SPILL CONTINGENCY PLAN
HACKETT RIVER
EXPLORATION PROJECT

XSTRATA ZINC CANADA

Initial Submission: March 5, 2004
Latest Revision: March 25, 2012

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1.0 INTRODUCTION

This revised Spill Contingency Plan was prepared on site and incorporates current project information to reflect changes in the Hackett River camp. The Hackett River camp is operated by Xstrata Zinc Canada. In the event of a spill, camp-specific information must be readily available. The following list provides the required contact information.

2.0 CONTACT INFORMATION

1. Site owner in charge of contaminants.

Xstrata Zinc Canada
8801 Transcanadienne, Bureau 400
Saint-Laurent, Québec
H4S 1Z6
Tel: 514 745-9365
Fax: 514 745-9379

2. Name, address and telephone number of the employer.

Xstrata Zinc Canada
8801 Transcanadienne, Bureau 400
Saint-Laurent, Québec
H4S 1Z6
Tel: 1 514 745 9365
Fax: 1 514 745 9379

3. Name, title and 24 hour contact number for the person or persons responsible for activating the spill plan. These people have the authority to activate the spill plan and to call in additional support.

On site supervision is Scott Burgess.

24 hour, emergency site contact	(778) 372-3276
Hackett River Camp office ph:	(778) 372-3293
Hackett River Camp alternate ph:	(778) 372-3294
Hackett River Camp fax:	(403) 451–3263
Cellular phone:	(807) 251–3335
sburgess@xstratazinc.ca	

If Scott Burgess is not available the alternate is:

Michel Boucher, General Manager, Mining Projects	
Montreal Office phone	(514) 745–9375 or 514 745-9365
Hackett River Camp office ph:	(778) 372-3293
Hackett River Camp alternate ph:	(778) 372-3294
Hackett River Camp fax:	(403) 451–3263
mboucher@xstratazinc.ca	

3.0 CAMP LOCATION AND DESCRIPTION

4. Location and detailed description of the exploration camp facility.

The Hackett River mineral exploration camp is located at:
Latitude: 65º 55'N, Longitude: 108º 22'W

UTM coordinates (NAD 83 Datum, Zone 12W) the camp is located at:
619684 E, 7312501N on NTS Map Sheet 76 F/16

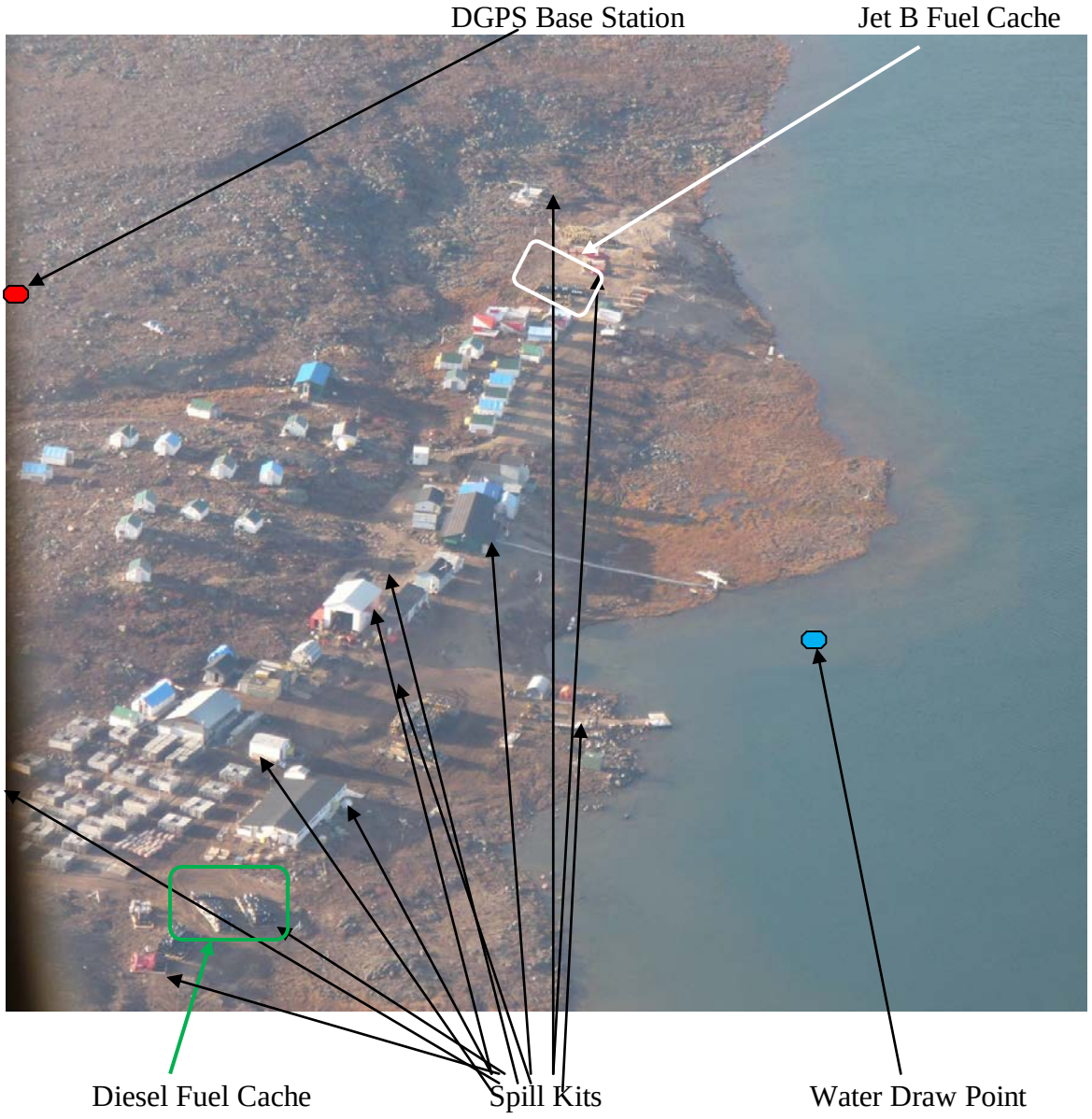


FIGURE 1: *Aerial photo of the Hackett River Camp infrastructure labeled to show the location of the fuel caches and fuel spill response kits (September, 2011 photo). Note that each arrow may represent multiple spill kits.*

Bulk potential contaminants are stored in two locations in camp: at the south end of camp (Jet B), and at the north end of camp (diesel and gasoline). Small quantities of potential contaminants are also located in many of the other structures in camp – mostly as diesel fuel used for heating.

All of the bulk petroleum products are stored in Arctic Grade, secondary containment berms. A total of 25 berms are in use on site, including at the incinerator and at all fuel transfer points. Empty drums, awaiting transport to Yellowknife are also stored in secondary containment berms. The total number includes some not currently in use.

The following Table lists camp structures, the location and quantity of potential contaminants in or adjacent to the structures together with the location and size of the various Spill Response Kits located in camp. Note that fuel, unless otherwise indicated is stored in 45 gallon/205 litre drums, with most in fuel containment trays, and the remaining ones will be placed in such trays this year.

Function	Tents	Potential Contaminant	Quantity
Kitchen	1 large building	Diesel (for stove) Propane (for range)	Less than 200 litres Two 45 Kg tanks
Shower / laundry	Attached to kitchen	Propane (for water heater)	Six 45 Kg tanks
Drillers drys	1 large tent, 1 large bldg.	Diesel (for stove) Propane (for water heater)	Less than 200 litres each Two 45 Kg tanks each
Tool sheds / work shops	3 shed	Diesel (for stove) Paints, Engine Oil Lubricants, etc Propane (heater)	Less than 250 litres, combined, in each building Two 45 Kg tanks at 1 shop
Pacto sheds	3 small shed	Organic waste	Up to 6 small garbage bags or approximately 30 litres
Drill foreman's office / telecommunications	1 small building	Diesel (for stove)	Less than 200 litres
Project office (contains a 20 litre spill response kit)	1 large building	Diesel (for stove)	Less than 200 litres
Environmental Office (re-purposed sleeping tent)	1 small tent	Diesel (for stove)	Less than 200 litres
Dual Stage, forced air incinerator	1 medium, metal shed	Diesel (for burners) and waste oil products (added to fuel stream for burners)	Less than 800 litres (in 2, double walled enviro tanks)
Generator and storage sheds (contains a 205 litre spill response kit)	2 medium sheds	Diesel (for generator)	Less than 1000 litres (in double walled enviro tank)
Backup Generator Shed	1 small shed	Diesel (for Generator)	Less than 400 litres (in barrels in small berm)

Supply shed	1 small shed	Various lubricants, paints, etc	Less than 50 litres
Recreation / smoking / TV (contains a 20 litre spill response kit)	2 tents	Diesel (for stove)	Less than 200 litres at each tent.
Core cutting	2 rooms	Propane (heater) Diesel (for stove)	45 Kg tank Less than 200 litres
Core logging building	1 large shed	Diesel (for stove)	Less than 1000 litres for 5 stoves
Core storage shed (contains a 205 litre spill response kit)	1 large metal-roofed building	Oils and lubricants for generators	Less than 50 litres
Helicopter supply shed	1 small shed	Diesel (for stove) Oil for helicopter	Less than 200 litres Less than 20 litres
Drill Supplies storage shed by helishack, at north end of camp, and by gen shed	2 sheds	Diesel (for stoves) Motor oil Linseed Soap Matek DD 2000 Poly-Drill 1300	Less than 200 litres Up to 4 cases Up to 4 tubs Up to 15 tubs Up to 15 tubs
First aid / Head cook and helper (contains a 20 litre spill response kit)	2 sheds	Diesel (for stove) At one, one has electric heat. Oxygen in FA tent	Less than 200 litres 7 x 0.65 Kg O2 1 x 7 Kg O2
Drillers sleeping quarters	6 tents	Diesel (for stoves)	Less than 200 litres at each tent.
Camp Managers tents (contains a 20 litre spill response kit)	5 small tents or sheds	Diesel (for stove)	Less than 200 litres at each tent
Helicopter pilot & engineer	3 small tents	Diesel (for stove)	Less than 200 litres at each
Geology crew	5 tents	Diesel (for stove)	Less than 200 litres at each
Support crew	5 tents	Diesel (for stove)	Less than 200 litres at each
Contractors quarters	6 tents	Diesel (for stove)	Less than 200 litres at each

Table 1: *Camp infrastructure, with location and quantity of possible contaminants.*

In the area south of the metal clad building are located four drummed fuel caches, and a bulk drilling supplies storage area. An additional 2 drummed fuel caches are located between the helicopter landing pad and the drill supplies shed close to the north end of the camp. The fuel caches consist of up to:

Potential Contaminant	Container Size	Maximum Quantity	Comments
Diesel	205 litre drums	4200	Stored in 3 caches, each within an arctic-grade impermeable secondary containment berm
Jet-B	205 litre drums	1900	Stored in 2 caches, within an arctic-grade impermeable secondary containment berm

Gasoline	205 litre drums	110	Stored separately in an upright position separate from the other fuel caches within an arctic grade mini-berm.
Propane	45 Kg cylinders	100	Stored on a wooden deck and secured in an upright position between the dock and the generator shed.

Table 2: *Fuel caches and contents*

Also, several double walled fuel tanks, ranging from 400 to 800L, have been purchased and brought to site. They have been installed at the main generator and incinerator.

Within close proximity to the 2 helicopter landing pads are located drums of Jet-B fuel, in fuel transfer berms. The quantity of fuel stored at each helicopter landing pad will vary according to use but would ordinarily be 5 drums or less, and each fuel transfer station is contained within an arctic grade mini-berm. A second helicopter is brought to site as needed to support additional field exploration and environmental monitoring programs, and has its own landing pad, and fuel transfer station.

Within the drilling supplies storage area, palletized calcium chloride salt is located. A maximum of 100 pallets of salt would be located on site. Each pallet contains 56 plastic bags of salt weighing 22.68 kg (50 lb) each. The maximum amount of salt stored on the site would be 126 tonnes. The salt is shipped in bulk, and comes in shrunk wrapped in cardboard boxes on pallets. Loose bags are transferred to megabags. The Megabags are stored up off the ground on pallets to minimize the chance of water dissolving the stored salt.

5. A description of the type and maximum amount of potential contaminants that may be on site is listed below:

Brand Name	**Constituent**	**Maximum Quantity on Site**
Matex DD 2000	Liquid Polymer	340 pails (5 gallon size)
Poly-Drill 1300	Liquid Anionic Polymer	210 pails (5 gallon size)
PureVis	Liquid Polymer	249 pails (5 gallon size)
Westcoast Drilling Supplies	Linseed Soap	35 pails (5 gallon size)
Peladow	Calcium Chloride salt	126 tonnes

Table 3: *Drill Additives:*

Type	**Maximum Number of Containers**	**Capacity of containers**
Diesel	4200	205 litre
Gasoline (lead free)	110	205 litre
Aviation Fuel (Jet B, Jet A)	1900	205 litre
AvGas	1	205 litre
Propane	100	45 Kg

Table 4: *Fuels*

Product	Maximum Quantities on Site
Drill Rod Heavy Grease	72 tubs, each tub containing 5 gallons
Duron Multigrade Engine Oil SAE Viscosity Grades 10W-30, 15W-40	20 cases, each case containing 12 litres

Table 5: *Lubricants*

Product	Maximum Quantities on Site
Oxygen	1 cylinder containing 7 kg of oxygen
Propane	1 45 Kg cylinder.

Table 6: *Welding Gases, located outside Major repair shed, stored according to WCB specificationss in an open, roofed storage area.*

Product	Maximum Quantities on Site
Oxygen	7 cylinders containing 0.65 kg of oxygen each
Oxygen	1 cylinder containing 7 kg of oxygen

Table 7: *Medical Gases, stored in the first aid tent. Cylinders are stored upright and chained to the walls.*

Other chemicals that would be used in small quantities during the drilling program would include kitchen soaps and cleaning agents, bleach, soaps and shampoo, waterless hand cleaners, hand sanitizer, mosquito repellant and other similar household items. Kitchen cleaners would be kept in the kitchen tent; bleach, soaps and shampoo would be stored in the shower / laundry tent and driller's dry. Mosquito repellant would be stored with office field supplies in the office tent.

MSDS information for the above listed potential contaminants and products are contained in Appendix 1, with a list of the updated MSDS sheets for 2012. Sheets are updated each time a new product comes in to camp. In addition, Major Drilling, Northern Air Support (NAS), and EcoWaste Solutions have provided their own MSDS sheets for anything they may use on site. 1984 Enterprises, Inc., also provides MSDS sheets for camp. MSDS binders are stored in the Heli shack (NAS), Drill foreman's office (Major Drilling), kitchen (1984, Xstrata-generated sheets) and main office (1984, Major Drilling, and Xstrata copies).

3.0 PREVENTION AND MONITORING

It is much more difficult work to clean up a spill than to prevent it from occurring. Prevention is better than containment and containment is better than no containment. Clean-up from a secondary containment berm or drip pan is easier than from the natural environment. Effective spill prevention requires education, regular practical training sessions, regular inspections and awareness.

3.1 Leak Prevention

Leaks most often occur during handling of the fuel but may also develop slowly over time. All fuel drums on site shall be inspected regularly for leaks.

Prevention includes training of all staff at the start of employment (or arrival to site) to ensure awareness of proper techniques and methods are used in the handling and transfer of materials. Adequate worker training is required to avoid puncturing the fuel drums during handling. Workers will also be trained in refueling techniques to prevent the spillage of fuel during transfer. This training will include normal standard operating conditions and emergency situations. Copies of the action plan in case of spill or leaks are posted throughout camp.

In addition to training, prevention of spills is also managed through the proper storage and handling of fuel, chemicals and waste materials. An impermeable geo-membrane secondary containment berm is used to store drums at fuel caches. Fuel drum storage locations will be inspected for, and cleared of, puncture or tipping hazards. Propane, oxygen and acetylene tanks will be stored securely upright to prevent tipping and possible breakage of gas fittings.

Detection of leaks will be using two methods - a fuel inventory reconciliation and inspection. Daily inspections, and weekly reconciliation of storage volumes will be completed and a spill response will be initiated in the event: of any unexplained loss over five or more weeks.

Weekly inspections will be conducted to ensure either there has not been a leak or that the conditions of the area could result in a leak. These inspections will include the fuel drums and storage containers, secondary containment sumps and associated spill containment devices, any pumps and product-handling equipment, and an overfill protection devices. These inspections will be recorded to include who completed the inspections, areas included in the visual inspection and any deficiencies noted. Inspections of all mobile equipment are also performed, and any leaks noted and fixed, and the repair recorded in weekly reconciliation reports. Mobile equipment that is being stored for any period longer than 5 days will be placed over blue, absorbent matting, to catch any drips or melting snow, which may contain hydrocarbons.

On-site management employees will review these inspections and ensure any changes needed are completed. These details will be added as a follow-up to the weekly inspection.

3.2 Fire Prevention

The most serious spill incident would involve fire and a hydrocarbon-based fuel source. In order to minimize the risk of fire, **No Smoking** and **Flammable** signs will be posted near to any fuel cache along with a dry chemical fire extinguisher. Fire extinguishers will also be located at each site where fuel is used. Workers will be trained in the use of the fire extinguisher and be instructed of the risk caused by electrical and open flame fire

hazards near fuel. The fuel caches will be located well away from camp buildings and will be kept clean and free of litter to reduce risk. Fire extinguishers are sized appropriately for the area they are placed in, as well as ensuring the appropriate extinguisher is in place for the most likely fire conditions (ie K extinguisher in kitchen for grease fires).

Three pumps are located throughout camp for use in fire suppression. During winter months, the pumps are stored in a heated location, close to an ice auger, so they may be deployed wherever they are needed as quickly as possible. During the months when Camp Lake is ice-free, a Wajax Mark III fire pump is set up near the helipads, a large volume, Honda fire pump is located below the kitchen, and close to the dock, while a Subaru, large volume pump is located at the South end of camp, near the core shacks and the bermed, empty fuel drums.

4.0 SPILL REPORTING

6. Steps to report, contain, clean-up and dispose of a spill.

4.1 Reporting a Spill

First call the NU/NWT 24 hour spill line at **(867) 920 – 8130, or Fax: (867) 873-6924**. The spill line will then contact the lead regulatory agency. Collect calls are accepted. Also, call the AANDC Water Resources Inspector at **(867) 975 – 4295**.

Please ensure that as much information as possible is included in the notification however do **not** jeopardize personal safety to obtain this information. Do not delay reporting a spill because you do not have all the requested information.

Information that is most useful includes:

- Spill location with map coordinates (if known) and direction (if moving).
- Date and time or estimated time of spill and the time of observation of the spill.
- Who is the party responsible for spill (who is in charge or has control of the contaminants at the time of the spill)?
- What product or products spilled and what are the estimated spilled quantities (in metric if possible)?
- What caused the spill?
- Has spill been stopped?
- If spill is continuing provide an estimate of the rate of spillage.
- Is further spillage possible?
- What is the extent of contaminated area (in square meters if possible)?
- What factors are affecting the spill, weather, snow cover, terrain, etc.)?
- What containment measures are in place or are being used (natural depression, dykes, booms, absorbent pads, etc.)?

- What actions, if any, are being taken to contain, recover, clean-up and dispose of the spilled product and contaminated materials?
- Do you require assistance to contain, recover, clean-up and dispose of the spilled material?
- What are the possible hazards to persons, property or environment (e.g. fire, drinking water, fish or wildlife habitat)?
- Any other relevant information.
- Who is making this report, your job title, employer and address?
- What is your contact phone number?

If you are not sure if the spilled product is classified as a contaminant or if you are not sure if the volume of the spill is a reportable quantity, it is recommended to report the incident.

It's a regulatory requirement that all spills and leaks of gasoline or diesel fuel must be reported to the Environmental Protection Branch. **Any leak or spill of any amount into a watercourse, water body or groundwater must be reported**.

Any spill, or incident that may likely result in a spill, of an amount equal to or greater than the amount listed in the table below shall be promptly reported.

Item No.	TDGA Class	Description of Contaminant	Amount Spilled
1.	1	Explosives	Any amount
2.	2.1	Compressed gas (flammable)	Any amount of gas from containers with a capacity greater than 100 litres.
3.	2.2	Compressed gas (non-corrosive, non flammable)	Any amount of gas from containers with a capacity greater than 100 litres
4.	2.3	Compressed gas (toxic)	Any amount
5.	2.4	Compressed gas (corrosive)	Any amount
6.	3.1, 3.2, 3.3	Flamable liquid	100 litres
7.	4.1	Flamable solid	25 kg
8.	4.2	Spontaneously combustible solids	25 kg
9.	4.3	Water reactant solids	25 kg
10.	5.1	Oxidizing substances	50 litres or 50 kg
11.	5.2	Organic Peroxides	1 litre or 1 kg
12.	6.1	Poisonous substances	5 litres or 5 kg
13.	6.2	Infectious substances	Any amount
14.	7	Radioactive	Any amount
15.	8	Corrosive substances	5 litres or 5 kg
16.	9.1 (in part)	Miscellaneous products or	50 litres or 50 kg

		substances, excluding PCB mixtures	
17.	9.2	Environmentally hazardous	1 litre or 1 kg
18.	9.3	Dangerous wastes	5 litres or 5 kg
19.	9.1 (in part)	PCB mixtures of 5 or more parts per million	0.5 litres or 0.5 kg
20.	None	Other contaminants	100 litres or 100 kg

Table 8: *Spill reporting thresholds for potential contaminants*

After the spill has been called in, and a spill number has been assigned, complete a written Spill Report Form listed in Appendix 2.

4.2 Spill Clean up

Hydrocarbons are the most likely contaminant to require a spill response. Diesel is used in the greatest number of locations so is the most likely to require a spill response. The physical setting of the spill will determine the methods used to contain and clean up the spill. The physical settings likely to be encountered during a spill response would include: land, muskeg, ice & snow, lakes & ponds and flowing streams and rivers.

Land

- Flowing spills should be stopped using earth, snow, plastic or other barrier means. Prevent entry to waterways.
- Spills should be removed using absorbent pads and if feasible, the contaminated soil should be dug up and placed in a plastic or metal bucket with a lid for transportation to a remediation facility or to an approved disposal site.
- Do not wash into drainages with water.
- On well vegetated tundra remove as much as possible using absorbent pads followed by use of peat moss to absorb the diesel and stabilize it for natural degradation processes to act on it. Leave the peat moss in place to degrade so as not to inflict additional damage to the vegetation.

Muskeg

- Muskeg vegetation is sensitive to disturbance. Carefully place absorbent matting to remove as much diesel as possible.
- Flood the area with water to float the diesel and make it more amenable to collection using absorbent matting. Wash and aim the floating diesel with a low pressure hose to a suitable collection area.
- Keep equipment off the muskeg as it is likely to cause more damage to vegetation.

Ice and Snow

- Block any spill with snow, plastic or other barrier material so it doesn't enter a waterway.
- Shovel the contaminated snow and ice into a mega-bag or suitable cargo sled and transport it to one of the fuel containment berms where it can melt. Once melted, the released diesel can be removed from the water surface contained within the berm by using absorbent matting.
- Propane powered flame torches should be used to melt and combust diesel from candled ice surfaces that are commonly developed in the spring.

Standing Water

- Use spill containment booms to keep the spill from spreading.
- Deploy the containment booms to keep the clean-up area to as small as size as is effective.
- Use absorbent pads to pick-up the spilled diesel.
- Use caution when working from shore as any wetlands are susceptible to damage from clean-up activities. See section on muskeg for work in these areas.

Flowing Water

- Where possible prevent entry to streams or rivers by digging a ditch or berm.
- Deploy absorbent booms (or "tiger tails") across the direction of flow to absorb the diesel. Absorbent pad may also be used where the current is slow.
- Deploy the absorbent booms where flow is slower. Deployment of absorbent booms across turbulent flow is only partially effective in absorbing diesel.
- Multiple booms may be needed if the current is strong.

4.3 Leaks or Spills

Action Plan in the event of a spill or leak:

- Evaluate the scene and ensure personal safety and the safety of any others.
- Find and locate he source of the spill and either stop or contain the spill if possible. Contain the spill by damming with earth or other suitable material.
- Remove all sources of ignition. Be prepared to use a fire extinguisher. **Remember gas vapors flow downhill and are extremely explosive.**
- Work from the upwind side to avoid inhaling fuel vapors and becoming engulfed in flames if a fire starts.
- Notify the Camp Supervisor or Project Manager who will activate the Spill Contingency Plan and call the 24 hour Spill Report Line at **(867) 920 – 8130, Fax: (867) 873-6924**. The Camp Supervisor will also call the AANDC Water Resources Inspector at **(867) 975 – 4295**.
- Don't wash spilled fuel or contaminant into potentially higher risk areas. Protect water sources and septic systems.

- Clean up and dispose of all fuel or contaminant by shoveling the contaminated earth or absorbent material into metal containers. Dispose of contaminated cleanup materials in an approved manner.
- Clean up the spill site using site appropriate absorbents, tools and procedures. Clean up and dispose of all fuel contaminated soil or absorbent material by shoveling into sealed containers.
- Dispose of contaminated cleanup materials in an approved manner.
- Record the spill on the Spill Report form and conduct follow-up monitoring if required.
- Ensure that all ignitable vapors are dispersed before resuming normal activities.
- Review the incident with others in camp and share ideas on to prevent a similar type of spill from occurring again.

4. 4 Leak Containment

Secondary leak containment requires the planned use of absorbent pads, drip buckets, drip pans, or impermeable geo-membrane secondary containment berms to catch any slow or unexpected leaks. The use of these collection methods requires regular monitoring to ensure that the capacity of the leak collection device is not exceeded. In the event that the previously listed containment devices are exceeded, use a shovel to create an earth berm or use any other suitable absorbent media to slow or halt the spread of a spill.

Locations containing fuel drums (near generator, fuel supplied for tents, main fuel cache) will be equipped or fitted with absorbent pads, pans, buckets or mini-berms to prevent the escape of fuel to the environment.

Traditional wooden barrel stands (with absorbent pads and buckets) are being replaced by plastic barrel stands with secondary containment features built in. A regular inspection program shall be established to monitor the condition of the leak containment devices so they do not overflow. The matting is changed twice a year, and the barrel stands are being replaced by fuel caddy-type secondary containment units. Drums in the fuel cache will be inspected daily. In the event a drum shows leakage it will be removed from the fuel cache and the fuel will be transferred to a suitable empty drum.

Double walled fuel tanks have been and will continue to be introduced to site, and brought into service depending on needs and requirements for the tanks. These fuel tanks will be installed within a secondary containment area. On-going monitoring will review the condition of the tanks on a regular basis to assess leaks and/or spills with the containment area. Refueling areas associated with the tank area would be designated and setup to minimize leaks and drips outside the containment area..

4.5 Fire

Figure 2: Fire training, with mobile fire pumps. Drummed, empty fuel barrels in background.

Action plan in the event of a petroleum fire:

- Raise the alarm! Warn others and call for assistance.
- Personal safety comes first, make sure you and others nearby are safe. Evacuate if necessary and account for everyone. The main muster station is the kitchen and the secondary muster station is the main office.
- If necessary, provide first aid and locate any missing workers. Remove any injured people to a safe site, generally upwind from the fire.
- If a person, who is splashed with fuel, catches fire, wrap him in a blanket or roll him on the ground to remove oxygen and extinguish the fire. If this doesn't work, use an ABC, dry chemical, fire extinguisher to put out the fire
- If there is a danger of explosion get away!
- If possible, and there is no danger, stop the flow of fuel feeding the fire.
- Remove on-going sources of ignition i.e., shut off the electricity.
- Attempt to extinguish flames using approved equipment. Remember, diesel fuel and gasoline float. Don't wash flames to an area of higher danger.
- Remember the order of priority, human safety comes first, then property. Don't risk your life for possessions.
- Notify the Camp Manager or Operations Manager who will implement the Action Plan for Leaks or Spills once the fire is out and who will also notify authorities, if required.
- Conduct follow-up monitoring, if required.
- Clean-up the site when allowed to do so.
- Review the incident with others in camp and discuss ways to prevent similar fires in the future.

4. 6 Disposal

Appropriate disposal for any recovered product and contaminated soil, water or absorbent clean up materials is regulated and must be authorized by the agency investigating the incident. Obtain approval from all appropriate government agencies before disposal. A hazardous waste generator number is acquired, and passed on to the expeditor for their records, when disposing of camp waste. A hazardous waste generator number has been obtained for 2012 and is NTG#00492.

Fuel contaminated soil can be remediated on site through incineration or alternatively, the contaminated soil can be flown out to Yellowknife for disposal in an approved dump site.

Any non-reusable recovered product, contaminated soil and clean up materials, which cannot be incinerated, will be stored in containers on site prior to disposal. First choice would be plastic tub containers with a lid. If additional capacity is required contaminated material would be stored in open 205l drums and would be later covered to keep out any rain or snow.
Additional advice on how to treat or dispose of contaminated materials or soil as well as environmental site assessment and remediation may be obtained through:

Rescan Environmental Services
Sixth Floor – 1111 West Hastings St.
Vancouver, British Columbia
V6E-2J3
Tel: (604) 689 – 9460
Fax: (604) 687 – 4277
Attn: Francois Landry, Project Manager

Unused quantities of contaminants at the end of the exploration program will be returned for recycling.

Any waste material will be disposed of through :
KBL Environmental
PO Box 1108
Yellowknife, NT
X1A 2N8

7. A site map of sufficiently large scale to show the locations of buildings, contaminants storage areas, sensitive areas such as water bodies, probable pathways of contaminant flow and general topography.

The following map shows the physical geography of the Hackett River Camp and complements the camp airphoto shown below. A labeled close-up airphoto of the camp follows.

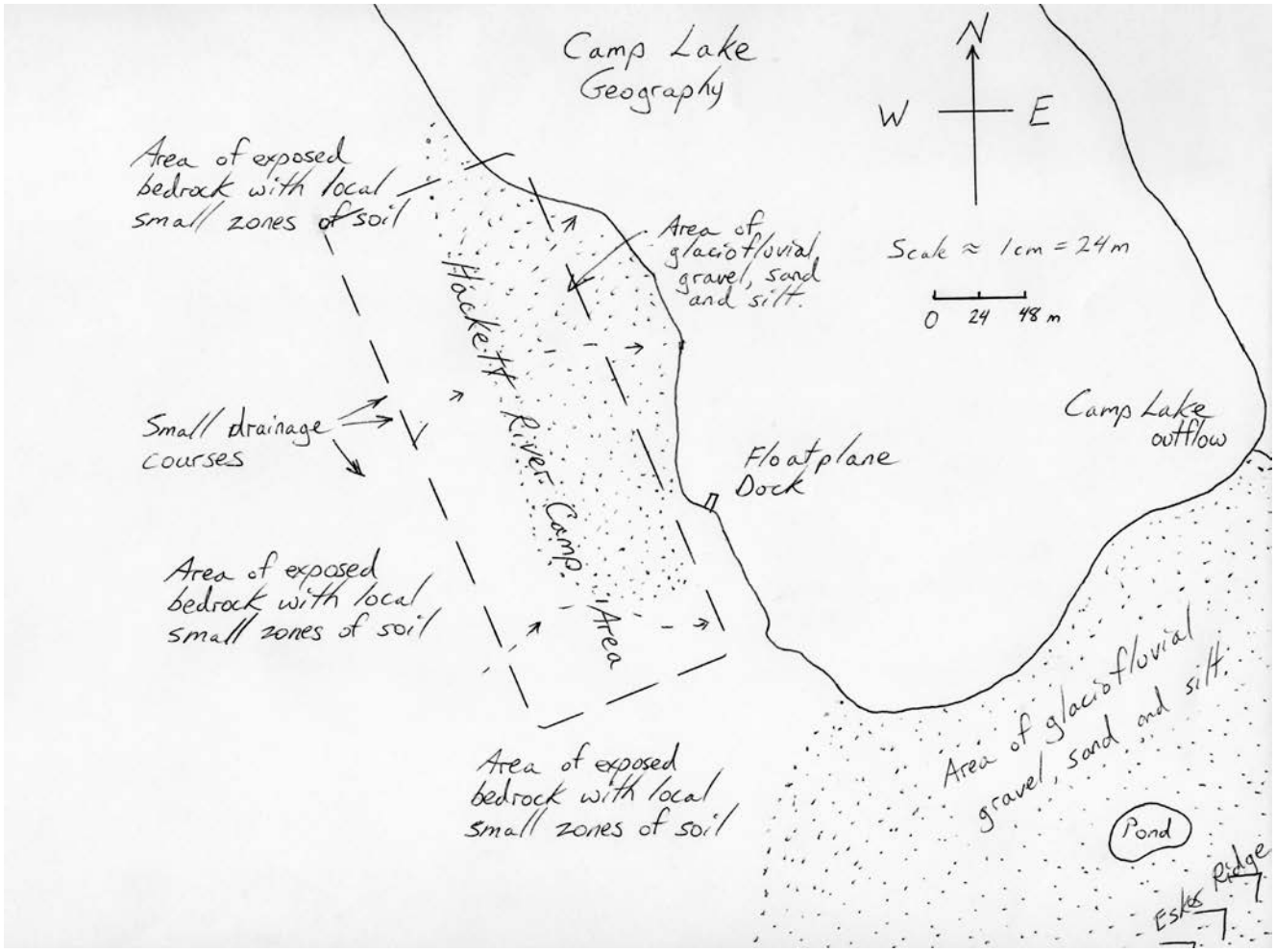


FIGURE 3: *Physical geography of the Hackett River Camp.*

FIGURE 4: *Hackett River Camp on September 20, 2011. Picture taken from the south of camp looking to the northwest.*

8. A description of the spill response training provided to employees who will respond to a spill.

All employees in camp shall be provided W.H.M.I.S. training session at the start of the exploration program, and refresher training will be provided as necessary.

All employees in camp will be asked to obtain Standard Level Enhanced First Aid training prior to the start of the exploration program, if they lack a valid first aid certificate. Updated training and refresher courses will be supplied to ensure all employees have a current emergency First Aid certificate.

On site orientation will be provided to all employees so as to ensure that all employees are aware of:

- The location of MSDS sheets, Spill Report Forms, and Spill Record Book.
- The location of the various fuel caches.
- The location of the various Spill Response Kits.
- The location of the Muster Stations, Fire Station, fire extinguishers and water pump and firefighting equipment.
- The location of any valves that may be used to stop the flow of a fuel.
- The location of the Spill Action Plan and the Fire Action Plan.

Onsite training will be provided to all employees as to the use of:

- Spill kit contents.
- Fire extinguishers and water pumps.

Training will be provided to all employees so that they are able to:

- Turn off the valve to stop the flow of fuel, at the ignition point and at the source.
- Activate the Spill Action Plan and the Fire Action Plan.
- Identify, evaluate and mitigate the hazards posed by any spilled product by using appropriate PPE (personal protective equipment).
- Identify and avoid the conditions which may lead to a spill.
- Develop an understanding of the potential environmental impacts of a spill.
- Develop and understanding of the financial costs of a spill.
- Recognize the hazards associated with sources of ignition (smoking, electrical sparks) near a fuel source.

For employees involved in fuel handling, additional training would be provided regarding appropriate refueling techniques and drum handling procedures.

Simulated fuel spill exercises will be conducted approximately every 6 weeks to ensure familiarity with the Spill Action Plan and ensure that the plan is relevant and useful throughout the exploration season. The spill response plan is brought to the weekly safety meetings every 6 weeks and its location is mentioned every time new personnel come to site. Single sheets, with the action plan printed on them, are posted throughout camp for easy access.

9. An inventory of and the location of response and clean-up equipment available to implement the spill contingency plan.

A total of 12 **20 litre Spill Response Kits** and 8 **205 litre Spill Response Kits** will be available to implement the spill contingency plan. The location of the various spill response kits is indicated in the table of camp structures listed above under question # 4.

Spill Response Kit Contents

20 litre All Purpose Spill Response Kit	*205 litre H.O.W. Spill Response Kit*
1 - 20 litre poly containment pail	150 - 17" X 19" oil absorbent pads
12 - 16" X 20" oil absorbent pads	8 - 3" X 48" oil absorbent socks
2 - 3" X 48" oil absorbent socks	2 - 5" X 120" oil absorbent booms
1 - heavy duty disposal bag (8 mil)	4 - temporary disposal bags 42x48-XS
1 - pair Chemi-Pro gloves	1 - pair nitrile gauntlet gloves
3 - lbs of all purpose absorbent	1 - pair disposable coverall
	1 - pair clear safety goggles
	1 - 4 oz temporary Gapseal stick
	1 - 205 litre containment drum (metal/poly) with quick release lever lock system

Table 9: *Spill Response Kit contents*

Miscellaneous equipment in camp would be made available for spill response and clean up. This equipment would include spades, pick axes and snow shovels, gas powered water pumps, hand crank fuel pump, hand and power tools and any suitable absorbent or containment materials found in the supplies tent or core shack.

The placement and number of spill kits will be re-evaluated during the spring re-supply program and at each 6 week spill response simulation exercise.

Spill response kits are also located at each of the drills in use.

10. Date of Spill Response Plan was updated.

Ninth revision: Dec 19, 2011
Eighth revision: May 5, 2011
Seventh revision: September 5, 2009
Sixth revision: February 18, 2009
Fifth revision: April 5, 2008
Fourth revision: November 7, 2006
Third revision: June 30, 2006
Second revision: March 20, 2006
First revision: July 29, 2004
Initial submission: March 5, 2004

Appendix A. Xstrata Zinc Spill Response Team

(will be reviewed and updated on an as-needed basis)

Xstrata Contacts:

Environmental Manager		
Environmental Coordinator		
Site Manager	Scott Burgess	(778) 372-3293; (807) 251-3335
Camp Manager	Rob Davidson	(778) 372-3290
Manager Alternate		

Additional assistance may be obtained, as necessary, from the following organizations:

Discovery Mining Services, Yellowknife	Rod Brown	(867) 920-4600
Shell Canada, Mobile Environmental Response	Steve Bassett	(867) 874-2562
Kitnuna	Wilf Wilcox	(867) 983-2331
Nuna Logistics Ltd.	Court Smith	(867) 682-4667
Dupont (Fuel Dye		(905) 821-5660
Frontier Mining (Sorbents)		(867) 920-7617
Acklands (sorbents)		(867) 873-4100 (867) 920-5359

Key Government Contacts:

Nunavut Water Board	Dionne Filiatreault, Exec. Director Phyllis Beaulieu, Manager of Licensing	(867) 360-6338
Environment Canada	Craig Broome, Manager of Enforcement Wade Romanko, Env. Emergencies Officer	(867) 669-4730 (867) 669-4736
Aboriginal Affairs and Northern Development Canada	xxxxxx, Water Resources Officer Kevin Robertson, Resource Management Officer Andrew Keim, A/Manager of Field Operations	(867) 982-4308 (867) 975-4296 (867) 975-4295
Government of Nunavut Environmental Protection		(867) 975-7700
Department of Fisheries and Oceans	Margaret Keast	(867) 979-8000
RCMP (Yellowknife)		(867) 669-1111
RCMP (Cambridge Bay)		(867) 983-2111

Appendix B - Spill Report Forms

This form is to be used for internal documentation of spills of any petroleum product, chemical, ethylene glycol (antifreeze), or other hazardous material in quantities of less than 25L. For quantities in excess of 25L, spills MUST be reported to the NWT/NU 24-hour spill reporting line (867-920-8130), and the appropriate form filled in. ALL spills (regardless of quantity) into a water body must be reported to the spill reporting line.

***Report Date and Time*:**	***Spill Date and Time*:** ☐ Spill occurred ☐ Spill observed
***Spill Location*:** ☐ Hackett Camp ☐ Hackett Drills ☐ Wishbone Claims ☐ Other	***Describe Location*:**
***Coordinates (Lat/Long or UTM)*:**	

***Product(s) Spilled*:**	Jet fuel (A or B)	Diesel (P50)	Gasoline	AvGas	Oil (type)	Antifreeze	Other (describe)
***Quantity (L or kg)*:**							

Personnel Involved:	☐ Employee	☐ Contractor	☐ Visitor	☐ Other

***Cause of Spill*:**
***Containment/Cleanup Measures Taken*:**
***Factors Affecting Spill or Recovery (weather, snow, ground conditions, etc.)*:**
***Additional Action Required*:**
***Additional Comments*:**

	Name	***Employer***	***Signature***
***Reported by*:**			
***Reported to*:**			

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
TEL: (867) 920-8130
FAX: (867) 873-6924
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR	REPORT TIME	☐ ORIGINAL SPILL REPORT, OR	REPORT NUMBER
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME	☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	____-____
C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION	REGION ☐ NWT ☐ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE DEGREES MINUTES SECONDS	LONGITUDE DEGREES MINUTES SECONDS		
F	RESPONSIBLE PARTY OR VESSEL NAME	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION		
G	ANY CONTRACTOR INVOLVED	CONTRACTOR ADDRESS OR OFFICE LOCATION		
H	PRODUCT SPILLED	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
I	SPILL SOURCE	SPILL CAUSE	AREA OF CONTAMINATION IN SQUARE METRES	
J	FACTORS AFFECTING SPILL OR RECOVERY	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS			

L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130

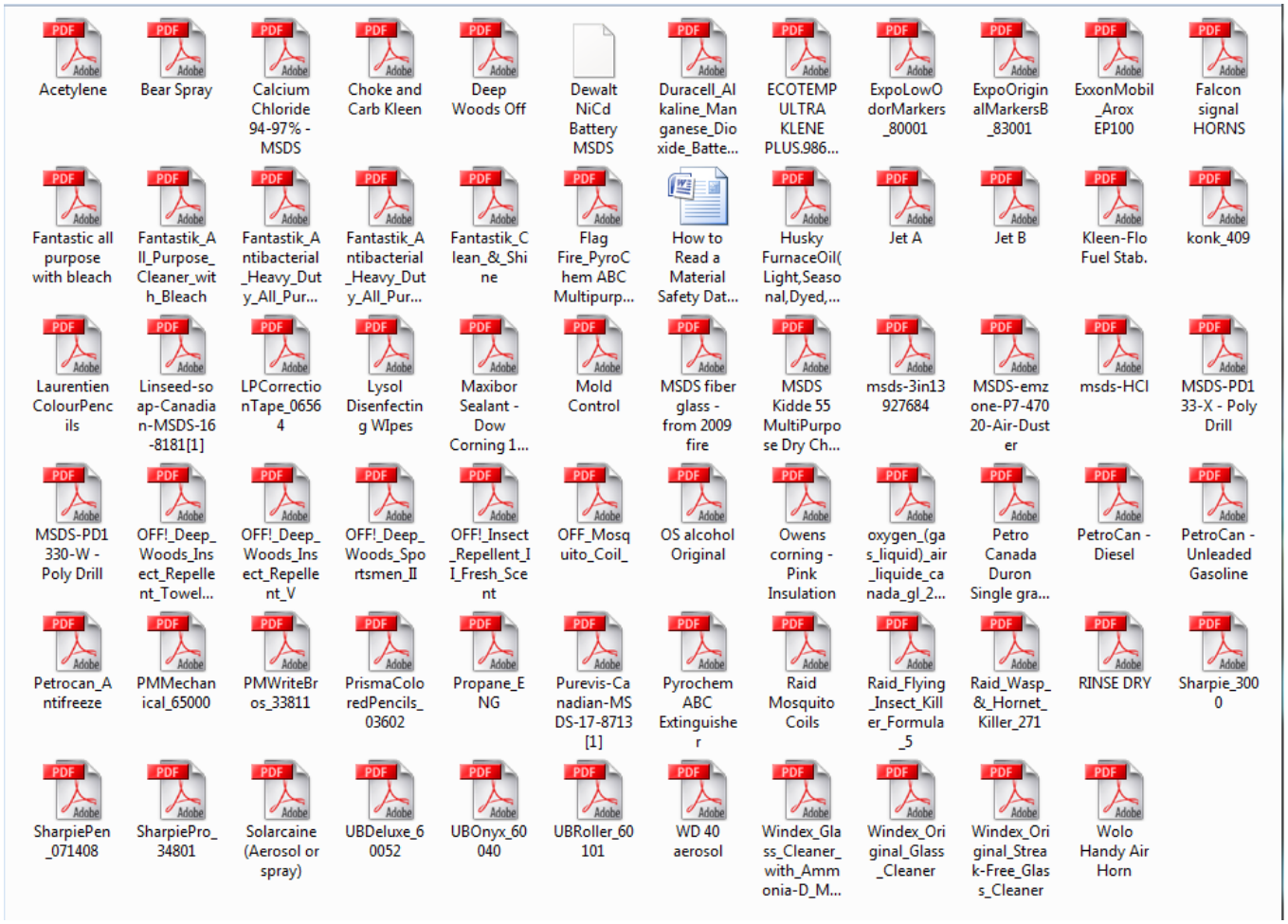
LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC | SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN | FILE STATUS ☐ OPEN ☐ CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			

PAGE 1 OF _____

Appendix C - MSDS forms on site:

2012 updated sheets - Updated throughout the year to stay current.



NOTE: MSDS Libraries also maintained by Major Drilling, Northern Air Support (helicopters),1984 Inc.