Response to Comments Document

Draft Reclamation Plan Approval (F20129578) for the Rock Creek Mine – February 3, 2012

This document summarizes and addresses comments received on the:

- Rock Creek Mine Reclamation and Closure Plan;
- Rock Creek Mine Revised Closure Cost Estimate; and,
- Alaska Department of Natural Resources (ADNR), DRAFT Reclamation Plan Approval (F20129578).

Alaska Gold Company operated the Rock Creek Mine on private land located approximately six miles north of Nome. Mine development started in 2006 and, after a brief period of production in the fall of 2008, Alaska Gold Company suspended mining operations and has maintained the property under the terms of an approved temporary closure plan.

Alaska Gold Company submitted the Rock Creek Mine Reclamation and Closure Plan for the Rock Creek Mine. The plan incorporates a two-phase closure. Phase I would be completed prior to break-up in 2012 and involves the treatment and discharge of water stored in the Tailings Storage Facility, the covering of the tailings with a synthetic liner, and the breaching of the tailings dam. Phase II would involve moving the paste tailings from the Tailings Storage Facility to the Main Pit, backfill of waste rock to the Main Pit, dismantling mill and other buildings, site recontouring, topsoil placement, revegetation, and post-closure monitoring.

The state received comments from six parties:

1. Austin Ahmasuk;
2. Dave Chambers of the Center for Science in Public Participation (Chambers);
3. Stewart Levit of the Center for Science in Public Participation (Levit);
4. Jim and Chris Rowe ;
5. Sue Steinacher ; and,
6. Mike Young.

Permit-specific comments on the Rock Creek Mine Reclamation and Closure Plan, Rock Creek Mine Revised Closure Cost Estimate, draft ADNR Reclamation Plan Approval, and the state's responses are contained in the table on the following pages.

Comment #	Commenter	Comment	Comment Response
1	Austin Ahmasuk	I am disappointed that the public has only been given 15 days to make comment on the proposed reclamation plan. 15 days places a high burden on the public to make meaningful comment and is not enough time for the AK DNR to receive the necessary criticism of reclamation plans for the Rock Creek Mine (RCM). AS 44.37.011 (d) appears to require the AK DNR to make public notices available for at least 20 days. I have used all of the 15 days of the comment period for the proposed RCM Reclamation plan and have not been able to fully criticize the reclamation plan in consideration of the numerous supporting documents.	ADNR supports open and transparent governance, which is why the Rock Creek Mine Reclamation and Closure Plan, Rock Creek Mine Revised Closure Cost Estimate; and, Alaska Department of Natural Resources (ADNR), DRAFT Reclamation Plan Approval (F20129578) were public noticed where there was no regulatory requirement to do so. ADNR attempted to balance the public's interest with the need to complete our review of the plan and reach a decision in a time frame that allowed the company to complete Phase I reclamation prior to spring breakup. AS 44.37.011 does not apply.
2	Austin Ahmasuk	The AK DNR is approving reclamation without any consideration of alternatives. It is my opinion that the AK DNR should be considering alternatives so that the public is well informed on the full scale of reclamation.	The approval of reclamation plans are governed by 11 AAC 97.300 and the requirements for a mine reclamation plan are contained in 11 AAC 97.310. The reclamation plan must contain a description of the measures that will be taken to comply with the statutory and regulatory reclamation standards. ANDR may approve, disapprove, or approve with conditions a reclamation plan submitted by an applicant; however, there are no requirements for the development of different reclamation alternatives.

3	Austin Ahmasuk	It appears as though the AK DNR is not exercising it's duly appointed best management practice and has already made certain decisions about reclamation and is frustrating the public's involvement in the approval of the RCM reclamation plan. I am very puzzled by the timeframes in the reclamation plan. The reclamation plan discusses implementing certain activities in 2011 yet the reclamation plan is now being considered in 2012. If the AK DNR has already approved activities associated with reclamation then I believe the AK DNR has violated Alaskan Statute and severely violated the public's trust.	The mine is currently operating under the terms of the original Reclamation Plan Approval and other state authorizations. The mine has been conducting site management, water treatment and discharge, and monitoring under the terms of an approved Temporary Closure Plan. The activities that occurred in 2011 were activities that were approved by previous agency authorizations. The discussion of these activities was included in the Rock Creek Mine Reclamation and Closure Plan (October 2011) to make the agencies and public aware of the current conditions at the mine to allow evaluation of the proposed reclamation planned for 2012. ADNR did not make final decisions regarding the proposed Reclamation Plan Amendment (October 2011) until we completed of our review and consideration of the public comments.
4	Austin Ahmasuk	It is my opinion that all of the diversion ditches have posed significant threats to water quality of adjacent creeks. I urge the AK DNR to adequately ensure that upper ditches are properly decommissioned so that diversion is stopped.	The reclamation plan for the diversion ditches includes removal of the ditch and contouring to blend with the surrounding topography. Channel contouring will be done with an excavator pulling side-cast material back into the channel. Final grading will promote positive drainage across the previous ditch alignment. The area will be covered with a minimum of 0.30 meters (approximately 1 foot) of topsoil and will have seed applied and erosion controls emplaced. The reclamation should stop the interception of runoff by the diversion ditches.

5	Austin Ahmasuk	In reference to Figure 11, I fail to see how DC#3 will perform as expected without consequence to water quality once the TSF dam channel has been created and TSF impoundment is flowing. It is my opinion the TSF contains highly mobile and possibly toxic sediment from processing of at least 100,000 tons of ore. DC#3 needs to be addressed with more significant engineering to control the highly mobile and possibly toxic tailings. Because DC#3 will perform drainage functions for a time certain period there must be some discussion of decommissioning DC#3 after DC#3 fulfills function.	The Department of Environmental Conservation has indicated that: Water quality data collected for the past three years indicate that water contained in the Tailings Storage Facility (TSF) is not a source of toxic loadings to the surrounding ground or surface water. This data is summarized in Section 6 and Attachment 2 of the Rock Creek Mine Reclamation and Closure Plan (October 2011) and also is included in the Quarterly and Annual Reports submitted by Alaska Gold Company to the State of Alaska. The breach of the tailings facility dam as part of Phase I Reclamation will only occur after the dewatering of the tailings facility, placement of a synthetic cover over the tailings, and construction of the temporary diversion ditch to route surface runoff away from the tailings. The Upper Part of DC #3 will be reclaimed. The Lower Part of DC #3 will be retained indefinitely to route surface storm water runoff that flows through the breach in the reclaimed tailings facility dam to a channel that directs surface flows to Rock Creek. The proposed reclamation of the TSF was reviewed by the Alaska Departments of Natural Resources and Environmental Conservation and was deemed adequate to protect down-gradient water quality.
6	Austin Ahmasuk	The diversion ditches have acted effectively to divert a significant amount of water and sediment for a number of years and have been engineered to effectively divert surface and emergent water and therefore the resultant reclamation must adequately reclaim the topography so that diversion is halted and natural drainage conditions are remade	Please see Response to Comment #4.

7	Austin Ahmasuk	Tailings are presently not characterized. The public is not given the appropriate information to rebut the tailings disposal method or treatment when placed to the main pit. I would have liked to see some characterization of the tailings so that the public would have knowledge of the kinds of geochemical processes that might affect long term storage of tailings to the main pit. A discussion of tailings geochemistry would better inform the public. The public is not given that information and thus cannot effectively comment on the disposal method or location to the main pit. There is no characterization of how the tailings will interact with the hydrography of the area including drainage to ground or surface water. Additionally, it appears the AK DNR is not even concerned with that discussion because the main pit will not be lined or otherwise engineered to control water flow thru the main pit.	During the permitting of the Rock Creek Mine, humidity cell tests were conducted for five sample types including an ore composite and two tailings samples produced during metallurgical tests. The ore composite humidity cell ran for 116 weeks and the two tailings humidity cells ran for 84 weeks; the pH of the leachate remained in the 7.0 to 8.0 range for most of the duration of all three tests and remained above 6.0 at all times. The Department of Environmental Conservation has indicated: (a) Table 5 in Attachment 2 of the closure plan provides data for both (1) the RWP which has historically received runoff from the development rock/ore stockpile and (2) water that has accumulated in the Main Pit; (b) similarly; Section 6.4.1 summarizes ongoing surface water monitoring that has occurred at the site; (c) These data support the assertion of no evidence of acid generation; and, (d) They are further supported by contained, surface, and ground water monitoring data provided by AGC in its annual reports, which are available to the public through DNR's website. See in Section 6.4 of the closure plan. Please also see Response to Comment # 16.

8	Austin Ahmasuk	AGC must be required to conduct WQM of Lindblom Creek, Glacier Creek, Albion Creek, and the mouths of said creeks as they empty into Snake River. According to Figure 25 they are not proposing to conduct WQM in any of the areas that I mentioned.	The proposed post-closure water quality monitoring program is comprehensive in terms of ground and surface water monitoring locations, parameters, duration, and reporting requirements. These are strategically focused on the areas vulnerable to impact by the reclaimed mine facilities. Glacier Creek is located outside the sphere of mine influence. Lindblom Creek received storm water from Diversion Channel #1, the closure plan will remove Diversion Channel #1 halting the flow of storm water into Lindblom Creek, and it will not be impacted post-closure. Albion Creek is generally above the Main Pit area and within the Rock Creek drainage that will be monitored.
9	Austin Ahmasuk	In 2006 AGC proposed stream reclassifications during mine permitting, and has dramatically affected the public enjoyment of those creeks via their implemented reclassification and via mine operations.	The requested stream reclassifications were never granted by the Department of Environmental Conservation and water quality standards have always been in effect.
10	Austin Ahmasuk	All of the creeks within the footprint of the mine have been dramatically affected and require study by AGC to address those impacted streams.	Please see Response to Comments # 8 and # 9.
11	Austin Ahmasuk	I am thoroughly disappointed that AGC would be permitted reclamation activities without full WQM of all affected streams from mine operations.	Please see Response to Comments # 8 and #9.

12	Austin Ahmasuk	I have not been able to fully criticize reclamation plans for the RCM in this very brief 15 day comment period. I provided significant comment to the AK DNR during mine permitting and provided comment on several water quality violations of the RCM during mine operations. I have maintained a keen interest in this mine and have voiced strong opposition to it for the reasons that are now all too clear. The RCM operations have failed to mitigate environmental impacts and have caused severe environmental problems. I do feel some satisfaction that Alaskan laws and regulations were able to provide the necessary enforcement and oversight. However, it is my opinion that without volunteer public efforts by the citizens of Nome there might have been less enforcement and oversight. I encourage the closure of the mine and look forward to the proposed topography indicated in the figures and I encourage the AK DNR to keep the public informed of changes to RCM reclamation. I also encourage the AK DNR to ensure the best management practices are upheld during mine closure. Lastly I would like to convey that it is my opinion that the public of Nome is interested in full and adequate reclamation of the Rock Creek area to its former glory as an area of abundant wild greens and berries.	Comment noted.
13	CSP2 - Chambers	Two weeks is not an adequate public comment period. I realize that DNR is not required to take public comment, but if DNR is going to take public comment, then it needs to do it properly.	ADNR supports open and transparent governance, which is why the Rock Creek Mine Reclamation and Closure Plan, Rock Creek Mine Revised Closure Cost Estimate; and, Alaska Department of Natural Resources (ADNR), DRAFT Reclamation Plan Approval (F20129578) were public noticed where there was no regulatory requirement to do so. ADNR attempted to balance the public's interest with the need to complete our review of the plan and reach a decision in a time frame that allowed the company to complete Phase I reclamation prior to spring breakup. Your comment is noted.

14	CSP2 - Chambers	This is probably a good example of why public review comment periods are mandated for other state and federal permit reviews – without the protection of a regulatory requirement the comment period is structured to meet agency needs, not to facilitate public participation. The net result is that the agency is likely to get only token public participation. Ultimately the agency suffers – it either fails to consider adequately outside comment and then makes unnecessary mistakes in the permitting process; or, it gets a rigid public participation process mandated by regulation or statute. To say that the permitting process for the Rock Creek Mine, which has been an expedited process at virtually every step, has led to an exemplary project would be more than an overstatement.	Comment noted.

15	CSP2 - Chambers	The Alaska Gold Company wants to breach the tailings dam this spring to allow snowmelt to drain. Breaching the dam will also mean breaching the liner on the face of the dam. This would be OK if the dam was being permanently decommissioned. However, DNR has noted that the Alaska Gold Company has been in discussions with Sitnasuak Native Corporation and Bering Straits Native Corporation regarding potential acquisition of the entire Rock Creek mine site. BSNC and SNC are expected to work towards re-opening the mine under a new mine plan. If the dam was to be breached and the mine then reopened, the dam would need to be reconstructed (the location of the tailings impoundment will not be changed), and the liner in the dam repaired. Repairing a synthetic liner on a reconstructed tailings dam would be difficult. Recommendation – The dam should not be breached unless the mine is to be permanently closed. Consequences of a liner failure, which could lead to a leaking dam or even dam failure, could be severe.	The Rock Creek Tailings Storage Facility (TSF) Dam was designed and approved for operation to impound paste tailings and a limited amount of water. After the mine suspended operations in 2008 and entered temporary closure, the dam was required to impound a substantial amount of water contrary to the original design. This change in operation caused significant distress to the dam, which required intensive mitigation efforts by the dam owner to assure the safety of the dam. Subsequently, a temporary *Certificate of Approval to Operate a Dam* was issued for operating the dam during the temporary closure period, under the conditions that the impoundment was dewatered and a design and schedule were submitted by the end of the temporary closure period to either repair the dam for return to service or breach the dam for abandonment. The temporary *Certificate of Approval to Operate a Dam* expired on November 24, 2011. While there appears to have been considerable discussion and opportunity to transfer ownership and responsibility for the dam during the three year temporary closure period, to date there has been neither an application for transferring the *Certificate of Approval to Operate a Dam* to a new owner, nor an application for a *Certificate of Approval to Repair a Dam* for returning the dam to service. The dam owner did submit an application for a *Certificate of Approval to Abandon the Dam* in December, 2011 with a schedule to conduct the work in the first quarter of 2012. This certificate will be issued by ADNR pending receipt of engineered drawings issued for construction. It is imperative that a dam have a responsible owner. The design of the Rock Creek TSF Dam requires an active operation plan and does not allow for a passive operation due to the lack of a spillway. The ADNR Dam Safety and Construction Unit believes that the risk from a repaired liner system for potential future operation of the dam is substantially small compared to the risk from passively operating the dam without a responsible owner. Absent an application from a responsible party for a *Certificate of Approval to Repair a Dam* for return to service, the dam must otherwise be breached to render the structure safe. Please also see Response to Comment #18.

16	CSP2 - Chambers	The tailings in the tailings pond were subjected to cyanidation. After processing, which typically generates strong chemical reactions and liberates contaminants, these tailings were placed in the lined tailings impoundment. This was/is an appropriate disposal approach. AGC's proposal is to take the tailings and place them in the pit, unlined and unprotected from infiltration and leaching into local groundwater. I agree with the general approach of co-disposal of the tailings and waste rock. However, because the processing that was done at Rock Creek to extract the gold (exposure to cyanide), at a minimum the tailings that will be moved to the pit should be carefully characterized by geochemical testing. The tailings that will be removed from the CIL tanks and moved to the pit will be encapsulated with a liner. This is appropriate. Yet tailings that have been subjected to the same chemical processing, and placed in the tailings impoundment, will be moved to the pit, placed without the benefit of a liner, and with no geochemical processing. This is not an appropriate waste disposal plan. Recommendation – DNR should require that either: (1) adequate geochemical sampling of the tailings be conducted to insure they will not lead to the leaching of contaminants into the groundwater; and/or (2) the tailings be encapsulated in a liner like the tailings from the CIL tanks. Neither of these alternatives should be cost prohibitive.	The Tailings Storage Facility (TSF) was designed and constructed for containment of paste tailings. The seepage barrier system, consisting of an HDPE liner on the upstream face of the dam extending through a region of weathered bedrock and terminating at competent bedrock, was designed with the assumption that the TSF would primarily store paste tailings and a minimal amount of water from direct precipitation. The mine operated sporadically in startup mode for about seven weeks during which 110,000 tons of tailings were placed. The CIL circuit operated during less than half of that tailings production, and the CIL circuit operated in a manner where only 15% of tailings output were exposed to cyanide. Conservatively, 15% of the 55,000 tons, or 8,250 tons, were exposed to cyanide, and those cyanide-exposed tailings are placed at the top of the tailings pile. Halt of operations in 2008 resulted in the TSF gathering precipitation and transforming the TSF into a water storage reservoir containing up to 135 million gallons of water at times. The water stored in the TSF introduced heat to the embankment foundation and likely degraded the permafrost under the TSF. Models have demonstrated that the continued storage of a significant volume of water within the TSF has prevented the bedrock around the liner cutoff from remaining frozen, resulting in seepage at elevated rates. The seepage collection system installed at the toe of the TSF dam as part of the dam's construction has pumped dam seepage from the Main Sump back behind the dam for more than three years at rates as great as 700 gallons per minute.

16 (cont.)	CSP2 - Chambers		The Alaska Department of Environmental Conservation has indicated: In addition to the extensive geochemical test work that was completed during the mine permitting process, the tailings have remained in the TSF for more than three years since the mine ceased operations. During this time, the water has been withdrawn, treated to permit limits, and discharged, and the water level in the TSF has fluctuated. As a result, the tailings have been rinsed and exposed "beaches" of tailings were created during 2010, 2011, and 2012. Throughout, Alaska Gold Company has collected data on the TSF pond water quality, the Main Sump which receives flows from the foundation drains, and wells downgradient of the TSF. The sump and well data are summarized in Section 6.4.2 and Attachment 2 of the Rock Creek Mine Reclamation and Closure Plan (October 2011) and all monitoring data are also presented in the publicly available, quarterly and annual reports submitted by the company to the state. The Alaska Department of Environmental Conservation has determined that these data lack evidence of cyanide releases, acid drainage, or other metals mobility that pose a risk of adverse impacts to water quality from the TSF. Consequently, data indicate that tailings placement in the Main Pit is appropriate. However, confirmatory geochemical test work on the tailings will be conducted under the Alaska Department of Environmental Conservation monitoring plan before tailings are removed from the TSF. The material in the TSF is distinctly different from the CIL tailings that remain in the tanks, which have not been subject to the same degree of weathering or in situ environmental monitoring. The small volume of CIL tank tailings, disposal in a lined area is appropriate.

17	CSP2 - Chambers	It is disappointing that DNR appears to be sacrificing caution for the sake of expediency (and cost savings in water treatment for AGC) in forging ahead on the reclamation project. The mine has been sitting idle for several years and it will hurt nothing, but risk much, to move forward without taking proper precautions.	Comment noted.
18	CSP2 - Levit	The Closure Plan proposes two reclamation stages. The inclusion of breaching the Tailings Storage Facility (TSF) dam in Phase 1 poses significant risks. The Closure Plan states that: *AGC has been in discussions with Sitnasuak Native Corporation (SNC) and Bering Straits Native Corporation (BSNC) regarding potential acquisition of the entire Rock Creek Mine site. Currently, SNC owns a portion of the surface land at the site, while BSNC owns a portion of the mineral rights. If the acquisition is completed, BSNC and SNC are expected to work towards re-opening the mine under a new mine plan. Phase 2 of this closure plan would only be conducted if the acquisition does not occur. (Closure Plan, p.* *Phase I* *Remove water from the TSF;* *Install a temporary cover over the tailings; and* *Breach the TSF dam. (Closure Plan, p.2)* The Closure Plan acknowledges that there is a chance that the mine will be reopened after implementing the Closure Plan.	See Response to Comment # 15. Also, please note that the ADNR Dam Safety and Construction Unit is not opposed to repairing the dam for its return to service, but cannot approve the passive operation of the dam without a responsible owner with an active operations plan. Because some repair of the dam is expected in order to return the dam to service for active operations, ADNR Dam Safety does not believe that the repair of the breach would impose any significant amount of additional risk to a potential future operation. If the ownership of the property is transferred prior to completion of Phase II Reclamation, a number of state authorizations would be required prior to any work being conducted to place the current tailings facility back into operation: • A Certificate of Approval to Repair a Dam would be required by the ADNR Dam Safety Unit prior to any construction to return the dam to service; • An Amendment to the current Reclamation and Closure Plan would be required; and, • An application for a new Waste Management Permit would be required by the Department of Environmental Conservation, which would require public notice.

18 (cont.)	CSP2 - Levit	If that happens it is anticipated that the TSF dam would be repaired (liner repaired, structure patched) and reused for the reactivated mine. This poses the risk of future TSF dam leakage or other failure. The TSF dam should not be breached if there is a possibility that the mine will be reopened. If the mine were reopened the TSF dam would need to be patched. Patching the TSF dam could lead to unanticipated seepage problems through/around a repaired HDPE liner on a reconstructed dam. Even though there is the chance of leaking or failure exists at any tailings impoundment - it is likely to be much higher at a tailings impoundment that has required substantial repair/rebuilding, such as following the proposed breaching. These concerns are supported by Section 3.4 of the Closure Plan, which describes a suspected leak from the TSF dam - requiring the pumping-back of seepage water (and groundwater). Repairing the breached TSF would require repairing the liner (exposing the existing liner and bonding/welding to form a solid face, without damaging the existing liner or the new liner before, during, or after the dam face repair) and restoring the integrity of the existing dam face with new material. This breach-repair potentiality is an invitation to future leakage. Therefore, the TSF dam should not be breached if it could be used again. Recommendation: The tailings impoundment should only be breached if it there is no reasonable possibility of it being used in the future. The TSF dam should not be breached without an accompanying commitment to permanently close the mine.	(Please see comment above.)

19	CSP2 - Levit	The Closure Plan identifies existing and proposed groundwater monitoring. Because of the potential for long term risk for leakage, leaching, and contamination to groundwater, long term groundwater monitoring will be important to protect human health and the environment and ensure that potential future risks and costs are identified at the earliest possible time (notably before bond release). Regarding wells, the Closure Plan identifies that: *The WMP requires AGC to operate and maintain downgradient monitoring wells below the injection well field (IWF) to ensure that treated wastewater injection does not contribute to an exceedance of Alaska water quality standards or show a statistically significant increase over applicable water quality standards when accounting for natural conditions. This requirement also applies to downgradient monitoring wells below the TSF to ensure that seepage from the TSF, if any, is not adversely affecting groundwater quality. If an exceedance is observed, AGC must initiate a corrective action plan to identify and, as appropriate, address the cause. The Rock Creek Mine 2010 Annual Report, submitted to ADEC and ADNR in March 2011, presents the results of recent groundwater monitoring at the site. (Closure Plan, p. 16)* There is a reasonable likelihood that cyanide and other contaminants could be released into groundwater - from the tailings facility and pit. The tailings facility is lined - which demonstrates good design intentions - But it already has seepage concerns (*see e.g.* Closure Plan section 3.4). The pit is not lined. They both therefore pose a reasonable potential to release contaminants into groundwater.	Once the physical reclamation of the site is complete, ground water quality monitoring will be required annually in the post-closure period as provided for in the Table 8 of the Rock Creek Mine Reclamation and Closure plan (October 2011) during years 1, 2, 5, 10, 15, 20 and 30. The Alaska Department of Environmental Conservation has reviewed and considers the proposed post-closure monitoring plan to be adequate for detecting potential future changes to water quality from the reclaimed mine facilities.

19 (Cont.)	CSP2 - Levit	It is recommended that a number of wells be committed to long term monitoring to assess the various reasonable sources of contamination of groundwater. The most important of these is well MW11-18, which requires long-term monitoring to insure that groundwater contamination is quickly identified from cyanide and other contaminants in the tailings that are backfilled into the pit. This is one of the most important monitoring sites at the mine because it will likely be the first site to identify groundwater contamination leaking from the pit. Recommendation: Well MW11-18 should be monitored at least once a year for at least 30 years to ensure that long-term contamination to groundwater is detected and can be treated (and/or monitoring expanded as warranted). Other groundwater sites should be monitored for at least ten years.	(Please see comment above.)
20	CSP2 - Levit	Similarly, long-term surface water monitoring is warranted because potential groundwater contamination could lead to surface contamination. Further, surface waters currently meeting water quality standards could reasonably degrade as pit, TSF, or other facilities leach or release contaminants. When the mine is active there is more monitoring and/or chances that someone will see something is leaking or being contaminated. This is not a recommendation for full-scale long-term monitoring. It proposes reasonable long-term monitoring to confirm that neither surface nor ground waters are being contaminated and recognizes that contaminants can take decades to begin to release or appear at monitoring sites. Recommendation: All surface water monitoring sites should continue for at least ten years, followed by a phase-down of sites.	Once the physical reclamation of the site is complete, surface water quality monitoring will be required in the post-closure period during years 1, 2, 5, 10, 15, 20 and 30. The surface water monitoring locations include Rock Creek below Diversion Channel #3 and the Snake River below Rock Creek. The Department of Environmental Conservation believes these monitoring sites are strategically located to detect any post-closure impacts to water quality including specifically the reclaimed Main Pit area and TSF. Please also see the Response to Comment # 8.

21	CSP2 - Levit	In mid-2011 ADEC issued a permit to discharge treated water from the TSF, RWP, and Main Pit while operating under temporary closure and final reclamation. It is important that this permitting - and reasonable monitoring - continue well beyond the few years-duration of the permit. The Closure Plan states that: *The APDES permit expires on July 31, 2016; permit renewal requires an application to be submitted 180 days prior to the expiration date. The APDES permit includes discharge limits comparable to the WMP and UIC permits, which are generally based on Alaska's water quality standards. As such, the treated water quality is projected to meet the effluent limits in the permit. (Closure Plan, p. 24)* Even if effluent limits are met, there is a reasonable possibility that contaminants could leach and/or be released - even after a period of water quality meeting permitted effluent limits. This occurs at many mines and it is reasonable to assume it could happen at Rock Creek. Recommendation: Reasonable, representative sampling should occur during the permit period and for a period of at least 30 years after mine closure (or mine/reclamation activities, whichever is latest). This is the minimum necessary to ensure that geochemical, hydrologic, and contaminant changes do not degrade water quality.	The Alaska Pollutant Discharge Elimination System permit requires effluent monitoring whenever there is a discharge. When discharge ceases so do effluent monitoring requirements. Post-closure monitoring is required by both the Waste Management Permit issued by the Alaska Department of Environmental Conservation and the Reclamation Plan Approval issued by the Department of Natural Resources. When all discharges have ceased and the mine has been closed, groundwater and surface water quality monitoring will continue at strategically located sites, including Rock Creek, for at least 30 years. Please also see Response to Comments # 19 and #20.

22	CSP2 - Levit	Section 6 of the Closure Plan discusses post-closure monitoring and provides that: *The post closure monitoring period extends to 30 years following the completion of major closure activities, although AGC reserves the right to request termination of some or all post closure monitoring requirements upon submittal to ADEC of information documenting the return to natural conditions for the Rock Creek Mine site." (Closure Plan, p. 56)* Water quality monitoring should be at least 30 years - longer would be reasonable. While the right to request termination may be reasonable, a reduction in monitoring should only be granted in circumstances where future contamination or reclamation failure is not possible, and only with notice to the public and the opportunity for public comment. Recommendation: Surface water monitoring should continue at representative sites for a minimum of 30 years to ensure that long-term contamination to surface water is detected and can be treated (and/or monitoring expanded as warranted). Any reduction in monitoring should be subject to public notice and at least a 30-day comment period.	Please see Response to Comments # 19 and # 20 for a discussion on the duration of the post-closure monitoring period. All monitoring reports are matters of public record and are available for review or request from the agencies. ADNR attempts to balance the public's interest with the need to make routine regulatory decisions. While significant proposed modifications to the reclamation plan will likely be public noticed, we cannot commit to future public notice of minor changes to the reclamation plan, the approval of reclamation actions, or changes to monitoring requirements.

23	CSP2 - Levit	*The Main Pit is located to the east of the main plant site and downgradient from DC #1. During active mining in the pit, groundwater and precipitation were intended to be dewatered through a series of dewatering wells. While in temporary closure, however, water has been allowed to accumulate in the pit and has not been actively dewatered. The Main Pit floor is approximately at the groundwater table, with little appreciable groundwater infiltration into the pit. Water accumulating in the pit, therefore, drains slowly to groundwater over the year. The Main Pit's maximum free water capacity is approximately 141,000 m^3.* The Closure Plan describes that the Main Pit will be backfilled "*with paste tailings from the TSF, development/ore rock, excess fill, and topsoil"* (Closure Plan, p. 34). It is difficult to assess from the Closure Plan exactly what the size/fractionation is of these materials but it can widely vary. Waste rock, in particular, can be very course compared to the other materials. If fine materials, such as topsoil or fine fill, are placed over course materials such that the material sizes are very different, the smaller materials placed on top of the larger materials can form a layer that appears stable but over time (ranging from weeks or months to many years) may form pipes (piping) or simply infiltrate (fall) into the larger material. For this reason, operators and inspectors must be aware of the problems associated with disparate size fractions when materials are being placed. This is particularly important for topsoil, which can be particularly susceptible to infiltrating/falling into spaces below it during storm events, snowmelt, and freeze/thaw cycles. Recommendation: Establish general criteria and guidance to ensure that materials placement in the Main Pit (and anywhere on the site where topsoil is replaced) does not allow small size materials to be placed on materials that have much larger size particles. Where this could happen, an interlayer of mid-size materials should be placed between them.	The Reclamation Plan Approval requires the work to be conducted in accordance with the closure plan, which requires the grading of waste rock to prevent ponding of surface runoff prior to the placement of topsoil. In order to cover waste rock, placing finer grained material on top of coarse material cannot be avoided. Due to the geological nature of the schist waste rock, the grading action is expected to break up the rock and densify the upper layer, clogging the pore spaces between coarse rocks with smaller grained particles. Without ponding, the infiltration of surface water is not expected to generate sufficient seepage pressures to develop soil piping phenomenon which would otherwise require a graded filter layer between the waste rock and topsoil. No modification to the Reclamation Plan Approval is required.

24	CSP2 - Levit	The Closure Plan proposes that: *Monitoring for noxious weeds will be included in the annual revegetation inspection and controlled as necessary. An interim revegetation standard of 30% vegetation cover over the disturbed areas within three years will be used. A final standard of 70% vegetation cover is proposed for final bond release. In general, the primary emphasis of reclamation activities will focus on promoting rapid, natural recovery of indigenous vegetation. (Closure Plan, p. 34-35)* The revegetation plan should establish specific goals for essential revegetation features, and not just percentage cover. There should be clear noxious weed criteria, based on basal and aerial cover, which should be used to trigger treatment and retreatment. Recommendation: Establish clear noxious weed criteria, including the lowest amount of weeds that will trigger treatment and the highest allowable percentage of noxious weeds that will be allowed for bond release.	Noxious weeds and the presence of these species are regulated by DNR; Title 11 AAC 34. While the Nome District has had the introduction of a few weedy plant species associated with agriculture, problematic noxious weeds are not expected to be a concern. Responsible mine operators and construction companies should as a standard operating procedure, assure that equipment does not transfer weeds and weed seed from one site to another. If equipment is brought into the area from regions with known populations of invasive plant species or noxious weeds, that equipment should be inspected and thoroughly cleaned to remove soil, plant and seed contaminants prior to use at a mine site. The same would be true if a population of noxious weeds was found in the mine site and equipment moves from one area to another. The following stipulation will be included in the Final Reclamation Plan Approval: "If equipment is brought into the area from regions with known populations of invasive plant species or noxious weeds, that equipment should be inspected and thoroughly cleaned to remove soil, plant and seed contaminants prior to use at the mine site. If a population of noxious weeds is found at the mine site, equipment should be inspected and thoroughly cleaned to remove soil, plant and seed contaminants prior to use at another area at the mine site."

25	CSP2 - Levit	The 30% vegetation cover goal is low and should be higher - at least 50%. More important, the 70% vegetation cover should be 80%. Further, the percentage cover should be required to persist for at least 5 consecutive years prior to bond release. Plant growth (germination and early growth) is not as important as long-term establishment. Recommendation: Establish higher minimum percentage coverages - it is recommended at least 50% after three years and 80% for five years for revegetation bond release.	The 30% / 70% revegetation cover requirement appears to be working at other mine sites in Alaska. The Alaska Department of Natural Resources Plant Materials Center reviewed the proposed revegetation plan for the Rock Creek Mine and determined that the proposed revegetation criterion was adequate and no change in the reclamation plan was deemed necessary. Please also see Response to Comment # 27.
26	CSP2 - Levit	Because of the diverse post-mine land uses proposed, it will be important to establish criteria for both alpha and beta diversity. This may be implied by "presence, abundance, frequency, and importance" referred to on Closure Plan page 63, but it should be made clear and percent criteria should be established to identify both alpha and beta diversity for success and failure. Without these standards revegetation could achieve the required percent coverage but not establish, or even provide a reasonable ecological basis for future establishment of, a diverse vegetative cover needed for post-mine land uses. These standards should roughly mimic the pre-mine alpha and beta diversity numbers for the mine, broken down into appropriate sub-regions. The goal is to ensure that both species numbers and richness are established - which is necessary to achieve post-mine land use goals. Recommendation: Establish clear alpha and beta diversity requirements for vegetative cover.	The Division of Mining, Land and Water has observed that if topsoil is replaced and stabilized through the establishment of an initial vegetative cover, native species from adjacent undisturbed areas will naturally reinvade the reclaimed facilities. No changes to the Reclamation Plan Approval regarding alpha and beta diversity requirements are deemed necessary.

27	CSP2 - Levit	Specific monitoring requirements are presented in section 6.2 (Revegetation Monitoring Methods). These methods do not include important standards and measurables that are necessary to functionally demonstrate revegetation success and failure. The Closure Plan states that: *Monitoring would be performed annually for a minimum of five consecutive years, continuing until successful reclamation is demonstrated. The primary criterion for success will be 70% revegetation cover. (Closure Plan, p. 63)* The 5-year period described should re-start whenever revegetation activities are taken to enhance revegetation. The goal of the minimum period should be demonstrating that plants have established and are self-sustaining. If supplemental activities are taken (such as adding amendments, fixing erosion or subsidence, recontouring, reseeding, planting, weed control, etc.) then the clock should re-start to ensure that vegetation is actually surviving on its own. The 5-year period should demonstrate the site's ability to sustain itself - not demonstrate that with various treatments the company can keep the site growing. Recommendation: Revegetation success should be measured no sooner than five years after revegetation goals have been met - without additional treatments or activities. If additional treatments or activities are undertaken, the 5-year clock should restart to ensure that revegetation and long-term plant establishment has actually occurred.	The requirement for revegetation success to be measured five-years after reclamation is already a requirement of the Reclamation Plan Approval (F20129578). However, ADNR Plant Materials Center has pointed out that the need to "restart" the clock should not be an absolute mandate. What constitutes additional treatments or activities? Revegetation efforts can be subjected to impacts beyond natural occurring events. There should be some allowance to counter these unexpected events as part of the management responsibilities of the permit holder. CSP2 previously suggested noxious weeds need to be addressed; but now it appears that would constitute an additional treatment and therefore a trigger that would restart the 5-year clock. Also, for example, if grazers negatively impact the revegetated site, the company should not be penalized for providing the habitat or food source that they created. Fine tuning and/or introducing new proven technology, methods or products that will increase the longevity, diversity or just general survival of revegetation efforts should be encouraged not penalized. Revegetation and reclamation are progressive and dynamic fields of work and study. Putting arbitrary time periods in the way of potential progress only hinders progress. It certainly limits access to potential trial and research sites. Per ADNR Plant Material Center recommendation, the stipulation in the Final Reclamation Plan Approval will be modified as follows: "The 70% revegetation cover criteria must be achieved, and maintained for, a minimum of five years after the last application of seed, fertilizer, growth media, soil amendments, or water except for natural precipitation, unless otherwise approved by ADNR".

28	CSP2 - Levit	The Closure Plan proposes identifying potential contamination in Area 1 based on visual inspection. The Closure Plan states: *Soil and fill materials within Area 1 will be visually inspected for spills and the type and extent of contamination, if any, will be determined. If necessary, remedial measures will be developed. Material that cannot be treated in-situ will be excavated and disposed of in the Nome solid waste landfill or other facilities certified to accept petroleum contaminated and other specific types of wastes. (Closure Plan, p. 37).* This is not adequate because spills may leave no clearly visible surface marks or been obscured by subsequent activities. Recommendation: Plant operations records and more in-depth inspection, including monitoring where there is a reasonable possibility that spills or leaks occurred, should be made to ensure that spills and contaminants are identified and responded-to prior to further reclamation. This is not a proposal for area-wide chemical analysis, but areas of known or likely contamination from spills should be inspected beyond visual inspection.	The mine developed and implemented the Rock Creek Spill Prevention Control and Countermeasure (SPCC) Plan. This plan and the ADEC Waste Management Permit required fuels and chemicals at the Rock Creek Mine to be stored with proper containment and control measures, and material handling procedures to be implemented to minimize spill potential. Reportable spills were documented in the project Annual Reports, which indicated that spills and leaks at the Rock Creek Mine were addressed and reported consistent with the projects approvals. Current records indicate no need to clean-up any spills to soils or fill during the closure activities. During mine reclamation, the SPCC procedures and the ADEC Waste Management Permit requirements, including storage, handling, clean-up, and reporting, will be implemented along with visual inspections to identify any areas that may require additional scrutiny.

29	CSP2 - Levit	The Closure Plan proposes in-situ neutralization/decontamination of solutions and chemicals. The Closure Plan states: *Equipment, tanks, pipelines, and other facilities in contact with acid, hydrocarbon, organic, and cyanide solutions will be decontaminated with neutralizing solutions (e.g., lime solution, surfactants, oxidants, and chlorine). Rinse solutions will be captured and managed in the RWP. (Closure Plan, p. 39)* This general approach is reasonable but a standard should be established for notably hazardous or toxic (to human health and/or the environment) materials to ensure that they are fully neutralized - and that neutralizing or decontaminating materials are not over-used, potentially causing contamination from the materials being used for decontamination. A good example is cyanide, which even after decontamination often leaves cyanide residues in the discharge that could persist in sufficient quantities to be hazardous, particularly to wildlife. Recommendation: Decontamination and neutralization procedures should be based on clear standards and protocols, such as those recommended by manufacturers and safety agencies, to ensure that decontamination and neutralization are complete and do not cause ancillary contamination from the decontamination and neutralization materials.	The Alaska Department of Environmental Conservation has determined that it is unnecessary to establish a specific decontamination standard for each piece of equipment or facility at the Rock Creek Mine site. However, all individual decontamination activities must be documented and solutions must be disposed of in accordance with the ADEC Waste Management Permit. As a point of clarification, the closure plan incorrectly states that all rinse solutions would be managed in the Recycle Water Pond (RWP). Since the RWP will be closed under Phase I, it will not be available under Phase II when most of the decontamination would occur. Generation of small volumes of rinse solutions is anticipated, and they will be contained in tanks or similar vessels. Then, solutions may be discharged according to ADEC Waste Management Permit requirements or disposed of off-site per relevant regulatory requirements.

30	CSP2 - Levit	The language of the Closure Plan does not clearly state (though could in places be read to imply) that all available salvaged or salvageable soil will actually be distributed at the site to ensure maximum growth media is available. The Closure Plan states: *Table 7 below describes the quantities of soil per area that are required to reach the minimum goal of 30 cm (60 cm over the pit areas). The soil will be picked up by loaders and hauled to the respective areas (closest to the piles). The excess of soil calculated may stem from either the estimation of organic stockpile #2, or that the area of the TSF is not accurate as a result of poor topography. As stated earlier, a survey is scheduled for fall 2011 that will clarify unknown quantities and elevations. The survey of the soil and disturbance areas will provide a more accurate soil balance. AGC and the contractor will salvage additional soil during the recontouring of areas and recover any additional soil should the opportunity present itself. (Closure Plan, p. 54-55)* The greater the depth/quantity of topsoil (soil growth media), then the greater the chances of revegetation success. Long-term vegetation success will depend on greater soil depths compared to short-term vegetation success. Greater soil depth may not benefit revegetation success in the 5-year period of revegetation monitoring but greater soil depths will benefit longer-term revegetation success. It would be a waste - and potentially impair long-term revegetation success to not use all topsoil resources. For the company, the extra benefit may not be realized because the company seeks the return of its bond and then it will leave the site forever. For the public - increasing revegetation success is highly valuable - and it is the public that will ultimately be responsible for the site when the company leaves. Therefore, it is important to ensure that all soils materials are actually properly distributed at the site. Recommendation: All soil material should be accounted for and distributed to maximize revegetation potential.	The Rock Creek Mine Reclamation and Closure plan (October 2011) calls for the placement of 0.30 meters (approximately one foot) of topsoil over all recontoured facilities except for the back-filled pit and the demolition debris monofill disposal site where 0.6 meters (approximately two feet) will be placed. The topsoil replacement commitment was reviewed by the Division of Mining, Land & Water and the ADNR Plant Materials Center and was determined to adequately address soil/growth media salvage and replacement for the establishment and long term survival of vegetation. No change to the Reclamation Plan Approval was deemed necessary.

31	CSP2 - Levit	The Closure Plan proposes that: *The results of analytical data and visual revegetation monitoring shall be reported to ADEC no later than 60 days following the calendar quarter subsequent to the collection of reportable data. Reports shall include all necessary data to determine data validity, data variations and trends, and any exceedance of the limits contained in this plan. All records created during the collection and analysis of reportable data shall be retained and made available to ADEC for three years. All reports shall be submitted to Sitnasuak Native Corporation and Bering Straits Native Corporation concurrent with submittal to ADEC. (Closure Plan, p. 63)* It is insufficient for this type of data to be produced and not specifically made available to the public. Disclosure to the public is important for many reasons, not least of which it is public money that will fund reclamation if the company fails and its bond is released or exhausted. Recommendation: All closure reports and data should be made available to the public so that the public has an opportunity to review analytical and revegetation data and monitoring results. Where decisions are to be made by regulatory agencies, such as bond release or altering the Closure Plan, then the public should be afforded a reasonable review and comment period.	All monitoring reports are matters of public record and are available for review or request from the agencies. ADNR attempts to balance the public's interest with the need to make routine regulatory decisions. While significant proposed modifications to the reclamation plan will likely be public noticed, we cannot commit to future public notice of minor changes to the reclamation plan, the approval of reclamation actions, changes to monitoring requirements or the release of bonding.

32	CSP2 - Levit	Tetra Tech's memorandum titled Updated Rock Creek Geochemistry Summary, dated July 8, 2011, addresses questions regarding the predicted overall acid rock drainage and metal leaching (ARD/ML) character of the backfill materials and the potential effect on surface and groundwater quality (ABA and the quality of runoff/effluent resulting from placement of backfilled materials compared to the surrounding groundwater and surface water quality). The memo states: *It should also be noted that no evidence of acid generation from the development rock or ore stockpiles has been observed to date. (Tetra Tech Memo, Updated Rock Creek Geochemistry Summary, dated July 8, 2011, p. 4)* The "update" appears to be entirely based on theoretical modeling. The above quotation alludes to actual water quality data - which should be included in the Closure Plan or clearly referenced by it to support the conclusions asserted. An example of data necessary by the public and agencies to assess Tetra Tech's claims would be the observed sulfate values. Further, it would be easy to perform paste pH tests of the pit wall rock to determine how the pit walls are reacting to weathering. Recommendation: The assertions about acid base accounting and potential acid formation appear to be largely theoretical. Actual analysis and monitoring data should be generated and provided to the agencies and public to demonstrate the actual (non-theoretical) potential for acid generation.	Geochemical characterization of the development rock and ore was conducted through ABA testing and humidity cell testing during the permitting of the mine. The State of Alaska contracted with a third-party geochemist (Jay McNee of Lorax Environmental) to evaluate the geochemical characterization program. He found that the methods used by Alaska Gold Company to assess the geochemical characteristics and potential for generating acidic or metal-rich drainage of the development rock and ore were appropriate. After review of all characterization data, Mr. McNee agreed with the applicant's assessment that it was reasonable to assume that the development rock dump at Rock Creek could be considered overall non-acid generating if the development rock was managed as proposed by the applicant. Operational geochemical monitoring of the development rock and ore was required by the Alaska Department of Natural Resources Reclamation Plan Approval. The results of this operational characterization monitoring can be found in the Annual Reports submitted to the State. The actual monitoring data indicates that it is appropriate to back fill the development rock and ore back into the Main Pit. The Department of Environmental Conservation has indicated: (a) Table 5 in Attachment 2 of the closure plan provides data for both (1) the RWP which has historically received runoff from the development rock/ore stockpile and (2) water that has accumulated in the Main Pit; (b) similarly; Section 6.4.1 summarizes ongoing surface water monitoring that has occurred at the site; (c) These data support the assertion of no evidence of acid generation; and, (d) They are further supported by contained, surface, and ground water monitoring data provided by AGC in its annual reports, which are available to the public through DNR's website. See in Section 6.4 of the closure plan. Please also see Response to Comment # 16.

33	CSP2 - Levit	The Rock Creek Mine Revised Closure Cost Estimate (Closure Cost Estimate) is predicated on the Reclamation Plan's proposed 12-month schedule. The Closure Cost Estimate states: *Due to seasonal limitations on mobilizing and demobilizing large equipment to Nome, this cost estimate includes 12 months of equipment rental with one mobilization and demobilization of equipment. (Closure Cost Estimate, p.2)* While a 12-month goal and plan are useful, many factors may cause actual implementation of the plan to take longer. Therefore financial and planning contingencies should be included in the Closure Cost Estimate to ensure that if there are delays then there is no resultant funding shortfall. The schedule proposed in the Closure Plan and summarized in the Closure Cost Estimate Figure 1 is not necessarily unreasonable but it is also reasonable that reclamation could take longer than proposed (it's been known to happen). Recommendation: The Closure Cost Estimate should add a 4-6 month financial contingency to its planning to ensure that costs predicated on a 12-month period (such as equipment rentals) are not shorted if reclamation takes longer than the proposed 12-months. A good example of this is equipment rental - which should not be shorted based on the estimated mobilization and demobilization window. Another example is water treatment, which at least for funding estimation should be considered at two years. (see Table 1, Closure Cost Estimate, p.10)	AS 27.19.040 requires the commissioner of the Department of Natural Resources to require an individual performance bond in an amount not to exceed an amount reasonably necessary to ensure the faithful performance of the requirements of the approved reclamation plan and to establish the amount of the performance bond to reflect the reasonable and probable costs of reclamation. The reclamation schedule proposed in the Rock Creek Mine Reclamation and Closure Plan (October 2011) was reviewed and found to be reasonable. Furthermore, a 10% contingency was applied to all estimated direct and indirect costs. The proposed plan calls for work to be undertaken under frozen conditions in the spring and thawed conditions during the following summer; therefore, the mining company was required to provide bonding to cover a full twelve-months of equipment rental costs even thought the actual work could be performed in less than twelve months. Similarly, water treatment costs were included for continuous operation of the water treatment plant for six months and then half-time operation for an additional six months even though the bulk of the anticipated water treatment has already been accomplished or will be accomplished in less than six months of issuance of the Final Reclamation Plan Approval. A draft cost estimate was reviewed by the Division of Mining, Land and Water and Alaska Gold Company revised the cost estimate to address agency concerns. The Division of Mining, Land and Water has determined that the proposed bond of $20, 272,000 is adequate to accomplish the Rock Creek Mine Reclamation and Closure Plan.

34	CSP2 - Levit	The Closure Plan describes that the estimated required topsoil for the proposed minimum depths is 669,900 m^3 and that the total soil available from stockpiles is 1,233,000 m^3. (*See e.g.* Closure Plan, p. 55, Table 7). As described in comments on the Closure Plan, increased topsoil resources almost always increases the long-term success of revegetation when compared to lesser topsoil resources. Therefore, all soil resources should be used for revegetation. Recommendation: To ensure long term revegetation and reclamation success, all topsoil resources should be distributed on sites to be reclaimed. Therefore, the Closure Cost Estimate should include the cost to distribute all 1,233,000 m^3 of topsoil (and not just the engineered 669,900 m^3).	The topsoil replacement commitment was reviewed by the Division of Mining, Land & Water and the Alaska Department of Natural Resources Plant Materials Center and was determined to adequately address soil/growth media salvage and replacement for the establishment and long term survival of vegetation. The Division of Mining, Land and Water has determined that the proposed bond of $20, 272,000 is adequate to accomplish the Rock Creek Mine Reclamation and Closure Plan and that it would not be reasonable to require bonding for replacement of all topsoil resources.
35	Jim and Chris Rowe	If the mine is going to be closed the TSF will be breached and drained in February of this year. Will there be public notices for the actual dates of this action?	There is no statutory or regulatory requirement under the Alaska Dam Safety Program for public notice of *Certificates of Approval* issued by the department for dams or subsequent actions by the dam owner or operator. The actual date of specific reclamation activities at the mine will not be public noticed.

36	Jim and Chris Rowe	If the mine is going to be closed the TSF will be breached and drained in February of this year. Is there going to be running water on the river that has contaminants in it?	The majority of the water originally and subsequently impounded has been removed from the Tailings Storage Facility (TSF), treated and discharged under Alaska Department of Environmental Conservation authorizations. A small amount of storm water remaining in the system will be split between open water and ice. After the breach, a very limited amount of storm water may be discharged into Rock Creek, but is expected to infiltrate in wetlands prior to reaching the Snake River. The remaining ice will melt slowly during breakup and mix with snowmelt runoff and is not expected to cause any impacts. TSF water quality monitoring data are summarized in Section 6 and Attachment 2 of the Rock Creek Mine Reclamation and Closure Plan and also included Quarterly and Annul Reports submitted by Alaska Gold Company to the state. Water quality data collected for the past three years indicate that the TSF water contains very low concentrations of constituents. These concentrations are so small that the TSF water itself is not considered contaminated. Therefore, it is incapable of contaminating any receiving waters.
37	Jim and Chris Rowe	Will the process of closing the mine down continue even though it is uncertain whether or not the Native corporations in Nome will take over the mining operations?	As stated in the Rock Creek Mine Reclamation and Closure Plan (October 2011), Alaska Gold Company has committed to completing Phase I closure activities prior to 2012 break-up regardless of the ownership of the property. Should a new entity acquire the mine, they would be bound by the terms of the Alaska Department of Natural Resources Reclamation Plan Approval unless they submit an amendment to the reclamation plan, which is subsequently approved. Also please see Response to Comment # 42.

38	Jim and Chris Rowe	How can we determine the safety of the drinking water in our wells that are within 5 miles of the TSF? How often do we need to test these wells? Is there a state program for well testing that is economical for local residents of Nome? What contaminants should we be testing for?	The Alaska Department of Environmental Conservation has determined that, based on water quality data collected for the past three years, the Tailings Storage Facility (TSF) has not negatively impacted ground water quality. Consequently, testing your drinking water wells is unrelated to the TSF. Regarding testing drinking water in private residences, the state offers no programs for this. However, there is a state has program for testing public drinking water. To learn more about drinking water go to the following DEC website: http://dec.alaska.gov/eh/dw/index.htm
39	Jim and Chris Rowe	We appreciate your attention to the safe operation or closure of the activity at Rock Creek in the Snake River valley.	Comment noted.
40	Sue Steinacher	I'm concerned that once again not enough time or effort has been extended to allow Nome's public to review, understand, and offer meaningful comment on the Rock Creek Mine Reclamation Plan.	The Alaska Department of Natural Resources supports open and transparent governance, which is why the Rock Creek Mine Reclamation and Closure Plan, Rock Creek Mine Revised Closure Cost Estimate; and, Alaska Department of Natural Resources DRAFT Reclamation Plan Approval (F20129578) were public noticed where there was no regulatory requirement to do so. The Alaska Department of Natural Resources attempted to balance the public's interest with the need to complete our review of the plan and reach a decision in a time frame that allowed the company to complete Phase I reclamation prior to spring breakup.
41	Sue Steinacher	It's my opinion that had DEC and other regulatory agencies moved more deliberately, cautiously and with multiple opportunities for public involvement, that the debacle that followed the rapid permitting of the Rock Creek Mine might have been avoided. I feel the State, in its eagerness to give NovaGold a green light, actually enabled the company to move unprepared and ill-informed into an operation they proved to be incompetent at, blaming everyone but themselves for their failure.	Comment noted.

42	Sue Steinacher	I am concerned that under this closure plan that Bering Straits Native Corporation and Sitnasuak Native Corporation hold an option to resume operations at the mine as part of the draft reclamation plan. This baffles and concerns me, given that: there is a tremendous shortage of housing in Nome, while many positions at Kawerak, Norton Sound Health Corporation and other local companies go unfilled; one of the reason's NovaGold gave for the failure of the mine was lack of consistently reliable employees, indicating that this is not the type of work or work schedule sought by many locals; that our Native corporations are less experienced in operating an open pit mine that the mining company who failed to make the Rock Creek Mine successful; and that the presence of the mine has been controversial among shareholders and other residents throughout its tenure.	The Rock Creek Mine Reclamation and Closure Plan (October 2011) states "Concurrent with the preparation of this closure plan, AGC has been in discussions with Sitnasuak Native Corporation and Bering Straits Native Corporation regarding potential acquisition of the entire Rock Creek Mine site". The transfer of a mine is addressed under 11 AAC 97.350 Successor in Interest. "If an interest in a mining operation is transferred from one miner to another by sale, assignment, lease, or otherwise before completion of reclamation and approval by the commissioner, the plan must be amended as provided in 11 AAC 97.330 to reflect the transfer. The commissioner will approve the amendment and will release the predecessor in interest from the reclamation obligations, if 1) the operation is in compliance with the reclamation plan, 2) the successor assumes full responsibility and liability under the approved reclamation plan, and 3) the bonding requirements are met." The Alaska Department of Natural Resources is not aware of any reason why Sitnasuak Native Corporation and/or Bering Straits Native Corporation would not be eligible to acquire the mine. They would be bound by the approved reclamation plan and would need to obtain approval of an amended reclamation plan if they wished to change the reclamation plan and/or place the mine back into production.

43	Sue Steinacher	It has been my hope that the Native Corporations would instead see the mine site and the state road and power lines to it as an opportunity to create a lodge/ski area/cultural camp draw that will offer residents and visitors alike year-round recreation opportunities, including panning for gold, allow the corporations to further extend and showcase their development of alternative energy sources, and as a site to promote cultural wellness for regional youth, adults, elders and individuals in alcohol recovery.	As property owners for a portion of the lands under the Rock Creek Project, Sitnasuak Native Corporation and/or Bering Straits Native Corporation could have proposed an alternate post-mining land use. Nothing in the Rock Creek Mine Reclamation and Closure Plan (October 2011) precludes the surface owners from developing the land for other uses after the mine reclamation.
44	Sue Steinacher	I contacted Dr. David Chambers and the Center for Science in Public Participation, and reviewed their comments about the mine reclamation plan. I believe that CSP2's expertise in the complexities of mining and their informed comments are designed to create the best environmental outcome for those of us who live in Nome, even if it may create more effort on the part of the company or the state. We are, after all, whom the State is intended to serve. With this in mind my recommendation regarding the reclamation plan is for the DEC to adopt the recommendations submitted by Dr. David Chambers and Stuart Levit. I have reiterated them below.	The Alaska Department of Natural Resources values and has considered all comments submitted; please see the response to comments submitted by the Center for Science in Public Participation.

45	Sue Steinacher	Most importantly, my recommendation is that if the tailings dam is breached, that this removes any option for Bering Straits, Sitnasuak or anyone else to resume operations at the Rick Creek Mine, without exception. And if the tailings dam is not breached and anyone decides to resume operations at the Rock Creek Mine, that all water issues are dealt with and that a full EIS process is required and followed prior to permitting.	Please see Response to Comments # 15 and # 18 for a discussion of comments associated with the planned breach of the tailings dam under Phase I Reclamation. Not breaching the tailings dam would require the approval of an Amendment to the Reclamation Plan. The resumption of mining operations would likewise require the submission of an application to amend the Reclamation Plan Approval and other state authorizations. Any such application would have to address water management at the site. If the resumption of mining operations required amendment or issuance of a federal authorization, whether an EIS was required or not would be determine through the National Environmental Policy Act (NEPA) process.
46	Sue Steinacher	The tailings impoundment should only be breached if it there is no reasonable possibility of it being used in the future. The TSF dam should not be breached without an accompanying commitment to permanently close the mine.	Please see Response to Comments # 15 and # 18.
47	Sue Steinacher	Well MW11-18 should be monitored at least once a year for at least 30 years to ensure that long-term contamination to groundwater is detected and can be treated (and/or monitoring expanded as warranted). Other groundwater sites should be monitored for at least ten years.	Please see Response to Comment # 19.
48	Sue Steinacher	All surface water monitoring sites should continue for at least ten years, followed by a phase-down of sites.	Please see Response to Comment # 20.

49	Sue Steinacher	Reasonable, representative sampling should occur during the permit period and for a period of at least 30 years after mine closure (or mine/reclamation activities, whichever is latest). This is the minimum necessary to ensure that geochemical, hydrologic, and contaminant changes do not degrade water quality.	Please see Response to Comment # 21.
50	Sue Steinacher	Surface water monitoring should continue at representative sites for a minimum of 30 years to ensure that long-term contamination to surface water is detected and can be treated (and/or monitoring expanded as warranted). Any reduction in monitoring should be subject to public notice and at least a 30-day comment period.	Please see Response to Comment # 22.
51	Sue Steinacher	Establish general criteria and guidance to ensure that materials placement in the Main Pit (and anywhere on the site where topsoil is replaced) does not allow small size materials to be placed on materials that have much larger size particles. Where this could happen, an interlayer of mid-size materials should be placed between them.	Please see Response to Comment # 23.
52	Sue Steinacher	Establish clear noxious weed criteria, including the lowest amount of weeds that will trigger treatment and the highest allowable percentage of noxious weeds that will be allowed for bond release.	Please see Response to Comment # 24.
53	Sue Steinacher	Establish higher minimum percentage coverages - it is recommended at least 50% after three years and 80% for five years for re-vegetation bond release.	Please see Response to Comment # 25.
54	Sue Steinacher	Establish clear alpha and beta diversity requirements for vegetative cover.	Please see Response to Comment # 26.

55	Sue Steinacher	Re-vegetation success should be measured no sooner than five years after re-vegetation goals have been met - without additional treatments or activities. If additional treatments or activities are undertaken, the 5-year clock should restart to ensure that re-vegetation and long-term plant establishment has actually occurred.	Please see Response to Comment # 27.
56	Sue Steinacher	Plant operations records and more in-depth inspection, including monitoring where there is a reasonable possibility that spills or leaks occurred, should be made to ensure that spills and contaminants are identified and responded-to prior to further reclamation. This is not a proposal for area-wide chemical analysis, but areas of known or likely contamination from spills should be inspected beyond visual inspection.	Please see Response to Comment # 28.
57	Sue Steinacher	Decontamination and neutralization procedures should be based on clear standards and protocols, such as those recommended by manufacturers and safety agencies, to ensure that decontamination and neutralization are complete and do not cause ancillary contamination from the decontamination and neutralization materials.	Please see Response to Comment # 29.

58	Mike Young	We are writing this letter to oppose the issuance of a Reclamation and Mine Closure Plan permit for the Rock Creek Mine in Nome. We are a viable and experienced mining group with access to the capital markets. We fully intend to fulfill the broken promises by the current owners to the residents of the Nome, Bering Strait Native Corporation and Sitnasuak Native Corporation area to save the long overdue promised jobs and other benefits to our community. The unfulfilled social contract to our fellow Alaskans the people of Nome, and the natives groups in the area by Nova Gold and its subsidiary Alaska Gold, is a bitter pill to swallow. Please delay or refuse to issue this CLOSURE permit for a short period of time.	Alaska Gold Company submitted a revision to the Rock Creek Mine Reclamation and Closure Plan (October 2011) and requested amendment to their Reclamation Plan Approval as allowed under 11 AAC 97.330. Should Alaska Gold Company's business plans change, they may request a Temporary Closure or suspension of their reclamation per the terms of the Rock Creek Mine Reclamation Plan Approval (F20129578) or submit additional amendments to their reclamation plan as allowed by 11 AAC 97.330. Your comment is noted; however, ADNR intends to issue the Final Reclamation Plan Approval (F20129578) after the completion of consideration of public comments.