, and Surveillance Manual for BC Ministry of Energy, Mines and Natural Gas prior to TMF operation and will be updated during the mine life and for closure.	Email from American citizen (April 2011) Ketchikan Open House (October 5, 2011) Last Frontier Heli-skiing-October 2009

(continued)

Table S-1. Issues raised by Public and Stakeholders during the pre-Application Review Stage (continued)

No.	Issue	Seabridge Response	Where Raised
Water Quality and Quantity			
10	Mine Site Water Storage Facility (WSF) and TMF chemistry	<p>The pH of the WSF is predicted to be in the range of 3 to 5 during dry periods, comparable to baseline conditions in Mitchell Creek. The pH will likely be higher during freshet due to dilution. Elevated metal levels will require water treatment to better-than-baseline levels. Water treatment at the TMF is focused on controlling key parameters such as cyanide, dissolved metals, and suspended solids through various treatment methods. Recovering cyanide and copper in the Carbon In Leach (CIL) process will be accomplished with the introduction of the SART/AVR process. Low cyanide and copper levels will be controlled through a SO₂/air process to reduce residual concentrations of cyanide. The target cyanide and copper treatment is set at 0.5 mg/L respectively. A polishing step using activated carbon will be used to effectively reduce dissolved copper and other trace metals down to less than 0.5 mg/L. As a result, water going to the CIL-lined tailing containment cell will be treated. As an added safety measure, the water decanted from the CIL cell to the main flotation tailing pond will go through a final polishing water treatment step using hydrogen peroxide. The hydrogen peroxide step will further reduce any residual cyanide and any potential thiosalts from the CIL process. The only discharge to the receiving environment will be routed from the large flotation tailing pond through a pipeline, and then diffused into Treaty Creek. Discharge will be from May 15 to October 15 of each year to ensure proper mixing in the receiving environment. Each spring after ice break-up a floating clarifier will be installed in the pond to skim surface water into the clarifier where flocculants could be added to control total suspended solids. Federal Metal Mining Effluent Regulation (MMER) discharge criteria for suspended solids is 15 mg/L. Suspended solids contribute to total metals and as such will have to be controlled below 15 mg/L. Federal MMER discharge criteria as well as levels in BC <i>Environmental Management Act</i> permits will be achieved to protect aquatic life and meet stringent receiving environment aquatic guidelines.</p>	Ketchikan Open House (October 5, 2011)

(continued)

Table S-1. Issues raised by Public and Stakeholders during the pre-Application Review Stage (continued)

No.	Issue	Seabridge Response	Where Raised
Water Quality and Quantity (cont'd)			
11	Capacity of TMF to store water	<p>The hydrological design used for the TMF dams, both ultimately, and year by year, as tailing dams are raised, is conservative. Water will be stored in the TMF until it is released between May 15 and October 15 of each year. This discharge schedule is proposed to follow the natural hydrograph in order to minimize any impacts. Water storage also takes advantage of natural improvement in water quality, such as reduction of total suspended solids in the large ponds. The North, CIL and South cells are all designed to store the 30-day Probable Maximum Flood (PMF). The tailing dam are provided with one metre of freeboard above the PMF flood level, and dam designs assume that all perimeter diversions are inoperative during extreme flood events. Seepage recovery dams are designed to store the 200-year 24-hour flood with snowmelt without discharge, and will have 3 m of freeboard above the maximum flood level. Because the final tailing dam crest elevations will not be achieved until October at the end of each construction season, each year's dam raise will provide in advance, the required storage needed until October of the following year. This ensures that adequate dam freeboard and tailing storage capacity is available at all times.</p> <p>As a conservative measure, it was assumed that all perimeter diversions would be inoperative during the extreme flood event. The PMF storage allowance provides ample room for temporary increases in water storage during storm events or snow-melt events. This pond is designed to meet the "International Cyanide Management Code For the Manufacture, Transport, and Use of Cyanide In the Production of Gold" which includes lined facilities.</p>	<p>Ketchikan Open House (October 5, 2011)</p> <p>Last frontier Heliskiing-October 2009</p>
12	Chemicals used in Mine Site Water Treatment Plant (WTP)	<p>The Mine Site WTP will use conventional, high density sludge (HDS) lime water treatment process. The three principle reagents used at the WTP will be quick lime, dry flocculant and sulphuric acid for pH adjustment to 7.5.</p>	<p>Ketchikan Open House (October 5, 2011)</p>

(continued)

Table S-1. Issues raised by Public and Stakeholders during the pre-Application Review Stage (continued)

No.	Issue	Seabridge Response	Where Raised
Water Quality and Quantity (cont'd)			
13	Mine Site Water Storage Dam (WSD) and TMF seepage	<p>The WSD is an earth filled structure and designed to minimize seepage and have the flexibility to be resistant to varying water drainage quality. Seepage through the dam will be controlled by a central acid-resistant asphalt core zone and grout curtain in the foundation bedrock. Any seepage will be collected by seepage interception tunnels and a seepage recovery pond located downstream of the dam. Seepage interception tunnels will be developed in the region between the grout curtain of the WSD and the grout curtain of the seepage collection pond. The purpose of these tunnels is to intercept flow paths and direct seepage into the seepage collection pond instead of allowing these flows to bypass the seepage dam and grout curtain. Under normal operating conditions, the seepage, estimated at 670,000 m³/yr, will be pumped directly to the WTP for treatment prior to discharge. In circumstances when the WTP is not operating, the seepage will be pumped directly to the WSF.</p> <p>TMF seepage will be controlled with a low permeability core in the tailing dams and dam foundation treatment. Seepage and runoff water will be collected downstream in seepage recovery ponds, and pumped back to the TMF. The ponds will also be used to settle solids eroded from the dam faces and fines from cyclone sand construction drain-down water. Seepage recovery dams will be constructed of compacted till. To restrict seepage, an inclined till core will be installed on the upstream face, along with cut-off trenches into overburden and grout curtains in bedrock, where required. Water quality impacts are not predicted downstream of either the WSD or the TMF.</p>	Ketchikan Open House (October 5, 2011)
14	Mine Site effects on Unuk River water quality and fisheries	<p>Selenium concentrations above the BC water quality guideline (0.002 mg/L) are predicted in the Unuk River immediately downstream of Sulphurets Creek (site UR1). Selenium concentrations are never predicted to be above the BC water quality guideline at site UR2 at the BC/Alaska border. Selenium concentrations in the Unuk River (site UR1 and UR2) are never predicted to exceed the Alaska selenium water quality guideline (0.005 mg/L). The predicted concentrations are within the safety factor of the BC water quality guideline and will be monitored through the Aquatic Effects Monitoring Plan. Key measures to minimize effects include construction and maintenance of an extensive system of water management facilities to divert non-contact water away from disturbed areas and to collect water that has contacted disturbed areas for treatment before release.</p> <p>Contact water collected at the WSF will be pumped to the Mine Site WTP located downstream near the confluence of Mitchell and Sulphurets creeks. The large treatment flows at certain times of the year are dictated by the requirement to match the natural hydrograph to ensure sufficient dilution capacity. The treatment rates in late fall, winter and early spring will be very low (0.10 to 0.25 m³/s) due to low receiving environment stream flows. Effluent water quality will be monitored continuously and water will not be released unless it meets discharge permit levels (see ML/ARD Management Plan in Chapter 26 for description of Mine Site water treatment including WTP and selenium treatment plant).</p> <p>The Project is not anticipated to impact Alaska fisheries during the construction of the Coulter Creek access road. Fish construction timing windows and federal Department of Fisheries and Oceans operational statements on bridge construction, explosives use and the protection of aquatic habitat, will be followed.</p>	Ketchikan Open House (October 5, 2011)

(continued)

Table S-1. Issues raised by Public and Stakeholders during the pre-Application Review Stage (continued)

No.	Issue	Seabridge Response	Where Raised
Fish and Fish Habitat			
15	Sedimentation effects on fish populations and movements	Section 36 of the federal <i>Fisheries Act</i> (1985a) imposes requirements for erosion control related to clearing, grading slopes, road building, and the excavation and stockpiling of soil. Chapter 26 of the Application/EIS includes an Erosion Control Plan, which will guide construction, operation, closure, and post-closure activities.	Last Frontier Heli-skiing (2008 Land Use Interview)
16	Effects of fish habitat due to Unuk River bridge	An 88-metre, three-span bridge is proposed across the Unuk River with a 1.5 m clearance above the 100-year flood level. The crossing location was selected to avoid sensitive blue-listed ecosystems and to reduce the potential effects on sensitive fisheries areas. Fish timing windows for construction and DFO operational statements on bridge construction will be followed. A small area of fish habitat will be lost to bridge pilings within the Unuk River mainstem (in Canada) and the loss is addressed in Seabridge's Fish Habitat Compensation Plan required under the <i>Fisheries Act</i> (1985a) and related policies.	Ketchikan Open House (October 5, 2011)
17	Cumulative impacts of mining in northwest BC on Alaskan salmon stocks	The cumulative effects assessment in the Application/EIS considers past, present, and reasonably foreseeable projects in NW BC. The Project is not anticipated to impact salmon stocks in the Unuk River, based on results of the fish and aquatic habitat effects assessment and cumulative effects assessment. It was concluded that neither past nor future projects cumulatively increase the risk of impacts on salmon stocks in the Unuk River.	Ketchikan Open House (October 5, 2011)
18	Bonding for potential damages to Unuk and Nass rivers in case of flood or earthquake	The BC <i>Mines Act</i> (1996) requires a holder of a permit issued under the Act to provide financial security for mine reclamation and to protect and mitigate damage to watercourses and cultural heritage resources affected by a mine. This ensures that money will be available to fulfill permit conditions. Seabridge will be required to provide additional bonding to cover mine operation.	Email from American citizen (April 2011)
Wildlife and Wildlife Habitat			
19	Baseline studies of transboundary wildlife species	Impacts on transboundary species, such as grizzly bears, have been assessed. Baseline studies included a DNA study comparing grizzly bears in the Project area with individual bears in Alaska. Two grizzly bears identified during baseline studies had been identified in other DNA studies in Alaska. Migratory birds were also surveyed. Aerial surveys for wetland birds were conducted during key seasonal stages (spring staging, pre-breeding, breeding, and fall staging). Point count surveys for forest and alpine birds were conducted during the breeding period.	Last Frontier Heli-skiing, Meeting - October 2009 American citizen (April 2011).

(continued)

Table S-1. Issues raised by Public and Stakeholders during the pre-Application Review Stage (continued)

No.	Issue	Seabridge Response	Where Raised
Economic			
20	Economic and employment benefits for northern BC	The Project will provide an estimated average of 1,800 direct and 2,510 indirect BC construction jobs (over 5-year construction period), and 1,040 direct and 1,840 indirect BC operation jobs (over 51.5 year mine life), with positive economic benefits for local communities and the region. The estimated capital cost of the Project is \$5.3 billion, with approximately \$4.6 billion to be spent directly in Canada. The Project will contribute an estimated CAN\$24.3 billion to BC's GDP and CAN\$1.4 billion in tax revenues to BC. Nationally, the Project will generate approximately CAN\$48 billion to Canada's GDP and a total of CAN\$9.1 billion in tax revenues during construction and operation.	Terrace Open House (June 28, 2010). Open Houses in Smithers, Terrace, and Stewart Fall 2012 Last Frontier Heliskiing - October 2009
21	Employment opportunities for Ketchikan residents	Ketchikan residents could be employed, subject to Canada's immigration laws.	Ketchikan Open House (October 5, 2011)
22	Project benefits for Aboriginal groups in Canada (Northern BC)	Seabridge is committed to hiring locally and regionally in British Columbia, where possible, and will arrange training and apprenticeships to enhance local and regional hiring, both for Aboriginal and non-Aboriginal workers.	Ketchikan Open House (October 5, 2011)
23	Procurement of local services	Seabridge will procure goods and services from the region where regional suppliers can meet procurement needs and are competitive in terms of quality and price.	Terrace Open House (June 28, 2010)
24	Providing access to power grid for Bell 2 Lodge from the NTL	A step down transformer will be installed in the proposed switching station, where the power line for the KSM Project connects to the NTL. Any potential power connection for the Bell 2 Lodge will have to be the subject of future discussions between Bell 2, BC Hydro, and the Project (following certification).	Last Frontier Heliskiing - October 2009, August 2012
Land Use			
25	Access to area for hunting and fishing	There will be no public access to the Mine Site or Processing and Tailing Management Area. The Coulter Creek access road and Treaty Creek access road will be gated and access controlled. Employees and contractors will be prohibited from hunting or fishing in the Project area. A Traffic and Access Management plan is provided in Chapter 26 of the Application/EIS.	Email from American citizen (April 2011)
26	Compensation for loss of ski runs	The Project will impact some existing ski runs within Last Frontier Heliskiing's tenure. While compensation is not a legal requirement, Seabridge has discussed, and is willing to consider, potential means of offsetting and mitigating for potential impacts to Last Frontier's heliski operations.	Meeting at Bell 2 Lodge, October 2009

(continued)

Table S-1. Issues raised by Public and Stakeholders during the pre-Application Review Stage (completed)

No.	Issue	Seabridge Response	Where Raised
Land Use (cont'd)			
27	Compensation for local communities and land owners due to pollution caused by Project	The Application/EIS assesses the potential environmental, social, heritage, health and economic effects of the Project, and identifies ways to avoid or mitigate adverse effects. Compensation for local communities is not being considered or provided as part of the mitigation.	Email from American citizen (April 2011)
28	Effects on Border Lake Provincial Park	No effects on Border Lake Provincial Park are anticipated. Monitoring programs will be conducted on the aquatic environment in consultation with applicable government regulatory agencies.	Ketchikan Open House (October 5, 2011)
Project Traffic			
29	Project traffic volumes through Stewart	<p>The largest increases in Project-related traffic are expected during the operation phase. A 40% increase (approximately 89 one way trips per day) is expected along Highway 37 between the Treaty Creek access road junction and Meziadin Junction, and a 15% increase (approximately 36 one way trips per day) is expected along Highway 37A. Increases along other highway segments and during the other Project phases range between 1 and 11%. However, these increases are proportionally higher than they would have been in the 1980s and 1990s, when overall traffic volumes were higher.</p> <p>On Highway 37A, predicted traffic with the Project is expected to be approximately 31% of historical maximum volumes during operation, and 27% for other phases. On Highway 37 north of Meziadin Junction, traffic volumes are predicted to range from 22 to 31% of historical maximum traffic volumes. South of Meziadin Junction, predicted traffic volumes are expected to range from 88 to 93% of historical maximum traffic.</p>	Stewart Open House (July 7, 2010)
Closure and Reclamation			
30	Mine Site and TMF reclamation plans	<p>The BC <i>Mines Act</i> (1996) and Health, Safety and Reclamation Code for Mines in BC (MEMNG 2008) sets out requirements for reclamation and closure. The Project goal closure and reclamation plan is designed to meet provincial requirements. The Project's closure and reclamation program has four main objectives:</p> <ul style="list-style-type: none"> • providing stable landforms; • re-establishing productive land use; • protecting terrestrial and aquatic resources; and • protecting heritage and archaeological resources. <p>Chapter 27 of the Application/EIS includes a conceptual level Closure and Reclamation Plan for the Project.</p>	Ketchikan Open House (October 5, 2011)

References

1985a. *Fisheries Act*, C. F-14.

1985b. *International Rivers Improvement Act* RSC. C. I-20.

1992. *Canadian Environmental Assessment Act* SC. C. 37.

1996. *Mines Act*, RSBC 1996. C. 293.

2002. *Environmental Assessment Act*, RSBC. C. 43.

Canadian Dam Association. 2007. *Dam Safety Guidelines*.

CEA Agency. 1994. *Reference Guide: Determining Whether A Project is Likely to Cause Significant Adverse Environmental Effects*. <http://www.ceaa-acee.gc.ca/default.asp?lang=En&n=D213D286-1>. (accessed January 15, 2013).

CEA Agency. 1999. *Cumulative Effects Assessment Practitioners Guide*. http://www.ceaa-acee.gc.ca/Content/4/3/9/43952694-0363-4B1E-B2B3-47365FAF1ED7/Cumulative_Effects_Assessment_Practitioners_Guide.pdf. (accessed January 15, 2013).

MEMNG. 2008. *Health, Safety and Reclamation Code for Mines in British Columbia*. <http://www.empr.gov.bc.ca/Mining/HealthandSafety/Documents/HSRC2008.pdf>. (accessed January 18, 2013).