RECEIVED
By Licensing Administrative Assistant at 1:33 pm, Aug 03, 2011

June 28, 2011 Project No. 1113720019

Land Administration Manager
Indian and Northern Affairs Canada
Land Administration Division
PO Box 2200
Iqaluit NU X0A 0H0

RE: VALE EXPLORATION CANADA INC. APPLICATION TO ACCESS CROWN LAND FOR SOUTHAMPTON PROJECT

Dear Mr. Sir/Madam,

Vale Exploration Canada Inc. (Vale) is pleased to submit this application to access Crown land for the Southampton Island Project.

The Southampton Island Project is located on the northeast side of Southampton Island approximately 65 km northeast of Coral Harbour. Vale holds prospecting permits, issued by Indian and Northern Affairs Canada (INAC) for the property. Vale is also applying for a land and water use permit from Kivalliq Inuit Assocation and a water licence with the Nunavut Water Board.

Please find enclosed:

- a completed application form;
- Appendix A – Additional Information for the Form;
- Appendix B – Site Maps;
- Appendix C – Plans Associated with the Application;
- Appendix D – Golder Authorization Letter; and
- application fees.

The application fees were calculated as follows:

- Class B Land Use Permit application $150;
- Land use fees for 3 hectares = $100;
- **Total application fee = $150 + $100 = $250**

Vale has sent a carbon copy of this application package to the Nunavut Impact Review Board (NIRB) as part of Vale's request to for a Nunavut Impact Review Board screening exemption. Once written confirmation from NIRB has been received Vale will forward it to INAC.

If you have any questions regarding the enclosed application, please contact me at 705-682-8412 or by email at everett.makela@vale.com. Also, Vale has authorized Golder Associates to communicate on our behalf with INAC regarding the land use permit application. Please contact Sarah Gagné with Golder Associates in Edmonton at 780-930-8654 or by email at sarah_gagne@golder.com.

Regards,

VALE EXPLORATION CANADA LTD.

Danielle Leger
Administrative Supervisor for,

Everett Makela, P.Geo.
Principal Geologist – North America
Vale Exploration Canada Inc.

CC: Sarah Gagné, Golder Associates
Nunavut Impact Review Board

APPLICATION FOR LAND USE PERMIT

***Privacy Act* Statement**

The information you provide in this document is collected under the authority of the *Territorial Land Use Regulations* for the purpose of responding to your application for land use permit. Information on individuals is used by Indian and Northern Affairs Canada Land Administration employees who need to know the information in order to respond to your request and/or the program requirements. We share the information you give us with First Nations, Aboriginal groups and Inuit, Territorial and Federal Government Expert Agencies and Public Government Institutions. The personal information will be retained 6 years after the last administrative use and then destroyed. Individuals have the right to the protection of and access to their personal information under the *Privacy Act* http://lois.justice.gc.ca/en/P-21/index.html.

For Office Use Only

Application Fee	Land Use Fee	General Receipt No.	Date (YYYY/MM/DD)	Class	Permit Number

To be completed by all applicants ▶ ● New Application ○ Amendment

1. Applicant's Name and Mailing Address (Full name, no initials)

Everett Makela, Vale Exploration Canada Inc.
Highway 17 West
Copper Cliff, Ontario P0M 1N0

Facsimile Number: 705 682-8243
Telephone Number: 705 682-8412

2. Head Office Address

Vale Exploration Canada Inc.
2060 Flavelle Boulevard
Mississauga, Ontario L5K 1Z9

Facsimile Number: 905 403-2600
Telephone Number: 905 403-2500

Field Supervisor	Radio Telephone	E-Mail Address	Telephone Number
Everett Makela		everett.makela@vale.com	705 682-8412

3. Other Personnel (Subcontractor, Contractors, Company Staff, etc.)

Drilling contractor - to be determined
Helicopter company - to be determined
Wildlife monitor - to be determined

10

Total ▶

4. Qualifications

Refer to Section 21 of the *Territorial Land Use Regulations*

a(i) ☐ a(ii) ☐ a(iii) ☐ b ☐ c ☐

Number(s) exploration permit mineral claims (If applicable)

5. a) Summary of Operation (Describe purpose, nature and location of all activities.)
Refer to Section 22(2)(b) of the *Territorial Land Use Regulations* (Use last page of form if necessary.)

Summary of Operation can be found in Appendix A.

b) Please indicate if a camp is to be set up (Use last page to provide details.)

No camp in 2011, all field crews will be based in Coral Harbour and fly to and from the site by helicopter. There may be a camp in 2012, depending on the results of the 2011 program.

6. Summary of potential environmental and resource impacts
(Describe the effects of the proposed program on land, water, flora and fauna and related socio-economic areas.)
(Use separate pages if necessary.)

The potential environmental and resource impacts are discussed in Appendix A.

7. Proposed Restoration Plans (Please use last page if required.)

The Closure and Restoration Plan for the project can be found in Appendix C.

8. Other rights, licences or permits related to this permit application (Mineral claims, Yukon timber permits, water licences, etc.) (Please use last page if required.)

Prospecting Permits (INAC): 7780, 7781, 7782, 8104, 8105
Applying for:
Kivalliq Inuit Association; land use permit
Nunavut Water Board; water licence

Roads ▶ ○ Is this to be a pioneered road? ○ Has the route been laid out or ground truthed?

9. Proposed Disposal Methods (Please use last page if required.)

a) Garbage	b) Sewage (Sanitary and Grey Water)
Appendix A	Appendix A
c) Brush and Trees	**d) Overburden (Organic soils, waste material, etc.)**
Not applicable	Appendix A

10. Equipment (Includes drills, pumps, etc.) (Please use last page if required.)

Type and Number	Size	Proposed Use
1 - diamond drill & ancillary equipment	Longyear 38 (or equivalent)	mineral exploration
1 - submersible pump	to be determined in 2012	camp water supply

11. Fuels	Number of Containers	Capacity of Containers
☑ Diesel	15	205 L
☐ Gasoline		
☐ Aviation Fuel		
☐ Propane		
☐ Other: _____		

12. Containment Fuel Spill Contingency Plans (Please attach separate contingency plan if necessary.)

Spill Contingency Plan can be found in Appendix C.

13. Methods of Fuel Transfer (To other tanks, vehicles, etc.)

Fuel will be transferred to the drill from 205 L drums. Drip trays will be placed under the drum and all associated hoses and pumps.

Canada

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

See Section 3.2 of the Closure and Restoration Plan in Appendix C.

15. Period of Permit (Up to two years, with maximum of one year extension.)	Start Date	Completion Date
Two years	2011-08-01	2013-12-31

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

	Degrees	Minutes	Seconds		Degrees	Minutes	Seconds
Minimum Latitude ▶	64	30	28	Minimum Longitude ▶	82	29	28
Maximum Latitude ▶	64	52	26	Maximum Longitude ▶	82	59	30

Map Sheet Number

46B and 46G

17. Applicant (Print Full Name)	Signature	Date
Danielle Léger	Danielle Léger	2011/06/29

18. Fees

○ Class A - $150.00 ● Class B - $150.00 ▶		$150.00
Land Use Fees: Less than or equal to 2 hectares ▶	$50.00	$ 50.00
For each additional hectare over 2 hectares or portion of a hectare ▶	X $50.00 =	
Total application and land use fees ▶		

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19. Calculation of area involved (Includes access, staging areas, airstrips, campsites, etc.)

Total Area (Ha)	Less than or equal to 2 hectares	Total (For Fee Calculation)

20. Application Checklist

- ☐ a) Application Signed and Dated
- ☐ b) Fees Attached
- ☐ c) Map Included
- ☐ d) Address and Telephone Number
- ☐ e) Screening Report
- ☐ f) Timber Permit Applied for - Yukon
- ☐ g) Fees Attached
- ☐ h) Lease Applied for

Remarks (Please use last page if additional space is required.)

Accepted by

Date (YYYY/MM/DD)

Canada

21. Additional Information (Attach additional pages if necessary.)

Appendix A – Additional Information for the Form

Where there was not enough space in the boxes on the form, Vale has included additional information in Appendix A. The following points are included in Appendix A:

- 5 a) Summary of operation;
- 6) Summary of potential environmental and resource impacts; and
- 9) Proposed Disposal methods.

5 a) Summary of operation

Vale Exploration Canada Inc. (Vale) is a mining exploration company based in Sudbury, Ontario. Vale is owned by Vale Canada Holdings Inc., which operates nickel mines throughout Canada. Vale is planning on completing exploration activities for nickel on the northeast side of Southampton Island, approximately 65 km northeast of the Hamlet of Coral Harbour.

The first step of exploration is to do aerial surveys in the spring of 2011. Depending on the results of these surveys, Vale may do further exploration work on the ground. A small team of geologists will look at the surface rocks and consider possible drilling locations. Vale plans to start drilling work on the ground in the fall of 2011, once the results of the aerial surveys have been received and all the necessary licences and permits are in place.

The drilling locations are not known at this time because Vale does not have the results of the aerial surveys at this time. In any case, Vale will be using water for drilling and will make sure that drill wastes do not enter streams or lakes.

Vale does not plan on having a camp at the site; all field crews will stay in Coral Harbour and travel back and forth to the site each day by helicopter. Depending on the results of the fall 2011 exploration program, Vale may setup a camp in 2012.

In the summer of 2011, Vale plans to visit Coral Harbour and Rankin Inlet to speak with the community and the Kivalliq Inuit Association about the project.

6) Summary of potential environmental and resource impact

The proposed Southampton Island project will have minimal environmental and resouce impact. Vale has identified the following project activities with the potential to impact the environment: fuel storage, drilling and the potential camp. The potential impacts, mitigation measures, and clean up procedures are described in the Spill Contingency Plan.

The potential environmental impacts from drilling, include the improper disopsal of drill water, cuttings, and used drill additives. The potential impacts to the environment are erosion from drill water and cuttings if they are not directed to a natural depression or sump, increased turbidity in a watercourse if the drill water and cuttings are disposed directly into a water body, and potential contamination to the vegetation and soil if toxic drill additives are used.

To mitigate potential environmental impacts, Vale will direct all drill water and cuttings to a natural depression or sump a minimum of 30 m from the high water mark of any water body. All sumps/natural depressions will be backfilled when drilling the hole is complete. Vale will use only non-toxic, biodegradable drill additives. For the camp, potential environmental impacts include contamination of the soil, vegetation, and water from sewage and greywater associated with the camp, solid waste, including food wastes, attracting wildlife, and impact on the tundra from the footprint of the camp. The location of the camp will be selected in consultation with community

members from Coral Harbour and the land administrator with the KIA. Vale will keep the footprint of the camp as compact as possible. All food wastes and burnable solid waste will be incinerated as recommended in the Government of Nunavut, Environmental Guideline for Burning and Incinerating Solid Waste (GN 2010) for a field camp. All non-burnable, non-hazardous solid waste will be packaged and removed from the site to be disposed at the landfill in Coral Harbour. All sewage will be contained on site in either Pacto toilets or incinerator toilets. All grey water generated by a camp will be directed to a sump or natural depression at a minimum of 30 m from a high water mark.

From the Nunavut Wildlife Resource and Habitat Values Report, prepared by Jacques Whitford in October 2008, for the Nunavut Planning Commission, the project is located in an area identified as high density denning area for polar bears. Pregnant female polar bears den in the fall and emerge between February and April with cubs. It is assumed that den fidelity is high (re-using the same den year after year).

As Vale plans to conduct a geophysical survey and potentially drilling in the fall of 2011, the following mitigation measures are proposed:

• Vale is planning on meeting with members of the Hunters and Trappers Association in Coral Harbour in the summer of 2011 prior to the exploration activities in 2011. At that time, Vale would like to discuss the project as well as discuss polar bear use of the project area.

• Vale will have a local (preferably from Coral Harbour) wildlife monitor on site at all times. The wildlife monitor will check in the vicinity of the drill sites for evidence of polar bear dens before drilling begins.

9) Proposed disposal methods

a) Garbage:

2011 Garbage: All garbage generated during the field program is expected to be minimal as there will be no camp and field crews will be based in Coral Harbour. Any garbage from lunches etc. will be brought back to Coral Harbour for disposal.

2012 Garbage: Combustible solid waste, paper products, paperboard packaging, untreated wood, food wastes and food packaging will be burned in a modified bum-barrel as described for a field camp (15 people or less) in the Environmental Guideline for the Burning and Incineration of Solid Waste authored by the Department of Environment, Government of Nunavut in 2010.

b) Sewage:

2011 Sewage: There will be no camp and field crews will be based in Coral Harbour.

2012 Sewage: Camp sewage will be contained either in Pacto toilet, incineration toilets or equivalent.

2011 Grey Water: There will be no camp and field crews will be based in Coral Harbour.

2012 Grey Water: Camp grey water will be disposed of in a natural depression or sump located at a minimum of 30 m from the high water mark of any water body.

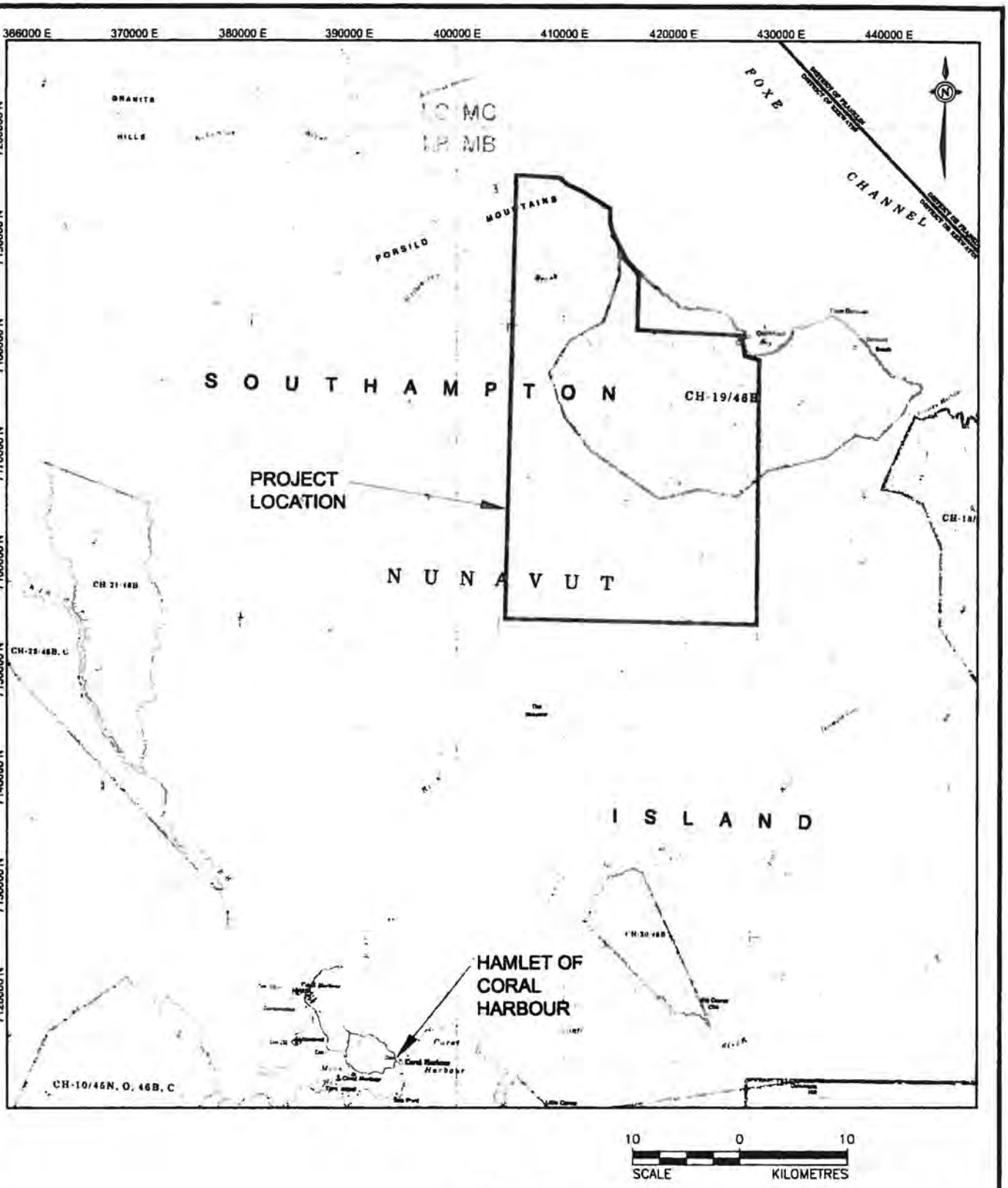
c) Bushes and Trees:

No bushes and trees will be cleared.

d) Overburden:

Where overburden needs to be removed, it will be stockpiled and replaced at the end of the seasonal program.

Appendix B – Site Maps



PROJECT

CORAL HARBOUR AREA
SOUTHAMPTON ISLAND, NUNAVUT

TITLE

PROJECT LOCATION MAP

REFERENCE

TOPOGRAPHIC MAPs 46B AND 46G OBTAINED FROM CANMATRIX. © 1986 AND 1995 (RESPECTIVELY) HER MAJESTY THE QUEEN IN RIGHT OF CANADA. DEPARTMENT OF NATURAL RESOURCES. ALL RIGHTS RESERVED. DATUM: NAD83 PROJECTION: UTM ZONE 17.

Golder Associates
Calgary, Alberta

PROJECT 11.1372.0019.1000			FILE No. 11137200191000A001	
DESIGN	SG	31/05/11	SCALE AS SHOWN	REV. 0
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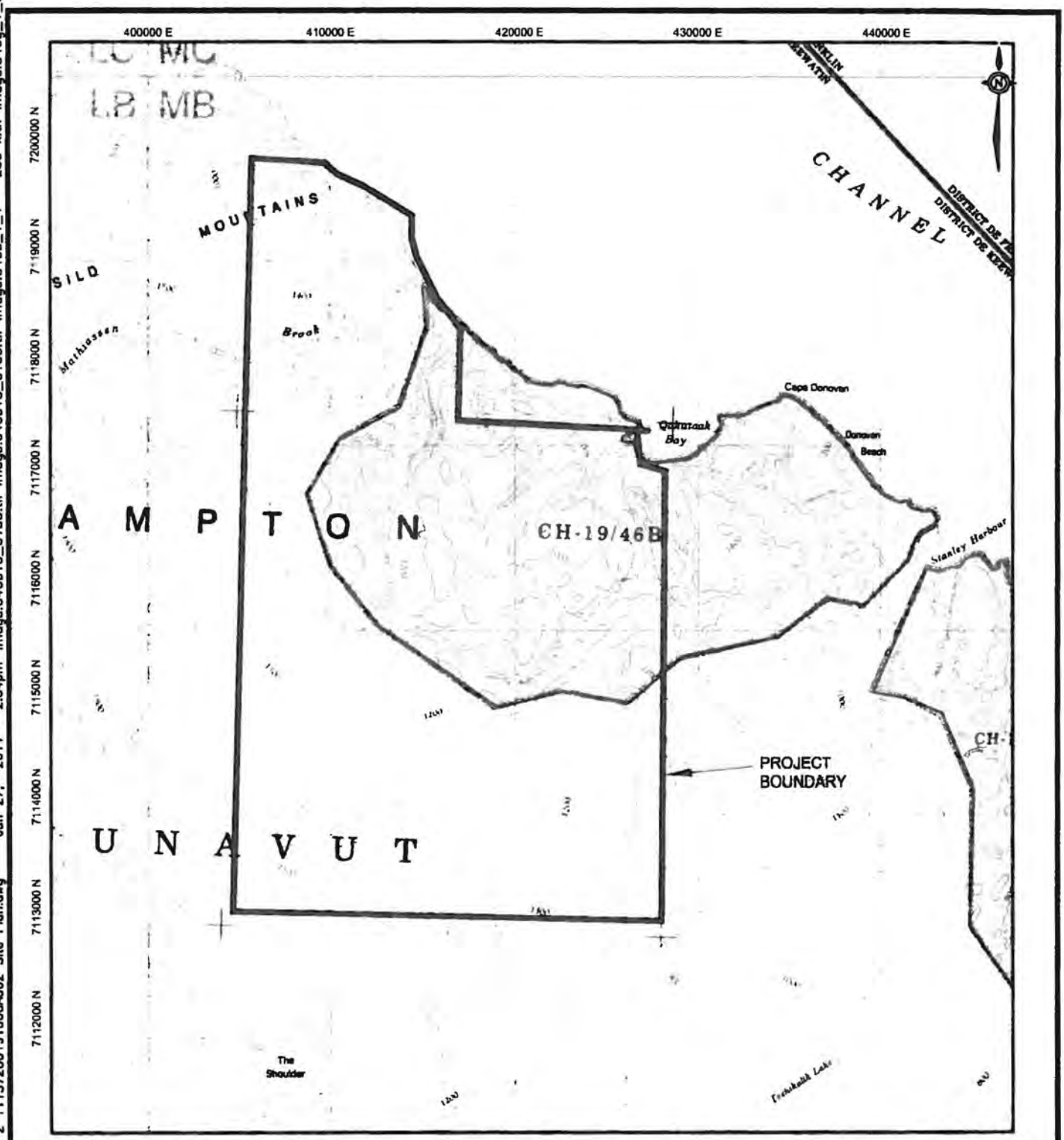
CHECK	CD	15/06/11		
REVIEW	EM	23/06/11		

FIGURE: 1



LEGEND

- PROJECT BOUNDARY
- CROWN LAND
- INUIT OWNED LAND

5 0 5 10
SCALE KILOMETRES

PROJECT
CORAL HARBOUR AREA
SOUTHAMPTON ISLAND, NUNAVUT

TITLE
SITE MAP

REFERENCE

TOPOGRAPHIC MAPs 46B AND 46G OBTAINED FROM CANMATRIX. © 1986 AND 1995 (RESPECTIVELY) HER MAJESTY THE QUEEN IN RIGHT OF CANADA. DEPARTMENT OF NATURAL RESOURCES. ALL RIGHTS RESERVED. DATUM: NAD83 PROJECTION: UTM ZONE 17.

Golder Associates
Calgary, Alberta

PROJECT 11.1372.0019.1000			FILE No.11137200191000A002	
DESIGN	SG	31/05/11	SCALE AS SHOWN	REV. 0
CADD	BSW	01/06/11	**FIGURE: 2**	
CHECK	CD	15/06/11		
REVIEW	EM	23/06/11		

Appendix C – Plans Associated with the Application

June 28, 2011

SOUTHAMPTON ISLAND PROJECT

Spill Contingency Plan

Submitted to:
Vale Exploration Canada Inc.
Hwy 17 West
Copper Cliff, ON P0M 1N0

REPORT

Report Number: 1113720019
Distribution:

Nunavut Water Board
Kivalliq Inuit Association
Indian and Northern Affairs Canada

Golder Associates

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Vale Values

APPENDIX B
Site Diagrams

APPENDIX C
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APPENDIX D
NWT/NU Spill Report Form

1.0 INTRODUCTION AND PROJECT DETAILS

Vale Exploration Canada Inc. (Vale) has developed this Spill Contingency Plan for exploration activities at the Southampton Island Project (the Project), including geophysical surveys and drilling.

Spills can cause adverse environmental effects, harm to people, and can be costly to clean up especially in remote areas such as Southampton Island, Nunavut. Therefore, to the extent practical, spills must first of all be prevented. In the event of a spill, impacts to the environment and human health can be reduced if the spill is contained and cleaned up as promptly as possible. Vale is committed to reducing all environmental impacts, including those caused from spills. Vale's corporate values can be found in Appendix A.

1.1 Project Description

Vale is planning on conducting mineral exploration for nickel on the northeast side of Southampton Island, approximately 65 km northeast of the Hamlet of Coral Harbour, Nunavut.

The project activities are located between 64°52'26" - 64°30'28" N and 82°59'30" - 82°29'28" W (see Figures 1 and 2 in Appendix B). The Project occurs on both Crown and Inuit Owned land, therefore Vale is applying for land use permits with Indian and Northern Affairs Canada (INAC) and the Kivalliq Inuit Association (KIA), as well as a water licence with the Nunavut Water Board.

Vale has all the necessary prospecting permits issued by the INAC Mine Recorder's Office.

The first step for the Project is to do airborne surveys in the spring of 2011. Depending on the results of the surveys, Vale may undertake a geophysical survey and possibly drilling in the fall of 2011.

Vale does not plan on having a camp at the site in 2011; all field crews will stay in Coral Harbour and travel back and forth to the site by helicopter. Depending on the results of the 2011 program, Vale may decide to continue flying field crews to and from Coral Harbour or may setup a camp in 2012.

If a camp is going to be setup in 2012, the Spill Contingency Plan will be updated and the revised copy will be sent to the regulatory agencies.

1.2 Vale Contact Information

Table 1: Southampton Project Contacts

Team Member	Position	Contact Information	Address
Everett Makela	Project Geologist/Field Supervisor	T: 705-682-8412 T: (field) TBA E: everett.makela@vale.com	Highway 17 West Copper Cliff, ON P0M 1N0
Carol Nelson	Safety Health Environment Consultant (project member until August 3, 2011)	T: 705-682-8407 E: carol.nelson@vale.com	Highway 17 West Copper Cliff, ON P0M 1N0
Clare Goddard	Safety Health Environment Consultant (project member after August 3, 2011)	T: 705-682-8462 E: clare.goddard@vale.com	Highway 17 West Copper Cliff, ON P0M 1N0

1.3 Spill Contingency Plan Revision List

Table 2 Spill Contingency Plan Revision List

Company	Company Contact	Version	Date Issued	Version Format
Vale Exploration Canada	Everett Makela	1.0	June 27, 2011	Electronic PDF

1.4 Distribution List

Table 3 Spill Contingency Plan Distribution List

Company/Institute of Public Government	Version	Date Issued	Version Format
Nunavut Water Board (water licence application)	1.0	June 27, 2011	Electronic PDF
Indian and Northern Affairs Canada (INAC) (land use permit application)	1.0	June 27, 2011	Electronic PDF
Kivalliq Inuit Association (land use permit application)	1.0	June 27, 2011	Electronic PDF
Drilling company (TBA)	1.0	TBA	Electronic PDF

1.5 List of Hazardous Materials On-Site

The following table provides a list of the hazardous materials, type of storage container, the anticipated operational and maximum volumes on-site and the storage locations and uses.

Table 4: On-site Hazardous Materials Description

Material	Storage Container	Normally On-site		Maximum On-site		Storage Location and Uses
		Fuel Cache	At Drill	Fuel Cache	At Drill	
Diesel Fuel	205 L drums	10 drums (2,050 L)	3 drums (615 L)	15 drums (3,075 L)	5 drums (1,025 L)	Fuel cache and adjacent to drill. Diesel will be stored in the fuel cache and daily amounts will be transported as needed with the drill.

The Material Safety Data Sheet (MSDS) for diesel is included in Appendix C.

Vale is not planning on setting up a camp to support the Project in 2011: crews will be staying in Coral Harbour and flying to and from the drill sites by helicopter. Fuel for the helicopter will be purchased from the supplier at the Coral Harbour airport.

Other hazardous materials found on-site will be in very small quantities and associated with the drill. These would include lubricants, oil, and grease for maintenance of the drill. All servicing of the drill will be conducted over tarps or other impervious materials to catch any leaks, drips, or spills.

Depending on the results of the 2011 program, a camp may be setup in 2012. The Spill Contingency Plan would be updated and the revised copy will be sent to the applicable regulatory agencies to address this change in operation.

1.6 Fuel Spill Prevention Measures

All fuel used for the project will be stored in 205 L drums. Drums will be slung by helicopter to the drill sites from a fuel cache on the property. Vale intends to store no more than approximately 15 drums (3,075 L) of diesel in

an on-site fuel cache to support the drill. Additional fuel may also be stored at a temporary fuel cache at the Coral Harbour Airport. If diesel is to be stored at the Coral Harbour Airport, all necessary access and storage requirements will be discussed with the Government of Nunavut and the airport manager in Coral Harbour prior to setting up the temporary fuel cache.

Regardless of the location, the fuel cache will be located on level ground, at least 100 m from the high water mark of any water body, lined with impermeable liners, and bermed with 110% containment. Planking will be used to protect the liner from fuel drums.

Portable drip trays and appropriately sized fuel transfer hoses with pumps will be used when refuelling the drill to avoid any leaks/drips onto the land.

The project supervisor or designated fuel monitor will conduct daily visual inspections to check for leaks or damage to the fuel drums, as well as stained or discoloured soils around fuel storage areas and adjacent motorized equipment. Regular maintenance and oil checks will be conducted on the drill, as determined by the drilling contractor.

1.7 Potential Spill Scenarios and Environmental Impacts

The following table identifies the potential spills that may occur during the project and corresponding potential impact to the environment.

Table 5: Potential Materials Spills and Impacts to the Environment

Material (source)	Potential Spill	Potential Spill Volume (worst case)	Potential Environmental Impact
Diesel Fuel	1) Over pumping of fuel from drum to drill rig 2) Leaking from drill rig 3) Minor leaking from drum inside/outside secondary containment 4) Large puncture, fast leaking drum inside/ outside secondary containment 5) All drums punctured and leaking at once (very unlikely)	Under 205 L (max 15 drums, 3,075 L)	Diesel may be harmful to wildlife and aquatic life. It is not readily biodegradable and has the potential for bioaccumulation in the environment. Runoff into water bodies must be avoided. In the very unlikely worst case scenario if all the drums were opened simultaneously and contents seeped into surrounding soil and water bodies at the Project site fuel cache, this could cause illness or death to aquatic life and indirectly affect wildlife feeding from the land and water. If the worst case scenario were to occur at the Coral Harbour Airport fuel cache location, the potential impact to the soil, water bodies, and wildlife would be minimal as the airport is an industrial site. Vale would conduct the clean-up to meet Government of Nunavut standards.
Drill Cuttings	1) Drill cuttings emanating from the drill hole may spill/flow away from the designated sump/ natural depression into a water body	Variable, depending on the drill hole depth and distance to the water body	Drill cuttings have a high sediment content. If the drill cuttings enter a water body they will increase the turbidity, potentially causing illness or death to aquatic life.

2.0 FUEL SPILL RESPONSE

2.1 Response Organization

The field supervisor will be responsible for prevention, containment, reporting, and clean-up of any spill on-site. The field supervisor will also be responsible for all follow-up correspondence with regulatory agencies, if required. The field supervisor will be supported by the Vale Safety, Health and Environment Consultant.

2.2 Identifying, Containing, and Reporting a Fuel Spill

As previously discussed, the only material covered in this Spill Contingency Plan is diesel, therefore the following discussion on identifying, containing, and reporting a spill will be limited to scenarios that will likely occur during the project.

The appropriate MSDS sheets are included in Appendix C and will be included in the spill response kits and should be consulted to identify health and safety hazards associated with diesel.

2.2.1 Initial Action

In the event of any spill, the following tasks will be followed to properly contain the spilled material:

- assess the severity of the spill;
- assess whether the spill, leak, or system failure can be readily stopped or brought under control;
- stop product flow or leak, if possible and if it is safe to do so;
- wear appropriate personal protective equipment from the spill kit, such as impervious clothing, goggles, and gloves when containing the spill; and
- approach from upwind if it is safe to do so.

2.2.2 Spill Reporting

Under the *Spill Contingency Planning and Reporting Regulations* for Nunavut (Government of Nunavut 1998), an immediately reportable spill is defined as either one of the following for diesel:

- volume greater than 100 litres (L); and/or
- the spill is likely to be an imminent environmental or human health hazard.

If during the initial action, a spill is assessed to meet either of the two above criteria the spill will be reported as soon as it is safe to do so. **To report the spill, the field supervisor will call the Northwest Territories/Nunavut (NWT/NU) 24-hour spill line at 867-920-8130.**

When able, the field supervisor will complete the NWT/NU Spill Report form (Appendix D) and fax or e-mail the form to the NWT/NU 24-hour spill line at 867-873-6924 (fax) or spills@gov.nt.ca (e-mail).

For non-reportable spills, the field supervisor will fill out the spill report form and it will be kept with the Project file.

2.2.3 Spill on Land

If it is safe to do so, consider the following general spill response procedures for small spills on land, less than 100 L:

- use appropriate absorbent materials, earthen dikes, or trenches to prevent it from flowing out of the spill area or toward water bodies; and
- recover the spill as soon as possible.

For larger spills greater than 100 L, quick containment of spills is necessary to prevent spreading over a large area. This is of greatest concern when spills occur in granular soils (e.g., sand or gravel) and with light products, such as diesel. Diesel will flow down-slope, to low points, and away from the spill source.

In some cases, a trench can be dug ahead of the spill on the down slope side to collect the liquid for removal by absorbent booms, pads, buckets, or pumps. To facilitate this, the following steps can be taken.

- construct a soil berm downslope of the spill;
- block entry into waterways, if required, and contain the spill with earth or other barrier(s);
- if appropriate, use synthetic, impervious sheeting to act as a barrier;
- where possible, recover spills using shovels and/or pumps;
- absorb petroleum residue with synthetic absorbent pad materials;
- recover spilled and contaminated material, including soil and vegetation; and
- if the spill is due to a punctured drum, place the drum and any recovered soil in drum overpacks.

Once removed, recovered product and contaminated soil will be contained for handling and disposal. For a large spill, on-site field crews will contain the spill and may need to contact a third party contractor in Coral Harbour to assist with the clean-up.

2.2.4 Spill on Snow

Snow and ice, similar to soil, can be used to create berms to contain spills. Many of the techniques and objectives are similar to those on land. These include the following:

- blocking entry into waterbodies and containment with snow or other barrier(s);
- trenching or ditching to intercept or contain flow of liquids on snow, where feasible;
- compacting the snow around the outside perimeter of the spill area;
- constructing a snow berm with shovels; and
- if feasible, using synthetic liners to provide an impervious barrier at the spill site.

The low point of the spill area should be located and clear channels can be created in the snow to allow free product to flow into that low point. All channels should be directed away from water bodies. The liquid can then be collected by shovelling spilled material into containers.

2.2.5 Spill on Water

Spills on, or near water, should be contained as close as possible to the release point. Spill containment booms can be used to concentrate floating product for recovery. On small spills, absorbent pads can be used to pick up contained diesel. On larger spills a skimmer may be required.

When a spill occurs near a stream, it should be prevented from entering the water, by berming or trenching. If diesel enters a stream, it should be intercepted in calm areas, using absorbent booms. Absorbent booms or pads should not be used in fast currents and turbulent water. The following strategies can be used to contain spills on slow moving or calm water:

- Contain spills on open water immediately to restrict the size and extent of the spill. Diesel that floats on water may be contained through the use of booms, absorbent materials, or skimming.
- Deploy containment booms to minimize spill area; the effectiveness of booms may be limited by wind, waves and other factors.
- Use absorbent booms to slowly encircle and absorb spilled material. These absorbents are hydrophobic (they absorb hydrocarbons and repel water).
- Once booms are secured, use pumps, absorbents, or skimmers to draw in diesel and minimal amounts of water. Skimmed liquids can be pumped through hoses to empty drums.
- Use absorbent pads and similar materials to capture small spills and/or oily residue on water.

2.3 Spill Disposal

Once the spill has been contained and the spilled product has been recovered, either through absorbent materials or removing contaminated soil, snow, or water, all contaminated materials will be packaged in containers for off-site disposal. Contaminated soil, snow, and water will not be treated or disposed at the site.

3.0 SEDIMENT/DRILL CUTTINGS RESPONSE

For drill cuttings that do not flow to the designated sump/natural depression, all efforts will be made to prevent sedimentation of nearby water bodies. Attempts will be made to recover the drill cuttings and direct them to the sump/natural depression. Silt curtains may also be installed downstream of the release to prevent sediment from drill cuttings from entering the water body.

4.0 RESOURCE INVENTORY

There will be two spill kits located at the project site each with a sorbent capacity of 205 L. One will be located with the drill and the other at the fuel cache. A third spill kit may be required if diesel is temporarily stored at the Coral Harbour Airport.

The spill kit contents are described below:

- 100 absorbent pads (oil, gas & diesel);
- five 18" x 18" oil absorbent pillows;
- 10 3" x 4' absorbent socks (oil, gas & diesel);

- one 1 Lb. Jar of Plug n Dike (leak stop);
- eight high density hazmat disposal bags;
- six pairs of nitrile gloves;
- two large tarps;
- three aluminum scoop shovels;
- one Spill Contingency Plan;
- one laminated list of contents; and
- two drum overpacks.

Depending on the severity of the spill, additional resources may be required. The following is a list of contractors and government agencies that could be contacted, depending on the severity of the spill:

- Manager, Water Resources, Indian and Northern Affairs Canada – Nunavut Regional Office, Iqaluit, NU
  - Tel: 867-975-4550
- Manager, Land Administration, Indian and Northern Affairs Canada – Nunavut Regional Office, Iqaluit, NU
  - Tel: 867-975-4280
- Manager, Environment, Indian and Northern Affairs Canada – Nunavut Regional Office, Iqaluit, NU
  - Tel: 867-975-4549
- Environment Officer, Environmental Protection Branch, Environment Canada, Iqaluit, NU
  - Tel: 867-975-4644
- Lands Administration, Kivalliq Inuit Association, Rankin Inlet, NU
  - Tel: 867-645-2800
- Environmental consultant, Golder Associates, Edmonton, AB
  - Tel: 780-483-3499
- General contractor, Sudliq Developments Ltd, Coral Harbour, NU
  - Tel: 867-925-8119

5.0 TRAINING

As part of the project orientation, all members of the field crew will be required to read and follow the Spill Contingency Plan. During the Health and Safety orientation on-site all of the field crew will be briefed on the locations of the spill kits and proper use in the event of a spill. All field crew members will be provided revisions of the plan as they are implemented.

6.0 REFERENCES

Government of Nunavut, 1998. Spill Contingency Planning and Reporting Regulations. Department of Resource, Wildlife and Economic Development, Government of the Northwest Territories , Yellowknife, NWT 1998. Available online: http://env.gov.nu.ca/sites/default/files/Spill%20Planning%20and%20Reporting%20Regs.pdf

Report Signature Page

GOLDER ASSOCIATES LTD.

Sarah Gagné, P.Eng.
Project Manager

Corey De La Mare, B.Sc., P.Biol.
Associate, Project Director

SG/CD/bh

APPENDIX A

Vale Values

VALE VALUES

Ethics and Transparency

Our behaviour as an organization, by acting with integrity, abiding by the law, moral principles and behavioural covenants established and accepted by society, and by clearly communicating our policies and results.

Excellence in Performance

The quest for continuous improvement and process control, using performance indicators acknowledged as best practice, promoting a high-performance culture and ensuring that long-lasting competitive advantages are obtained and sustained.

Entrepreneurship

Our determined mindset as an organization that rapidly and unrelentingly seeks new opportunities and innovative solutions in the face of shifting challenges and needs, ensuring the execution of strategies that contribute to Vale's growth.

Economic, Social and Environmental Responsibility

We acknowledge the need for these dimensions to be constantly in balance, promoting development and ensuring sustainability.

Prioritizing Life and Safety

We will never forgo safety. People are more important than results and material goods. There is never a choice to be made regarding someone's life — our only choice is the life, health, and safety of our customers, employees, and communities.

Respect for Diversity

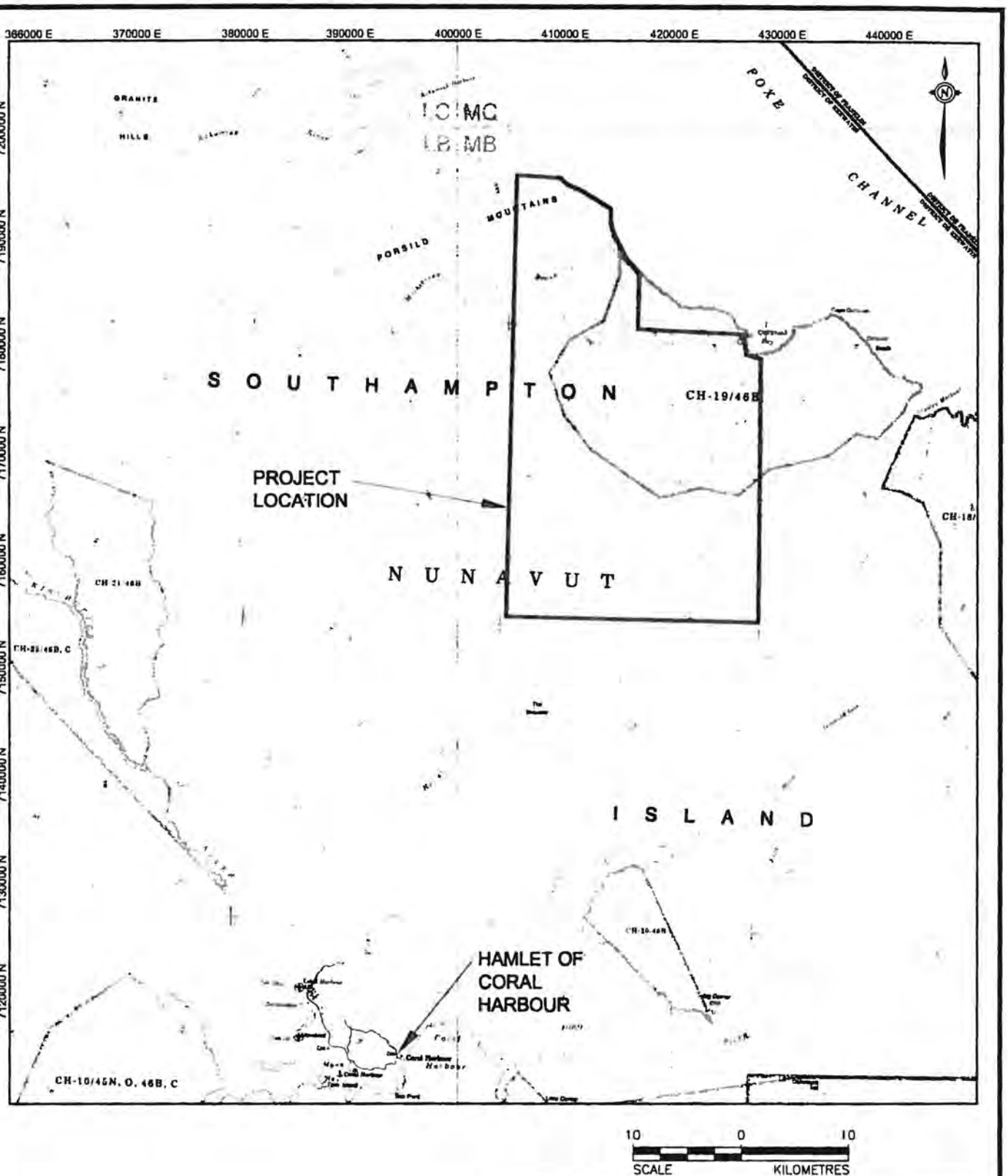
Acknowledging one another as equals, respecting differences and promoting competitive inclusion — and recognizing differences as opportunities for integration and growth.

Proud to "Be Vale"

The result of all these values. We behave as owners of the business, in the relentless quest to achieve our defined goals, sharing and celebrating results and strengthening relationships. We are proud to build something that will make a difference. This is why we are proud to be Vale — all of us, management and other employees of the Company.

APPENDIX B

Site Diagrams



PROJECT

CORAL HARBOUR AREA
SOUTHAMPTON ISLAND, NUNAVUT

TITLE

PROJECT LOCATION MAP

REFERENCE

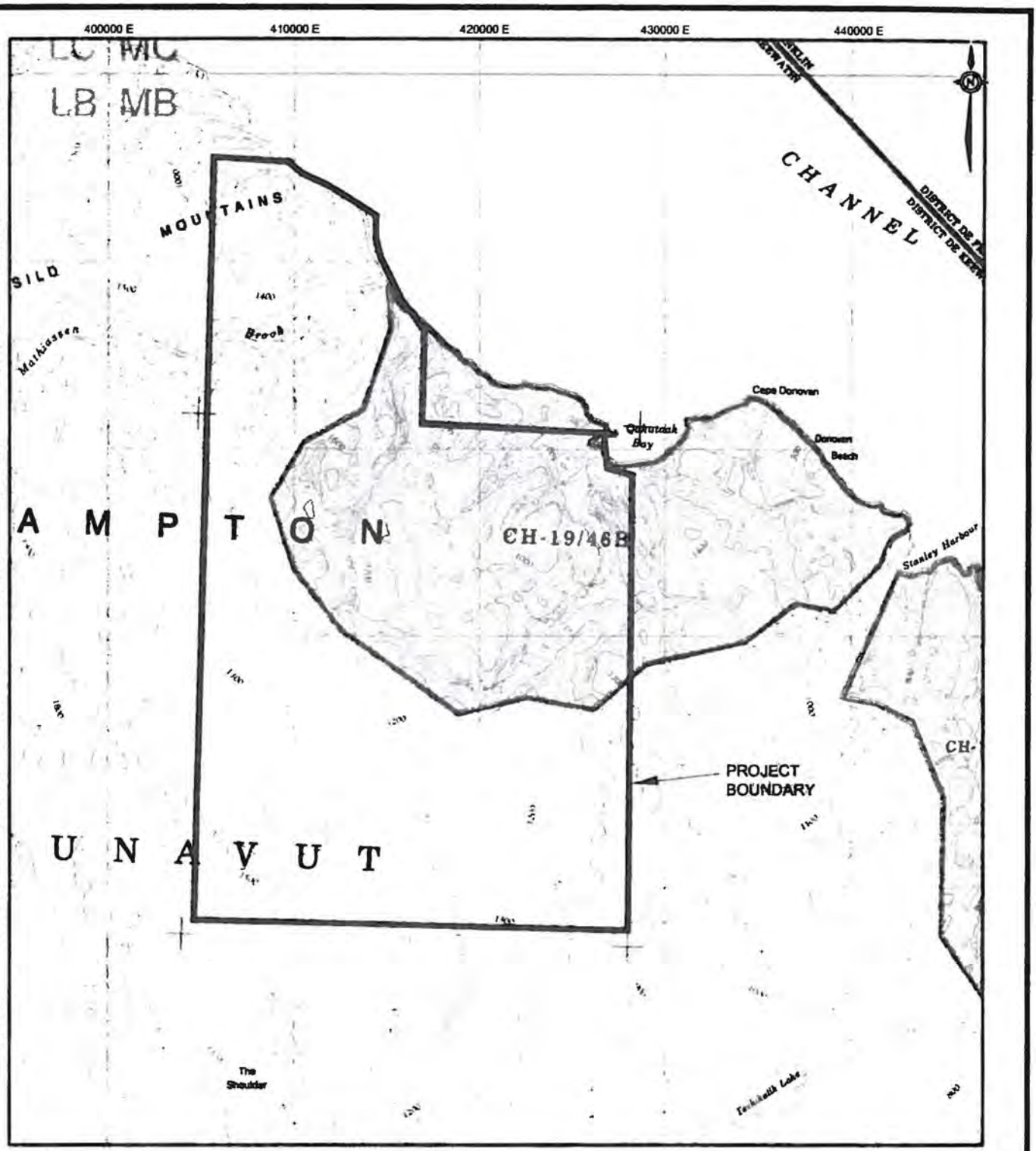
TOPOGRAPHIC MAPs 46B AND 46G OBTAINED FROM CANMATRIX. © 1986 AND 1995 (RESPECTIVELY) HER MAJESTY THE QUEEN IN RIGHT OF CANADA. DEPARTMENT OF NATURAL RESOURCES. ALL RIGHTS RESERVED. DATUM: NAD83 PROJECTION: UTM ZONE 17.

Golder Associates
Calgary, Alberta

PROJECT 11.1372.0019.1000			FILE No. 11137200191000A001	
DESIGN	SG	31/05/11	SCALE AS SHOWN	REV. 0
CADD	BSW	01/06/11		
CHECK	CD	15/06/11		
REVIEW	EM	23/06/11		

FIGURE: 1

L:\2011\1372\11-1372-0019\1000\Report A\Fig 1 11137200191000A001 Site Location.dwg Jun 27, 2011 - 2:31pm Image:046b10_0100.tif Image:046b15_0100.tif Image:046b_1_1 - 250 k.tif Image:046g-



LEGEND

- PROJECT BOUNDARY
- CROWN LAND
- INUIT OWNED LAND

SCALE 5 0 5 10 KILOMETRES

REFERENCE

TOPOGRAPHIC MAPs 46B AND 46G OBTAINED FROM CANMATRIX. © 1988 AND 1995 (RESPECTIVELY) HER MAJESTY THE QUEEN IN RIGHT OF CANADA, DEPARTMENT OF NATURAL RESOURCES. ALL RIGHTS RESERVED. DATUM: NAD83 PROJECTION: UTM ZONE 17.

PROJECT

CORAL HARBOUR AREA
SOUTHAMPTON ISLAND, NUNAVUT

TITLE

SITE MAP

Golder Associates
Calgary, Alberta

PROJECT 11.1372.0019.1000			FILE No. 1113720019100OA002	
DESIGN	SG	31/05/11	SCALE AS SHOWN	REV. 0
CADD	BSW	01/06/11		
CHECK	CD	15/06/11		
REVIEW	EM	23/06/11		

FIGURE: 2

L:\2011\1372\11-1372-0019\1000\Report A\Fig 2 1113720019100OA002 Site Plan.dwg Jun 27, 2011 - 2:34pm Image:046b10_0100.tif Image:046b15_0100.tif Image:046b_1_1 - 250 k.tif Image:046g_1_0

APPENDIX C

Material Safety Data Sheets

Material Safety Data Sheet

DIESEL FUEL

1. Product and company identification

Product name : DIESEL FUEL

Synonym : Seasonal Diesel, #1 Diesel, #2 Heating Oil, #1 Heating Oil, D50, D60, P40, P50, Arctic Diesel, Farm Diesel, Marine Diesel, Low Sulphur Diesel, LSD, Ultra Low Sulphur Diesel, ULSD, Mining Diesel, Naval Distillate, Dyed Diesel, Marked Diesel, Coloured Diesel, Furnace special, Biodiesel blend, B1, B2, B5, Diesel Low Cloud (LC).

Code : W104, W293; SAP: 120, 121, 122, 125, 126, 129, 130, 135, 287, 288

Material uses : Diesel fuels are distillate fuels suitable for use in high and medium speed internal combustion engines of the compression ignition type. Mining Diesel has a higher flash point requirement, for safe use in underground mines.

Manufacturer : PETRO-CANADA
P.O. Box 2844
150 – 6th Avenue South-West
Calgary, Alberta
T2P 3E3

In case of emergency : Petro-Canada: 403-296-3000
Canutec Transportation: 613-996-6666
Poison Control Centre: Consult local telephone directory for emergency number(s).

2. Hazards identification

Physical state : Bright oily liquid.

Odour : Mild petroleum oil like.

WHMIS (Canada) :

Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).
Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview : WARNING!

COMBUSTIBLE LIQUID AND VAPOUR. CAUSES EYE AND SKIN IRRITATION.

Combustible liquid. Severely irritating to the skin. Irritating to eyes. Keep away from heat, sparks and flame. Do not get in eyes. Avoid breathing vapour or mist. Avoid contact with skin and clothing. Use only with adequate ventilation. Wash thoroughly after handling.

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : Inhalation of this product may cause respiratory tract irritation and Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death.

Ingestion : Ingestion of this product may cause gastro-intestinal irritation. Aspiration of this product may result in severe irritation or burns to the respiratory tract.

Skin : Severely irritating to the skin.

Eyes : Irritating to eyes.

Potential chronic health effects

Chronic effects : No known significant effects or critical hazards.

Carcinogenicity : Diesel engine exhaust particulate is probably carcinogenic to humans (IARC Group 2A).

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

2. Hazards identification

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Medical conditions aggravated by over-exposure : Avoid prolonged or repeated skin contact to diesel fuels which can lead to dermal irritation and may be associated with an increased risk of skin cancer.

See toxicological information (section 11)

3. Composition/information on ingredients

Name	CAS number	%
Kerosine (petroleum), hydrodesulfurized / Fuels, diesel / Fuel Oil No. 2	64742-81-0 / 68334-30-5 / 68476-30-2	95 - 100
Fatty acids methyl esters	61788-61-2 / 67784-80-9 / 73891-99-3	0 - 5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First-aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

Flammability of the product : Combustible liquid

Extinguishing media

Suitable : Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Products of combustion : Carbon oxides (CO, CO2), nitrogen oxides (NOx), sulphur oxides (SOx), sulphur compounds (H2S), smoke and irritating vapours as products of incomplete combustion.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

5. Fire-fighting measures

Special remarks on fire hazards : Flammable in presence of open flames, sparks and heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. This product can accumulate static charge and ignite.

Special remarks on explosion hazards : Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Runoff to sewer may create fire or explosion hazard.

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. Ensure the storage containers are grounded/bonded.

8 . Exposure controls/personal protection

Ingredient	Exposure limits
Kerosine (petroleum), hydrodesulfurized	**ACGIH TLV (United States). Absorbed through skin.** TWA: 200 mg/m³ 8 hour(s).
Fuels, diesel	**ACGIH TLV (United States). Absorbed through skin.** TWA: 100 mg/m³, (Inhalable fraction and vapour) 8 hour(s).
Fuel oil No. 2	**ACGIH TLV (United States). Absorbed through skin.** TWA: 100 mg/m³, (Inhalable fraction and vapour) 8 hour(s).

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: organic vapour cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstances where air-purifying respirators may not provide adequate protection.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Recommended: nitrile, neoprene, polyvinyl alcohol (PVA), Viton. Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. It should be realized that eventually any material regardless of their imperviousness, will get permeated by chemicals. Therefore, protective gloves should be regularly checked for wear and tear. At the first signs of hardening and cracks, they should be changed.

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state	:	Bright oily liquid.
Flash point	:	Diesel fuel: Closed cup: ≥40°C (≥104°F) Marine Diesel Fuel: Closed Cup: ≥60°C (≥140°F) Mining Diesel: Closed Cup: ≥52°C (≥126°F)
Auto-ignition temperature	:	225°C (437°F)
Flammable limits	:	Lower: 0.7% Upper: 6%
Colour	:	Clear to yellow (This product may be dyed red for taxation purposes).
Odour	:	Mild petroleum oil like.
Odour threshold	:	Not available.
pH	:	Not available.
Boiling/condensation point	:	150 to 371°C (302 to 699.8°F)
Melting/freezing point	:	Not available.
Relative density	:	0.80 to 0.88 kg/L @ 15°C (59°F)
Vapour pressure	:	1 kPa (7.5 mm Hg) @ 20°C (68°F).
Vapour density	:	4.5 [Air = 1]
Volatility	:	Semivolatile to volatile.
Evaporation rate	:	Not available.
Viscosity	:	Diesel fuel: 1.3 - 4.1 cSt @ 40°C (104°F) Marine Diesel Fuel: 1.3 - 4.4 cSt @ 40°C (104°F)
Pour point	:	Not available.
Solubility	:	Insoluble in cold water, soluble in non-polar hydrocarbon solvents.

10 . Stability and reactivity

Chemical stability	:	The product is stable.
Hazardous polymerisation	:	Under normal conditions of storage and use, hazardous polymerisation will not occur.
Materials to avoid	:	Reactive with oxidising agents and acids.
Hazardous decomposition products	:	May release COx, NOx, SOx, H2S, smoke and irritating vapours when heated to decomposition.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Kerosine (petroleum), hydrodesulfurized	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Vapour	Rat	>5000 mg/m³	4 hours
Fuels, diesel	LD50 Dermal	Mouse	24500 mg/kg	-
	LD50 Oral	Rat	7500 mg/kg	-
Fuel oil No. 2	LD50 Oral	Rat	12000 mg/kg	-

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Diesel engine exhaust particulate is probably carcinogenic to humans (IARC Group 2A).

11 . Toxicological information

Classification

Product/Ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Kerosine (petroleum), hydrodesulfurized	A3	-	-	-	-	-
Fuels, diesel	A3	3	-	-	-	-
Fuel oil No. 2	A3	3	-	-	-	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
TDG Classification	UN1202	DIESEL FUEL	3	III		-
DOT Classification	Not available.	Not available.	Not available.	-		-

PG* : Packing group

15 . Regulatory information

United States

HCS Classification : Combustible liquid
Irritating material

Canada

WHMIS (Canada) : Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).
Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

15 . Regulatory information

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

International regulations

Canada inventory	: All components are listed or exempted.
United States inventory (TSCA 8b)	: All components are listed or exempted.
Europe inventory	: All components are listed or exempted.

16 . Other information

Label requirements : COMBUSTIBLE LIQUID AND VAPOUR. CAUSES EYE AND SKIN IRRITATION.

Hazardous Material Information System (U.S.A.) :

National Fire Protection Association (U.S.A.) :

References	: Available upon request. ™ Trademark of Suncor Energy Inc. Used under licence.
Date of printing	: **7/6/2010.**
Date of issue	: 6 July 2010
Date of previous issue	: 7/3/2009.
Responsible name	: **Product Safety - JDW**

Indicates information that has changed from previously issued version.

For Copy of (M)SDS : Internet: **www.petro-canada.ca/msds**

Canada-wide: telephone: 1-800-668-0220; fax: 1-800-837-1228

For Product Safety Information: (905) 804-4752

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

APPENDIX D

NWT/NU Spill Report Form

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 ENVIRONMENT	
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			

At Golder Associates we strive to be the most respected global company providing consulting, design, and construction services in earth, environment, and related areas of energy. Employee owned since our formation in 1960, our focus, unique culture and operating environment offer opportunities and the freedom to excel, which attracts the leading specialists in our fields. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees who operate from offices located throughout Africa, Asia, Australasia, Europe, North America, and South America.

Africa	+ 27 11 254 4800
Asia	+ 86 21 6258 5522
Australasia	+ 61 3 8862 3500
Europe	+ 356 21 42 30 20
North America	+ 1 800 275 3281
South America	+ 55 21 3095 9500

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Golder Associates

June 28, 2011

REPORT

SOUTHAMPTON ISLAND PROJECT

Closure and Restoration Plan

Submitted to:
Vale Exploration Canada Inc.
Hwy 17 West
Copper Cliff, ON P1M 1N0

Report Number: 1113720019
Distribution:
Nunavut Water Board
Kivalliq Inuit Association
Indian and Northern Affairs Canada

Golder Associates

Table of Contents

1.0 INTRODUCTION

Vale Exploration Canada Inc. (Vale) has developed this Closure and Restoration Plan (the Plan) for the Southampton Island Project (the Project), located on Southampton Island, Nunavut approximately 65 km northeast of the Hamlet of Coral Harbour, Nunavut. The Project activities are located between 64°52'26" - 64°30'28" N and 82°59'30" - 82°29'28" W.

The Project area occurs on both Crown and Inuit Owned land, therefore Vale is applying for land use permits with Indian Northern Affairs Canada (INAC) and the Kivalliq Inuit Association (KIA), as well as a water licence with the Nunavut Water Board.

Vale has all the necessary prospecting permits issued by the INAC Mine Recorder's Office.

The first step for the Project is to do airborne surveys in the spring of 2011. Depending on the results of the surveys, Vale may undertake a geophysical survey and possibly drilling in the fall of 2011.

Vale does not plan on having a camp at the site in 2011; all field crews will stay in Coral Harbour and travel to and from the site by helicopter. Depending on the results of the 2011 program, Vale may decide to continue flying field crews to and from Coral Harbour or may setup a camp in 2012. Vale intends to conduct drilling activities during the summer and fall of 2012. Camp supplies and fuel, if constructed in 2012, may be flown in by Twin Otter or other equivalent aircraft.

The scope of this Closure and Restoration Plan (the Plan) covers both drilling activities and a camp. The Plan is effective from June 27, 2011 to December 31, 2014.

2.0 PROJECT SCHEDULE

In 2011, Vale intends to conduct the aerial surveys and apply for the required permits and licences. Depending on the results of the aerial surveys and the receipt all the necessary permits and licence, Vale intends to conduct a field program on the property in the fall of 2011. As previously stated, there will be no camp in 2011; field crews will fly in and out of Coral Harbour. The field program will include a geophysical survey and possibly drilling and will last approximately 2 to 3 weeks.

In 2012 and 2013, depending on the results of the 2011 program, further exploration work may be undertaken. The work may require a camp or Vale may decide to continue to be based out of Coral Harbour.

3.0 CLOSURE AND RESTORATION

3.1 Schedule

No Camp

For the field programs that do not use a camp, the seasonal closure and restoration will be limited to inspecting the fuel cache and ensuring the remaining drums are stored properly for use in the next year. The drill locations will be properly abandoned and restored once the drill hole is completed as discussed in Section 3.2.2. Seasonal or final closure and restoration would take approximately 1 to 2 days.

Camp

If a camp is used for the field program, closure and restoration will take approximately 3 days.

3.2 Seasonal Closure and Restoration

3.2.1 Buildings and Contents

If a camp was used during the field program, all tent structures will be secured for the winter and all camp equipment such as stoves, beds, shower etc. will remain securely stored on site. No food or food waste will be left on site.

3.2.2 Drill Locations

All drill equipment will be dismantled, packaged, and stored along with its ancillary equipment and rods, as directed by the drilling contractor. The drill will be left on a level surface, away from water bodies.

All drill locations will be inspected immediately after completion of the drill hole. All waste will be collected and taken to camp for incineration or removed to an approved disposal facility. All sumps will be backfilled and each drill collar will be cut off to ground level. All efforts will be made to contour the sump backfill to pre-existing conditions. At each drill site the surrounding soil will be inspected for potential contamination.

3.2.3 Fuel Storage

Any fuel drums or empty drums from the last drill location will be returned to the fuel cache. Empty drums will be returned to the staging area in Coral Harbour and backhauled to an approved facility throughout the project.

Remaining fuel drums at the fuel cache will be inventoried and stored until the next season. All remaining fuel drums and empty drums, as well as secondary containment, will be inspected. Surrounding soil will also be inspected for potential contamination. Any contaminated soil will be treated according to the *Spill Contingency Plan* (Golder 2011).

3.2.4 Waste

No Camp

For any field program with no camp associated with it, all solid wastes will be contained, packaged, and flown out to Coral Harbour. All non-hazardous wastes will be disposed at the Hamlet of Coral Harbour landfill, if all necessary tipping fees and access are in place with the hamlet. If Vale is not permitted by the hamlet to dispose of waste in Coral Harbour, alternate arrangements will be made to dispose of the wastes at an approved facility.

Camp

For any field program with a camp, Vale will use a modified burn barrel to incinerate paper products, paperboard packaging, untreated wood, food wastes, and food packaging as described in the Government of Nunavut's *Guideline for the Burning and Incineration of Solid Waste* (GN 2010). All other non-hazardous wastes will be packaged and flown to Coral Harbour for disposal in the hamlet landfill, if all necessary tipping fees and access are in place with the hamlet.

For seasonal camp closure, all ash will be removed from the modified burn barrel and disposed in a natural depression or pit at a minimum 31 m away from water bodies. The soil under and surrounding the modified burn barrel will be inspected for contamination.

Sewage will be incinerated using incineration toilets or contained using Pacto toilets. Greywater from the camp will be directed to a sump or natural depression at a minimum 31 m from a water body.

3.2.5 Water System

Pumps, tanks, and hoses will be drained, dismantled, packaged, and stored. Hoses will be rolled up and stored.

3.2.6 Contamination Clean Up

Contaminated soil or water at the drill sites or the camp will be treated as described in the *Spill Contingency Plan* (Golder 2011). Photographs before, during, and after the clean-up will be taken and all clean-up activities will be documented.

3.2.7 Documentation and Inspection

Prior to seasonal closure of the site, all remaining equipment and buildings will be inventoried, locations recorded, and photographed. All areas disturbed by the field program, (e.g., drill sites, fuel cache, camp) will be inspected prior to closure for the season. Records of the inspections will be kept in the project file.

3.3 Final Closure and Restoration

3.3.1 Building and Contents

All reusable equipment such as tents, tent frames, stoves, beds, shower etc. will be dismantled and removed from the site. All consumables associated with camp construction, such as nails, screws, anchors etc. will be recovered where possible, packaged, and flown out with other non-hazardous solid waste for disposal.

3.3.2 Drill Locations

All drill and ancillary equipment will be dismantled, packaged and removed from the site. All drill locations will be inspected immediately after completion of the drill hole. All waste will be collected and taken to camp for incineration or removed to an approved disposal facility. All sumps will be backfilled and each drill collar will be cut off to ground level. All efforts will be made to contour the sump backfill to pre-existing conditions. At each drill site the surrounding soil will be inspected for potential contamination.

3.3.3 Fuel Storage

All remaining fuel drums and empty drums will be removed from the site. The soil under and surrounding the fuel cache will be thoroughly inspected for any contamination, and photographs will be taken. Locations where fuel was stored at the drill sites will be inspected during the drill location inspection. Any contaminated soil will be treated according to the *Spill Contingency Plan* (Golder 2011).

3.3.4 Waste

No Camp

For any field program with no camp associated with it, all solid wastes will be contained, packaged, and flown out to Coral Harbour. All non-hazardous wastes will be disposed at the Hamlet of Coral Harbour landfill, if all necessary tipping fees and access are in place with the hamlet. If Vale is not permitted by the hamlet to dispose of waste in Coral Harbour, alternate arrangements will be made to dispose of the wastes at an approved facility.

Camp

For any field program with a camp, Vale will use a modified burn barrel to incinerate paper products, paperboard packaging, untreated wood, food wastes, and food packaging as described in the Government of Nunavut's *Environmental Guideline for the Burning and Incineration of Solid Waste* (GN 2010). All other non-hazardous

wastes will be packaged and flown to Coral Harbour for disposal in the hamlet landfill, if all necessary tipping fees and access are in place with the hamlet.

For final camp closure, all ash will be removed from the modified burn barrel and disposed in a natural depression or pit at a minimum 31 m away from water bodies. The modified burn barrel will be dismantled and removed from the site. The soil under and surrounding the modified burn barrel will be inspected for contamination.

Sewage will be incinerated using incineration toilets or contained using Pacto toilets. Greywater from the camp will be directed to a sump or natural depression at a minimum 31 m from a water body.

3.3.5 Water System

Pumps, tanks, and hoses will be drained, dismantled, packaged, and removed from the site. Hoses will be rolled up and removed from site.

3.3.6 Contamination Clean Up

Any contaminated soil or water identified during the closure inspections will be treated according to the *Spill Contingency Plan* (Golder 2011). Photographs will be taken, before, during, and after the clean up.

3.3.7 Documentation and Inspection

Prior to final closure of the site, a complete inspection of all disturbed areas will be conducted. The inspection will include recording locations of all disturbed areas (including coordinates), photographing all disturbed areas, and documenting a description of the area. Information gathered during the final inspection will be used to write a final closure and restoration report. The report will be distributed to the regulatory agencies as required by the project permits and licence. The final closure and restoration report will also include site maps showing the locations of all drill waste sumps, greywater sump, ash disposal area, camp location, and fuel cache location.

3.4 Site Map

At this time, the drill locations, fuel cache location, and potential camp location are unknown for the project. Vale will include site diagrams of the drill locations, fuel cache location, and potential camp location and layout with annual reporting requirements associated with permits and licence for the project.

A site map of the Project on Southampton Island can be found in Appendix A.

4.0 REFERENCES

Golder. 2011. Spill Contingency Plan, Southampton Island Project. Submitted to Vale Explorations Canada June 2011.

GN (Government of Nunavut). 2010. Environmental Guideline for the Burning and Incineration of Solid Waste. Department of the Environment. Iqaluit, Nunavut. Available on-line: http://env.gov.nu.ca/sites/default/files/guideline_-_burning_and_incineration_of_solid_waste_1010.pdf

Report Signature Page

GOLDER ASSOCIATES LTD.

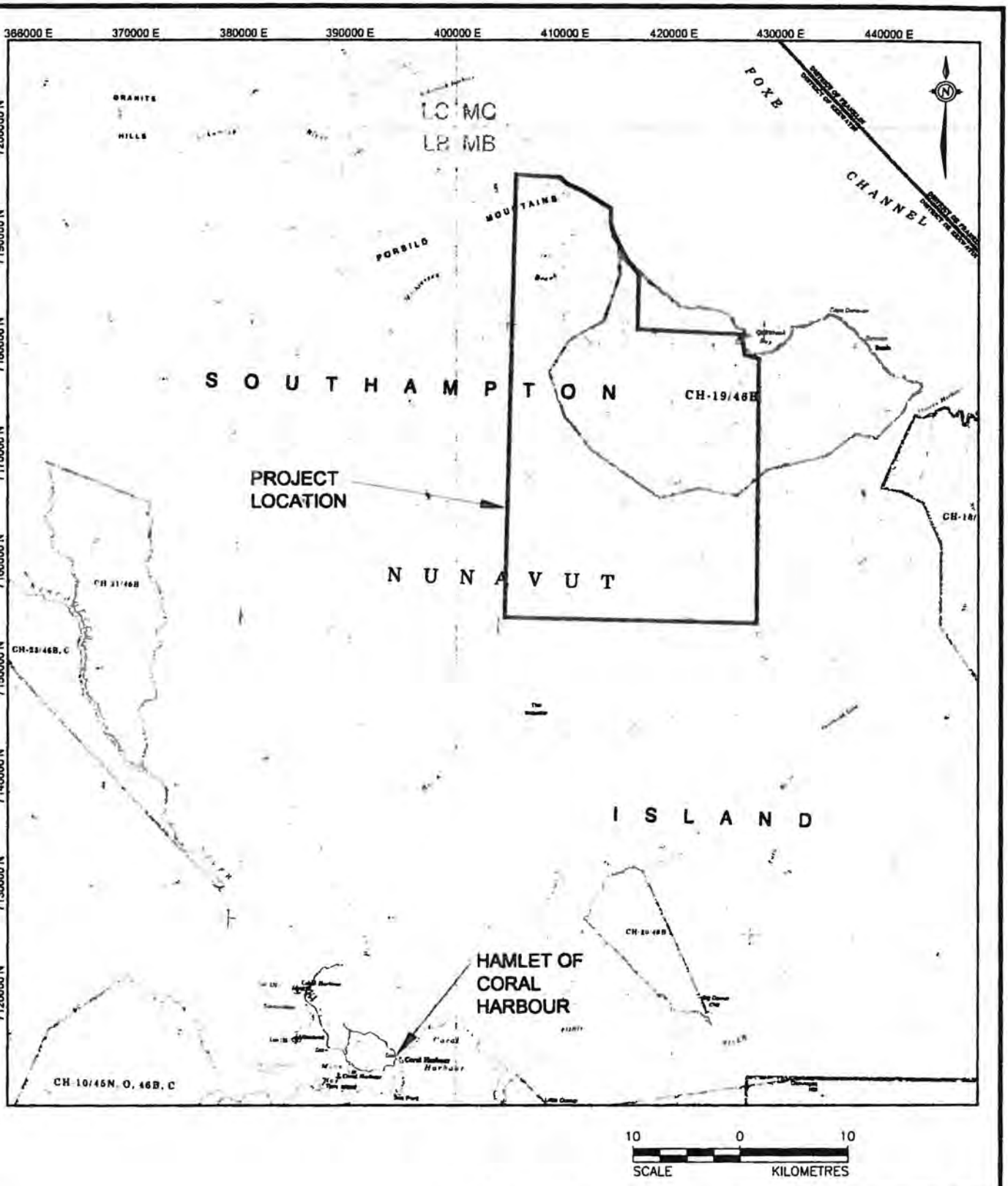
Sarah Gagné, P.Eng.
Project Manager

Corey De La Mare, B.Sc., P.Biol.
Associate, Project Director

SG/CD/bh

APPENDIX A

Site Map



PROJECT

CORAL HARBOUR AREA
SOUTHAMPTON ISLAND, NUNAVUT

TITLE

PROJECT LOCATION MAP

REFERENCE

TOPOGRAPHIC MAPs 46B AND 46G OBTAINED FROM CANMATRIX. © 1986 AND 1995 (RESPECTIVELY) HER MAJESTY THE QUEEN IN RIGHT OF CANADA. DEPARTMENT OF NATURAL RESOURCES. ALL RIGHTS RESERVED. DATUM: NAD83 PROJECTION: UTM ZONE 17.

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Calgary, Alberta

PROJECT	11.1372.0019.1000		FILE No.	11137200191000A001
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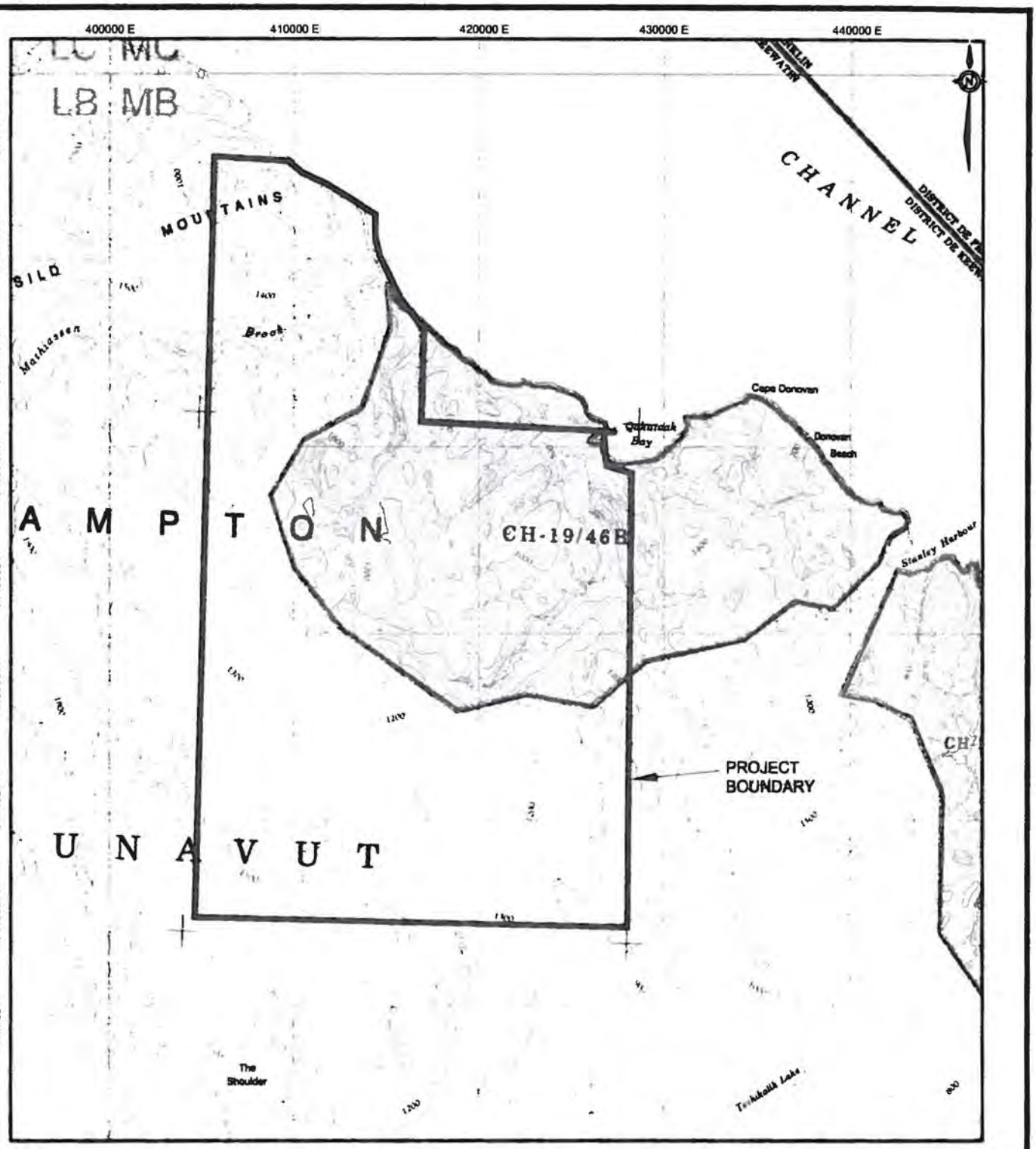

LEGEND

- PROJECT BOUNDARY
- CROWN LAND
- INUIT OWNED LAND

5 0 5 10
SCALE KILOMETRES

PROJECT

CORAL HARBOUR AREA
SOUTHAMPTON ISLAND, NUNAVUT

TITLE

SITE MAP

REFERENCE

TOPOGRAPHIC MAPs 46B AND 46G OBTAINED FROM CANMATRIX. © 1986 AND 1995 (RESPECTIVELY) HER MAJESTY THE QUEEN IN RIGHT OF CANADA. DEPARTMENT OF NATURAL RESOURCES. ALL RIGHTS RESERVED. DATUM: NAD83 PROJECTION: UTM ZONE 17.

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REVIEW	EM	23/06/11		

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Appendix D – Golder Authorization Letter

June 28, 2011 Project No. 1113720019

John Craig, A/Land Specialist
Indian and Northern Affairs Canada
Land Administration
P.O. Box 100
Iqaluit, Nunavut X0A 0H0

LAND USE PERMIT - AGENT AUTHORIZATION

Dear Mr. Craig,

On behalf of Vale Exploration Canada Inc. (Vale), I hereby authorize Golder Associates Ltd. (Golder) to act as Vale's agent in the submission of an Application for Land Use Permit to Indian and Northern Affairs Canada (INAC), as well as engage in any necessary communications with INAC to facilitate the aforementioned application.

Please contact me at 705-682-8412 or by email at Everett.makela@vale.com or Sarah Gagné (Golder) at 780-930-8654 or by email at sarah_gagne@golder.com if further information is required.

VALE EXPLORATION CANADA LTD.

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