KINROSS
Gold Corporation

June 25, 2001

Mr. Philippe di Pizzo
Executive Director
Nunavut Water Board
P.O. Box 119
Gjoa Haven, Nunavut Territory
Canada X0E 1J0

Re: Water License No. NWB2GOO9801 Goose Lake

Dear Mr. di Pizzo;

Enclosed is the application for renewal of the Water License, No. NWB2GOO9801, for the Goose Lake Project. Kinross Gold entered into a joint venture agreement with Wheaton River Nunavut Ltd. (formerly Kit Resources NWT Ltd.) in 1999, and became the operator of the Goose Lake Project. Documentation demonstrating this is enclosed with the application.

In general, the project continues much like it has over the past several years. The main activity is exploration drilling, and bulk surface sampling is also proposed, as it had been the past but not implemented.

There is a potential for the camp to grow from a capacity of 25 personnel to approximately 50 over the next three years, depending upon exploration results.

Also, Kinross Gold request that the Nunavut Water Board consider removing the requirement to install a sump to collect greywater from the camp. This structure has not been constructed, and it is believed that a sump to hold the greywater in the permafrost will not result in infiltration into the ground, and will reduce evaporation potential. Allowing the water flow over the surface of the ground to the west of the camp, away from Goose Lake will result in less disturbance and effect to land, and will enhance dispersion and evaporation of greywater. Should you determine that the sump should still be installed, it will be accomplished as soon as you advise us, and we receive approval from the Kitikmeot Inuit Association to move the bulldozer and construct the sump.

185 South State Street, Suite 820 Salt Lake City, Utah 84111 USA
Telephone: (801) 363–9152 Fax (801) 363-8747

Enclosed is the completed application form for renewal of the Water License, and the Exploratory/Remote Camp Supplementary Questionnaire. Should you or your staff have any questions or comments regarding the information provided, please contact me.

We look forward to working with you and your staff on this project.

Sincerely,

John C. Bokich
Manager, Environmental Compliance

Cc: Rita Becker, Licensing Administrator NWB
Eric Kallio, Exploration Manager Canada Shield Region
Blair Needham, Project Manager
Christine Saari, Property Records Administrator

185 South State Street, Suite 820 Salt Lake City, Utah 84111 USA
Telephone: (801) 363–9152 Fax (801) 363-8747

Kinross Gold Corporation

Goose Lake Project

Application for Renewal

Water License No. NWB2GOO9801

for the

Nunavut Water Board

P.O. Box 119
Gjoa Haven, Nunavut X0E 1J0

June 2001

Kinross Gold Corporation
Scotia Plaza, 52nd Floor
40 King Street West
Toronto, Ontario M5H 3Y2
Canada
Phone: (416) 365-5123

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Tel: (867) 360-6338
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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN

WATER LICENSE APPLICATION FORM

Application for: (check one)

__ New __ Amendment X Renewal ___Assignment - **License No. NWB2GOO9801**

LICENCE NO:
(for NWB use only)

1. NAME AND MAILING ADDRESS OF APPLICANT/LICENSEE

Kinross Gold Corporation
Scotia Plaza, 52nd Floor
40 King Street West
Toronto, Ontario M5H 3Y2
Canada
Phone: (416) 365-5123
Fax: (416) 363-6622
e-mail: jbokich@kinrossusa.com

2. ADDRESS OF CORPORATE OFFICE IN CANADA (if applicable)

Same as item No. 1

Phone:
Fax:
e-mail:

3. LOCATION OF UNDERTAKING (describe and attach a topographical map, indicating the main components of the Undertaking)

Kinross Gold's Goose Lake Project, Water License No. NWB2GOO9801, is located in Nunavut Territory, approximately 450 kilometers Northeast of Yellowknife. A topographical map is attached as Figure 1.

Latitude: 65° 33' North Longitude: 106° 25' West NTS Map No. 76G/10 Scale 1:50,000

4. DESCRIPTION OF UNDERTAKING (attach plans and drawings)

See Attachment A.

5. **TYPE OF UNDERTAKING** (A supplementary questionnaire must be submitted with the application for undertakings listed in **"bold"**)

__ Industrial	__ **Remote/Tourism Camps**
__ **Mine Development**	__ **Municipal**
X **Advanced Exploration**	__ Power
X **Exploratory Drilling**	__ Other (describe): _____

6. **WATER USE**

X To obtain water	__ To divert a watercourse
__ To modify the bed or bank of a watercourse	__ Flood control
__ To alter the flow of, or store, water	__ Other (describe): _____
__ To cross a watercourse	

7. **QUANTITY OF WATER INVOLVED** (litres per second, litres per day or cubic metres per year, including both quantity to be used and quality to be returned to source)

Maximum water usage for this phase of mineral exploration activities for the Goose Lake project will be 36,500 cubic meters per year. There will be no water returned to the source, Goose Lake, during this phase of operations. See Attachment A for further detail.

8. **WASTE** (for each type of waste describe: composition, quantity, methods of treatment and disposal, etc.)

X Sewage	X Waste oil
X Solid Waste	X Greywater
X Hazardous	X Sludges
X Bulky Items/Scrap Metal	__ Other (describe): _____

- Sewage is from the camp and ranges from that generated from between 25 and 50 people. All sewage is incinerated.
- Solid wastes consists of paper, container materials, and general refuse. All solid waste is incinerated and ashes stored in 200 litre drums. The ash is then shipped out by aircraft and deposited in licensed landfills in Yellowknife.
- Hazardous wastes include paints, solvents and other materials utilized in the exploration process. These materials are stored in 200 litre drums (used fuel drums), and maintained in a closed condition. Drums are then removed from the site by aircraft and transported to Yellowknife for proper disposal in licensed facilities.
- Bulky items / scrap metals are accumulated and then transported out by aircraft to Yellowknife for disposal or recycling.
- Waste oil is used in incinerator to help burn solid wastes.
- Greywater is planned to be drained into a sump to be constructed upon approval of the KIA. The sump will be located to the west of the camp on the side away from Goose Lake.
- Sludges (drill cutting) are collected at each exploration drill and transported to a sump to be constructed (upon approval by the KIA). The sump will be located to the west of the camp away from Goose Lake.

9. **PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING** (give name, mailing address and location: attach if necessary)

Land Use Permit

KIA Lands Division	X Yes ___ No	Permit No. KTL399C037 – Class III License
DIAND	__ Yes X No	If no, date expected Not Applicable
Regional Inuit Association	X Yes __ No	If no, date expected _____
Commissioner	__ Yes X No	If no, date expected Not Applicable

10. **PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES** (direct, indirect, cumulative impacts, etc.)

NIRB Screening X Yes ___ No If no, date expected _____

NIRB Screening was completed for the application dated February 26, 1998 for the NWB License, and again for the KIA License KTL399C027 (NIRB 00EN064) dated February 9, 2000. The current plan is consistent with the plans submitted for those screening reviews and approval, and Kinross Gold has retained the same operating conditions and practices as approved by the NIRB in their screening approvals. Kinross Gold hereby commits to complying with the requirements of that NIRB screening approvals dated February 26, 1998 and February 9, 2000.

11. **INUIT WATER RIGHTS**

Will the project or activity substantially affect the quality, quantity, or flow of water flowing through Inuit Owned Lands and the rights of Inuit under Article 20 of the Nunavut Land Claims Agreement?

Response: The project will not substantially affect the quality, quantity or flow of water flowing through Inuit Owned Lands and the rights of Inuit.

If yes, has the applicant entered into an agreement with the Designated Inuit organization to pay compensation for any loss or damage that may be caused by the alteration. If no compensation agreement has been made, how will compensation be determined?

12. **CONTRACTORS AND SUB-CONTRACTORS** (name, address and functions)

Bradley Brothers Drilling Ltd., 98 14th Street, Rouin Noranda, Quebec – Drilling Contractor (819)797-0755

13. **STUDIES UNDERTAKEN TO DATE** (list and attach copies of studies, reports, research, etc.)

Studies undertaken to date include the initiation of baseline studies by companies preceding Kinross, including Homestake Minerals, Kit Resources and Wheaton River Resources. Environmental baseline studies commenced in 1993 when the Goose Lake camp was built. During 1993 and 1994 environmental monitoring included water quality sampling and analyses from seven sites plus a blind duplicate, taken twice each year. Bathymetry, acid base accounting and limited hydrological studies were also conducted. Daily records were maintained regarding climate and local wildlife sightings.

There is no baseline data for 1995 or 1996 because no exploration work was conducted on the property during that time.

In 1997, Kit Resources NWT Ltd. Increased the frequency of the collection of water quality samples and implemented an automated system for recording hydrological measurements. The Proponent also completed an aerial wildlife survey, an aquatic resource and habitat survey, a socio-economic study of the communities of the Kitikmeot Region, and an archaeological and heritage resource impact assessment. Additional acid base accounting was also completed. Climate and local wildlife sightings information was also recorded.

Kit Resources NWT Ltd. also participated in the Naonavaotit Traditional Knowledge Study conducted by the Kugluktuk Angoniatit Association. The NTK study was expanded in 1997 due to involvement of the Proponent to include additional interviews with people in the communities of Bathurst Inlet and Umingmaktok.

The Goose Lake Environmental Baseline Studies Report for a compilation of these data and reports was submitted in 1997 with the reapplication by Kit Resources.

In addition, water quality samples taken from Goose Lake in 2000 by Kinross. Samples were taken on April 22, 2000 near the inlet and the outlet of Goose Lake, and near the dock and inlet to the water line to Goose Lake Camp.

This information is included as Attachment B.

14. THE FOLLOWING DOCUMENTS MUST BE INCLUDED WITH THE APPLICATION FOR THE REGULATORY PROCESS TO BEGIN

Supplementary Questionnaire(where applicable: see section 5)**X** Yes __ No If no, date expected ___ ___

Inuktitut/English Summary of Project **X** Yes __ No If no, date expected _____

Application fee $30.00 (c/o of Receiver General for Canada)**X** Yes __No If no, date expected __ ____

15. **PROPOSED TIME SCHEDULE**

__ Annual (or) X Multi Year See Attachment A

Start Date: June 2001 Completion Date: To be Determined

John Bokich	Manager, Environmental Compliance		January 25, 2001
Name (Print)	**Title (Print)**	**Signature**	**Date**

For Nunavut Water Board use only

APPLICATION FEE **Amount: $**_____ **Receipt No.:**

WATER USE DEPOSIT **Amount: $**_____ **Receipt No.:**

P.O. Box 119
Gjoa Haven, NT X0E 1J0 ᓄᓇᕗᑦ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ
Tel: (867) 360-6338 NUNAVUT WATER BOARD
Fax: (867) 360-6369 NUNAVUT IMALIRIYIN KATIMAYINGI

EXPLORATION/ REMOTE CAMP SUPPLEMENTARY QUESTIONNAIRE

Applicant: Kinross Gold Corporation **Licence No:** NWB2GOO9801
(For NWB Use Only)

ADMINISTRATIVE INFORMATION

1. Environment Manager: John Bokich Tel: 801-517-1064 Fax: 801-363-8747
Email: jbokich@kinrossusa.com

2. Project Manager: Eric Kallio Tel: 416-365-1076 Fax: 416-363-6622
E-mail: ekallio@kinross.com

3. Does the applicant hold the necessary property rights? Yes

4. Is the applicant an 'operator' for another company (i.e., the holder of the property rights)? If so, please provide letter of authorization.

Kinross Gold is a joint venture partner with Wheaton River Minerals, the successor company to Kit Resources, who held the property prior to the joint venture. Kinross Gold is the operator of the joint venture, and a letter from Wheaton River Nunavut Ltd. is attached as Attachment 1.

5. Duration of the Project

[ ] Annual
[X] Multi Year:
If Multi-Year indicate proposed schedule of on site activities
Start: June 2001 Completion: Undefined – Ongoing at least through 2003 - Annual Work Schedule is year round

CAMP CLASSIFICATION

6. Type of Camp

[ ] Mobile (self-propelled)
[ ] Temporary
[ ] Seasonally Occupied: _____
[ ] Permanent
[X] Other: Mineral Exploration Camp – Term Unknown

7. What are the design population of the camp and the maximum population expected on site at one time? What will be the fluctuations in personnel?

The current design population of the camp is for 25 people maximum, however, based on exploration results, that requirement could be increased to 50 people. There could be as many as 50 people at one time eventually. Fluctuations will be from as few as 5 to as many as 50.

8. Provide history of the site if it has been used in the past.

The camp was established in 1992 by Homestake Minerals, and has been maintained since that time. Exploration activities and occupation has been intermittent since that time, with the project and camp ownership/management being assigned from Homestake to Arauco to Kit Resource to Wheaton Group and to Kinross Gold Corporation.

CAMP LOCATION

9. Please describe proposed camp location in relation to biogeographical and geomorphological features, and water bodies.

The existing camp has been in place since 1992, and is located about 150 meters southwest of Goose Lake on a small hill.

10. How was the location of the camp selected? Was the site previously used? Was assistance from the Regional Inuit Association Land Manager sought? Include maps and/or aerial photographs.

The site has been previously used since 1992, and has been inspected and approved by the KIA Land Division.

11. Is the camp or any aspect of the project located on:

[ ] Crown Lands Permit Number (s)/Expiry Date: _____

[ ] Commissioners Lands Permit Number (s)/Expiry Date: _____

[X] Inuit Owned Lands Permit Number(s)/Expiry Date: KTL399C027/Feb. 28, 2002

12. Closest Communities (distance in km):

The closest community is Bathurst Inlet, which is approximately 100 to 150 kilometers to the north-northwest of the project.

13. Has the proponent notified and consulted the nearby communities and potentially interested parties about the proposed work?

Kinross Gold and its predecessors on the Goose Lake and associated projects, have communicated openly with the nearby communities through employees on the project who are from the local communities and act as project liaison as well as project employees. In addition, Kinross and it predecessor companies on the project have dealt openly with the Nunavet Territory governmental officials that represent the communities in the region of the project. There has been full communication with the Nunavut Water Board (NWB), the Kitikmeot Inuit Association (KIA) and the Department of Indian Affairs and Northern Development (DIAND). In addition, Homestake Minerals and Kit Resources, both met with the community at Bathurst Inlet, and Kinross is also planning to do so.

14. Will the project have impacts on traditional water use areas used by the nearby communities? Will the project have impacts on local fish and wildlife habitats?

There will be no effects from the Kinross Gold Goose Lake Project on traditional water use in the area of the project. Operational procedures and controls will prevent effects to the waters of the area.

PURPOSE OF THE CAMP

15. X ☒ Mining – Exploration activities associated with potential future mining operations.

☒ Tourism (hunting, fishing, wildlife observation, adventure/expedition, etc.)
(Omit questions # 16 to 21)

☒ Other _____ (Omit questions # 16 to 22)

16. ☒ Preliminary site visit
- ☒ Prospecting
- ☒ Geological mapping
- ☒ Geophysical survey
- ☒ Diamond drilling
- ☒ Reverse circulation drilling
- ☒ Evaluation Drilling/Bulk Sampling (also complete separate questionnaire)
- ☒ Other: _____

17. Type of deposit:
- ☒ Lead Zinc
- ☒ Diamond
- √☒ Gold
- ☒ Uranium
- ☒ Other: _____

DRILLING INFORMATION

18. Drilling Activities
- √☒ Land Based drilling
- √☒ Drilling on ice

19. Describe what will be done with drill cuttings?

As required by the Nunavut Water Board License NWB2G009801, Section E, all drill cuttings will be disposed of in a sump located on land, at least 30 metres from the high water mark of a water body.

20. Describe what will be done with drill water?

Drill water will be recirculated to the maximum extent possible. Drill water that is retained with the cuttings and excess drill mud will be disposed of in the sump with the cuttings.

21. List the brand names and constituents of the drill additives to be used? Includes MSDS sheets and provide confirmation that the additives are non-toxic and biodegradable.

Drill additives used are listed below, and their MSDS sheets are provided as Attachment 2.

- Visco L drilling mud additive
- Vidra Stop
- Vibra Stop

22. Will any core testing be done on site? Describe.

Core drilling will be performed, and core may be split on site and samples taken. Core may be observed by hand lens and may be tested with of few drops of a low pH solution to determine calcareous content.

SPILL CONTINGENCY PLANNING

23. Does the proponent have a spill contingency plan in place? Please include for review.

An updated Kinross Gold Spill Contingency Plan is in place and included as Attachment 3 to this submittal.

24. How many spill kits will be on site and where will they be located?

There are two spill kits on site. One is maintained at the Exploration Office and one at the camp near the Drill Contractors storage area.

25. Please describe the types, quantities, and method of storage of fuel and chemicals on site, and provide MSDS sheets.

The primary fuel used on the Kinross Gold Goose Project is P50 diesel fuel. Currently, as many as 1,000 drums of 200 litre capacity may be on site at a time. If activities are expanded, this number could increase to as many as 2,000 drums, or equivalent capacity bulk storage tanks may be utilized instead. These drums are stored near the camp, as shown on Figure 2, in a location designated and approved by the KIA. Fuel barrels are stored horizontally, with bungs up, and in rows of 2, end to end, with access between rows to allow visual inspection to ensure that bungs are in place and there are no leaking barrels or spills.

Other chemicals on site are drilling fluids, as described in Item 21 above, and motor and hydraulic oils for the equipment, and antifreeze solution for motors. There are other miscellaneous materials on site used for cleaning, lubrication, etc., but they are maintained in small quantities only.

MSDS sheets for all fuels and chemicals used in significant quantities are included as Attachment 2.

WATER SUPPLY AND TREATMENT

26. Describe the location of water sources.

Water will be pumped from through and existing water line taken from Goose Lake, as shown on Figure 1.

27. Estimated demand (in L/day * person):

- ☒ Domestic Use: 20 m^3 Water Source: Goose Lake
- ☒ Drilling Units: 80 m^3 Water Source: Goose Lake
- ☒ Other: _____ Water Source: _____

28. Describe water intake for camp operations? Is the water intake equipped with a mesh screen to prevent entrapment of fish? Describe:

The intake is a water pipe placed in Goose Lake, as shown on Figure 2. The pipe intake is equipped with a mesh screen to prevent entrapment of fish.

29. Will drinking water quality be monitored? What parameters will be analyzed and at what frequency?

Drinking water quality will be monitored for fecal coliforms approximately 1 time per month during periods when the camp is in operation. Camp operation could be at any time of year, however it is currently active primarily during spring and summer months. In addition, baseline water samples are taken and analyzed for a full suite of constituents, as included in Attachment B of the NWB Application for Renewal of the License – Final Report of Analysis.

30. Will drinking water be treated? How?

It is not anticipated that there will be a requirement to treat water for drinking water purposes. However, if it is determined that there is a need to treat drinking water, a method of treatment will also be prescribed based on what the water is determined to require in order to meet drinking water standards.

31. Will water be stored on site?

There is temporary storage of water on site, generally on a daily basis. Water is pumped from Goose Lake into the holding tanks and refilled daily.

WASTE TREATMENT AND DISPOSAL

32. Describe the characteristics, quantities, treatment and disposal methods for:

- ☒ Camp Sewage (blackwater)

All blackwater is incinerated

- ☒ Camp Greywater

All greywater will be pumped to a sump that will be constructed upon approval by the KIA. Kinross would like to request however that the NWB consider removing thins requirement from the license. Placing the greywater in a sump, excavated in permafrost, does not appear to be an appropriate method of treatment. Kinross believes it would be more appropriate to allow the

greywater to flow over the surface of the ground, to the west of the camp and away from Goose Lake, which will result in greater evaporation and dispersion.

- ☒ Solid Waste

All solid waste is either incinerated or hauled away from the site by aircraft

- ☒ Bulky Items/Scrap Metal

All bulky items and scrap metal are hauled away from the site by aircraft

- ☒ Waste Oil/Hazardous Waste

All waste oil is incinerated on site, and hazardous waste is hauled away from the site by aircraft

- ☒ Empty Barrels/Fuel Drums

All empty barrels/fuel drums are hauled away from the site by aircraft

- ☒ Other: _

All other materials are either incinerated in they are flammable and not hazardous, and all other materials are hauled away from the site by aircraft

33. Please describe incineration system if used on site. What types of wastes will be incinerated?

A commercial incineration system is utilized which burns diesel fuel and waste oil to combust camp wastes. Camp wastes include sewage and all other non-hazardous combustible materials.

34. Where and how will non-combustible waste be disposed of? If in a municipality in Nunavut, has authorization been granted?

Non-combustible waste is air transported to Yellowknife, and managed at licensed facilities.

35. Describe location (relative to water bodies and camp facilities) dimensions and volume, and freeboard for sumps (if applicable).

The sump for the drill cuttings will be located in the northwest quadrant of the camp area, as shown Figure 1, approximately 200 metres west of Goose Lake. Dimensions of the sump will be approximately 30 metres square, by 3 metres deep. With allowance for side slopes, this equals approximately 2,500 cubic metres of capacity. Freeboard will be approximately 0.3 metres.

It is requested that the requirement for a sump for greywater be removed from the license. Should this requirement not be removed, the sump will be constructed to be approximately 4 metres square by 3 metres deep. This will equate to approximately 48 cubic metres. Freeboard will attempt to be retained at 0.3 metres, however, it is difficult to determine if this is a realistic management method in a permafrost situation.

36. Will leachate monitoring be done? What parameters will be sampled and analyzed, and at what frequency?

It is not planned to do any monitoring of potential leachate seepage. Since the project is located in an area of permafrost, there is little potential of an leachate movement.

OPERATION AND MAINTENANCE

37. Have the water supply and waste treatment and disposal methods been used and proven in cold climate? What known O&M problems may occur? What contingency plans are in place?

Yes. The camp and project have been ongoing for more than 15 years. Freezing is of course the major challenge, and this year Kinross is installing an insulated greywater conduit.

ABANDONMENT AND RESTORATION

38. Provide a detailed description of progressive and final abandonment and restoration activities at the site.

Not applicable at this time. Operations are still in the active and potential growth phases. If it is determined at some time in the future to discontinue activities, all materials, drums, wastes, structures and non-combustable materials will be transported out to Yellowknife.

Sumps and other areas of disturbance will be backfilled or otherwise appropriately treated, graded to blend with surrounding topography, and otherwise stabilized.

BASELINE DATA

39. Has or will any baseline information be collected as part of this project? Provide bibliography.

- ☒ Physical Environment (Landscape and Terrain, Air, Water, etc.)
- ☒ Biological Environment (Vegetation, Wildlife, Birds, Fish and Other Aquatic
- ☒ Organisms, etc.)
- ☒ Socio-Economic Environment (Archaeology, Land and Resources Use,
- ☒ Demographics, Social and Culture Patterns, etc.)
- ☒ Other:

A significant amount of baseline information has been compiled for the project to date. This information is summarized in Attachment B – Studies Undertaken to Date, of the NWB Water License Renewal Application.

REGULATORY INFORMATION

40. Do you have a copy of

- ☒ Article 13 - Nunavut Land Claims Agreement

- NWB - Water Licensing in Nunavut - Interim Procedures and Information Guide for Applicants
- NWB - Interim Rules of Practice and Procedure for Public Hearings
- NWTWB - Guidelines for the Discharge of Treated Municipal Wastewater in the NWT
- NWTWB - Guidelines for Contingency Planning
- DFO - Freshwater Intake End of Pipe Fish Screen Guideline
- Fisheries Act - s.35
- RWED - Environment Protection- Spill Contingency Regulations
- Canadian Drinking Water Quality Guidelines
- Public Health Act Camp Sanitation Regulations
- Public Health Act Water Supply Regulations
- Territorial Land Use Act and Regulations

Yes. A copy of all the above documents, guidelines and legislation for compliance with existing regulatory requirements have been obtain, and consulted. Requirements will be complied with.

You should consult the above document, guidelines, and legislation for compliance with existing regulatory requirements.

Kinross Gold Corporation – Goose Lake Project

Attachment A

Exploration Plan 2001 – Water License Renewal

Description of Undertaking – 2001 through 2004

Over the three-year period between August 2001 through August 2004, Kinross Gold Corporation will implement an exploration program to define and expand total inventory of gold mineralization at the Main Goose Lake deposit. The project is located immediately southwest of Goose Lake, Nunavut Territory, approximately 450 kilometers Northwest of Yellowknife. Project objectives will be to continue the definition of existing deposits, as well as identify possible new deposits within the property limits. During the course of this exploration program, less than 100 cubic meters of water will be pumped from Goose Lake per day.

Personnel involved with the exploration effort will be located at a camp situated on the southwest shore of Goose Lake, which was set up initially by Homestake Mining during an exploration program in 1992. The current camp configuration is illustrated in Figure 1. Although the camp is currently capable of accommodating up to 25 personnel, this would most likely be expanded to hold up to 50, if the plan envisioned is carried out to full completion. The proposed configuration of the camp, with expansion and addition of a weather haven kitchen facility is shown on Figure 2.

A maximum of 20 cubic meters of potable water per day will be required for camp use. Grey water from the camp will be diverted into a holding tank and then pumped out through plastic piping, enclosed within an all weather utility corridor, into a sump located in a shallow basin 50 m southwest of Goose Lake camp and 200 m southwest of Goose Lake, see Figure 2 Construction of this sump and the drill cutting sump, using a bulldozer, is subject to approval by the Nunavut Land Use Board.

Types of activities envisioned over the three year period include: 1) mapping and sampling of soils and bedrock, 2) geophysics, 3) diamond drilling, 4) air-track drilling 5) overburden removal and bulk sampling from the main deposit area. 6) construction of an overburden pad which will be utilized as a site for sample processing, fuel and equipment storage. 7) installation of a sampling tower and site for bulk sample processing, 8) installation of fuel storage tanks. 9) environmental monitoring.

During 2001, the Kinross Gold plans to conduct approximately 7,000 m of diamond drilling within the Goose Lake project area. Most of the drilling will be to further define and extend mineralized zones of the main currently known deposit, located west of the camp. Additional drilling will be located to test targets in outlying areas. Specific drill sites will be identified prior to the commencement of operations this summer. Two drills will be used to conduct the drilling.

Other activities for 2001 could include mapping and sampling of soils and bedrock and geophysics. Geophysics will include magnetics, resistivity and induced polarization. Water for all drilling operations will be obtained from Goose Lake or its tributaries. All water used will be re-cycled as much as possible during drilling. Mixing of drill muds and additives will be done within a drum inside the drill shed. All drill cuttings will be collected into plastic bags and transported to a storage sump located approximately 25 m northwest of the camp. Approximately 10 to 20 cubic meters of water per day will be required for each drill rig (this is total water consumption and may include recirculated water). Environmental monitoring activities, including water sampling, will be also be conducted as required.

During 2002, plans are to follow up on exploration programs initiated in 2001, with a focus on the main deposit area.

In the main deposit area, approximately 15,000 m of definition and deposit extension drilling is planned. In addition to the drilling, plans include the removal of overburden overlying a portion of the main deposit in order to expose bedrock and allow the collection of detailed mapping and sampling information. Samples will be collected utilizing pneumatic hammers, diamond drills, air track type drills, (including compressors) from exposed bedrock surfaces, as well as from a series of small test pits blasted within the excavated area. Part of the plan will include collecting several bulk samples, passing these through a sample tower and shipping these to a nearby laboratory or mill for processing and testing. Results of the above activities will be utilized to provide a detailed assessment of grade, continuity and metallurgical characteristics of gold mineralization and assist in determining whether further engineering and feasibility studies are warranted.

In total, it is estimated that approximately 34,000 cubic meters of overburden will be removed from an area approximately 70 m wide by 100 m long to an estimated depth of 6 meters. Local surface water runoff during the spring will be diverted around the excavated area by an earthen berm, and through a temporary settling pond. Ground water is not anticipated in the excavated area due to the presence of permafrost, however, any groundwater encountered in the excavation will be pumped into the settling pond. Precipitation draining through any stockpiled mineralized rock will be diverted into a separate settling pond and monitored regularly. The purpose of these settling ponds will be to allow suspended sediment to settle from the water, thus ensuring only clean water will flow into Goose Lake or its tributaries. It is not anticipated that the settling ponds will require any chemical additives or treatment before water is discharged.

All overburden removed during the process will be used to construct a pad in the area directly east of the area excavated and possibly a small tote road connecting this with the existing fuel storage area at the camp. If feasible, based on discussions with vegetation specialists, the top and side slopes of the pad will be seeded with a vegetative mixture to help stabilize the material. The main purposes of this pad will be to: store equipment utilized for excavating and sampling, store samples collected from the excavated area,

provide a location for setting up the sample tower and sub-sampling large samples prior to shipping offsite and provide storage area for fuel.

The overburden thickness on the newly constructed pad will be a minimum of 1 meter thick to ensure this is entirely above grade to prevent local surface runoff from entering. The pad surface will be also be contoured to facilitate collection of precipitation discharged from the pad. This drainage will only occur during the warm summer months and will be monitored regularly to ensure compliance with the Nunavut Water Board water quality guidelines.

Other work to be carried out in 2002 will include reconnaissance mapping, sampling and geophysics in several other areas of the Goose Lake property.

During 2003, plans are to conduct additional exploration to follow up on work from 2002. In total 20,000 m of diamond drilling is planned, with 15,000 m at the main deposit and 5,000 m on outlying targets. Stripping of an additional 34,000 cubic meters of overburden from another area overlying the main deposit will take place, and further mapping and sample collection is proposed, see Figure 2. The new area will have the same dimensions as the area excavated in 2002 and will be located immediately to the south. Procedures for any additional stripping, mapping and sampling will be the same as in 2002. The overburden removed will be stockpiled and stabilized in a similar fashion as the material excavated in 2002.

It is also anticipated that additional reconnaissance mapping, sampling and geophysics will be carried out on other parts of the property.

Kinross Gold anticipates that additional sand and gravel may be required for other uses during the 2002 and 2003 exploration program. The only known source of sand and gravel in the Goose Lake area is a small glacial kame deposit which occurs west of the northwest shore of Goose lake. The glacial kame is presently used as a rough unimproved airstrip. Kinross Gold plans to move up to 1,000 cubic meters of this kame deposit to make improvements to the existing airstrip and construct an additional laydown area beside the airstrip. This work would be subject to approval by the Nunavut Land Use Board.

Kinross Gold Corporation – Goose Lake Project
Exploration Plan 2001 – Water License Renewal

Executive Summary - Description of Undertaking – 2001 through 2004

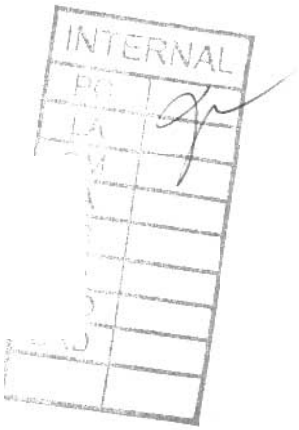
Over the three-year period between August 2001 through August 2004, Kinross Gold Corporation will implement an exploration program to define and further expand the definition of gold mineralization for the Goose Lake Project. The project is located immediately southwest of Goose Lake, Nunavut Territory, approximately 450 kilometers Northeast of Yellowknife. Project objectives will be to continue the definition of existing deposits, as well as identify possible new deposits within the property limits. During the course of this exploration program, less than 100 cubic meters of water will be pumped from Goose Lake per day.

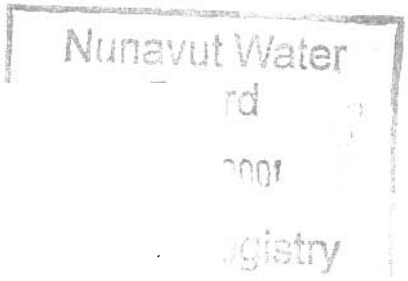
Types of activities envisioned over the three year period include: 1) mapping and sampling of soils and bedrock, 2) geophysics, 3) diamond drilling, 4) air-track drilling 5) overburden removal and bulk sampling, 6) construction of an overburden pad which will be utilized as a site for sample processing, fuel and equipment storage area, 7) installation of a sampling tower and site for bulk sample processing, 8) installation of fuel storage tanks, 9) environmental monitoring.

During the next three year period, the Kinross Gold plans to conduct approximately 42,000 m of diamond drilling within the Goose Lake project area. Most of the drilling will be to further define and extend mineralized zones of the currently known deposit. Additional drilling will be located to test targets in outlying areas. Two drills will be used to conduct the drilling.

Water for all drilling operations will be obtained from Goose Lake or its tributaries. All water used will be re-cycled as much as possible during drilling. Environmental monitoring activities, including water sampling, will be also be conducted as required.

For additional information about project activities, please contact John Bokich, Manager of Environmental Compliance, Kinross Gold Corporation, 185 South State Street, Salt Lake City, Utah 84111, USA. Phone: (801) 517-1064, Fax: (801) 363-8747, email: jbokich@kinrossusa.com.





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ᐊᐅᓚᕋᑎᓴᔨᓂᑦ ᐅᓄᓴᖃᖅᑦᓇ - ᐅᓄᓴᖃᖅᑕᐅᔪᖅ ᐱᓪᓚᐊᖏᔭᓄᓪᑦ - 2001-ᒥᑦ 2004-ᒪᑦ

ᐅᑭᐅᓄ ᐱᖓᓱᓄ ᐊᔨᓄᓂᖓᓄ ᐋᖏᓕᓂ 2001 ᑎᑭᓪᓗᒍ ᐋᖏᓕᓂ 2004-ᒪᑦ, ᑭᐊᓐᖅᑦ ᒍ ᔨᐊᐳᓵᓴᓐᔨᕐᓂᑦ ᐊᑐᓪᓴᑎᑦᑎᓄᐊᖅᐳᑦ ᖃᓄᖅᓄᑦᒪᑦ ᐱᓪᓚᐊᖏᔭᓄᓪᑦ ᓇᓗᓇᐃᖅᓯᔪᑕᐅᓄᐊᖅᑐᓄᑦ ᐊᖏᒪ ᐃᓚᒋᐊᕈᑕᐅᓄᐊᖅᑐᓄᑦ ᖃᓄᖅᓄᑦᒪᑦ ᑐᓂᔭᖅᑦ ᒍᑦ ᓪᓗᒋᐊᓂᓪᓚᓯᔪᐅᔪᓂᑦ ᐱᓪᓚᐊᖏᔭᓂᒥ. ᐱᓪᓚᐊᖏᔭᖅ ᓄᑎᐊᓵᐳᖅ ᒍᑦ ᓪᓗ, ᓄᓇᕐᑦ ᓄᓇᖏᓄ, 450 ᑭᒡᒥᑕᓄᑦ ᐅᐊᖏᓇᖏᓄᑦ ᐅᖏᖓᓄᓪᓚᑦ ᔭᓗᐃᐃᓇᖅᒥᑦ. ᐱᓪᓚᐊᖏᔭᓂ ᑐᖁᖏᐊᕐᓇᒪᔭᓂ ᑲᔪᐅᐃᓇᓯᓄᑦᑐᓄᑦ ᑐᑭᓯᐊᓂᖓᓄᑦ ᓄᓇᓕᓴᐅᔪᓄᑦ ᐱᓪᓚᐊᖏᔭᓂᒥ, ᐊᖏᒪ ᓇᓗᓇᐃᖅᑕᐅᓗᑎᑦ ᓄᑭᓄᑦ ᓇᓄᓯᕐᔪᐅᔪᓄᑦ ᐱᓪᓚᐊᖏᖅᑲᐅᔪᔭᑦ ᐃᓗᐊᓄ. ᐱᓪᓚᐊᖏᔭᖅ ᖃᓄᖅᓄᑦᒪᑦ ᐱᓪᓚᐊᖏᑎᓪᓗᒍ, ᑐᖁᖓᓄ 100 ᑭᐅᕐᓂᑦ ᐃᒪᐃᑦ ᐸᒥᐃᑦ ᐸᐸᑕᖅᑦᑎᓄᐊᖅᑐᑦ ᔪᑦ ᓪᓕᒥᑦ ᖃᐅᔨᖅᑐᑦ.

ᐱᓪᓚᐊᖏᓄᐊᖅᑐᑦ ᐅᑭᐅᓄ ᐱᖓᓱᓄ ᐃᓪᖅᑲᖅᑐᑦ: 1) ᓄᓇᓕᖏᐊᓪᓚᓄᑎᒃ ᖃᐅᔨᓴᖅᑕᐅᔭᓄᑦ ᓴᓄᕐᕿ ᐅᔾᖃᐅᓄᓗ ᒪᖏᖅᓯᒪᔭᓄ, 2) ᓄᓇᓪᓚᓄᑎᒍᑦ ᐃᓪᓕᐹᖏᓐᓄᓕᒃ, 3) ᐅᔾᖃᐅᓄ ᓯᑎᓐᓄ ᐃᐅᑦᑕᐅᔭᓄ, 4) ᐊᓄᓚᐅᐸ ᐃᐅᑕᐅᐸᔭᓯᖏᓐᓄᑦ ᐃᓪᓕᐹᓯᖏᓐᓄᑦ 5) ᐋᔾᖅᑕᐅᓄᖏᓐᓄᑦ ᓄᓇᐅᐸ ᐊᖏᒪ ᖃᐅᔨᓴᖅᑕᐅᓄᐊᖅᑐᑦ, 6) ᓴᓇᔾᐅᓄᖓᓐᓄᑦ ᐊᑐᐊᖏᑎᑦ ᐊᑐᖅᑕᐅᓄᐊᖅᑐᑦ ᐃᓄᖅᑲᕕᐅᓗᑎᒃ ᖃᐅᔨᓴᖅᑕᐅᔭᓄ. ᐅᖅᓯᐊᓗᐃᑦ ᐱᕐᓂᓪᓗ ᑐᕐᖅᑕᐅᓯᒪᔪᖏᓐᓄᑦ ᐃᓄᖏᓐᓄᑦ 7) ᐃᓕᓴᐅᓄᖓᓄᑦ ᖃᐅᔨᓴᖅᐃᓇᖅᓴᑦ ᐊᖏᒪ ᐃᓄᒥᐅᔾᔨᒪᑦ ᖃᐅᔨᓴᖅᐃᓇᖅᑐᒥᒃ, 8) ᐃᓕᓴᐅᓄᖓᓐᓄ ᐅᖅᓯᐊᓗᖃᐅᔨᕕᓴᖅᓴᑦ, 9) ᐊᓯᓗᒥᐅᑕᐃᑦ ᓇᐅᑦᑎᑐᑕᐅᓄᖓᓄᑦ.

ᐅᑭᐅᖓᓄᐊᖅᑐᓄ ᐱᓪᓚᐊᓄ, ᑭᐊᔨᖅᑦ ᒍ ᕿᑦᓇᒃᓯᒪᔪᓂᑦ ᐱᓪᓚᐊᖏᖁᖅᖁᓄᐊᖅᑐᓄᒃ 42,000 ᒥᑕᓄᑦ ᐅᔾᖃᐅᓄ ᓯᑎᓐᓄᑦ ᐃᓄᑦᑐᓄᒃ ᒍᑦ ᓪᓗᒥ. ᐃᓄᑦᑕᖅᑕᐅᔪᑦ ᓇᓗᓇᐃᖅᓯᒃᖁᓪᓗᖅᑐᓄᐊᖅᑐᑦ ᐃᓕᒥᐊᖅᓯᑐᓗᑎᓪᓗ ᐅᔾᔭᖅᓄᓕᐊᑐᖅᑕᐅᓄᖓᓄ ᖃᐅᔨᓴᕐᔪᐅᔭᓄ ᐱᑕᖅᖁᓄᖓᖅᑐᓄᓄ. ᐃᓄᑦᑕᖅᑕᐅᔪᑦ ᐃᓄᖅᓄᑦᑐᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᔭᓄ ᐱᓪᓚᐊᖏᖅᑲᐅᔭᓄ. ᒪᓕᒃᐳᒃ ᐃᓄᑦᑕᒃ ᐊᑐᖅᑕᐅᓄᐊᖅᑐᒃ ᐃᓄᑦᑕᕐᑕᐅᔪᓂᑎᒃ.

ᐃᒪᖅ ᐃᓄᑦᑕᖅᑕᐅᔭᓄ ᐱᐅᐅᓄᐊᖅᑐᖅ ᔪᑦ ᓪᓗᒥᑦ ᐅᕐᓴᓗᓐᓂᑦ ᓴᓕᐅᖅᓯᒪᔪᓄᑦ. ᑕᒪᐃᓐᓄᒃ ᐃᒪᖅ ᐊᑐᖅᑕᐅᔭᓄᖅ ᐊᑐᖅᑕᐅᔭᒃᓐᓂᖅᑕᖅᑐᓄᐊᖅᑐᖅ ᐊᔪᓐᓇᖓᑎᑦᓗᒍ ᐃᓄᑦᑕᓇᐅᔭᑎᒥ. ᐊᓯᓗᒥᐅᑕᐃᑦ ᓇᐅᑦᑎᐅᔪᓄᑦᑐᓄᑦ ᐱᓪᓚᐊᖏᖅᑲᐅᔭᓄᑦᑐᓄᑦ, ᐃᒪᐃᑦ ᐸᒥᐃᖅᓴᖅᑕᐅᓄᐊᖅᑐᑦ, ᐱᒋᐊᖅᑐᓂᒃᑯᓐᓂᒃ ᐅᖅᓯᒪᔪᓄᑦ 185 ᓯᑎᑦ ᓯᑐᓇᑦ, ᓴᑦ ᓪᓗ ᓯᑎ, ᕿᑎ 84111, ᐊᒥᐊᓪᓚᒃᐃᑦ ᓄᓇᖏᓂ. ᐅᖅᓱᑦ: (801) 517-1064. ᓯᒃᔪᒃᑯᑦ: (801) 363-8747. ᖃᓇᑕᖏᐊᑎᒍᑦ: jbokich@kinrossusa.com.

Environmental Baseline Data

Compilation Report

Attachment B

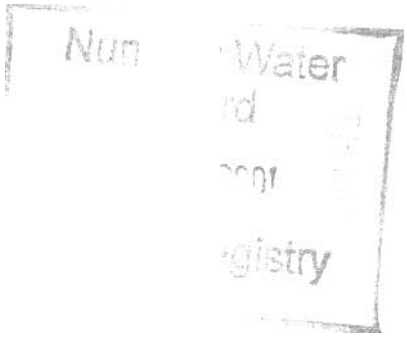
to accompany the

2001 Nunavut Water License Application

for the

Kinross Gold Corporation Goose Lake Project

As submitted November 1, 1997



Report Prepared by:

November 1997
Kit Resources NWT Ltd.
Suite 340, Park Place
666 Burrard Street,
Vancouver, BC, V6C 2X8

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Appendices

13. 1997 Stream Discharge Tables - Goose Lake.

14. Depth of Permafrost summary, by Norecol Dames & Moore, 1997.

15. Water Balance Estimation for Water License Application – Goose Lake, Letter Report by Norecol Dames & Moore, 1997.

16. 1993 Wildlife Sighting Log – Goose Lake.

17. 1994 Wildlife Sighting Log – Goose Lake.

18. 1997 Wildlife Sighting Log – Goose Lake.

19. Wildlife Observations in the area around George Lake, Nunavut, by Hubert & Associates, 1997.

20. Fisheries Habitat, interim summary report by Norecol Dames & Moore, 1997.

21. 1994 Acid Base Accounting Analytical Data and Rock Descriptions.

22. 1997 Acid Base Accounting Analytical Data and Rock Descriptions.

23. Goose Lake Acid Base Accounting, Letter Report by Norecol Dames & Moore, 1997.

24. George Lake Rock Leach Test Results. Report by Norecol Dames & Moore, 1990.

25. Heritage Resources Effect Assessment, by Fedirchuk, McCullough & Associates Ltd, 1997.

26. Socio-Economic Evaluation of the Development of the George Lake Properties, by Hornal Consultants Ltd., 1997

Qualifying Statement – *This information is provided for the Application for Renewal of the License issued by the Nunavut Water Board for the Kinross Gold Corporation Goose Lake Project. This information was provided for the application for this project by Kit Resources in 1997. Since that time, Kinross has entered into a joint venture agreement with Wheaton River Resources, the successor company to Kit Resources. The information provided in this attachment compilation report has not been changed or updated since the submittal by Kit Resources, except the additional information provided on water quality. Kinross makes no representation of the information provided by Kit Resources, but includes it for completeness. Kinross includes only information provided by Kit Resources, and any information not included or missing was not provided to Kinross.*

1.0 Project Introduction

Goose Lake is located at 65° 33' North latitude and 106° 25' West longitude, approximately 400 kilometres southwest of the community of Cambridge Bay, near the headwaters of the Ellice River. The Goose Lake Property consists of seven mineral claims staked in 1987 which are currently pending applications for mining lease under the Canadian Mining Regulations.

On February 28, 1997 Kit Resources NWT Ltd. (formerly Arauco NWT Ltd.) purchased 100% of the George and Goose Lake properties from Homestake Canada Inc. and their partners in the Back River Joint Venture.

Between 1987 and 1994, the BRJV conducted geological, geophysical and geochemical surveys, diamond drilling and environmental baseline studies. In 1997, Kit Resources continued to expand the geological and environmental database at Goose Lake. Approximately $5.5 million has been spent on the Goose Lake property to date, to delineate the current geological resource of 1.4 million tonnes which grades 13.80 gram per tonne of gold. Several other attractive gold anomalies exist on the property and will be further explored during the coming years.

During 1998, Kit Resources NWT Ltd. plans to conduct a four-phased exploration program which will include: (i) diamond drilling, (ii) trenching, (iii) bulk sampling, and (iv) environmental monitoring. Diamond drilling will consist of an infill program to further delineate the known mineralization at the Goose Deposit, as well as testing several other exploration targets elsewhere on the property. A bulk sample will be collected from a small trench at the Goose Deposit. The sample will be stockpiled at site until it is hauled over a winter road to a mill for pilot scale tests. Environmental baseline studies will be ongoing to ensure an adequate database is available to protect the environment.

To facilitate the proposed 1998 exploration program, Kit Resources plans to pump a maximum of 28.3 cubic metres of water daily from Goose Lake, for camp potable water consumption and diamond drilling. This compilation report was prepared by Kit Resources NWT Ltd. to accompany the Nunavut Water License Application.

The company is confident that due to the short seasonal nature of the proposed 1998 exploration program and the ongoing environmental monitoring programs there will be no negative effects to the environment. Kit Resources hopes that the proposed 1998 exploration program will confirm the grade and continuity of mineralization at Goose Lake, bringing the company one step closer to potentially developing the first new gold mine in the new Territory of Nunavut.

2.0 Scope of Environmental Baseline Monitoring

Site specific environmental baseline data collection commenced in 1993 and continued in 1994 under the operation of Homestake Canada Inc. and their joint venture partners. In 1997, Kit Resources NWT Ltd. continued to build upon the studies implemented by Homestake, and also commenced additional environmental monitoring activities. In addition to the site specific studies conducted at Goose Lake, the former and current owners have collected considerable amounts of baseline data for other areas within the region. Some of these data are included in this compilation to provide greater detail and/or corroborate the Goose Lake data (i.e. climatic data and acid leach test results from the George Lake project).

Norecol Dames & Moore, Inc. (NDM) was contracted to manage the environmental and socio-economic program for the George and Goose Lake Projects. Prior to commencement of the 1997 field season, NDM prepared a comprehensive report entitled Environmental Baseline and Effect Studies Terms of Reference. This report detailed the studies and methodologies which would be undertaken. The Terms of Reference Report was submitted in May and June 1997 to the following organizations for review and comments:

- Nunavut Water Board
- Kitikmeot Inuit Association
- Nunavut Impact Review Board
- Kitikmeot Hunters and Trappers Association
- Burnside Hunters and Trappers Association
- Nunavut Tunngavik Incorporated
- Kitikmeot Corporation, and
- Nunavut Planning Commission

Verbal comments were received from all organizations, and a written response was received from the Nunavut Impact Review Board. The Terms of Reference Report is included in Appendix 1 of this compilation report.

With respect to the Proponent's planned development as outlined in the Terms of Reference, the Proponent has recently determined that the timeframe identified for mine production at George Lake and Goose Lake will be unlikely given the current financial market conditions. As a result of this decision, the focus of the 1997 environmental studies shifted from the George Lake Project to the Goose Lake Project to ensure that adequate studies would be completed at Goose Lake to permit a 1998 exploration program which would include trenching and a collection of a small bulk sample.

3.0 Compilation of Environmental Baseline Data

The purpose of this report is to compile all available baseline data for the Goose Lake Project area into one document. This compilation report is not intended to represent a comprehensive effect assessment report with regard to future development, and as such only preliminary work has been completed regarding the interpretation of results, the identification and assessment of potential environmental effects, and the identification of potential mitigative techniques.

In each of the following sections, a summary of the work completed and the highlights of this work are presented. Complete details regarding the study results and methodologies can be found in the individual reports, analytical results or the Terms of Reference included in Appendices.

The reports and data presented in this compilation include all results available as of October 30, 1997. Table 3.0.1 lists all of the studies conducted at Goose Lake and the consultants who completed the work. Nearly all of the tabulated data and reports are included in the appendices to this report. Three reports are not appended to this compilation: 1997 Naonayoatit Traditional Knowledge Study, the 1997 Fisheries, Periphyton and Benthic Invertebrates study, and the September and November 1997 water quality results. These reports and data will be submitted as an addendum report when they become available.

Many of the environmental baseline studies will be ongoing, with further sampling and analyses to be completed during the coming years. In addition to ongoing monitoring of water quality, hydrology, climate, and wildlife studies, the Proponent plans to initiate the following studies during the coming years: ecotourism, vegetation and wildlife habitat, acid leach tests, reclamation and abandonment, plus effect and mitigation studies.

Table 3.0.1 Summary of Environmental Baseline Studies at the Goose Lake Project.

Study	Year	Report Title	Author/Consultant	Appendix
Weather	1993	Daily logs	Camp personnel	2
Weather	1994	Daily logs	Camp personnel	3
Weather	1997	Graphical log	Camp personnel and Norecol Dames & Moore	4
Water Quality Analysis	1993	Analytical Data (two sets)	Analytical Services Laboratory	7
Review of Water Quality Results	1993	*Letter Report entitled:* 1993 Water Quality Report for Goose Lake	Norecol Dames & Moore	8
Water Quality Analysis	1994	Analytical Data (two sets)	Analytical Services Laboratory	9
Review of Water Quality Results	1994	*in* Environmental Pilot Survey, Goose Lake 1994 Report.	Bion Research and Hubert & Associates	10
Water Quality Analysis	1997	Analytical Data (four sets, two sets pending)	Vista Engineering Ltd.	11 incomplete
Preliminary Hydrology	1993	1993 Stream Discharge Tables	Norecol Dames & Moore	12
Bathymetry, Watershed Runoff, Precipitation.	1994	*in* Environmental Pilot Survey, Goose Lake 1994 Report.	Bion Research and Hubert & Associates	10
Hydrology	1997	1997 Stream Discharge Tables	Norecol Dames & Moore	13
Depth to Permafrost	1997	Summary of 1997 Results	A&M Consultants	14
Water Balance	1997	*Letter Report entitled:* Water Balance Estimates for Water License Application	Norecol Dames & Moore	15
Wildlife-casual sightings	1993	Tabulated data	Camp personnel	16
Wildlife-casual sightings	1994	Tabulated data	Camp personnel	17
Preliminary Wildlife Review	1994	*in* Environmental Pilot Survey, Goose Lake 1994.	Bion Research and Hubert & Associates	10
Wildlife-casual sightings	1997	Tabulated data	Camp personnel	18
Wildlife Aerial Study	1997	Wildlife Observations in the area around George Lake, Nunavut.	Hubert and Associates, June 1997	19
Preliminary Fish Study	1994	*in* Environmental Pilot Survey, Goose Lake 1994.	Bion Research and Hubert & Associates	10
Fisheries Habitat, Benthos and *Periphyton*	1997	Taxonomy, Metal and Age data pending	Norecol Dames & Moore	20 incomplete
Acid Base Accounting	1994	Analytical Data	Process Research Associates	21
Acid Base Accounting	1997	Analytical Data	BC Research	22
Acid Base Accounting	1997	*Letter Report entitled :* Goose Lake ABA Results	Norecol Dames & Moore	23
Preliminary notes on Inuit Land Use	1994	*in* Environmental Pilot Survey, Goose Lake 1994 Report.	Bion Research and Hubert & Associates	10
Archaeology		Heritage Resources Effect Assessment	Pedirchuk McCullough & Associates Ltd.	25
Socio-Economic	1997	Socio-Economic Evaluation of the Development of the George Lake Properties	Hornal Consultants Ltd.	26
Traditional Knowledge	1997	Study In Progress	Kugluktuk Angoniatit Association	incomplete

3.1 Climate

Background:

During 1993 and 1994, climatic data was manually recorded daily using a maximum/minimum thermometer. These data are tabulated in Appendices 2 and 3. In 1997, a Stephenson Screen with maximum/minimum thermometers inside and a manual rain gauge on the outside was set up at the Goose Lake camp. The results of the 1997 climate data collection are summarized graphically in Appendix 4. Separate figures show the average minimum daily temperature and the total daily precipitation for Goose Lake.

In addition to the Goose Lake data, an automated weather station has also recorded climatic conditions at the George Lake site, located approximately 70 kilometres to the northwest of the Goose Lake camp. Information on climate conditions in the George Lake project area were collected every summer between 1988 and 1991. During 1988, the maximum/minimum air temperature, wind speed and direction, percentage cloud cover, ceiling height, visibility, and barometric pressure were recorded daily. In 1989, precipitation measurements were added to the climate monitoring program. A summary of the 1988 to 1991 George Lake data is provided in Appendix 5. Figures included in Appendix 6 show the average daily solar radiation, daily precipitation, average daily relative humidity, average maximum/minimum daily temperatures and average wind velocity for George Lake in 1997. We believe that the climatic conditions at the two sites can be considered nearly identical.

Unfortunately, due to the seasonal nature of mineral exploration, none of the climatic data sets are complete for any calendar year. As a result, for the purpose of water balance calculations, data must be utilized from other weather stations which operate on a year-round basis.

Results:

Climate in the Goose Lake region is characterized by cool summers, severe winters, large annual ranges of temperature, and modest precipitation. Weather patterns recorded during 1997 are generally consistent with previous data, although the wind velocity did not reach the maximum velocity recorded during the late 1980s, of about 65 kilometres per hour. The maximum wind velocity recorded at George Lake during 1997 was less than 40 kilometres per hour.

The automated weather station records information every 15 minutes, as such the detailed weather logs are not included in this compilation due to the excessive quantity and repetitive nature of the data. The complete printout of these weather logs are available upon request.

3.2 Water Quality

Background:

Water quality samples were collected during the open water season in 1993, 1994 and 1997. During 1993 and 1994, water quality samples were collected in late June and again in late August at seven stations. One trip duplicate for each sample suite was included for quality assurance and quality control in the data analyses. The original 1993 and 1994 analytical data are included in Appendices 7 and 9. Following the 1993 water quality sample program, Norecol Dames & Moore provided a summary of the results, this letter report is included in Appendix 8.

During 1994, Bion Research Inc. collected a hydrocast sample from the deepest point of Goose Lake to assess lake stratification. Bion also documented biophysical observations (dissolved oxygen, dissolved solids, temperature, pH, depth, wet width, substrate, and stream flow) at each of the seven water quality sites. These results are tabulated in the water quality section of the report entitled 1994 Environmental Pilot Survey, Goose Lake which is included in Appendix 10.

Prior to commencement of the 1997 program, the previous years' data were reviewed. The results indicated that two of the water quality stations were located at isolated, small, intermittent streams which would not likely be affected by any potential future development at Goose, it was also determined that previous sampling did not sufficiently represent water quality over a full year-cycle: prior to break-up, during freshet, during summer and autumn, and post-freeze-up conditions. The 1997 water quality study was therefore expanded to incorporate greater sample frequency, at fewer stations. An extensive quality control and quality assurance program was established with further duplicate sampling during 1997. The 1997 analytical data as well as the quality control results are tabulated in Appendix 11. This appendix includes the results for samples obtained during May, July, and August of 1997. Analytical results are pending for the water quality samples collected in September, 1997. Additional samples will also be collected during December, 1997. The results from these latter two sample periods will be submitted as an addendum to this report.

Figure 3.2.1 identifies the seven samples sites utilized during 1993-94 and 1997 water quality sampling programs.

Results:

Results indicate that the water in the Goose Lake watershed is typical of Canadian Shield streams throughout the Northwest Territories. The water is soft, with low conductivity, slightly alkaline, with low nutrients and very low metal levels (usually below detection limits).

Table 3.2.1 summaries the water quality data collected to date at Goose Lake and includes selected guidelines for the protection of aquatic life, as published by the Canadian Council of Resource and Environment Minister (CCREM).

Table 3.2.2 Summary of Water Quality Results and Comparison to CCREM Guidelines for Protection of Freshwater Aquatic Life.

Parameter	Unit	1993 Range Min	1993 Range Max	1994 Range Min	1994 Range Max	1997 Range Min	1997 Range Max	CCREM Guidelines
Conductance	umhos/cm	10.5	29.3	3.0	43.2	13.0	37.0	
Hardness	CaCO3	3.63	9.23	0.25	15.1	5.3	14.5	
PH		4.81	6.33	5.12	6.66	6.3	6.9	6.5 - 9.0
Aluminum	mg/L	<0.005	0.073	<0.020	0.013	0.022	0.090	0.005 (pH < 6.5) 0.1 (pH >= 6.5)
Arsenic	mg/L	<0.0001	<0.0001	<0.0001	0.0001	<0.00005	0.00029	0.05
Cadmium	mg/L	<0.0002	<0.0002	<0.002	0.010	0.00001	0.00005	0.0002 (for Hardness 0-60)
Chromium	mg/L	< 0.001	0.004	<0.001	< 0.015	0.0005	0.001	0.002
Copper	mg/L	0.001	0.006	<0.001	0.002	0.0017	0.0045	0.002 (for Hardness 0-60)
Iron	mg/L	<0.030	0.23	<0.030	0.264	0.017	0.20	0.3
Lead	mg/L	<0.001	<0.001	<0.001	0.002	<0.0001	<0.0003	0.001 (for Hardness 0-60)
Mercury	mg/L	<0.00005	<0.0005	<0.00001	<0.00005	<0.00001	0.00029	0.0001
Nickel	mg/L	0.001	0.004	0.002	<0.020	0.003	0.01	0.025 (for Hardness 0-60)
Nitrogen Ammonia (total) Nitrite	 mg/L mg/L	 <0.005 0.001	 0.018 0.005	 <0.005 <0.001	 0.031 0.002	 0.005 <0.005	 0.021 <0.005	 2.2 (pH 6.5, temperature 10° C) 0.06
Selenium	mg/L	<0.0005	<0.0005	<0.0005	<0.020	<0.00005	0.00051	0.001
Silver	mg/L	<0.0001	<0.0001	<0.0001	<0.015	<0.00001	0.00008	0.0001
Zinc	mg/L	<0.005	0.015	<0.005	0.019	0.002	0.021	0.03

3.3 Hydrology

Background:

In 1993, preliminary stream discharge flow measurements were collected for four streams in the Goose Lake watershed. These data are tabulated in Appendix 12.

In 1994, a bathymetric study of Goose Lake was completed to estimate the lake volume and produce an isopach map of lake depths. Biophysical stream flow monitoring was conducted at the seven water quality sites identified in figure 3.2.1. Precipitation data were compiled from the Lupin/Contwoyto Lake weather stations, and together with discharge data compiled for the Back River and Gordon River were used to calculate discharge/runoff profiles for the Goose Lake watershed. The results from these studies are included in the report entitled, 1994 Environmental Pilot Study, Goose Lake by Bion Research Inc. reproduced in Appendix 10.

The 1997 hydrology program work included stream flow measurements, and the installation of a continuous height data-logger to record stream height data throughout the summer at the outlet of Goose Lake. The 1997 discharge tables are presented in Appendix 13. The data logger recorded stream heights at 15 minute intervals throughout the summer, and due to the extensive amount of information, these data are not included in the compilation, but are available upon request. These data will eventually be utilized to calculate stage-discharge relationships for the Goose Lake watershed.

Preliminary data were also collected to determine depth of permafrost. Thermistor strings were installed at 1.2 metre intervals to a depth of 7.5 metres in drill hole 97GO-014. The methodology and preliminary results are tabulated in Appendix 14.

A water balance estimation was completed by Norecol Dames & Moore in 1997. This study was designed to assist in the determination of the volumes required for potential containment areas required for the water license application. This letter report is included in Appendix 15.

Results:

Results from the bathymetric study indicate that Goose Lake has a total surface area of 3.04×10^6 square metres and a total volume of 9.27×10^6 cubic metres. The deepest point observed in the lake is 27 metres and is located near the "beak" of Goose Lake.

The Goose Lake watershed has a surface area of 92.85 square kilometres, and Goose Lake itself comprises 3.3% of the watershed. Elevations in the Goose Lake watershed range from 278 metres to 360 metres above sea level. Goose Lake occurs near the south-westerly height of land of the Ellice River watershed. The total mean annual runoff estimated for the Goose Lake watershed was 15,877 DAM^3 or 15.9×10^6 cubic metres and was extrapolated from data compiled from the Back and Gordon Rivers.

Field observations consistently indicate that many streams in the Goose Lake watershed contain very low water levels and/or dry stream beds during the late summer months. Prior to the effect assessment phase of the study, additional discharge measurements will be collected for the area streams and stage-discharge relationships will be developed for the principal streams which drain the area.

Preliminary results indicate that the depth of permafrost occurs at approximately 1.5 metres.

3.4 Wildlife

Background:

In 1993, 1994 and 1997, camp personnel maintained logs of casual wildlife sightings in the Goose Lake area. These logs are included in Appendices 16, 17 and 18. These logs include all mammals and fowl observed during the period each year when the Goose Lake exploration camp was in operation.

In 1997, Hubert & Associates were retained to conduct terrestrial wildlife and wildlife habitat studies in the region around Goose Lake, as well as along the corridor between George Lake and Bathurst Inlet. Due to a change in the 1997 project focus, the study was only partially completed. Two aerial surveys were flown during caribou calving period and ten days later during the post calving period to determine animal distributions in the George Lake Goose Lake area and the George Lake - Bathurst Inlet corridor. This summary report is included in Appendix 19.

Results:

According to Hubert & Associates 1997 Wildlife Report, the land around Bathurst Inlet is known as calving grounds for the Bathurst herd of barren-ground caribou. Since 1965, the calving grounds have been identified by aerial survey and none of these surveys have showed the area around George Lake or the corridor to Bathurst Inlet to be in a high density calving area.

During the two 1997 aerial surveys, 24 caribou, one wolf and five muskoxen were noted. Ten caribou were spotted near George Lake during the second aerial reconnaissance trip. The large Bathurst herd was identified calving 125 kilometres northwest of George Lake along the Hood River. No evidence of caribou calving or post calving presence were observed in the George – Goose Lake vicinity. Preliminary observations of the area in general show no major issues regarding wildlife populations or wildlife habitat. The snow-covered landscape lacked the typical myriad of caribou trails along lake margins to indicate the presence of caribou in the area.

Results of the casual sighting logs maintained by camp personnel indicate that both caribou and muskoxen occur in the Goose Lake area. Caribou are typically noted in small groups scattered over the tundra, however a group of approximately a thousand caribou passed near Goose Lake during 1994. Muskoxen are commonly seen grazing in small groups. Grizzly bears have never been sighted in the Goose Lake area. Wolves, foxes and wolverines and other small carnivores have been identified infrequently in the area. The lack of eskers habitats for denning and hunting in the Goose Lake area may be a factor in the limited distribution of carnivores.

3.5 Fisheries & Periphyton

Background:
Preliminary fishery studies commenced in 1994, and included a log of all fish caught in the Goose Lake watershed. Six fish were caught and recorded, scales from five of the fish were collected and age dated by annulus counts. Fish size, angler effort data and average ages are tabulated in the 1994 Report entitled Environmental Pilot Survey, Goose Lake, NWT which is included in Appendix 10.

During 1997, Norecol Dames & Moore conducted an extensive fish, benthic invertebrates, periphyton, and sediment quality study in the Goose Lake area. Samples were collected from various areas within Goose Lake, and its' tributaries. Big Lake, approximately 9 kilometres upstream to the west of Goose Lake was identified as a control lake and sampled extensively. The methodology for this study is detailed in the Terms of Reference in Appendix 1.

Aquatic habitat characteristics were documented and are summarized in the interim report included in Appendix 20. Results are pending for species composition, abundance, size, condition, age, growth, maturity, reproduction, and metal content in fish tissues. Stream and lake benthic invertebrates were sampled, results of taxonomy is pending. Periphyton samples were also obtained from streams and lakes in the area, analyses are pending for these samples. Sediment quality samples from streams and lake bottoms were obtained from several sites, and results are pending.

Results:
Preliminary results indicate that lake trout, round whitefish, arctic grayling and burbot are the large fish species, while slimy sculpins and ninespine stickleback comprise the small fish species. Year round habitat available to fish is limited in both Goose and Big Lakes in the deepest portions of the lakes, and the lowermost reaches of a few small tributary streams. Many of the streams, including inlet and outlet streams of the Goose and Big Lakes are either frozen in winter and/or dry in late summer. Several of the small ponds near the headwaters of small tributaries provide limited fish habitat, as they tend to dry up completely during late summer and/or freeze solid during the winter.

Results from the fish, benthic invertebrates, and periphyton taxonomy and chemical analyses will be submitted separately as an addendum to this compilation report when the results are available.

3.6 Acid Base Accounting

Background:

In 1994, twelve drill core samples were submitted to Process Research Associates Ltd. for acid base accounting analysis. In 1997, fourteen additional samples were taken to confirm and complement the 1994 results. Static acid base accounting analytical tests were conducted on both sample suites. Each sample was analyzed for Paste pH, Inorganic CO_2%, Total Sulphur %, Sulphate Sulphur %, Sulphide Sulphur %(calculated), Maximum Potential Acidity (calculated), Neutralization Potential and Net Neutralization Potential (calculated). The samples were also sent to an independent assay laboratory to determine the content of 32 elements by Inductively Coupled Plasma (ICP) analysis: Mo, Cu, Pb, Zn, Ag, Ni, Co, Mn, Fe, As, U, Au, Th, Sr, Cd, Sb, Bi, V, Ca, P, La, Cr, Mg, Ba, Ti, B, Al, Na, K, W, Tl, and Hg.

The laboratory assay certificates and sample descriptions for the 1994 and 1997 samples are included in Appendix 21 and 22. A letter report from Norecol Dames & Moore, which summarizes the results of both sets of data, is included in Appendix 23.

Results:

Preliminary results indicate that acid generation is a function of sulphur content. Rocks which contain greater than 3% combined sulphides have the potential to generate acid at some point in the future. Rocks which contain less than 3% combined sulphides appear to be potentially acid consuming or may be essentially inert due to their lack of sulphides. Mineralized rocks at Goose Lake typically contain between 1 and 10% sulphides, and average about 4 to 5% total sulphides by volume.

Humidity cell tests have not been conducted on the Goose Lake samples because these tests are unlikely to confirm the ABA results in a useful time-frame since the calcite content is generally quite high. However, results from acid leach tests conducted on a suite of similar rocks taken from mineralized iron formation at the Proponent's George Lake Project indicated that a high natural short term buffering capacity exists. The report by Norecol, Dames & Moore, concluded that in the short term, any acidic products which might be released from sulphidic iron formation should be neutralized by dissolution of magnesium and calcium-bearing carbonate, thereby buffering leachate pH at near neutral levels. A copy of the 1990 George Lake Rock Leach Results is included in Appendix 24 for reference.

The interpretation of ABA results requires review of other factors which may contribute to the net acidity. For example, the large crystalline sulphide grains which are present at Goose Lake may be less reactive than fine-grained, disseminated grains which are readily oxidized. The Proponent plans to conduct further testing in this regard.

3.7 Archaeology and Heritage Resources

Background:

During 1997, Fedirchuk McCullough & Associates conducted a heritage resources effect assessment on the Goose Lake Project. The study covered the areas identified as potential sites for future exploration or mining development in the vicinity of the existing camp and the existing esker airstrip. The study also reviewed most of the winter road access corridor between Tikiraq Lake, Beechey Lake and Goose Lake.

Results:

No archaeological sites were identified in the Goose Lake area or the Winter Road Corridor during the 1997 study. No further archaeological study relative to the proposed development, airstrip or proposed winter road was recommended.

Fedirchuk McCullough documented one new heritage site, located along the Western River at 65° 45.78' N latitude and 106° 59.76' W longitude, approximately 35 kilometres northwest of Goose Lake. This site is not associated with any proposed development by the Proponent.

The 1997 report entitled Heritage Resources Effect Assessment, prepared by Gloria Fedirchuk of Fedirchuk, McCullough & Associates is included in Appendix 25.

3.8 Socio-Economic Study

Background:

The purpose of the socio-economic study was to identify the social and economic effects of the proposed development of the George and Goose Lake gold deposits on the communities of the Kitikmeot Region. The communities described in the study include Cambridge Bay, Kugluktuk, Gjoa Haven, Taloyoak, Pelly Bay, Umingmaktok and Bathurst Inlet. The study focused on these communities because the potential for effect on these small communities is significant and because the George and Goose Lake projects lie within Inuit Owned Lands and any future development must be approved and monitored by Inuit agencies based in these communities.

Results:

The report entitled Socio-Economic Evaluation of the Development of the George Lake Properties, was prepared by Hornal Consultants Ltd. in August 1997 is included in Appendix 26. The study incorporated interviews with local, territorial, federal and Inuit representatives during June and July 1997, who provided much of the data and statistics documented in the report. The report details the population, demographics, employment, income, workforce, local economy and business organizations, cost of living, income support, transportation and communication, education, training, housing, health care and social services throughout the Kitikmeot Region.

Other aspects of the socio-economic study which are still in progress include the identification and assessment of potential negative and positive effects, recommendations for the mitigation of any negative effects, and a review of ecotourism in the vicinity of the projects. These portions of the study will be submitted as an addendum to this compilation report when they are completed.

3.9 Traditional Knowledge

Background:

Kit Resources NWT Ltd. has joined other industry partners in the sponsorship and support for the Naonayoatit Traditional Knowledge (NTK) Study which will be conducted by the Kugluktuk Angoniatit Association. The study is currently underway and is scheduled for completion early 1998.

The geographic scope of the NTK study is very large. It encompasses the traditional and modern land use areas on the mainland between Kugluktuk, Bathurst Inlet, Umingmaktok and Cambridge Bay. It extends from the western Nunavut boundary line eastward to the Perry River and south from the Arctic coast to the southern boundary of the Nunavut Territory. Within this large study area, particular emphasis will given to specific areas where potential mine sites have been proposed by BHP Diamonds Inc., BHP Minerals Canada Ltd., Diavik Diamond Mines, Echo Bay Mines Ltd., and Kit Resources NWT Ltd..

There has been little documentation of traditional knowledge in the Kitikmeot Region of Nunavut, and results from the NTK study will greatly assist in planning, monitoring and mitigating the effect of exploration and mining. The study will also provide the people of the Kitikmeot Region with a valuable tool to help plan and manage their lands. The study will also provide information to government agencies regarding grizzly bear distribution and the history of the Nunavut area.

Results:

A summary of the results of the Naonayoatit Traditional Knowledge Study which pertain to the Goose and George Lake areas will be forwarded as an addendum to this compilation report.

APPENDICES – *Appendices were provided with the original report in 1997, and are not attached here. They should still be in the files held by the NWB from the earlier application.*

1. Environmental Baseline and Effect Studies Terms of Reference, by Norecol Dames & Moore, 1997.
2. 1993 Weather Log - Goose Lake.
3. 1994 Weather Log - Goose Lake.
4. Graphic summaries of 1997 Weather at Goose Lake.
5. Summary of 1988 through 1991 Weather data at George Lake.
6. Graphic summary of 1997 Weather data at George Lake.
7. 1993 Water Quality Analytical Results - Goose Lake.
8. 1993 Water Quality Report for Goose Lake. Letter Report by Norecol Dames & Moore, 1993.
9. 1994 Water Quality Analytical Results – Goose Lake.
10. Environmental Pilot Study, Goose Lake 1994 Report, by Bion Research Inc.
11. 1997 Water Quality Results, 1997 Quality Control – Quality Assurance Results.
12. 1993 Preliminary Stream Discharge Tables – Goose Lake.
13. 1997 Stream Discharge Tables – Goose Lake.
14. Depth of Permafrost summary, by Norecol Dames & Moore, 1997.
15. Water Balance Estimation for Water License Application - Goose Lake, Letter Report by Norecol Dames & Moore, 1997.
16. 1993 Wildlife Sighting Log – Goose Lake.
17. 1994 Wildlife Sighting Log - Goose Lake.
18. 1997 Wildlife Sighting Log – Goose Lake.
19. Wildlife Observations in the area around George Lake, Nunavut, by Hubert & Associates, 1997.
20. Fisheries Habitat, interim summary report by Norecol Dames & Moore, 1997.
21. 1994 Acid Base Accounting Analytical Data and Rock Descriptions.
22. 1997 Acid Base Accounting Analytical Data and Rock Descriptions.
23. Goose Lake Acid Base Accounting, Letter Report by Norecol Dames & Moore, 1997.

24. George Lake Rock Leach Test Results. Report by Norecol Dames & Moore. 1990.

25. Heritage Resources Effect Assessment. by Fedirchuk, McCullough & Associates Ltd. 1997.

26. Socio-Economic Evaluation of the Development of the George Lake Properties, by Hornal Consultants Ltd., 1997.

Final

REPORT OF ANALYSIS

Client:	**Kinross Gold Corp**
	Rod Thomas
Project:	Goose Lake Project
AAL Ref:	EV5419
Report Date:	06-12-00
Samples received by:	K. McCrea
Date Received:	05-02-00
Time Received:	12:30 p.m.
Conditions:	Samples picked-up by K. McCrea from America West Airlines. Samples were room temperature upon reception.

Samples Received:

3 samples for Modified Profile II analysis with Total and Dissoved metals per request plus EC, TSS, Hardness, Acidity, SCN, TKN, TON, Total CN, Total N, NH3 and P(o~)

1 sample for WAD and Total CN, NO2 +NO3, NH3, P(t), TON, Total N and TKN

1 sample for Total and Dissolved metals per request plus Hardness and SCN

1 sample for Cl, F, SO4, TSS, TDS, pH, EC, Acidity, Akalinity, NO2, NO3, P(o~) and Total and Dissovled B and Si

Samples Labeled:

South of dock at camp
Near inflow of Goose Lake
Near outflow of Goose Lake
South of dock at camp (Dup)
Near inflow of Goose Lake (Dup)
Near outflow of Goose Lake (Dup)

NOTE: There was insufficient sample for TOC analysis

CLIENT: Kinross Gold Corp.
AAL REF: EV5410
ATTN: Hal Thomas
ANALYSIS PERFORMED BY AAL ENVIRONMENTAL LLC - NV00040

South of dock at camp

PARAMETER	D.F.	UNITS		TOTAL		DISSOLVED	DETECTION LIMITS	METHOD REFERENCE	SAMPLE DATE	ANALYSIS DATE
ACIDITY[2]	-----	mg/L		3		-----	1	APHA2310B	04-22-00	05-25-00
ALKALINITY, TOTAL[2]	-----	mg/L		5		-----	1	APHA2320B	04-22-00	05-16-00
BICARBONATE[2]	-----	mg/L		5		-----	1	APHA2320B	04-22-00	05-16-00
CARBONATE[2]	-----	mg/L		ND		-----	1	APHA2320B	04-22-00	05-16-00
HYDROXIDE[2]	-----	mg/L		ND		-----	1	APHA2320B	04-22-00	05-16-00
ALUMINUM	-----	mg/L		0.522		0.142	0.020	200.7	04-22-00	05-12-00
AMMONIA	-----	mg/L	<	0.05	<	0.05	0.05	APHA4500NH3-F	04-22-00	05-31-00
ANTIMONY	-----	mg/L	<	0.003		0.004	0.003	200.8	04-22-00	05-16-00
ARSENIC	-----	mg/L	<	0.005	<	0.005	0.005	200.8	04-22-00	05-16-00
BARIUM	-----	mg/L	<	0.020	<	0.020	0.020	200.7	04-22-00	05-12-00
BERYLLIUM	-----	mg/L	<	0.002	<	0.002	0.002	200.7	04-22-00	05-12-00
BISMUTH	-----	mg/L	<	0.020	<	0.020	0.020	200.7	04-22-00	05-12-00
BORON	-----	mg/L	<	0.010	<	0.010	0.010	200.7	04-22-00	05-17-00
CADMIUM	-----	mg/L	<	0.002	<	0.002	0.002	200.8	04-22-00	05-16-00
CALCIUM	-----	mg/L		4.56		3.96	0.50	200.7	04-22-00	05-12-00
CHLORIDE	-----	mg/L		1.3		-----	0.2	300.0	04-22-00	05-07-00
CHROMIUM	-----	mg/L	<	0.005	<	0.005	0.005	200.7	04-22-00	05-12-00
COBALT	-----	mg/L	<	0.020	<	0.020	0.020	200.8	04-22-00	05-16-00
CONDUCTIVITY	-----	uS/cm		46		-----	10	APHA2510B	04-22-00	05-16-00
COPPER	-----	mg/L		0.033	<	0.010*	0.010	200.7	04-22-00	05-12-00
FLUORIDE	-----	mg/L	<	0.1		-----	0.1	300.0	04-22-00	05-07-00
HARDNESS	-----	mg/L		22		20	20	APHA2340B	04-22-00	05-12-00
IRON	-----	mg/L		0.394		0.119**	0.020	200.7	04-22-00	05-12-00
LEAD	-----	mg/L	<	0.007	<	0.007	0.007	200.8	04-22-00	05-16-00
MAGNESIUM	-----	mg/L		2.61		2.38	0.10	200.7	04-22-00	05-12-00
MANGANESE	-----	mg/L		0.012		0.008	0.005	200.7	04-22-00	05-12-00
MERCURY	-----	mg/L	<	0.0005	<	0.0005	0.0005	245.1	04-22-00	05-17-00
MOLYBDENUM	-----	mg/L	<	0.020	<	0.020	0.020	200.8	04-22-00	05-16-00
NICKEL	-----	mg/L	<	0.020	<	0.020	0.020	200.8	04-22-00	05-16-00
NITRATE-N[2]	-----	mg/L		0.1		-----	0.1	300.0	04-22-00	05-07-00
NITRITE-N[2]	-----	mg/L	<	0.1		-----	0.1	300.0	04-22-00	05-07-00
NITRATE + NITRITE -N[3]	-----	mg/L	<	2.0		-----	2.0	300.0	04-22-00	05-08-00
pH[2]	-----	s.u.		6.32		-----	0.01	APHA4500H+B	04-22-00	05-16-00
PHOSPHOROUS	-----	mg/L	<	0.005	<	0.005	0.005	200.7	04-22-00	05-23-00
PHOSPHOROUS, (o-)	-----	mg/L	<	0.10		-----	0.10	APHA4500P+C	04-22-00	05-12-00
PHOSPHOROUS, (T)	-----	mg/L	<	0.20		-----	0.20	HACH8190	04-22-00	05-11-00
POTASSIUM	-----	mg/L		0.65		0.47	0.10	200.7	04-22-00	05-12-00
SELENIUM	-----	mg/L	<	0.010	<	0.010	0.010	200.8	04-22-00	05-16-00
SILICA	-----	mg/L		0.503		0.482	0.025	200.7	04-22-00	05-17-00
SILVER	-----	mg/L	<	0.010	<	0.010	0.010	200.8	04-22-00	05-16-00
SODIUM	-----	mg/L		0.81	<	0.50	0.50	200.7	04-22-00	05-12-00
STRONTIUM	-----	mg/L		0.018		0.018	0.010	200.7	04-22-00	05-12-00
SULFATE	-----	mg/L		10.1		-----	0.4	300.0	04-22-00	05-07-00
SULFUR	-----	mg/L		1.07		1.07	0.005	200.7	04-22-00	05-23-00
TELLURIUM	-----	mg/L	<	0.005	<	0.005	0.005	200.7	04-22-00	05-23-00
THALLIUM	-----	mg/L	<	0.001	<	0.001	0.001	200.8	04-22-00	05-16-00
THIOCYANATE	-----	mg/L	<	0.10		-----	0.10	APHA4500CN+M	04-22-00	05-11-00
TIN	-----	mg/L	<	0.050	<	0.050	0.050	200.8	04-22-00	05-16-00
TDS[2]	-----	mg/L		32		-----	10	APHA2540C	04-22-00	05-16-00
TKN[1]	-----	mg/L		0.27		-----	0.05	351.3	04-22-00	05-16-00
TITANIUM	-----	mg/L	<	0.005	<	0.005	0.005	200.7	04-22-00	05-12-00
TON	-----	mg/L		0.17		-----	0.10	APHA4500-N_{org}-A	04-22-00	05-16-00
TOTAL NITROGEN	-----	mg/L		0.37		-----	0.10	APHA4500-N	04-22-00	05-16-00
TSS[2]	-----	mg/L	<	2		-----	2	APHA2540D	04-22-00	05-16-00
VANADIUM	-----	mg/L	<	0.020	<	0.020	0.020	200.7	04-22-00	05-12-00
CYANIDE, TOTAL[2]	-----	mg/L	<	0.025		-----	0.025	APHA4500CN-C+E	04-22-00	05-12-00
CYANIDE, WAD[2]	-----	mg/L	<	0.025		-----	0.025	APHA4500CN-I+E	04-22-00	05-12-00
ZINC	-----	mg/L	<	0.050	<	0.050	0.050	200.7	04-22-00	05-12-00
ZIRCONIUM	-----	mg/L	<	0.005	<	0.005	0.005	200.7	04-22-00	05-23-00

[1]TKN sub-contracted to Acculabs, (NV00004)
[2]Analyzed past recommended hold time.
[3]Analyzed on Sulfuric acid preserved sample
*Analyzed on 6-6-00
**Failed QC parameters for duplicate analysis

CATIONS	0.49
ANIONS	0.51
% DIFFERENCE	0.6

Robert Potts
QA/QC Manager

CLIENT: Kinross Gold Corp
AAL REF: EV5419
ATTN: Rod Thomas
ANALYSIS PERFORMED BY AAL ENVIRONMENTAL LLC - NV00040

Near Inflow of Goose Lake

PARAMETER	D.F	UNITS		TOTAL		DISSOLVE	DETECTION LIMITS	METHOD REFERENCE	SAMPLE DATE	NALYSIS DATE
ACIDITY[2]	-----	mg/L		8		-----	1	APHA2310B	04-22-00	05-25-00
ALKALINITY, TOTAL[2]	-----	mg/L		4		-----	1	APHA2320B	04-22-00	05-16-00
BICARBONATE[2]	-----	mg/L		4		-----	1	APHA2320B	04-22-00	05-16-00
CARBONATE[2]	-----	mg/L		ND		-----	1	APHA2320B	04-22-00	05-16-00
HYDROXIDE[2]	-----	mg/L		ND		-----	1	APHA2320B	04-22-00	05-16-00
ALUMINUM	-----	mg/L		0.146		0.092	0.020	200.7	04-22-00	05-12-00
AMMONIA	-----	mg/L	<	0.05	<	0.05	0.05	APHA4500NH3-F	04-22-00	05-31-00
ANTIMONY	-----	mg/L	<	0.003		0.005	0.003	200.8	04-22-00	05-16-00
ARSENIC	-----	mg/L	<	0.005		0.006	0.005	200.8	04-22-00	05-16-00
BARIUM	-----	mg/L	<	0.020	<	0.020	0.020	200.7	04-22-00	05-12-00
BERYLLIUM	-----	mg/L	<	0.002	<	0.002	0.002	200.7	04-22-00	05-12-00
BISMUTH	-----	mg/L	<	0.020	<	0.020	0.020	200.7	04-22-00	05-12-00
BORON	-----	mg/L	<	0.010	<	0.010	0.010	200.7	04-22-00	05-17-00
CADMIUM	-----	mg/L	<	0.002	<	0.002	0.002	200.8	04-22-00	05-16-00
CALCIUM	-----	mg/L		4.13		4.17	0.50	200.7	04-22-00	05-12-00
CHLORIDE	-----	mg/L		1.2		-----	0.2	300.0	04-22-00	05-07-00
CHROMIUM	-----	mg/L	<	0.005	<	0.005	0.005	200.7	04-22-00	05-12-00
COBALT	-----	mg/L	<	0.020	<	0.020	0.020	200.8	04-22-00	05-16-00
CONDUCTIVITY	-----	uS/cm		48		-----	10	APHA2510B	04-22-00	05-16-00
COPPER	-----	mg/L	<	0.010	<	0.010	0.010	200.7	04-22-00	05-12-00
FLUORIDE	-----	mg/L	<	0.1		-----	0.1	300.0	04-22-00	05-07-00
HARDNESS	-----	mg/L		20		20	20	APHA2340B	04-22-00	05-12-00
IRON	-----	mg/L		0.214		0.057	0.020	200.7	04-22-00	05-12-00
LEAD	-----	mg/L		0.038		0.021	0.007	200.8	04-22-00	05-16-00
MAGNESIUM	-----	mg/L		2.47		2.32	0.10	200.7	04-22-00	05-12-00
MANGANESE	-----	mg/L		0.009		0.006	0.005	200.7	04-22-00	05-12-00
MERCURY	-----	mg/L	<	0.0005	<	0.0005	0.0005	245.1	04-22-00	05-17-00
MOLYBDENUM	-----	mg/L	<	0.020	<	0.020	0.020	200.8	04-22-00	05-16-00
NICKEL	-----	mg/L	<	0.020	<	0.020	0.020	200.8	04-22-00	05-16-00
NITRATE-N[2]	-----	mg/L		0.1		-----	0.1	300.0	04-22-00	05-07-00
NITRITE-N[2]	-----	mg/L	<	0.1		-----	0.1	300.0	04-22-00	05-07-00
NITRATE + NITRITE -	-----	mg/L	<	2.0		-----	2.0	300.0	04-22-00	05-08-00
pH[2]	-----	s.u		6.17		-----	0.01	APHA4500H+B	04-22-00	05-16-00
PHOSPHOROUS	-----	mg/L	<	0.005	<	0.005	0.005	200.7	04-22-00	05-23-00
PHOSPHOROUS, (o~)	-----	mg/L	<	0.10		-----	0.10	APHA4500P+C	04-22-00	05-12-00
PHOSPHOROUS, (T)	-----	mg/L	<	0.20		-----	0.20	HACH8190	04-22-00	05-11-00
POTASSIUM	-----	mg/L		0.476		0.436	0.10	200.7	04-22-00	05-12-00
SELENIUM	-----	mg/L	<	0.010	<	0.010	0.010	200.8	04-22-00	05-16-00
SILICA	-----	mg/L		1.17		1.15	0.025	200.7	04-22-00	05-17-00
SILVER	-----	mg/L	<	0.010	<	0.010	0.010	200.8	04-22-00	05-16-00
SODIUM	-----	mg/L	<	0.50		0.92	0.50	200.7	04-22-00	05-12-00
STRONTIUM	-----	mg/L		0.018		0.018	0.010	200.7	04-22-00	05-12-00
SULFATE	-----	mg/L		10.9		-----	0.4	300.0	04-22-00	05-07-00
SULFUR	-----	mg/L		1.23		1.20	0.005	200.7	04-22-00	05-23-00
TELLURIUM	-----	mg/L	<	0.005	<	0.005	0.005	200.7	04-22-00	05-23-00
THALLIUM	-----	mg/L	<	0.001	<	0.001	0.001	200.8	04-22-00	05-16-00
THIOCYANATE	-----	mg/L	<	0.10		-----	0.10	APHA4500CN+M	04-22-00	05-11-00
TIN	-----	mg/L	<	0.050	<	0.050	0.050	200.8	04-22-00	05-16-00
TDS[2]	-----	mg/L		34		-----	10	APHA2540C	04-22-00	05-16-00
TKN[1]	-----	mg/L		0.28		-----	0.05	351.3	04-22-00	05-16-00
TITANIUM	-----	mg/L	<	0.005	<	0.005	0.005	200.7	04-22-00	05-12-00
TON	-----	mg/L		0.18		-----	0.10	APHA4500-N_{org}-A	04-22-00	05-16-00
TOTAL NITROGEN	-----	mg/L		0.38		-----	0.10	APHA4500-N	04-22-00	05-16-00
TSS[2]	-----	mg/L	<	2		-----	2	APHA2540D	04-22-00	05-10-00
VANADIUM	-----	mg/L	<	0.020	<	0.020	0.020	200.7	04-22-00	05-12-00
CYANIDE, TOTAL[2]	-----	mg/L	<	0.025		-----	0.025	APHA4500CN-C+	04-22-00	05-23-00
CYANIDE, WAD[2]	-----	mg/L	<	0.025		-----	0.025	APHA4500CN-I+E	04-22-00	05-12-00
ZINC	-----	mg/L	<	0.050	<	0.050	0.050	200.7	04-22-00	05-12-00
ZIRCONIUM	-----	mg/L	<	0.005	<	0.005	0.005	200.7	04-22-00	05-23-00

[1]TKN sub-contracted to Acculabs, (NV00004)
[2]Analyzed past recommended hold time.
[3]Analyzed on Sulfuric acid preserved sample

CATIONS	0.44
ANIONS	0.50
% DIFFERENCE	3.0

Robert Potts
QA/QC Manager

CLIENT: Kinross Gold Corp
AAL REF: EV5418
ATTN: Rod Thomas
ANALYSIS PERFORMED BY AAL ENVIRONMENTAL LLC - NV00040

Near outflow of Goose Lake

PARAMETER	D.F.	UNITS	TOTAL	DISSOLVE	DETECTION LIMITS	METHOD REFERENCE	SAMPLE DATE	NALYSIS DATE
ACIDITY[2]	-----	mg/L	7	-----	1	APHA2310B	04-23-00	05-25-00
ALKALINITY, TOTAL[2]	-----	mg/L	6	-----	1	APHA2320B	04-23-00	05-16-00
BICARBONATE[2]	-----	mg/L	6	-----	1	APHA2320B	04-23-00	05-16-00
CARBONATE[2]	-----	mg/L	ND	-----	1	APHA2320B	04-23-00	05-16-00
HYDROXIDE[2]	-----	mg/L	ND	-----	1	APHA2320B	04-23-00	05-16-00
ALUMINUM	-----	mg/L	0.179	0.064	0.020	200.7	04-23-00	05-12-00
AMMONIA	-----	mg/L	< 0.05	< 0.05	0.05	APHA4500NH3-F	04-23-00	05-31-00
ANTIMONY	-----	mg/L	0.004	0.004	0.003	200.8	04-23-00	05-16-00
ARSENIC	-----	mg/L	< 0.005	< 0.005	0.005	200.8	04-23-00	05-16-00
BARIUM	-----	mg/L	< 0.020	< 0.020	0.020	200.7	04-23-00	05-12-00
BERYLLIUM	-----	mg/L	< 0.002	< 0.002	0.002	200.7	04-23-00	05-12-00
BISMUTH	-----	mg/L	< 0.020	< 0.020	0.020	200.7	04-23-00	05-12-00
BORON	-----	mg/L	< 0.010	< 0.010	0.010	200.7	04-23-00	05-17-00
CADMIUM	-----	mg/L	0.004	0.002	0.002	200.8	04-23-00	05-16-00
CALCIUM	-----	mg/L	4.98	4.90	0.50	200.7	04-23-00	05-12-00
CHLORIDE	-----	mg/L	1.7	-----	0.2	300.0	04-23-00	05-07-00
CHROMIUM	-----	mg/L	< 0.005	< 0.005	0.005	200.7	04-23-00	05-12-00
COBALT	-----	mg/L	< 0.020	< 0.020	0.020	200.8	04-23-00	05-16-00
CONDUCTIVITY	-----	uS/cm	59	-----	10	APHA2510B	04-23-00	05-16-00
COPPER	-----	mg/L	< 0.010	< 0.010	0.010	200.7	04-23-00	05-12-00
FLUORIDE	-----	mg/L	< 0.1	-----	0.1	300.0	04-23-00	05-07-00
HARDNESS	-----	mg/L	25	25	20	APHA2340B	04-23-00	05-12-00
IRON	-----	mg/L	0.357	0.028	0.020	200.7	04-23-00	05-12-00
LEAD	-----	mg/L	< 0.007	< 0.007	0.007	200.8	04-23-00	05-16-00
MAGNESIUM	-----	mg/L	3.11	3.03	0.10	200.7	04-23-00	05-12-00
MANGANESE	-----	mg/L	0.018	< 0.005	0.005	200.7	04-23-00	05-12-00
MERCURY	-----	mg/L	< 0.0005	< 0.0005	0.0005	245.1	04-23-00	05-17-00
MOLYBDENUM	-----	mg/L	< 0.020	< 0.020	0.020	200.8	04-23-00	05-16-00
NICKEL	-----	mg/L	< 0.020	< 0.020	0.020	200.8	04-23-00	05-16-00
NITRATE-N[2]	-----	mg/L	< 0.1	-----	0.1	300.0	04-23-00	05-07-00
NITRITE-N[2]	-----	mg/L	< 0.1	-----	0.1	300.0	04-23-00	05-07-00
NITRATE + NITRITE -N	-----	mg/L	< 2.0	-----	2.0	300.0	04-23-00	05-08-00
pH[2]	-----	s.u.	6.77	-----	0.01	APHA4500H+B	04-23-00	05-16-00
PHOSPHOROUS	-----	mg/L	< 0.005	< 0.005	0.005	200.7	04-23-00	05-23-00
PHOSPHOROUS, (o-)	-----	mg/L	< 0.10	-----	0.10	APHA4500P+C	04-23-00	05-12-00
PHOSPHOROUS, (T)	-----	mg/L	< 0.20	-----	0.20	HACH8190	04-23-00	05-11-00
POTASSIUM	-----	mg/L	0.64	0.60	0.10	200.7	04-23-00	05-12-00
SELENIUM	-----	mg/L	< 0.010	< 0.010	0.010	200.8	04-23-00	05-16-00
SILICA	-----	mg/L	0.661	0.289	0.025	200.7	04-23-00	05-17-00
SILVER	-----	mg/L	< 0.010	< 0.010	0.010	200.8	04-23-00	05-16-00
SODIUM	-----	mg/L	0.84	0.71	0.50	200.7	04-23-00	05-12-00
STRONTIUM	-----	mg/L	0.022	0.022	0.010	200.7	04-23-00	05-12-00
SULFATE	-----	mg/L	13.2	-----	0.4	300.0	04-23-00	05-07-00
SULFUR[4]	-----	mg/L	1.43	1.44	0.005	200.7	04-23-00	05-23-00
TELLURIUM	-----	mg/L	< 0.005	< 0.005	0.005	200.7	04-23-00	05-23-00
THALLIUM	-----	mg/L	< 0.001	< 0.001	0.001	200.8	04-23-00	05-16-00
THIOCYANATE	-----	mg/L	< 0.10	-----	0.10	APHA4500CN+M	04-23-00	05-11-00
TIN	-----	mg/L	< 0.050	< 0.050	0.050	200.8	04-23-00	05-16-00
TDS[2]	-----	mg/L	43	-----	10	APHA2540C	04-23-00	05-16-00
TKN[1]	-----	mg/L	0.30	-----	0.05	351.3	04-23-00	05-16-00
TITANIUM	-----	mg/L	< 0.005	< 0.005	0.005	200.7	04-23-00	05-12-00
TON	-----	mg/L	0.30	-----	0.10	APHA4500-N_{org}-A	04-23-00	05-16-00
TOTAL NITROGEN	-----	mg/L	0.30	-----	0.10	APHA4500-N	04-23-00	05-16-00
TSS[2]	-----	mg/L	6	-----	2	APHA2540D	04-23-00	05-10-00
VANADIUM	-----	mg/L	< 0.020	< 0.020	0.020	200.7	04-23-00	05-12-00
CYANIDE, TOTAL[2]	-----	mg/L	< 0.025	-----	0.025	APHA4500CN-C+	04-23-00	05-23-00
CYANIDE, WAD[2]	-----	mg/L	< 0.025	-----	0.025	APHA4500CN-I+E	04-23-00	05-12-00
ZINC	-----	mg/L	0.064	0.060	0.050	200.7	04-23-00	05-12-00
ZIRCONIUM	-----	mg/L	< 0.005	< 0.005	0.005	200.7	04-23-00	05-23-00

[1]TKN sub-contracted to Acculabs, (NV00004)
[2]Analyzed past recommended hold time.
[3]Analyzed on Sulfuric acid preserved sample
[4]Failed QC parameters for initial calibration varification.

CATIONS	0.56
ANIONS	0.61
% DIFFERENCE	2.1

Robert Potts
QA/QC Manager

CLIENT: Kinross Gold Corp
AAL REF: EV5419
ATTN: Rod Thomas

ANALYSIS PERFORMED BY AAL ENVIRONMENTAL LLC - NV00040

South of dock at camp (Dup)

PARAMETER	D.F.	UNITS		TOTAL	DISSOLVED	DETECTION LIMITS	METHOD REFERENCE	SAMPLE DATE	ANALYSIS DATE
AMMONIA	----	mg/L	<	0.05	----	0.05	APHA4500NH3-F	04-22-00	05-31-00
CYANIDE, TOTAL[3]	----	mg/L	<	0.025	----	0.025	APHA4500CN-C+E	04-22-00	05-23-00
CYANIDE, WAD[3]	----	mg/L	<	0.025	----	0.025	APHA4500-CN-I+E	04-22-00	05-12-00
NITRATE + NITRITE -N[2]	----	mg/L	<	2.0	----	2.0	300.0	04-22-00	05-08-00
PHOSPHOROUS, (T)	----	mg/L	<	0.20	----	0.20	HACH8190	04-22-00	05-11-00
TKN[1]	----	mg/L		0.26	----	0.05	351.3	04-22-00	05-16-00
TON	----	mg/L		0.26	----	0.10	APHA4500-N_{org}-A	04-22-00	05-16-00
TOTAL NITROGEN	----	mg/L		0.26	----	0.10	APHA4500-N	04-22-00	05-16-00

[1]TKN sub-contracted to Acculabs, (NV00004)
[2]Analyzed on Sulfuric acid preserved sample
[3]Analyzed past recommended hold time

Robert Potts
QA/QC Manager

CLIENT: Kinross Gold Corp
AAL REF: EV5419
ATTN: Rod Thomas

ANALYSIS PERFORMED BY AAL ENVIRONMENTAL LLC - NV00040

Near inflow of Goose Lake (Dup)

PARAMETER	D.F.	UNITS	TOTAL	DISSOLVED	DETECTION LIMITS	METHOD REFERENCE	SAMPLE DATE	ANALYSIS DATE
ACIDITY[1]	-----	mg/L	8	-----	1	APHA2310B	04-22-00	05-25-00
ALKALINITY, TOTAL[1]	-----	mg/L	4	-----	1	APHA2320B	04-22-00	05-16-00
BICARBONATE[1]	-----	mg/L	4	-----	1	APHA2320B	04-22-00	05-16-00
CARBONATE[1]	-----	mg/L	ND	-----	1	APHA2320B	04-22-00	05-16-00
HYDROXIDE[1]	-----	mg/L	ND	-----	1	APHA2320B	04-22-00	05-16-00
BORON	-----	mg/L	< 0.010	< 0.010	0.010	200.7	04-22-00	05-17-00
CHLORIDE	-----	mg/L	1.4	-----	0.2	300.0	04-22-00	05-07-00
CONDUCTIVITY	-----	uS/cm	48	-----	10	APHA2510B	04-22-00	05-16-00
FLUORIDE	-----	mg/L	< 0.1	-----	0.1	300.0	04-22-00	05-07-00
NITRATE-N[1]	-----	mg/L	0.1	-----	0.1	300.0	04-22-00	05-07-00
NITRITE-N[1]	-----	mg/L	< 0.1	-----	0.1	300.0	04-22-00	05-07-00
pH[1]	-----	s.u.	6.33	-----	0.01	APHA4500H+B	04-22-00	05-16-00
PHOSPHOROUS, (o~)	-----	mg/L	< 0.10	-----	0.10	APHA4500P+C	04-22-00	05-12-00
SILICA	-----	mg/L	0.740	0.696	0.025	200.7	04-22-00	05-17-00
SULFATE	-----	mg/L	11.5	-----	0.4	300.0	04-22-00	05-07-00
TDS[1]	-----	mg/L	34	-----	10	APHA2540C	04-22-00	05-16-00
TSS[1]	-----	mg/L	< 2	-----	4	APHA2540D	04-22-00	05-10-00

[1]Analyzed past recommended hold time

Robert Potts
QA/QC Manager

CLIENT: Kinross Gold Corp
AAL REF: EV5419
ATTN: Rod Thomas

ANALYSIS PERFORMED BY AAL ENVIRONMENTAL LLC - NV00040

Near outflow of Goose Lake (Dup)

PARAMETER	D.F.	UNITS		TOTAL		DISSOLVED	DETECTION LIMITS	METHOD REFERENCE	SAMPLE DATE	ANALYSIS DATE
ALUMINUM	-----	mg/L		0.171		0.054	0.020	200.7	04-23-00	05-12-00
ANTIMONY	-----	mg/L	<	0.003	<	0.003	0.003	200.8	04-23-00	05-16-00
ARSENIC	-----	mg/L	<	0.005	<	0.005	0.005	200.8	04-23-00	05-16-00
BARIUM	-----	mg/L	<	0.020	<	0.020	0.020	200.7	04-23-00	05-12-00
BERYLLIUM	-----	mg/L	<	0.002	<	0.002	0.002	200.7	04-23-00	05-12-00
BISMUTH	-----	mg/L	<	0.020	<	0.020	0.020	200.7	04-23-00	05-12-00
CADMIUM	-----	mg/L	<	0.002	<	0.002	0.002	200.8	04-23-00	05-12-00
CALCIUM	-----	mg/L		5.24		3.99	0.50	200.7	04-23-00	05-12-00
CHROMIUM	-----	mg/L	<	0.005	<	0.005	0.005	200.7	04-23-00	05-12-00
COBALT	-----	mg/L	<	0.020	<	0.020	0.020	200.8	04-23-00	05-16-00
COPPER	-----	mg/L	<	0.010	<	0.010	0.010	200.7	04-23-00	05-12-00
HARDNESS	-----	mg/L		26		20	20	APHA2340B	04-23-00	05-12-00
IRON	-----	mg/L		0.384	<	0.020	0.020	200.7	04-23-00	05-12-00
LEAD	-----	mg/L	<	0.007	<	0.007	0.007	200.8	04-23-00	05-16-00
MAGNESIUM	-----	mg/L		3.15		2.37	0.10	200.7	04-23-00	05-12-00
MANGANESE	-----	mg/L		0.008	<	0.005	0.005	200.7	04-23-00	05-12-00
MERCURY	-----	mg/L	<	0.0005	<	0.0005	0.0005	245.1	04-23-00	05-17-00
MOLYBDENUM	-----	mg/L	<	0.020	<	0.020	0.020	200.8	04-23-00	05-16-00
NICKEL	-----	mg/L	<	0.020	<	0.020	0.020	200.8	04-23-00	05-16-00
PHOSPHOROUS	-----	mg/L	<	0.005	<	0.005	0.005	200.7	04-23-00	05-23-00
POTASSIUM	-----	mg/L		0.66		0.43	0.10	200.7	04-23-00	05-12-00
SELENIUM	-----	mg/L	<	0.010	<	0.010	0.010	200.8	04-23-00	05-16-00
SILVER	-----	mg/L	<	0.010	<	0.010	0.010	200.8	04-23-00	05-16-00
SODIUM	-----	mg/L		0.62		0.70	0.50	200.7	04-23-00	05-12-00
STRONTIUM	-----	mg/L		0.023		0.017	0.010	200.7	04-23-00	05-12-00
SULFUR	-----	mg/L		1.43		1.16	0.005	200.7	04-23-00	05-23-00
TELLURIUM	-----	mg/L	<	0.005	<	0.005	0.005	200.7	04-23-00	05-23-00
THALLIUM	-----	mg/L	<	0.001	<	0.001	0.001	200.8	04-23-00	05-16-00
THIOCYANATE	-----	mg/L	<	0.10		-----	0.10	APHA4500CN+M	04-23-00	05-11-00
TIN	-----	mg/L	<	0.050	<	0.050	0.050	200.8	04-23-00	05-16-00
TITANIUM	-----	mg/L	<	0.005	<	0.005	0.005	200.7	04-23-00	05-12-00
VANADIUM	-----	mg/L	<	0.020	<	0.020	0.020	200.7	04-23-00	05-12-00
ZINC	-----	mg/L		0.058		0.040	0.050	200.7	04-23-00	05-12-00
ZIRCONIUM	-----	mg/L	<	0.005	<	0.005	0.005	200.7	04-23-00	05-23-00

Robert Potts
QA/QC Manager

Kinross Gold Corporation – Goose Lake Project

Nunavut Water Board Permit Renewal Application

List of Attachements

Nunavut Water Board License Renewal Application

Attachment A – Description of Undertakings

Attachment B – Environmental Baseline Information

Nunavut Water Board Exploration/Remote Camp Supplementary Questionnaire

Attachment 1 –	Letter from Wheaton River Nunavut Ltd. naming Kinross Gold Corporation as Project Operator.
Attachment 2 -	MSDS forms for Drill Additives, fuel and other chemicals used at the project.
Attachment 3 -	Spill Contingency Plan
Figure 1 -	Camp Diagram, Existing and Proposed

Kinross Gold Corporation

Goose Lake Project

Attachment 1

June 2001

June 22, 2001

Mr. Jack Kaniak
Lands Manager,
Kitikmeot Inuit Association
P.O. 315
Kugluktuk, NT, X0E 0E0

Dear Mr. Kaniak,

Re: Inuit Land Use Permits: KTL399C037, KTL200F004, KTL200C009 KTL200C011, KTL200C013, KTL 200C017

Wheaton River Nunavut Ltd. (formerly Kit Resources NWT Ltd.) entered into an Option Agreement with Kinross Gold Corporation of Toronto in 1999. Under the terms of that Agreement, Kinross is the Operator of all the mining leases and claims currently held by Wheaton River Nunavut Ltd. This Agreement will remain in effect while Kinross completes certain annual expenditures commitments, at which time Kinross will earn a 70% participating interest in the Property.

Until advised otherwise, Wheaton River hereby authorizes KIA to release any relevant information to representatives of Kinross Gold Corporation. Wheaton River also confirms that Kinross Gold Corporation is responsible for conducting and administering all work on Wheaton River's current holding in Nunavut. Accordingly, where permissible, all notices and correspondences should be directed to Kinross who will be in contact with you and who will provide appropriate names and addresses. Wheaton River Nunavut Ltd. requests that duplicate copies be sent to:

Wheaton River Nunavut Ltd.
Attention: Dunham Craig
1500-700 West Pender St.
Vancouver, B.C. V6C 1G8
Tel: 604-684-9648
Fax: 604-684-3123
Email: dcraig@wheatonriver.com

Should you require any further clarification, please do not hesitate to contact the undersigned.

Yours truly,
Wheaton River Nunavut Ltd.

Derek Price
Vice President, Finance

Kinross Gold Corporation

Goose Lake Project

Attachment 2

June 2001

ATT Carol Boucher

From Carole Cartier

Material Safety Data Sheet

VISCO L

Material Identification and Use

MANUFACTURER'S NAME	Lucien Mirault Inc.
MANUFACTURER'S ADDRESS	699 des Campagnards, CP88 Valcanneville, Quebec J0Y 2P0
EMERGENCY PHONE NUMBER	(819) 824-6778
SUPPLIER IDENTIFIER	
SUPPLIER'S ADDRESS	
SUPPLIER EMERGENCY PHONE NUMBER	
PRODUCT IDENTIFIER	VISCO L
PRODUCT USE	Drilling Mud

Hazardous Ingredients of Materials

Chemical Identity	Concentration	CAS#/NA#/UN#	LD(50)	LC(50)
Mineral spirits	20-40%	CAS 64742-47-8	(oral,rat) over 8 ml/kg	N/E

Physical Data For Product

PHYSICAL STATE	Liquid
ODOUR AND APPEARANCE	oily smell, liquid emulsion
ODOUR THRESHOLD	N/E
SPECIFIC GRAVITY	0.98
VAPOUR PRESSURE	N/E
VAPOUR DENSITY (air=1)	N/E
EVAPORATION RATE	N/E
BOILING POINT	N/E
FREEZING POINT	N/E
pH	7.0 - 9.0 (0.6% in distilled water)
DENSITY (g/ml)	N/E
COEFFICIENT OF WATER/OIL DISTRIBUTION	N/E

Fire and Explosion Hazard of Product

Material Safety Data Sheet

VISCO L

CONDITIONS OF FLAMMABILITY.....	requires source of ignition, presence of air and temperature greater than flashpoint
MEANS OF EXTINCTION.....	In case of fire use water spray, foam, dry chemical, or CO2 AVOID USE OF WATER-SLIPPERY CONDITIONS WILL OCCUR.
FLASHPOINT AND METHOD OF DETERMINATION.....	79 C. (C.C.)
UPPER EXPLOSION LIMIT(% BY VOL).	N/E
LOWER EXPLOSION LIMIT(% BY VOL).	N/E
AUTO-IGNITION TEMPERATURE.....	N/E
FLAMMABILITY CLASSIFICATION.....	Combustible Liquid Class B-3
HAZARDOUS COMBUSTION PRODUCTS...	Oxides of carbon or nitrogen and products of incomplete combustion.
EXPLOSION DATA.....	N/E
SENSITIVITY TO STATIC DISCHARGE.	Potential for fire and/or explosion when used indoors.

Reactivity Data

CHEMICAL STABILITY.....	Stable
INCOMPATIBLE MATERIALS.....	Avoid strong oxidizing and reducing materials
CONDITIONS OF REACTIVITY.....	Avoid contamination with reactive materials.
HAZARDOUS DECOMPOSITION PRODUCTS	N/E

Toxicological Properties of Product

ROUTES OF ENTRY	
SKIN CONTACT.....	May cause irritation, redness, swelling or dermititis.
SKIN ABSORPTION.....	N/A
EYE.....	Will cause painful burning or stinging of eye and lids, watering of eyes and inflamation
INHALATION.....	N/A
INGESTION.....	May cause nausea or vomitting.
ACUTE OVER EXPOSURE EFFECTS.....	N/E
CHRONIC OVER EXPOSURE EFFECTS...	Skin irritation or dermatitis may occur upon frequent or prolonged contact.
EXPOSURE LIMITS.....	Contains traces of acrylamide, TWAEV=0.03 mg/mg3 (ONT.>REG 654/86)
IRRITANCY OF PRODUCT.....	Skin-moderate eye-moderate

Material Safety Data Sheet

VIBRA STOP

Material Identification and Use

MANUFACTURER'S NAME.....	CONTROL CHEMICAL (1989) CORPORATION
MANUFACTURER'S ADDRESS.....	Bay 6, 2016 - 25th Avenue N.E. Calgary, Alberta, Canada T2E 6Z4
EMERGENCY PHONE NUMBER.....	(403) 291-9850
SUPPLIER IDENTIFIER.....	
SUPPLIER'S ADDRESS.....	
SUPPLIER EMERGENCY PHONE NUMBER.	
PRODUCT IDENTIFIER.....	VIBRA STOP
PRODUCT USE.....	Drilling Mud

Hazardous Ingredients of Materials

Chemical Identity	Concentration	CAS#/NA#/UN#	LD(50)	LC(50)
neral Spirits	7-14%	CAS 64742-47-8	(oral, rat) over 8 ml/kg or >6400 mg/kg	N/E

Physical Data For Product

PHYSICAL STATE.....	Liquid
ODOUR AND APPEARANCE.....	Slight oil smell, brown appearance.
ODOUR THRESHOLD.....	N/E
SPECIFIC GRAVITY.....	0.98
VAPOUR PRESSURE.....	N/E
VAPOUR DENSITY (air=1).....	N/E
EVAPORATION RATE.....	N/E
BOILING POINT.....	N/E
FREEZING POINT.....	-30 Degrees C
pH.....	8-9
DENSITY (g/ml).....	N/E
COEFFICIENT OF WATER/OIL DISTRIBUTION.....	N/E

Fire and Explosion Hazard of Product

Material Safety Data Sheet

VIBRA STOP

CONDITIONS OF FLAMMABILITY.....	Requires a source of ignition, the presence of air, and a temperature greater than the flashpoint.
MEANS OF EXTINCTION.....	In case of fire, foam, dry chemical, or CO2. AVOID USE OF WATER-SLIPPERY CONDITIONS WILL OCCUR.
FLASHPOINT AND METHOD OF DETERMINATION.....	>200 degrees F
UPPER EXPLOSION LIMIT(% BY VOL).	N/E
LOWER EXPLOSION LIMIT(% BY VOL).	N/E
AUTO-IGNITION TEMPERATURE.....	N/E
FLAMMABILITY CLASSIFICATION.....	N/A
HAZARDOUS COMBUSTION PRODUCTS...	CO, CO2, Oxides of sulphur produced on combustion.
EXPLOSION DATA.....	N/E
SENSITIVITY TO STATIC DISCHARGE.	N/A

Reactivity Data

EMICAL STABILITY.....	Stable
NCOMPATIBLE MATERIALS.....	Oxidizing materials.
NDITIONS OF REACTIVITY.....	N/A
HAZARDOUS DECOMPOSITION PRODUCTS	N/A

Toxicological Properties of Product

ROUTES OF ENTRY	
SKIN CONTACT.....	Contact may cause irritation, redness, swelling or dermatitis.
SKIN ABSORPTION.....	N/A
EYE.....	Will cause painful burning or stinging of eyes and lids, watering of eyes, and inflammation of conjunctiva.
INHALATION.....	N/A
INGESTION.....	May cause gastrointestinal irritation, cramps, diarrhoea.
ACUTE OVER EXPOSURE EFFECTS.....	N/E
CHRONIC OVER EXPOSURE EFFECTS...	Skin irritation or dermatitis may occur upon frequent or prolonged contact.
EXPOSURE LIMITS.....	N/E
IRRITANCY OF PRODUCT.....	Moderate skin and eye irritant.
SENSITIZATION TO MATERIAL.....	N/E

Material Safety Data Sheet

VIBRA STOP

CARCINOGENICITY, REPRODUCTIVE EFFECTS.....	N/E
TERATOGENICITY, MUTAGENICITY....	N/E
TOXICOLOGICALLY SYNERGISTIC PRODUCTS.....	N/E

Preventive Measures

PERSONAL PROTECTIVE EQUIPMENT...	Wear eye/face protection. Wear suitable gloves
SPECIFIC ENGINEERING CONTROLS...	N/A
LEAK AND SPILL PROCEDURES.....	CONTAIN THE SPILL. SOAK UP WITH AN ABSORBENT MATERIAL. CLEAN WITH AN ADEQUATE SOLVENT.
WASTE DISPOSAL.....	In accordance with Municipal, Provincial and Federal regulations.
HANDLING PROCEDURES AND EQUIPMENT.....	N/A
STORAGE REQUIREMENTS.....	STORE IN A TIGHTLY SEALED CONTAINER.
SPECIAL SHIPPING INFORMATION....	None.

First Aid Measures

SPECIFIC FIRST AID PROCEDURES...	FLUSH EYES WITH WATER. RINSE CONTAMINATED SKIN WITH SOAP AND WATER. IF INGESTED, GIVE WATER. DO NOT INDUCE VOMITING. CALL A PHYSICIAN.

Preparation Date of Material Safety Data Sheet

PREPARED BY.....	The Safety Committee
PHONE NUMBER OF PREPARER.....	(403) 291-9850
DATE PREPARED.....	January 02, 1995

Shell Canada Limited

Material Safety Data Sheet

Effective Date: 19970605
Revised on: 1999-06-11
Supersedes: None

THIS PRODUCT IS NOT A WHMIS CONTROLLED SUBSTANCE.

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:	TELLUS® T 22
SYNONYMS:	LOW TEMPERATURE HYDRAULIC OIL
PRODUCT USE:	Hydraulic Fluid
MSDS Number:	407-157

MANUFACTURER
Shell Canada Limited
P.O. Box 100, Station M
400-4th Ave. S.W.
Calgary, AB Canada
T2P 2H5

TELEPHONE NUMBERS	
Shell Emergency Number	1-800-661-7378
CANUTEC 24 HOUR EMERGENCY NUMBER	613-996-6666
For general information:	403-691-3111
For MSDS information:	403-691-3982
(From 7:30 to 4:30 Mountain Time)	403-691-2220

This MSDS was prepared by the Toxicology and Material Safety Section of Shell Canada Limited.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS Number	% Range	WHMIS Controlled	CBI Claim No. CBI Date

THIS PRODUCT IS NOT A WHMIS CONTROLLED SUBSTANCE.

See Section 8 for Occupational Exposure Guidelines

3. HAZARDS IDENTIFICATION

Physical Description: Viscous Liquid Lightly Coloured Hydrocarbon Odour

Routes of Exposure: Exposure will most likely occur through skin contact or from inhalation of mechanically or thermally generated oil mists.

Hazards: Inhalation of oil mist or vapours from hot oil may cause irritation of the upper respiratory tract.

For further information on health effects, see Section 11.

4. FIRST AID

Eyes	Flush eyes with water for at least 15 minutes while holding eyelids open. Obtain medical attention.
Skin	Wipe excess from skin. Wash contaminated skin with mild soap and water for 15 minutes.
Ingestion	Do not induce vomiting. Obtain medical attention immediately.
Inhalation	Remove victim from further exposure. Additional first aid treatment is not ordinarily required.
Notes to Physician	In general, lubricating oils have low oral toxicity. High pressure injection under the skin may have serious consequences and may require urgent treatment.

5. FIRE FIGHTING MEASURES

Extinguishing Media	Dry Chemical Carbon Dioxide Foam Water Fog
Firefighting Instructions	Water or foam may cause frothing. Use water to cool fire exposed containers. Water may be used to flush spills away from exposure.
Hazardous Combustion Products	Carbon monoxide, carbon dioxide and dense smoke are produced on combustion.

6. ACCIDENTAL RELEASE MEASURES

Eliminate all ignition sources. Isolate hazard area and restrict access. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Try to work upwind of spill. Dike and contain land spills; contain water spills by booming. For large spills remove by mechanical means and place in containers. Absorb residue or small spills with absorbent material and remove to non-leaking containers for disposal. Flush area with water to remove trace residue. Dispose of recovered material as noted under Disposal Considerations. Notify appropriate environmental agency(ies).

7. HANDLING AND STORAGE

Handling:	Avoid excessive heat, formation of oil mist, breathing of vapours and mist of hot oil and prolonged or repeated contact with skin. Launder contaminated clothing prior to reuse. Properly dispose of contaminated leather articles, including shoes, that cannot be decontaminated. Use good personal hygiene.
Storage:	Store in a cool, dry, well ventilated area, away from heat and ignition sources.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

THE FOLLOWING INFORMATION, WHILE APPROPRIATE FOR THIS PRODUCT, IS GENERAL IN NATURE. THE SELECTION OF PERSONAL PROTECTIVE EQUIPMENT WILL VARY DEPENDING ON THE CONDITIONS OF USE.

Occupational Exposure Limits (1998) : Oil mist (mineral): 5 mg/m3 (TLV/TWA) ACGIH
10 mg/m3 (TLV/STEL) ACGIH

Mechanical Ventilation: To maintain levels below workplace exposure limits mechanical ventilation recommended. Make up air should always be supplied to balance air exhausted (either generally or locally). Local ventilation is recommended if oil mist is present or if exposure limit is exceeded.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes.

Skin Protection: Oil impervious gloves (nitrile, neoprene or PVC) should be worn at all times when handling this product. Impervious clothing (apron, coveralls) should also be worn in confined workspaces or where the risk of skin exposure is much higher.

Respiratory Protection: If exposure exceeds occupational exposure limits, use an appropriate NIOSH-approved respirator. Depending on airborne concentrations, use either a NIOSH-approved dust/mist respirator or a NIOSH-approved supplied-air respirator. Under conditions of high heat, use a NIOSH-approved chemical cartridge respirator with organic vapour cartridges in combination with a dust/mist pre-filter.

9. PHYSICAL DATA

Physical State:	Viscous Liquid
Appearance:	Lightly Coloured
Odour:	Hydrocarbon Odour
Odour Threshold:	Not available
Freezing/Pour Point:	Not available
Boiling Point:	>315 degrees C
Density:	858 kg/m3 @ 15 degrees C
Vapour Density (Air = 1):	Not available
Vapour Pressure:	<0.1 mm Hg @ 20 degrees C
pH:	Not available
Flash Point:	Method Cleveland Open Cup >134 degrees C
Lower Explosion Limit:	Not available
Upper Explosion Limit:	Not available
Autoignition Temperature:	Not available
Viscosity:	20.9 - 23.1 cSt @ 40 degrees C
Evaporation Rate (n-BuAc = 1):	Not available
Partition Coefficient (K_{ow}):	Not available
Water Solubility:	Insoluble
Other Solvents:	Hydrocarbon solvents

10. STABILITY AND REACTIVITY

Chemically Stable:	Yes
Hazardous Polymerization:	No
Sensitive to Mechanical Impact:	No
Sensitive to Static Discharge:	No

Incompatible Materials:	Avoid strong oxidizing agents.
Conditions of Reactivity:	Avoid excessive heat, formation of vapours or mists.

11. TOXICOLOGICAL INFORMATION

Ingredient (or Product if not specified) **Toxicological Data**

Routes of Exposure:	Exposure will most likely occur through skin contact or from inhalation of mechanically or thermally generated oil mists.
Formulation:	No data is specifically available for this product and therefore this toxicological information is based on data available for the ingredients.
Irritancy:	This product is not a primary skin irritant after exposure of short duration, is not a skin sensitizer and is not irritating to the eyes.
Chronic Effects:	Prolonged or repeated contact may cause various forms of dermatitis including folliculitis and oil acne. Long term intensive exposure to oil mist may cause benign lung fibrosis.

12. ECOLOGICAL INFORMATION

Environmental Effects	Block off drains and ditches. Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Provincial regulations require and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities.
Biodegradability	Not readily biodegradable.

13. DISPOSAL CONSIDERATIONS

Waste management priorities (depending on volumes and concentration of waste) are: 1. recycle (reprocess), 2. energy recovery (cement kilns, thermal power generation), 3. incineration, 4. disposal at a licenced waste disposal facility. Do not attempt to combust waste on-site. Incinerate at a licenced waste disposal site with approval of environmental authority. Landfill absorbed material in a government approved site.

14. TRANSPORTATION INFORMATION

Canadian Road and Rail Shipping Classification:
This product is not regulated under the Canadian Transportation of Dangerous Goods Regulations for transport by road and rail.

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the MSDS contains all the information required by the *Controlled Products Regulations*.

	THIS PRODUCT IS NOT A WHMIS CONTROLLED SUBSTANCE.
DSL/NDSL Status:	This product, or all components, are listed on the Domestic Substances List, as required under the Canadian Environmental Protection Act.
Other Regulatory Status:	Provincial criteria are likely and should be requested when notifying provincial authorities. No Canadian federal standard; however, for general discharge guidance, federal installations limited to 15 mg/L for total oil and grease.

16. ADDITIONAL INFORMATION

Revisions: This MSDS has been reissued in the ANSI Z400.1 standard format.

Shell Canada Limited

Material Safety Data Sheet

Effective Date: 19980320
Revised on: 1999-06-11
Supersedes: None

THIS PRODUCT IS NOT A WHMIS CONTROLLED SUBSTANCE.

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:	ROTELLA* T XLA 15W-40
SYNONYMS:	AUTOMOTIVE ENGINE OIL
PRODUCT USE:	Lubricating oil
MSDS Number:	431-405

MANUFACTURER	**TELEPHONE NUMBERS**	
Shell Canada Limited	**Shell Emergency Number**	1-800-661-7378
P.O. Box 100, Station M	**CANUTEC 24 HOUR EMERGENCY NUMBER**	613-996-6666
400-4th Ave. S.W.		
Calgary, AB Canada	For general information:	403-691-3111
T2P 2H5	For MSDS information:	403-691-3982
	(From 7:30 to 4:30 Mountain Time)	403-691-2220

This MSDS was prepared by the Toxicology and Material Safety Section of Shell Canada Limited.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS Number	% Range	WHMIS Controlled	CBI Claim No. CBI Date

THIS PRODUCT IS NOT A WHMIS CONTROLLED SUBSTANCE.

See Section 8 for Occupational Exposure Guidelines

3. HAZARDS IDENTIFICATION

Physical Description: Liquid Light Brown Hydrocarbon Odour

Routes of Exposure: Exposure will most likely occur through skin contact or from inhalation of mechanically or thermally generated oil mists.

Hazards: Inhalation of oil mist or vapours from hot oil may cause irritation of the upper respiratory tract.

For further information on health effects, see Section 11.

4. FIRST AID

Eyes	Flush eyes with water for at least 15 minutes while holding eyelids open.
Skin	Wipe excess from skin. Wash contaminated skin with mild soap and water for 15 minutes.
Ingestion	Do not induce vomiting. Obtain medical attention immediately.
Inhalation	Remove victim from further exposure. Additional first aid treatment is not ordinarily required.
Notes to Physician	In general, lubricating oils have low oral toxicity. High pressure injection under the skin may have serious consequences and may require urgent treatment.

5. FIRE FIGHTING MEASURES

Extinguishing Media	Dry Chemical Carbon Dioxide Foam Water Fog
Firefighting Instructions	Water or foam may cause frothing. Use water to cool fire exposed containers. Water may be used to flush spills away from exposure.
Hazardous Combustion Products	Carbon monoxide, carbon dioxide and dense smoke are produced on combustion.

6. ACCIDENTAL RELEASE MEASURES

Eliminate all ignition sources. Isolate hazard area and restrict access. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Try to work upwind of spill. Dike and contain land spills; contain water spills by booming. For large spills remove by mechanical means and place in containers. Absorb residue or small spills with absorbent material and remove to non-leaking containers for disposal. Flush area with water to remove trace residue. Dispose of recovered material as noted under Disposal Considerations. Notify appropriate environmental agency(ies).

7. HANDLING AND STORAGE

Handling:	Avoid excessive heat, formation of oil mist, breathing of vapours and mist of hot oil and prolonged or repeated contact with skin. Launder contaminated clothing prior to reuse. Properly dispose of contaminated leather articles, including shoes, that cannot be decontaminated. Use good personal hygiene.
Storage:	Store in a cool, dry, well ventilated area, away from heat and ignition sources.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

THE FOLLOWING INFORMATION, WHILE APPROPRIATE FOR THIS PRODUCT, IS GENERAL IN NATURE. THE SELECTION OF PERSONAL PROTECTIVE EQUIPMENT WILL VARY DEPENDING ON THE CONDITIONS OF USE.

Occupational Exposure Limits (1998) : Oil mist (mineral): 5 mg/m3 (TLV/TWA) ACGIH
10 mg/m3 (TLV/STEL) ACGIH

Mechanical Ventilation: To maintain levels below workplace exposure limits mechanical ventilation recommended. Local ventilation is recommended if oil mist is present or if exposure limit is exceeded. Make up air should always be supplied to balance air exhausted (either generally or locally).

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes.

Skin Protection: Oil impervious gloves (nitrile, neoprene or PVC) should be worn at all times when handling this product. Impervious clothing (apron, coveralls) should also be worn in confined workspaces or where the risk of skin exposure is much higher.

Respiratory Protection: If exposure exceeds occupational exposure limits, use an appropriate NIOSH-approved respirator. Depending on airborne concentrations, use either a NIOSH-approved dust/mist respirator or a NIOSH-approved supplied-air respirator. Under conditions of high heat, use a NIOSH-approved chemical cartridge respirator with organic vapour cartridges in combination with a dust/mist pre-filter.

9. PHYSICAL DATA

Physical State:	Liquid
Appearance:	Light Brown
Odour:	Hydrocarbon Odour
Odour Threshold:	Not available
Freezing/Pour Point:	Not available
Boiling Point:	>315 degrees C
Density:	878 kg/m3 @ 15 degrees C
Vapour Density (Air = 1):	Not available
Vapour Pressure:	<0.1 mm Hg @ 20 degrees C
pH:	Not applicable
Flash Point:	Method Cleveland Open Cup 226 degrees C
Lower Explosion Limit:	Not available
Upper Explosion Limit:	Not available
Autoignition Temperature:	Not available
Viscosity:	13.15 - 14.65 cSt @ 100 degrees C
Evaporation Rate (n-BuAc = 1):	Not available
Partition Coefficient (K_{ow}):	Not available
Water Solubility:	Insoluble
Other Solvents:	Hydrocarbon Solvents
Molecular Weight:	Not available
Formula:	

10. STABILITY AND REACTIVITY

Chemically Stable: Yes
Isolate hazard area and restrict access.

Hazardous Polymerization: No

Sensitive to Mechanical Impact:	No
Sensitive to Static Discharge:	No
Incompatible Materials:	Avoid strong oxidizing agents.
Conditions of Reactivity:	Avoid excessive heat, formation of vapours or mists.

11. TOXICOLOGICAL INFORMATION

Ingredient (or Product if not specified) Toxicological Data

Routes of Exposure:	Exposure will most likely occur through skin contact or from inhalation of mechanically or thermally generated oil mists.
Irritancy:	Testing completed with this product or with one of similar formulation, indicates that the product is not a primary skin or eye irritant.
Chronic Effects:	Prolonged or repeated contact may cause various forms of dermatitis including folliculitis and oil acne. Long term intensive exposure to oil mist may cause benign lung fibrosis.

12. ECOLOGICAL INFORMATION

Environmental Effects	Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Block off drains and ditches. Provincial regulations require and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities.
Biodegradability	Not readily biodegradable.

13. DISPOSAL CONSIDERATIONS

Waste management priorities (depending on volumes and concentration of waste) are: 1. recycle (reprocess), 2. energy recovery (cement kilns, thermal power generation), 3. incineration, 4. disposal at a licenced waste disposal facility. Do not attempt to combust waste on-site. Incinerate at a licenced waste disposal site with approval of environmental authority. Landfill absorbed material in a government approved site.

14. TRANSPORTATION INFORMATION

Canadian Road and Rail Shipping Classification:
This product is not regulated under the Canadian Transportation of Dangerous Goods Regulations for transport by road and rail.

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the MSDS contains all the information required by the *Controlled Products Regulations*.

THIS PRODUCT IS NOT A WHMIS CONTROLLED SUBSTANCE.

DSL/NDSL Status: A component of this product is in transition to the DSL. All other components are listed.

Other Regulatory Status: No Canadian federal standard; however, for general discharge guidance, federal installations limited to 15 mg/L for total oil and grease. Provincial criteria are likely and should be requested when notifying provincial authorities.

16. ADDITIONAL INFORMATION

Revisions: This MSDS has been reissued in the ANSI Z400.1 standard format.

Shell Canada Limited
Material Safety Data Sheet
Effective Date: 19980901

Class B3 Combustible Liquid

Class D2B Other Toxic Effects - Skin Irritant

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:	**LOW SULPHUR DIESEL FUEL**
SYNONYMS:	Diesel Automotive Gas Oil
PRODUCT USE:	Fuel Solvent
MSDS Number:	320-110

MANUFACTURER
Shell Canada Limited
P.O. Box 100, Station M
400-4th Ave. S.W.
Calgary, AB Canada
T2P 2H5

TELEPHONE NUMBERS	
Shell Emergency Number	1-800-661-7378
CANUTEC 24 HOUR EMERGENCY NUMBER	613-996-6666
For general information:	1-800-661-1600
For MSDS information:	403-691-3982
(From 7:30 to 4:30 Mountain Time)	403-691-2220

This MSDS was prepared by the Toxicology and Material Safety Section of Shell Canada Limited.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS Number	% Range	WHMIS Controlled	CBI Claim No. CBI Date
Fuels, Diesel, No. 2	68476-34-6	60 - 100	Yes	

See Section 8 for Occupational Exposure Guidelines.

3. HAZARDS IDENTIFICATION

Physical Description: Liquid Lightly Coloured Hydrocarbon Odour

Routes of Exposure: Exposure may occur via inhalation, ingestion, skin absorption and skin or eye contact.

Hazards:

Combustible Liquid.
Irritating to skin.
Vapours are moderately irritating to the eyes.
Vapours are moderately irritating to the respiratory passages. The liquid when accidently aspirated into the lungs can cause a severe inflammation of the lung.

Handling:

Eliminate all ignition sources.
Avoid prolonged exposure to vapours.
Wear suitable gloves and eye protection.
Bond and ground transfer containers and equipment to avoid static accumulation.
Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.

For further information on health effects, see Section 11.

4. FIRST AID

Eyes Flush eyes with water for at least 15 minutes while holding eyelids open. If irritation occurs and persists, obtain medical attention.

Skin Flush affected skin with gently flowing lukewarm water for at least 20 minutes and remove contaminated clothing while rinsing. Wash contaminated skin with mild soap and water for 15 minutes. If irritation occurs and persists, obtain medical attention.

Ingestion DO NOT INDUCE VOMITING! OBTAIN MEDICAL ATTENTION IMMEDIATELY. Guard against aspiration into lungs by having the individual turn on to their left side. If vomiting occurs spontaneously keep head below hips to prevent aspiration of liquid into the lungs. Do not give anything by mouth to an unconscious person.

Inhalation Remove victim from further exposure and restore breathing, if required. Obtain medical attention.

Notes to Physician The main hazard following accidental ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis. If more than 2.0 mL/kg has been ingested, vomiting should be induced with supervision. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before vomiting, gastric lavage with a cuffed endotracheal tube should be considered.

5. FIRE FIGHTING MEASURES

Extinguishing Media

Dry Chemical
Carbon Dioxide
Foam
Water Fog

Firefighting Instructions	Vapour forms a flammable/explosive mixture with air between upper and lower flammable limits. Vapours may travel along ground and flashback along vapour trail may occur. Do not use water except as a fog. Product will float and can be reignited on surface of water. Containers exposed to intense heat from fires should be cooled with water to prevent vapour pressure buildup which could result in container rupture. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure. Caution - Combustible. Do not enter confined fire space without adequate protective clothing and an approved positive pressure self-contained breathing apparatus.
Hazardous Combustion Products	A complex mixture of airborne solid, liquid, particulates and gases will evolve when this material undergoes pyrolysis or combustion. Carbon dioxide, carbon monoxide and unidentified organic compounds may be formed upon combustion.

6. ACCIDENTAL RELEASE MEASURES

Issue warning "Combustible". Eliminate all ignition sources. Isolate hazard area and restrict access. Handling equipment must be grounded. Try to work upwind of spill. Avoid direct contact with material. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Dike and contain land spills; contain water spills by booming. Use water fog to knock down vapours; contain runoff. Absorb residue or small spills with absorbent material and remove to non-leaking containers for disposal. Recommended materials: Clay or Sand Flush area with water to remove trace residue. Dispose of recovered material as noted under Disposal Considerations. Notify appropriate environmental agency(ies).

7. HANDLING AND STORAGE

Handling:	Combustible. Avoid excessive heat, sparks, open flames and all other sources of ignition. Fixed equipment as well as transfer containers and equipment should be grounded to prevent accumulation of static charge. Vapours are heavier than air and will settle and collect in low areas and pits, displacing breathing air. Extinguish pilot lights, cigarettes and turn off other sources of ignition prior to use and until all vapours are gone. Vapours may accumulate and travel to distant ignition sources and flashback. Do not cut, drill, grind, weld or perform similar operations on or near containers. Empty containers are hazardous, may contain flammable/explosive dusts, residues or vapours. Do not pressurize drum containers to empty them. Never siphon by mouth. Wash with soap and water prior to eating, drinking, smoking, applying cosmetics or using toilet facilities. Launder contaminated clothing prior to reuse. Use good personal hygiene.
Storage:	Use explosion-proof ventilation to prevent vapour accumulation. Keep container tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

THE FOLLOWING INFORMATION, WHILE APPROPRIATE FOR THIS PRODUCT, IS GENERAL IN NATURE. THE SELECTION OF PERSONAL PROTECTIVE EQUIPMENT WILL VARY DEPENDING ON THE CONDITIONS OF USE.

Occupational Exposure Limits (1998) : North American exposure limits have not been established for the product. Consult local authorities for acceptable provincial values.
Oil mist (mineral): 5 mg/m3 (TLV/TWA) ACGIH
10 mg/m3 (TLV/STEL) ACGIH
Recommend SHELL guideline of 125 mg/m3 for vapours (8 hour shift).

Mechanical Ventilation: Use explosion-proof ventilation as required to control vapour concentrations. Concentrations in air should be maintained below lower explosive limit at all times or below the recommended threshold limit value if unprotected personnel are involved. Make up air should always be supplied to balance air exhausted (either generally or locally). For personnel entry into confined spaces (i.e. bulk storage tanks) a proper confined space entry procedure must be followed including ventilation and testing of tank atmosphere.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes. Provide an eyewash station in the area.

Skin Protection: Impervious gloves (viton, nitrile) should be worn at all times when handling this material. In confined spaces or where the risk of skin exposure is much higher, impervious clothing should be worn. Safety showers should be available for emergency use.

Respiratory Protection: If exposure exceeds occupational exposure limits, use an appropriate NIOSH-approved respirator. Use a NIOSH-approved chemical cartridge respirator with organic vapour cartridges or use a NIOSH-approved supplied-air respirator. For high airborne concentrations, use a NIOSH-approved supplied-air respirator, either self-contained or airline breathing apparatus, operated in positive pressure mode.

9. PHYSICAL DATA

Physical State:	Liquid
Appearance:	Lightly Coloured
Odour:	Hydrocarbon Odour
Odour Threshold:	Not available
Freezing/Pour Point:	Not available
Boiling Point:	<380 degrees C
Density:	<876 kg/m3 @ 15 degrees C
Vapour Density (Air = 1):	Not available
Vapour Pressure:	Not available
Specific Gravity (Water = 1):	0
pH:	Not applicable
Flash Point:	Method Pensky-Martens CC >40 degrees C
Lower Explosion Limit:	1 % (vol.)
Upper Explosion Limit:	6 % (vol.)
Autoignition Temperature:	250 degrees C
Viscosity:	1.3 - 4.1 cSt @ 40 degrees C
Evaporation Rate (n-BuAc = 1):	Not available
Partition Coefficient (K_{ow}):	Not available
Water Solubility:	Insoluble
Other Solvents:	Hydrocarbon Solvents

Formula: C10 to C22 Hydrocarbons

10. STABILITY AND REACTIVITY

Chemically Stable:	Yes
Hazardous Polymerization:	No
Sensitive to Mechanical Impact:	No
Sensitive to Static Discharge:	Yes
Hazardous Decomposition Products:	Thermal decomposition products are highly dependent on combustion conditions.
Incompatible Materials:	Avoid strong oxidizing agents.
Conditions of Reactivity:	Avoid excessive heat, open flames and all ignition sources.

11. TOXICOLOGICAL INFORMATION

Ingredient (or Product if not specified)	**Toxicological Data**
Fuels, Diesel, No. 2	LD50 Oral Rat >5000 mg/kg LD50 Dermal Rabbit >2000 mg/kg

Routes of Exposure:	Exposure may occur via inhalation, ingestion, skin absorption and skin or eye contact.
Irritancy:	This product is expected to be irritating to skin but is not predicted to be a skin sensitizer.
Chronic Effects:	Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Prolonged exposure to high vapour concentration can cause headache, dizziness, nausea, blurred vision and central nervous system depression.
Pre-existing Conditions:	Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.
Carcinogenicity and Mutagenicity:	The International Agency for Research on Cancer (IARC) considers that this product is not classifiable as to its carcinogenicity to humans. Middle distillates have caused skin cancers in laboratory animals when applied repeatedly and left in place between applications. This effect is believed to be caused by the continuous irritation of the skin. Good personal hygiene should be maintained to avoid this risk.

12. ECOLOGICAL INFORMATION

Environmental Effects	Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Block off drains and ditches. Provincial regulations require and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities. May cause physical fouling of aquatic organisms.
Biodegradability	Not readily biodegradable. Potential for bioaccumulation.

13. DISPOSAL CONSIDERATIONS

Waste management priorities (depending on volumes and concentration of waste) are: 1. recycle (reprocess), 2. energy recovery (cement kilns, thermal power generation), 3. incineration, 4. disposal at a licenced waste disposal facility. Do not attempt to combust waste on-site. Incinerate at a licenced waste disposal site with approval of environmental authority.

14. TRANSPORTATION INFORMATION

Canadian Road and Rail Shipping Classification:

UN/NA Number	UN1202
Proper Shipping Name	FUEL OIL
Hazard Class	Class 3 Flammable Liquid
Packing Group	PG III
Shipping Description	FUEL OIL Class 3 UN1202 PG III

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the MSDS contains all the information required by the *Controlled Products Regulations.*

WHMIS Class:	Class B3 Combustible Liquid Class D2B Other Toxic Effects - Skin Irritant
DSL/NDSL Status:	This product, or all components, are listed on the Domestic Substances List, as required under the Canadian Environmental Protection Act.
Other Regulatory Status:	No Canadian federal standards.

16. ADDITIONAL INFORMATION

LABEL STATEMENTS

Hazard Statement :	Combustible Liquid. Irritating to skin.
Handling Statement:	Eliminate all ignition sources. Avoid prolonged exposure to vapours. Wear suitable gloves and eye protection. Bond and ground transfer containers and equipment to avoid static accumulation. Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.
First Aid Statement :	Wash contaminated skin with soap and water. Flush eyes with water. If overcome by vapours remove to fresh air. Do not induce vomiting. Obtain medical attention.
Revisions:	This MSDS has been reissued in the ANSI Z400.1 standard format.

Shell Canada Limited

Material Safety Data Sheet

Effective Date: 19971202

Class B2 Flammable Liquid

Class D2A Other Toxic Effects - Carcinogen

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:	**FORMULA SHELL BRONZE GASOLINE**
SYNONYMS:	Automotive Fuel Petrol
PRODUCT USE:	Fuel
MSDS Number:	211-100

MANUFACTURER
Shell Canada Limited
P.O. Box 100, Station M
400-4th Ave. S.W.
Calgary, AB Canada
T2P 2H5

TELEPHONE NUMBERS	
Shell Emergency Number	1-800-661-7378
CANUTEC 24 HOUR EMERGENCY NUMBER	613-996-6666
For general information:	1-800-661-1600
For MSDS information:	403-691-3982
(From 7:30 to 4:30 Mountain Time)	403-691-2220

This MSDS was prepared by the Toxicology and Material Safety Section of Shell Canada Limited.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS Number	% Range	WHMIS Controlled	CBI Claim No. CBI Date
Gasoline, Natural	8006-61-9	80 - 100	Yes	
Methyl t-Butyl Ether	1634-04-4	0 - 15	Yes	
Benzene	71-43-2	<1.5	Yes	

See Section 8 for Occupational Exposure Guidelines.

3. HAZARDS IDENTIFICATION

Physical Description: Liquid Clear Typical Gasoline Odour

Routes of Exposure: Exposure may occur via inhalation, ingestion, skin absorption and skin or eye contact.

Hazards:

Flammable Liquid.
May cause cancer.
Vapours are moderately irritating to the eyes.
Prolonged immersion in liquid may lead to chemical burns.
Vapours are moderately irritating to the respiratory passages. The liquid when accidently aspirated into the lungs can cause a severe inflammation of the lung. Excessive exposure to benzene may cause leukemia in man.

Handling:

Eliminate all ignition sources.
Wear suitable gloves and eye protection.
Bond and ground transfer containers and equipment to avoid static accumulation.
Avoid prolonged exposure to vapours.
Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.

For further information on health effects, see Section 11.

4. FIRST AID

Eyes Flush eyes with water for at least 15 minutes while holding eyelids open. If irritation occurs and persists, obtain medical attention.

Skin Flush affected skin with gently flowing lukewarm water for at least 20 minutes and remove contaminated clothing while rinsing. Wash contaminated skin with mild soap and water for 15 minutes. If irritation occurs and persists, obtain medical attention.

Ingestion DO NOT INDUCE VOMITING! OBTAIN MEDICAL ATTENTION IMMEDIATELY. Guard against aspiration into lungs by having the individual turn on to their left side. If vomiting occurs spontaneously keep head below hips to prevent aspiration of liquid into the lungs.

Inhalation Remove victim from further exposure and restore breathing, if required. Obtain medical attention.

Notes to Physician The main hazard following accidental ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis. If more than 2.0 mL/kg has been ingested, vomiting should be induced with supervision. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before vomiting, gastric lavage with a cuffed endotracheal tube should be considered.

5. FIRE FIGHTING MEASURES

Extinguishing Media

Dry Chemical
Carbon Dioxide
Foam
Water Fog

Firefighting Instructions	Extremely flammable. Vapour forms a flammable/explosive mixture with air between upper and lower flammable limits. Vapours may travel along ground and flashback along vapour trail may occur. Product will float and can be reignited on surface of water. Do not use water except as a fog. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure. Containers exposed to intense heat from fires should be cooled with water to prevent vapour pressure buildup which could result in container rupture. Do not enter confined fire space without adequate protective clothing and an approved positive pressure self-contained breathing apparatus.
Hazardous Combustion Products	Nitrogen oxides, carbon monoxide, carbon dioxide and unidentified organic compounds may be formed during combustion.

6. ACCIDENTAL RELEASE MEASURES

Issue warning "Flammable". Eliminate all ignition sources. Isolate hazard area and restrict access. Handling equipment must be grounded. Try to work upwind of spill. Avoid direct contact with material. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Dike and contain land spills; contain water spills by booming. Use water fog to knock down vapours; contain runoff. Absorb residue or small spills with absorbent material and remove to non-leaking containers for disposal. Recommended materials: Clay or Sand Flush area with water to remove trace residue. Dispose of recovered material as noted under Disposal Considerations.

7. HANDLING AND STORAGE

Handling:	Extremely flammable. Fixed equipment as well as transfer containers and equipment should be grounded to prevent accumulation of static charge. Avoid all direct contact with this material. Avoid prolonged or repeated inhalation of vapours. Vapours may accumulate and travel to distant ignition sources and flashback. Do not cut, drill, grind, weld or perform similar operations on or near containers. Do not use as a cleaning solvent. Never siphon by mouth. Empty containers are hazardous, may contain flammable/explosive dusts, residues or vapours. Launder contaminated clothing prior to reuse. Wash with soap and water prior to eating, drinking, smoking, applying cosmetics or using toilet facilities.
Storage:	Store in a cool, dry, well ventilated area, away from heat and ignition sources. Protect against physical damage to containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

THE FOLLOWING INFORMATION, WHILE APPROPRIATE FOR THIS PRODUCT, IS GENERAL IN NATURE. THE SELECTION OF PERSONAL PROTECTIVE EQUIPMENT WILL VARY DEPENDING ON THE CONDITIONS OF USE.

Occupational Exposure Limits (1998) : Gasoline: 300 ppm, 890 mg/m3 (TLV/TWA) ACGIH
500 ppm,1480 mg/m3 (TLV/STEL) ACGIH
Benzene (skin) : 0.5 ppm, 1.6 mg/m3 (TLV/TWA)
2.5 ppm (STEL) ACGIH
Methyl tert-butyl ether (MTBE): 40 ppm, 144 mg/m3 (TLV/TWA) ACGIH

Mechanical Ventilation: Use explosion-proof ventilation as required to control vapour concentrations. Concentrations in air should be maintained below lower explosive limit at all times or below the recommended threshold limit value if unprotected personnel are involved. Make up air should always be supplied to balance air exhausted (either generally or locally). For personnel entry into confined spaces (i.e. bulk storage tanks) a proper confined space entry procedure must be followed including ventilation and testing of tank atmosphere.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes. Provide an eyewash station in the area.

Skin Protection: Impervious gloves should be worn at all times when handling this product. PVC or nitrile rubber gloves are recommended. In confined spaces or where the risk of skin exposure is much higher, impervious clothing should be worn. Safety showers should be available for emergency use.

Respiratory Protection: If exposure exceeds occupational exposure limits, use an appropriate NIOSH-approved respirator. Use a NIOSH-approved chemical cartridge respirator with organic vapour cartridges. For high airborne concentrations, use a NIOSH-approved supplied-air respirator, either self-contained or airline breathing apparatus, operated in positive pressure mode.

9. PHYSICAL DATA

Physical State:	Liquid
Appearance:	Clear
Odour:	Typical Gasoline Odour
Odour Threshold:	<0.25 ppm
Freezing/Pour Point:	Not available
Boiling Point:	35 - 220 degrees C
Density:	750 - 850 kg/m3 @ 15 degrees C
Vapour Density (Air = 1):	3.5
Vapour Pressure:	Not available
Specific Gravity (Water = 1):	0
pH:	Not applicable
Flash Point:	Method Tag Closed Cup -30 degrees C
Lower Explosion Limit:	1.4 % (vol.)
Upper Explosion Limit:	7.6 % (vol.)
Autoignition Temperature:	280 degrees C
Viscosity:	<1 cSt @ 38 degrees C
Evaporation Rate (n-BuAc = 1):	Not available
Partition Coefficient (K_{ow}):	200
Water Solubility:	Insoluble
Other Solvents:	Hydrocarbon Solvents

10. STABILITY AND REACTIVITY

Chemically Stable:	Yes
Hazardous Polymerization:	No

Sensitive to Mechanical Impact:	No
Sensitive to Static Discharge:	Yes
Incompatible Materials:	Avoid strong oxidizing agents.
Conditions of Reactivity:	Avoid excessive heat, formation of vapours or mists.

11. TOXICOLOGICAL INFORMATION

Ingredient (or Product if not specified)	Toxicological Data
Gasoline, Natural	LD50 Oral Rat = 18800 mg/kg LD50 Dermal Rabbit >8000 mg/kg
Methyl t-Butyl Ether	LD50 Oral Rat = 4 mL/kg LC50 Inhalation Rat = 85000 mg/m3 for 4hours
Benzene	LD50 Oral Rat = 930 - 5600 mg/kg LC50 Inhalation Rat = 13700 ppm for 4 hours

Routes of Exposure:	Exposure may occur via inhalation, ingestion, skin absorption and skin or eye contact.
Irritancy:	Based on testing with similar materials, this product is not expected to be a primary skin irritant after exposure of short duration, would not be a skin sensitizer and would not be irritating to the eye.
Chronic Effects:	Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Prolonged exposure to high vapour concentration can cause headache, dizziness, nausea, blurred vision and central nervous system depression. Prolonged and repeated exposure may cause serious injury to blood forming organs, resulting in anemia and similar conditions.
Carcinogenicity and Mutagenicity:	According to the International Agency for Research on Cancer (IARC) this product is considered to be possibly carcinogenic to humans. Epidemiological studies indicate that long term inhalation of benzene vapour can cause leukaemia in man. Benzene has also produced chromosomal aberrations in peripheral blood lymphocytes.

12. ECOLOGICAL INFORMATION

Environmental Effects	Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Block off drains and ditches. Provincial regulations require and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities. May be harmful to aquatic life. Fish Toxicity: 5 to 40 ppm I 96 hr TLm I Rainbow Trout I Freshwater
Biodegradability	Not readily biodegradable. Potential for bioaccumulation. Rapid volatilization.

13. DISPOSAL CONSIDERATIONS

Waste management priorities (depending on volumes and concentration of waste) are: 1. recycle (reprocess), 2. energy recovery (cement kilns, thermal power generation), 3. incineration, 4. disposal at a licenced waste disposal facility. Do not attempt to combust waste on-site. Incinerate at a licenced waste disposal site with approval of environmental authority.

14. TRANSPORTATION INFORMATION

Canadian Road and Rail Shipping Classification:

UN/NA Number	UN1203
Proper Shipping Name	GASOLINE
Hazard Class	Class 3 Flammable Liquid
Packing Group	PG II
Shipping Description	GASOLINE Class 3 UN1203 PG II

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the MSDS contains all the information required by the *Controlled Products Regulations.*

WHMIS Class:	Class B2 Flammable Liquid Class D2A Other Toxic Effects - Carcinogen
DSL/NDSL Status:	This product, or all components, are listed on the Domestic Substances List, as required under the Canadian Environmental Protection Act.
Other Regulatory Status:	No Canadian federal standards.

16. ADDITIONAL INFORMATION

LABEL STATEMENTS

Hazard Statement :	Flammable Liquid. May cause cancer.
Handling Statement:	Eliminate all ignition sources. Wear suitable gloves and eye protection. Bond and ground transfer containers and equipment to avoid static accumulation. Avoid prolonged exposure to vapours. Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.
First Aid Statement :	Wash contaminated skin with soap and water. Flush eyes with water. If overcome by vapours remove to fresh air. Do not induce vomiting. Obtain medical attention.
Revisions:	This MSDS has been reissued in the ANSI Z400.1 standard format.

Shell Canada Limited

Material Safety Data Sheet

Effective Date: 2001-01-08
Supersedes: 2000-10-05

Class B2 Flammable Liquid

Class D2B Other Toxic Effects - Skin Irritant

Class D2A Other Toxic Effects - Carcinogen

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:	**SHELL JET B WITH ANTI-ICING ADDITIVE**
SYNONYMS:	WIDE BOILING RANGE AVIATION TURBINE FUEL PLUS ANTI ICING ADDITIVE
PRODUCT USE:	Fuel
MSDS Number:	141-020

MANUFACTURER	**TELEPHONE NUMBERS**	
Shell Canada Limited	**Shell Emergency Number**	1-800-661-7378
P.O. Box 100, Station M	**CANUTEC 24 HOUR EMERGENCY NUMBER**	613-996-6666
400-4th Ave. S.W.		
Calgary, AB Canada	For general information:	1-800-661-1600
T2P 2H5	For MSDS information:	403-691-3982
	(From 7:30 to 4:30 Mountain Time)	403-691-2220

This MSDS was prepared by the Toxicology and Material Safety Section of Shell Canada Limited.

*An asterisk in the product name designates a trade-mark(s) of Shell Canada Limited, used under license by Shell Canada Products.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS Number	% Range	WHMIS Controlled	CBI Claim No. CBI Date
Naphtha (Petroleum), Full-range Reformed	68919-37-9	>95	Yes	
Benzene	71-43-2	0.5 - 1.5	Yes	

See Section 8 for Occupational Exposure Guidelines.

3. HAZARDS IDENTIFICATION

Physical Description: Liquid Bright Clear Typical Gasoline Odour

Routes of Exposure: Exposure may occur via inhalation, ingestion, skin absorption and skin or eye contact.

SHELL JET B WITH ANTI-ICING ADDITIVE 141-020
Revision Number: 7

Hazards:

Flammable Liquid.
Irritating to skin.
Contains Benzene.
May cause cancer.
Vapours are moderately irritating to the eyes.
Vapours are moderately irritating to the respiratory passages. The liquid when accidently aspirated into the lungs can cause a severe inflammation of the lung. Excessive exposure to benzene may cause leukemia in man.

Handling:

Eliminate all ignition sources.
Wear suitable gloves and eye protection.
Bond and ground transfer containers and equipment to avoid static accumulation.
Avoid prolonged exposure to vapours.
Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.

For further information on health effects, see Section 11.

4. FIRST AID

Eyes	Flush eyes with water for at least 15 minutes while holding eyelids open. If irritation occurs and persists, obtain medical attention.
Skin	Wash contaminated skin with mild soap and water for 15 minutes. If irritation occurs and persists, obtain medical attention.
Ingestion	DO NOT INDUCE VOMITING! OBTAIN MEDICAL ATTENTION IMMEDIATELY. Guard against aspiration into lungs by having the individual turn on to their left side. If vomiting occurs spontaneously keep head below hips to prevent aspiration of liquid into the lungs.
Inhalation	Remove victim from further exposure and restore breathing, if required. Obtain medical attention.
Notes to Physician	The main hazard following accidental ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis. If more than 2.0 mL/kg has been ingested, vomiting should be induced with supervision. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before vomiting, gastric lavage with a cuffed endotracheal tube should be considered.

5. FIRE FIGHTING MEASURES

Extinguishing Media

Dry Chemical
Carbon Dioxide
Foam
Water Fog

Firefighting Instructions	Extremely flammable. Vapour forms a flammable/explosive mixture with air between upper and lower flammable limits. Vapours may travel along ground and flashback along vapour trail may occur. Flashback may occur along vapour trail. Do not use water except as a fog. Use water to cool fire exposed containers. Product will float and can be reignited on surface of water. Containers exposed to intense heat from fires should be cooled with water to prevent vapour pressure buildup which could result in container rupture. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure. Do not enter confined fire space without adequate protective clothing and an approved positive pressure self-contained breathing apparatus. Always stay away from ends of containers due to explosive potential. Fight fire from maximum distance.
Hazardous Combustion Products	A complex mixture of airborne solid, liquid, particulates and gases will evolve when this material undergoes pyrolysis or combustion. Carbon dioxide, carbon monoxide and unidentified organic compounds may be formed upon combustion.

6. ACCIDENTAL RELEASE MEASURES

Issue warning "Flammable". Eliminate all ignition sources. Handling equipment must be grounded. Isolate hazard area and restrict access. Try to work upwind of spill. Avoid direct contact with material. Saturated clothing should be immediately removed to avoid flammability hazard. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Dike and contain land spills; contain water spills by booming. Use water fog to knock down vapours; contain runoff. For large spills remove by mechanical means and place in containers. Absorb residue or small spills with absorbent material and remove to non-leaking containers for disposal. Recommended materials: Clay or Sand . Flush area with water to remove trace residue. Dispose of recovered material as noted under Disposal Considerations. Notify appropriate environmental agency(ies).

7. HANDLING AND STORAGE

Handling:	Extremely flammable. Avoid excessive heat, sparks, open flames and all other sources of ignition. Fixed equipment as well as transfer containers and equipment should be grounded to prevent accumulation of static charge. Vapours are heavier than air and will settle and collect in low areas and pits, displacing breathing air. Extinguish pilot lights, cigarettes and turn off other sources of ignition prior to use and until all vapours are gone. Vapours may accumulate and travel to distant ignition sources and flashback. Do not cut, drill, grind, weld or perform similar operations on or near containers. Empty containers are hazardous, may contain flammable/explosive dusts, residues or vapours. Do not pressurize drum containers to empty them. Never siphon by mouth. Wash with soap and water prior to eating, drinking, smoking, applying cosmetics or using toilet facilities. Launder contaminated clothing prior to reuse. Use good personal hygiene.
Storage:	Use explosion-proof ventilation to prevent vapour accumulation. Keep container tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

THE FOLLOWING INFORMATION, WHILE APPROPRIATE FOR THIS PRODUCT, IS GENERAL IN NATURE. THE SELECTION OF PERSONAL PROTECTIVE EQUIPMENT WILL VARY DEPENDING ON THE CONDITIONS OF USE.

Occupational Exposure Limits (2000) :	North American exposure limits have not been established for the product. Consult local authorities for acceptable provincial values. Recommend SHELL guideline of 125 mg/m3 for vapours (8 hour shift). Gasoline: 300 ppm, 890 mg/m3 (TLV/TWA) ACGIH 500 ppm, 1480 mg/m3 (TLV/STEL) ACGIH Benzene (skin) : 0.5 ppm, 1.6 mg/m3 (TLV/TWA) 2.5 ppm (STEL) ACGIH

Mechanical Ventilation: Use explosion-proof ventilation as required to control vapour concentrations. Concentrations in air should be maintained below lower explosive limit at all times or below the recommended threshold limit value if unprotected personnel are involved. Make up air should always be supplied to balance air exhausted (either generally or locally). For personnel entry into confined spaces (i.e. bulk storage tanks) a proper confined space entry procedure must be followed including ventilation and testing of tank atmosphere.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes. Provide an eyewash station in the area.

Skin Protection: Impervious gloves (viton, nitrile) should be worn at all times when handling this material. In confined spaces or where the risk of skin exposure is much higher, impervious clothing should be worn. Safety showers should be available for emergency use.

Respiratory Protection: If exposure exceeds occupational exposure limits, use an appropriate NIOSH-approved respirator. Use a NIOSH-approved chemical cartridge respirator with organic vapour cartridges or use a NIOSH-approved supplied-air respirator. For high airborne concentrations, use a NIOSH-approved supplied-air respirator, either self-contained or airline breathing apparatus, operated in positive pressure mode.

9. PHYSICAL DATA

Physical State:	Liquid
Appearance:	Bright Clear
Odour:	Typical Gasoline Odour
Odour Threshold:	Not available
Freezing/Pour Point:	<-51 degrees C
Boiling Point:	60 - 260 degrees C
Density:	750 - 801 kg/m3 @ 15 degrees C
Vapour Density (Air = 1):	Not available
Vapour Pressure:	>42 mm Hg @ 38 degrees C
Specific Gravity (Water = 1):	0.000
pH:	Not applicable
Flash Point:	Method Tag Closed Cup <1 degrees C
Lower Explosion Limit:	1 % (vol.)
Upper Explosion Limit:	7 % (vol.)
Autoignition Temperature:	Not available
Viscosity:	Not available
Evaporation Rate (n-BuAc = 1):	Not available
Partition Coefficient (K_{ow}):	Not available
Water Solubility:	Insoluble

Other Solvents: Hydrocarbon Solvents

10. STABILITY AND REACTIVITY

Chemically Stable:	Yes
Hazardous Polymerization:	No
Sensitive to Mechanical Impact:	No
Sensitive to Static Discharge:	Yes
Hazardous Decomposition Products:	Thermal decomposition products are highly dependent on combustion conditions.
Incompatible Materials:	Avoid contact with strong oxidizing agents and acids.
Conditions of Reactivity:	Avoid excessive heat, open flames and all ignition sources.

11. TOXICOLOGICAL INFORMATION

Ingredient (or Product if not specified)	Toxicological Data
Naphtha (Petroleum), Full-range Reformed	LD50 Oral Rat >28 mL/kg
Benzene	LD50 Oral Rat = 930 - 5600 mg/kg LC50 Inhalation Rat = 13700 ppm for 4 hours

Routes of Exposure:	Exposure may occur via inhalation, ingestion, skin absorption and skin or eye contact.
Irritancy:	This product is expected to be irritating to skin but is not predicted to be a skin sensitizer.
Chronic Effects:	Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Prolonged exposure to high vapour concentration can cause headache, dizziness, nausea, blurred vision and central nervous system depression. Prolonged and repeated exposure may cause serious injury to blood forming organs, resulting in anemia and similar conditions.
Pre-existing Conditions:	Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.
Carcinogenicity and Mutagenicity:	This product contains benzene. Epidemiological studies indicate that long term inhalation of benzene vapour can cause leukaemia in man. Benzene has also produced chromosomal aberrations in peripheral blood lymphocytes. Carcinogenic hazard.

12. ECOLOGICAL INFORMATION

Environmental Effects	Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Block off drains and ditches. Provincial regulations require and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities. May be harmful to aquatic life. May cause physical fouling of aquatic organisms.
Biodegradability	Not readily biodegradable. Potential for bioaccumulation.

13. DISPOSAL CONSIDERATIONS

Waste management priorities (depending on volumes and concentration of waste) are: 1. recycle (reprocess), 2. energy recovery (cement kilns, thermal power generation), 3. incineration, 4. disposal at a licenced waste disposal facility. Do not attempt to combust waste on-site. Incinerate at a licenced waste disposal site with approval of environmental authority.

14. TRANSPORTATION INFORMATION

Canadian Road and Rail Shipping Classification:

UN/NA Number	UN1863
Proper Shipping Name	FUEL, AVIATION, TURBINE ENGINE
Hazard Class	Class 3 Flammable Liquid
Packing Group	PG II
Shipping Description	FUEL, AVIATION, TURBINE ENGINE Class 3 UN1863 PG II

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Class:	Class B2 Flammable Liquid Class D2B Other Toxic Effects - Skin Irritant Class D2A Other Toxic Effects - Carcinogen
DSL/NDSL Status:	This product, or all components, are listed on the Domestic Substances List, as required under the Canadian Environmental Protection Act. This product and/or all components are listed on the U.S. EPA TSCA Inventory.
Other Regulatory Status:	No Canadian federal standards.

16. ADDITIONAL INFORMATION

LABEL STATEMENTS

Hazard Statement :	Flammable Liquid. Irritating to skin. Contains Benzene. May cause cancer.
Handling Statement:	Eliminate all ignition sources. Wear suitable gloves and eye protection. Bond and ground transfer containers and equipment to avoid static accumulation. Avoid prolonged exposure to vapours. Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.
First Aid Statement :	Wash contaminated skin with soap and water. Flush eyes with water. If overcome by vapours remove to fresh air. Do not induce vomiting. Obtain medical attention.

SHELL JET B WITH ANTI-ICING ADDITIVE

141-020
Revision Number: 7

Revisions:

This revision reflects the change of name from Shell Canada Products Limited to Shell Canada Products.
This MSDS has been reviewed and updated.
Changes have been made to:
Section 15

Superior Propane Inc.

MATERIAL SAFETY DATA SHEET

SECTION 1 – PRODUCT INFORMATION

Product Name: Propane
Trade Name: LPG (Liquified Petroleum Gas), LP-Gas
Chemical Formula: C_3H_8

WHMIS CLASSIFICATION
Class A - Compressed Gas
Class B, Division 1 - Flammable Gas

Supplier: Superior Propane Inc.
1111 - 49th Avenue N.E.
Calgary, AB T2E 8V2
Business: (403) 730-7500

Local Branch Emergency Number: _____
(Non Medical)

Application and Use: Propane is commonly used as a fuel for heating, cooking, automobiles, forklift trucks, crop drying and welding and cutting operations. Propane is used in industry as a refrigerant, solvent and as a chemical feedstock.

SECTION 2 – HAZARDOUS INGREDIENTS

COMPONENTS	CAS NO.	% Volume (v/v)	LD50
Propane	74 -98-6	90% - 99%	Not Applicable
Propylene	115 -07-1	0% - 5%	Not Applicable
Ethane	74 -84-0	0% - 5%	Not Applicable
Butane and heavier hydro carbons	106 -97-8	0% - 2.5%	Not Applicable

Occupational Exposure Limit:
Based upon animal test data, the acute toxicity of this product is expected to be inhalation: 4 hour LC50 = 280,000 ppm (Rat).
Note: Composition is typical for HD-5 Propane per The Canadian General Standard Board CGSB 3.14 National Standard of Canada. Exact composition will vary from shipment to shipment.

SECTION 3 – CHEMICAL AND PHYSICAL DATA

Form: Liquid and vapour while stored under pressure.
Boiling Point: -42°C @ 1 atm.
Freezing Point: -188°C
Evaporation Rate: Rapid (Gas at normal ambient conditions).
Vapour Pressure: 1435 kPa (maximum) @ 37.8°C
Vapour Density: 1.52 (Air = 1)
Coefficient of Water/Oil Distribution: Not available.
pH: Not available.

Solubility in water: Slight, 6.1% by volume @ 17.8°C
Specific Gravity: 0.51 (water = 1)
Appearance/Odour: Colourless liquid and vapour while stored under pressure. Colourless and odourless gas in natural state at any concentration. Commercial propane has an odourant added, ethyl mercaptan, which has an odour similar to boiling cabbage.*
Odour Threshold: 4800 ppm

* With proper handling, transportation and storage, adding a chemical odourant such as eth-merc has proven to be a very effective warning device, but all odourants have certain limitations. The effectiveness of the odourant may be diminished by a person's sense of smell, by competing odours and by oxidation which may cause a potentially dangerous situation.

SECTION 4 – FIRE OR EXPLOSION HAZARD

Flash Point: -103.4°C
Method: Closed cup.
Flammable Limits: Lower 2.4%, Upper 9.5%
Auto Ignition Temperature: 432°C
Products Evolved Due To Heat Or Combustion: Carbon monoxide can be produced when primary air and secondary air are deficient while combustion is taking place.
Fire and Explosive Hazards: Explosive air-vapour mixtures may form if allowed to leak to atmosphere.
Sensitivity To Impact: No.
Sensitivity To Static Discharge: Yes.

Fire Extinguishing Precautions: Use water spray to cool exposed cylinders or tanks. Do not extinguish fire unless the source of the escaping gas that is fueling the fire can be turned off. Fire can be extinguished with carbon dioxide and/or dry chemical (BC). Container metal shells require cooling with water to prevent flame impingement and the weakening of metal. If sufficient water is not available to protect the container shell from weakening, the area will be required to be evacuated. If gas has not ignited, liquid or vapour may be dispersed by water spray or flooding.
Special Fire Fighting Equipment: Protective clothing, hose monitors, fog nozzles, self-contained breathing apparatus.

SECTION 5 – REACTIVITY DATA

Stability: Stable.
Conditions To Avoid: Keep separate from oxidizing agents. Gas explodes spontaneously when mixed with chloride dioxide.
Incompatibility: Remove sources of ignition and observe distance requirements for storage tanks from combustible material, drains and openings to building.

Hazardous Decomposition Products: Deficient primary and secondary air can produce carbon monoxide.
Hazardous Polymerization: Will not occur.

SECTION 6 – TOXICOLOGICAL PROPERTIES OF MATERIAL

ROUTES OF ENTRY:

Inhalation: Simple asphyxiant. No effect at concentrations of 10,000 ppm (break exposures). Higher concentrations may cause central nervous system disorder and/or damage. Lack of oxygen may cause dizziness, loss of coordination, weakness, fatigue, euphoria, mental confusion, blurred vision, convulsions, breathing failure, coma and death. Breathing high vapour concentrations (saturated vapours) for a few minutes may be fatal. Saturated vapours may be encountered in confined spaces and/or under conditions of poor ventilation. Avoid breathing vapours or mist.
Skin and Eye Contact: Exposure to vapourizing liquid may cause frostbite (cold burns) and permanent eye damage.
Ingestion: Not considered to be a hazard.
Acute Exposure: The acute toxicity of this product is expected to be inhalation: 4 hour LC50=280,000ppm (Rat).
Chronic Exposure: There are no reported effects from long term low level exposure.
Sensitization to Product: Skin–unknown, Respiratory–unknown.
Occupational Exposure Limits: American Conference of Governmental Industrial Hygienists (ACGIH) lists as a simple asphyxiant. ACGIH TLV: 1000 ppm.
Carcinogenicity, Reproductive Toxicity, Teratogenicity, Mutagenicity: No effects reported.

SECTION 7 – PREVENTIVE MEASURES

Eyes: Safety glasses, goggles or a face shield is recommended when transferring product.
Skin: Insulated gloves required if contact with liquid or liquid cooled equipment is expected. Wear gloves and long sleeves when transferring product.
Inhalation: Where concentration in air would reduce the oxygen level below 18% air or exceed occupational exposure limits in section 6, self-contained breathing apparatus is required.
Ventilation: Explosion proof ventilation equipment required in confined spaces.

SECTION 8 – EMERGENCY AND FIRST AID PROCEDURES

FIRST AID:

Eyes: Should eye contact with liquid occur, flush eyes with lukewarm water for 15 minutes. Obtain immediate medical care.
Skin: In case of "Cold Burn" from contact with liquid, immediately place affected area in lukewarm water and keep at this temperature until circulation returns. If fingers or hands are frostbitten, have the victim hold his hand next to his body such as under the armpit. Obtain immediate medical care.
Ingestion: None considered necessary.
Inhalation: Remove person to fresh air. If breathing is difficult or has stopped, administer artificial respiration. Obtain immediate medical care.

SPILL OR LEAK:

Eliminate leak of possible.
Eliminate source of ignition.
Ensure cylinder is upright.
Disperse vapours with hose streams using fog nozzles. Monitor low areas as propane is heavier than air and can settle into low areas. Remain upwind of leak. Keep people away. Prevent vapour and/or liquid from entering into sewers, basements or confined areas.

SECTION 9 – TRANSPORTATION, HANDLING AND STORAGE

- Transport and store cylinders and tanks secured in an upright position in a ventilated space away from ignition sources (so the pressure relief valve is in contact with the vapour space of the cylinder or tank).
- Cylinders that are not in use must have the valves in the closed position and be equipped with a protective cap or guard.
- Do not store with oxidizing agents, oxygen, or chlorine cylinders.
- Empty cylinders and tanks may contain product residue. Do not pressurize, cut, heat or weld empty containers.
- Transport, handle and store according to applicable federal and provincial regulations (CGA B149.2).

Transportation of Dangerous Goods (TDG)
- TDG Classification: Flammable Gas 2.1
- TDG Shipping Name: Liquified Petroleum Gas (Propane)
- TDG Special Provisions: 56, 90, 102
- PIN Number: UN1075

SECTION 10 – PREPARATION

Superior Propane Inc., Regulations & Safety Department. (403) 730-7500 Date prepared: September 1999.
Supersedes: November 1996.

PEAK® ANTIFREEZE & COOLANT

THE HEAVY-DUTY ENGINE ANTIFREEZE

PROTECTS ALUMINUM & ALL OTHER METALS

- Universal Car and Truck Formula
- Maximum Freeze-Up/Boil-Over Protection
- Meets Major Automobile Manufacturers Specifications
- Patented Aluminum Protection
- Satisfaction Guaranteed
- Provides Year Round Protection–An Ideal Summer Coolant
- Protects Against Rust and Corrosion
- Licensed in all Required States
- Compatible with Other Standard Brands of Antifreeze
- Convenient Gallon Plastic Container
- Child Resistant Cap
- New Extra Strength Corrugated

8 PAGES

WE ONLY HAVE ONE WORLD. . .PLEASE HELP PROTECT IT.
All laws and regulations should be observed when disposing Antifreeze/Coolant and Radiator Fluids. Call the EPA or the office of your state or local environmental agency for details on disposal procedures.

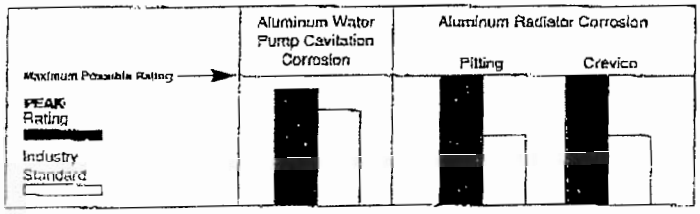
PEAK Antifreeze & Coolant	Freeze Point	ASTM Test Method Latest Issue	Boiling Point*	ASTM Test Method Latest Issue
33⅓% in Volume Solution	0°F	D 1177	253°F	D 1120
40% in Volume Solution	-12°F	D 1177	260°F	D 1120
50% in Volume Solution	-34°F	D 1177	265°F	D 1120
60% in Volume Solution	-62°F	D 1177	270°F	D 1120
70% in Volume Solution	-84°F	D 1177	276°F	D 1120

Properties	Typical Values	ASTM Test Method Latest Issue
Specific Gravity at 60/60°F	1.120-1.130	D 1122
Boiling Point, Reflux	325°F. Min.	D 1120
Foam Test	50ml/3 sec., Max.	D 1881
pH, 50% volume solution	10.5 Min.-11.0 Max.	D 1287
Reserve Alkalinity	11 ml., Min.	D 1121
Flash Point, COC	250°F., Min.	D 92
Total Water	5% Max.	D 1123
Total Glycols	95% Min.	E 202

*sea level atmospheric pressure with 15lb. pressure cap. The boiling point decreases about 2°F. per 1,000 feet of altitude and increases about 3°F./pound of pressure developed in the system.

PATENTED CORROSION PROTECTION:

Very low corrosion weight changes by standard ASTM Glassware (D-1384), Simulated Service, (D-2570) and Vehicle Service (D-2847) test methods. These methods use the 6 different metals: copper, solder, brass, steel, cast iron and aluminum commonly found in an automotive or truck cooling system. Compatible with all nationally distributed water filters and liquid supplemental coolant additives (SCA).



Item UPC Code: #74804-00400
Case UPC Code: #74804-10400
Pack/Unit: 6/1 Gallon/3.78 L
Fluid weight per gallon: 9.3-9.4 lbs. @ 60°F
Case Weight/Cube: 60 lbs./1.53cu. ft.
Case Dimensions: 15¹³/₁₄ x 13¼ x 12⅝
Case Per Pallet: 36
Cases/Rows High: 9/4
Pallet/Cases Per Truck: 20/720
Units Per Truck: 4,320
Truckload Weight: 44,600 lbs.*
Pallet Size: 40 x 48 x 56½ (GMA) (4-way)
P Weight (Includes A/F and Pallet): 2,230 lbs.
(* ..udes Pallet Wt.: 20@ 70# ea. = 1400#
Product Liability Information/Material Safety Data available upon request.

SPECIFICATIONS:

Meets the performance requirements and specifications for aftermarket antifreeze/coolants including:

AUTOMOBILE
- ASTM D-3306, ASTM D-4340
- CSMA
- Chrysler MS 7170
- Ford ESE-M97B44-A
- G.M. 1825M (Aluminum)
- G.S.A. A-A-870
- SAE J1034

HEAVY-DUTY
- ASTM D-4985
- Caterpillar
- Cummins 90T8-4
- Detroit Diesel 7SE298
- Freightliner 48-22880
- G.M. 1899M (Non-Aluminum)
- John Deere H5
- Mack
- RP-302B Maintenance Council American Trucking
- SAE J1941
- Volvo/GM Heavy Truck Corp.

The American Society of Testing and Materials (ASTM) sets technical standards for antifreeze.
ASTM D 4985 is the published standard for antifreeze used to protect heavy-duty truck engines against boil-overs, freeze-ups, and corrosion.
Only one of the three best-selling antifreeze brands made for cars also meets the heavy-duty standard.

Offer Your Customers Maximum Protection...

Don't Stop Short Of The PEAK®!

OLD WORLD INDUSTRIES, INC.

Place orders with Customer Service at 1-800-323-5440

This catalog sheet supercedes all earlier editions. PK-01-0994

Effective Date: 09/01/98

PRODUCT IDENTITY: PEAK® ANTIFREEZE & COOLANT

1. SUPPLIER

OLD WORLD INDUSTRIES, INC.
4065 COMMERCIAL AVENUE
NORTHBROOK, ILLINOIS 60062
PHONE: 708-559-2000
EMERGENCY PHONE: 1-800-424-9300 (CHEMTREC)

2. INGREDIENTS

MATERIAL	*CAS#*	*% BY WT*	*PEL (OSHA)*	*TLV (ACGIH)*
Ethylene Glycol	107-21-1	90 - 95	50 ppm	50 ppm
Diethylene Glycol	111-46-6	0 - 5	None	None
Di Potassium Phosphate	7758-11-4	1 - 2	None	None

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Slight odor. *May be fatal if swallowed.* *Vapors can cause eye irritation.*

LOWEST KNOWN LD50 (ORAL)	107-21-1	5840 mg/kg (Rats)
LOWEST KNOWN LD50 (SKIN)	107-21-1	9530 mg/kg (Rabbits)

HAZARD RATING SYSTEM (NFPA)

HEALTH: 1 *FLAMMABILITY: 1* *REACTIVITY: 0*

KEY: 0 - Minimal, 1 - Slight, 2 - Moderate, 3 - Serious, 4 - Severe

POTENTIAL HEALTH EFFECTS

Routes of Exposure: Inhalation, Ingestion, Skin Contact/Absorption, Eye Contact

EYE: May cause slight transient (temporary) eye irritation. Corneal injury is unlikely. Vapors or mists may cause eye irritation.

SKIN: Prolonged or repeated exposure not likely to cause significant skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Repeated skin exposure may result in absorption of harmful amounts. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in absorption of potential lethal amounts.

INGESTION: Single dose oral toxicity is considered to be moderate. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing amounts larger than that may cause serious injury, even death.

INHALATION: At room temperature, exposures to vapors are minimal due to physical properties; higher temperatures may generate vapor levels sufficient to cause adverse effects.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Repeated excessive exposures may cause severe kidney and also liver and gastrointestinal effects. Signs and symptoms of excessive exposure may be central nervous system effects. Signs and symptoms of excessive exposure may be nausea and/or vomiting. Signs and symptoms of excessive exposure may be anesthetic or narcotic effects. Observations in animals include formation of bladder stones after repeated oral doses of ethylene glycol. Reports of kidney failure and death in burn patients suggest the ethylene glycol may have been a factor. The use of topical applications containing this material may not be appropriate in severely burned patients or individuals with impaired renal function.

CANCER INFORMATION: Based on data from long term animal studies, ethylene glycol is not believed to pose a carcinogenic risk to man.

TERATOLOGY (BIRTH DEFECTS): Exposure to ethylene glycol has caused birth defects in laboratory animals only at doses toxic to the mother.

REPRODUCTIVE EFFECTS: Ethylene glycol has not interfered with reproduction in animal studies except at very high doses.

4. FIRST AID MEASURES

Ensure physician has access to this MSDS.

Eyes: Immediately flush eyes with large amounts of water for 15 minutes, lifting lower and upper lids. Get medical attention as soon as possible. Contact lenses should never be worn when working with this chemical.

Skin: Flush area of skin contact immediately with large amounts of water for at least 15 minutes while removing contaminated clothing. If irritation persists after flushing, get medical attention promptly. Wash clothing before re use.

Inhalation: If inhaled, immediately remove victim to fresh air and call ***emergency medical care.*** If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion: If swallowed give two glasses of water and immediately ***call physician.*** Induce vomiting of conscious patient by pressing finger down throat. Small amounts entering mouth should be rinsed out for 5 minutes.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES
FLASH POINT: 119/C (247/F)
METHOD USED: Setaflash
AUTOIGNITION TEMPERATURE: Autoignition temperature for ethylene glycol is 398/C (748/F).

FLAMMABILITY LIMITS - % of vapor concentration at which product can ignite in presence of spark.
Lower Flammability Limit: 3.2%
Upper Flammability Limit: 22%

HAZARDOUS COMBUSTION PRODUCTS: Hazardous combustion products may include and are not limited to carbon monoxide, carbon dioxide and trace amounts of aldehydes and organic acids. When available oxygen is limited, as in a fire or when heated to very high temperatures by a hot wire or plate, carbon monoxide and other hazardous compounds such as aldehydes might be generated.

EXTINGUISHING MEDIA: Water fog or fine spray. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Carbon dioxide. Dry chemical. Do not use direct water stream. May spread fire.

FIRE FIGHTING INSTRUCTIONS: No fire and explosion hazards expected under normal storage and handling conditions (i.e. ambient temperatures). However, ethylene glycol or solutions of ethylene glycol and water can form flammable vapors with air if heated sufficiently. Keep people away. Isolate fire area and deny unnecessary entry.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure, self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire-fighting helmet, coat, pants, boots and gloves).

6. ACCIDENTAL RELEASE MEASURES

PROTECT PEOPLE: Material is moderately toxic when ingested. Take adequate precautions to keep people, especially children away from spill site. PVC-coated rubber gloves and monogoggles or faceshield can be used during cleanup of spill site.

PROTECT THE ENVIRONMENT: Do not dump used product or diluted material into sewers, on the ground, or into any body of water.

CLEANUP: Small spills: Soak up with absorbent material. Large spills: Dike and pump into suitable containers for disposal. Ensure compliance with all applicable statues that require notification of appropriate government officials.

7. HANDLING AND STORAGE

Product on surfaces can cause slippery conditions. Practice reasonable care and cleanliness. Avoid breathing spray mists if generated. Keep out of reach of children. Product may become a solid at temperatures below
22°C (-8°F). Do not store near food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection: Respiratory protection is required if airborne concentration exceeds TLV. At any detectable concentration, any self-contained breathing apparatus with a full facepiece and operated in a pressure-demand or other positive pressure mode or any supplied-air respirator with a full facepiece and operated in a pressure-demand or other positive pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

Escape: Any air-purifying full facepiece respirator (gas mask) with a chin-style or front- or back-mounted organic vapor canister or any appropriate escape-type self-contained breathing apparatus.

Skin Protection: Protective gloves recommended when prolonged skin contact can not be avoided. Polyethylene; Neoprene; Nitrile; Polyvinyl alcohol; Natural Rubber, Butyl Rubber. Safety shower should be available.

Eye Protection: Safety goggles and face shield. Emergency eyewash should be available. Contact lenses should not be worn when working with this chemical.

Engineering Controls: Use general or local exhaust ventilation to meet TLV requirements.

9. PHYSICAL PROPERTIES

BOILING RANGE:	171 - 175°C (339 - 348°F)
FREEZE POINT:	22°C (-8°F)
SPECIFIC GRAVITY (Water =1):	1.12
POUNDS/GALLONS	9.3
VAPOR PRESSURE (mm of Hg) @ 20°C:	<0.1
VAPOR DENSITY (air=1):	2.1
WATER SOLUBILITY:	Complete
EVAPORATION RATE (BuAc = 1):	Nil
% VOLATILE BY VOLUME:	97.0
APPEARANCE:	Green
ODOR:	Mild

10. STABILITY and REACTIVITY

STABILITY:	Stable
CONDITIONS TO AVOID:	Isolate from oxidizers, heat & open flame.
MATERIALS TO AVOID:	Isolate from strong oxidizers such as permanganates, chromates & peroxides.
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon monoxide, carbon dioxide from burning.
HAZARDOUS POLYMERIZATION:	Material is not known to polymerize.

11. TOXICOLOGICAL INFORMATION

SKIN: The dermal LD50 has not been determined.

INGESTION: The lethal dose in humans is estimated to be 100 ml (3 ounces). The oral LD50 for rats is in the 6000-13,000 mg/kg range.

MUTAGENICITY (THE EFFECTS ON GENETIC MATERIAL): In vitro mutagenicity studies were negative. Animal mutagenicity studies were negative.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: Bioconcentration potential is low (BCF less than 100 or Log Kow less than 3). Log octanol/water partition coefficient (log Kow) is -1.36. Henry's Law Constant (H) is 6.0E-08 atm-m3/mol. Bioconcentration factor (BCF) is 10 in golden orfe.

DEGRADATION & TRANSFORMATION: Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD greater than 40%). 5-Day biochemical oxygen demand (BOD5) is 0.78 p/p. 10-Day biochemical oxygen demand (BOD10) is 1.06 p/p. 20-Day biochemical oxygen demand (BOD20) is 1.15 p/p. Theoretical oxygen demand (ThOD) is calculated to be 1.29 p/p. Biodegradation may occur under both aerobic and anaerobic conditions (in either the presence or absence of oxygen). Inhibitory concentration (IC50) in OECD "Activated Sludge, Respiration Inhibition Test" (Guideline # 209) is < 1000 mg/L. Degradation is expected in the atmospheric environment within days to weeks.

ECOTOXICOLOGY: Material is practically non-toxic to aquatic organisms on an acute basis (LC50 greater than 100 mg/L in most sensitive species). Acute LC50 for fathead minnow (Pimephales promelas) is 51000 mg/L. Acute LC50 for bluegill (Lepomis macrochirus) is 27549 mg/L. Acute LC50 for rainbow trout (Oncorhynchus mykiss) is about 18000-46000 mg/L. Acute LC50 for guppy (Poecilia reticulata) is 49300 mg/L. Acute LC50 for water flea (Daphnia magna) is 46300-51100 mg/L. Acute LC50 for the cladoceran Ceriodaphnia dubia is 10000-25800 mg/L. Acute LC50 for crayfish is 91430 mg/L. Acute LC50 for brine shrimp (Artemia salina) is 20000 mg/L. Acute LC50 for golden orfe (Leuciscus idus) is greater than 10000 mg/L. Acute LC50 for goldfish (Carassius auratus) is greater than 5000 mg/L. Growth inhibition EC50 for green alga Selenastrum capricornutum is 9500-13000 mg/L.

13. DISPOSAL CONSIDERATIONS

DO NOT discharge to sewer. Wear appropriate personal protection. Take up with sand, vermiculite, or similar inert material. Dispose in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

Proper Shipping Name:	Proprietary Antifreeze	ID No.:	Not regulated
Hazard Class:	Not regulated	Packaging Group:	Not regulated
Label:	Not regulated		

15. REGULATORY INFORMATION

THIS PRODUCT CONTAINS COMPONENT(S) CITED ON THE FOLLOWING REGULATIONS.

	CHEMICAL NAME	*CAS NUMBER*
	Ethylene Glycol	107-21-1

UNITED STATES - TSCA - Inventory: Listed

WATER STANDARDS: No data available

ATMOSPHERIC STANDARDS: Clean Air Act (1990) List of Hazardous Air Contaminants: listed

CERCLA: Reportable Quantity (RQ): 5,000 pounds (532 gallons)

SARA Title III:

Section 311/312 - Categories: Acute hazard; chronic hazard

Section 312 - Inventory Reporting: Ethylene glycol is subject to Tier I and/or Tier II annual inventory reporting.

Section 313 - Emission Reporting: Ethylene glycol is subject to Form R reporting requirements.

Section 302 - Extremely Hazardous Substances: Ethylene glycol is not listed.

STATE RIGHT-TO-KNOW:

California - Exposure Limits - Ceilings:	vapor-50 ppm ceiling; 125 mg/m3 ceiling
Director's List of Hazardous Substances:	listed
Florida - Hazardous Substances List:	listed
Massachusetts - Right-to-Know List:	listed
Minnesota - Haz. Subs. List:	listed (particulate and vapor)
New Jersey - Right-to-Know List (Total):	Present greater than 1.0%
Pennsylvania Right-to-Know List:	environmental hazard

CANADIAN REGULATIONS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required.

WHMIS INFORMATION: **D2A** - material has potential toxic effects.
Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program.

16. OTHER INFORMATION

Contact: Technical department Phone: (847) 559-2000

Old World Industries, Inc. makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, Inc. as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, Inc. assume liability arising out of the use by others of this product referred to herein. The data in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Kinross Gold Corporation

Goose Lake Project

Attachment 3

June 2001

KINROSS GOLD CORPORATION

GOOSE LAKE PROJECT

SPILL CONTINGENCY PLAN

Updated June 2001

Kinross Gold Corporation

Goose Lake Project

Contingency Spill Plan

INTRODUCTION

This contingency plan has been compiled to assist site personnel to respond in an appropriate and expeditious manner to an accidental spill at the Goose Lake exploration project. The plan follows the Northwest Territories Water Board "Guidelines for Contingency Planning" (1987) suggested format, and will be updated to be consistent with a Nunavut Territory Water Board Contingency Planning document, should it become available. The plan is divided into five sections:

1) Introduction – Purpose and background of plan.
2) Response Organization - lists the duties of personnel responsible for responding to spills.
3) Initial Action - lists steps to be taken immediately if a spill occurs
4) Reporting Procedure- details how to report a spill
5) Environmental Mapping- identifies the areas where fuel and other materials requiring management will be stored

Presently the only combustible materials stored on site consist of propane, acetylene, gasoline, jet B fuel and diesel fuel. Propane and acetylene are supplied in 100 lb. cylinders and one 500 lb tank. All other fuels are contained in 45 gallon (202 l) barrels. The propane and fuel will be transported from Yellowknife via Twin Otter, Hercules DC3 or similar aircraft to the ice strip at Goose Lake. Fuel barrels and propane tanks will be transferred by hand or by mechanical equipment from the aircraft to the designated storage area north of the camp. See Figure 1 of Application Camp Questionnaire.

During the exploration program, fuel drums and propane tanks may be transport around the site using a helicopter long-line, a front-end loader, a Bombardier, a skimmer towed by a snow machine and trailer, or manually. Sufficient fuel for up to 48 hours of operation will be available at each drill rig. There will also be sufficient fuel supplies adjacent to each building structure for day-to-day camp operations. There will be a limited amount of fuel at the Goose Lake airstrip for occasional use by fixed wing planes. Helicopter refueling will be done directly from barrels located at the storage area on the helicopter pad.

A supply of spill absorbent is readily available at the site. Absorbents consist of sawdust, peat moss and synthetic material. Empty barrels and a pump will be available at the fuel storage area to be used for the transfer of fuel from any leaking container should this occur.

It is the policy of Kinross Gold Corporation to comply fully with existing regulations to provide such protection to the environment as is technically feasible and economically practical.

1) **RESPONSE ORGANIZATION** - The Project Manager is ultimately responsible for all activities, including spill response at the Goose Lake camp. In his absence, his designatee would assume responsibility. Crews handling fuel and propane are instructed in the proper and safe handling of these materials and in fire and explosion prevention, and will constitute the initial response team should a spill of fuel occur, or a propane tank leak. Propane and acetylene are gases at normal air temperatures and pressures and will not be treated further in this plan.

2) **INITIAL ACTION** - The initial action required depends on where the spill or leak is located.

- ***Spill from a barrel within the designated fuel storage areas:***

  - If a barrel is leaking, transfer the fuel into a non-leaking empty drum in the fuel storage area by means of a pump.
  - Spread absorbent material on the spilled area to soak up any pooled spilled fluid. When the absorbent material is saturated, or the spill material is soaked into the absorbent material as much as it will be, then collect the absorbent material and place into a suitable, non-leaking container.
  - Transport the container with the absorbent material with the collected material to the incinerator, or to the fuel storage area for storage until the incinerator is next operated.
  - Any soil or earth effected by the spilled material should also be dug out and incinerated to burn off any volatile materials. Soil or earthen materials that have been incinerated such that all volatiles have been combusted shall be placed back on the fuel storage area and spread out to form part of the fuel storage pad.
  - If the leak or spill was significant, report the spill to the Project Manager and complete a Spill Report Form. The Project Manager will report the spill, and actions taken to address it, to the Nunavut Water Board (NWB) and the Kugluktuk Angoniatit Association (KIA) at the number listed under, "Reporting Procedure".
  - Mark the defective barrel and return to supplier once emptied of fuel or other material, or use to contain non-liquid, non-hazardous material.

- ***Spill or leak from a barrel outside of the designated fuel storage areas:***

  - If a barrel is leaking, make every effort to orient the barrel so as to stop the leakage. For instance, if a bung is leaking tip the barrel upright. If a seam is leaking, orient the barrel so that the seam is upright and above the fuel level.
  - If practical, transfer fuel or other material into another, non-leaking barrel or container using a pump.
  - If practical, move the barrel to an area of secondary containment or where any leaking material will not flow to a watercourse.
  - Spread absorbent material on the spilled area to soak up any pooled spilled fluid. When the absorbent material is saturated, or the spill material is soaked into the absorbent material as much as it will be, then collect the absorbent material and place into a suitable, non-leaking container.
  - Transport the container with the absorbent material with the collected material to the incinerator, or to the fuel storage area for storage until the incinerator is next operated.

- Any soil or earth effected by the spilled material should also be dug out and incinerated to burn off any volatile materials. Soil or earthen materials that have been incinerated such that all volatiles have been combusted shall be placed back on the fuel storage area and spread out to form part of the fuel storage pad.
- If the leak or spill was significant, report the spill to the Project Manager and complete a Spill Report Form. The Project Manager will report the spill, and actions taken to address it, to the Nunavut Water Board (NWB) and the Kitikmeot Inuit Association (KIA) at the number listed under, "Reporting Procedure".
- Mark the defective barrel and return to supplier once emptied of fuel or other material, or use to contain non-liquid, non-hazardous material.

3.) **REPORTING PROCEDURES** – All spills must be reported to the Project Manager, who will then determine whether the spill was significant. The determination will be based upon the amount of fuel spilled and the location of the spill. For instance, a small amount of fuel spilled which has leaked towards a stream or lake containing fish is more significant than a larger volume spill which is contained with the fuel storage area and where the fuel is recovered.

Significant spills must be reported to the 24-hour Spill Report Line and to Kinross Corporate Office in Salt Lake City to John Bokich at (801) 517-1064 (Direct Office Line), or (801) 557-8200 (cellular phone).

1) Complete a Spill Report Form.
2) Call the NWT 24-hour spill report number (867) 920-8130 in Yellowknife, and report the spill using the information on the Spill Report Form.
3) Forward a copy of the Spill Report Form to:

Government of the Northwest Territories
Pollution Control Division
Yellowknife, Northwest Territories X1A 2L9

John Bokich, Manager, Environmental Compliance
Kinross Gold Corporation
185 South State Street, Suite 820
Salt Lake City , Utah 84111

4) Additional information or assistance may be obtained from John Bokich or:
Environment Canada, Yellowknife: (867) 873-3456

4. ENVIRONMENTAL MAP Figure 1 in the Remote Camp Supplementary Questionnaire shows the location of the existing as well as the proposed fuel storage area, the incinerator and the camp in respect to Goose Lake. All fuels will be stored within this area, at a distance of more than 100 metres from Goose Lake.

There are no parks, game preserves, known resource harvesting areas fish spawning areas or other environmentally sensitive areas within the immediate area of the designated fuel storage area.

KINROSS GOLD CORPORATION - GOOSE LAKE PROJECT
INITIAL/CORPORATE SPILL NOTIFICATION FORM

Location of Spill: _____

Material Spilled: _____

Estimated Quantity: _____

Date and Time of Spill: _____

Source and/or Cause of Incident: _____

_____

_____

_____

1ST PERSON NOTIFICATION:

Reported by: _____ Reported to: _____

Date: _____ Time: _____

ENVIRONMENTAL PERSONNEL NOTIFICATION:

Reported by: _____ Reported to: _____

Date: _____ Time: _____

MINE MANAGER NOTIFICATION:

Reported by: _____ Reported to: _____

Date: _____ Time: _____

MINISTRY OF ENVIRONMENT NOTIFICATION:

Reported by: _____ Reported to: _____

Date: _____ Time: _____

CORPORATE NOTIFICATION:

Reported by: _____ Reported to: _____

Date: _____ Time: _____

Containment Efforts: _____

_____

_____

_____

Property Damage: _____

Medium Affected (soil, water, etc.): _____

Comments and/or Additional Information: _____

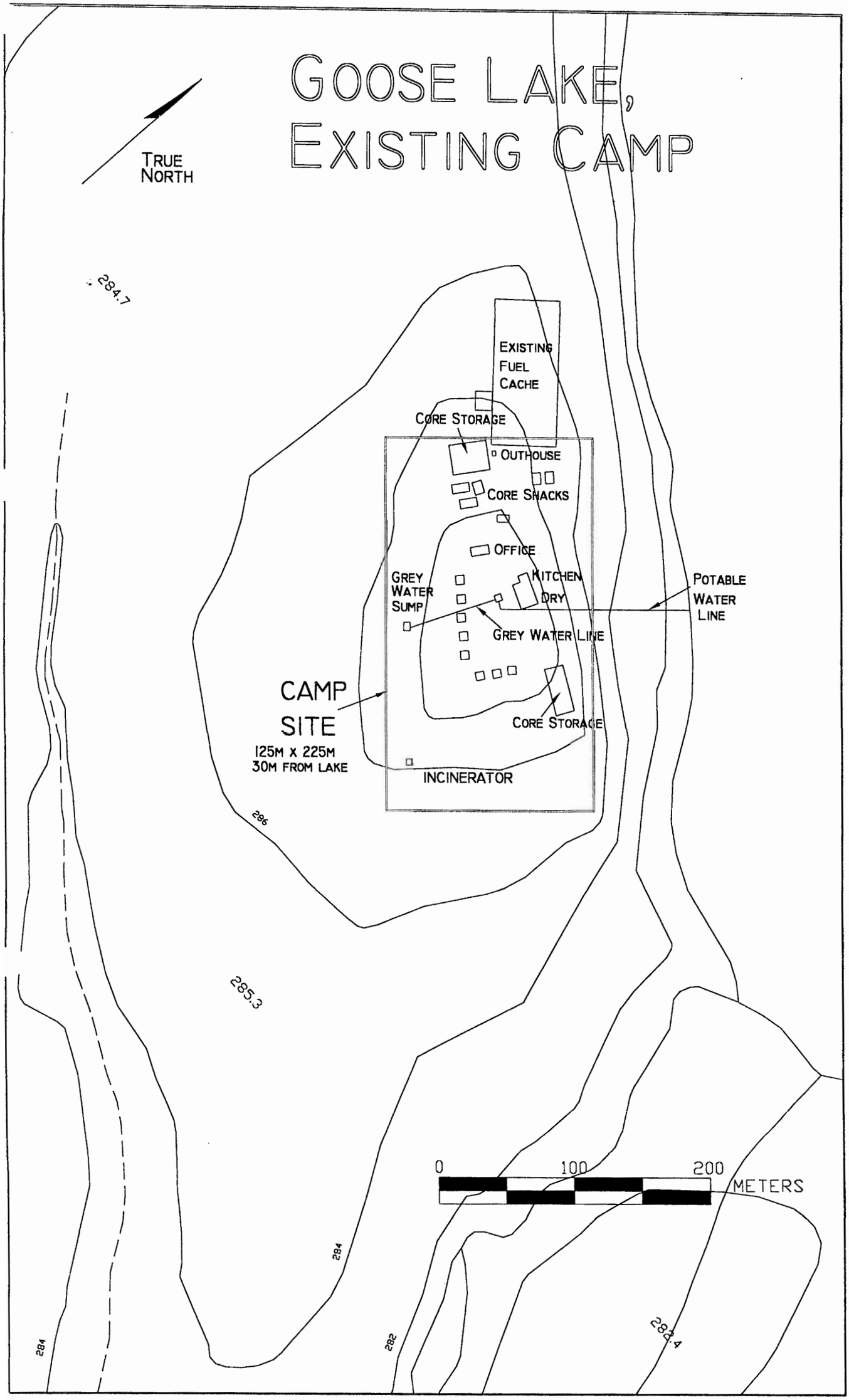
_____

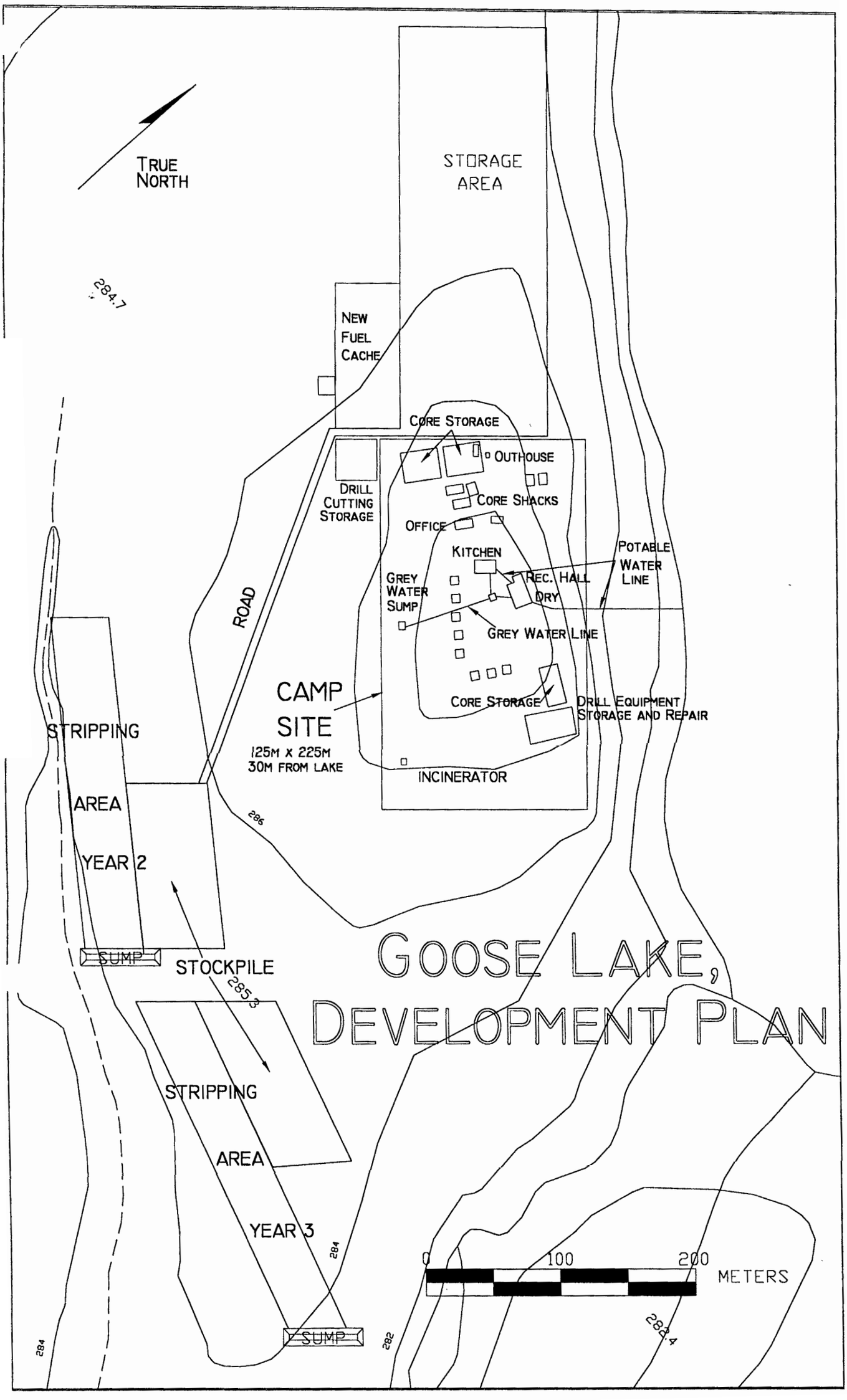
_____

_____

_____

FIGURE 1 - KINROSS GOLD CORPORATION




TRUE NORTH
STORAGE AREA
284.7
NEW FUEL CACHE
CORE STORAGE
OUTHOUSE
DRILL CUTTING STORAGE
CORE SHACKS
OFFICE
KITCHEN
POTABLE WATER LINE
GREY WATER SUMP
REC. HALL
DRY
ROAD
GREY WATER LINE
CAMP SITE
125M X 225M
30M FROM LAKE
CORE STORAGE
DRILL EQUIPMENT STORAGE AND REPAIR
INCINERATOR
STRIPPING AREA YEAR 2
286
SUMP
STOCKPILE
285.3
GOOSE LAKE, DEVELOPMENT PLAN
STRIPPING AREA YEAR 3
284
0
100
200
METERS
SUMP
282
284.4
284