



March 5, 2009

*Submitted by email, paper submission to follow*

Nunavut Water Board  
Box 119  
Gjoa Haven, NU X0B 0J0  
**Attention: Phyllis Beaulieu, Manager of Licensing**

Indian and Northern Affairs Canada  
P.O. Box 100  
Iqaluit, Nunavut X0A 0H0  
**Attention: Spencer Dewar, Manager, Lands Administration**

Dear Ms. Beaulieu and Mr. Dewar;

**Re: Polaris Mine – Request for Reduction of Reclamation Security (Water Licence NWB1POL0311)**

Thank you for forwarding the BGC Engineering Inc. report (dated November 24, 2008) titled "Polaris Mine – Draft Review of Outstanding Items and Assessment of Crown's Remaining Liability". This report reviews the various Nunavut Water Licence and Detailed Decommissioning and Reclamation Plan (DDRP) approvals and identifies information and/or documents that may not have been submitted. In reviewing this report, we recognize that some information that had not been previously submitted as required. Since the issuing of BGC's report, we have completed two reports that should resolve the outstanding documentation concerns.

These two reports are:

- A revision to the 2004 combined Quarterly and Annual report. When this report was initially issued in electronic format, it was missing a number of sections of data. Recently, an update to this report was issued (in both paper and electronic format) so that this submission is now complete.
- Enclosed with this letter is the 2003 Annual report (in both paper and electronic format). This report had not been previously submitted. The 2003 Annual report does not contain any new information that had not been previously reported in the quarterly reports from 2003.

Teck has filed the 2008 4<sup>th</sup> Quarter and Annual report as required. All quarterly and annual reporting for the Polaris Mine Water Licence and DDRP are now fully up to date.

The November 28<sup>th</sup>, 2008 BGC report included three tables that identified the status of the following types of submissions:

- Table 1 – Summary of Documentation Required by Water Licence
- Table 2 – Summary of Outstanding Documentation from Available Reports
- Table 3 – Summary of Outstanding Items Related to On-Site Reclamation Activities

Attached to this letter are three tables in the same order and format as the original tables in BGC's report. The attached tables (Tables 1 to 3) respond to each of BGC's comments in order. As can be seen from the responses, we have addressed all of the issues or concerns identified by BGC.

A fourth table in BGC's report (Table 4) presented a list of five items/issues that BGC believes are outstanding. This table also provides BGC's estimate of the associated potential remaining liability to the Crown. Our responses to this table are provided below:

**1. Item: Outstanding Documentation to be submitted in accordance to Water Licence requirements**  
(BGC's Estimated Potential Liability \$1,000,000)

**Teck Response** – With the current and recent submissions of reports, we are now up to date with all NWB Quarterly and Annual reporting requirements. There are two items (Subsidence Area report and As-Built Drawings) that BGC identified in their review as being deficient relative to the original requirements that we wish to respond to below.

- a. Subsidence Area Geotechnical Review – This issue is actually part of two separate items listed in Table 4 of the BGC report. The concern was that the “sink hole” area in the Subsidence Area would continue to be active, creating a deep, steeply sided hole that would present a risk to the public and wildlife using the site. Teck was requested to submit a geotechnical report discussing the stability of the ground surface in this area. A report was submitted as part of the routine 2003 3<sup>rd</sup> Quarter Water Licence report of the area by one of its experienced mining engineers (a P. Eng. who was registered to practice in Nunavut). This engineer was involved with both the planning of underground mining but also with the monitoring of subsidence. BGC reviewed this report in their March 30, 2004 report titled “Polaris Mine Decommissioning and Reclamation – Review of 3<sup>rd</sup> and 4<sup>th</sup> Quarter Reports”. BGC recommended that an independent professional geotechnical engineer review this issue and present a report on it. We had approached an independent geotechnical engineering firm who had been familiar with the underground mining operations at Polaris based on a number of annual inspections he conducted at the site while it was in operation. The purpose of these inspections was to review conditions underground in the mine and advise the mine engineering group on ground stability conditions and mine planning practices. We were unsuccessful in obtaining a review from them. We are reluctant to attempt to have a geotechnical engineer not fully familiar with the site attempt to understand the complexities of this issue without first hand knowledge of the site and the ground conditions in the mine. It is difficult for someone not familiar with the mine, to fully evaluate the question of ground stability. They would require substantial detailed information regarding the sequence of mining, the extraction ratios utilized, detailed mine plans, quantities/sequences/timing of backfilling, and an understanding of the overlying stratigraphy and competency of such strata. Without direct experience with a mine, it is difficult to make reliable assessments even with the above information. This information would have been readily available while the mine was operating but much of this information is no longer available as only select records were retained during demolition of the site. At the time reclamation commenced, there was no requirement to maintain all of these types of records, and it was not anticipated that this would become a requirement in the future. We have retained the normal records typically and legally required such as the detailed underground mine plans.

In the Polaris 2003 3<sup>rd</sup> Quarter report on the subsidence issue, Teck had proposed that monitoring of the sinkhole area be done in 2004 to give an updated picture of the trend in subsidence rates. BGC stated in their March 2004 review that at that time “There is no evidence that the movement within the sinkhole zone has stabilized over the last 10 years.” In response to this comment and as we have not satisfied the request for an independent geotechnical review, Teck has been conducting topographic surveys of this area annually for the past 6 years (with the exception of one year where no survey was done due to an equipment malfunction). These topographic surveys are very detailed (for example in 2008, approximately 5000 points were surveyed) and the results are compared between years to look for changes and trends (and the data presented annually in the 3<sup>rd</sup> Quarter reports). Over this 6 year period, there has been no detectable movement of the ground surface in the Subsidence Area. We feel this should be sufficient to allay concerns.

While we are of the opinion that this subsidence in this area has already occurred, even if we were wrong; there is no practical way of preventing additional subsidence from occurring. If additional subsidence were substantial, the only practical course of action available to make the area safe would be to fence the area so that people and/or wildlife do not inadvertently enter the area. This matter is discussed further in Item # 5 below specifically related to the potential financial liability associated with it.

- b. P. Eng. Certified as-built drawings – Teck has recently submitted as-built drawings of all of the engineered structures at the site (decommissioned dock and adjacent foreshore areas, mine portal seals, operational landfill cover, LRDQ landfill cover, and the decommissioned Garrow Lake dam) as required. These structures were all constructed by SNC Lavalin Contractors and the work was observed throughout the construction process by Teck's contracted on-site project management team (Cascade Management). Several of the project management team members were qualified engineers but none were registered in Nunavut and so were not able to certify the drawings as a Professional Engineer. No other Professional Engineers registered in Nunavut were present at the site at sufficient number of stages of the work to be in a position to stamp (certify) the drawings. While the drawings are not stamped, considerable effort was made to present accurate information as to the details of the construction of these. It should also be noted that based on annual inspections by Teck and regulators, and through monitoring data collected, there has been no indication that there are any significant concerns or deficiencies with any of these structures. They are all performing as intended so we feel that this item has been resolved.

**2. Item: Mobilization of new equipment to site from Resolute Bay (BGC's Estimated Potential Liability - \$835,000)**

**Teck Response** – We have three pieces of heavy mobile equipment that were selected to remain at site when reclamation was completed in the fall of 2004. There is a D6 dozer, a Cat 235 Excavator and a Ford dump truck. Both the dozer and the excavator were selected as they were in the best condition of the equipment on site and thus the least likely to have major problems. The truck is in poorer but operating condition, but as repairs to it are relatively easy, this was not considered a concern. Since completion of reclamation, we have used the equipment for a total of about 1 month (operating time) for resloping several areas, improving water bars on the road to Frustration Lake, and repairing two erosion gullies on one of the slopes in the New Quarry area. There is at most, several days work planned for this summer. Assuming no other unexpected issues arise, the only work remaining work in 2010 will be to bury some garbage and to demobilize the camp. The only known significant repairs currently required are to replace 4 boogies on the tracks for the dozer. This job can easily be done on site and it is a normal operating type repair. There is absolutely no reason for bringing other equipment on site as the equipment currently on site is adequate for the work remaining. If unexpected breakdowns were to occur, the most economical solution would be to repair the existing equipment not to bring other equipment to site. If one were to allow \$50,000 to cover known and unexpected repair costs, this would be a reasonable allowance. The suggested \$835,000 allowance is excessive.

**3. Item: Demobilization of existing camp and removal of old and new equipment after completion of outstanding site reclamation (BGC's Estimated Potential Liability is \$40,000)**

**Teck Response** – Our budget submitted with the 2008 4<sup>th</sup> Quarter and Annual report (Appendix 3) includes our estimated costs for final clean up and demobilization from site. The estimate of \$40,000 from BGC is too low. The cost will vary significantly depending on the value we obtain for the sale of the camp and mobile equipment which has value in the north. To be conservative, we estimate the costs could be as high as \$408,000.

4. **Item: Ongoing Post-Closure Monitoring for 2009 to end of 2011 (BGC's Estimated Potential Liability is \$731,500)**

**Teck Response** – BGC stated the estimated liability of \$731,500 is from our 2007 Annual report. The 2008 4<sup>th</sup> Quarter and Annual report updates this cost estimate to be \$815,500 which has increased slightly due to inflation and due to refinements in our estimates.

5. **Item: Assessment of long-term stability of subsidence zone (BGC's Estimated Potential Liability is \$1,000,000)**

**Teck Response** – The issue of the long term stability of the subsidence area was discussed above in Item #1. We disagree with the proposed potential liability for this item for two reasons:

- a. BGC states that this amount is a “suggested hold back until documents are received.” The goal is not the receipt of documents but to protect the public from unfunded reclamation liabilities. Teck has addressed this concern by continuing the detailed monitoring to demonstrate that there has been no additional subsidence. Additionally, Item #1 and Item #5 are both attributing liability to lack of documentation so we are in effect being double billed for the same item. We do recognize that in Item #1, when the liability amount was originally proposed, there were a significant number of outstanding documents which have since been submitted.
- b. If subsidence were to occur to a degree that was a significant public/wildlife safety issue, the most practical solution would be to fence the area. At our underground mine site in Kimberley, B.C. we have underground workings that were designed to cave to surface and other areas where we need to control access. To prevent public or wildlife from accidentally entering the subsidence area, we have constructed many kilometers of fencing. We use 8 foot high wildlife fencing similar to what is used by the National Parks Board in Banff National Park (would not need fencing that high at Polaris). Our costs for constructing these fences are \$24 per metre. To be conservative, assume the cost to construct this type of fence at Polaris is triple the Kimberley cost. Based on site surveys at Polaris, to fence the entire perimeter of the general Subsidence Area would require a fence which is 1200 metres in length. This is very conservative as the area of specific concern (the “sink hole” area) is no more that 20% of the Subsidence Area. Based on these conservative assumptions, costs to fence the entire area would not exceed \$87,000.

Originally in our letter dated June 24, 2008 we requested both a reduction in the reclamation security in addition to a reduction of the monitoring program. We have since been informed by the Water Board that a change to the monitoring program would require an amendment to the Water Licence so we are not proceeding with the request to alter the monitoring program at this time.

Consistent with Part B, Section 3 of the Polaris Water Licence which specifies that the quarterly reports should identify the “amount of credit adjustment requested”, and our 4<sup>th</sup> Quarter 2008 NWB report contained a request to reduce the reclamation security to \$1,600,000. This is less than the June 24, 2008 reclamation security reduction request as we now have an additional monitoring season completed and consequently another year of monitoring costs having been expended which reduces the remaining site liability.

The security reduction is a very important matter to Teck, given the state of the economy and the current credit market. Teck can not afford to have lines of credit tied up when there is no need for it. We have submitted the information required under the Water Licence and the DDRP. Teck has been proactive in reclaiming the site promptly after completion of mining and to a high standard. We continue to manage the Polaris Mine site with diligence and the monitoring results confirm the site is stable. We request that the Water Board and INAC recognize this and respond by expediting the release of excess reclamation security to Teck.

If there are any questions regarding the above information, please do not hesitate to contact the undersigned.

Yours truly,

A handwritten signature in blue ink, appearing to read "B. Donald", with a stylized flourish at the end.

Bruce Donald,  
Reclamation Manager,  
Environment, Health and Safety,  
Teck Cominco Limited

Attachment: Tables 1 – 3 Response to BGC's tables contained in the November 24, 2008 report "Polaris Mine – Draft review of Outstanding Items and Assessment of Crown's Remaining Liability"

Enclosures:

- a) 2003 Annual Reclamation Report
- b) Cd containing translations of the Updated 2004 Annual Report and the 2008 4<sup>th</sup> Quarter and Annual Report.

**TABLE 1 - SUMMARY OF DOCUMENTATION REQUIRED BY WATER LICENCE - TECK RESPONSE**

<b>BGC REPORT PAGE #</b>	<b>Water Licence Reference</b>		<b>DOCUMENTATION REQUIRED</b>	<b>TECK RESPONSE TO BGC's COMMENTS</b>
5	Part B	Item 3	Quarterly Expenditure Reports of remediation completed to date	An updated expenditure report was filed with the 4th Quarter 2008 report which is current to December 31st 2009 and forecasts the costs through until expiry of the Water Licence.
5		Item 5	By November 1, 2003 an approximation of the amount of security to implement corrective measures should Garrow Lake be detrimentally affected by decommissioning and reclamation activities	This was submitted in Appendix 6 of the 2003 3rd Quarter report.
5		Item 6	An Annual Report by March 31st of the year following the calendar year reported.	While not all were submitted on time, all Annual reports have now been submitted
5	Part E	Item 1	Within 30 days of issuance of Licence, a revised Emergency Response Plan	One was submitted and BGC also noted that it should be reviewed annually. The 2008 Annual report includes an updated ERP in Appendix 2.
5		Item 4	As built plans and drawings of modifications within 90 days of modifications.	All missing as built drawings have now been submitted in Appendix 4 of the recently updated 2004 Annual report.
5	Part G	Item 3	Modifications to Decommissioning and Reclamation Plan to be submitted annually to Board as an addendum.	The DRP itself was never amended but any changes to the DRP were requested and formal approval granted by the NWB and INAC before the requested changes were undertaken.
5		Item 5	By March 31, 2005 a Comprehensive Assessment of Mine Site Remediation in terms of remediation objectives and need for ongoing monitoring and follow-up remediation requirements.	A submission dated June 14, 2005 was submitted addressing this item.
5	Part H	Item 6	Report of Annual Geotechnical Inspection, within 60 days of the inspection.	These are done annually and submitted with the 3rd Quarter reports each year. The most recent one is from July 2008. The only year where a geotechnical inspection report was not obtained was in 2004 although a formal independent geotechnical inspection was done.
5		Item 27	Effluent monitoring report for all tests and monitoring conducted during each calendar quarter, not later than 45 days after the end of the quarter.	Effluent monitoring data has been submitted with each quarterly report where effluent is flowing. The latest effluent monitoring submitted was with the 3rd Quarter 2008 report (no flow in the 4th Quarter to report).
5		Item 28	Annually, no later than March 31, a report summarizing the Effluent Monitoring results for the previous calendar year.	These are normally submitted with the 3rd Quarter reports as there is normally no effluent flow in other quarters. The last report was included in the 2008 3rd Quarter report
5		Item 39	Submit exact location of water sampling reference areas referred to in Part H, Item 37(i) within 30 days of identifying such areas.	This was submitted to Environment Canada in a letter dated August 14, 2003 as required by the MMER. The Final Discharge Point location was also included the 3rd Quarter 2003 report submitted to the NWB (in Appendix 20).
5		Item 41	By June 16, 2003 the Biological Monitoring Studies as required by Part 2 of Schedule 5 of the Metal Mining Effluent Regulations	On April 8, 2003 Teck met with the Environment Canada Technical Advisory Panel to discuss the EEM proposal. Dionne Filiatrault was a member of the Panel. This was followed up by submission of the study proposal to Environment Canada on June 11, 2003 and to the NWB on June 27th, 2003.
5		Item 42	By June 30, 2003 the Terms of Reference to study; metal concentrations in benthic sediments, representative species in Garrow Lake and Garrow Bay and erosion rates of the shorelines of Garrow Lake and Garrow Creek.	The proposal of these studies was submitted to the NWB on June 30, 2003.
5		Item 44	Submit for review the results of the monitoring requirements in Table 1 (of the Licence) in accordance with Part B, Item 6.	Table 1 monitoring requirements form a key basis of the quarterly reporting and the results are submitted in the quarterly reports (primarily in the 3rd Quarter reports as that is when the bulk of the monitoring is conducted).

**TABLE 2 - SUMMARY OF OUTSTANDING DOCUMENTATION FROM AVAILABLE REPORTS - TECK RESPONSE**

BGC REPORT PAGE #	REFERENCE DOCUMENT	OUTSTANDING ITEMS	TECK RESPONSE TO BGC'S COMMENTS
6	BGC (2003), July 2-3 Site Inspection Report	Information pertaining to construction of Operational Landfill: thermistor readings, material testing results (moisture, grain size, density), as-built drawings. Verify that actual properties of cover materials are equivalent to assumption in thermal analysis and verify final thickness of cover with respect to actual properties.	Refer to EBA site inspection report of the Operational Landfill submitted in Appendix 15 of the 2003 3rd Quarter report. Inadequate survey control by the prime contractor at the Operational Landfill resulted in test pitting being conducted to confirm that cover cap met minimum thickness requirements (which it did without exception). Thermistor monitoring results have verified that the cover cap is performing as designed. Initially thermistor results were not acceptable due to technical problems related to their installation. Considerable work was expended over two summers to improve the installations and ultimately data loggers were installed in 2006 to collect detailed temperature data on a daily basis all year round. These results are verify that the active layer remains within the cap thickness and the data is being reported in the 3rd Quarter reports. The 2008 3rd Quarter report presents the daily data for the thermisters going back to when they were installed in 2006.
		An updated estimate of the volume of hydrocarbon and metals contaminated soils placed underground.	Completed as noted by BGC's comment on status.
		The results of the metals and hydrocarbon analysis of the melt water stored underground and a drawing showing the location and extent of the underground melt water storage area.	Reported the analysis of the water in Appendix 2 of the 2003 3rd Quarter report and the location shown on the one of the mine plans in Appendix 11 of the same report.
6	BGC (2003), September 8 - 10 Site Inspection Report	Teck Cominco hired EBA to review the subsidence issue and will submit results of their evaluation and proposed plan to INAC/NWB for review. Requested to provide compilation of all instrumentation and survey records showing subsidence data.	A report on subsidence was submitted in Appendix 16 of the 2003 3rd Quarter report authored by T. Feduniak, P.Eng. Who was a mining engineer who worked at Polaris and is very familiar with subsidence at the mine. Mr. Feduniak directed the surveyors who monitored the subsidence and also was involved with developing the underground mining plans. This report has substantial background information on this area. Subsequent to this report, Teck attempted to obtain a detailed review by Golder Associates who were the geotechnical experts that advised the mine during operations. We were unsuccessful in obtaining a report. This is an extremely complex question that is not easily answered. As a result, Teck has been conducting annual detailed topographic surveys of the area to document that movement observed prior to mine ceasing operations has stabilized and that there are no signs of significant subsidence occurring. The latest survey information is provided in the 3rd Quarter 2008 report which continues to confirm that this area is stable and show no signs of movement since starting these surveys in 2003.
		Metals contaminated soils in bedrock under concentrate storage shed.	As per BGC comment - "No outstanding concerns".
		As-built drawings of cover for Operational Landfill	These have been submitted in the recently updated 2004 Annual reclamation report.
		As-built engineer signed and stamped drawings showing final slopes and contours for the New Quarry and North Pit reclamation.	Teck is not aware of a Water Licence or Closure Plan requirement for this. These slopes were contoured by a dozer for aesthetic purposes only and was never an engineered slope done to meet any specific design. A visual inspection of these areas is all that is necessary and has been done annually. There is nothing to be gained by surveying and developing drawings of these areas any more than any of the other surrounding slopes.
6	BGC (2004), September 9 Site Visit	As-built drawings for portals	These have been submitted to BGC in 2008 as requested and have also been recently submitted in the recently updated 2004 Annual Reclamation report.
As-built drawings for LRD Quarry Landfill and cover		This drawing was recently submitted in the updated 2004 Annual Reclamation report.	
7		Report by Golder on the subsidence area.	Refer to Teck's comment in BGC(2003), September 8 - 10 Site Inspection Report 6 comments (on BGC report Page 6).
Close out reports and remaining quarterly reports.		All contaminated soils close out reports have been submitted. Also, all Quarterly and Annual reports have now been submitted to both the NWB and INAC. In the case of 2004 reporting, due to the volume of reporting required, the Quarterly reports were combined with the Annual report and submitted in two three inch thick binders.	
7	BGC (2006), 2006 Site Inspection Report	Thermistor data from data loggers in Operational Landfill and LRD Quarry Landfill	BGC stated that several years of thermal data should be collected to demonstrate the covers are performing as designed. We now have data from 2006, 2007, and 2008. Data continues to be retrieved each summer from the data loggers and the trends in temperatures continue to be as expected. The LRD Quarry Landfill is cooling further at depth each year as freeze-back continues. The Operational Landfill does not show the same deeper cooling trend as freeze-back has already occurred as it is an older landfill.
		Subsidence Zone assessment by Golder.	Refer to Teck's comment in BGC(2003), September 8 - 10 Site Inspection Report (BGC report Page 6)
		As-built drawings for marine dock and adjacent shoreline reclamation.	Drawings recently submitted with the updated 2004 Annual report.
		As-built drawings for Garrow Lake Dam decommissioning.	Drawings recently submitted with the updated 2004 Annual report.
		A-built drawings for portal closure seals.	Drawings recently submitted with the updated 2004 Annual report.
		As-built drawings showing locations where metals contaminated soils were placed in LRD Quarry Landfill	As noted by BGC, drawings have previously been submitted showing this information.
		Annual geotechnical inspection for 2004 by EBA and for 2005.	EBA conducted a geotechnical inspection in 2004 but no formal report was obtained. In 2005 the geotechnical inspection was done by Gartner Lee Ltd. and their report was submitted in Appendix E of the 2005 3rd Quarter report. The 2005 geotechnical report was comprehensive in documenting conditions at the site as it was the first inspection after essentially all reclamation work was completed and so is a good baseline to compare future inspections to.



TABLE 2 - SUMMARY OF OUTSTANDING DOCUMENTATION FROM AVAILABLE REPORTS - TECK RESPONSE

BGC REPORT PAGE #	REFERENCE DOCUMENT	OUTSTANDING ITEMS	TECK RESPONSE TO BGC'S COMMENTS
7	Nunavut Water Board Letter of Direction to	The Board requested Teck Cominco to complete the submissions of the following documents which had not yet been received by NWB or INAC at that time:	
		Annual report for 2003	Had not been previously submitted. It is now completed and is being submitted at the same time as this report. Note that while this report had been missing, it contains NO new information and is simply a summary of information previously submitted in the quarterly reports.
		All quarterly expenditure /remediation updates for 2004	Recently submitted the updated 2004 Annual report which includes the year end expenditure report and a complete review of all remediation work done during the year.
		Geotechnical inspection reports for 2003 and 2004.	2003 Geotechnical inspection by EBA of specific engineered structures were submitted in Appendices 14 and 15 of the 2003 3rd Quarter report. While EBA conducted an onsite geotechnical inspection in 2004, no formal report was obtained.
		All quarterly effluent monitoring reports for 2004	Refer to the updated 2004 Annual report which contains all the monitoring data from 2004.
		Report providing details on the decommissioning of non-PCB transformers at the mine.	There is no separate report that details this as none is necessary as the procedure followed to decommission them was the same as all other hydrocarbon containing equipment decommissioned on site. Upon removal of hydrocarbons from equipment, the maintenance person completes a form verifying he did this. The form is signed by his supervisor confirming that the work was done. In the 2004 Annual report, Appendix 10, one of these forms indicates that hydrocarbons were removed from these transformers on August 13 and 14 of 2004 and that the shells were disposed on Bench 5 of Little Red Dog Quarry Landfill. The oil from the transformers would have then been incinerated in the on-site approved hydrocarbon incinerator along with other hydrocarbons as standard practice.
		Engineer stamped as-built drawings of Little Red Dog Landfill Cover	The drawings have not been stamped by a Professional Engineer as none were present on site at enough stages of the work to be willing to certify that the construction was done as designed. There were engineers on site monitoring the work but were not geotechnical engineers registered in Nunavut and so were unable to stamp the drawings. The as-built drawings are included in Appendix 4 of the updated 2004 Annual report.
		Engineer stamped as-built drawings of Operational Landfill cover	The drawings have not been stamped by a Professional Engineer as none were present on site at enough stages of the work to certify that the construction was done as designed. There were engineers on site monitoring the work but were not geotechnical engineers registered in Nunavut and so were unable to stamp the drawings. The as-built drawings are included in Appendix 4 of the updated 2004 Annual report.
		Report considering closure and cover design and engineer stamped as-built drawings of Subsidence Zone/Reclamation Landfill cover	The letter of direction did not request this. The letter requested a report on the subsidence zone that includes predicted movement, risk-management and long-term monitoring concerns. In Appendix 16 of the 3rd Quarter 2003 report, T. Feduniak, P. Eng. identified that the majority of movement had likely already occurred and that annual survey monitoring of the topography of the area should be done to confirm that subsidence was slowing and did not present a public safety concern. Surveys have been done annually since the mine closed (except 2007 due to an equipment failure) through to the most recent summer (2008). The surveys verify that there is no significant or identifiable subsidence occurring over this time period.
			Teck attempted to obtain a report from a specific engineering firm as they were familiar with the site when it was operating (i.e. did annual rock mechanic reviews and gave advice on mining methods and plans employed) but we were unable have them agree to do the review. Teck intends to continue conducting the annual surveys as part of its annual geotechnical inspection program which we expect will continue to show that there are no on-going subsidence concerns.
8		Report on sampling results at Frustration Lake	BGC stated monitoring has not identified any concerns and BGC supports dropping this requirement.
		Report on sediment/turbidity levels observed at Dock and Foreshore Area.	The recently updated 2004 Annual report contains the previously missing photographs, TSS sampling results, and a report on subsurface survey of the area after work was completed (Appendices 15 & 16)
		Report describing the cover placed over the footprint of the former Concentrate Storage shed, as well an engineer stamped as-built drawings of the constructed cover	This was originally reported in Appendix 2 of the 4th Quarter 2003 report. This appendix includes drawings indicating the locations and thickness of the cap. This report was followed up by a technical memorandum included in Appendix 9 of the 2004 Annual report.
		Report on the subsidence zone that includes predicted movement, risk management and reclamation phase	Previously discussed.
		A report that re-evaluates the estimated cost of re-establishing Garrow Dam in the post-reclamation phase.	BGC states this requirement is now redundant.
		Terms of reference for post-closure site monitoring, including mine components to be monitored, type of monitoring to be undertaken, frequency of monitoring, protocols for remote site monitoring, contingency plans for additional or altered monitoring requirements.	As reported by BGC, this information was submitted on June 14th, 2005.
		INAC/NWB recommended that the above be submitted as one comprehensive document as requested Teck Cominco provide a date when this report could be expected.	BGC stated this request is obsolete as it was superseded by subsequent reports although many items were still outstanding. Teck believes that at this time the outstanding items have been addressed satisfactorily.



**TABLE 2 - SUMMARY OF OUTSTANDING DOCUMENTATION FROM AVAILABLE REPORTS - TECK RESPONSE**

BGC REPORT PAGE #	REFERENCE DOCUMENT	OUTSTANDING ITEMS	TECK RESPONSE TO BGC'S COMMENTS
8	BGC Memo to Carl McLean (INAC),	BGC asked INAC/NWB if bathymetry of tailings deposition area in Garrow Lake had been submitted.	This survey was submitted in Appendix 17 of the 2003 3rd Quarter report.
		Data and report supporting Teck Cominco's conclusions that the movements in the subsidence zone have slowed and do not present a safety issue. The outstanding geotechnical consultant's review of the subsidence issue was requested.	Annual surveys continue to verify that there is no measurable subsidence occurring (through to and including the 2008 survey submitted in the 2008 3rd Quarter report. Teck has not been able to obtain an independent geotechnical review of this as previously explained.
		As-built drawings of the mine portal plugs.	Submitted in Appendix 4 of the recently updated 2004 Annual report
		Analysis of wind data from Resolute Bay and ability to react to extreme events to mitigate effects on stability of Garrow Lake halocline.	BGC stated this request is obsolete. However Teck continues to monitor this annually as required and even with significant wind events, sampling of Garrow Lake confirms the lake continues to be stable and not adversely affected by these wind events.
8	Teck Cominco 2004 Annual Report,	Teck Cominco highlighted the items that were still outstanding at that time and reported on others as they were completed. The following items were noted:	
		2003 Annual Report was still outstanding as of September 19, 2005	This report was recently submitted (dated February 25, 2009). Note that this report is simply a summary of information previously submitted in the 2003 Quarterly reports.
		As-built drawings for the marine dock and adjacent shoreline.	These drawings were submitted in Appendix 4 of the February 10, 2009 update of the 2004 Annual report
		As-built drawings for removal of Garrow Lake Dam	These drawings were submitted in Appendix 4 of the February 10, 2009 update of the 2004 Annual report
9		Survey of Garrow Lake Wave-Break structure.	BGC's comment was that a survey should be done to document conditions for file purposes and then no need for any further follow up surveys. A survey was conducted in the summer of 2006 and the resulting drawing submitted in Appendix 6 of the 3rd Quarter 2006 report.
		As-built drawings of the Operational Landfill cover.	These drawings were submitted in Appendix 4 of the February 10, 2009 update of the 2004 Annual report
		As-built drawings of the LRD Quarry Landfill Cap.	These drawings were submitted in Appendix 4 of the February 10, 2009 update of the 2004 Annual report
		Confirmation of adequacy of remedial efforts to deal with residual metals contamination in the footprint of the concentrate storage area and as-built drawings.	BGCs comment was that an as-built drawing is required and further information on a risk assessment study being done for the basis the approach of using a thin cap on this area. Appendix 9 of the updated 2004 Annual report has a memorandum from Gartner Lee Ltd. further discussing this issue. Appendix 2 of the 4th Quarter 2003 report contains the Gartner Lee Ltd. close-out reports for remediation of contaminated soils. In Appendix A of their report, there is an as built drawing showing the area capped and the thickness of the cap. On-going annual sampling shows that the soils in the area continue to meet remedial targets for metals concentrations.
		Rationalize legal names between permits, licenses and leases.	The immediate concern expressed was related to the holding of reclamation security when lease holders appear different. Where there are different names on the leases, they are all owned at the end of the day by Teck Cominco Limited. While the legal names have not been harmonized, the reclamation security has been submitted and is being held based on the Water Licence so that the lease names are not a factor the holding of security.
		Report on Golder Associates on geotechnical review of subsidence zone.	Previously discussed in this document.
		Photographs taken by GLL in August 2004 of Garrow Lake erosion monitoring pins need to be added to Appendix 13.	In the February 11, 2009 update to the 2004 Annual report, the missing photographs have been added to Appendix 13.
		Garrow Creek Monitoring results.	In the February 11, 2009 update to the 2004 Annual report, the missing data and photographs have been submitted in Appendix 14.
		Marine Dock and Foreshore Erosion Monitoring	As noted by BGC, Appendix 15 of the 2004 Annual report contained 3 DVD's with SIMs imagery and a SCUBA survey. Data collected by Gartner Lee Ltd. was missing. In the February 11, 2009 update to the 2004 Annual report the DVD's are resubmitted in Appendix 16 and the GLL data and photographs are included in Appendix 15.
		2004 Annual Geotechnical Inspection Report by EBA Engineering	Previously discussed in this document.
10	BGC Memo to Spencer Dewar, December 20, 2005,	This memorandum reviewed the 2004 Annual Report submitted by Teck Cominco on September 19, 2005, the Annual MMER Report dated September 2005 and the 3 CD's of seabed imaging.	BGC's comment here was that the previous section of this report discussed the status of these items.

**TABLE 2 - SUMMARY OF OUTSTANDING DOCUMENTATION FROM AVAILABLE REPORTS - TECK RESPONSE**

BGC REPORT PAGE #	REFERENCE DOCUMENT	OUTSTANDING ITEMS	TECK RESPONSE TO BGC'S COMMENTS
10	BGC Memo to Spencer Dewar,	In the Q2 Report, TCL indicated it would be requesting a reduction in the number and frequency of samples required to monitor the stability of the Garrow lake water column.	BGC recommended that INAC have water quality specialists review TCL's request. TCL is not aware of this occurring as we can not locate a copy of BGC's memorandum or any apparent correspondence from INAC to us in regard to this.
		In the Q3 Report, TCL presented the results of the annual survey over the subsidence area. There was no mention that their consultants report would be forthcoming.	BGC is still recommending a consultant's report that reviews the history of the subsidence area and reviews the now 4 years of survey data. TCL as previously discussed has not been able to obtain a review of this area from the key consultant familiar with the mining practices.
		Assessment of wind speed measured at weather station in Resolute Bay and effects on stability of Garrow Lake water column.	BGC requested that TCL include reference for the wind speed criteria given in the DRP to allow comparison with the data collected from the weather station. In the 2005 3rd Quarter report, Section 5.1 discusses the wind speeds monitored at Resolute Bay. This section refers to a letter of response by Dr. Paul Ericson of AXYS Environmental Consultants (dated December 14, 2001) regarding the potential mixing of the mixolimnion with the halocline due to wind events and the resulting change in zinc concentrations in the mixolimnion. In the letter, Mr. Erickson states that using conservative assumptions, it would take an average wind speed of 52 km/hr a duration of 21.6 hours to cause mixing of the 7.5 to 8.5 metre depth of the lake. Based on this comment, BGC suggested that these events be viewed in terms of exceeding a threshold of energy, however the data available to us from the weather station at Resolute is not sufficient to do this. The Environment Canada wind data represents only the 2 minute mean wind speed at the top of each hour.
		Thermistor data in landfill covers.	Therefore it is not possible to provide a more definitive trigger that we currently use. TCL has selected to flag any wind events exceeding 50 km/hour for more as being noteworthy. If the event occurs in late July or early August, then monitoring of the lake in mid August verifies that the lake has not been affected. If the event occurs between mid August and mid September, the weekly sampling of Garrow Creek that is done until flow from the lake freezes for the winter would identify if there were any significant disturbances in the lake. Then during the winter while there is ice cover detailed sampling of the lake occurs. Consequently any disturbance to the lake stratigraphy would be identified prior to Garrow Creek flowing in the following summer. Data loggers have been used since July 2006 to collect daily temperature data and is reported annually in the 3rd Quarter reports.
10	BGC Review of 2006 4th Quarter and 2004 Annual Reports,	Limited data set concerning temperatures in the two landfill covers.	Data loggers have been used since July 2006 to collect daily temperature data and is reported annually in the 3rd Quarter reports so there is detailed data from the summer of 2006 through to this past summer. Recording of data continues and next summer the data will be collected again.
		Visual monitoring of erosion areas around New Quarry that have been mitigated.	BGC states that observations to date show stabilization work has been effective but continued monitoring is recommended. TCL does this as part of the annual geotechnical inspections done.
		Simplified water quality monitoring program.	BGC recommended checking the status of TCL's request for simplified site water quality monitoring. This is an action item for INAC.
10	BGC Review of 2007 Third Quarter Report	Indications of toxicity in the reported Daphnia magna tests.	BGC states there is no obligation for TCL to do more than report toxicity results (Garrow Creek). The metals concentrations in the samples were all compliant with the Water Licence and MMER. The only parameter that was slightly higher than normal was the hardness. In 2008 there were no concerns. All 2008 samples passed the toxicity tests.
11	BGC Review of 2007 Fourth Quarter and	Completion of outstanding studies and as-built drawings listed in 2004 Annual Report (dated September 19, 2005).	In the February 11, 2009 update to the 2004 Annual report, the missing data and drawings have now been submitted.
		Rationalization of water quality monitoring program to reduce annual costs.	BGC stated that this is in the hands of the regulatory bodies to resolve. However, the Water Board has indicated it will take a formal Water Licence amendment to change the monitoring program and that Teck will need to make a formal application to initiate this process (which Teck has not done).
11	BGC 2008 Site Visit and Inspection Report	Report on Subsidence Zone.	BGC recommended that TCL summarize and submit all its supporting documentation and that BGC would be prepared to undertake this review on behalf of INAC to assess longterm risk and potential implications on the Reclamation Security. In Appendix X of the 2006 Annual report, TCL had one of its mine engineers (P. Eng.) provide his assessment of the issue. As this engineer worked at the mine and was familiar with the mining history, his assessment should carry considerable weight in discussing the issue. Without a detailed understanding of the details of the local stratigraphy, mine dimensions, rate of mining, depth of mining, history of backfilling (which stopes, where and when), a geotechnical engineer without that knowledge can only provide a qualified opinion of a very general nature. This is the primary reason why TCL has not attempted to obtain other engineers with mine geotechnical expertise to comment on this issue. It has now been 5 years since the mine closed and the subsidence had detailed topographic surveys conducted each year since (except in 2007 due to an equipment failure) that has yet to identify ANY surface ground movements.
			Unless there were to be significant subsidence of the surface over a short distance, there would be no safety concern. Even in that case, the most practical solution would be to install fencing around this limited area. The costs of this contingent plan would be very modest, certainly only a small fraction of the \$1,000,00 security that BGC suggested be held back for this issue.

TABLE 3: SUMMARY OF OUTSTANDING ITEMS RELATED TO ON-SITE RECLAMATION ACTIVITIES - TECK RESPONSE

BGC REPORT PAGE #	Water Licence Reference	Documentation Required	TECK RESPONSE TO BGC'S COMMENTS
12	BGC (2003) July 2-3, 2003 Site Inspection Report	Clean up insulation blowing around tailings thickener area and site in general. Conduct confirmatory soil sampling of soil when fill pad under tailings thickener removed.	BGC states "No outstanding concerns."
		Disposal of ice-rich material from the breaching of Garrow Lake Dam.	As indicated by BGC a change of location for disposal was requested by TCL and approved by regulators on March 5, 2004.
		Frustration lake access road erosion due to melt water runoff	BGC comment is to see BGC 2008 Site Inspectoin Report for recent inspection recommendations. The 3rd Quarter 2008 report contains the annual geotechnical inspection which did not identify any concerns regarding erosion
12	BGC (2004), September 9, 2004 Site Visit Report	Removal and re-contouring of piles of ice-rich soils along upstream side of Garrow lake Dam	BGC stated "No further action is recommended"
		Analysis of rusty coloured soil on exposed lake bed sediments along shoreline of Garrow Lake	BGC confirmed that soil sample analysis confirmed metals did not exceed site specific remediation requirements.
		Monitoring of Garrow Lake outlet channel at wave break structure.	BGC stated "No further action is required."
		Equip thermistors installed in Operational Landfill with data loggers.	This was done. BGC stated "No further concerns."
		Flatten slopes in vicinity of tank farm and incinerator.	BGC stated "This was done by Teck Cominco, no further concerns."
		Re-grade area of additional excavation where cover materials were removed in New Quarry.	BGC said that GLL geotechnical inspections did not comment on this area. The resloping was done in 2006 and the slopes recontoured can not be identified as any different from surrounding areas and as such was not specifically commented on in GLL inspections. It should be noted that INAC has inspected this area twice since this work was done and have not commented on their observations in this area either. In TCL's view, the reason there have been no comments is that this is such a minor matter that when inspecting the area, there has been nothing of concern to note. This was strictly an aesthetic matter that has long since been dealt with.
		Monitor performance of restored marine shoreline area.	BGC states "No further outstanding issues or concerns."
12	BGC (2006), 2006 Site Inspection Report	Exploration portal backfill looks too steep for the fine material used. At Main Portal, the upper crest of the slope should be bladed down. Some Steel bars sticking out of the ground were to be removed for aesthetic and safety purposes.	The only outstanding concern here by BGC was a slump of the slope at the Main Portal and it was noted that TCL stated they would repair this area in 2009 when back on site.
		Erosion along Frustration Lake access road.	BGC stated that repairs were made and monitoring is required. Monitoring by TCL continues and is most recently reported in the 2008 3rd Quarter geotechnical monitoring report. Conditions remained stable in 2008.
		Gully erosion in slopes around New Quarry	BGC states that the area remains stable but on-going monitoring is required. These areas are now a routine part of Teck's annual geotechnical inspection.
		Scrap metal stockpile in LRD Quarry	Pieces of scrap metal collected by TCL should be buried before the site is abandoned. TCL agrees and this will be done before the site is abandoned.
13	BGC review of 2007 Third Quarterly Report	Fleet of construction equipment left on site.	BGC states that a new fleet of construction equipment may be required if significant site works become necessary due to the age/condition of existing equipment on site. TCL disagrees. Some of the equipment is in need of repairs (i.e. dozer requires some boggies replaced) but this can easily be done on site and are normal routine repairs. We have been maintaining the equipment to a level necessary to do the work that we have at the site. If some more major work were required (and all the monitoring has not identified anything of concern that would suggest that there is), then we would simply undertake additional maintenance on the equipment. There is absolutely no need to consider bringing new equipment on site. Anyone with heavy equipment experience would disagree with the need to provide a \$1,000,000 in security as a contingency for this item.
		Water sampling of Loon Lake Drainage	BGC says this is a requirement of the Water Licence but it never has been.
		Sampling of seepage (if any) from toe of Operational Landfill.	BGC recommends that surface seepage in the area of the landfill should be sampled. A sample will be taken in 2009.
13	BGC 2008 Inspection Report	Additional erosion caused by quad traffic along Frustration Lake Access Road	BGC is concerned about quad traffic going on the tundra to get around the water bars in the access road. They recommend deleting the water sampling requirement of Frustration Lake believing that it is the reason for the traffic. However, we do gather drinking water from the lake when on site during the summer. We will try to keep the quads on the road except where the water bars make it unsafe to go over top of them.
		Erosion gullies around New Quarry	BGC recommends continuing the monitoring of them to identity if and stabilization work is required. This is a routine part of the annual geotechnical inspection and TCL has no plans to do otherwise.
		Slump in backfill of Main Portal	Teck will do repairs to this area during the summer of 2009.
		Stockpile of metal debris in LRD Quarry	BGC states this should be buried in the pit in 2009 before removing equipment from the site. It is Teck's plan to bury this material but not until the final cleanup of the site is done prior to demobilizing.