B.Y.G.
Natural Resources Inc.

Initial Environmental Evaluation
Mt. Nansen Development

Addendum Report

April, 1995.

Prepared By:
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1. Scope

This document has been assembled to provided supplementary information to support the Mt. Nansen Environmental Evaluation report (IEE) submitted in November 1994 and to clarify key issues identified in the IEE Review Letter issued by the Environment Directorate on March 21, 1995. The key issues listed below are extracted from the IEE Review Letter and include additional items identified during both a Regional Environmental Review Committee (RERC) meeting on February 22, 1995 and a meeting on the geotechnical issues on March 1, 1995 that included representatives of BYG, Klohn-Crippen and DIAND:

(1) Pit Wall Geology, ARD Potential and Mitigation;

(2) Waste Rock Characterization and Handling;

(3) Tailings Pond Site Selection and Design;

(4) Tailings Disposal and Effluent Quality;

(5) Verification and Sensitivity of Water Balance;

(6) Victoria Creek Crossing;

(7) Supplemental Closure Plan Cost Estimates;

(8) Socio-Economic Issues;

Supplementary information on Items 3, 4 and 5 is also provided in Klohn-Crippen (1995a) while detailed information on Item 6 is provided in Klohn-Crippen (1995b).

Key changes and additions to the project plans since issuance of the IEE are as follows:

1) A geosynthetic clay liner will be installed in the upstream face of the dam to reduce seepage loses.

2) An emergency spillway will be constructed as part of dam construction prior to start-up.

3) Berms will be constructed on both the upstream and downstream faces of the dam to reduce thawing of the foundations.

4) Additional berm height will be added to compensate for potential thaw settlement.

5) In the event that water stored in the pit, actually leaks into the Brown-McDade adit, the adit will be sealed with a reinforced concrete plug to ensure that seepage out of the adit does not occur.

6) Excess pit water will be released to the drainage ditch downslope of the waste dump and monitored using a small settling pond. If this water is contaminated, it will be piped directly to the tailings pond.

7) Supplementary ARD assessment sampling will be conducted to assess the Acid Base Accounting (ABA) characteristics of the construction materials, the pit wall at closure, the waste dump and the tailings.

8) The CIP tailings treatment system using the Inco SO_2-Air process will be operated to maintain the maximum pond cyanide concentration at 25 mg/L or less.

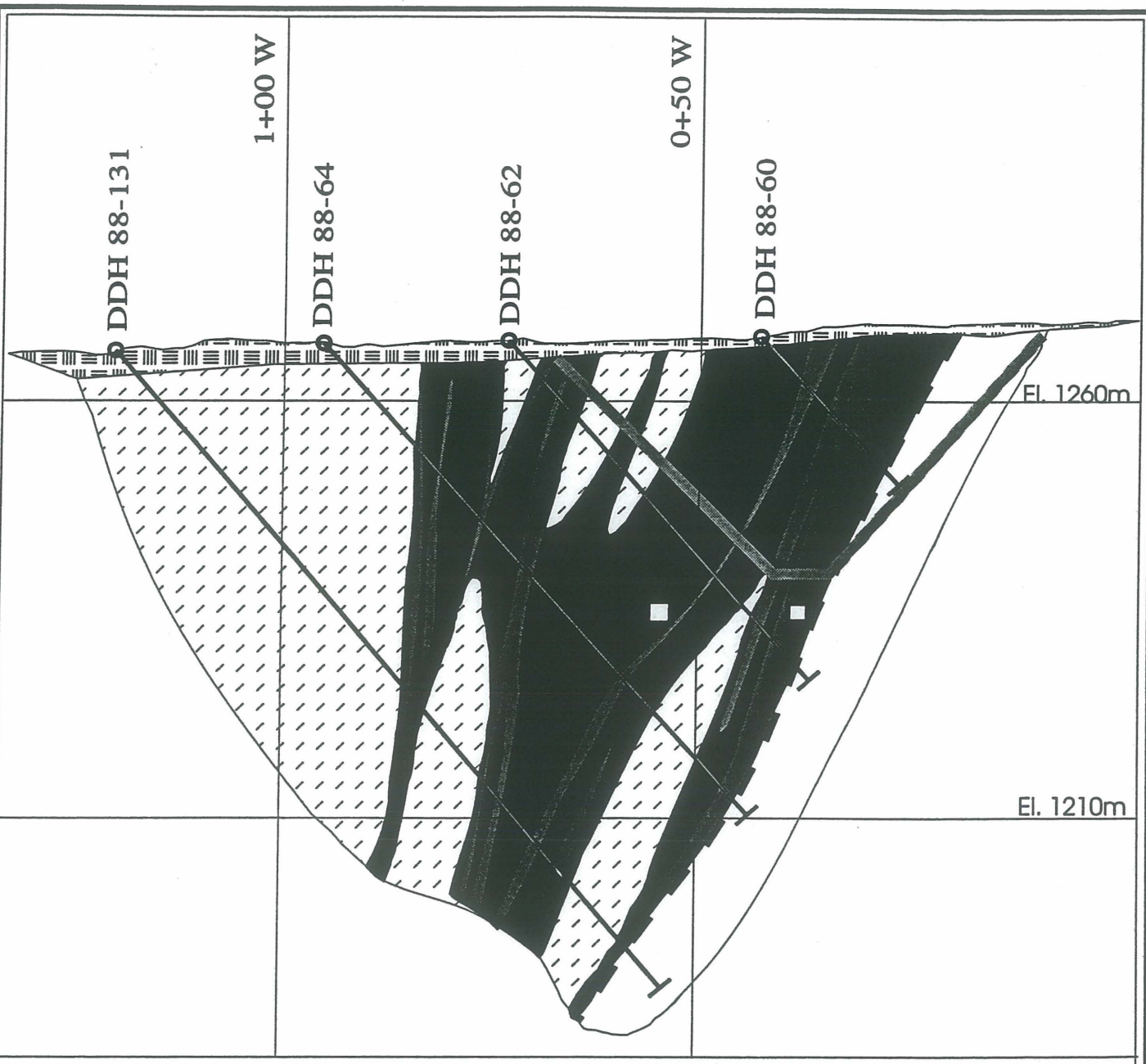
9) Fresh water supply will be via the refurbished 4-inch steel water supply line from two existing wells located near Victoria Creek. These pumps will be powered by an overhead power line from the mill. The steel water line will be heat-traced internally using power from the same overhead line that supplies power to freshwater pumps.

10) A series of tests on arsenic stability in the tailings and in the groundwater will be conducted during operation to provide additional information for completion of reclamation planning.

11) A Water Balance Contingency Plan will be completed to provide a means of continually updating the water balance and predicting both the timing of discharges to the environment and the need to source additional water if conditions are drier than expected.

2. Pit Wall Geology, ARD Potential and Mitigation

The waste rock from Brown-McDade is low in sulphide with almost all the samples analyzed in 1994 containing less than 0.5% S. There were two samples of footwall granodiorite and one sample of lower altered granodiorite with sulphide sulphur above 1% that were analyzed during the 1994 program (PRA, 1994b). However these samples contained sufficient alkalinity to eliminate the theoretical potential for acid generation. There were only three samples that registered slightly negative Net Neutralization Potential (NP) values - one sample of lower altered granodiorite at -1.5, one sample of lower feldspar porphyry at -3.7 and one sample of footwall granodiorite at -13.9. To illustrate the location of the individual rock types, the stratigraphy of the Brown-Dade zone can be examined using a cross section of the ore body at Line 0+67S (Figure 1 reproduced from Figure 1.7 of the IEE).



SECTION FACING NORTH

- OVERBURDEN
- QUARTZ - SULPHIDE VEINS
- FELDSPAR PORPHYRY DYKES
- CLAY - ALTERED FRACTURED GRANODIORITE
- FRESH MASSIVE GRANODIORITE
- FOOTWALL FAULT
- OLD EXPLORATION DRIFT
- PROPOSED PIT OUTLINE

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MOUNT NANSEN PROJECT

BROWN McDADE ZONE

SECTION 0+67 S

FIGURE: 1	BY: PJS
DATE: JUNE 1994	BY:

0 25 50 m

The upper portion of the pit wall will consist mainly of altered granodiorite which is a weathered friable material without any significant potential for generation of acidic drainage or release of metals due to leaching. After completion, the pitwall will be sampled directly to determine rock type and ABA characteristics. Approximately 20 samples will be collected from the pitwall to demonstrate that the wall does not contain potentially acid generating materials. After completion, most of the pit will consist either of altered or massive granodiorite, both of which are non-acid generating rock-types. A small portion of the wall will consist of feldspar porphyry, but this material is also non-acid generating (Mean Net NP - 35 and Mean NP to Maximum Potential Acidity (MPA) ratio (NPR) of 4.9). The only pit wall area that could contain potentially acid generating rock is at the north end of the North pit where a very small portion of footwall granodiorite may be exposed at the base of the wall. If sampling of the wall at closure indicates that this area contains material which is potentially acid generating, it may be necessary to mitigate. Potential mitigation measures would include:

1) backfilling the area with non-acid generating or acid consuming waste rock,

2) accelerating the pit flooding rate by pumping water from either Pony Creek or the mill,

3) cutting back the slope to expose altered or unaltered granodiorite, leaving the footwall granodiorite on the floor of the pit.

After closure, based on annual precipitation values, approximately 12,000 m^3 of water will accumulate in the pit per year. Therefore it will require in excess of 20 years to completely flood the pit. Depending on the elevation of the footwall granodiorite it may be advantageous to pump sufficient water to submerge the footwall granodiorite prior to completion of reclamation work. This will reduce concern that acid generation could occur after final abandonment. It should be noted however the concern regarding potential acid generation from the pit wall is a minor issue since the area of the pit is in permafrost and seepage into the pit through the wall will be negligible. Open pit mines where acid generation from the pit wall is a concern generally involve a hydraulic gradient towards the pit from the surrounding area and significant groundwater movement through the pit wall.

3. Waste Rock Characterization and Handling

3.1 Assessment of Construction Materials

The upper portion of the pit consists mainly of altered granodiorite which is a weathered friable material without any significant potential for generation of acidic drainage. This waste rock will be used for construction purposes since it has a mean NPR of 4.2 and

Mean Net NP of 29. All waste rock used for construction will be sampled and tested for ABA using approximately 30 representative samples. These test results will be used to verify the use of these materials for construction purposes. The location and rock types for these samples will also be recorded to assist in assessing expected pit wall characteristics as discussed above in Section 2.0. Altered granodiorite waste rock will be used in the construction of the haul road to the mill, the tailings dam and the waste dump base.

3.2 Assessment of the Minerals Responsible for Neutralization

The analyses used to characterize the acid generation potential of the Brown-McDade waste rock consisted of standard acid base accounting procedures including paste pH using the "EPA" method (Sobek *et al.*, 1978). Total Sulphur was determined via the Leco Furnace method while Neutralization Potential (NP) was determined by the conventional EPA titration method. The results of these tests were provided in Tables 4-4 and 4-5 of the IEE. Recent ARD prediction work has focused on the development of new methods aimed at measuring both the reactivity of sulphide and the speciation of the minerals present that are responsible for neutralization. For example, in reference to neutralization capacity, calcite is generally considered to be reactive and readily available to neutralize acid under neutral and acidic pH conditions while silicates which are considerably less reactive, are generally not considered to responsible for neutralization until porewater pH drops. Research is currently being conducted to develop procedures to differentiate between the different types of minerals responsible for neutralization (Lawrence, 1995). One procedure currently being developed involves addition of acid at a fixed rate to a slurry of pulverized material together with continuous measurement of the resultant pH. The hypothesis is that if neutralization is due to the presence of calcite, the slurry pH will be buffered at a higher pH than if neutralization capacity is due to silicates. This approach will be followed in a similar research program using three samples of pulp from Brown-McDade waste rock. The procedure will be as follows;

1) Assay pulps of Footwall Granodiorite will be sourced. Samples selected are 88-83 24-30m, 88-97 23-27 and 88-72 40-42m (see Table 4-4 and 4-5 of the IEE).

2) The total quantity of acid that should be consumed will be estimated from the original NP test results.

3) An automatic titrator will be set-up to add acid at a fixed addition rate such that the total quantity of acid estimated from the above calculation is delivered over a 4hr period.

4) The resultant pH will be recorded continuously using a strip chart recorder.

The results of this testwork will be assembled into a lab report and distributed to the RERC for review and comment once the work is complete. However it should be noted that these procedures are currently in the developmental stage and the results may not be conclusive. The data generated from the titration procedure may however provide useful qualitative information. In the absence of a recognized standard procedure for assessing the minerals responsible for neutralization, the ABA data generated using the EPA titration method will be used for overall assessment and planning purposes.

3.3 Waste Management Plan

The handling of waste rock will be controlled by a Waste Management Plan. This program will be supervised by a qualified geologist. The individual rock types will be identified during mining based on a combination of location, visual characteristics, Au assay, ABA and other suitable analyses. The geologist will maintain detailed records for all materials brought to surface with the information logged according to quantities, waste characteristic and disposal locations.

3.3.1 Waste Rock ARD Characteristics

An ARD assessment program was conducted in 1994 to provide comprehensive information on the rock types to be encountered during mining and to confirm the previous preliminary results for Brown-McDade waste rock (described in the IEE, Section 4.6). The 1994 program involved the collection and assay of 37 drill core samples representative of major rock types from the Brown-McDade pit and the actual waste to be removed during mining. All samples were subjected to ABA assays and both ICP and Whole Rock metals analyses. The testwork report was included in Appendix V of the IEE.

The waste rock samples for the 1994 ABA program, were obtained from "HQ" sized diamond drill hole (DDH) core, drilled in 1988. The diamond drill holes (DDH) selected for sampling spanned the strike length of the deposit (433 m) with at least one DDH from each section line (section line spacing is 33 m). The samples were selected randomly from pieces of broken core over the designated intervals. For the wider intervals, (10-15 m) core was sampled at roughly 0.5 m intervals. For shorter intervals (1-5 m) a tighter sampling density was used. Rock types fell into three general lithological categories:

Altered (weathered, partially oxidized) granodiorite; (Type 1)

Altered (weathered, partially oxidized) feldspar porphyry (Type 2);

Fresh (least altered, unoxidized) granodiorite (Type 3).

Based on the assessment of available data, personal inspection and sampling of the drill cores, it was believed that these samples adequately reflected the range of lithologies which would collectively represent the waste rock to be mined from the proposed open pit (Melling, 1994). Description of these samples, were summarized in Table 4-4 of the IEE. The acid base accounting testwork data, completed by PRA, was reported in Table 4-5 while the metal data was provided in Table 4-6.

The waste rock is generally low in sulphide with almost all the samples less than 0.5% S. There were one sample each of Lower Altered Granodiorite, Lower Feldspar Porphyry and Footwall Granodiorite that exhibited theoretical potential for acid generation. Only the Footwall Granodiorite sample contained appreciable sulphide, i.e. >1%. However, this sample was collected at the footwall contact with the mineralized zone - therefore it is likely that this material will be included as dilution with the ore and not be deposited in the waste dump. Concerns regarding the potential for acid generation from waste rock are negligible.

The estimated quantities of each rock type as a percentage of total waste are as follows:

Upper Altered Granodiorite	-	60%
Lower Altered Granodiorite	-	10%
Upper Feldspar Porphyry	-	15%
Lower Feldspar Porphyry	-	5%
Footwall Granodiorite (Unaltered)	-	10%

To demonstrate the overall characteristics of the dump, a plot of projected cumulative distribution for Net NP of the waste rock to be deposited in the dump is provided in Figure 2. This figure was generated on a weighted average basis using the ABA data provided in Table 4-5 of the IEE and the above projected waste rock type percentages. The plot assumes variation within rock type is represented by the samples collected and listed in Table 4-4 of the IEE. Figure 2 demonstrates the fact that the quantity of potentially acid generating waste in the dump will be small - approximately 4% with a Net NP less than 0. However as mentioned above, some of the rock with negative Net NP values will likely report as dilution with ore due to its location on the footwall. Figure 3 provides a similar plot based on projected cumulative distribution of NPR for waste dump materials analogous to Figure 2. This plot demonstrates that approximately 10% of the dump will consist of waste rock with and NPR less than 2:1.

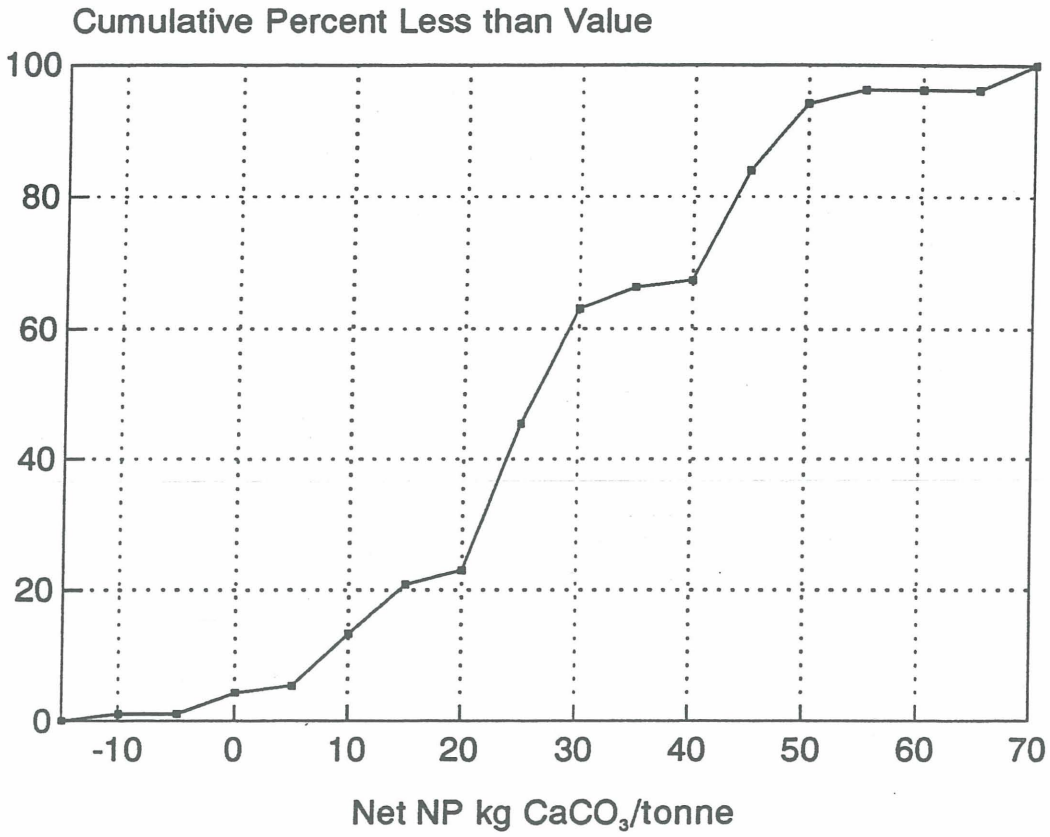

Figure 2
Projected Cumulative Distribution of Net NP for Waste Dump Materials

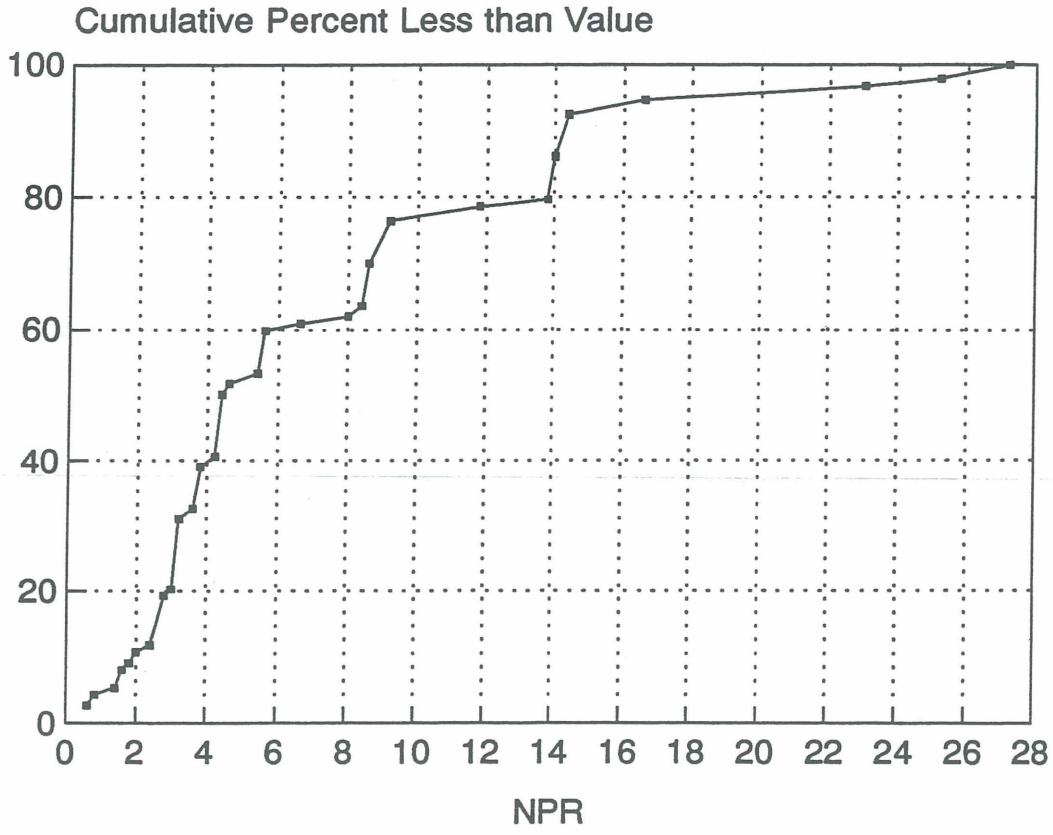

Figure 3
Cumulative Distribution of NPR for Waste Dump Materials

3.3.2 Waste Rock Monitoring During Operation

To verify waste rock characteristics, additional representative samples will be collected for each rock type and analyzed for ABA. The mine superintendent or geologist will be responsible for collecting samples of the waste rock that are considered representative of the waste rock deposited in the stockpile. This data will be used to update projections on the overall characteristics of the waste.

3.3.3 Special Handling Considerations

Special handling procedures will not be required for most of the waste rock other than the need to sample and characterize the materials according to ABA. However when the pit encounters Footwall Granodiorite at the base it may be necessary to utilize some extra measures if the ABA data indicates that the Footwall Granodiorite has a significant theoretical potential to generate acid. In this case, the rock would be either milled, left

on the floor of the pit or encapsulated in the dump depending on its Au content and ABA characteristics.

3.3.4 Supplemental ARD Test Work

In summary the following supplemental ARD testwork will be conducted:

1) A research program involving titration procedures will be conducted to assess the minerals responsible for neutralization using three Footwall Granodiorite samples. The results of this program will be provided to the RERC as soon as they are available.

2) All waste rock used for construction will be sampled and tested for Acid Base Accounting using approximately 30 representative samples. The location and rock types for these samples will also be recorded to assist is assessing expected pit wall characteristics.

3) After completion of the pit approximately 20 samples will be collected from the pitwall to demonstrate that the wall does not contain potentially acid generating materials.

4) During operation, representative samples will be collected for each rock type and analyzed for ABA to update projections on the overall characteristics of the waste dump.

4. Tailings Pond Site Selection and Design

The information requirements outlined in the IEE Review Letter and during both the RERC meeting on February 22, 1995 and a meeting on the geotechnical issues on March 1, 1995 are provided in a recent report completed by Klohn-Crippen (1995a).

The key changes to the tailings dam design from that outlined in the IEE are:

1) a geosynthetic clay liner will be installed in the upstream face of the dam to reduce seepage loses;

2) an emergency spillway will be constructed as part of dam construction prior to start-up to avoid any potential for overtopping of the dam during extreme storm events. The emergency spillway would be upgraded to a permanent spillway following closure;

3) berms will be constructed on both the upstream and downstream faces of the dam to reduce thawing of the foundations;

4) additional berm height will be added to compensate for potential thaw settlement.

5. Tailings Disposal and Effluent Quality

5.1 Acid Rock Drainage (ARD) Characteristics of Tailings

The tailings from the Brown-McDade oxide ore contain 0.59% sulphide, have a MPA of 18.4 kg $CaCO_3$/tonne, a NP of 12.8 kg $CaCO_3$/tonne and a Net NP of -5.61 kg $CaCO_3$/tonne (see Appendix IV of the IEE). Despite this slightly negative Net NP, at this level of sulphide in the tailings and assuming a very fine particle size, acid generation is not expected. Reclamation and revegetation of the tailings beaches should eliminate any future concern with acid generation from tailings.

The tailings will be sampled on a monthly basis and assayed for ABA to verify the fact that tailings have a negligible potential for acid generation. If the ABA results for tailings indicate that the tailings have a significant potential for acid generation based on ABA results, kinetic tests will be conducted to verify the theoretical results. If the kinetic tests determine that acid generation is a serious concern in the tailings then it may be necessary to either consider permanent flooding of the tailings or covering the tailings beaches with sufficient overburden to prevent acid generation from occurring. Given the fact that the ore is highly oxidized and has a low sulphur content, it is very unlikely that ARD from the tailings will become a significant environmental issue.

5.2 Arsenic Tailing Stability

The mill tailings will contain a small amount of leachable arsenic and antimony. Treatability studies conducted on mill tailings indicated that approximately 5.1 mg/L of As would remain in solution after cyanide treatment using the Inco SO_2-Air process. Release of arsenic and antimony from oxide gold ores is fairly common since the original arsenopyrite, which often hosts gold, has been oxidize to ferric arsenate or scorodite or precipitated as calcium arsenate. This arsenate may be subject to some decomposition during the cyanidation process and/or the cyanide treatment process.

5.2.1 Arsenic Tailings Chemistry

Mobilization of arsenic is influenced by the chemistry of ferric and calcium arsenates (and arsenites).

Basic calcium arsenates exhibit minimum solubilities at high pH i.e. >12, with solubility increasing dramatically as pH drops. The solubility of these compounds is enhanced by contact with carbon dioxide in air. Carbon dioxide can depress the pH of calcium

arsenate slurries resulting in the conversion of basic calcium arsenate to more soluble arsenate ion as described by;

$Ca_3(AsO_4)_{2(s)} + 3\ HCO_3^- <---> 3\ CaCO_{3(s)} + 2\ HAsO_4^{-2} + H^+$

Basic ferric arsenates at Fe/As molar ratios above 4 which are generated by co-precipitation of ferric arsenate and ferric hydroxide have low solubility under neutral pH conditions but can decompose under high pH conditions.

Ferric arsenate ($FeAsO_4$) at a molar ratio of 1:1, has a minimum solubility at pH 2.2. Above this pH ferric arsenate decomposes to release ferric hydroxide ($Fe(OH)_3$) as follows:

$FeAsO_4 + 3OH^- ---> Fe(OH)_3 + AsO_4^-$

Based on the chemistry of calcium arsenates and ferric arsenates, potential mechanisms for the mobilization of arsenic from the ore during the cyanidation process and subsequent tailings cyanide treatment are as follows;

1) Assuming arsenic is present as basic ferric arsenate, high pH conditions, i.e. above 10.5, used during the cyanidation process can result in the decomposition of ferric arsenates in the ore to yield soluble arsenate and ferric ions. In the 1994 test program, the arsenic concentration in the raw untreated tailings was approximately 2 mg/L (PRA, 1994a).

2) Lime added during cyanidation can then result in the precipitation of this soluble arsenate as insoluble basic calcium arsenates. Ferric ion would also precipitate as ferric hydroxide.

3) Treatment of the tailings using the Inco SO_2-Air process drops tailings pH and in turn causes decomposition of basic calcium arsenates to release calcium and arsenate ions into solution. During the 1994 test program, the SO_2-Air process increased soluble arsenic in the treated tailings to approximately 5.2 mg/L (PRA, 1994a). If there is insufficient metal in solution such as copper or iron to precipitate arsenic during treatment, soluble arsenate will be released into solution.

4) Finally if arsenic is present in the ore as basic calcium arsenates, the SO_2-air process would be expected to mobilize arsenic by the decomposition of basic calcium arsenates under neutral pH conditions.

5.2.2 Results of Tailings Stability Test to Date

Distilled water leaching testwork on treated tailings indicated that the tailings contain minor amounts of arsenic and antimony that is leachable with distilled water (see Appendix V of the IEE). Consecutive subsequent leaching steps continued to release arsenic and antimony indicating that mobilization was a result of an equilibrium between the solids and the solution. However preliminary tests with ferric sulphate addition to the tailings prior to distilled water leaching indicated that a portion of the arsenic and antimony could be stabilized. However, the iron to arsenic ratio in this test was high relative to typical ratios for arsenic treatment plants, i.e. 33:1 vs 6:1 and the test conditions did not mirror actual operating conditions. Additional testwork is required to determine if direct addition of ferric sulphate to the mill tailings is feasible under actual operating conditions.

5.2.3 Description of Arsenic Tailings Stabilization Test Program

Tailings stability studies will be initiated after start-up to provide information on closure options for the tailings pond and determine if direct addition of ferric sulphate to the mill tailings is feasible. This work will consists of two phases. The first phase will evaluate the stability of the tailings after the Inco SO_2-Air process while the second phase will be conducted to determine if direct addition of ferric sulphate to the mill tailings is feasible as a means of reducing potential problems with arsenic mobilization. The test procedures will involve both mixed and unmixed conditions to evaluate the degree of arsenic and antimony mobilization that could be expected in the tailings pond in both a flooded and dry state. The preliminary studies indicated that arsenic in the tailings could be depressed in the short-term with ferric sulphate at high Fe levels. However additional testwork is required to determine if this arsenic will remain fixed under longer term conditions in a static tailings pond environment. It has been proposed in the Water Licence Application that a detailed work program be assembled and submitted to the Yukon Water Board and the RERC for comment prior to commencing the tests.

This work will be conducted as part of mill start-up using real tailings. If direct ferric sulphate proves feasible, the process would initially be evaluated on a bench/pilot scale basis and then followed by a full scale trial. The necessary reagent make-up and metering equipment will be installed in the mill to permit the incorporation of direct ferric sulphate addition to the mill tailings if this process proves feasible.

5.2.4 Contingency Plans for Treatment of Arsenic in Effluent

If it is not feasible to stabilize arsenic in-situ using ferric sulphate addition to the tailings, it will be necessary to follow conventional practice by using the high density process

(HDS) to remove arsenic from excess reclaim water and to generate a stable sludge for deposit in the tailings pond.

Mill tailings will be treated for cyanide and metals using the Inco SO_2-Air process as required to maintain a cyanide concentration in the tailings pond below 25 mg/L. A secondary treatment plant using either hydrogen peroxide or SO_2-Air will be installed in the mill and used to treat excess reclaim water once it becomes necessary. This system will also include a ferric sulphate HDS treatment component. The combined treatment system will remove residual cyanide remaining in the tailings pond water, precipitate metals complexed with cyanide and remove arsenic. Treated effluent will be discharged to a polishing pond (24 h retention time) prior to release to Dome Creek.

5.2.5 Contingency Plans for Stabilization of Arsenic in the Tailings

If it is not feasible to stabilize arsenic in-situ using ferric sulphate addition to the tailings, it will be necessary to both treat excess tailings pond water for arsenic prior to release as discussed above and to develop closure options to ensure that the long-term release of arsenic from the tailings is avoided. The release of arsenic from tailings in a tailings pond environment would be influenced by two mechanisms:

- Diffusion of arsenic from the porewater to the tailings pond supernatant;
- Release of arsenic due to weathering of exposed tailings beaches containing arsenic.

Once the tailings are submerged the rate of diffusion out of the porewater into the bulk water would be very slow given the very fine particle size distribution of the tailings. Based on the amount of contact that would be provided on an exposed beach it is anticipated that the rate of release from a beach would be significantly greater than that from submerged tailings. Therefore the best approach would be to either completely flood the tailings at closure or to cover any exposed beaches with overburden to prevent contact between water and tailings. It is important to note that the relative level of both total arsenic - 0.62%, and leachable arsenic at 2 μg/g tailings or 32 μg/gAs in the tailings are low relative compared to the Ketza River Mine which processed a gold oxide ore with a high scorodite ($FeAsO_4$) content (i.e. 7-8% As).

Once submerged in the tailings pond, the tailings would be expected to reach equilibrium with the water fairly quickly with respect to arsenic. If direct addition of ferric sulphate is not feasible, a testwork program would be conducted to evaluate the stability of the tailings in terms of the two closure options for the tailings pond;

1) total submergence of all tailings at closure, or

2) partial submergence of the tailings combined with reclamation of the exposed beaches with overburden.

5.3 Evaluation of Secondary Treatment Process and Proposed Discharge Criteria

Once equilibrium conditions have been reached between the discharge of tailings from the mill and the recycle of tailings pond water to the mill, the reclaim treatment process for cyanide and arsenic will be evaluated on a bench scale basis. This program will evaluate process efficiency and determine whether modifications are required to the process design. Once this work is complete a process design for the reclaim water treatment plant will be assembled and submitted for review. Coupled with this program, it is proposed that additional testwork be conducted to evaluate the attenuation of arsenic in the reclaim water. This work would be carried out in parallel with the tailings stability program described above, and would provide information on the behaviour of arsenic in tailings seepage (if it occurs). This program would be conducted using native materials and would focus on evaluating arsenic removal mechanisms and rates.

Submergence of the tailings under water, coupled with covering of the beaches and shoreline revegetation should eliminate any future concern with both acid generation and release of arsenic into the water. Monitoring instituted during operation will provide valuable information on the expected stability of the tailings after closure.

5.4 Waste Discharge Standards

All waste water discharged to the environment will comply with the criteria outlined in Table 1.

Table 1
Mount Nansen Project
Proposed Tailings and Discharge Standards and Comparison with CCREM and Canadian Drinking Water Standards

Pond Parameter	Tailings Discharge Limit	Freshwater Limits (1)	CCREM (2) Objectives (Aquatic Life)	Canadian Drinking(2) Standards
pH		6.5 - 8.5	6.5-9.0	6.5 - 8.5
Total Suspended Solids		50	-	
Toxicity (LC_{50})(3)		100%		
Total Cyanide	25	0.3	0.005	0.2
Cyanide (WAD)		0.1		-
Metals				
Antimony (total)		0.15		
Arsenic (dissolved)		0.15	0.005 - 0.1	0.05
Barium (total)		1.0		
Cadmium (total)		0.02	0.0002 - 0.0018	0.005
Chromium (total)		0.04	0.002 - 0.02	0.05
Copper (total)		0.2	0.0.002 - 0.004	1
Iron (total)		1.0	0.3	0.3
Lead (total)		0.1	0.001 - 0.007	0.05
Manganese (total)		0.5		0.05
Mercury (µg/L)		5.0	0.1	1
Nickel (total)		0.3	0.025 - 0.15	-
Silver		0.10	0.0001	0.05
Zinc (total)		0.30	0.03	5

All concentrations in mg/L unless otherwise specified.

Notes

(1) Proposed Water Licence Limits

(2) Canadian Water Quality Guidelines, 1987, Task Forces on Water Quality Guidelines of the Canadian Council of Resource and Environmental Ministers (CCREM).

3) After adjustment of pH to receiving water pH.

6. Verification and Sensitivity of Water Balance

6.1 Review of the Water Balance

The original water balance calculations put forward in the IEE have been checked in light of comments by J.R. Janowicz, Water Resources, DIAND. Based on this review it was concluded that the balances previously presented are valid and reasonable based on projected rates.

The annual water balance indicates that with the diversion in place and, under somewhat drier than normal conditions, discharge may be avoided. However, the current design allows for less than perfect diversion efficiency, higher than average rainfall and other water balance upsets.

Two major changes have been incorporated into the operating plan since issuance of the IEE that significantly reduce uncertainty associated with the water balance and eliminate the need to conduct sensitivity analyses. In addition, a commitment has been made to collect data during the first year of operation to verify the water balance estimates. Changes to the operating plan for the tailings pond that impact on the water balance include:

1) A geosynthetic clay liner will be installed in the upstream face of the dam to reduce seepage loses - the original plan included a liner in the seepage pond but not the main tailings dam - this measure should virtually eliminate seepage losses from the system

2) An emergency spillway will be constructed as part of dam construction prior to start-up (the original plan assumed that the timing of construction of the emergency spillway would be delayed until the water balance had been confirmed). This measure will eliminate concerns regarding potential overtopping of the dam following a major storm.

3) An additional berm height of potentially 2m will be added to the dam to compensate for potential thaw settlement that may occur. This additional berm height is conservative relative to the degree of thaw settlement expected. Thaw settlement, if it occurs, will take place slowly over a number of years, probably after closure. Therefore during the first two years of operation this extra freeboard will provide a significant amount of additional storage capacity compared to the original tailings dam design presented in the IEE.

In addition, clarification is required for the water balance models illustrated in Figure 3.1 and 3.2 of the IEE. These figures suggested that water collected by the seepage collection pond would be discharged to the environment. However the seepage input

values presented in these figures included water collected by the seepage collection pond as return water. Therefore water collected by the seepage collection is not a loss from the system. The revised figures for the mean case and wet case, provided in Figures 4 and 5, illustrate the fact that all water collected by the seepage collection pond will be returned to the tailings pond regardless of quality.

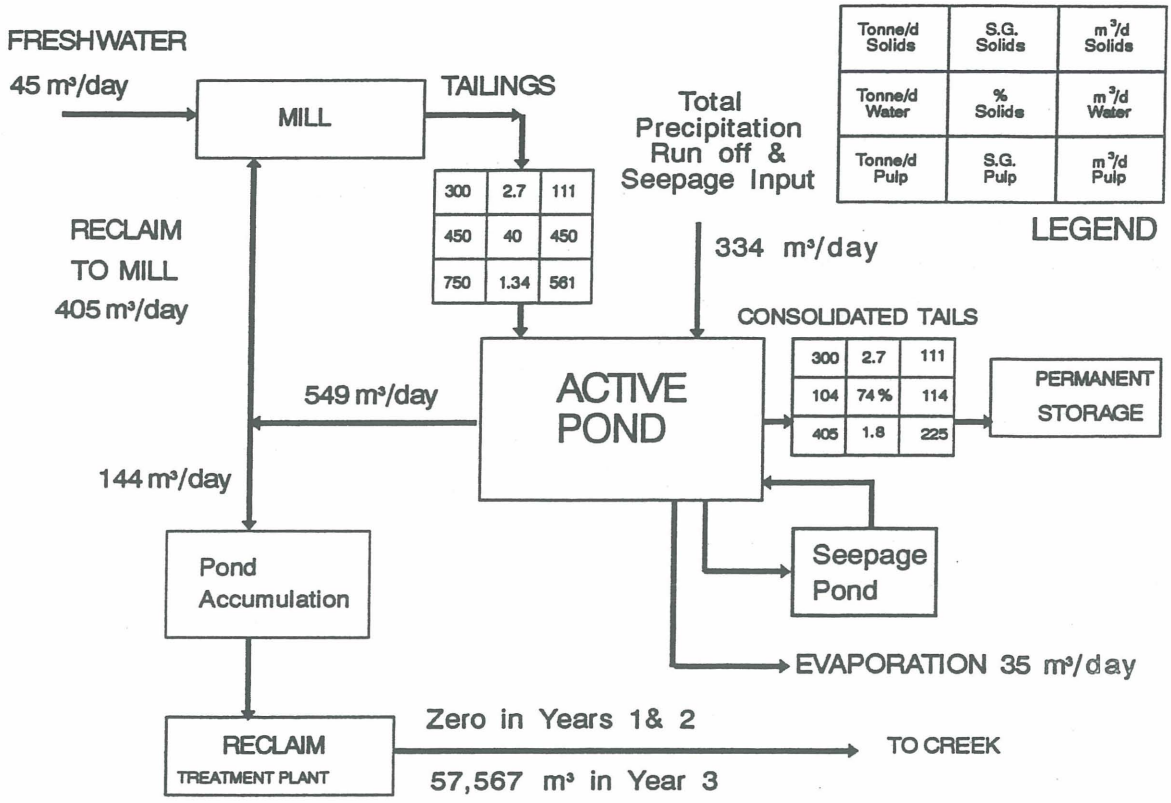

Figure 4
Water Balance for the Mount Nansen Project - Mean Case

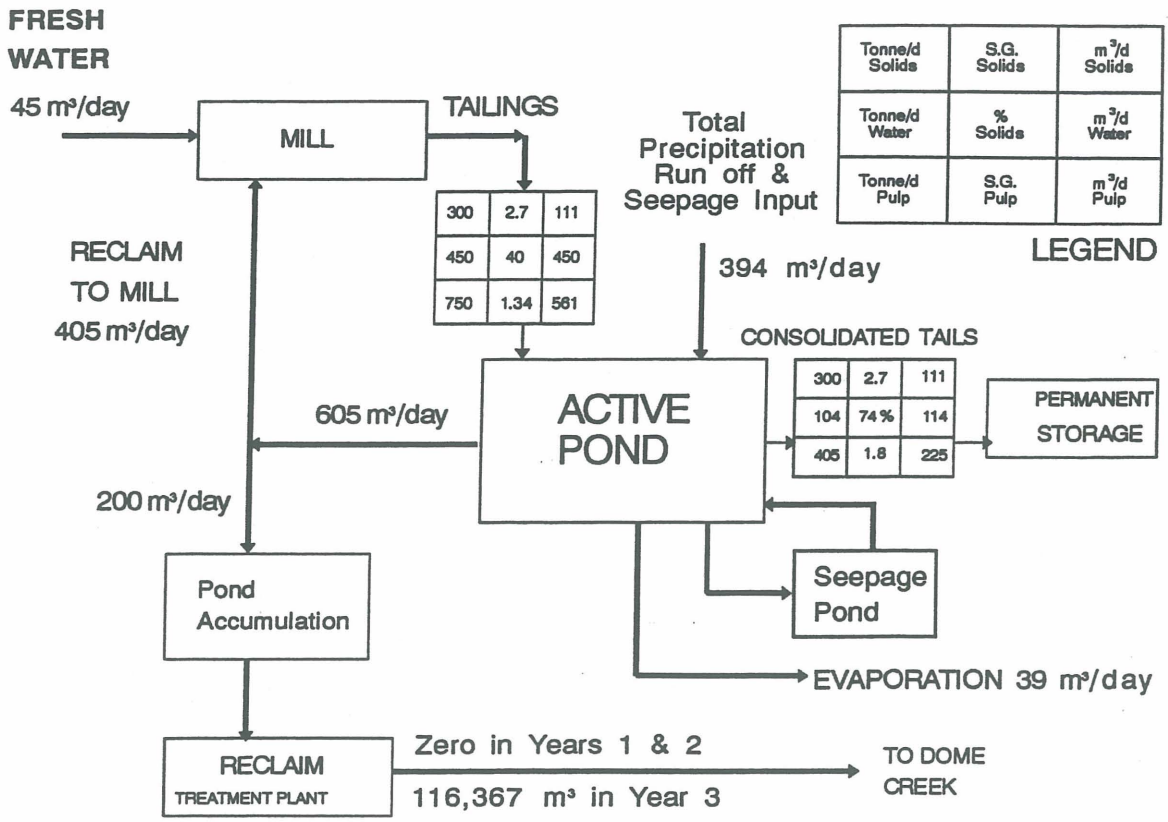

Figure 5
Water Balance for the Mount Nansen Project - Wet Case

BYG will commitment to implement a Water Balance Contingency Plan to ensure that adequate data is collected to update the water balance and make decisions regarding changes to the operating plans.

Site specific data, as listed below, will be collected during the first year of operation to update the water balance for the project:

- Mill tailings mass and liquid flowrates
- Tailings pond elevations
- Seepage pond flow estimates/measurement
- Daily precipitation data
- Snowpack and run-off data
- Diversion ditch and site drainage flow estimates
- Pit water discharge rates

During the first year of operation the water balance would be revised on a monthly basis. The updated balance would be used to predict when a discharge of excess water would occur. A Water Balance Contingency Plan will also be prepared and submitted to

the Water Board as a condition of the Water Licence. This contingency plan would include potential measures for correcting the water balance through reductions in inputs to the system, increased recycle or other measures. If the water balance proves to be significantly more positive than anticipated it may be necessary to increase the size of the reclaim water treatment plant or to schedule an earlier release of treated effluent. The Water Balance Contingency Plan would be submitted to the Board by December 31, 1995. Implementation of the Water Balance Contingency Plan would be triggered by revised water balances that predicted a need to release excess water ahead of schedule.

6.1.1 Dry Conditions

In the event that the water balance proves to be more negative than predicted it may be necessary to source additional water to provide sufficient water to either flood the tailings pond or to partially flood the pit at closure. Once the revised water balance is available after the first year of operation, BYG will be in better position to determine whether sourcing of additional water during the final year(s) of operation will be necessary. Additional water would be available from a number of alternative sites as follows:

1) reductions in recycle rate from the tailings pond and increased pumping from the water supply wells,

2) diversion of Dome Creek into the tailings pond either in Years 2 and/or 3,

3) temporarily pumping water from Pony Creek to partially flood the pit if this is deemed necessary at closure.

Since reclamation work will likely extend for at least one year after closure, it would be feasible to carry out some of the above activities during this period in the event that conditions are drier than expected.

6.2 Hydrology of the Pit and Dewatering Requirements

Water inflows to the pit are expected to be from precipitation and from the drilling of blastholes. Blasthole drilling will be quite minimal, as it is expected that a large percentage of both ore and waste can be ripped with tractors.

The bulk of the water from precipitation gain to the pit will be absorbed by the broken rock and removed by truck to either the mill or the waste dump. There will be occasions during the runoff period, or during heavy rainfall when it will be necessary to pump water from the pit. This pit water will be monitored and released to the drainage ditch

downslope of the waste dump and monitored using through a small settling pond. If this water is contaminated it will be piped directly to the tailings pond.

The current mine plan does not involve excavation to sufficient depth in the North Pit to intercept the existing Brown-McDade adit. However there is potential that water retained in the pit could travel through fractures in the bottom of the pit and drain out through the adit. However it should be noted that the adit is currently in permafrost and seepage would freeze prior to reaching the adit. In the event that water stored in the pit, actually leaks into the adit, the adit will be sealed with a reinforced concrete plug to ensure that seepage out of the adit does not occur.

6.2.1 Pit Dewatering Estimates

The following provides an estimate of pit dewatering requirements.

Drainage area for the open pit is 3.8 ha.

Total precipitation for 3 years, assuming one 200 year return wet year and two mean years, is 912 mm. Total precipitation input to the pit for 3 years would be 35,000 m^3.

Losses of Water from the Pit

Broken rock removed from an open pit typically contains 3 to 5% moisture. Because of the dry location and the fact that there is very little blasthole drilling expected, the only source of water to provide moisture will be precipitation. Therefore it is likely that the moisture content in the ore and waste rock will be on the low side. Assuming 3% moisture and 1,000,000 tonnes of ore and waste rock, the quantity of water leaving the pit with the ore and waste rock would be approximately 30,000 m^3.

Minimum Case

Therefore, assuming year round operation, 5000 m^3 would be pumped over a three years period equivalent to 4.5 m^3/day.

Maximum Case

This case assumes that open pit mining is carried out only between March and October. During this period it would reasonable to expect that all precipitation input to the pit would leave the pit with the broken rock. However during the winter months, precipitation that occurred in the form of snow would be expected to accumulate (ignoring sublimation losses). This case would result in a start-up pumping effort each spring to remove water resulting from snow melt.

Total November to March precipitation for 3 years would be 228 mm, equivalent to 76 mm of accumulation each spring.

Therefore the total water to be pumped each spring would be 2900 m^3.

The maximum operating condition would be that this melt water would be pumped over a 10 day period resulting in a maximum pit dewatering rate of 290 m^3/day. This water would be pumped from the pit to the settling pond and released to the environment during spring run-off.

Under more realistic conditions, the quantity of water pumped from the pit during the spring would be significantly less than the above estimate for the following reasons;

1) the estimate ignores sublimation loss which could be substantial, and

2) the estimate does not consider water adsorbed by the broken rock left in the pit during the winter months and eventually removed as part of mining activities the following spring.

7. Victoria Creek Crossing

The project site is accessed via a public 60 km gravel road, maintained for about 8 months of the year by the Yukon Territorial Government. The road is maintained open primarily to provide access for several placer miners working in the area during the spring to fall season. The road provides access for exploration work for hardrock mining companies each summer. The road is also used by hunters and trappers, as well as some casual tourist traffic.

The number of one way trips per day crossing the first mile of road averaged 17 during the summer months of 1991, the only year for which figures are available. Most of the current traffic would be of light vehicular type. However, fuel trucks and equipment transport for back hoes, loaders and tractors, also make use of the road.

7.1 Projected Traffic

Table 1-15 of the IEE illustrated the expected additional load and traffic on the road with the advent of production from Brown-McDade oxide ore. Over 65% of freight tonnage and about 60% of the freight trips, will be for fuel for diesel power generation. This traffic will account for 0.9 one way trips per day of the total of 1.6 freight trips per day on an annual basis.

In terms of trips per day on the road, traffic could increase 75% over current usage during the summer. The same additional traffic will be maintained year round so that mine traffic will virtually be the only traffic during the winter months.

The major freight will be diesel fuel oil, and the preferred trucking unit would have a gross weight of 38,000 kg., and a tare weight of 17,000 kg.

Other bulk freight such as explosives, trucked directly from Edmonton for example, would arrive in units with a gross weight of 36,000 kg and a tare weight of 14,000 kg.

Freight requiring tanker units such as lime and requiring long distances trucking could have gross weights up to 63,000 kg and tare weights of 30,000 kg. Truckers will be expected to meet all load restrictions and reporting requirements of the Federal and Yukon authorities.

7.2 Improvements

The road requires improvements for both environmental and safety reasons. BYG engaged Boreal Consulting Services Ltd. to conduct a study of the road in 1988 (Boreal, 1988). This report identified work and cost requirements to improve the road to acceptable standards. In August of 1994, BYG engaged Klohn-Crippen, who, in conjunction with Engineering and Maintenance representatives of the YTG, inspected the road again. The results of the Klohn-Crippen study (Klohn-Crippen, 1994b) which outlined improvements which should be made were provided in Appendix II of the IEE. The major improvement identified for environmental reasons, was the replacement of the ford on Victoria Creek with a culvert crossing. The design of the culvert crossing and information to support a water licence application for the crossing is provided in Klohn-Crippen (1995b). The design will require approval of YTG Engineering and Maintenance, since custody and responsibility for maintenance will revert to YTG once it has been constructed.

8. Supplemental Closure Plan Cost Estimates

Preliminary reclamation cost estimates are provided in Appendix A. These estimates are summarized in Tables A-1 and A-2 with unit cost breakdowns for the individual disturbed areas also listed in Appendix A. The cost to reclaim areas disturbed by pervious operators has been estimated at $504,420, while the estimated cost to reclaim areas disturbed by the current project is $193,538. This is the total liability over the project life accrued due to a number of items including the open pit, waste dump, tailings pond, diversions and monitoring requirements. The incurred liabilities at the end of Year 1, 2, 3 and 4 have been estimated at $86,425, $41,500, $45,599 and $20,0140 with offsetting expenditures of $40,000, $127,925, $60,000 and $470,458.

9.1 Local Resources

The Village of Carmacks has a population of approximately 500, with about 60% members of First Nations. A number of these individuals will be capable of working on-site, although few will be experienced in milling operations. Some will likely be equipment operators available for open pit and site work. The majority of skilled employees will likely have to be sourced from the rest of the Yukon and B.C.

9.2 First Nation Consultation

The Company is negotiating with the Little Salmon/Carmacks Band, regarding their participation in the proposed mining operation. The project lies within the traditional Territory of the Little Salmon/Carmacks First Nation Band.

BYG representatives have met with the Economic Development officer, Chief Land Claim Negotiator, the Band Chief, Band Manager and other council members, on three occasions.

The discussions have centred on the participation of the Band in the economic activity to be generated by the Mt. Nansen mining project. The project has been described to the Band representatives, and the Band has made known their interest in future activity.

The Band has expressed interest in participation in the following areas:

- Employment and training for Band members
- Contracting opportunities for supplies, services, equipment and labour.
- Investment in the project in some direct financial way
- Possible inclusion of the Project in the Little Salmon/Carmacks land claim

The company has submitted an outline for a Working Agreement with the Band for discussion and negotiation to commence April 4, 1995.

BYG is committed to ensuring the participation of the Band in the future Mt. Nansen operation.

9.3 Public Consultation

A Public Information Meeting was held on February 21, 1995 at the Community Hall in Carmacks to provide information on the project to the local public. A second purpose of the meeting was to respond to questions and determine what were the key items from a local perspective. Notices regarding the meeting were posting around the Village and

9.3.1 Employment

- Would contractors be used for mining of the Brown-Dade zone? Answer: - Yes. This is short-term project it would be logical that mining be carried out on a contract basis.

- Would the contractors be residents or from outside the Yukon? Answer: - Would depend on equipment available and skills.

- Would the local contractors be able to bid on the work? Answer: - Yes.

- Would the jobs require a high technical skill level? Answer: - Some jobs would require skilled and trained individuals but others would not.

- Would a D8 be able to do the work or would larger equipment be required? Answer: - Not sure what equipment would be required.

9.3.2 Camp

- Did we show enough camp kitchen workers on the schedule? Answer: - Potentially not. Manpowers estimated were for general planning purposes.

- Would we run a bus to the site for Carmacks residents? Answer: - Yes if a sufficient number of the employees live in Carmacks.

- Would we run our own kitchen or engage a caterer? Answer: - Decision not made as yet but would likely seeks bids.

9.3.3 Transportation

- General questions about amount of traffic? Answer: - Estimates provided on an overhead from the IEE.

- Would we abide local requests for traffic scheduling? Answer: - Yes

9.3.4 Environment

- A statement that their was drainage from the Brown-McDade adit. Answer: - This observation did not agree with BYGs work on the property. Suggested that maybe there was some confusion between the Huestis which does have drainage and the Brown-Dade which does not.

10. Miscellaneous Issues

10.1 Waste Dump Stability

The area for disposal of mine waste has been examined by geotechnical engineers, and it is considered an acceptable location for the relatively small amounts of waste (Klohn-Crippen, 1994c, see Appendix I of the IEE). Slopes are gentle, soils are competent, and the pile will eventually assume permafrost characteristics. If required, in the final design, a berm may be constructed at the toe of the dump to prevent possible local instability caused by seasonal thaw of the soils at the dump toe.

10.2 Ore Stockpile Stability

The proposed location of the stockpile has been reviewed and confirmed as the best location. Thaw settlement may occur during operation however this should not markedly effect the placement and recovery of ore from the stockpile. Diversion ditches will be constructed prior to start-up and maintained during operation. However it is important to note that the quantity of water involved is very small. The only periods when there may be some flow in this diversion will be during spring run-off and during a major storm events.

References

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Sobek et al, 1978, " Field and Laboratory Methods Applicable to Overburdens and Minesoils", EPA-600/2-78-064.

Lawrence, R. W. et al. 1995. "Critical Evaluation of Procedures to Determine the Potential of Mining Wastes to Produce Acid Rock Drainage" Proposal

Melling, D. 1994. Memo to Jim Smith B.Y.G. Natural Resources regarding waste rock sampling program.

Process Research Associates. 1994a. SO2/Air Detoxification of the Mount Nansen Tailings. Report prepared for B.Y.G. Natural Resources Inc. September, 1994.

Boreal Consulting Ltd. 1988. Nansen Road Engineering and Construction - Preliminary Study, Report prepared for B.Y.G. Natural Resources Inc. July, 1988.

Klohn-Crippen Ltd. 1994b. Nansen Creek Road Upgrading - Engineering Assessment Report. Report prepared for B.Y.G. Natural Resources Inc., September, 1994.

Klohn-Crippen Ltd. 1995b. Letter to B.Y.G. Natural Resources from B. Trenholme regarding design of Victoria Creek Crossing, April 6, 1995.

Klohn-Crippen Ltd. 1994c. Letter to B.Y.G. Natural Resources from B. Trenholme, November 2, 1994.

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Appendix A

Reclamation Cost Estimates

Table A–1

B.Y.G. NATURAL RESOURCES INC.
MT. NANSEN PROJECT

RECLAMATION COSTS – INCURRED AND EXPENDED
OPERATIONAL IMPACTS ON MT.NANSEN SITE

TYPE OF IMPACT	UNITS HECTARES OR NO.	UNIT COST TYPE	COST PER UNIT	COST NEW IMPACT	SCHEDULE OF RECLAMATION WORK INCURRED				
					END OF YEAR 1	END OF YEAR 2	END OF YEAR 3	END OF YEAR 4	TOTAL
(9) Open pit	2.3	(9)	$1,565	$3,600	$1,500	$1,500	$599		$3,599
(10) Waste dump	6.8	(10)	$4,560	$31,008	$5,000	$10,000	$15,000	$1,008	$31,008
(11) Tailings Impoundment	4.4	(11)	$21,365	$94,006	$15,000	$30,000	$30,000	$19,006	$94,006
(12) Seepage pond	0.1	(12)	$42,000	$4,200	$4,200				$4,200
(13) Dome creek diversion	1	(13)	$3,000	$3,000	$3,000				$3,000
(14) Pit access road	1.1	(14)	$6,000	$6,600	$6,600				$6,600
(15) Dam Access road	0.7	(15)	$2,350	$1,645	$1,645				$1,645
(16) Water, power lines	1.2	(16)	$32,900	$39,480	$39,480				$39,480
(17) New trailers	4	(5a)	$2,500	$10,000	$10,000				$10,000
TOTAL NEW IMPACTS				$193,539					
SCHEDULE OF COST OF NEW IMPACTS					$86,425	$41,500	$45,599	$20,014	$193,538
CUMULATIVE COST OF NEW IMPACTS					$86,425	$127,925	$173,524	$193,538	
PROPOSED BONDING AT END OF EACH YEAR					**$150,000**	**$150,000**	**$200,000**	**$50,000**	
SCHEDULE OF RECLAMATION WORK COMPLETED					*$40,000*	*$127,500*	*$60,000*	*$470,458*	
RECLAMATION COST REMAINING AT YEAR END					*$550,845*	*$464,845*	*$450,444*	*$0*	

Table A–2

B.Y.G. NATURAL RESOURCES INC.
MT. NANSEN PROJECT

RECLAMATION COSTS – INCURRED AND EXPENDED
EXISTING IMPACTS ON MT.NANSEN SITE

TYPE OF IMPACT	UNITS HECTARES OR NO.	UNIT COST TYPE	COST PER UNIT	COST EXISTING IMPACT	SCHEDULE OF RECLAMATION WORK COMPLETED				
					END OF YEAR 1	END OF YEAR 2	END OF YEAR 3	END OF YEAR 4	TOTAL
(1) Existing construction areas	11.3	(1)	$5,250	$59,325		$15,000	$15,000	$29,325	$59,325
(2) Existing roads	5.7	(2)	$2,350	$13,395			$5,000	$8,395	$13,395
(3) Existing trenches	11.4	(3)	$4,000	$45,600		$15,000	$15,000	$15,600	$45,600
(4) Existing mine portals	5	(4)	$10,200	$51,000				$51,000	$51,000
(5a) Existing frame buildings and trailers	14	(5a)	$2,500	$35,000	$10,000	$10,000		$15,000	$35,000
(5b) Existing steel and concrete buildings	1	(5b)	$105,000	$105,000				$105,000	$105,000
(6) Existing dams	3	(6)	$3,700	$11,100		$7,500		$3,600	$11,100
(7) Existing ore dumps	72,500	(7)	$2.15	$155,875	$25,000	$75,000	$25,000	$30,875	$155,875
(8) Existing waste dumps	22,500	(8)	$1.25	$28,125	$5,000	$5,000		$18,125	$28,125
TOTAL EXISTING IMPACTS				$504,420					
SCHEDULE OF RECLAMATION WORK					$40,000	$127,500	$60,000	$276,920	$504,420

Reclamation Plan - Current Impacts

The Mt.Nansen property has been subjected to mining and mining exploration work for over 50 years. The impacts are tabled as follows to the various drainages.

TYPE of IMPACT	Dome & Pony Drainage	Webber Cr. Drainage	Cabin Cr. Drainage
(1) Construction	9.5 hect.	1.8 hect.	0
(2) Roads	3.5 hect.	1.6 hect.	0.6 hect.
(3) Trenches	6.5 hect.	1.9 hect.	3.0 hect.
TOTAL EXISTING	*19.5 hect.*	*5.3 hect.*	*3.6 hect.*
(4) Existing Portals	3	2	0
(5) Buildings	15	4	0
(6) Existing dams	3		
(7) Tonnes Ore dumps	50,500	22,000	0
(8) Tonnes Waste dumps	16,500	6,000	0

Reclamation Plan - New Impacts

The operation will effect the following areas, some of which are already impacted, see above.

(9) Open Pit	2.3 hectares
(10) Waste Dump	6.8 hectares
(11) Tailings Pond	4.4 hectares
(12) Seepage Pond	0.1 hectares
(13) Dome Creek Diversion	0.3 hectares
(14) Pit Access Road	1.1 hectares
(15) Rehab old Road(dam)	0.7 hectares
(16) Water, Power Lines	1.2 hectares
(17) New Trailer Units	0.0 hectares
TOTAL NEW IMPACT	*16.0 hectares*
Tonnes Tailings*(1)	300,000
Tonnes Waste	737,000

*Note (1): Includes existing tailings moved to new pond.
*Note (2): Pit, waste dump, water & power lines largely overly currently impacted areas.

Unit Cost Estimates

(1) Existing Construction Areas (11.3 hectares)

Existing construction areas such as current mill site, portal areas including waste and ore dumps, existing tailings ponds, old camp and other building sites, existing power and water lines. Costs would include leveling and scarifying of site, stabilizing waste slopes, reestablishment of drainages, revegetation as necessary.

Bulldozing	- 20 hours per hectare	- @ $145/hour	$ 2,900
Grader	- 10 hours per hectare	- @ $ 75/hour	$ 750
Excavator	- 4 hours per hectare	- @ $125/hour	$ 500
Labour	- 20 hours per hectare	- @ $ 30/hour	$ 600
Materials	-	- @ $500/hectare	$ 500
TOTAL UNIT COST PER HECTARE			$ 5,250

(2) Roads (5.7 hectares)

Roads, many of which have already revegetated to some degree, would be scarified, drainages reestablished, and revegetated.

Grader	- 10 hours per hectare	- @ $ 75/hour	$ 750
Labour	- 20 hours per hectare	- @ $ 30/hour	$ 600
Excavator	- 4 hours per hectare	- @ $125/hour	$ 500
Materials	-	- @ $500/hectare	$ 500
TOTAL UNIT COST PER HECTARE			$ 2,350

(3) Trenches (11.4 hectares)

Many of these trenches were established from 10 to 50 years ago, and have largely revegetated naturally. The wiser course may be to leave them untouched. There are some areas which will require stabilization and revegetation. However, the following costs assume that the trenches will be filled, sloped and revegetated.

Bulldozer	- 20 hours per hectare	- @ $145/hour	$ 2,900
Labour	- 20 hours per hectare	- @ $ 30/hour	$ 600
Materials	-	- @ $500/hectare	$ 500
TOTAL UNIT COST PER HECTARE			$ 4,000

(4) Portals

There are five portals currently existing on site. Four of these occur in permafrost, and do not drain water. The lower Huestis appears to be at or near the lower depth of the permafrost, and water seeps through the old mined out areas for some part of the year. Each portal will be sealed with a concrete plug, the entrance

backfilled with existing waste rock. The cost of leveling the portal area and revegetating is covered in item (1) above.

Bulldozer	- 30 hours per portal	- @ $145/hour	$ 4,350
Loader	- 10 hours per portal	- @ $125/hour	$ 1,250
Labour	- 130 hours per portal	- @ $ 30/hour	$ 3,900
Concrete	- 3 cu.metres per portal	- @ $175/cu.meter	$ 525
Material	-	- @ $150/portal	$ 150
TOTAL UNIT COST PER PORTAL			$10,175

(5) Buildings

The buildings and shacks at Webber, Brown-McDade and several at the mill site are old frame shacks and trailers. The mill building, warehouse, powerhouse and storage building are steel on concrete foundations. The frame buildings and trailers will simply be bulldozed and burned. The steel buildings must be dismantled, and the concrete bulldozed and covered. In all cases, the cost of levelling and revegetating are covered under item (1) above.

(5a) Frame Buildings

Bulldozer	- 6 hours per building	- @ $145/hour	$ 900
Labour	- 20 hours per building	- @ $ 30/hour	$ 600
Loader	- 8 hours per building	- @ $125/hour	$ 1,000
TOTAL UNIT COST PER FRAME BUILDING			$ 2,500

(5b) Steel buildings

For estimating purposes, the steel building plant will be estimated as one unit. Work would consist of equipment removal, removal of piping and electrical services, strip sheeting, dismantle steel, bulldoze foundations.

Crane	- 50 hours total	- @ $175/hour	$ 8,750
Loader	- 200 hours total	- @ $125/hour	$25,000
Bulldozer	- 100 hours total	- @ $145/hour	$14,500
Truck	- 200 hours total	- @ $ 75/hour	$15,000
Riggers	- 200 hours total	- @ $ 40/hour	$ 8,000
Labour	- 400 hours total	- @ $ 30/hour	$12,000
Materials	-	- Lump sum	$ 5,000
Mob.Demob.	-	- Lump sum	$15,000
TOTAL COST FOR STEEL BUILDINGS			Say $105,000

(6) Existing Dams

There are three small dams on site, two of which contains tailings from earlier operations, and one of which is a water impoundment pond. It is our plan to drain the tails ponds, remove the tailings

to the mill or to the new pond, flatten and recountour the dams. The water impoundment pond will be retained during the operating years as a intercept and monitoring pond, as well as a reclaim water treatment facility. On abandonment, this dam will be flattened and recontoured.The cost of final revegetation is included in item (1)

Excavator - 20 hours total	- @ $125/hour	$ 2,500
Bulldozer - 60 hours total	- @ $145/hour	$ 8,700
TOTAL COST FOR DAM REMOVAL		$ 11,200
	COST PER DAM	$ 3,700

(7) Ore Zone Material

Currently, their is approximately 75,000 tonnes of material on site in the form of ore dumps of broken rock, and tailings from the previous operations. It is our intention to recover all of this material, and either treat it in the mill and release to the new proposed tailings storage impoundment, or place it in the impoundment and cover with new tailings. The costs are largely of loading and trucking to the mill or dam. In all cases the cost of levelling and revegetating are covered in item (1) above.

Loader - 525 hours total	- @ $125/hour	$ 65,000
Truck - 1050 hours total	- @ $ 75/hour	$ 79,000
Bulldozer - 100 hours total	- @ $145/hour	$ 15,000
TOTAL FOR ALL DUMPS		$159,000
Unit cost/tonne		$2.15

*Note: It is expected that the costs of this operation will be offset by revenue, resulting in positive net cash flow for the project. The work will be done while pit mining equipment is still on site.

(8) Waste Material

There currently remains an estimated 23,000 tonnes of waste on site at 5 portal locations. The cost of reclaiming this material will be one of flattening slopes and clean-up with loader. In all cases the cost of levelling and revegetating are covered in item (1) above.

Bulldozer - 150 hours total	- @ $145/hour	$ 22,000
Loader - 50 hours total	- @ $125/hour	$ 6,000
TOTAL FOR ALL WASTE DUMPS		$ 28,000
	COST PER TONNE	$1.25

(9) Open Pit (2.3 hectares)

It is expected that the North Pit, the largest of the two pits will eventually fill with water. The South Pit will pool and freeze. The west wall of each pit will have a very flat slope, and only a shallow overburden berm (0.5 to 2 metres). The east wall is excavated in competent rock and will maintain a 50 degree overall wall slope. Reclamation will consist of stabilizing the overburden at the perimeter and revegetating. The east wall will be fenced. The cost of final reclamation is included in item (1) above, as it is currently covered by trenching.

Bulldozer -	50 hours total	- @ $145/hour	$ 7,500
Loader -	100 hours total	- @ $125/hour	$ 12,500
Materials -		- Lump Sum	$ 10,000
Labour -	200 hours total	- @ $ 30/hour	$ 6,000
TOTAL COST FOR PIT RECLAIM			$ 36,000
		COST PER HECTARE	$1,565

(10) Waste Dump (6.8 hectares)

The waste dump will be constructed during operation with slopes flattened to 28 degrees. On completion of the pit mining, it will be necessary to flatten the berms around the periphery of the dump, a total of 1.7 hectares. The top of the dump would be scarified for revegetation.

Bulldozer -	75 hours total	- @ $145/hour	$ 11,000
Grader -	100 hours total	- @ $125/hour	$ 12,500
Labour -	136 hours total	- @ $ 30/hour	$ 4,000
Materials -		- Lump Sum	$ 3,500
TOTAL FOR WASTE DUMP			$ 31,000
		COST PER HECTARE	$4,560

(11) Tailings Impoundment (4.4 hectares)

The tailings pond will be maintained in a flooded condition, with an emergency spillway constructed on completion to handle unusual precipitation events. Any tailings beaches will be revegetated or flattened to remain flooded. Work will consist of construction of the permanent spillway and partial revegetation.

Spillway as estimated by Klohn-Crippen consultants -		$ 91,000
Revegetation of periphery	-	$ 3,000
TOTAL TAILS POND RECLAIM		$ 94,000
	COST PER HECTARE	$21,365

(12) Seepage Pond

This small pond (0.1 hectares) will be reclaimed by removal of the dam, flattening and revegetating.

Bulldozer - 20 hours total	- @ $145/hour	$ 3,000
Labour - 40 hours total	- @ $ 30/hour	$ 1,200
TOTAL SEEPAGE POND		$ 4,200

(13) Dome Creek Diversion (0.3 hectares)

This diversion will be breached, allowing drainage to flow into the tailings pond.

Bulldozer - 20 hours total	- @ $145/hour	$ 3,000
TOTAL DOME CREEK DIVERSION		$ 3,000

(14) Pit Access Road (1.1 hectares)

This road will be constructed of acid consuming pit waste, covered with local gravel. On completion the road will be scarified, drainages re-established, and revegetated.

Grader - 30 hours total	- @ $ 75/hour	$ 2,250
Excavator - 20 hours total	- @ $125/hour	$ 2,500
Labour - 40 hours total	- @ $ 30/hour	$ 1,200
Materials -	- @ $500/hectare	$ 750
TOTAL PIT ACCESS ROAD		$ 6,700
	COST PER HECTARE	$6,000

(15) Dam Access Road (0.7 hectares)

This is a very old road following the Dome Creek valley, the upper portion of which will be used during the operating years to access the tailings dam and tailings and reclaim lines. On abandonment, the road will be scarified, drainages re-established, and revegetated.

For cost estimate, see item (2) $ 2,350/hectare

(16) Water, Power Lines (1.2 hectares)

These lines are above ground, and will be dismantled and removed from site, and the access road revegetated.

Loader	- 140 hours total	- @ $125/hour	$ 17,500
Truck	- 140 hours total	- @ $ 75/hour	$ 10,500
Labour	- 280 hours total	- @ $ 30/hour	$ 8,500
Road	- See item (2)	- @ $2,350/hectare	$ 3,000
TOTAL WATER, POWER LINES			$39,500
		COST PER HECTARE	$32,900

(17) New Trailer Units

It is expected that four new trailers will be added to increase our camp facility. These costs to dismantle would be the same as in removal of old existing units.

See Item (5a) $ 2,500

T.W. Higgs Associates Ltd

April 6, 1995

Kevin McDonnell
Environment Directorate
DIAND
345-300 Main Street
Whitehorse, Yukon
Y1A 2B5

Dear Kevin,

Re: Mount Nansen Project - IEE Addendum

Enclosed are 25 copies of the IEE Addendum Report in accordance with the requirements of the Environmental Assessment and Review Process (EARP). This document has been assembled to provided supplementary information to support the Mt. Nansen Environmental Evaluation report (IEE) submitted in November 1994 and to clarify key issues identified in the IEE Review Letter issued by the Environment Directorate on March 21, 1995. The supplementary information will be provided in separate documents. The IEE Addendum Report lists and discusses the key issues but relies on additional detailed information provided in two other documents generated by Klohn-Crippen.

"Tailings Impoundment - Feasibility Design Update" dated , April 4, 1995.

A Letter Report title "Victoria Creek Crossing" from B. Trenholme, dated April 6, 1995.

The Tailings Impoundment Report was shipped to you on Arpil 5, 1995 while the letter report on the Victoria Creek crossing will be shipped on April 7, 1995. Please distribute these items to the RERC and inform us if additional copies are required. We look forward to an expeditious review of the project. Please notify us regarding any additional data requirements for your review.

Yours truly,

T.W. Higgs, M.E.Sc. P.Eng.

c.c Jim Smith, B.Y.G.

APR - 7 1995
4,199
NORTHERN AFFAIRS & LAND CLAIMS

9145 Shaughnessy Street, Vancouver, B.C. V6P 6R9 Tel (604) 322-3525 Fax (604) 322-4907

KLOHN-CRIPPEN

FAX TRANSMISSION

TO:	Kevin McDonnell	**FAX NO.:**	1-403-667-3216
COMPANY:	Environment Directorate, DIAND	**DATE:**	April 7, 1995
FROM:	Blair Trenholme	**FILE:**	PM5314 03
SUBJECT:	BYG Natural Resources, Mt. Nansen Project, Victoria Creek Crossing		

NO. OF PAGES: (including this page) 7

For transmission problems, please call: Name: Manon Tel: 279-4393

Please see copy of attached letter, as sent to Jim Smith of BYG.

RECEIVED
APR - 7 1995
4,200
ENVIRONMENT & LAND CLAIMS

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10200 Shellbridge Way, Richmond, B.C., Canada V6X 2W7 • Tel.(604)273-0311 • Fax (604)279-4300

KLOHN-CRIPPEN

April 6, 1995

BYG Natural Resources Inc.
208-3190 St. John Street
Port Moody, British Columbia
V3H 2C7

Mr. Jim Smith

Dear Mr. Smith:

Victoria Creek Crossing

This letter presents the results of hydrological analysis and preliminary design studies carried out for the Mt. Nansen road crossing of Victoria Creek. This work has been done in support of a water licence application by BYG Natural Resources Inc. BYG wishes to use the road as the primary access for the mine they plan to develop at Mt. Nansen.

The site is located in the central Yukon, about 60 km west of Carmacks. Currently, the road fords the creek at a point where the creek flows across a gravel flood plain. Water depth at the ford is typically less than about 15 cm. The ford is currently used by a number of prospectors and placer miners working in the area. Estimates of summer traffic load indicate that current use is about 20 vehicles per day. This will increase when the mine is brought into production.

The principal design parameters of the Victoria Creek crossing are summarized below:

- To develop a crossing which avoids fording the creek.
- To use culverts capable of passing the runoff from a 2-year storm event.
- To build the crossing in such a way as to produce no barrier or impediment to the passage of fish.
- To allow passage of a flood greater than the design flood by flow over a low section of the road, with minimal damage to the structure. In the improbable event of such a flood during the life of the mine, the crossing will be closed until the flood subsides, thus avoiding passage of vehicles through the creek.

Klohn-Crippen Consultants Ltd., 10200 Shellbridge Way, Richmond, B.C., Canada, V6X 2W7 • Tel. (604) 273-0311 • Fax (604) 279-4300

Victoria Creek drains a total catchment area of about 62 km^2 upstream of the crossing. Hydrological analysis has been carried out to determine likely flows in the creek at the crossing. The rainfall intensity-duration-frequency information from the Atmospheric Environment Service (AES) station at Carmacks was used. The rainfall runoff model, HYMO, was used with a Curve Number of 80 and a time of concentration of 1.3 hours to derive the design discharges at the road crossing of Victoria Creek. The estimated discharges for 2-year, 10-year and 25-year return period floods were 12 m^3/s, 27 m^3/s and 37 m^3/s respectively.

At the point of the crossing, the alluvial plain in the creek bottom is about 40 m wide. The creek currently occupies a relatively small part of this width, usually no more than about 10 m. The remains of an old crossing are evident just upstream of the ford, in the form of an old embankment. It appears that a previous culvert crossing was washed out.

The crossing consists of a compacted embankment and two culverts of 1600 mm diameter. These culverts will be sufficient to carry the flow from the estimated 2-year flood event. The geometry of the crossing is such that, if a flood greater than the design flood occurs, and the culvert capacity is exceeded, water will flow over the road in a lower section adjacent to the culverts. It is estimated that for a 10-year to 25-year flood, the flow over the road would be contained in a 30 m wide section which is 0.5 m deep. The embankment will be armoured upstream and downstream with coarse rock to allow embankment overtopping without significant damage. The median diameter of the armour rock is 300 mm with a maximum size of 500 mm and a minimum size of 200 mm. The minimum thickness of the armour layer is 1000 mm. The layer will be placed as shown on Figure 1 on both sides of the embankment with aprons extending approximately 3 m upstream and downstream. An apron of armour rock will be placed for approximately 10 m downstream of the culvert outlets.

In the event of a significantly larger flow, the low portion of the road could possibly be washed out. However, the crossing design reduces the risk of losing the culverts, and the rest of the embankment could be re-constructed with minimal effort.

The embankment will be built from alluvial sands and gravels available from the creek banks immediately adjacent to the site. The culverts will be placed on a level grade and a well graded fill will be compacted around them. This work will be done in the dry without disturbing the current creek channel. When the culvert section of the embankment is completed, the creek will be diverted through the culverts. This will be done quickly to minimize the introduction of suspended sediments into the creek. Subsequently, the lower portion of the embankment will be constructed across the area where the creek had been prior to diversion through the culverts.

Figures 1, 2 and 3 illustrate key design features. The design is summarized below:

- Two 1600 m diameter culverts will be required to pass the design flood.
- The culverts will be placed at 0% grade.
- Culvert invert elevation will be 0.3 m below natural stream grade at the downstream end.
- A tailwater control structure will be constructed as shown on Figure 2 and Figure 3.
- The structure will not cause any impediment to passage by fish up and down the stream.
- The final result will improve on the existing situation at the crossing. Traffic fording the river will be reduced from about 20 vehicles per day to zero.

We trust that the information contained in this letter is sufficient for your needs at this time. Please contact us if you have any further questions.

Yours truly,

KLOHN-CRIPPEN CONSULTANTS LTD.

Blair S. Trenholme, P.Eng.
Project Manager

for Richard F. Rodman, P.Eng.
Senior Water Resources Engineer

BST:me

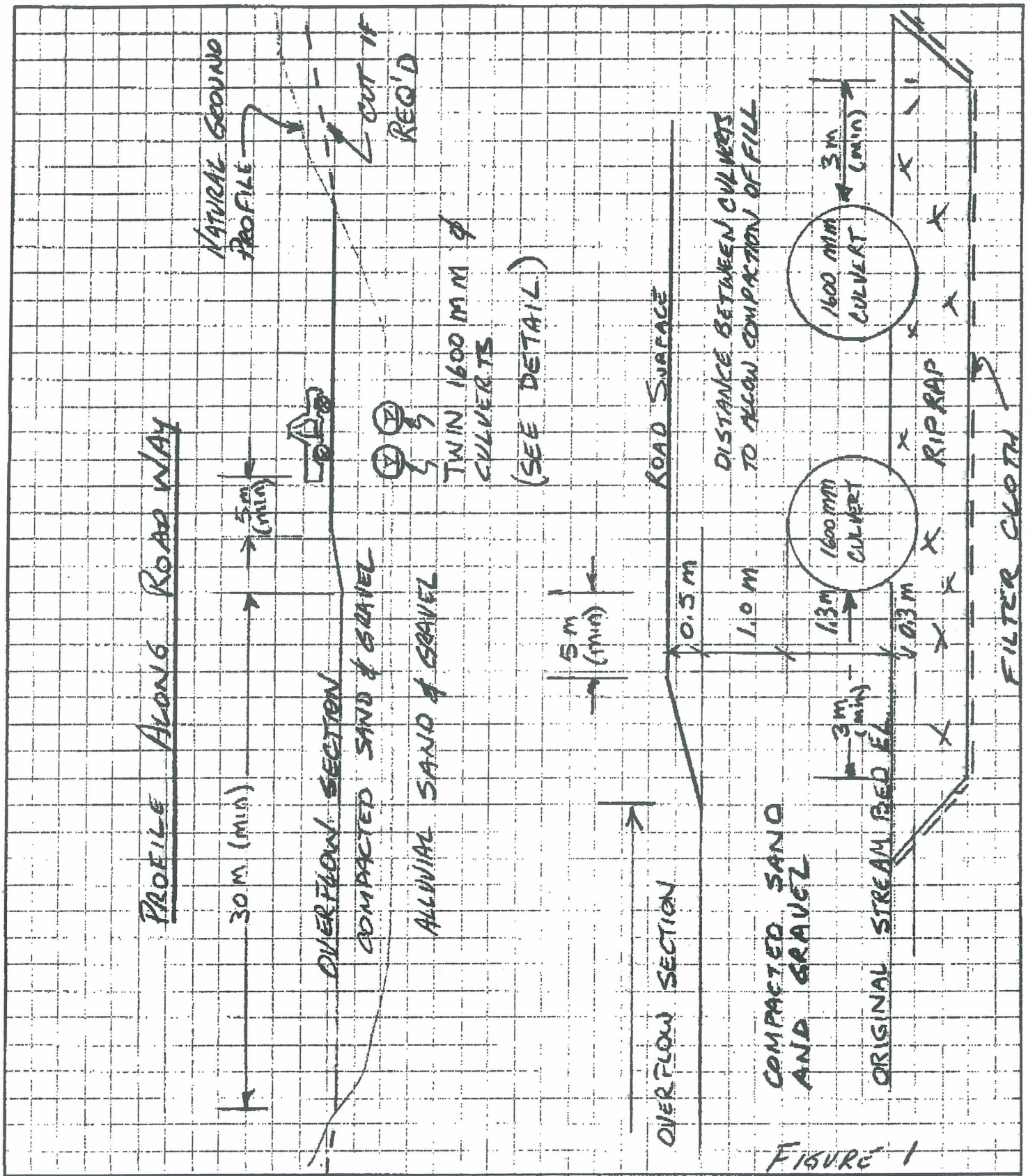

FIGURE 1

KLOHN-CRIPPEN	PROJECT BYG NO. 5314 03
	DETAILS
	ENG. BST CHK.
	DATE 06APR95 SHEET OF

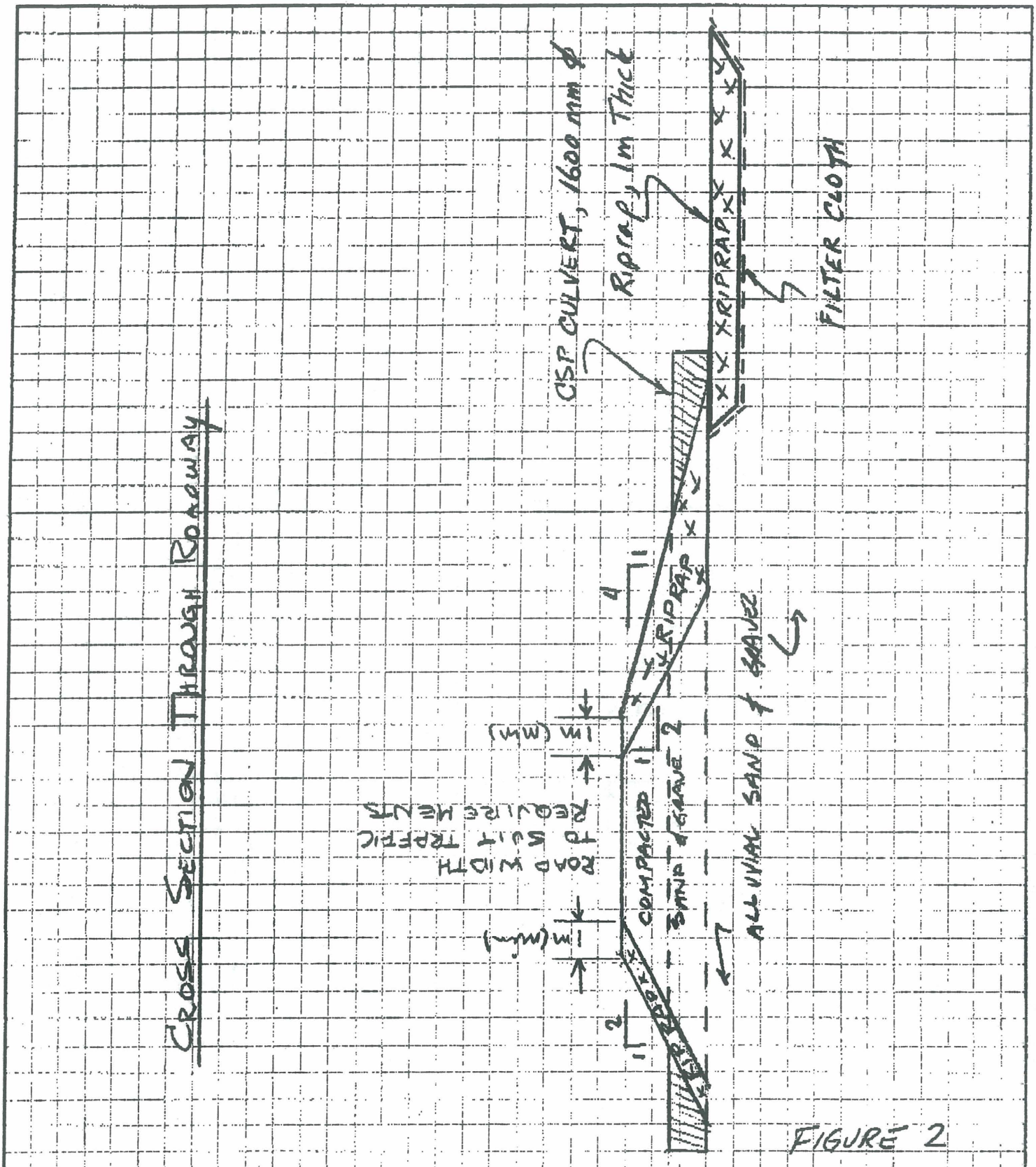

FIGURE 2

KLOHN-CRIPPEN	PROJECT B46 NO. 5314/03
	DETAILS
	ENG. BST CHK.
	DATE 06 APR 95 SHEET OF

KLOHN-CRIPPEN

April 11, 1995

BYG Natural Resources Inc.
208 - 3190 St. John Street
Port Moody, British Columbia
V3H 2C7

Mr. Jim Smith

Dear Mr. Smith:

Victoria Creek Crossing

This letter presents the results of hydrological analysis and preliminary design studies carried out for the Mt. Nansen road crossing of Victoria Creek. This work has been done in support of a water licence application by BYG Natural Resources Inc. BYG wishes to use the road as the primary access for the mine they plan to develop at Mt. Nansen.

Klohn-Crippen presented a preliminary design in a letter dated April 6, 1995. This letter includes improvements to the design and supersedes the previous letter. Changes to the April 6 letter are primarily in the configuration of the riprap erosion protection and associated filter cloth.

The site is located in the central Yukon, about 60 km west of Carmacks. Currently, the road fords the creek at a point where the creek flows across a gravel flood plain. Water depth at the ford is typically less than about 15 cm. The ford is currently used by a number of prospectors and placer miners working in the area. Estimates of summer traffic load indicate that current use is about 20 vehicles per day. This will increase when the mine is brought into production.

The principal design parameters of the Victoria Creek crossing are summarized below:

- To develop a crossing which avoids fording the creek.
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- To build the crossing in such a way as to produce no barrier or impediment to the passage of fish.

- To allow passage of a flood greater than the design flood by flow over a low section of the road, with minimal damage to the structure. In the improbable event of such a flood during the life of the mine, the crossing will be closed until the flood subsides, thus avoiding passage of vehicles through the creek.

Victoria Creek drains a total catchment area of about 62 km^2 upstream of the crossing. Hydrological analysis has been carried out to determine likely flows in the creek at the crossing. The rainfall intensity-duration-frequency information from the Atmospheric Environment Service (AES) station at Carmacks was used. The rainfall runoff model, HYMO, was used with a Curve Number of 80 and a time of concentration of 1.3 hours to derive the design discharges at the road crossing of Victoria Creek. The estimated discharges for 2-year, 10-year and 25-year return period floods were 12 m^3/s, 27 m^3/s and 37 m^3/s respectively.

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The crossing consist of a compacted embankment and two culverts of 1600 mm diameter. These culverts will be sufficient to carry the flow from the estimated 2-year flood event. The geometry of the crossing is such that, if a flood greater than the design flood occurs, and the culvert capacity is exceeded, water will flow over the road in a lower section adjacent to the culverts. It is estimated that for a 10-year to 25-year flood, the flow over the road would be contained in a 30 m wide section which is 0.5 m deep.

The embankment will be riprapped on the downstream side with coarse rock to allow embankment overtopping without significant damage. The layer will be placed as shown on Figure 1, with a 1 m thick riprap apron extending approximately 3 m downstream at the overflow section. An apron of riprap will be placed for approximately 10 m downstream of the culvert outlets. A riprap apron 1 m thick is required at the inlets of the two culverts as shown on the Figure 1, to minimize scour.

The median diameter of the riprap is 300 mm with a maximum size of 500 mm and a minimum size of 200 mm. The minimum thickness of the riprap layer is 1000 mm. Riprap shall consist of competent rock, evenly graded about the specified sizes.

April 11, 1995

We trust that the information contained in this letter is sufficient for your needs at this time. Please contact us if you have any further questions.

Yours truly,

KLOHN-CRIPPEN CONSULTANTS LTD.

Blair S. Trenholme, P.Eng.
Project Manager

Richard F. Rodman, P.Eng.
Senior Water Resources Engineer

Indian and Northern Affairs Canada
Affaires indiennes et du Nord Canada

Northern Affairs Program
#345 - 300 Main Street
Whitehorse, Y.T.
Y1A 2B5

8 pages

CANADA REMEMBERS
LE CANADA SE SOUVIENT

Your file Votre référence

Our file Notre référence

19 April 1995

BYG - Mt Nansen

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F. Green, Council for Yukon Indians, Fax 668-6577
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K. Larson, Environmental Health, Health Canada, Fax 668-5726
F. Privett, Economic Development, NAP
J. Guscott, Land Resources, NAP
A. Waroway, Mineral Development, NAP
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M. Vance, Little Salmon/Carmacks, Fax 863-5710
J. Wolchuk, Field Operations, Carmacks, NAP, Fax 863-6604
J. Jack, Village of Carmacks, Fax 863-6271

Re: **EARP Screening - Type B Water Licence Application - MS95-001 - Victoria Creek crossing - Mt Nansen Project**

Water Resources Division is providing supplemental information which includes a memo from J. Doering, a cover letter from J. Smith to the YTWB and a Schedule IV for BYG's Type B water licence application for highway culvert installation at the existing Victoria Creek crossing.

This information is supplemental to K. McDonnell's April 10, 1995 memo to RERC members regarding BYG - Mt Nansen's IEE Addendum Report, and fax from Klohn-Crippen regarding the Victoria Creek crossing.

The Level II screening currently underway for the Mt Nansen project will integrate comments received for the Victoria Creek crossing as part of the overall project screening. The need for an improved creek crossing over Victoria Creek was identified during the project review.

Please review the attached supplemental material for information deficiencies and identify any

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Yukon Territory Water Board

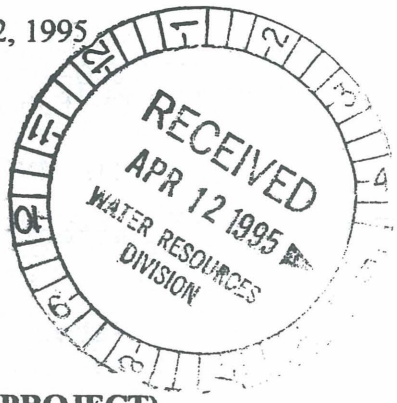
Office des eaux du Territoire du Yukon

MEMORANDUM

TO: DIAND - D. Cornett
DFO - A. Von Finster
EPS - G. MacKenzie-Grieve

File: MS95-001

April 12, 1995



FROM: Judi Doering
Manager
Water Board Secretariat

RE: WATER USE APPLICATION MS95-001,
B.Y.G. RESOURCES INC., VICTORIA CREEK (MT. NANSEN PROJECT)

Enclosed is a copy of this water use application for a type B licence for miscellaneous undertaking - culvert installation.

The Chairman has determined that the timing of board review of this application should, if possible, be coincidental to the board's review of B.Y.G.'s quartz application. Therefore, I am proposing that this application be advertised with an intent date of May 29, 1995.

There has been a suggestion that BYG should be required to include the culvert installation as part of the quartz application. I would like to advise you that the direction which I have received is that the two applications will be dealt with separately.

If you will be requesting additional information, or if you will not be able to meet the proposed intent date, please let me know by May 12, 1995. It would be helpful if you could also suggest an alternate date at that time.

Suite 200, 4114 - 4th Ave., Whitehorse, Yukon Y1A 4N7 Ph: 403-667-3980 Fax: 403-668-3628
4114, 4e avenue, bureau 200 Whitehorse (Yukon) Y1A 4N7 Tél: 403-667-3980 Fax: 403-668-3628

YUKON TERRITORY
WATER BOARD

1995 APR 11 P 2:44

REC'D BY Courier

APPL. NO N595-001

SCHEDULE IV
(Subsection 6(1))

APPLICATION FOR LICENCE OR AMENDMENT OR RENEWAL OF LICENCE

APPLICATION/LICENCE NO:
(amendment or renewal only)

1. NAME AND PERMANENT MAILING ADDRESS OF APPLICANT

B.Y.G. Natural Resources Inc
#208-3190 St. John's St.,
PORT MOODY, B.C.
V3H 2C7

TELEPHONE: 604.469.1524 FAX: 604-469-1534

2. SEASONAL MAILING ADDRESS (if different from permanent address)

TELEPHONE: _____ FAX: _____

3. NAME AND PERMANENT MAILING ADDRESS OF AGENT

J.B. SMITH
(AS ABOVE)

Telephone: 604-469-1524 Fax: 604-469-1534

4. LOCATION OF UNDERTAKING (describe and attach map, indicating watercourses and location of any proposed waste deposits)

NANSEN CREEK ROAD - KM 54

5. TYPE OF UNDERTAKING

1. Industrial	✓	4. Municipal	—	7. Conservation	—
2. Placer Mining	—	5. Power	—	8. Recreational	—
3. Quartz Mining	—	6. Agriculture	—		

9. Miscellaneous (describe) CULVERT INSTALLATION

6. WATER USE

To obtain water	—	Flood control	—
To cross a watercourse	—	To divert water	✓
To modify the bed or bank of a watercourse	✓	To alter the flow of, or store, water	—

Other (describe) _____

7. QUANTITY OF WATER TO BE USED (m^3/day) 0 M3
WATER WILL BE TEMPORARILY DIVERTED FOR INSTALLATION & RETURNED TO ORIGINAL CHANNEL.

SCHEDULE IV—*Concluded*

APPLICATION FOR LICENCE OR AMENDMENT OR RENEWAL OF LICENCE—*Concluded*

8. OTHER PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING

OTHER ROAD USERS WILL BE TEMPORARILY AFFECTED DURING CONSTRUCTION.

9. SCHEDULE OF WATER USE (seasonal) ACTUAL SCHEDULE TO BE DETERMINED BY CREEK FLOWS, WITH A MIDSUMMER PERIO LIKELY.

From: _____ (mm/dd) to _____ (mm/dd) Total number of days: _____

10. PROPOSED DURATION OF LICENCE

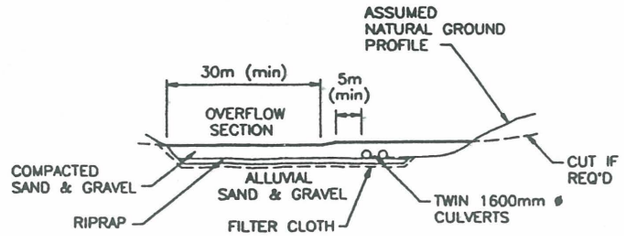
Commencement date: June1, 95 Expiry date: AUG 31, 96

J.B. SMITH	VICE PRESIDENT	J B Smith	APRIL 7, 1995
NAME (Print)	TITLE (Print)	SIGNATURE	DATE

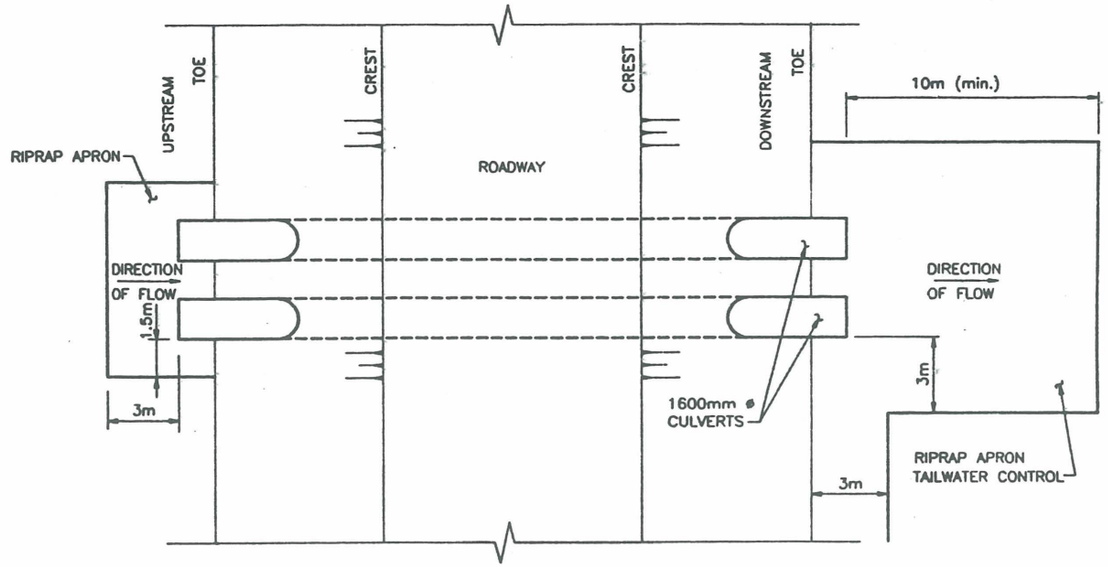
FOR OFFICE USE ONLY

APPLICATION FEE	Amount: $ 30.00	Receipt No: C097514
WATER USE DEPOSIT	Amount: $ _____	Receipt No: _____

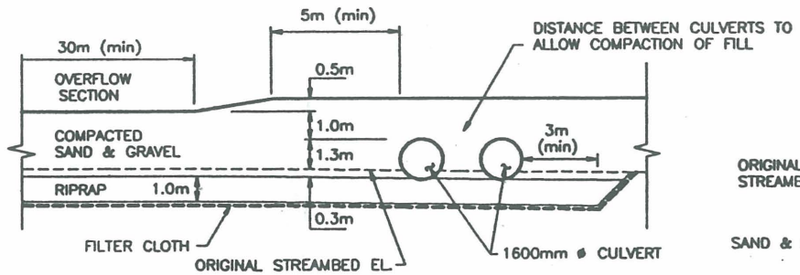
YUKON TERRITORY
WATER BOARD
APR 11 1995
MS95-001



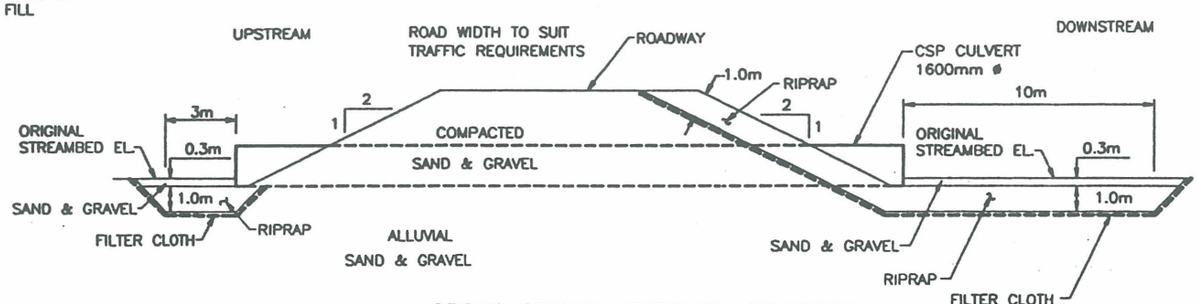
PROFILE ALONG ROADWAY
(ORIGINAL TOPOGRAPHY APPROXIMATE)
1:1000



PLAN – RIPRAP AT CULVERTS
1:200



DOWNSTREAM ELEVATION
1:200



CROSS SECTION THROUGH ROADWAY
1:200

AS A MUTUAL PROTECTION TO OUR CLIENT, THE PUBLIC AND OURSELVES, ALL REPORTS AND DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR USE AND/OR PUBLICATION OF DATA, STATEMENTS, CONCLUSIONS OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.

TO BE READ WITH KLOHN-CRIPPEN REPORT DATED _____

SCALE

KLOHN-CRIPPEN		DATE
DESIGNED	A.L.	
DRAWN		
CHECKED		
RECOMMENDED		
APPROVED		

KLOHN-CRIPPEN

CLIENT
BYG NATURAL RESOURCES

PROJECT
MT NANSEN GOLD PROJECT

TITLE
VICTORIA CREEK CROSSING

DATE OF ISSUE	PROJECT No.	DWG. No.	REV
APR 11, 1995	PB5314 03	FIG. 1	