

Mackenzie Valley Land and Water Board
 7th Floor - 4910 50th Avenue
 P.O. Box 2130
YELLOWKNIFE NT X1A 2P6
 Phone (867) 669-0506
 FAX (867) 873-6610

Application for:

New Land Use Permit

Amendment

MV2003C0023

1. Applicant's name and mailing address:	
Robert T. Paterson Snowfield Development Corp. 100 - 1009 Expo Boulevard, Vancouver, B.C. V6Z 2V9	Fax number: 604 - 681 - 6937
2. Head office address: (All application correspondence)	
100 - 1009 Expo Boulevard, Vancouver, B.C. V6Z 2V9	Telephone number: 604 - 681 - 5720 800 - 859 - 6463
Field supervisor: Mike Beauregard Radiotelephone: 403-997-8140 (Satellite Phone)	Fax number: 604 - 681 - 6937
3. Other personnel (subcontractor, contractors, company staff etc.)	
Snowfield exploration staff: 1 - 3 Snowfield exploration - linecutters & support staff to be hired locally: 1 - 6 Snowfield camp attendant, cook & support staff to be hired locally: 1 - 4 Aurora Geophysics - geologists, geophysicists & technicians: 1 - 6 Drilling Contractor 5 - 8; (either of Titan Drilling, Connors Drilling or Major-Midwest Drilling) Technical Consultants - 2	
TOTAL: (Number of persons on site)	
4. Eligibility:	
(Refer to section 18 of the Mackenzie Valley Land Use Regulations)	
<u>Mud Lake Claim Group</u> - Under an agreement with Mr. David Smith of Yellowknife, NT, Snowfield holds mineral rights on the Drybones 4 - Claim Tag #F29229, Drybones 5 - Claim Tag #F29230, Beck 1 - Claim Tag #F16606, Beck 3 - Claim Tag #F16608, Beck 4 - Claim Tag #F16609, Beck 6 - Claim Tag #F16611, Habanero - Claim Tag #F16625, Faya - Claim Tag #F16648, and Pyrope - Claim Tag #F16626 mineral claims covering approximately 13,709.7 acres (5,548.12 hectares) located in the Drybones Bay area, Great Slave Lake on Map Sheet 85 I 4 in the south Mining District of the Northwest Territories.	
<u>Hurcomb Claim</u> - Under an agreement with Ms. Fran Hurcomb of Yellowknife, NT, Snowfield holds mineral rights on the Hurcomb Claim - Claim Tag #F16594 mineral claim covering approximately 2,582.52 acres (1,045.10 hectares) located in the Drybones Bay area, Great Slave Lake on Map Sheet 85 I 4 in the south Mining District of the Northwest Territories.	
<u>Red Claim Group</u> - The Red Claims were staked on behalf of Snowfield by Mr. David Smith of Yellowknife, NT, and Snowfield holds mineral rights on the Red 1 - Claim Tag # 80811, Red 1 - Claim Tag # 80811, Red 2 - Claim Tag # 80812, Red 3 - Claim Tag # 80813, Red 4 - Claim Tag # 80814, Red 5 - Claim Tag # 80815, and Red 1 - Claim Tag # 80811 mineral claims covering approximately 17,612.65 acres (7,181.58 hectares) located in the Drybones Bay area, Great Slave Lake on Map Sheet 85 I 4 in the south Mining District of the Northwest Territories.	
<u>Fate Claim</u> - Under an agreement with New Shoshoni Ventures Ltd. of Vancouver, B.C., Snowfield holds mineral rights on the Fate Mineral Claim, Claim Tag # F75733 covering approximately 2,479.2 acres (1,003.30 hectares), located at Defeat Lake, on Map Sheet 85 I/5, in the south Mining District of the Northwest Territories.	

GTen 16 Claim - Under an agreement with 644981 B.C. Ltd. of Vancouver, B.C., Snowfield holds mineral rights on the GTen 16 Mineral Claim, Claim Tag # F75684 covering approximately 1,033.0 acres (418.04 hectares), located at Defeat Lake, on Map Sheet 85 I/5, in the south Mining District of the Northwest Territories.

(See attached "Appendix A" - Project Location & Claim Maps")

a)(i) Yes a)(ii) a)(iii) b)(i) b)(ii)

5. a) Summary of operation (Describe purpose, nature and location of all activities.)

Mud Lake Claim Group - Under its option agreement on the Mud Lake Claim Group, Snowfield must expend \$400,000 on a Stage I program of exploration on the Mud Lake Claim Group by December 31, 2003; expend a further \$600,000 on a Stage II program of exploration on the Mud Lake Claim Group by October 31, 2004; and expend a further \$750,000 on a Stage III program of exploration on the Mud Lake Claim Group by October 31, 2005. Undertaking further exploration programs subsequent to the Stage I exploration program will be dependent upon the obtaining of positive results in the prior program and ensuing exploration programs may vary somewhat based on technical results. Formal amendments will be sought to the Land Use Permit conditions for any significant variations in the nature or scheduling of proposed exploration activities.

Stage I Program of Exploration - Proposed exploration during the period June 1 thru December 31, 2003, to include establishing a 1 km square grid with 25 m line spacing over the area of the Mud Lake kimberlite discovery found by Snowfield during a Jan./Feb 2003 diamond drill program. Where possible, geochemical till samples will be obtained from grid line intersection points and, where required, additional ground geophysics (magnetometer and HLEM surveys) will be undertaken over the grid. Thereafter, it is anticipated that two diamond drill core rigs will drill up to 20 drill holes from up to 15 sites to further delineate the Mud Lake Kimberlite. Depth of each drill hole is anticipated to be 100 to 200 m. with the completion of each hole expected to take from two to five days. Mobilization of the equipment to the area will be either by ice road from Yellowknife and existing road cuts/trails on the claims during winter months or by helicopter as terrain and environmental conditions dictate.

Stage II Program of Exploration - Proposed exploration during the period November 1, 2003 thru October 31, 2004, to include regional geochemical till sampling and ground geophysics (magnetometer and HLEM surveys) over the Mud Lake Claim Group. Concurrently, it is anticipated that two diamond drill core rigs will drill up to 30 drill holes from up to 20 sites on grid targets. Depth of each hole is anticipated to be 100 to 200 m. with completion of each hole expected to take two to five days. Mobilization of the equipment to the area will be either by ice road from Yellowknife and existing road cuts/trails on the claims during winter months or by helicopter as terrain and environmental conditions dictate.

Stage III Program of Exploration - Proposed exploration during the period November 1, 2004 thru October 31, 2005, will include additional diamond drilling to further delineate the Mud Lake Kimberlite. Thereafter, it is anticipated that a surface bulk sample of an estimated 500 tonnes of kimberlitic material will be removed from a surface excavation of the Mud lake Kimberlite for processing and testing. The MVL&WB will be apprised of the details of the proposed Stage III Program of Exploration in a timely manner and any required amendments to the Land Use Permit conditions with respect to a bulk sampling of kimberlite will be sought at that time prior to commencement of those activities.

Hurcomb Claim - Under its option agreement on the Hurcomb Claim, Snowfield must expend \$100,000 on a Stage I program of exploration on the Hurcomb Claim by September 30, 2003 and expend a further \$150,000 on a Stage II program of exploration on the Hurcomb Claim by September 30, 2004. Undertaking further exploration programs subsequent to the Stage I exploration program will be dependent upon the obtaining of positive results in the prior program and ensuing exploration programs may vary somewhat based on technical results. Formal amendments will be sought to the Land Use Permit conditions for any significant variations in the nature or scheduling of proposed exploration activities.

Stage I Program of Exploration - Proposed exploration during the period June 1 thru September 30, 2003, to include establishing a 1 km square grid with 25 m line spacing over the area of a significant geophysical anomaly located by an earlier airborne geophysical survey undertaken by Snowfield over the Hurcomb. Where possible, geochemical till samples will be obtained from grid line intersection points and, where required, additional ground geophysics (magnetometer and HLEM surveys) will be undertaken over the grid.

Stage II Program of Exploration - Proposed exploration during the period October 1, 2003 thru September 30, 2004, will include further ground geophysical survey of potential drill targets and one diamond drill core rig drilling up to 10 drill holes from up to 7 sites on grid targets. Depth of each hole is anticipated to be 100 to 200 m. with completion of each hole expected to take two to five days. Mobilization of the equipment to the area will be either by ice road from Yellowknife and existing road cuts/trails on the claim during winter months or by helicopter as terrain and environmental conditions dictate.

Red Claims - Snowfield intends to expend \$100,000 on a Stage I program of exploration on the Red Claims by November 30, 2003; expend a further \$200,000 on a Stage II program of exploration on the Red Claims by November 30, 2004; expend a further \$300,000 on a Stage III program of exploration on the Red Claims by November 30, 2005; and expend a further \$500,000 on a Stage IV program of exploration on the Red Claims by October 31, 2006. Undertaking further exploration programs subsequent to the Stage I exploration program will be dependent upon the obtaining of positive results in the prior program and ensuing exploration programs may vary somewhat based on technical results. Formal amendments will be sought to the Land Use Permit conditions for any significant variations in the nature or scheduling of proposed exploration activities.

Stage I Program of Exploration - Proposed exploration during the period June 1 thru September 30, 2003, will include initially undertaking a helicopter borne multi-frequency Electromagnetic (EM) survey of the Red Claims to further define earlier airborne geophysical surveys of the claims followed by regional random geochemical till sampling and ground geophysics (magnetometer and HLEM surveys) over geophysical anomalies derived from the airborne geophysical surveys.

Stage II Program of Exploration - Proposed exploration during the period October 1, 2003 thru September 30, 2004, will include further ground geophysical surveys (magnetometer and HLEM surveys) of potential drill targets and the establishment

of a 1 km square grid with 25 m line spacing over ground confirmed geophysical targets. Where possible, geochemical till samples will be obtained from grid line intersection points and, where required, additional ground geophysics will be undertaken over the grid. Thereafter, one diamond drill core rig will drill up to 10 drill holes from up to 7 sites on grid targets. Depth of each hole is anticipated to be 100 to 200 m. with completion of each hole expected to take two to five days. Mobilization of the equipment to the area will be either by ice road from Yellowknife and existing road cuts/trails on the claim during winter months or by helicopter as terrain and environmental conditions dictate.

Stage III Program of Exploration - Proposed exploration during the period October 1, 2004 thru September 30, 2005, will include further ground geophysical survey of potential drill targets and one diamond drill core rig drilling up to 20 drill holes from up to 15 sites on grid targets. Depth of each hole is anticipated to be 100 to 200 m. with completion of each hole expected to take two to five days. Mobilization of the equipment to the area will be either by ice road from Yellowknife and existing road cuts/trails on the claim during winter months or by helicopter as terrain and environmental conditions dictate.

Stage IV Program of Exploration - It is anticipated that proposed exploration during the period October 1, 2005 thru September 30, 2006, will include additional diamond drilling to further delineate any kimberlite structure discovered during prior stage exploration. Thereafter, it is anticipated that a surface bulk sample of an estimated 500 tonnes of kimberlitic material will be removed from a surface excavation of any significant kimberlitic structures discovered during prior stage exploration. The MVL&WB will be apprised of the details of the proposed Stage IV Program of Exploration in a timely manner and any required amendments to the Land Use Permit conditions with respect to a bulk sampling of kimberlite will be sought at that time prior to commencement of those activities.

Fate Claim - Under its option agreement on the Fate Claim, Snowfield must expend \$75,000 on a Stage I program of exploration on the Fate Claim by December 31, 2003 on an exploration program that includes 500 m of diamond drilling. Undertaking further exploration programs subsequent to the Stage I exploration program will be dependent upon the obtaining of positive results in the prior program and ensuing exploration programs may vary somewhat based on technical results. Formal amendments will be sought to the Land Use Permit conditions for any significant variations in the nature or scheduling of proposed exploration activities.

Stage I Program of Exploration - Proposed exploration during the period June 1 thru December 31, 2003, would include one diamond drill core rig drilling up to 3 drill holes from one site into a known geophysical target on Defeat Lake. Depth of each hole is anticipated to be 100 to 200 m. with completion of each hole expected to take two to five days. Mobilization of drill equipment and personnel to the area will be by helicopter or fixed-wing aircraft from Snowfield's proposed Pebble Beach Camp.

GTen 16 Claim - Under its option agreement on the GTen 16 Claim, Snowfield must expend \$75,000 on a Stage I program of exploration on the GTen 16 Claim by November 30, 2003 and expend a further \$100,000 on a Stage II program of exploration on the GTen 16 Claim by November 30, 2004. Undertaking further exploration programs subsequent to the Stage I exploration program will be dependent upon the obtaining of positive results in the prior program and ensuing exploration programs may vary somewhat based on technical results. Formal amendments will be sought to the Land Use Permit conditions for any significant variations in the nature or scheduling of proposed exploration activities.

Stage I Program of Exploration - The option agreement prescribed exploration expenditures will be consolidated into a Stage I exploration program proposed during the period June 1 thru April 30, 2004 which will include geochemical till sampling and ground geophysics (magnetometer and HLEM surveys) over geophysical anomalies derived from an airborne geophysical survey previously undertaken by Snowfield to be followed by one diamond drill core rig drilling up to 5 drill holes from three sites into known geophysical targets on the GTen 16 Claim. Depth of each hole is anticipated to be 100 to 200 m. with completion of each hole expected to take two to five days. Mobilization of drill equipment and personnel to the area will be by helicopter or fixed-wing aircraft from Snowfield's proposed Pebble Beach Camp.

b) Please indicate if a camp is to be set up. (Please provide details on a separate page, if necessary.)

Slave Camp - Snowfield is proposing to establish a camp and equipment storage/staging area, to be named "Pebble Beach Camp", approximately 75 meters back from the shoreline of Great Slave Lake at approximately N62° 07' 02" (lat) - W113° 45' 50" (long) (UTM Co-ordinates 355308 East / 6890125 North). At various times during the period June 1, 2003 through October 31, 2005, the proposed camp will accommodate up to 20 persons., or have the capacity to expand to that size, and be comprised of 5 - 6 sleep tents, kitchen/dining tent, office/first-aid tent and wash/shower tent. Each tent will have a wooden frame and 3/4 inch plywood floor mounted on 2 x 6 beams. Additional structures will be established as required, either tents or modular structures, for latrines, supplies storage, core storage tent and helicopter supplies/equipment. There will be a designated burn area with burn barrel, a helipad, camp fuel cache, diesel powered electrical generator, electric powered pump to provide potable water and personal hygiene lake water. Temporary emergency shelter field camps may be required at remote exploration sites, Defeat Lake and the GTen 16 Claim, in the event of inclement weather that prevents air transportation of employees back to the main Pebble Beach Camp.

Potable water, pumped from the lake through an insulated, heated as required, poly-line, will be stored in a dry in a holding tank. Greywater will be dispersed through an insulated, heated as required, poly-line to an outfall at a sump of suitable capacity

It is anticipate that a discrete fuel storage area will be established, at a location apart from the camp and sited the required distance from any watercourse, to store up to ten drums (205 Litres) of diesel fuel, four drums (205 Litres) of jet fuel, two drums (205 Litres) of gasoline and four containers (100 pounds) of propane. Oils required for the electrical generator and water pump will be stored in the generator shed. Two containers (100 pounds) of propane will be stored in the area of the kitchen area for cooking and domestic hot water. Spill kits and absorbent pads/material will be present at fuel storage/transfer sites. Drip pans will be utilized at all fuel transfer locations.

(See attached "Appendix "B" - "Snowfield - Environmental Operating Procedures Policy")

6. Summary of potential environmental and resource impacts (describe the effects of the proposed land-use operation on land, water, flora & fauna and related socio-economic impacts). Use separate page if necessary.)

The activities being proposed are small-scale exploration over several mineral claim blocks that will have negligible impact on land, water bodies, flora, fauna and communities in the area. Only minor environmental impact is anticipated to the land surface, water, flora or fauna from geochemical till sampling, ground geophysics or diamond drilling. Any minimal environmental or resource impact incurred from the proposed operations will be very site specific and be of short-term in nature.

When clearing is unavoidable, it will be carried out in a manner that does not promote erosion. Wherever possible, areas that are naturally free of vegetation will be selected for logistical support sites (e.g. campsite, heli-pad). Operations requiring vehicle access will be conducted during the winter-spring period in order to take advantage of ice-covered waterways and frozen snow covered ground to prevent disturbance of the soil and ground cover vegetation. Foot accessible grid lines for geophysics, geochemistry and geology will be minimal widths. No large trees will be felled with tree branches being cut to allow foot access and line of sight. The blazing of trees will be avoided unless required by government regulations.

Geochemical till/soil sampling will be undertaken in a manner that will not cause any appreciable environmental damage; till/soil sample sites will be reclaimed by filling the sample pit and by replacing organic covering material immediately upon completion of the sample collection. Drill sites will be kept as small as possible with consideration of safety in order to minimize the footprint of disturbance. Drill cuttings are the only potential residual output of diamond drilling, and, where produced, this fine material will be transferred to a land-based sump by pumping. Where pumping drill cuttings from lake-ice based drilling sites is impractical, a Poly-Drill tank will be set up at lake-ice based sites and the contents of the settling tank will then be transferred and deposited in an appropriate land-based sump. Drillwater will be re-circulated to the extent possible. Drill additives will be seldom used, and when required, only from a list of environmentally benign products. A spill kit will be present at each drill site during drilling, drip pans/pails will be used to contain any equipment drips/leaks and extra absorbent materials will be kept on hand where fuels and oils are being used/transferred. Spill kits will also be located at each fuel cache and at the base camp. Congregations of wildlife are not expected in the immediate area but will be avoided should any be encountered. All drill sites are land based. Drill cuttings and fluids will be collected in tanks/sumps or topographic low areas thereby preventing any migration into natural waters.

Exploration sites and the camp and environs will be kept in a clean and orderly condition during and following operations so as to minimize the attraction of bears and wildlife and to restore the land to its original state. Wildlife will not be disturbed by exploration crews in any way; both wildlife and local land-users will have first right-of-way during Snowfield exploration activities.

During its exploration activities, Snowfield is committed to hiring locally to the greatest extent possible; opportunities can be expected to increase as exploration progresses beyond a few technical personnel. As a condition of contract, any contractors such as drillers etc. will be required, wherever possible, to hire locally. Longer term regional benefits that could result from these exploration activities are entirely dependent upon the future success of Snowfield's exploration results.

Snowfield consulted with Ms. D. Lampi, GSI Officer, of the Prince of Wales Northern Heritage Centre, Yellowknife, NT, who advises in a written report that there are three (3) archaeological sites within the Drybones Bay, Great Slave Lake area. Data provided in the Prince of Wales Northern Heritage Centre report would indicate that those three archaeological sites are not located on any of the specific mineral claims or land areas contained under this land use permit application.

On April 2, 2003, Snowfield and several other resource companies attended the community of Dettah to participate in a land use consultation meeting with the Yellowknives Dene First Nation ("YKDFN") with respect to the Drybones Bay and Wool Bay areas. As a result of that meeting, Snowfield became apprised of the cultural, spiritual and historical significance of the Drybones Bay and Wool Bay areas to local First Nations members. It is Snowfield's intention to continue communicating with the YKDFN prior to the commencement of any exploration activities, and, thereafter, on an ongoing basis with respect to its exploration activities in the area. In addition to this application, a separate letter will be going out to regional First Nation communities advising of this application and relating our desire to consult on planned exploration activities inland to the north and east from the Cabin Islands on Great Slave Lake.

Snowfield, under an option agreement with Diamonds North Resources Ltd., recently completed a thirty day diamond drilling exploration program undertaken on the GTen 1, 2, 3 and 4 mineral claims near Drybones Bay under Land Use Permit MV2002C0044. During this exploration program, thirty days of temporary employment was provided to local aboriginal men and the Yellowknives Dene First Nation community at Dettah provided two environmental observers who were located in the immediate area of the project. Snowfield was led to understand that those observers were fully satisfied with the exploration methods and environmental clean-up undertaken by Snowfield.

(See attached "Appendix "B" - "Snowfield - Environmental Operating Procedures Policy")

7. Proposed restoration plan (please use a separate page if necessary).

Upon completion of its variously proposed exploration programs, all equipment, fuel drums, garbage and other materials will be removed from all exploration sites and any camp locations. All land use areas will be restored to prior condition, or as close to prior condition as possible. Surface areas, where practical will be restored with original, reserved, soil and surface materials. In the event that drill casing must be left in some drill holes, drill casing will be cut to the ground, plugged and covered with original surface soil material. Every effort will be made to return all land used to its original natural condition as is reasonably possible. All removal and restoration activities will be documented and photographed, inspected in-house by Snowfield and then inspected by Crown land-use inspectors and First Nations observers to certify that closure of that phase of the land use permit can proceed.

(See attached "Appendix "B" - "Snowfield - Environmental Operating Procedures Policy")

8. Other rights, licences or permits related to this permit application (mineral rights, timber permits, water licences, etc.)

By way of various Mineral Claim Option Agreements and Mineral Claim Acquisition Agreements, Snowfield has a contractual right to undertake exploration activities on 19 Mineral Claims located on Map Sheets 85 I 3, 85 I 4, and 85 I 5 totalling approximately 35,182 acres.

The Mineral Claims and Record Numbers are as follows: The Drybones 4 Claim #F29229; Drybone 5 Claim # F29230; Beck 1 Claim # F16606; Beck 3 Claim # F16608; Beck 4 Claim #F16609; Beck 6 Claim # F16611; Habanero Claim # F16625; Faya Claim #F16648; and Pyrope Claim #F16626 were optioned by Snowfield under an Option Agreement dated November 26, 2002 with David Smith of Yellowknife N.W.T. During the period August 2002 through February 28, 2003, Snowfield undertook a program of exploration, including diamond drilling, under Land Use Permit #N1999C0104 which expired on February 28, 2003., previously issued to David Smith, covering the aforementioned claims. The Hurcomb Mineral Claim #F75684 was optioned by Snowfield from 644981 B.C. Ltd. of Vancouver, B.C. under an Option Agreement dated November 26, 2002. The Fate Mineral Claim #F75733 was optioned by Snowfield from New Shoshoni Ventures Ltd. of Vancouver, B.C. under an Option Agreement dated August 12, 2002. The GTen 16 Mineral Claim #F75684 was optioned by Snowfield from 644981 B.C. Ltd. of Vancouver, B.C. under an Option Agreement dated May 28, 2002. The Red 1 Claim #F80811; Red 2 Claim #80812; Red 3 Claim #F80813; Red 4 Claim #F80814; Red 5 Claim #F80815; Red 6 Claim #F80816; and Red 7 Claim #F80817 were staked by David Smith during September 2002 on behalf of Snowfield.

Roads: N/A Is this to be a pioneered road? Has the route been laid out or ground truthed?

9. Proposed disposal methods.

- a) Garbage: Combustible camp garbage and kitchen waste will be burned in a converted fuel drum incinerator with ashes buried in a pit (during forest fire danger periods combustible garbage will be transported to Yellowknife for disposal). Non-combustible garbage will be transported to Yellowknife for re-cycling or landfill disposal.
- b) Sewage (Sanitary & Grey Water): Sanitary sewage will be contained in outhouse pits, limed daily, which will be capped upon discontinuance of daily use or camp closure. Camp and personal hygiene greywater will be piped to a designated sump, covered in winter to keep out snow. Biodegradable, low-phosphate soaps will be used for kitchen dish/camp cleaning. No kitchen waste will be allowed to report to greywater settling sump.
- c) Brush & trees: Any bush and trees cut for survey lines, drill pad sites or camp locales will be reduced to manageable sizes and neatly piled. Where appropriate, cleared vegetation will be spread over exposed soil to prevent erosion and to enable seed stock to regenerate.
- d) Overburden (Organic soils, waste material, etc.): Earthmoving will be limited to the construction of small pits and sumps for the collection and disposal of benign waste (e.g. ashes/coins from burnt garbage, drill fluids, grey water and sewage). Topsoil or surface material useful for regeneration or re-vegetation, will be removed and stockpiled separately from subsoil. Topsoil will be returned as soon as possible, preferably within six months, to maintain seed viability, nutrient quality and microbial activity.

(See attached "Appendix B" - Snowfield - Environmental Operating Procedures Policy)

10. Equipment (includes drills, pumps, etc.) (Please use separate page if necessary.)

Type & number	Size	Proposed use
1 to 3 Wire-line core drills	Boyles 25A and/or Longyear 24 (small standard) and/or Longyear 38	Set casing, drill and extract core
Skidder	21,000 lbs	Moving drills or equipment
Nodwell	10,000 lbs	Moving drills or equipment
TD-20 Catepillar	50,000 lbs	Clearing access trails/drill pads (winter)
Hughes 500 D helicopter	n/a	Personnel, drill & equipment transportation
Cessna 185/DHC2 Beavern	n/a	Air transportation as required
1-3 Snow machines	as available	Personnel transportation
1-3 All terrain vehicles	as available	Personnel transportation
Electrical generators	2 to 5 Kwh	Camp & drill pad electrical power
Water pumps	n/a	Camp & drill equipment water supply
1 -2 trucks (Winter use only)	3/4 to 2 tons as req'd	Transportation of equipment, supplies & personel
Camp tents, frames & floors	various	Personnel accomodation, office, storage & kitchen facility

11. Fuels	()	Number of containers	Capacity of containers	Location
Diesel	X	10 (as necessary)	205L (45 gal.)	2 @ camp site 8 @ drill site
Gasoline	X	2 (as necessary)	205L (45 gal.)	1 @ campsite 1 @ drill site
Aviation fuel	X	10 jet turbine fuel 2 aviation gasoline (as necessary when operating aircraft)	205L (45 gal.) 205L (45 gal.)	6 @ campsite 4 @ drill site
Propane	X	10	45kg (100lb)	4 @ campsite 6 @ drill site
Other: Acetylene & Oxygen	X	1 & 1	45kg (100lb)	1 @ drill site (If welding req'd)

12. Containment fuel spill contingency plans. (Please attach separate contingency plan if necessary).

Consistent with Snowfield's Environmental Operating Procedures, Snowfield will strive to eliminate spillage and to reduce drips and leaks wherever possible. Spill kits and ancillary equipment and supplies will be provided at all sites wherever fuel is transferred or drips and leaks could possibly occur and in the immediate area where mechanical equipment (drills, skidder caterpillar etc.) is to be operated. Initial and ongoing training will be required and provided for all company and contracted on site workers and staff. In the event spillage or drippage occurs while fuel is being transferred, drips develop or pressure hoses burst, immediate remedial actions will be undertaken with the spillage/drippage being stopped and contained; contaminated snow or ice will be scraped, bagged and disposed of and/or contaminated soil, sand or vegetation will be either bagged and disposed of or aerated on tarps.

(See attached attached "Appendix "B" - Snowfield - Environmental Operating Procedures Policy" and "Appendix "C" Snowfield -Project Spill Contingency Plan")

13. Methods of fuel transfer (to other tanks, vehicles, etc.)

Diesel fuel, aviation fuels and small equipment fuels will be transferred with hand-wobble pumps or approved diesel or electrical powered fuel transfer pumps located in appropriate drip trays.

(See attached attached "Appendix "B" - Snowfield - Environmental Operating Procedures Policy" and "Appendix "C" Snowfield -Project Spill Contingency Plan")

14. Period of operation (includes time to cover all phases of project work applied for, including restoration)

It is proposed that Snowfield's exploration activities during the two primary seasons of the year for each year that the project receives a land use permit. Depending on annual weather conditions. It is anticipated that the summer exploration period July thru October will primarily entail geochemical soil/till sampling surveys, airborne or ground geophysical and ground penetrating radar surveys, prospecting and, where ground surface conditions permit, helicopter supported drill programs. It is further anticipated that the winter exploration period November thru April will primarily include ground and helicopter supported drill programs and ground geophysical and ground penetrating radar surveys. Primary site restoration activities will occur immediately upon completion of work at each site with any final restoration or soil remediation being undertaken during summer months and immediately prior to all required company and regulatory environmental/land use inspections.

15. Period of permit (up to five years, with maximum of two years of extension). **Five (5) years.**

16. Location of activities by map co-ordinates (attached maps and sketches)

(See attached "Appendix "A" - Project Location & Claim Maps")

Minimum latitude (degree, minute) Mud Lake Claim Group	62° 04' 00"	Maximum latitude (degree, minute) Mud Lake Claim Group	62° 11' 00"
Minimum longitude (degree, minute) Mud Lake Claim Group	113° 35' 00"	Maximum longitude (degree, minute) Mud Lake Claim Group	113° 47' 00"
Minimum latitude (degree, minute) Hurcomb Claim	62° 04' 00"	Maximum latitude (degree, minute) Hurcomb Claim	62° 07' 00"
Minimum longitude (degree, minute)		Maximum longitude (degree, minute)	

Hurcomb Claim	113° 35' 00"	Hurcomb Claim	113° 42' 00"
Minimum latitude (degree, minute) Red Claims	62° 03' 00"	Maximum latitude (degree, minute) Red Claims	62° 12' 00"
Minimum longitude (degree, minute) Red Claims	113° 30' 00"	Maximum longitude (degree, minute) Red Claims	113° 42' 00"
Minimum latitude (degree, minute) Fate Claim	62° 20' 00"	Maximum latitude (degree, minute) Fate Claim	62° 23' 00"
Minimum longitude (degree, minute) Fate Claim	113° 34' 00"	Maximum longitude (degree, minute) Fate Claim	113° 39' 00"
Minimum latitude (degree, minute) GTen 16 Claim	62° 10' 00"	Maximum latitude (degree, minute) GTen 16 Claim	62° 13' 00"
Minimum longitude (degree, minute) GTen 16 Claim	113° 25' 00"	Maximum longitude (degree, minute) GTen 16 Claim	113° 47' 00"

Map Sheet no.

Mud Lake Claim Group, Hurcomb Claim, Red Claims - Map Sheet NTS 85I/04

Fate Claim - Map Sheet NTS 85I/05

GTen 16 Claim - Map Sheet NTS 85/03

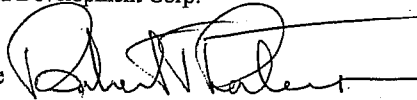
(See attached "Appendix "A" - Project Location & Claim Maps")

17. Applicant

Print name in full

Robert T. Paterson
President
Snowfield Development Corp.

Signature



Date June 12, 2003

18. Fees

Type A - \$150.00**

Type B - \$150.00 **

(**Application Fees are Non-Refundable**)

N.B. Snowfield will be making more detailed calculations of the number of diamond drill holes, location and extent of drill pads, location and length of tote roads for drill access as existing and new geological information is reviewed and as our technical staff accordingly undertake detailed exploration program planning on the property. As such, Snowfield will forward detailed maps to the inspector and the inspector will be contacted prior to the commencement of each phase of the proposed exploration programs and activities. Please consider our best knowledge initial estimates and criteria for assigning hectares to our application land use fees.

Up to 100 diamond drill holes @ 10m x 10m per hole = 10,000m²
 Estimated tote roads 4,000m (length) x 3m (width) = 12,000m²
 Estimated camp, storage areas & fuel caches = 12,500m²

Land use fee: 3.2 hectares @ \$50.00/hectare \$ 200.00

Assignment fee \$50.00 \$ 50.00

Total application and land use fees \$ 400.00

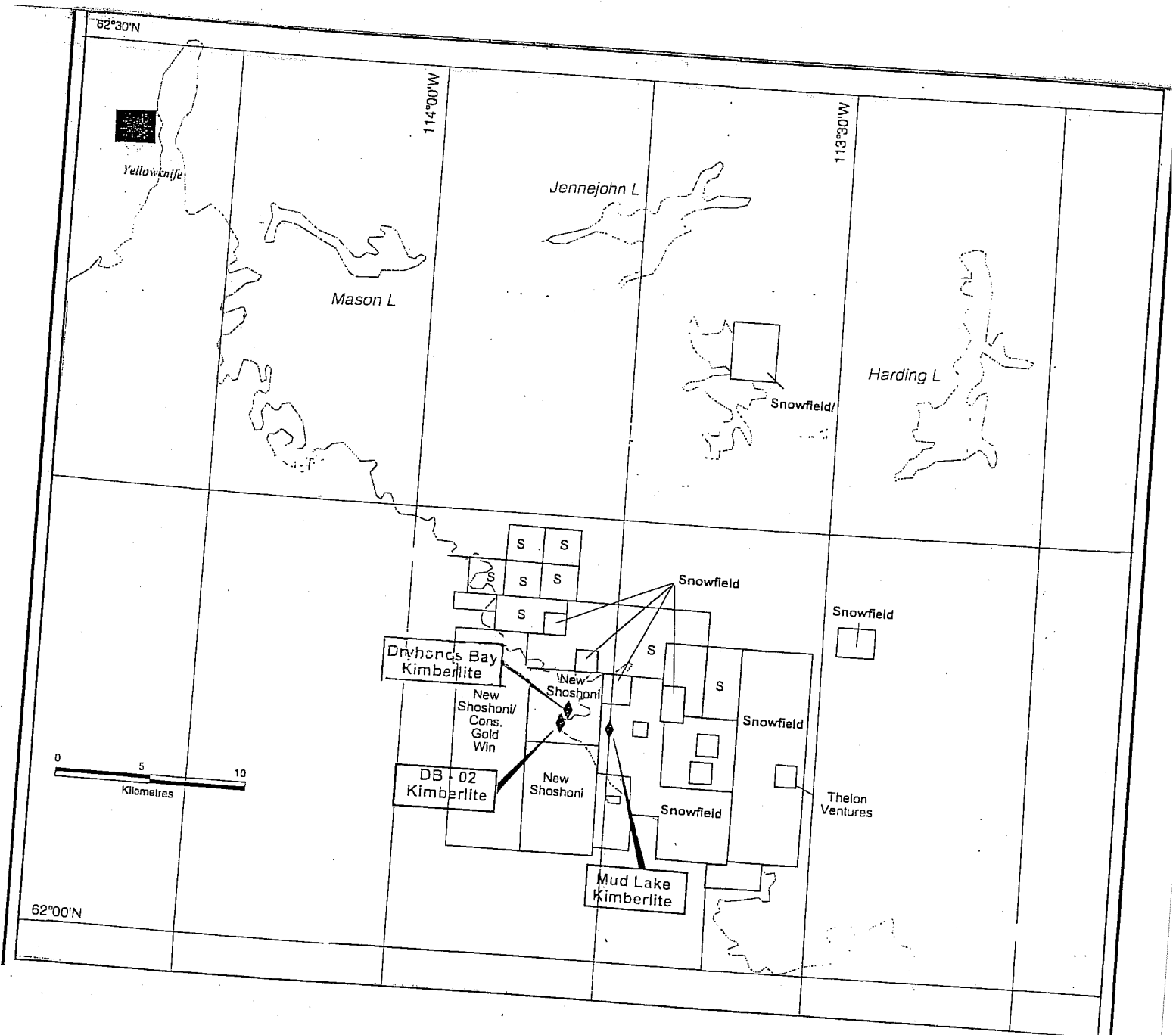
Please make all cheques payable to "Receiver General of Canada"

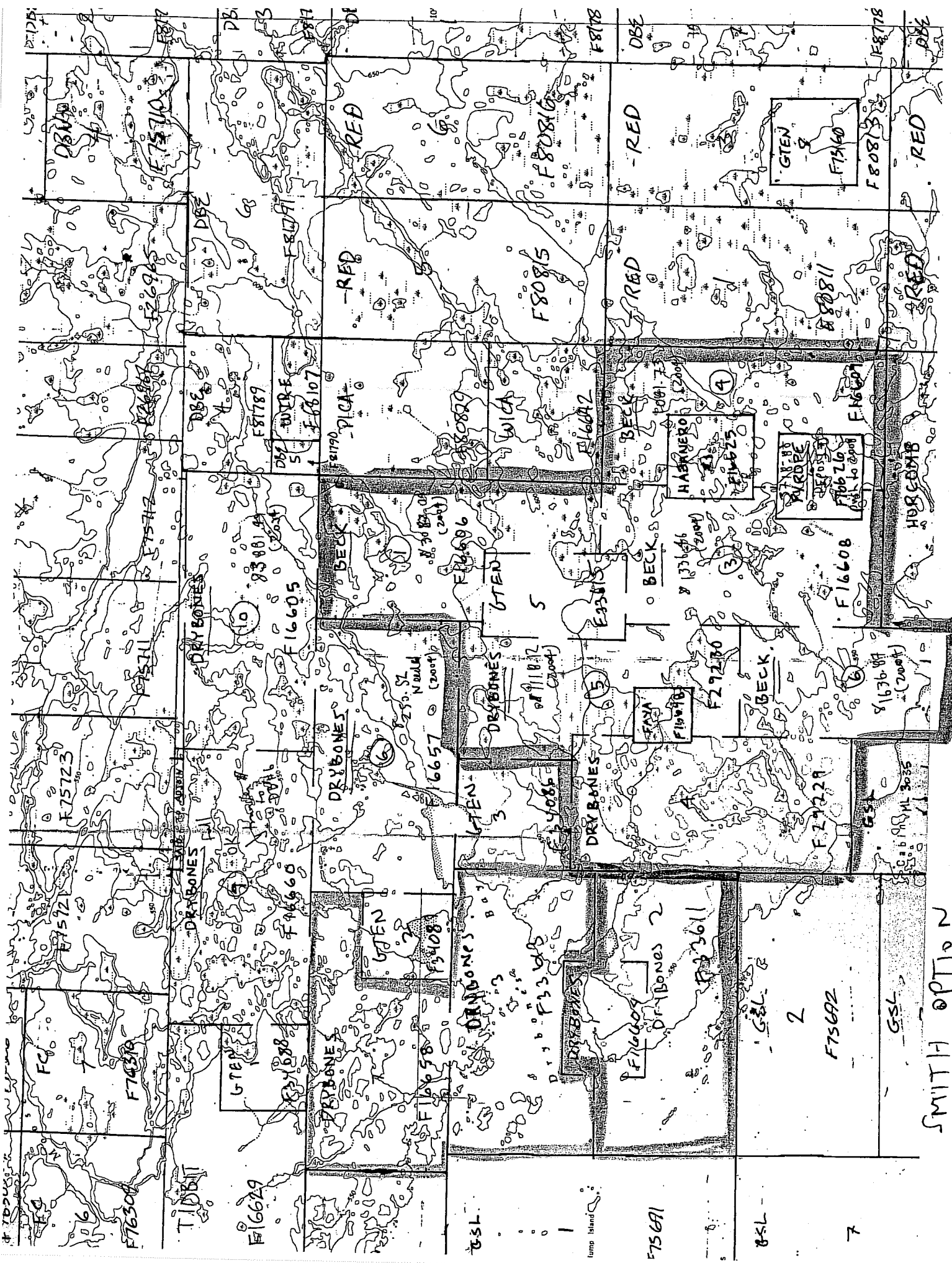
Appendix "A"

Project Location & Claim Maps

Snowfield Development Corp.

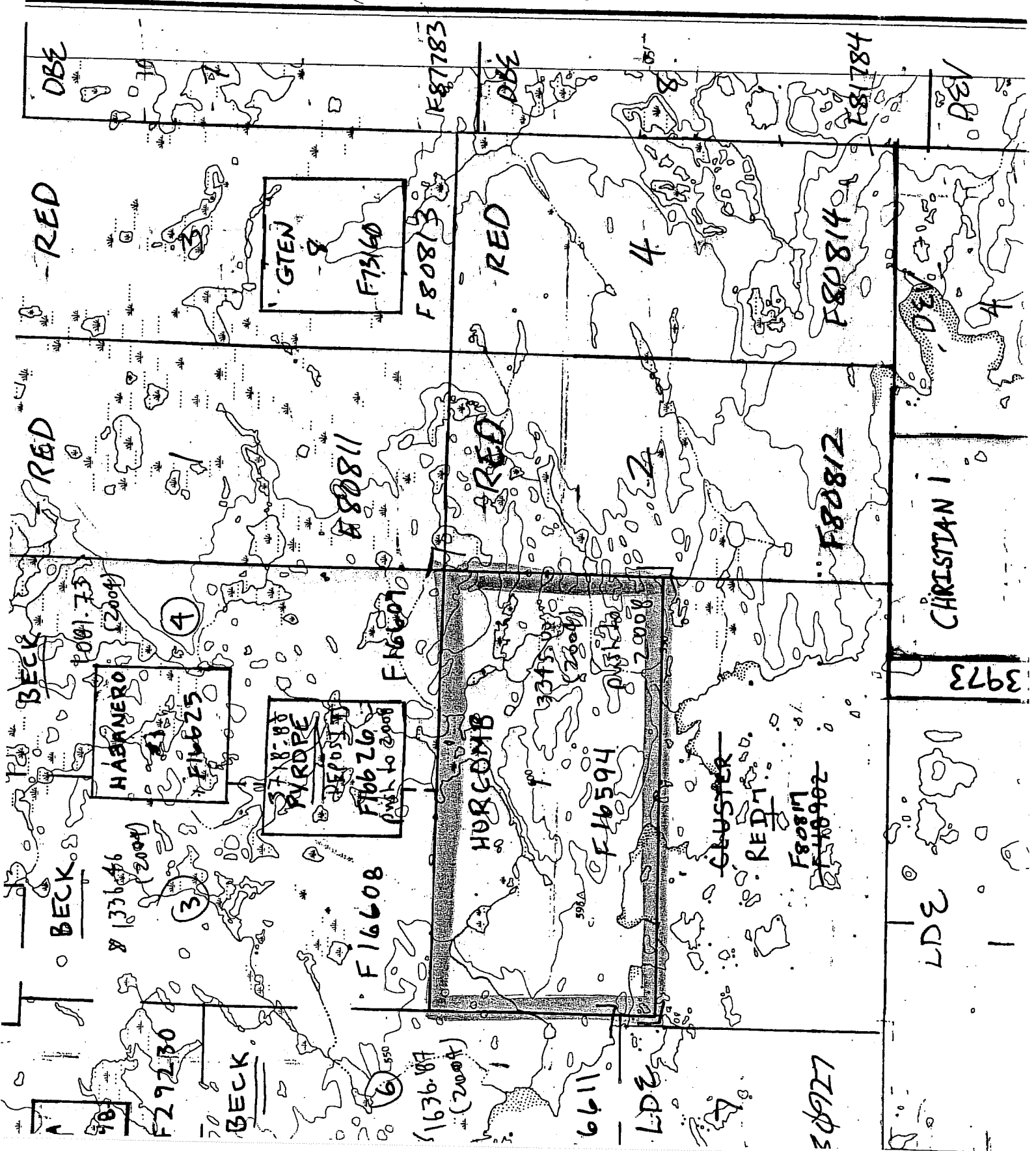
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SMITH OPT 10 N
 WTS 85I/4

RTS 051/A



HABINERO
F16625

718-80
PYROPE
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Push to 2000

HURCOMB
F16594
2000

GREN
F1660

F80813
F8081783

F80814
F8081784

F80812

CHRISTIAN I

3973

LDE

30927

F29230

BECK

6611

LDE

BECK

BECK

RED

OBE

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RED

HURCOMB

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CLUSTER
RED

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F80818

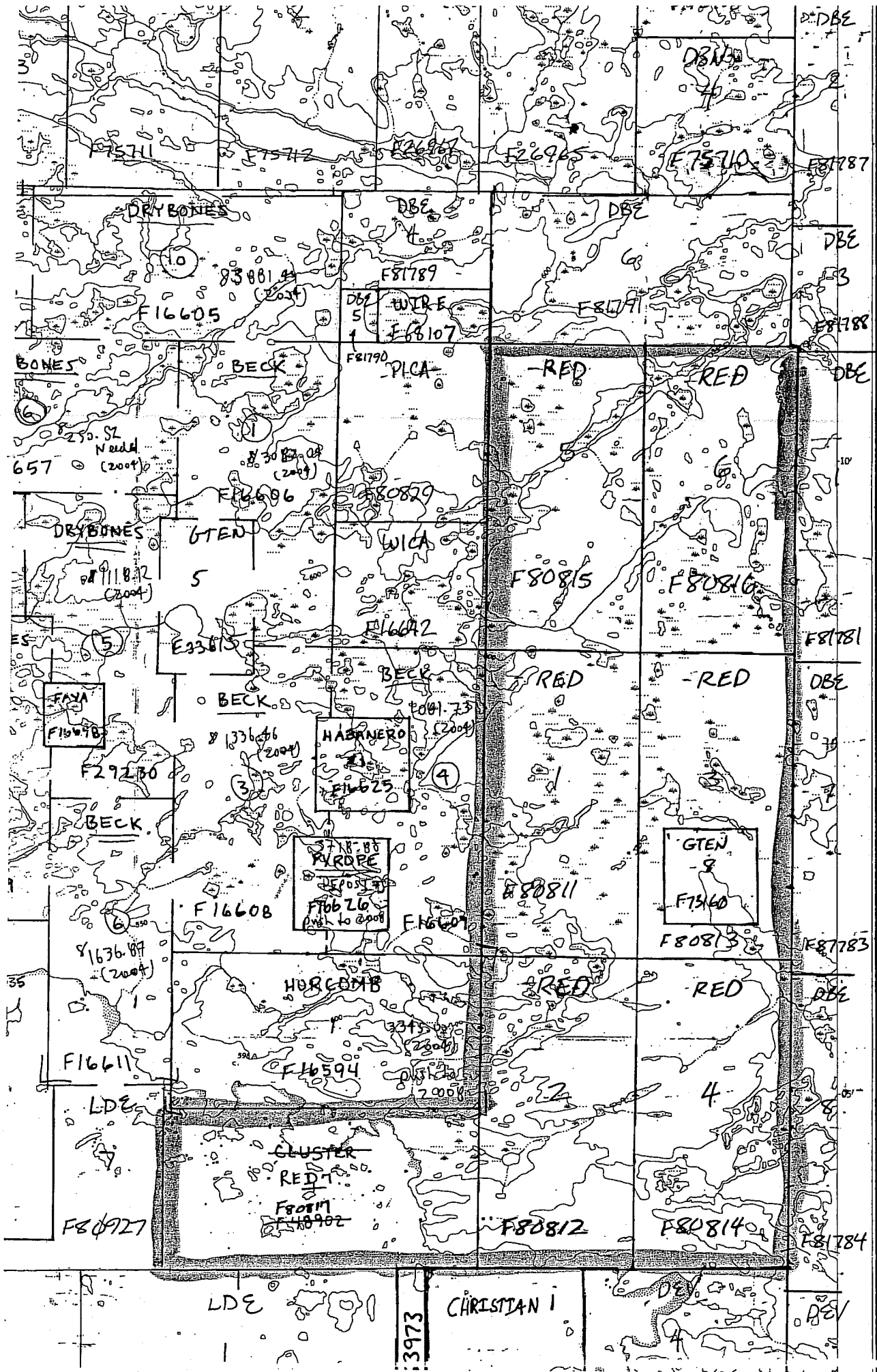
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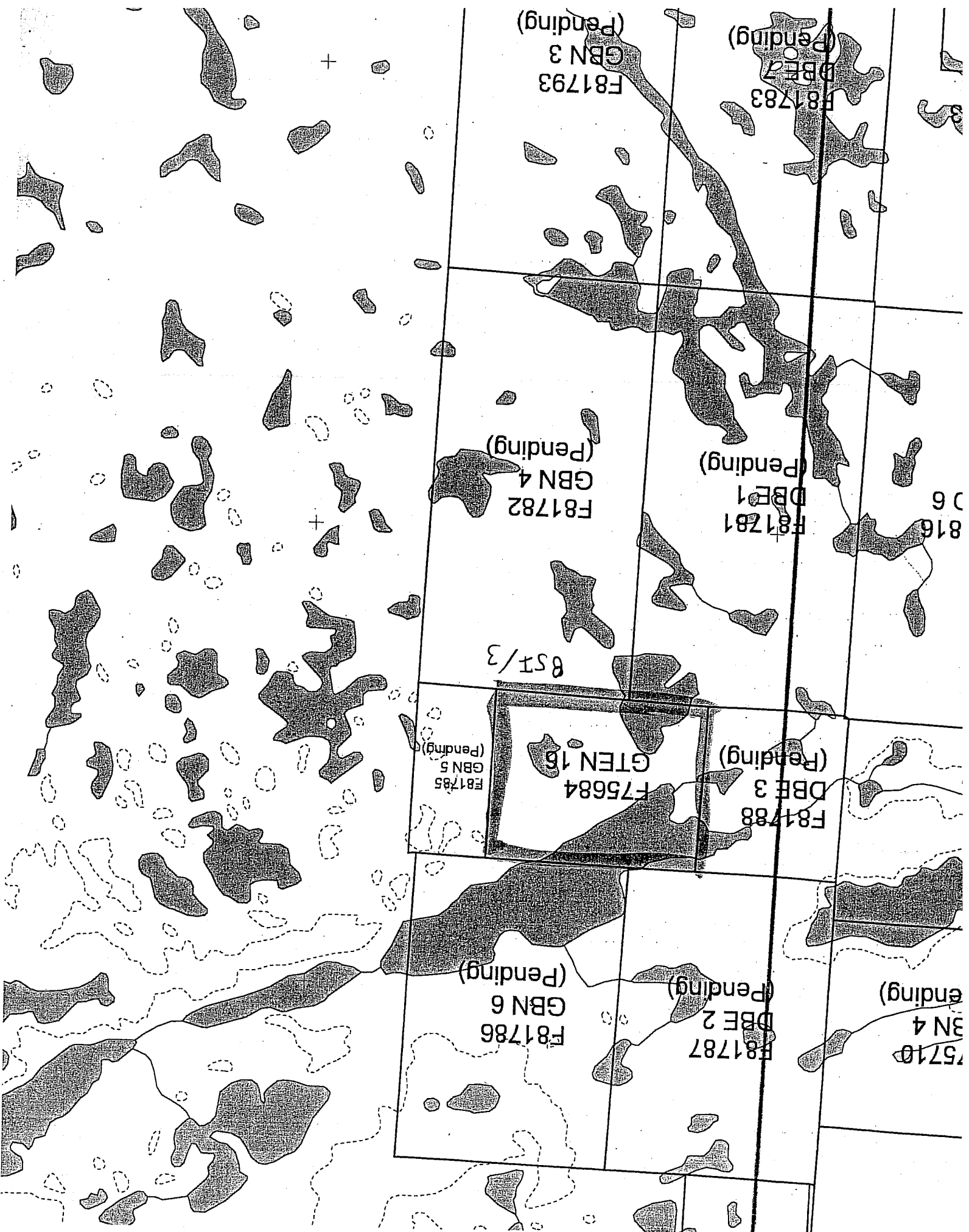
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RED Group NTS 85I/A

3973

CHRISTIAN I



F81793
GBN 3
(Pending)

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DBE 7
(Pending)

F81782
GBN 4
(Pending)

F81781
DBE 1
(Pending)

816
06

851/3

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(Pending)

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GTEN 15

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(ending)

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(Pending)

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MD

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F75716
KARMA 1
(Pending)

Defeat
Lula

F75717
KARMA 2
(Pending)

F26968
DEF 1
(Pending)

F80951
KELDA
(Pending)

F26970
FEA 1
(Pending)

F75719
KARMA
(Pending)

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Appendix "B"

Snowfield - Environmental Operating Procedures Policy

SNOWFIELD DEVELOPMENT CORP.

ENVIRONMENTAL OPERATING
PROCEDURES

Drybones Bay Area - Great Slave Lake, Northwest Territories

JUNE, 2003

ENVIRONMENTAL OPERATING PRINCIPLES

The following Environmental Operating Principles have been developed and adopted by Snowfield Development Corp. ("Snowfield"). These principles form the basis for Snowfield's Environmental Operating Procedures that are to be applied to all of our exploration activities within the Northwest Territories.

- Concerned environmental management is a basic tenet of Snowfield's exploration activities and it is the ongoing responsibility of all project personnel.
- These Environmental Operating Procedures will be applied to all Snowfield exploration operations.
- The potential environmental impact of Snowfield's exploration activities will be assessed and minimized.
- Environmental standards, quality of work and adherence to Snowfield's Environmental Operating Procedures will be continuously monitored, maintained and improved in conjunction with each exploration programme.
- All relevant government and regulatory authority environmental protection laws, regulations and policies will be known and complied with.
- All contractors, employees and on-site personnel will be apprised of Snowfield's Environmental Principles, Environmental Operating Procedures and all relevant environmental protection laws, regulations and their designated environmental responsibilities.
- Snowfield will initiate effective communications and maintain close liaison with nearby communities, interested parties and government regulatory authorities.
- All exploration activities will be conducted with due regard for the protection of wild life and flora and with respect for sites of cultural, historical and natural significance.
- Programs will be established at each exploration site to recycle all expended resources and to conserve resources.

"Robert T. Paterson"
President
Snowfield Development Corp.

Introduction:

Under its statement of Environmental Operating Principles, Snowfield Development Corp. ("Snowfield") is committed to the maintenance, attainment and improvement of high environmental standards while undertaking its exploration activities.

Conscientious exploration activities generally have a very low degree of impact upon the environment. Mineral exploration companies generally work in remote and relatively pristine areas with particularly sensitive ecosystems and challenging environmental and climatic conditions. Exploration companies must be diligent, innovative and responsible in managing and undertaking their exploration activities in a manner that ensures minimal impact to the environment.

1. PLANNING:

Exploration programs will be carefully planned to minimize disturbance and effectively manage environmental impact:

Risk Assessment

The activities associated with the proposed exploration program will be assessed for environmental risks and impacts. Variables such as topography, climate, fauna, vegetation and stakeholders must be considered. Procedures and/or processes will be implemented to manage and mitigate the identified risks and impacts.

Emergency Preparedness

An Emergency Response Plan (ERP) will be established for each program. The plan will include contingencies for possible environmental emergencies arising as a result of natural occurrences and/or as a result of program activities.

Expenditure / Budget

Activities such as site clearance surveys, environmental training and rehabilitation will be included in the program budget. These are genuine program costs and must be treated as such. Good environmental planning and management will minimize environmental damage.

Due Diligence

The environmental status of land will be reviewed prior to acquisition and any potential environmental liabilities recognized. This may involve discussions with landholders or joint venture partners and local stakeholders, on-site inspections, reviewing maps, photographs and previous reports of exploration work in the area. This process will be continued during the life of the program and will include mapping and photographing of possible sensitive areas.

Legislative Requirements

All relevant legislation and regulation will be known, communicated and complied with.

Approvals

Stakeholders of the land to be explored will be identified and consulted with on an ongoing co-operative basis. Relevant approvals from stakeholders and regulatory authorities will be obtained.

Responsibilities and Accountabilities

Environmental responsibilities will be assigned and communicated to all members of the program team. This includes employees and contractors. Contractor responsibilities will be outlined in the environmental schedule

of the contract. The primary responsibility for protecting the environment from impacts related to program activities is assigned to the Project Manager.

Induction and Training

All field employees and contractors will undergo an environmental induction that shall include this Environmental Operating Procedures manual and all relevant regulations.

Contractors

Preference will be given to local contractors who display high standards of environmental management and performance.

2. STAKEHOLDERS:

A stakeholder is an individual or group (i.e. landholder, local group, regulatory authority, community etc) concerned with or potentially affected by our exploration activities. Stakeholders will be identified with or potentially affected by our activities. Stakeholders will be identified for each program. Regular communications will be maintained with these stakeholders for the duration of the program, and afterwards in some cases. All contacts, meetings and agreements with stakeholders will be documented.

Cultural and Heritage Issues

Cultural objects, remains and sites of spiritual, archaeological, anthropological or historical significance will be protected.

- Surveys may be required to identify sites of sacred, heritage and cultural significance. The results of those surveys must be documented.
- Any additional sites identified, located or encountered will be left undisturbed and reported to the appropriate regulatory authority and any relevant stakeholder(s).
- Any discussions and meetings with local communities or traditional residents will be documented.

3. FLORA AND FAUNA

All reasonable care will be taken to avoid interference with rare or endangered species of native flora or fauna.

Flora

- All reasonable care will be taken to avoid unnecessary impact to flora and to mitigate required impacts.

Fauna

- Hunting is prohibited.
- Firearms and domestic animals are not permitted on program sites unless special permission has been obtained from the Project Manager.

4. AIRBORNE OPERATIONS

Our exploration activities will often require airborne support to remote locations. Additionally, due to the lack of serviceable airstrips on exploration sites, such airborne support will involve aircraft equipped for off-strip operations (float aircraft, helicopters). Those aircraft types have minimal potential impact upon the environment. The potential impacts of such aircraft include: petroleum product spills and the disturbance of fauna and people from low altitude flying and frequent take-offs. The likelihood of disturbing or disrupting people is considered low due to the remote location of exploration sites. All stakeholders will be advised of aircraft operations prior to the commencement of such operations. Stakeholder requests regarding noise abatement will be respected.

Airstrips

Only existing airstrips will be used.

Helipads

Helicopter landings and take-offs have little impact upon the flora or ground surface. However, helicopters require an area clear of obstructions that allows for safe manoeuvrability of the aircraft. The size of the area is dependent upon the aircraft type.

- Landing sites will be selected, whenever possible, that have a competent ground surface and are naturally free of vegetation or marginally covered.
- Landing sites that are designated for repetitive use which are blanketed by ground cover vegetation must have a helipad constructed.
- Helipads will be constructed in such a way as to minimize surface contact with vegetation.
- Helipads will be constructed from either dimensional lumber or from suitable trees that have been cleared from the landing site.
- Vegetation clearing will be conducted as per the relevant sections under "Land Disturbance" of this document.

Fuel

Aviation fuel at exploration operations is contained in 205 litre (45 gallon) steel drums for ease of handling. These drums will be stored horizontally in a plastic berm on the ground with the bungs positioned at the mid-way point. Each plastic berm will have sufficient side-wall height to contain the contents of the drum in the event of leakage. This storage method prevents contact of surface water with the bungs and contamination of the fuel while keeping the bung seals submerged in fuel which prevents the seals from drying out and leaking while containing any accidental leakage or spillage.

- Fuel drums will be stored at a distance of no less than 100 metres from any surface water source (e.g. lake, stream, pond, etc.)
- Remote fuel storage locations (e.g. outside of camp) will be plotted on a suitable topographic map and the GPS positions will be recorded. An updated inventory of the fuel used will be maintained.
- Regular visual inspections will be conducted of all fuel caches.
- Empty or otherwise no longer required fuel drums will be retrieved from all locations. Empty fuel drums will be returned to the supplier for recycling.
- Fuel drums will not be stored remotely for more than one year.
- Fuel storage locations will have a suitable spill response kit.
- Refuelling locations will have a suitable fire extinguisher.
- Spill prevention measures will be implemented prior to refuelling (e.g. drip pan).

5. LAND DISTURBANCE

All necessary permits and permissions will be obtained prior to conducting any land disturbance. Great care will be taken to avoid and/or minimize land disturbances such as earthmoving and vegetation clearing. When clearing is unavoidable, it will be carried out in a manner that does not promote erosion. Wherever possible, areas that are naturally free of vegetation will be selected for logistical support sites (e.g. campsite, helipad). Operations requiring vehicle access will be conducted during the winter-spring period in order to take advantage of ice-covered waterways and frozen snow covered ground to prevent disturbance of the soil and ground cover vegetation.

Supervision

Earth moving and clearing activities will be supervised at all times by a Snowfield representative who will clearly define the area to be disturbed using temporary markers.

Earthmoving

Earthmoving will be limited to the construction of small pits and sumps for the collection and disposal of benign waste (e.g. ashes/coins from burnt garbage, drill fluids, grey water and sewage).

Topsoil or surface material useful for regeneration or re-vegetation, will be removed and stockpiled separately from subsoil. Topsoil will be returned as soon as possible, preferably within six months, to maintain seed viability, nutrient quality and microbial activity.

Clearing Vegetation for Vehicle Access

With all operations requiring vehicle access being conducted during the winter/spring period, the only vegetation clearing that may be necessary will be the removal of trees. Tree removal will only be undertaken if access cannot be obtained via frozen waterways, natural and/or existing clearings and existing tracks.

- Keep the track width to the minimum required.
- Weave around large trees and avoid creating long straight stretches.
- Use naturally cleared areas and consider the thickness of vegetation.
- Tracks should be positioned along ridges.
- Wherever possible, avoid clearing on steep slopes, side hills and drainage banks.

Clearing Vegetation in General

- Determine the exact requirements to avoid unnecessary and excessive clearing.
- Lop branches in preference to felling trees.
- Leave felled timber in a manner acceptable to the authorities. Otherwise, stockpile the cleared vegetation for subsequent re-spreading over the track to protect exposed soil from erosion and to enable seed stocks to regenerate. Do not place felled vegetation where it will alter or disturb natural drainage channels

Geochemical Sampling

When taking soil samples, areas naturally free of vegetation will be selected whenever possible. When that is not possible, the organic layer and any topsoil should be set aside and replaced after the sample is taken.

6. TRAVERSING

Gridding

- Foot accessible grid lines for geophysics, geochemistry and geology will be minimal widths.
- No large trees are to be felled. Branches will be cut to allow foot access and line of sight.
- The blazing of trees will be avoided unless required by government regulations.
- Do not leave pointed stakes that will endanger humans or animals.
- wooden survey pegs will be used in preference to steel.
- Steel markers will only be used as permanent survey points and where possible, will be positioned where they will not cause injury to animals or people, or interference with vehicle movement.
- Care will be taken to ensure that all pegs are removed at the completion of exploration.
- Flagging tape and spray paint will be used sparingly. Wherever possible, biodegradable materials will be used.
- Hip-chain line will be broken after crossing a track or trail and care taken to ensure that the line has fallen clear of the right of way.

EM Induction Surveys

Wherever practicable, wires will be watched during surveys to avoid endangering animals or people in the

survey area. If potential exists for other people to be present in the area while surveys are underway, signs will be posted. At no time are wires or cables to be left unattended.

7. DRILLING OPERATIONS

Contracts for exploration drilling services will stipulate adherence to the environmental component of the Snowfield Environmental Operating Procedures and will include penalties for non-compliance.

Drill Sites

- Sites will be selected to minimize damage to the environment.
- Sites shall be as small as practicable but shall include enough area for fire protection and safe operations.
- Drill sites on steep sites will be avoided.
- drill sites will be prepared in accordance with Section 5 - Land Disturbance.

Sumps

- Natural depressions will be used in preference to excavation.
- The number and size of sumps will be adequate to contain all potential drilling fluids.
- If sump excavation is required, the organic layer and any topsoil will be stockpiled separately for replacement during backfilling.
- Excavated sumps should be fenced or barricaded until they are backfilled.
- Excavated sumps should be allowed to dry out by evaporation prior to backfilling.

Drilling Fluids

- Biodegradable drilling fluids will be used at all times
- Drilling fluids will be contained in sumps or by another suitable and approved method (e.g. tanks).
- Fluid will be disposed of according to regulations.

Groundwater

- If encountered, artesian water flow will be controlled to prevent erosion of the ground surface and the silting of watercourses.

Waste

- Receptacle will be provided for rubbish at drill sites. No waste of any description will litter drill sites.
- Food waste will be removed from drill sites daily.
- Waste will be disposed of according to regulations and land use permits.

Reverse Circulation/Percussion Drilling

When handling reverse circulation/percussion drilling samples, cuttings, care will be taken to prevent the mixing of sub-soil with topsoil if they are significantly different from each other. A tarp or similar device should be placed around the hole to contain drill cuttings and to prevent contact with the ground surface. Water injection should be used to control dust. On completion of the hole, all cuttings not required for analysis or storage will be poured back into the hole or otherwise disposed of in accordance with regulations.

Drilling on Ice

Drilling fluids and cuttings will be controlled to prevent contact with the ice surface or water. A method to clean up accidental spills of drilling fluids and cuttings will be devised and the required equipment will be made available prior to the commencement of drilling operations on ice. Fluids and/or cuttings will be disposed of on land in a natural depression or excavated sump in accordance with the land use permit.

Spill Prevention

Methos will be implemented for the handling and care of petroleum products, drilling additives, etc. so as to prevent accidental spillage of these materials. Drip plans will be placed under leaking equipment and the leaks will be repaired as soon as possible.

Core Cutting

Waste water from core sawing will be controlled to prevent erosion of the ground surface and the silting of watercourses. Where practicable, core sawing wastewater should be contained and recycled through the core saw.

Cuttings from sulphur-rich core have the potential to acidify any soils with which they come in contact. All cuttings and unwanted core off-cuts or pieces will be contained and disposed of by burial or otherwise disposed of according to regulations.

Capping of Drill Holes

- all holes will be temporarily plugged immediately upon completion using whatever safe means available (e.g. rocks), to eliminate any hazard to wildlife.
- Prior to the completion of the program, all open holes will be plugged with a proper down-hole plug and the area above the plug filled in.
- If later relocation of the hole is not required, casing will be removed whenever possible.
- Remaining casing will be cut off to ground level or below and capped.
- Any excess drill chips will be poured back down the hole.
- Any holes with flowing water will be permanently sealed unless written instructions from the relevant authority indicates otherwise.

8. CAMP SITE SELECTION AND DESIGN

To prevent disruption to flora and fauna, camps, wherever possible, will be located in naturally clear areas, not on migration routes (e.g. esker trails) and at least 50 metres from surface water.

To mitigate potential impacts, decisions regarding site selection and the type of structures and facilities to be established must consider the following criteria:

- Number of people to be accommodated.
- Duration of the camp.
- Activities to be undertaken at the camp.
- The time of year the camp will be utilized
- Land use permit stipulations.

Fire Protection and Prevention

- Fire regulations will be observed at all times and permits obtained if necessary.
- the use of open fires will be avoided. Fires should only be used for general garbage disposal and will be contained in an excavated pit or in a steel container such as an empty fuel drum. Embers should be buried or transported from the site to an approved landfill location.
- Personnel are to be advised that the disposing of cigarettes onto the ground is prohibited.
- Additional precautions such as prohibiting smoking and open flames will be implemented for areas, or during periods, of greater fire risk.

9. WATER MANAGEMENT

Precautions will be taken throughout all areas of Snowfield exploration operations to direct or indirect

pollution of watercourses, water bodies and ground water.

- Used water will be contained in excavated sumps or natural depressions. Water flow will be controlled to prevent erosion of the ground surface and the silting of watercourses.
- Proposed potable water should be tested for water quality.
- Regular water monitoring and testing should be undertaken for areas of advanced exploration or semi permanent camps.

10. HAZARDOUS MATERIALS

Whenever possible, the use of hazardous materials will be avoided. Other methods, or non-hazardous methods will be employed.

- Exploration sites will have posted procedures in place for the storage, handling and disposal of hazardous materials.
- Whenever a substance is taken from its primary container and placed into a secondary container, the secondary container will be adequately labelled as to its contents.
- Material Safety Data sheets ("MSDS's) will be available for all hazardous materials on site.
- Fuels, oils and chemicals must be properly contained and stored at a minimum distance of 100 metres away from surface water unless expressly authorized by the land use permit or in writing by an inspector.
- Bulk tanks of fuel will be equipped with secondary containment that is capable of holding 110% of the primary tanks.
- Flammable materials will be stored in cleared areas or in a metal storage cabinet that is segregated from combustible material.
- Disposal of all hazardous materials will occur off-site at an authorized facility.

Spill Response

- Spills will be cleaned up promptly.
- All spills will be reported to the Snowfield Project Manager.
- All government reporting requirements will be complied with.
- Spill kits and absorbent material will be available at all fuel storage locations and remote areas of significant machinery activity (e.g. drill sites, road building).

The following responses are suitable for fuel/petroleum product spills in different environmental media;

Spills On Land (gravel, rock and vegetation)

- Trench or ditch to intercept or contain flow of fuel or petroleum product on land where feasible (loose sand, gravel and surface layers of organic materials are amenable to trenching/ditching; trenching in rocky substances is typically impractical and impossible).
- Construct a soil berm down slope of the spill. Use of synthetic, impervious sheeting can also be used as a barrier.
- Where available, recover spills through manual or mechanical means including shovels, heavy equipment and pumps.
- Absorb petroleum residue with synthetic absorbent pads materials.
- Recover spilled and contaminated material, including soil and vegetation.
- Transport contaminated material to approved disposal or recovery sites. Equipment used will depend on the magnitude and location of the spill.
- Land based

Spills on Snow

- Trench or ditch to intercept or contain flow of fuel or petroleum products on snow, where feasible (ice and snow are amenable to trenching/ditching)
- Compact the snow around the outside perimeter of the spill area.
- construct a dike or dam out of snow, either manually with shovels or with heavy equipment such as graders and dozers where available.
- If feasible, use synthetic liners to provide an impervious barrier at the spill site.
- Locate the low point of the spill area and clear channels in the snow, directed away from waterways, to allow any non-absorbed material to flow into the low point.
- Once collected in the low point, options include shovelling spilled material into containers, picking up with mobile heavy equipment, pumping liquid into tanker trucks or using vacuum truck to pick up material.
- Where safe, disposal can be done through in situ combustion with approval from government authorities.
- Liquid oil wastes, oil contaminated snow and debris and oil residues left after controlled, in situ burning will be picked up and disposed of at a land disposal site approved by government authorities and fire/safety consultants.
- Transport contaminated material to approved disposal site. Equipment used will depend upon the magnitude and location of the spill.

Spills on Ice

- Contain material spill using methods described above for snow if feasible and/or undertake mechanical recovery with heavy equipment.
- Prevent fuel/petroleum products from penetrating ice and entering watercourses.
- Remove contaminated material, including snow/ice as soon as possible.
- Containment of fuel/petroleum products under ice surface is difficult given the ice thickness and winter conditions. However, if the material gets under the ice, determine the area where the fuel/petroleum is located.
- Drill holes through ice using ice auger to locate fuel/petroleum product.
- Once detected, cut slots in the ice using chain saws and remove ice blocks.
- Fuel/petroleum products collected in ice slots or holes can be picked up absorbent material or via suction hoses connected to portable pumps, vacuum truck or standby tanker. Care should be taken to prevent the suction hose from clogging up with snow, ice or debris.
- Fuel/petroleum products that have collected in ice slots may be disposed of by in-situ burning with approval from government authorities if sufficient holes are drilled in the ice. Once all the holes are drilled, the oil which collects in the holes may be ignited. Consult with fire/safety consultants and government authorities to obtain approval.

Spills on Water

- Contain spills on open water immediately to restrict the size and extent of the spill.
- fuel/petroleum products, which float on water, may be contained through the use of booms, absorbent materials, skimming and the erection of culverts.
- Deploy containment booms to minimize spill area, although the effectiveness of booms may be limited by wind, waves and other factors.
- Use absorbent booms to slowly encircle and absorb spilled material. These environmental absorbent materials are hydrophobic (absorb hydrocarbon and repel water).
- Once booms are secured, use skimmers to draw in hydrocarbons and minimal amounts of water. Skimmed material can be pumped through hoses to empty fuel tanks/drums.
- Culverts permit water flow while capturing and collecting fuel along the surface with absorbent

materials.

- Chemical methods including dispersants and emulsion as treating agents and shoreline cleaning are to be considered as circumstances dictate.
- Use absorbent pads and similar materials to capture small spills and oily residue on water.

Tanker trucks that slip through ice into the water below will remain buoyant since the densities of fuel and petroleum products are less than water. Buoyancy will be maintained while pumping fuel from the truck to another vessel until the truck can be retrieved safely. Efforts are to be made to extract the truck from the water as soon as possible.

Other Response Alternatives

In-situ combustion is a disposal method available of fuel and petroleum products. In-situ burning can be initiated by using a large size portable propane torch (tiger torch) to ignite the fuel/petroleum products. Highly flammable products such as gasoline or alcohol, or combustible materials such as wood, may be used to promote ignition of the spilled product. The objective is to raise the temperature for sustained combustion of the spilled product.

Precautions must be taken to ensure safety of personnel. Also, spilled products should be confined to control burning. These include areas where the material has pooled naturally or been contained via dikes, trenches, depressions or ice slots. Prior to any attempt at in-situ burning, consultation with experts and approval by government authorities are required.

Chemical response methods are also available and may include the use of the following:

- Dispersants
- Emulsion treating agents
- Visco-elastic agents
- Herding agents
- Solidifiers
- Shoreline cleaning agents

Biological response methods include nutrient enrichment and natural microbe seeding.

11. WASTE MANAGEMENT

General (domestic and personal) Waste

All foreign material introduced to an area by employees or contractors will be collected and removed from the site to an approved landfill site unless the land use permit allows for on site disposal.

General garbage will be incinerated prior to burial unless otherwise contradicted by government regulations. General garbage that is designated for shipment can be incinerated to reduce bulk unless otherwise contradicted by government regulations. Food wastes will not be stored on site, it will be incinerated and buried or shipped off site daily. Incineration will be conducted within an approved container (e.g. diesel-fuelled incinerator, modified steel drum).

All domestic and personal waste shall be removed in accordance with local health requirements. Sewage should be collected in a bagging system ("Pacto"), chemically treated, or contained in a pit (latrine). If a bagging system is used, the bags should be incinerated or removed from the site. Chemically treated effluent should be removed from the site or, if not practicable, and government regulations allow, it should be contained in a natural depression or pit. Latrines should only be used for programs of short duration. All latrines must be treated at least once a day with lime. Wastewater from kitchen or showering facilities should be directed to sumps designed to prevent discharge of particulate material.

Rubbish containers are to be carried in all vehicles and provided at all work sites. The size of waste containers should be appropriate for the intended use. Food-waste must be removed from remote locations on a daily

basis. Food must be removed from remote locations whenever the locations are unoccupied.

On site disposal of garbage will be avoided during reconnaissance activities. The garbage will be returned to the base of operations for proper disposal.

Recycling

Recycling programs shall be initiated and implemented whenever practicable.

12. REHABILITATION

All reasonable steps will be undertaken to return the land surface to its original form in order to promote healthy re-vegetation and sustainable natural development. Rehabilitation time varies in accordance with the speed of natural growth in the area. Local land management authorities should be consulted at an early date with respect to proven and recommended methods for rehabilitation and re-vegetation in the area.

Upon completion of exploration in an area, an inspection will be made to assess whether all rubbish has been removed, all drill holes have been capped, excavations have been backfilled, topsoil replaced and bare lines scarified.

Regardless of location, the following steps are to be taken to aid natural rehabilitation of tracts, drill sites, camp sites, excavations, etc as soon as practicable after exploration is complete:

- Remove all rubbish and waste material. Fill in all holes, trenches and sumps with the stockpiled subsoil and compact it.
- Backfill excavations with the stockpiled subsoil and topsoil.
- Re-contour disturbed topography, particularly natural drainage patterns, as much as possible.
- Contour rip cleared or compacted surfaces to prevent erosion and to trap seeds. Compacted areas should be ripped to a depth of 0.5m where practicable using rippers with a minimum spacing of 1m.
- Cap all drill holes.
- Spread topsoil or surface material useful for regeneration or re-vegetation over all disturbed areas as a rooting medium for re-vegetation.
- Spread any cleared vegetation to trap wind-blown seeds, promote re-growth and minimize erosion.
- If necessary, spread fertilizer and an approved mix of seed over any disturbed areas. (No exotic seeds are to be sown in native vegetated areas).
- Fencing may be required in some areas of re-vegetation.
- Close off all cleared lines and tracts.
- Photographs should be taken of sites before, during and after exploration operations where surface disturbance occurs.
- Rehabilitated areas should be monitored after exploration is complete, either by physical inspection or by contacting the appropriate licensing authority.

13. REPORTING AND RECORD MANAGEMENT

Incident reporting and Investigation

Any significant environmental incident must be promptly reported and adequately investigated. Authorities must be notified as per regulation.

Examples of environmental incidents resulting from exploration activities are::

- Hazardous material spill.
- Bush fire.
- Introduction of noxious weeds or diseases.
- Damage to a heritage, cultural or sacred site.

- Contamination of surface or ground water.
- Significant erosion requiring major rehabilitation.

Key Performance Indicators

Key Performance Indicators ("KPI's") for monitoring environmental performance must be developed for Snowfield's exploration activities and reported on, as appropriate, a daily, monthly or project basis in the monthly environmental report which is to be submitted with a monthly safety statistics report.

Examples of KPI's are:

- The amount of land rehabilitation undertaken as compared to the amount of land disturbance associated with the exploration activities undertaken by Snowfield or its contractors.
- The number of drill holes capped compared to the number drilled.
- Fuel consumption

Central Filing System

All necessary environmental reporting and documentation, both internal and external, will be managed in a systematic manner under the surveillance of the Project Manager. Other documents such as correspondence with stakeholders, training and induction records, chemical analyses, routine reporting, special licence and land use permit conditions, and incident and audit reports will be retained permanently.

Reporting

Other types of reports will include:

- Audit reports
- Performance improvement reports
- Project environmental report (at project completion)

Appendix "C"

Snowfield - Project Spill Contingency Plan

SNOWFIELD DEVELOPMENT CORP.

**SPILL CONTINGENCY PLAN
PROCEDURES**

Drybone Bay Area - Great Slave Lake, Northwest Territories

June, 2003

1. INTRODUCTION

1.1 Purpose of Plan

The purpose of this Spill Contingency Plan is to provide a plan of action for all spills of hazardous materials that may occur on any exploration property. This plan defines the responsibilities of key personnel and outlines procedures to effectively and efficiently contain and recover spills of hazardous materials.

Petroleum products and hazardous materials that will be considered in this Spill Contingency Plan include:

- diesel fuel
- hydraulic oil
- engine oil
- jet "b" fuel
- antifreeze
- propane

1.2 Snowfield Development Corp Environmental Policy

It is the policy of Snowfield Development Corp. to comply with all existing laws and regulations to help ensure the protection of the environment. Snowfield Development Corp. cooperates with other groups committed to protecting the environment and ensures that employees, government, and the public is informed on the procedures followed to help protect the environment.

2.0 SITE DESCRIPTION

2.1 General Site Description:

This spill contingency plan is to be implemented at all field camps established for mineral exploration.

2.2 Petroleum Storage and Transport

Fuel drums are stored at a distance greater than 50 metres from the normal high water mark of any body of water.

All fuel and oil will be transported to the various exploration properties by boat, vehicle or aircraft.

2.3 Chemical Storage and Transport

Any required chemicals are transported to by boat, vehicle or aircraft.

2.4 Greywater and Sewage

Greywater will be discharged into sumps or natural depressions away from water bodies.

3.0 RESPONSE ORGANIZATION

The following is a flow chart to illustrate the sequence of events in the event of a hazardous material spill occurring at any of the Snowfield exploration properties.

Hazardous Material Spill On Site

Spill Observer Assesses Situation

Report Spill to On-Scene
Coordinator/Project Manager

Notify Spill Response Team

Notify Government Agencies and
NWT 24-Hour Spill Report Line

Record Incident Using Spill Report Form

3.1 Spill Response Team

Mike Beauregard will be the On-Scene Coordinator for the Snowfield exploration properties. Mike Beauregard will appoint and train appropriate personnel to make up the Snowfield Spill Response Team for the various Snowfield exploration properties. The key personnel that make up the Snowfield Spill Response Team are as follows:

One-Scene Coordinator	Mike Beauregard
Site Personnel	Will generally vary from 3 to 14 people throughout the year
Field Operations Supervisor	Gennen McDowall
Project Manager	Mike Beauregard

The responsibilities of the On-Scene Coordinator are as follows:

1. Assume complete authority over the spill scene and coordinate all personnel involved.
2. Evaluate spill situation and develop overall plan of action.
3. Activate the spill contingency plan.
4. Immediately report the spill to the NWT 24-Hour Spill Report Line 867-920-8130, regulatory agencies and Snowfield management.

5. Obtain additional manpower, equipment, and material if not available on site for spill response.

The responsibilities of the Project manager are as follows:

1. Provide regulatory agencies and Snowfield management with information regarding the status of the clean up activities.
2. Act as a spokesperson on behalf of Snowfield with regulatory agencies as well as the public and media.
3. Prepare and submit a report on the spill incident to regulatory agencies within 30 days of the event.

3.2 Additional Contacts

Table 1 - Emergency Contacts

CONTACT	TELEPHONE NUMBER/FAX NUMBER
Snowfield - Robert T. Paterson, President	604-681-5720 1-800-859-6463 604-681-6937 (Fax)
Snowfield - Gennen McDowall, Director Field Operations Supervisor	604-681-5720 1-800-859-6463 604-681-6937 (Fax)
Govt. Canada - Oil & Chemical Spills	867-920-8130 867-873-6924 (Fax)
Safety/Workers' Compensation Board (Brent Edmunds - Mines Inspector)	867-920-3870
Drilling Contractor	To be provided
Air Tindi	867-669-8200
Great Slave Helicopters - John Buckland	867-873-2081
Stanton Regional Hospital - Yellowknife	867-669-4100
Yellowknife RCMP	867-669-1111
Mike Beauregard - Project Manager	867-669-0302 (Home/Office) 867-873-3127 (Fax) 867-444-4505 (Cell) 403-977-8140 (Satellite)
Camp Manager	Information to be supplied per field program

4.0 REPORTING PROCEDURE

The On Scene Coordinator must be notified immediately of any spill either by phone, radio or person.

The following is the spill reporting procedure:

1. Report immediately to the 24-Hour Spill Report Line Phone 867-920-8130, Fax 867-873-6924.
2. Fill out the NWT Spill Report Form.

5.0 ACTION PLANS

5.1 Initial Action

The instructions to be followed by the first person on the spill scene are as follows:

1. Always be alert and consider your safety first.
2. If possible, identify the material that has been spilled.
3. Assess the hazard of people in the vicinity of the spill.
4. If possible, safely try to stop the flow of material to minimize potential for environmental impacts.
5. Immediately report the spill to the On Scene Coordinator.
6. Resume any effective action to contain, mitigate, or terminate the flow of the spilled material.

The following are instructions to be followed in the response to various types of spills:

5.2 Mitigative Measures: Diesel Fuel, Hydraulic Oil, Lubricating Oil, Gasoline, and Aviation Fuel

If possible and safety permits, stop the flow and eliminate all ignition sources. Never smoke when dealing with these types of spills.

5.2.1 Spill On Soil, Gravel, Rock or Vegetation

Build a containment berm using soil material or snow and place a plastic tarp at the foot of the berm for easy capture of the spill after all vapours have dissipated.

Remove the spill by using absorbent pads or excavating the soil, gravel or snow.

Remove spill splashed on vegetation using particulate absorbent material.

If soil, gravel, or vegetation must be removed, contact regulatory agencies for approval before commencing with the removal.

5.2.2 Spill On Water

Use containment boom to capture spill for recovery after vapours have dissipated.

Use absorbent pads to capture small spills.

Use skimmer for larger spills.

5.2.3 Spill on Ice and Snow

Build a containment berm around spill using snow.

Remove spill using absorbent pads or particulate sorbent material.

The contaminated ice and snow must be scraped and shovelled into plastic buckets with lids, 205 litre drums, and/or polypropylene bags.

5.2.4 Storage and Transfer

All contaminated water, ice, snow, soil, and clean up supplies will be stored in closed, labelled containers. All containers will be stored in a well ventilated area away from incompatible materials.

5.2.5 Disposal

Contact Federal and Territorial regulatory agencies to identify appropriate disposal methods before disposing of contaminated material.

5.3 Mitigative Measures: Antifreeze

If possible and safety permits, stop the flow.

5.3.1 Spill On Soil, Gravel, Rock or Vegetation

Build a containment berm using soil material or snow and place a plastic tarp at the foot of the berm for easy capture of the spill.

Remove the spill by using absorbent pads or excavating the soil, gravel or snow.

Remove spill splashed on vegetation using particulate absorbent material.

If soil, gravel, or vegetation must be removed, contact regulatory agencies for approval before commencing with the removal.

5.3.2 Spill On Water

Use containment boom to capture spill.

Pump contaminated water into 205 litre drum.

5.3.3 Spill of Ice and Snow

Build a containment berm around spill using snow.

Remove spill using particulate sorbent material

The contaminated sorbent material, ice and snow must be scraped and shovelled into plastic buckets with lids, 205 litre drums, and/or polypropylene bags.

5.3.4 Storage and Transfer

All contaminated water, ice, snow, soil and clean up supplies will be stored in closed, labelled containers. All containers will be stored in a well ventilated area away from incompatible materials.

5.3.5 Disposal

Contact Federal and Territorial regulatory agencies to identify appropriate disposal methods before disposing of contaminated material.

5.4 Mitigative Measures: Propane

If possible and safety permits, eliminate all ignition sources. Never smoke when dealing with these types of releases.

5.4.1 Release on Soil, Gravel, Rock or Vegetation

Do not attempt to contain the propane release.

5.4.2 Release on Water

Do not attempt to contain the propane release.

5.4.3 Release On Ice and Snow

Do not attempt to contain the propane release.

5.4.4 Storage and Transfer

It is not possible to collect and containerize a propane release.

6.0 RESOURCE DIRECTORY

6.1 Personnel

In addition to the On Scene Coordinator and the Project Manager, approximately 3 to 14 people are available on site to assist in spill response and clean up activities. The amount of people on site varies throughout the year.

6.2 General Employment

Equipment available on site to assist in responding to a hazardous materials spill includes various hand held tools including shovels. In addition to these, one spill kit will be on the site during active exploration periods. The spill kit contains the following supplies:

- 1 - 360 litre/79 gallon polyethylene overpack drum
- 4 - oil sorbent booms (5" x 10')
- 100 - oil sorbent sheets (16.5" x 20" x 3/8")
- 1 - drain cover (36" x 36" x 1/16")
- 1 - Caution tape (3" x 500')
- 1 - 1 lb plugging compound
- 2 - pair Nitrile gloves
- 2 - pair Safety goggles
- 2 - pair Tyvek coveralls
- 1 - Instruction Booklet
- 10 - printed disposable bags (24" x 18")

Sorbent capacity of this spill kit is 240 litres.

7.0 TRAINING

All employees working on a Snowfield Development Corp. exploration property will be trained in the safe operation of all machinery and tools to help prevent hazardous material spills. All employees on site will also be trained for initial spill response in the event of a spill. Annual refresher exercises will be conducted to review the procedures on this Spill Contingency Plan.