# APPLICATION FOR A WATER USE & WASTE WATER DISPOSAL PERMIT IN THE TERRITORY OF NUNAVUT

application to:

THE NUNAVUT WATER BOARD
P.O. BOX 119
GJOA HAVEN, NUNAVUT
X0E 1J0

submitted by:

ASHTON MINING (NORTHWEST TERRITORIES) LTD.
UNIT 116 – 980 WEST 1<sup>ST</sup> STREET
NORTH VANCOUVER, BRITISH COLUMBIA
V7P 3N4

APPLICATION DATE: MARCH 23, 2006



P.O. Box 119 GJOA HAVEN, NU X0E 1J0

Tel: (867) 360-6338 Fax: (867) 360-6369 KATIMAYINGI

# kNK5 wmoEp5 vtmpq NUNAVUT WATER BOARD NUNAVUT IMALIRIYIN

# WATER LICENCE APPLICATION FORM

| Application for: (check one)  |   |
|---|---|
| New Amendment X Renew   | walAssignment   |
| LICENCE NO: (for NWB use only)  |   |
| 1. NAME AND MAILING ADDRESS OF APPLICANT/LICENSEE  David Willis -Ashton Mining (Northwest Territories) Ltd Unit 116 – 980 West 1 <sup>st</sup> Street North Vancouver, British Columbia V7P 3N4   | 2. ADDRESS OF CORPORATE OFFICE IN CANADA (if applicable) d.   |
| Phone: _(604) 983-7764<br>Fax: (604) 987-7107<br>e-mail: dave.willis@ashton.ca  | Phone: Fax: e-mail:   |
| the Undertaking)  RJ Camp: Lat= -113.041, Long= 66.7313 Phantom Camp: Lat = -112.863, Long = 67.2103 Kim030 Claim (F68419): 86P06, approximate location; Kim005 Claim (F67667): 86P03, approximate location; SB003 Claim (F73313): 86P02, approximate location; | ; Lat = -113.000, Long = 67.1579<br>Lat = -112.946, Long = 67.446                                     |
| Ric009 Claim (F63419): 86I15, approximate location; I Ric017 Claim (F63427): 86I10, approximate location; I Ric025 Claim (F63435): 86I10, approximate location; I   | Lat = -112.946, Long = 67.446<br>Lat = -112.946, Long = 67.446  |
| Please refer to the location map in "Appendix A." A paper *.pdf version of the map.   | er copy has been provided along with a CD-ROM containing a  |
| Latitude:Longitude:   | NTS Map No Scale  |
| **  | 05 (expired August 31, 2005). Our land holdings have e permit has decreased significantly. A detailed |
| Fly Camps   |   |
| The original permit authorized four exploration   | camps. This renewal application requests continued  |

| the Phantom Camp has been authorized sin   | Phantom. The RJ Camp has been authorized since 1997 and nee 2001. Ashton only operates one camp at a time.              |
|--|---|
| Fly camps are required to support field geo-<br>located on the map enclosed in "Appendix   | ology programs that we undertake in the area. The camps are A."   |
| <u>Drilling</u>  |   |
| mineral claims. The shaded mineral claims drill areas. All of these claims were included approximately 25 holes over the next five years.  |   |
| <b>5. TYPE OF PRIMARY UNDERTAKING</b> for undertakings listed in <b>"bold"</b> ) See "Appendix B   | (A supplementary questionnaire <u>must</u> be submitted with the application 3"   |
| Industrial   | Agricultural  |
| Mining and Milling   | Agricultural Conservation   |
| Municipal (includes camps/lodges)  | Recreational  |
| Power  | X Miscellaneous (includes exploration/drilling)   |
| Tower  | (describe): exploration fly camp and drilling   |
| See Schedule II of Northwest Territories Waters Re   |   |
| 0  |   |
|  |   |
|  | cubic metres per day including both quantity to be used and quality to be   |
| 7. QUANTITY OF WATER INVOLVED (returned to source)   | cubic metres per day including both quantity to be used and quality to be   |
|  |   |
| returned to source)  Fly Camps: Approximately 400 litres on one 24 ho  | our period  |
| returned to source)  | our period  |
| returned to source)  Fly Camps: Approximately 400 litres on one 24 ho  | our period  |
| returned to source)  Fly Camps: Approximately 400 litres on one 24 ho  Drilling: Approximately 60,000 litres in one 24 ho  | our period  |
| returned to source)  Fly Camps: Approximately 400 litres on one 24 ho  Drilling: Approximately 60,000 litres in one 24 ho  | our period<br>our period  |
| returned to source)  Fly Camps: Approximately 400 litres on one 24 ho  Drilling: Approximately 60,000 litres in one 24 ho  8. WASTE (for each type of waste describe: odisposal, etc.)   | our period<br>our period  |
| returned to source)  Fly Camps: Approximately 400 litres on one 24 ho  Drilling: Approximately 60,000 litres in one 24 ho  8. WASTE (for each type of waste describe: odisposal, etc.)  X Sewage Waste oil   | our period<br>our period  |
| returned to source)  Fly Camps: Approximately 400 litres on one 24 ho  Drilling: Approximately 60,000 litres in one 24 ho  8. WASTE (for each type of waste describe: odisposal, etc.)  X Sewage Waste oil Solid Waste   | our period<br>our period  |
| returned to source)  Fly Camps: Approximately 400 litres on one 24 hord  Drilling: Approximately 60,000 litres in one 24 hord  8. WASTE (for each type of waste describe: of disposal, etc.)  X Sewage Waste oil Solid Waste Solid Waste Sludges                     | our period our period composition, quantity (cubic metres per day), methods of treatment and                            |
| Fly Camps: Approximately 400 litres on one 24 hord  Drilling: Approximately 60,000 litres in one 24 hord  8. WASTE (for each type of waste describe: odisposal, etc.)  X Sewage Waste oil Solid Waste Hazardous Sludges X Bulky Items/Scrap MetalX Other (described) | our period  composition, quantity (cubic metres per day), methods of treatment and  cribe): drill water and waste water |
| Fly Camps: Approximately 400 litres on one 24 hord  Drilling: Approximately 60,000 litres in one 24 hord  8. WASTE (for each type of waste describe: odisposal, etc.)  X Sewage Waste oil Solid Waste Hazardous Sludges X Bulky Items/Scrap MetalX Other (described) | our period our period composition, quantity (cubic metres per day), methods of treatment and                            |
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| Fly Camps: Approximately 400 litres on one 24 hord  Drilling: Approximately 60,000 litres in one 24 hord  8. WASTE (for each type of waste describe: odisposal, etc.)  X Sewage Waste oil Solid Waste Hazardous Sludges  | our period  composition, quantity (cubic metres per day), methods of treatment and  cribe): drill water and waste water |

| Commissioner Yes No If no, date expected   |
|--|
| 10. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES (direct, indirect, cumulative impacts, etc.)   |
| NIRB Screening Yes No If no, date expected   |
| Please refer to detailed description of undertakings in "Appendix C."  |
| 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?   |
| No   |
| 11. (Continued)  |
| 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)  |
| Please refer to summary tables in "Appendix D."  |
| 13. STUDIES UNDERTAKEN TO DATE (list and attach copies of studies, reports, research, etc.)  |
| Proprietary geological studies.  |
| 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 "Appendix B."   |
| Inuktitut/English Summary of Project X Yes No "Appendix £"   |
| Application fee \$30.00 (Payee Receiver General for Canada) X Yes No If no, date expected  |
| Water Use fee (see Section 9 of the NWT Waters Regulations; Payee Receiver General for Canada)  Yes No If no, date expected  |
| 15. PROPOSED TIME SCHEDULE   |
| Annual (or) X Multi Year   |
| Start Date: _June 1, 2006 Completion Date: June 1, 2011  |
| Name (Print) Title (Print) Signature Date  |

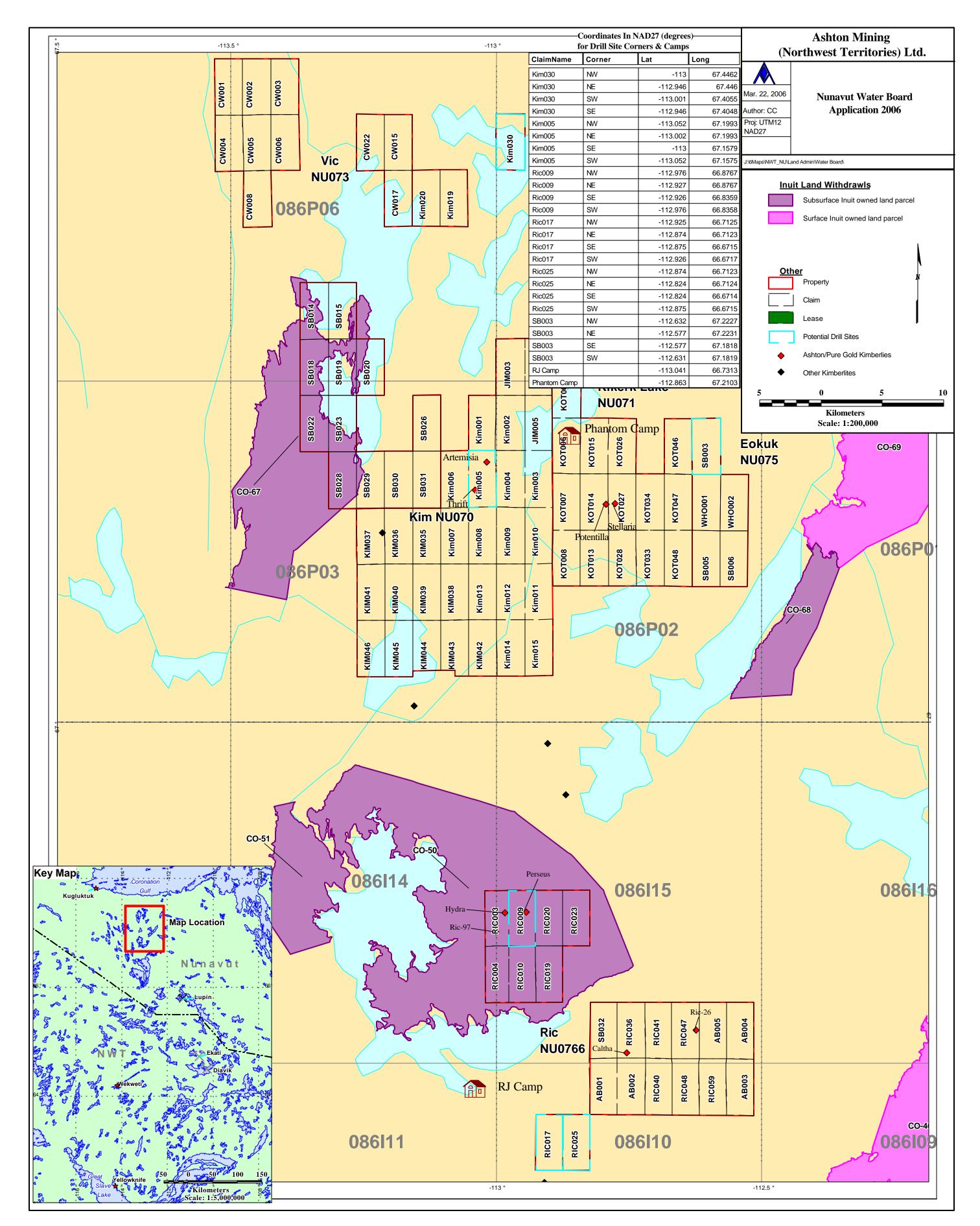
For Nunavut Water Board use only

Effective January 1, 2004

| APPLICATION FEE   | Amount: \$ | Pay ID No.: |
|-------------------|------------|-------------|
| WATER USE DEPOSIT | Amount: \$ | Pay ID No.: |

# APPENDIX "A"

# LOCATION MAP



# APPENDIX "B" SUPPLEMENTAL QUESTIONNAIRE



P.O. Box 119

GJOA HAVEN, NT X0E 1J0 kNK5 wmoEp5 vtmpq

Tel: (867) 360-6338 NUNAVUT WATER BOARD

FAX: (867) 360-6369 NUNAVUT IMALIRIYIN KATIMAYINGI

# EXPLORATION/ REMOTE CAMP SUPPLEMENTARY QUESTIONNAIRE

| ADI | (For NWB Use Only)  MINISTRATIVE INFORMATION   |
|-----|--|
| 1.  | Environment Land Manager: <u>David Willis</u> Tel: <u>(604)</u> 983-7764 Fax: (604) 987-7104 E-mail:dave.willis@ashton.ca  |
| 2.  | Project Manager: Andrew Berry Tel: (604) 983-7750 Fax: (604) 987-7107 E-mail:andy.berry@ashton.ca  |
| 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)? No If so, please provide letter of authorization.                    |
| 5.  | Duration of the Project  [ ] Annual  [x] Multi Year:  If Multi-Year indicate proposed schedule of on site activities  Start: June 1, 2006 Completion: June 1, 2011 |
| CAI | MP CLASSIFICATION  |
| 6.  | Type of Camp  [ ] Mobile (self-propelled)  [ ] Temporary  X Seasonally Occupied: 480 man days per year  [ ] Permanent [ ] Other:                                   |

The camp is intended to house six to 12 people for a period of two months. Activities are usually divided between summer sampling and a winter geophysics or drilling program.

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

This is an application to renew permit NWB2ASH0305. Four camps were authorized under the last water use and waste disposal permit. Now we are reducing the scope of our activities and require continued authorization for only two camps, RJ Camp and Phantom Camp. Ashton has used the RJ camp since 1997 and the Phantom Camp has been used since 2001.

### CAMP LOCATION

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

All camps are located on flat lying ground near deep water to facilitate the safe landing and take off of float planes.

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.

These are camps that have been used by Ashton since 1997 and 2001. They were selected based upon reconnaissance by Ashton field personnel in the field seasons prior to their selection as camp sites.

| 11. | Is the camp or any aspect of the project located on:                        |
|-----|---|
|     | x Crown Lands Permit Number (s)/Expiry Date: N2003C0033, September 22, 2006 |
|     | [ ] Commissioners Lands Permit Number (s)/Expiry Date:                      |
|     | [ ] Inuit Owned Lands Permit Number (s)/Expiry Date:                        |

12. Closest Communities (distance in km):

<u>RJ Camp to Kugluktuk = 117 kilometers</u> Phantom Camp to Kugluktuk = 151 kilometers

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

No, all operations are at the exploratory "fly camp" stage and do not warrant consultation.

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?

No

#### PURPOSE OF THE CAMP

- 15. O Mining
  O Tourism
  - O Tourism (hunting, fishing, wildlife observation, adventure/expedition, etc.) (Omit questions # 16 to 21)

Other Mineral Exploration (Omit questions # 16 to 22)

16. O Preliminary site visit

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|     | •          | Trospecting   |  |
|-----|------------|---------------|--|
|     | 4          | Geological m  | napping  |
|     | 4          | Geophysical   | survey   |
|     | 4          | Diamond dril  | ling   |
|     | 0          | Reverse circu | ulation drilling   |
|     | 0          | Evaluation D  | rilling/Bulk Sampling (also complete separate questionnaire) |
|     | 0          | Other:        |  |
| 17. | Type of de | eposit:       |  |
|     |            | 0             | Lead Zinc  |
|     |            | 4             | Diamond  |
|     |            | 0             | Gold   |
|     |            | 0             | Uranium  |
|     |            | 0             | Other:   |

## DRILLING INFORMATION

18. Drilling Activities

- Land Based drilling
- 4 Drilling on ice
- 19. Describe what will be done with drill cuttings?

O Prospecting

All drill cuttings will be contained in a sufficiently large, land based sump or natural depression. All sumps will be located not less than 20 metres from the high water mark of any water body.

20. Describe what will be done with drill water?

Drill water will be stored in tanks and re-circulated while in use and any remnant water will be pumped into a sufficiently large, land based sump or natural depression. All sumps will be located not less than 30 metres from the high water mark of any body.

- 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.
  - 1) X-TRA Gel
  - 2) Poly Drill O.B.X
  - 3) Poly Drill Clay Treat II

The MSDS sheets for these "muds" are listed in "Appendix F." These are the same "muds" that Ashton has used since 1997.

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

No core testing will be done on site. All core will be flown to Yellowknife.

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### SPILL CONTINGENCY PLANNING

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

Please refer to "Appendix B"

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

One spill kit will be located at the camp and another will be located at the drill site. The spill kit is a 45 gallon drum containing shovels, fuel absorbent pads and 20 kilograms of granules.

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

| Campsites:  | <u>Drill:</u>   |
|---|---|
| <ol> <li>Five 45-gallon drums of diesel</li> <li>Eighteen 24 gallon drums of Jet-B</li> <li>Two 100 pound tanks of propane</li> </ol> | <ol> <li>Five 45- gallon drums of diesel</li> <li>Two 24 gallon drums of Jet-B</li> <li>Two 100 pound tanks of propane</li> </ol> |

Fuel will be stored at lease 30 metres away from drainage systems and bodies of water and whenever possible in natural sumps.

Please refer to "Appendix F" for the MSDS sheets.

### WATER SUPPLY AND TREATMENT

26. Describe the location of water sources.

Water for the camp and drilling activities will be drawn from local water sources in the area.

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

| 4 | Domestic Use: 400 litres per day W     | ater Source: Lake        |
|---|--|--------------------------|
| 0 | Drilling Units: 60,000 litres in 24 ho | ours_ Water Source: Lake |
| 0 | 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:

As stated in section 27, minimal amounts of water will be required for the day to day needs of the camp. This water will be drawn from the near –by lake using an electric 0.5 horsepower pump. A one-millimeter mesh screen will be used to cover the water intake and prevent aquatic life from being drawn into the system.

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

As Ashton has never had a problem with the quality of the drinking water in the North and this is a small-scale operation water quality will only be monitored using the senses of sight and smell.

30. Will drinking water be treated? How?

No chemical treatments of the water will be done however all water drawn into the system will be screened.

31. Will water be stored on site?

Some water will be stored in a hot water tank for use by camp personnel.

## WASTE TREATMENT AND DISPOSAL

- 32. Describe the characteristics, quantities, treatment and disposal methods for:
  - Camp Sewage (blackwater)

Sewage will be deposited into a sump, which will be restored to the natural contours of the land at the completion of operations.

• Camp Greywater

Camp greywater will be deposited into a sump, which will be restored to the natural contours of the land prior to the expiry of the permit.

Solid Waste

Combustible garbage will be properly stored and burned daily in a suitable container. Non-combustible garbage and debris including metal wastes will be removed from the site and flown to Yellowknife.

Bulky Items/Scrap Metal

Bulky items/Scrap metal will be removed from the site and flown to Yellowknife

• Waste Oil/Hazardous Waste

Ashton will not generate andy hazardour waste however the routine maintenance associated with generators may produce a small amount of waste oil. This oil will be contained and flown to Yellowknife.

• Empty Barrels/Fuel Drums

Empty fuel drums will be stored then returned to Yellowknife.

Other:

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

The incineration system consists of a 45-gallon drum with eh top removed. A heavy mesh screen is placed over the opening to prevent debris or embers from escaping. This system is commonly referred to as a "burn barrel." Only camp wastes will be incinerated. This consists mainly of household kitchen waste such as food scraps, newspapers, old maps etc.

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

All waste that is not combustible will be flown to Yellowknife.

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

The sump or natural depression is located at least 30 metres from the high water mark of any water body.

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

No this is not a factor in this type of operation.

## **OPERATION AND MAINTENANCE**

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, during previous program and camp operations conducted under NWB and DIAND permits.

### ABANDONMENT AND RESTORATION

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

<u>Upon completion of Ashton's drilling operation all materials and equipment will be removed from the site and the sumps will be restored to the natural contours of the land. Any lands affected by Ashton's operations will be restored to the most reasonable extent possible to their original state.</u>

## BASELINE DATA

- 39. Has or will any baseline information be collected as part of this project? Provide bibliography.
  - O Physical Environment (Landscape and Terrain, Air, Water, etc.)
  - O Biological Environment (Vegetation, Wildlife, Birds, Fish and Other Aquatic
  - Organisms, etc.)
  - O Socio-Economic Environment (Archaeology, Land and Resources Use,
  - O Demographics, Social and Culture Patterns, etc.)
  - Other:

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As this is an exploratory program and the campsites are temporary in nature no base line data has been or will be collected.

## REGULATORY INFORMATION

- 40. Do you have a copy of
  - O Article 13 Nunavut Land Claims Agreement
  - O NWB Water Licensing in Nunavut Interim Procedures and Information Guide for Applicants
  - O NWB Interim Rules of Practice and Procedure for Public Hearings
  - O NWTWB Guidelines for the Discharge of Treated Municipal Wastewater in the NWT
  - O NWTWB Guidelines for Contingency Planning
  - O DFO Freshwater Intake End of Pipe Fish Screen Guideline
  - O Fisheries Act s.35
  - O RWED Environment Protection- Spill Contingency Regulations
  - O Canadian Drinking Water Quality Guidelines
  - O Public Health Act Camp Sanitation Regulations
  - O Public Health Act Water Supply Regulations
  - O Territorial Land Use Act and Regulations

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

Yes to all the above

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# APPENDIX "C"

# **DETAILED SUMMARY**

## Section 4.0 – Description of Undertaking

- a) The purpose of the Land Use Renewal is to continue operations at our RJ Camp and Phantom Camp and to prepare for potential drill programs that may be conducted by Ashton Mining (Northwest Territories) Ltd.
- b) A Boyles Brothers 25A heli-portable drill rig will be used for drilling operations. I is anticipated that up to 25 drill holes of NQ sized cote (2.37 inches) will be drilled from 25 different setups over the next five years. All drill holes will occur on Ashton held mineral claims or leases however the precise location of each drill site is unknown at this time.
- c) Camps will consist of five canvas prospector's tents. Of these tents, 3 will be used as sleeping quarters, one as a kitchen, one as a dry tent and one as an office. Both camps are established on the edge of lakes. The camp will be supported by float/ski based twin engine Otter aircraft on a regular basis. In addition, a Bell 206 Jet Ranger helicopter will be stationed at the camp during usage.

## Section 10. – Environmental Impact

Due to their small scale and limited use, it is anticipated that each campsite will have a minimal impact on the surrounding environment. Each tent has a footprint of approximately  $20m^2$  so the total footprint of each campsite should not exceed  $100m^2$ .

As this is a "fly in / fly out" operation, no large scale or long term storage of petroleum fuels will be required. Fuel required to support exploration activities will be stored at both the drill (while in operation) and campsites. All fuel will be stored at safe distances at least 30 metres away from the normal high water mark. Fuel containers will be marked with the name of the program operator Ashton Mining (Northwest Territories) Ltd.

Upon the completion of operations at the campsites all materials and equipment will be removed from the site. Any lands affected by the campsite and drilling will be restored, to the most reasonable extent possible, to their original and natural state. All sumps will be restored to the natural contours of the land.

The drill rig will have a maximum footprint of  $25\text{m}^2$ . This includes the drill hut and the pump shack. On average the anticipated drill holes will take two days to complete. The drill rig will use a maximum of 60,000 litres of water in a 24-hour period. Normal operations of the drill produces  $0.6\text{m}^3$  or 260 kg of cuttings for every 200 metres of drilling.

The above data indicates that a 25 hole program could have a maximum total; footprint of  $625\text{m}^2$  ( $25\text{m}^2$  x 25 sites). It is unlikely that Ashton would drill at 25 separate sites. It is more likely that Ashton would drill two or three holes at each drill site thereby reducing the total footprint substantially.

# APPENDIX "D" CONTRACTORS AND SUB-CONTRACTORS

## Section 11 – Other Personnel

Ashton is anticipating a camp of six to 12 people for both the winter and summer programs. Personnel at the camp will mainly consist of: 1 cook, 1 helicopter pilot, 2 geologists with the balance being made up of either technicians or drillers. It is unlikely that more than one camp will be operating at a single time.

The staffing of the exploration programs is dependent upon the results of our geological evaluation work and the annual budget allocation for Nunavut. As a result it is relatively difficult to determine who will be working on the project a year form now.

To tables have been provided below. The first table is a list of Ashton Mining (Northwest Territories) Personnel who are the principle field staff for our operations. The second table outlines contracting companies that are regularly used by Ashton.

Table 1 Summary of Principle Ashton Field Staff

| Name             | Position        | Name                          | Position  |
|------------------|-----------------|-------------------------------|-----------|
| Andy Berry       | Project Manager | <ul> <li>Vlod Zhuk</li> </ul> | Geologist |
| Todd Ballantyne  | Geophysicist    |                               |           |
| Chris Marchildon | Technician      |                               |           |

Table 2 Summary of Regular Contractors

| #  | Company                      | Address                                    | Phone/Fax          |
|----|------------------------------|--|--------------------|
| 1. | Ashton Mining (NWT) Ltd.     | Unit 116 – 980 West 1 <sup>st</sup> Street | Ph: (604) 983-7750 |
|    |                              | North Vancovuer, BC                        | Fx: (604) 987-7107 |
|    |                              | V7P 3N4                                    |                    |
|    |                              |  |                    |
| 2. | Discovery Mining Services    | Box 2248                                   | Ph: (867) 920-4600 |
|    |                              | Yellowknife, NT                            | Fx: (867) 873-8332 |
|    |                              | X1A 2P7                                    |                    |
|    |                              |  |                    |
| 3. | Great Slave Helicopters Ltd. | Bag 7500                                   | Ph: (867) 873-2081 |
|    |                              | Yellowknife, NT                            | Fx: (867) 873-6087 |
|    |                              | X1A 2R3                                    |                    |
|    |                              |  |                    |
| 4. | Air Tindi                    | Bag 1693                                   | Ph: (867) 669-8260 |
|    |                              | Yellowknife, NT                            | Fx: (867) 669-8347 |
|    |                              | X1A 2P3                                    |                    |
|    |                              |  |                    |
| 5. | First Air                    | Postal service 9000                        | Ph: (867) 669-6600 |
|    |                              | Yellowknife, NT                            | Fx: (867) 669-6603 |
|    |                              | X1A 2R3                                    |                    |

# APPENDIX "E" INUINNAQTUN/ENGLISH SUMMARY OF PROJECT

## **Non-Technical Summary of Land Use Activities**

Ashton Mining (Northwest Territories) Ltd. is a diamond exploration company operating in the Territory of Nunavut. In Nunavut, Ashton holds the mineral rights to 112 mineral claims totaling 116,561 hectares.

Diamonds are found in a type rock called kimberlite. Our time in Nunavut is spent searching for this specific rock.

Our diamond exploration activities in Nunavut require the continued operation of our two exploration camps. The first camp is called RJ Camp and was established in 1997. The second camp is called Phantom Camp and was established in 2001. These camps are required to support mapping, prospecting and drilling activities. The camps have been located to assure the safe landing of floatplanes. Camp occupancy will range from 8 to 12 people for a period of one to two months. It is unlikely that both camps will operate at the same time.

We have also requested permission to drill on six of our 112 mineral claims. There is some indication that there may be kimberlite on these six claims. If our activities continue to indicate the presence of kimberlite eventually we will have to drill into the ground to find it. Ashton requests permission to drill 25 holes. Drilling may or may not take place depending on the results of our search.

Ashton recognizes it is only a tenant on land belonging to the people of Nunavut and all Canadians. As a good corporate citizen it strives to have responsible, safe and clean work practices.

## Nainarhimayut Nunamik Atuqtauniagut Unipkaliugak

Ashton Mining (Nunattiaq) Ltd. Kiplariktunik nalvaarhiuqtit aulayut aviktuhimayumi Nunavunmi. Nunavunmi, Ashton tigumiaqtuq uyagakhiurutinik 112-nut nanminiqtaarhimayamingnut atauttimut 116, 561 hectares-nik aktilaalik.

Kiplariktut naniyauvaktut uyaqqani kimberlite-mik taiyauvaktuni. Nunavunmiitiluta qinirhiayugut imaittunik uyaqqanik kiplariktuqaqtunik.

Kiplarikhiurniqqut Nunavunmi aulahimaariaqaqtuk malguuk nalvaarhiurvipta nayugavut. Hivulliq taiyauvaktuq RJ Kampmik nappaqtauhimayuq 1997-mi. Tuglia Phantom kamp nappaqtauhimayuq 2001-mi. Ukuak igluqpaqarviik atuqtauyut nunauyaliurinirmut nalvaarhiuqtunit ikuutaqtunillu. Tingmitinut miqattaqtunut imarmi qayangnailgumut nappaqtauhimayuq. Nayuqpaggat inuit ilani 8-nguyut 12-mut atauhirmi malguungniluuniit tatqirhiutinik. Atauttikkut aulayuittuk.

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# APPENDIX "F"

## MSDS SHEETS



# Shell Canada Limited Material Safety Data Sheet

Effective Date: 19980901





Class B3 Combustible Class D2B Other Toxic Effects - Skin Irritant Liquid

## 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:

REGULAR SULPHUR DIESEL FUEL

SYNONYMS:

Diesel

PRODUCT USE:

Automotive Gas Oil

Fuel Solvent

MSDS Number:

322-110

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.

For general information:

1-800-661-1600

Calgary, AB Canada 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        | %     | WHMIS      | CBI Claim No. |
|-----------------------------|------------|-------|------------|---------------|
|                             | Number     | Range | Controlled | CBI Date      |
| REGULAR SULPHUR DIESEL FUEL | 68476-34-6 | 100   | Yes        |               |

See Section 8 for Occupational Exposure Guidelines.

## 3. HAZARDS IDENTIFICATION

Physical Description: Liquid Lightly Coloured Hydrocarbon Odour

<sup>\*</sup>A star in the product name designates a trade-mark(s) of Shell Canada Limited. Used under license by Shell Canada Products Limited.

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. 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.

Hazardous Combustion Products

# 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 NIOSHapproved supplied-air respirator, eitner self-contained or airline

breathing apparatus, operated in positive pressure mode.

## 9. PHYSICAL DATA

Physical State:

Llquid

Appearance:

Odour:

Lightly Coloured

Odour Threshold:

Hydrocarbon Odour Not available

Freezing/Pour Point:

Not available

**Boiling Point:** 

246 - 388 degrees C

Density:

<876 kg/m3 @ 15 degrees C

Vapour Density (Air = 1):

Not available Not available

Vapour Pressure:

Not applicable

pH; Flash Point:

Lower Explosion Limit:

Method Pensky-Martens CC >40 degrees C 1 % (vol.)

Upper Explosion Limit:

6 % (vol.)

Not available

Autoignition Temperature: Viscosity:

250 degrees C 1.3 - 4.1 cSt @ 40 degrees C

Evaporation Rate (n-BuAc = 1): Not available Partition Coefficient (Kow):

Water Solubility:

Insoluble

Other Solvents:

Formula:

Hydrocarbon Solvents 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

REGULAR SULPHUR DIESEL FUEL

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. Prolonged or repeated contact may cause various forms of dermatitis including

folliculitis and oil acne.

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.

Page 5 of 7

## 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 medica! attention.

Revisions:

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



# Shell Canada Limited Material Safety Data Sheet

Effective Date: 19971203







Class B2 Flammable

Liquid

Class D2B Other Toxic Class D2A Other Toxic Effects - Skin Irritant

Effects - Carcinogen

# 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:

SHELL JET B

SYNONYMS:

WIDE BOILING RANGE AVIATION TURBINE FUEL

PRODUCT USE:

Fuel

MSDS Number:

141-012

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

403-691-3982

For MSDS Information: (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.

\*A star in the product name designates a trade-mark(s) of Shell Canada Limited. Used under license by Shell Canada Products Limited.

# 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Component Name                              | CAS<br>Number | %<br>Range | WHMIS<br>Controlled | CBI Claim No.<br>CBI Date |
|---|---------------|------------|---------------------|---------------------------|
| Naphtha (Petroleum), Full-range<br>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

141-012

Revision Number: 5

Physical Description:

Liquid Bright Clear Typical Gasoline Odour

Routes of Exposure:

Exposure may occur via inhalation, ingestion, skin absorption and skin or eye

contact.

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 avoic 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 3.9 ml (see here have

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. 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. Always stay away from ends of containers due to explosive potential. Fight fire from maximum distance. 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 "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, digarettes 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

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 slothing prior to reverse the second by the second process to the second prior to the second prio

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.

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:

Make up air should always be supplied to balance air exhausted (either generally or locally). 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. 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. Use explosion-proof ventilation as required to control vapour concentrations.

## 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: Odour:

Bright Clear Typical Gasoline Odour

Odour Threshold:

Not available

Freezing/Pour Point: Boiling Point:

<-51 degrees C 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

pH:

Not applicable

Flash Point:

Method Tag Closed Cup = -23 - 1 degrees C

Lower Explosion Limit:

1.4 % (vol.)

Upper Explosion Limit:

7.6 % (vol.)

SHELL JET B

141-012

Revision Number: 5

Autoignition Temperature:

Not available

Viscosity:

Not available @

Evaporation Rate (n-BuAc = 1): Not available Partition Coefficient (Kow):

Not available

Water Solubility:

Insoluble

Other Solvents:

Hydrocarbon Solvents

## 10. STABILITY AND REACTIVITY

Chemically Stable:

Yes

Hazardous Polymerization:

No

Sensitive to Mechanical Impact:

No Yes

Sensitive to Static Discharge: Hazardous Decomposition Products:

Thermal decomposition products are highly dependent on

combustion conditions.

Incompatible Materials: Conditions of Reactivity:

Avoid contact with strong oxidizing agents and acids. 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 and the MSDS contains all the information required by the Controlled Products Regulations.

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.

Other Regulatory Status:

No Canadian federal standards.

# 16. ADDITIONAL INFORMATION

LABEL STATEMENTS

Hazard Statement :

Flammable Liquid. Irritating to skin. Contains Benzene. May cause cancer.

141-012

Revision Number: 5

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.



# Poly-Drill Drilling Systems

1824 - 104 Avenue, S.W. Calgary, Alberta, Canada

T2W-OA8

(403) 259-5112 FAX (403) 255-7185

# MATERIAL SAFETY DATA SHEET/FICHE SIGNALETIQUE

#### Section 1—PRODUCT IDENTIFICATION

PRODUCT TRADE NAME(S): Poly Drill 133-X

PRODUCT DESCRIPTION: Latex

polyelectrolyte

#### SECTION 2—COMPOSITION

A liquid copolymer blend of polyacrylamide, water, surfactant(s) and mineral oil: Evaluation of the ingredient(s) has found no ingredient(s) hazardous as per WHMIS regulations.

#### SECTION 3—PHYSICAL DATA

Boiling Point: Not available

Solubility in Water: Solubility limited by solution viscosity.

Density (g/ml): 1.08 at 25° C

Appearance and Odor: Blue. Odor slight.

Specific Gravity (@ 25 Deg.C.): 1.09

pH: 8.1 (1.0% solution) Physical State: Liquid

#### SECTION 4--FIRE AND EXPLOSION DATA

Flash Point (method used): (PMCC) > 100 C

Conditions of flammability: Intense heat, open flame.

Hazardous combustion products: Products of incomplete hydrocarbon combustion.

Upper and Lower flammable limits: Not available

Extinguishing media: Use water spray, foam, dry chemical, or carbon dioxide.

#### SECTION 5—REACTIVITY

Chemical stability: Stable under normal conditions.

Hazardous Polymerization: Will not occur

Incompatible substances: Avoid strong oxidizing and reducing agents.

Hazardous decomposition products: Carbon monoxide, carbon dioxide, and products of incomplete hydrocarbon combustion.

#### SECTION 6—HEALTH HAZARD DATA

TOXICITY RATING: Practically non-harmful.

Routes of Exposure and Effects:

SKIN: Slight irritant: prolonged contact may cause skin irritation or dermatitis in some individuals

EYE: No effects of exposure expected with the exception of possible irritation.

INHALATION: If misted, no effects of exposure are expected.

Exposure limits: TLV-TWA: Mineral oil, mist 5 mg/m3

Carcinogenicity: None of the components of this product are listed as carcinogens by IARC and ACGIH

Sensitization of product: Not suspected to be a sensitizer.

Teratongenicity: Not available.

Mutagenicity: Not available.

#### SECTION 7—EMERGENCY AND FIRST AID PROCEDURES

SKIN: Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.

EYE: Immediately flush eyes with water for 15 minutes, if irritation or abnormalities persist, call a physician.

INHALATION: Remove to fresh air. If breathing becomes difficult, give oxygen and call a physician.

INGESTION: Don not induce vomiting: Call a physician immediately.

#### SECTION 8—HANDLING AND USE PRECTIONS

Storage requirements: keep container closed when no in use. Store in a cool dry location away from oxidizing and reducing agents.

Waste Disposal: product should be disposed of in accordance with applicable local, Provincial and Federal regulations.

Steps must be taken if product is released or spilled: clean spill areas thoroughly to avoid hazardous slippery conditions.

#### SECTION 9-INDUSTRIAL HYGIENE CONTROL MEASURES

Respiratory Protection: None normally required.

Ventilation: If mist and/or vapors are present, use air purifying respirator of self-contained breathing apparatus, but this is rarely required.

Eye Protection: Safety glasses, if personally preferred Gloves: Generally not necessary. Personal preference.

#### SECTION 10-TOXICOLOGICAL PROPERTIES

A "LC50-96" Pass/Fail Bioassay test. This test determines the lethality of a fluid on young aquatic organisms. The fluid fails if 50% or more of the animals are dead after 96 hours in the fluid.

- 96 hour static acute LC50 to Rainbow Trout = Greater than 1,000 mg/L
  - 96 hour no observed effect concentration = 125 mg/L based on no mortality or abnormal effects
- ii. 96 hour static acute LC50 to Sheepshead Minnow = Greater than 1,000 mg/L
  - 96 hour no observed effect concentration = 1,000 mg/L (highest concentration tested) based on no mortality or abnormal
- iii. 96 hour static acute LC50 to Mysid Shrimp = 400 mg/L
  - 96 hour no observed effect concentration = 180 mg/L based on no mortality or abnormal effects.
- iv. 96 hour static acute LC50 to Daphnia Magna 400 mg/L
  - 96 hour no observed effect concentration = 56 mg/L (lowest concentration tested) based on no mortality or abnormal effects.

#### Microtoxicity

Test Method:

Luminescent Bacteria, IC50@ 15 min

Reference:

Appendix 1: Microtox Bioassay Procedure, Drilling Waste Management, Guide G50. 1993. Alberta Energy

and Utilities Board, Calgary, AB, Canada.

Sample:

Poly Drill 133-X, sample #97324-1 for test #970723, 97/05/09 by D. Lintott

Preparation:

Sample was diluted to 2 g/L, which formed thick, slightly cloudy liquid. The sample was then centrifuged for I

hour.

Test Results:

| SAMPLE  | TREATMENT | %CTL | IC20%     | IC50% | RESULT |
|---------|-----------|------|-----------|-------|--------|
| 97324-1 | None      | N/A  | 14 (9-22) | >91   | PASS   |

# SECTION 11—DEPARTMENT OF TRANSPORTATION INFORMATION

Shipping Name: Drilling Mud Hazard Class: Not hazardous Hazardous Substances: None Cautionary Labeling: None required

Updated January 7, 2000



## Poly-Drill Drilling Systems

1824 - 104 Avenue, S.W. Calgary, Alberta, Canada

T2W-OA8

(403) 259-5112 FAX (403) 255-7185

## MATERIAL SAFETY DATA SHEET/FICHE SIGNALETIQUE

#### Section 1—PRODUCT IDENTIFICATION

PRODUCT TRADE NAME(S): Poly Drill O.B.X.

WHMIS CLASSIFICATION: Non-regulated

TDG Classification: Non dangerous goods

#### SECTION 2—COMPOSITION

A liquid polymer containing guar gum, mineral oil, vegetable oil, acrylamide copolymer and a surfactant: Evaluation of the ingredient(s) has found no ingredient(s) hazardous as per WHMIS regulations.

#### SECTION 3—PHYSICAL DATA

Boiling Point: Not available

Specific Gravity: 0.9 g/cm

Solubility in Water: disperses in water(forms viscous, slippery solution). pH: 3.8 (1% concentration)

Density (g/ml): Not available

Physical State: Liquid

Appearance and Odor: Brown. Odor slight.

#### SECTION 4--FIRE AND EXPLOSION DATA

Flash Point (method used): (PMCC) greater than 100 C.

Conditions of flammability: Very low risk. Hazardous combustion products: None known. Upper and Lower flammable limits: Not available.

Extinguishing media: Carbon dioxide, dry chemicals, foam, in preference to water spray

#### SECTION 5—REACTIVITY

Chemical stability: Stable under normal conditions.

Hazardous Polymerization: Will not occur.

Incompatible substances: Avoid strong oxidants such as liquid chlorine, concentrated oxygen, sodium or calcium hypochlorid

Hazardous decomposition products: None known

#### SECTION 6—HEALTH HAZARD DATA

TOXICITY RATING: Practically non-harmful.

Routes of Exposure and Effects:

SKIN: Slight irritant: prolonged contact may cause skin irritation or dermatitis in some individuals

EYE: No effects of exposure expected with the exception of possible irritation.

INHALATION: Due to low volatility of mineral distillates a small inhalation hazard exists.

INGESTION: can cause nausea, vomiting, cramps, diarrhea

Chronic exposure limits: None

Sensitization of product: Not suspected to be a sensitizer.

Teratongenicity: Not available. Mutagenicity: Not available.

Carcinogenicity: None of the components of this product are listed as carcinogens by IARC and ACGIH

### SECTION 7—EMERGENCY AND FIRST AID PROCEDURES

SKIN: Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.

EYE: Immediately flush eyes with water for 15 minutes, if irritation or abnormalities persist, call a physician.

INHALATION: Remove to fresh air. If breathing becomes difficult, give oxygen and call a physician.

INGESTION: Don not induce vomiting: Call a physician immediately.

#### SECTION 8—HANDLING AND USE PRECTIONS

Storage requirements: keep container closed when not in use. Store in a cool dry location away from oxidizing and reducing agents.

Waste Disposal: product should be disposed of in accordance with applicable local, Provincial and Federal regulations. Steps must be taken if product is released or spilled: clean spill areas thoroughly to avoid hazardous slippery conditions.

#### SECTION 9—INDUSTRIAL HYGIENE CONTROL MEASURES

Respiratory Protection: None normally required.

Ventilation: If mist and/or vapors are present, use air purifying respirator of self-contained breathing apparatus, but this is

rarely required.

Eye Protection: Safety glasses, if personally preferred Gloves: Generally not necessary. Personal preference.

#### SECTION 10-TOXICOLOGICAL PROPERTIES

G50 Microtox Analysis prepared by HydroQual Laboratories, Calgary, AB--97/6/26 Test#970978:

Test Description EC20 MTX >91 EC50

Pass/Fail Pass

## SECTION 11—DEPARTMENT OF TRANSPORTATION INFORMATION

Shipping Name: Drilling Mud Hazard Class: Not hazardous Hazardous Substances: None

Cautionary Labeling: None required



# Poly-Drill Drilling Systems

1824 - 104 Avenue, S.W. Calgary, Alberta, Canada

T2W-OA8

(403) 259-5112 FAX (403) 255-7185 E-mail: polydrill@msn.com

# MATERIAL SAFETY DATA SHEET/FICHE SIGNALETIQUE

#### Section 1—PRODUCT IDENTIFICATION

PRODUCT TRADE NAME(S): Poly Drill CLAY TREAT II

PREPARED: JULY 16, 1996

#### SECTION 2—PHYSICAL DATA

Boiling Point: 100 C

Solubility in Water: Soluble

Density (g/ml): 1.1

Appearance and Odor: Red. Characteristic slight odor.

Specific Gravity (@ 25 Deg.C.): 1.09

pH: 5.0 - 7.0 (1.0% solution)

Physical State: Liquid

#### SECTION 3--FIRE AND EXPLOSION DATA

Flash Point: >93.3 C

Conditions of flammability: Will burn after drying

Hazardous combustion products: Oxides of carbon and nitrogen and products of incomplete combustion.

Upper and Lower flammable limits: Not available

Extinguishing media: Use water spray, foam, dry chemical, or carbon dioxide.

#### SECTION 4—REACTIVITY

Chemical stability: Stable under normal conditions.

Hazardous Polymerization: Will not occur.

Incompatible substances: Avoid strong oxidizing and reducing agents.

Hazardous decomposition products: Not available.

#### SECTION 5—HEALTH HAZARD DATA

TOXICITY RATING: Practically non-harmful.

Routes of Exposure and Effects:

SKIN: Slight irritant: prolonged contact may cause skin irritation or dermatitis in some individuals

EYE: No effects of exposure expected with the exception of possible irritation.

INHALATION: If misted, no effects of exposure are expected.

Exposure limits: Contains trace acrylamide (SKIN). Exposure limit, TWAEV=0.03 mg/m(ONT. Reg. 654/86).

Contains traces of isopropanol. Exposure limit, TWAEV=400ppm, STEV=500ppm(ONT. Reg. 654/86).

Carcinogenicity: This product contains traces of acrylamide. Acrylamide is listed by IARC(Group 2B) and ACGIH(Group A2)

as a possible human carcinogen.

Teratongenicity: Not available. Mutagenicity: Not available.

#### SECTION 6—EMERGENCY AND FIRST AID PROCEDURES

SKIN: Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.

EYE: Immediately flush eyes with water for 15 minutes, if irritation or abnormalities persist, call a physician.

INHALATION: Remove to fresh air. If breathing becomes difficult, give oxygen and call a physician.

INGESTION: Do not induce vomiting: Call a physician immediately.

#### SECTION 7—HANDLING AND USE PRECTIONS

Storage requirements: keep container closed when no in use. Store in a cool dry location away from oxidizing and reducing agents.

Waste Disposal: product should be disposed of in accordance with applicable local, Provincial and Federal regulations. Steps must be taken if product is released or spilled: clean spill areas thoroughly to avoid hazardous slippery conditions.

#### SECTION 8-INDUSTRIAL HYGIENE CONTROL MEASURES

Respiratory Protection: None normally required.

Ventilation: If mist and/or vapors are present, use air purifying respirator of self-contained breathing apparatus, but this is

rarely required.

Eye Protection: Safety glasses, if personally preferred Gloves: Generally not necessary. Personal preference.

#### SECTION 9—TOXICOLOGICAL PROPERTIES

G50 Microtox Analysis prepared by HydroQual Laboratories, Calgary, AB--97/07/23 Test#971127, Sample#97556-2:

| Test Description | EC20         | EC50 | Pass/Fail |
|------------------|--------------|------|-----------|
| MTX              | 29 (26 - 32) | >91  | PASS      |

### SECTION 10—DEPARTMENT OF TRANSPORTATION INFORMATION

Shipping Name: Drilling Mud Hazard Class: Not hazardous Hazardous Substances: None

Cautionary Labeling: None required



## MATERIAL SAFETY DATA SHEET



#### SECTION 1 - PRODUCT INFORMATION

Product Name: Propane Supplier: Superior Propane

Trade Name: LPG (Liquetied Petroleum Gas), LP-Gas A Division of Superior Plus Inc. 1111 - 49th Avenue N.E.

Chemical Formula: C<sub>3</sub>H<sub>8</sub> Calgary, AB T2E BV2
Business: (403) 730-7500

WHMIS Classification: Class A - Compressed Gas

Class B, Division 1 – Flammable Gas 24-Hour Emergency Contact: Canutec (613) 996-6666

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

| NEW RENEWED                      | CASE NO. | % VOLUME (V/V) | LD <sub>50</sub> (Re), 09(Au) |
|----------------------------------|----------|----------------|-------------------------------|
| 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 Propage 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 pH: Not available

stored under pressure Solubility in Water: Slight, 6.1% by volume @ 17.8°C

Boiling Point: -42°C @ 1 atm Specific Gravity: 0.51 (water = 1)

Freezing Point: -188°C Appearance/Odour: Colourless liquid and vapour while stored

Evaporation Rate: Rapid (Gas at normal ambient conditions) under pressure. Colourless and odourless

Vapour Pressure: 1435 kPa (maximum) @ 37.8°C gas in natural state at any concentration.
Commercial propane has an odourant added, ethyl mercaptan, which has an odour similar to boiling cabbage.

Coefficient of Water/

Oil Distribution: Not available Odour Threshold: 4800 ppm

With proper handling, transportation and storage, adding a chemical odourant such as ethyl mercaptan 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 Paint: -103.4°C Method: Closed cup

Flammable Limits; Lower 2.4%, Upper 9.5%

Auto Ignition Temperature: 432°C

Hazardous Combustion Products: 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 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.

MSDS-Propane-33003-2 Side 1 of 2





#### SECTION 6 - TOXICOLOGICAL PROPERTIES OF MATERIAL

Routes of Entry: Skin Contact, Eye Contact, Inhalation

Inhalation: Simple asphyxiant. No effect at concentrations of 10,000 ppm (peak 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 tailure, 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: Contact with Liquefied Petroleum Gas may cause frostbite or cold burns. Propane acts as a simple asphyxiant as oxygen content in air is displaced by the propane. At increasing concentration levels, propane may cause dizziness, headaches, loss of coordination, fatigue, unconsciousness and death.

Chronic Exposure: No reported effects from long term low level exposure.

Sensitization to Product: Not known to be a sensitizer.

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.

Other Toxicological Effects: None

#### **SECTION 7 - PREVENTATIVE MEASURES**

Eyes: Safety glasses or chemical goggles are 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: Use in well-ventilated areas. Use with explosion proof mechanical ventilation in confined spaces or poorly

ventilated areas.

#### SECTION 8 - EMERGENCY AND FIRST AID PROCEDURES

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 if possible, Eliminate source of ignition. Ensure cylinder is upright, Disperse vapours with hose

streams using fog nozzles. Monitor low areas as propene 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

cylinders.

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 pressurize, cut, heat or weld empty containers.

 Transport, handle and store according to applicable federal and provincial codes and regulations.

Do not store with oxidizing agents, oxygen, or chlorine

Empty cylinders and tanks may contain product residue.

TDG Shipping Name: Liquefied Petroleum Gas (Propane)

PIN Number: UN1075

#### SECTION 10 - PREPARATION INFORMATION

Transportation of Dangerous Goods (TDG)

TDG Classification: Flammable Gas 2.1

Prepared by: Superior Propane

Health Safety and Environment Team Re

Telephone: (403) 730-7500 Revision: May 9, 2005 Supersedes: October 2004

The information contained herein is believed to be accurate, it is provided independently of any sale of the product. It is not intended to constitute performance information concerning the product. No express warranty, implied warranty of merchantability or fitness for a particular purpose is made with respect to the product information contained herein.

MSDS-Propane-32003-2 Side 2 of 2

## APPENDIX "G"

## SPILL PLAN

## Ashton Mining (Northwest Territories) Ltd Spill Prevention and Response Plan

Applying to all exploration activities located in within NTS Maps Sheets:  $86O,\,76M,\,86I$  and 76L

prepared by
Ashton Mining Northwest Territories Ltd.
Unit 123 – 930 West 1<sup>st</sup> Street
North Vancouver, British Columbia
V7P 3N4

## ASHTON SPILL CONTINGENCY PLAN – NUNAVUT OPERATIONS

| Area of Application:     | All Ashton properties, campsites and activities contained within National Topographic System maps 86I, 86P, 76L, 76M.   |  |  |
|--------------------------|---|--|--|
| Duration of Application: | The spill contingency plan is presently in effect for all Ashton field operations in Nunavut. This plan is sufficient for our present level of exploration activities. Work is conducted out of small fly camps.                            |  |  |
| Application of Plan:     | Upon arriving at camp for any exploration program staff are provided with a safety orientation. Part of this orientation includes procedures relating to spill response, and spill equipment.   |  |  |
| Responsibility:          | The Ashton field supervisor is responsible for ensuring that the safety orientation is complete. All employees are responsible for safe storage, maintenance and monitoring of fuel.  |  |  |
| Areas of Concern:        | Areas of concern have been broken into three categories; fuel, drill additives and waste. Of these three categories fuel is the most significant due to its toxicity, flammability and liquidity.  Fuel: 1) Diesel 2) Jet-B (Aviation Fuel) |  |  |
|                          | 3) Propane  Drill Additives: 1) Big bear Diamond Brill Rod Grease 2) Sodium Montmorillonite 3) X-tra Gel 4) W-OB Polymer 5) DR-133 Polymer 6) 550X Polymer 7) GSX 20 Bit Coolant  |  |  |
|                          | Waste: 1) Grey Water 2) Outhouse 3) Combustible Waste   |  |  |

#### **Preventative Procedures:**

Ashton personnel will be instructed in spill, avoidance, response and cleanup procedures at the safety orientation. A spill response kit will be retained at each base camp and drill operation site.

#### Fuel

- Fuel will be stored at safe distances and wherever possible in natural sumps away from drainage systems and bodies of water.
- All fuel cache storage sites will be monitored on a regular basis for possible spills and or leakage.
- Splash pans will be employed where practical around all machinery and during any fuel transfers.

#### **Drill Additives**

- Drill Additives will be stored at safe distances and wherever possible in natural sumps away from drainage systems and bodies of water.
- Drill additive storage sites will be monitored on a regular basis for possible spills and or leakage.

#### Waste

- Sewage and grey water holes will be monitored to ensure sufficient capacity.
- Combustible waste will be contained in a screened burning barrel and ashes flown out at the end of the field season.

## ASHTON SPILL CONTINGENCY PLAN – NUNAVUT OPERATIONS

| <b>Emergency Procedures:</b> | In the event of a spill of any chemical, fuel or waste respond as follows.  1. Try to stop or limit extent of spill at source.  |  |  |
|------------------------------|---|--|--|
|                              | <ol> <li>Notify the field supervisor in camp and get spill response equipment (shovels, absorbent material, storage drums).</li> </ol>  |  |  |
|                              | 3. In the case of flammable liquids, get dry chemical fire extinguisher in the event of fire.   |  |  |
|                              | 4. Distribute absorbent material on and around spill. Dig up contaminated soil and/or material. Store contaminated material in drums located in a safe location for removal.                  |  |  |
|                              | 5. Complete the attached form entitled Spill Report   |  |  |
|                              | 6. Contact AMCI senior personnel (604) 983-7750<br>Contact Spill Response (867) 920-8130 (24 hours)<br>Contact Discovery Mines (867) 920-4600<br>Contact DIAND Water Resources (867) 975-4298 |  |  |
|                              |   |  |  |

## **Important Coordinates**

Latitude/Longitude (NAD 27 Canada)

|              | Longitude   | Latitude   | Notes            |
|--------------|-------------|------------|------------------|
| Phantom Camp | -112°51'29" | 67°12'37"  | Established Camp |
| RJ Camp      | -113°02'46" | 66°43'46'' | Established Camp |

## **Important Contact Numbers**

| Facility                               | PHONE          | Note                |
|--|----------------|---------------------|
| Pollution and Spills                   | (867) 920-8130 | 24 Hours            |
| <b>Discovery Mining Services</b>       | (867) 920-4600 | Cel: (867) 873-1573 |
| Ashton Office                          | (604) 983-7750 |                     |
| <b>Brooke Clements, VP Exploration</b> | (604) 984-***  | After hours         |
| Jeff Ward, Project Manager             | (604) 737-***  | After hours         |
| <b>DIAND Water Resources</b>           | (867) 975-4298 |                     |



WILLKIS

# SPILL RESPONSE KIT 205L H.O.W.

## CONTENTS:

| 150 - 17" X 19" OIL | ABSORBENT | PADS |
|---------------------|-----------|------|
|---------------------|-----------|------|

- 8 3" X 48" OIL ABSORBENT SOCKS
- 2 5" X 120" OIL ABSORBENT BOOMS
- 4 TEMPORARY DISPOSAL BAGS 42x48-XS
- 1 PAIR NITRILE GAUNTLET GLOVES
- 1 PAIR DISPOSABLE COVERALL
- 1 PAIR CLEAR SAFETY GOGGLES
- 1 40Z TEMPORARY GAPSEAL STICK
- 1 205L CONTAINMENT DRUM (metal/poly) C/W QUICK RELEASE LEVER LOCK SYSTEM

KIT PART #......205000

PIONEER SUPPLY HOUSE 101 - 349 OLD AIRPORT ROAD YELLOWKNIFE, NT X1A 3X6 Ph: (867) 873-3559 Fax: (867) 873-3397

# Government of the Northwest Territories SPILL REPORT (Oil, Ges or Other Materials, i.e. Hazardous Chemicals, etc.)

| A       | Report Date             | Date and Time of   | Spill if Known                             |  |  |
|---------|-------------------------|--|--|--|--|
| В       | Location and Map Co     | pordinates (If known) and  | Direction of Moving                        |  |  |
| С       | Party Responsible       |  |  |  |  |
| D       | Product Spilled and E   | stimeted Quantities (Prox  | ide Metric Volumes/Weights If Possible!    | To the last term of the |  |
| E       | Cause of Spill          |  |  |  |  |
| F       | la Spill Terminated or  | Continuing   |  |  |  |
| G       | Extent of Conseninate   | d Ares   | read .                                     |  |  |
| Н       | Fectors Affecting SpEI  | or Recovery — Temperat   | tures. Wind, Snow, Ice, Tempin, Building   | a, etc.  |  |
| 1       | Considerent - Natura    | sly, Scoms, Dykes or Oth   | er. No Containment                         |  |  |
| J       | Action. if any, Taken a | r Proposed to Contain, Ri  | acover. Classup or Stapase                 | ne a problem to staye  |  |
| К       | De Yeu Reques Assist    | ****   | If so, what Form                           |  |  |
| L       | Hazard to Persons or F  | nagerty or Environment -   | - Fire, Orinking Winter, Threat to Fish or | Wildlife   |  |
| М       | Comments and or Reco    | ennestations   |  |  |  |
|         |                         |  |  |  |  |
|         | dity                    | Postion, Employee.   | Location                                   | Talastone  |  |
| Reporte | 7.75                    | De la constantina della consta |  |  |  |

## Ashton Mining (Northwest Territories) Ltd Spill Prevention and Response Plan

Applying to all exploration activities located in within NTS Maps Sheets:  $86O,\,76M,\,86I$  and 76L

prepared by
Ashton Mining Northwest Territories Ltd.
Unit 123 – 930 West 1<sup>st</sup> Street
North Vancouver, British Columbia
V7P 3N4

## ASHTON SPILL CONTINGENCY PLAN – NUNAVUT OPERATIONS

| Area of Application:     | All Ashton properties, campsites and activities contained within National Topographic System maps 86I, 86P, 76L, 76M.   |  |  |
|--------------------------|---|--|--|
| Duration of Application: | The spill contingency plan is presently in effect for all Ashton field operations in Nunavut. This plan is sufficient for our present level of exploration activities. Work is conducted out of small fly camps.                            |  |  |
| Application of Plan:     | Upon arriving at camp for any exploration program staff are provided with a safety orientation. Part of this orientation includes procedures relating to spill response, and spill equipment.   |  |  |
| Responsibility:          | The Ashton field supervisor is responsible for ensuring that the safety orientation is complete. All employees are responsible for safe storage, maintenance and monitoring of fuel.  |  |  |
| Areas of Concern:        | Areas of concern have been broken into three categories; fuel, drill additives and waste. Of these three categories fuel is the most significant due to its toxicity, flammability and liquidity.  Fuel: 1) Diesel 2) Jet-B (Aviation Fuel) |  |  |
|                          | 3) Propane  Drill Additives: 1) Big bear Diamond Brill Rod Grease 2) Sodium Montmorillonite 3) X-tra Gel 4) W-OB Polymer 5) DR-133 Polymer 6) 550X Polymer 7) GSX 20 Bit Coolant  |  |  |
|                          | Waste: 1) Grey Water 2) Outhouse 3) Combustible Waste   |  |  |

#### **Preventative Procedures:**

Ashton personnel will be instructed in spill, avoidance, response and cleanup procedures at the safety orientation. A spill response kit will be retained at each base camp and drill operation site.

#### Fuel

- Fuel will be stored at safe distances and wherever possible in natural sumps away from drainage systems and bodies of water.
- All fuel cache storage sites will be monitored on a regular basis for possible spills and or leakage.
- Splash pans will be employed where practical around all machinery and during any fuel transfers.

#### **Drill Additives**

- Drill Additives will be stored at safe distances and wherever possible in natural sumps away from drainage systems and bodies of water.
- Drill additive storage sites will be monitored on a regular basis for possible spills and or leakage.

#### Waste

- Sewage and grey water holes will be monitored to ensure sufficient capacity.
- Combustible waste will be contained in a screened burning barrel and ashes flown out at the end of the field season.

## ASHTON SPILL CONTINGENCY PLAN – NUNAVUT OPERATIONS

| <b>Emergency Procedures:</b> | In the event of a spill of any chemical, fuel or waste respond as follows.  1. Try to stop or limit extent of spill at source.  |  |  |
|------------------------------|---|--|--|
|                              | <ol> <li>Notify the field supervisor in camp and get spill response equipment (shovels, absorbent material, storage drums).</li> </ol>  |  |  |
|                              | 3. In the case of flammable liquids, get dry chemical fire extinguisher in the event of fire.   |  |  |
|                              | 4. Distribute absorbent material on and around spill. Dig up contaminated soil and/or material. Store contaminated material in drums located in a safe location for removal.                  |  |  |
|                              | 5. Complete the attached form entitled Spill Report   |  |  |
|                              | 6. Contact AMCI senior personnel (604) 983-7750<br>Contact Spill Response (867) 920-8130 (24 hours)<br>Contact Discovery Mines (867) 920-4600<br>Contact DIAND Water Resources (867) 975-4298 |  |  |
|                              |   |  |  |

## **Important Coordinates**

Latitude/Longitude (NAD 27 Canada)

|              | Longitude   | Latitude   | Notes            |
|--------------|-------------|------------|------------------|
| Phantom Camp | -112°51'29" | 67°12'37"  | Established Camp |
| RJ Camp      | -113°02'46" | 66°43'46'' | Established Camp |

## **Important Contact Numbers**

| Facility                               | PHONE          | Note                |
|--|----------------|---------------------|
| Pollution and Spills                   | (867) 920-8130 | 24 Hours            |
| <b>Discovery Mining Services</b>       | (867) 920-4600 | Cel: (867) 873-1573 |
| Ashton Office                          | (604) 983-7750 |                     |
| <b>Brooke Clements, VP Exploration</b> | (604) 984-***  | After hours         |
| Jeff Ward, Project Manager             | (604) 737-***  | After hours         |
| <b>DIAND</b> Water Resources           | (867) 975-4298 |                     |

# APPENDIX "H" ABANDONMENT & RESTORATION PLAN

## Ashton Mining (Northwest Territories) Ltd Abandonment and Restoration Plan

Applying to all exploration activities located in within NTS Maps Sheets:  $86O,\,76M,\,86I$  and 76L

prepared by
Ashton Mining Northwest Territories Ltd.
Unit 123 – 930 West 1<sup>st</sup> Street
North Vancouver, British Columbia
V7P 3N4

| Area of Appli                   | ication: All Ashton properties, campsites and activities contain      |  |  |  |
|---------------------------------|---|--|--|--|
|                                 |   | within National Topographic System maps 86I, 86P, 76L,           |  |  |
|                                 |   | 76M.   |  |  |
|                                 |   |  |  |  |
| <b>Duration of Application:</b> |   | The Abandonment and Restoration Plan is presently in             |  |  |
|                                 |   | effect for all Ashton field operations in Nunavut. This plan     |  |  |
|                                 |   | is sufficient for our present level of exploration activities.   |  |  |
| <u> </u>                        |   |  |  |  |
| Application of Plan:            |   | This plan applies to the abandonment and restoration of all      |  |  |
|                                 |   | existing or proposed camp and drill sites under                  |  |  |
|                                 |   | NWB2ASH0305  |  |  |
|                                 |   |  |  |  |
| Responsibility:                 |   | The Ashton project manager is responsible for ensuring that      |  |  |
|                                 |   | sites and facilities are restored to the best extent possible to |  |  |
|                                 |   | their natural state.   |  |  |
|                                 |   |  |  |  |
| Fly Camps:                      | These camps are composed of wood framed canvas prospector tents.      |  |  |  |
|                                 |   |  |  |  |
|                                 | Abandonment Plan: Tent covers, stoves, generators, fuel and drums     |  |  |  |
|                                 | will be flown to Yellowknife for storage and/or disposal. Wooden tent |  |  |  |
|                                 | frames and outhouse will be incinerated. The outhouse hole and grey-  |  |  |  |
|                                 | Turnes and Gamouse will be inclinerated. The Gamouse hole and grey    |  |  |  |

| Camp         | Latitude    | Longitude | Notes            |
|--------------|-------------|-----------|------------------|
| Phantom Camp | -112°51'29" | 67°12'37" | Established camp |
| RJ Camp      | -113°02'46" | 66°43'46" | Established camp |

water hole will be filled with dirt and contoured to the surrounding area.

| <b>Drill Sites:</b> | <b>Abandonment Plan:</b> At the completion of the permit all |
|---------------------|--|
|                     | drills, hoses, rods and fuel will be removed and flown to    |
|                     | Yellowknife. At present there are no drill sites and thus no |
|                     | coordinates  |

## **Important Contact Numbers**

| Facility                               | PHONE          | Note                |
|--|----------------|---------------------|
| <b>DIAND Land Operations</b>           | (867) 975-4283 |                     |
| <b>Discovery Mining Services</b>       | (867) 920-4600 | Cel: (867) 873-1573 |
| Ashton Office                          | (604) 983-7750 |                     |
| <b>Brooke Clements, VP Exploration</b> | (604) 984-***  | After hours         |
| Jeff Ward, Project Manager             | (604) 737-***  | After hours         |