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Land Use Permit Application Form

(Subsection 19(2) and Schedule 2 of the Mackenzie Valley Land Use Regulations)

1 Applicant Name:	
Applicant's Mailing Address:	Fax no.:
	Telephone no.:
2 Head office address:	Fax no.:
	Telephone no.:
Field supervisor:	Email address:
3 Other personnel (subcontractor, contractors, company staff etc.):	
Total number of persons on site:	
4 Eligibility (Refer to section 18 of the Mackenzie Valley Land Use Regulations):	
<input type="checkbox"/> (a)(i) <input type="checkbox"/> (a)(ii) <input type="checkbox"/> (a)(iii) <input type="checkbox"/> (b)	
5 Other rights, licences or permits related to this permit application (mineral rights, timber permits, water licences, etc.):	
<i>To complete this section of the Application Form, please see page 16 of the Board's Guide to the Land Use Permitting Process for more information.</i>	
6 a) Summary of operation (describe purpose, nature and location of all activities). Refer to paragraph 19(3)(b) of the Mackenzie Valley Land Use Regulations:	
<i>To complete this section of the Application Form, please see page 15 of the Board's Guide to the Land Use Permitting Process for more information.</i>	
b) Indicate if a camp is to be set up. If yes, indicate size of camp or describe camp. (Provide details on a separate page, if necessary):	

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

To complete this section of the Application Form, proponents are encouraged to use Appendix B of the Board's [Guide to the Land Use Permitting Process](#).

8 Proposed restoration plans (Use a separate page if necessary):

To complete this section of the Application Form, please see page 16 of the Board's [Guide to the Land Use Permitting Process](#) for more information.

Roads:

(Provide details on a separate page.)

Is this to be a pioneered (new) road?

Has the route been laid out or ground truthed?

9 Proposed disposal methods:

To complete this section of the Application Form, a waste management plan for the proposed activities is to be developed in accordance with the Board's [Guidelines for Developing a Waste Management Plan](#) and submitted as an attachment to the Application Form. A template for this Plan is provided in the Guidelines.

a) Garbage:

b) Sewage (Sanitary and grey water):

c) Brush & trees:

d) Overburden (Organic soils, waste material, etc.):

10 Equipment (includes drills, pumps, etc.) (Use separate page if necessary):

Number	Type and Size	Proposed use

11 Fuels:	Number of containers:	Capacity of containers:	Location:
Diesel			
Gasoline			
Aviation Fuel			
Propane			
Other			

12 Containment fuel spill contingency plans (attach separate contingency plan if necessary):
A spill contingency plan for the proposed activities is to be developed in accordance with INAC's Guidelines for Spill Contingency Planning, April 2007 (accessible [here](#)). This Plan is to be submitted as an attachment to the Application Form.

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

14 Period of operation (includes time to cover all phases of project work applied for, including restoration):
 From (DD/MM/YY) _____ To (DD/MM/YY) _____

15 Period of permit (up to five years, with maximum of two years of extension):
 Start Date (DD/MM/YY): _____ Completion Date (DD/MM/YY): _____

16 Location of activities by map coordinates (attach maps and sketches):
To complete this part of the Application Form, please see the [Standards for Geographic Information Systems \(GIS\) Submissions](#).

Minimum latitude (degree, minute):
 Maximum latitude (degree, minute):
 Minimum longitude (degree, minute):
 Maximum longitude (degree, minute):
 Map Sheet no.:

17 Applicant (print name in full, in upper case):

Signature:  Date (DD/MM/YY):

18 Application fees for Type A or Type B permit (for federal and non-federal lands)¹:

a) Application fees for Type A or Type B permit (include the first two hectares) - \$150.00: \$

AND

b) Land-use fees for **federal public lands only**:

If more than two hectares of federal public lands are being used, enter the number of hectares in excess of the two hectares included in the Application fee.

_____ hectares at \$50.00/hectare \$

1. To help identify whether your activity is on federal lands, please see [this map](#).

Total fees²: \$

2. Please make all cheques payable to the Receiver General for Canada.

19 Additional Information (Attach additional pages if necessary).

Wek'eezhii Land and Water Board

Land Use Application Form Additional Information

Section 1: Applicant Name

Peregrine Diamonds Ltd.
Suite 300, 1601 Airport Road NE
Calgary, Alberta T2E 6Z8
Ph: (604) 836-3284
Email: david.willis@debeersgroup.com

Section 2: Head Office

Same as above.

Section 3: Personnel

The camp will provide seasonal lodging for a maximum of 40 people. Individual contractors and contracting companies are selected on a per program basis and will consist of the following;

- Core drill contractor
- RC drill contractor
- Equipment contractor
- Camp logistics contractor
- Helicopter contractor
- Fixed wing aircraft contractor

Section 4: Eligibility

Article 18(a)(i) applies to this requested activity. Peregrine Diamonds Ltd. holds mining leases in the requested area.

Section 5: Other Rights Licences or Permits

Pre-existing land use permit W2011C0005 was issued January 10, 2012 and expires on January 9, 2019. This renewal application covers a reduced number of pre-approved activities.

There are 10 mining Leases held by Peregrine Diamonds Ltd. in the area; L-4131, L-4132, L-4133, L-5263, L-5264, L-5265, L-5266, L-5267, L-5268, L-5269, L-5271, L-5271. Of these the proposed drill and camp activities are contained within lease L-4131, L-4132, L-4133, L-5267.

Section 6(a): Summary of Operation

The focus of exploration activities is drilling at the DO-27 and DO-18 kimberlites. All drill activities are based out of the DO-27 Camp. Other activities like the winter spur trail, marshalling area, ice strip cuttings area and winter drill trails are necessary to support drill activities

The DO-27 and DO-18 kimberlites were discovered in the 1990's and were the subjects of previous exploration work. Additional drilling is required at these kimberlites to refine geological models and understanding of diamond distribution. The DO-27 kimberlite is located below a small lake (approx. 21 hectares) and the DO-18 kimberlite is terrestrial.

Field programs are seasonal and not year round. Work is confined to two field seasons, summer and winter. The winter field season extends from late February to the end of April. The summer field season extends from June to the end of August.

The majority of activities will take place on 1:50,000 scale National Topographic Map ("NTS") 76C05. A small portion of the winter spur trail (350m) occurs on the adjacent western NTS map 76D08. Critical coordinates are listed in Table 4 in Section 16 of this document.

A total of nine activities are request for renewal.

1) Small diameter core drilling

- a. Core drilling will be used for delineation drilling of the DO-27 kimberlite and the DO-18 kimberlite.
- b. Core drilling may vary from NQ (1.775 inch diameter) to PQ (3.72 inch diameter)
- c. The precise drill hole coordinates are not known at this time however drilling will occur either on or in close proximity to the current known outlines of each kimberlite (DO-27 and DO-18).
- d. The core drill is heli-portable and a helicopter will be used for drill set-up.
- e. Winter drilling may involve a skid mount for the drill that can be pulled by a tracked vehicle.
- f. 30 drill holes will be drilled at each kimberlite over the course of this land use licence.
- g. Core drilling utilizes water
- h. Water for core drilling at the DO-18 kimberlite will be drawn from one of two water sources. Each source is approximately 400 meters from the edge of the kimberlite. The coordinates for the water sources are listed in Table 3 and illustrated on Map 3 and Map 4.

2) Small diameter reverse circulation ("RC") drilling

- a. Small diameter RC drilling maybe used to assess overburden depth at the DO-18 kimberlite
- b. The precise drill hole coordinates are not known at this time however drilling will occur either on or in close proximity to the current known outlines of DO-18
- c. RC drills are pneumatic and do not require water.

- d. Drilling may occur during the summer months or winter months.
- e. The RC drill is heli-portable and a helicopter will be used for drill set-up.
- f. Winter drilling may involve a skid mount for the RC drill that can be pulled by a tracked vehicle.

3) Cutting Containment

- a. The cuttings containment area was originally used to contain cuttings from large diameter RC drill programs in the mid-2000's.
- b. The area measures approximately one hectare and was rehabilitated circa 2009

4) DO-27 Camp

- a. Please refer to item 6(b) below for a description of the DO-27 Camp

5) Marshalling Area

- a. The marshalling area is used for storage of equipment and fuel.
- b. A large lined fuel berm is located at the marshalling area. Drum fuel is stored at this location. All fuel was removed from the berm during the winter of 2016.

6) Winter Spur Trail

- a. The spur line is a winter trail connecting the Tibbitt to Contwoyto winter road to the DO-27 Camp.
- b. The route is approximately 25 kilometers long.
- c. The route is formed of packed and groomed snow.

7) Ice Landing Strip at the DO-27 Lake

- a. The ice landing strip provides fixed wing access to the project area from Yellowknife.

8) Winter Drill Trails

- a. Winter trails are required to connect the camp, marshalling area, cuttings area and drill sites.
- b. These trails are formed of packed and groomed snow.
- c. The majority of trails occur on old gravel airstrips from the 1990's

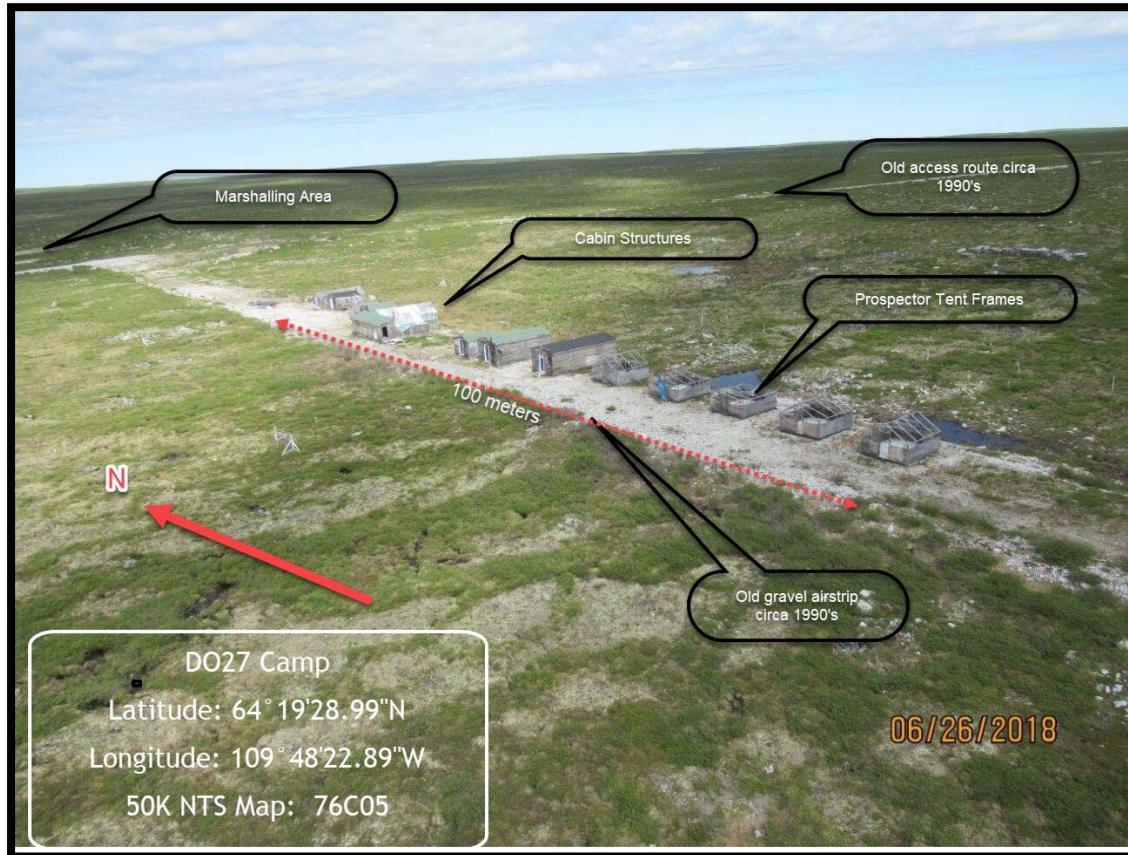
Section 6(b): Camp Description

The DO-27 Camp was established circa 2005 and was last utilized during a drill campaign in the winter of 2012. Maintenance campaigns were undertaken during the summer 2014, summer 2015, winter 2016 and summer 2017.

The camp is of a linear design extending north south along a gravel airstrip constructed by a previous operator in the late 1990's. At present, the camp consists of five wooden tent frames and 10 wooden cabin structures of varying sizes. The cabin structures include:

- 1) Kitchen
- 2) Office

- 3) Eating area
- 4) Generator shed
- 5) Maintenance Shed
- 6) Core shed
- 7) First Aid Shed
- 8) Storage Shed
- 9) Storage Shed
- 10) Storage Shed



All cabin buildings are structurally sound but are in need of maintenance and cosmetic repair.

A single diesel generator supplies camp power. Camp communications are through satellite and VHF radio.

Camp tents will be heated with diesel drip stoves or Toyo diesel-electric heaters. Fuel drums will be placed in drum caddies behind the tents to act as secondary containment.

Domestic water is drawn from DO-27 Lake 400 meters west of camp. Domestic water is pumped to a water tank where it is treated with ultra-violet conditioning and stored for domestic consumption. Domestic water consumption records will be maintained and is estimated at three

cubic meters per day if the camp is at full operation. Grey water will drain through a gravel box filter into a sump.

Camp bathrooms consist of Pacto toilets. Pacto Toilet bags are collected and incinerated daily.

The original camp was designed to accommodate up to 40 individuals during the field program. It is anticipated that future programs will accommodate this same number of individuals.

Section 7: Summary of Potential Environmental Impacts

The predicted environmental impacts of the seasonal drill permit are minimal.

a) Use of Land:

- a. Each drill set up measures approximately 10 meters by 10 meters (30 feet x 30 feet) and has an approximate area of 0.01 hectares per drill site. It would take 100 drill sites to leave a one (1) hectare footprint.
- b. The DO-18 kimberlite is on land and has a geophysical expression of approximately 6.894 hectares. Thirty drill holes from thirty separate setups would amount to 0.3 hectares.
- c. The DO-27 kimberlite is under a lake and has a geophysical expression of approximately 11.53 hectares. Drilling at this kimberlite will be on ice and no permanent marks will be foarmed.
- d. Low ground pressure tracked vehicles will be used on winter access routes to prevent ground damage. Snow will be compacted to act as a travel layer.
- e. The DO-27 Camp and marshalling area are located on gravel and land use effects are minimal.
- f. The cuttings containment area from previous drill program measures approximately 1 hectare. The area is visible from the air but reclamation efforts done previously have successfully reestablished vegetation.

b) Permafrost:

- a. Permafrost occurs within the lease area. Generally the overburden in this area is relatively shallow (<5 meters) before encountering bedrock. Small diameter drilling is not anticipated to have any effect on the permafrost.

c) Use of Water:

- a. Small diameter RC drilling is pneumatic and does not use water.
- b. Small diameter core drilling uses water. Water volumes averages 35 cubic meters per drill per day (24 hours). For terrestrial drilling water will be recirculated when possible to conserve water intake and local water sources of will be selected of sufficient size so and to not cause significant drawdown (<10%)
- c. A water meter will be placed on water withdrawal location and the daily water volume recorded.

- d. Department of fisheries and oceans guidelines for waste withdrawal will be followed including;
 - i. DFO – Freshwater Intake End-of-Pipe Fish Screen Guideline
 - ii. DFO – Winter Water Withdrawal Protocol

d) Water Quality

- a. For terrestrial drilling no water will be returned to the water source. All drill water will be contained in sump or natural depression.
- b. For on ice drilling a portable settling tank will be utilized to capture drill cuttings. The cuttings will be either hauled or slung to a natural depression for containment.

e) Noise:

- a. Both types of drill are noisy in the immediate vicinity of operations and hearing protection is required. The lease area is beyond the tree line and the terrain is generally flat with low rolling hills and sound does dissipate with distance.
- b. Helicopters will be utilized to sling drills and ferry drill crews and geology personnel. Helicopters are used as required but not continuously operated.
- c. Tracked vehicles (snow cat and challenger) are noisy but are only operated intermittently.

f) Vegetation:

- a. The lease area is beyond the tree line. Most vegetation is low lying sedges and grasses with periodic stands of dwarf shrubs. Terrestrial drill footprints are temporary and of short duration and do not do lasting damage to vegetation.

g) Wildlife and Wildlife Habitat

- a. During the past operations of the program Peregrine has observed wildlife in the area. Most of the wildlife has consisted of birds and small rodents, with occasional sightings of foxes.
- b. All crew are told to avoid and not interact with any wildlife.
- c. Activities are seasonal, of short duration and low impact. Activities are not anticipated to have an impact on wildlife.

h) Social and Economic Impact

- a. This permit is for seasonal exploration level drilling, mainly delineation drilling for geological modelling purposes. Yellowknife will be logistics hub for the support. Social and economic impacts of a program are minimal.

Section 8 Proposed Restoration Plans:

Camp Restoration

The DO-27 camp consists of 10 wooden structures. When the camp is demobilized at the completion of exploration activities, all buildings will be dismantled and removed. Untreated and treated wood will be sorted. Untreated wood will be burnt and treated wood will be bundled for removal to Yellowknife.

All camp equipment and supplies will be sorted and bundled for removal to Yellowknife. Exploration gear will be stored for future use, recyclables will be recycled, waste will be taken to the Yellowknife landfill and hazardous waste will be taken to certified waste handler KBL Environmental.

Once all camp structures and contents are removed the area will be walked with a large magnet to collect any nails or metallic debris. Additionally, personnel will walk the camp area to collect any miscellaneous small debris that is observed.

Core boxes collected at the DO-27 Camp will be piled neatly and left at site.

The grey water sump will be inspected to ensure there is no leaching or run-off. It will be back-filled and leveled as required.

Marshalling Area Restoration

All fuel will be removed and equipment. The impermeable liner will be hand excavated from the fuel berm and removed from the site. The berm area will be observed for any signs of fuel contamination and if any is suspected a soil sample will be collected for testing

Cuttings Containment Restoration

The cuttings containment area was rehabilitated circa 2009 and vegetation regrowth is positive. No further work is anticipated at this location. It will continue to be observed for the duration of the active permit.

Drill Sites

No equipment will be left at the drill sites at the completion of seasonal drill operations. All drill equipment will be removed to the marshalling area for storage or demobilized back to Yellowknife. Seasonally, at the completion of drilling, all sites will be walked and any missed debris will be collected for sorting and disposal at the DO-27 Camp.

The drill site will be dismantled into its main components as per the drill contractor's procedures, packaged and secured along with equipment and rods. The drill will be flown out by the drilling contractor or as the contract describes. This could mean returning the drill south or storing it at the marshalling area. No items will be left at the drill sites.

All drill sites will be inspected for miscellaneous debris or components. Any items will be collected and returned to the DO-27 Camp for storage or disposal.

All casings will be cut off and capped.

Terrestrial drill sites will be subject to progressive reclamation. As much as possible drill sites will be restored immediately after the drill has been moved to the next site. Natural depressions used as sumps will be inspected to ensure containment.

Seasonal Closure

At the conclusion of seasonal operations all large mobile equipment will be removed from the project area. Any remaining fuel will be moved to the fuel containment berm.

Contamination Clean-Up

No contamination is anticipated however, should this occur, contamination will be treated as per the 2018 Spill Contingency Plan.

Section 9: Proposed Waste Disposal Methods

Please see Waste Management Plan attached as a separate document.

Section 10: Equipment

A complete list of mechanized equipment is below in Table 1.

Table 1: Mechanized Equipment

#	Type	Make	Model	Quantity
1	Core Drill	Christensen	CS1000	2
2	RC Drill	Northspan	Hornet	2
3	Pump	Kubota	FMC W11-435 ASM	2
4	Pump	Kubota	FMC L09-420 ASM	2
5.	Generator	Kubota	GL11000	1
6.	Helicopter	A-Star	B1, B2, B3	1
7.	Fixed Wing Aircraft	De Havilland	Twin Otter	1
8.	Fixed Wing Aircraft	Douglas	DC-3	1
9.	Snow Cat	Prinorth	BR350	2
10.	Snow Mobiles	Yamaha	VK540	3
11.	ATV	Yamaha	Kodiak 450 EPS	1

Section 11: Fuels

Fuel drums will be stored in the lined fuel berm at the marshalling area. Liquid fuel required for camp operations will be contained in fuel drum caddies for secondary containment. A total fuel list is below in Table 2.

Table 2: Fuel types and Quantities

#	Fuel Type	Storage	Drum Quantity	Total Litres	Location
1.	Diesel	205 litre drum	30	6150 litres	Marshalling Area
2.	Aviation Fuel	205 litre drum	15	3075 litres	Marshalling Area
3.	Gasoline	205 litre drum	2	410 litres	Marshalling Area
4.	Propane	100lb tank	10	1000 lbs	DO-27 Camp

Section 12: Spill Plan

Fuel Spill plan is attached as a separate document.

Section 13: Methods of Fuel Transfer

Drill Sites

No-refilling of drums will be done at the drill sites. Empty drums will be returned to the marshalling area at the DO-27 Camp.

Fueling of drill equipment (compressors and motors) will be by electric pump and/or wiffle pump.

Fuel drums will be stored in impermeable berms to contain any drips, spills or other unanticipated releases. Spill kits will also be at each drill site when the drills are in operation in the event of unintended release.

Drums will be placed close to the drill equipment (approximately two meters) so as to prevent over handling of fuel drums.

DO-27 Camp

Fuel drums required for heating camp facilities will be contained in drum caddies. A tidy tank will be used to fill these drums to prevent overhanding of drums. Fueling will be done in close proximity to the drum caddies and a spill kit will be present at refueling.

Mobile Equipment

All mobile mechanized equipment will be re-fueled at the marshalling areas. Designated areas will be established for refueling ground equipment (ATV, snow machine, snow cat). The helicopter will be refueled at the Marshalling area but at a separate location. Spill kits will be located at each designated area. Refueling will be by electric pump and/or wiffle pump.

Section 14: Period of Operation

Project activities are seasonal and not year round. There are two main seasons for field activities; winter and summer.

Winter Season: Late February to the end of April

Summer Season: June, July and August

Field programs will not occur every season and will occur as analysis and results dictate. At present the DO-27 and DO-18 kimberlites are undergoing desktop analysis.

Section 15: Period of Permit

The requested term of the permit is 5 years. This will provide opportunity to pace field work results with analysis and modelling.

Section 16: Maps

The majority of activities will take place on 1:50,000 scale National Topographic Map (“NTS”) 76C05. A small portion of the winter spur trail (350m) occurs on the adjacent western NTS map 76D08. The coordinates for critical coordinates are listed in Table 3.

Table 3: Critical Coordinates

#	Location	Longitude (x) WGS84	Latitude (y) WGS84	1:50,000 NTS
1.	DO-27 Camp	-109° 48' 19.00"	64° 19' 26.37"	76C05
2.	DO-27 Kimberlite	-109° 48' 55.37"	64° 19' 30.98"	76C05
3.	DO-18 Kimberlite	-109° 48' 55.70"	64° 19' 58.72"	76C05
4.	Marshalling Area	-109° 48' 29.82"	64° 19' 35.16"	76C05
5.	Cuttings Area	-109° 47' 49.24"	64° 19' 36.33"	76C05
6.	Ice Strip	-109° 49' 02.75"	64° 19' 31.47"	76C05
7.	Unnamed Lake (15.8 ha) North Water Source	-109° 48' 34.57"	64° 20' 18.74"	76C05
8.	DO-27 Lake (21 ha) South Water Source	-109° 49' 00.61"	64° 19' 40.54"	76C05

Table 4: Box Coordinates

#	Description	Coordinate (WGS84, dd.mm.ss)
1.	Minimum Latitude (y)	64° 19' 13.28"N
2.	Maximum Latitude (y)	64° 20' 26.31"N
3.	Minimum Longitude (x)	109° 47' 30.51"W
4	Maximum Longitude (x)	109° 49' 41.97"W

Four Maps are included with this application to illustrate the location of activities.

Map 1: NTS Map 76C05

Map 2: Regional Location Map

Map 3: Activity Location Map

Map 4: Box Coordinates