

GJOA HAVEN, NT X0E 1J0

Tel: (867) 360-6338 Fax: (867) 360-6369 NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI

# Water Licence Application Supplementary Questionnaire for Advanced Exploration (Underground drilling, bulk sampling, etc.)

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# **SECTION 1:**

# **GENERAL**

2.

1.	Applican	t Stornoway Diamor (Company, corpora	
		<u>Unit 116-980 West</u> (Postal address)	1 <sup>st</sup> Street, North Vancouver, BC V7P 3N4
		604-983-7750 (Telephone number	(Fax)
		nwestcott@stornow (E-Mail)	aydiamonds.com
Corporat	e Address (If di	fferent from above)	
		Same As Above (Corporate Office A	address)
		(Telephone number	(Fax)
		(E-Mail)	
Project N	Vame <b>The Qilal</b>	ugaq Project	
Location	·		
Closest C	Community <b>Rep</b>	oulse Bay, Nunavut	
Latitude/	Longitude La	atitude: ( <b>86</b> ° <b>07</b> ′ <b>16.7″ N</b> )	Longitude: ( <b>66° 35</b> ' <b>32.7" W</b> )
Show the	e location of the	project on a general loca	tion map See Appendix "B"
Land Ad		icole Westcott Name)	604-983-7764 (Telephone No.)
or Projec	t Manager _ (T	Citle)	

3.Indicate the status of the exploration activity on the date of application. (Check the appropriate space.)

Design	<u>X</u>
Under construction	
In operation	
Suspended	
Care and Maintenance	
Abandoned	

4. If a change in the status of the exploration activity is expected, indicate the nature and anticipated date of such change.

The land use operation as described herein is proposed to take place during either July and August of 2012 or July and August of 2013. It is unknown at this time on what exact date the exploration activity would commence. At that time the status of the project would then change to "in operation".

5. Indicate the present (or purposed) schedule for the exploration activity.

Hours per week
Days per week
7 days a week

Weeks per year <u>6 weeks a year (for one year)</u> Number of employees <u>12 Employees (estimate)</u>

Number of Inuit employees 4 ( it is estimated that 4 Inuit will be hired on short term employment contracts)

6. Estimate the term (life) of the exploration activity.

The proposed land use operation will take place over a six week period in either July and August of 2012 or July and August of 2013.

7. How will the project effect the traditional uses on Inuit Owned Lands?

As reported elsewhere in this application, as of the date of the submission of this application no consultation has been conducted regarding the proposed land use activity however it is recognized that due to the land use area's close proximity to the hamlet of Repulse Bay local residents engaging in traditional land use activities and members of the Repulse Bay Hunters and Trapper's Association are among those who could be effected by this project proposal.

A project summary outlining the details for the proposed bulk sample activity and full contact information for the Proponent's Land Administrator will be sent to the SAO at the Repulse Bay

Hamlet office and to the president of the Repulse Bay Hunters and Trappers Association. Stornoway's Land Administrator will contact the SAO and propose that an introductory conference call be scheduled with representatives from the local government whereupon a brief PowerPoint presentation can be delivered to the Council, remotely. This interactive approach to early contact will provide an opportunity for any initial questions and concerns regarding the proposed land use activity to be addressed and has proven to be a great first step in opening up the lines of communication with remote communities when used by Stornoway in the past.

Should the bulk sample activity take place in July and August of 2012 representatives from Stornoway will conduct a community information session upon their arrival in Repulse Bay and prior to the commencement of the bulk sample activity taking place.

Should the bulk sampling activity <u>not</u> take place in 2012 (with the projection that it may take place during July and August of 2013) representatives from Stornoway will hold a community information meeting at some point during the summer of 2012 when personnel are in the area to assist with the logistics of the planned surveying activities.

8. Have the Elders been consulted on effects to the traditional use on Inuit Owned Land? If so, list them. If not, why not?

#### Please see answer to question 7.

9. Has the proponent consulted Inuit Organizations in the area? If so, list them.

#### Please see answer to question 7.

10. Has the proponent consulted surrounding communities on traditional water use areas? If so, list them. If not, why not?

#### Please see answer to question 7.

11. Attach a detailed map drawn to scale showing the relative locations (or proposed locations) of the exploration activity, Sewage and solid waste facilities, and containment areas. The plan should include the water intake and pumphouse, fuel and chemical storage facilities. Ore and waste rock storage piles, piping distribution systems, and transportation access routes around the site. The map also should include elevation contours, water bodies and an indication of drainage patterns for the area.

Please see Appendix "B" for a map of the land use area. There will be no infrastructure or camp established at the site and no waste rock storage piles will be produced during the trenching/bulk sampling activities.

12. If applicable, provide a brief history of property development which took place before the present company gained control of the site. Include shafts, audits, mills (give rated capacity, etc.) waste dumps, chemical storage areas, tailings disposal areas and effluent discharge locations. Make references to the detailed map.

The previous owner and operator of the property established a seasonal camp facility approximately 15 km northwest of the proposed bulk sample site location prior to the proponent acquiring an interest in and becoming the operator of the project. That camp location has since been reclaimed by the previous owner.

The proponent has no detailed information regarding the camp set up, etc. as they held no interest in the property during the time of the camp's establishment and operation.

13. Give a short description of the proposed or current freshwater intake facility, the type and operating capacity of the pumps used, and the intake screen size.

No water will be used during the bulk sample activity being proposed in this amendment application.

14. At the rate of intended water usage for the exploration activity, explain water balance inputs and outputs in terms of estimated maximum draw down and recharge capability of the water source from fresh water will be drawn.

No water will be used during the bulk sample activity being proposed in this amendment application.

15. Will any work be done that penetrates regions of permafrost?

No.

16. If "YES" above, is the permafrost continuous or discontinuous?

N/A

17. Were (or will) any old workings or water bodies (be) dewatered in order to conduct the exploration activity?

No.

18. If "YES" above, indicate the name of the water body, the total volume of water to be

	discharged and the che Water body (if unname			
	Total volume	•	<u> </u>	
	Receiving Watercourse			
	Dewatering flow rate in	nto above	cubic metres / sec	
	Chemical characteristic	s of discharg	ge:	
	T/Pb	mg/L	Total Ammonia	mg/L
	T/Cu	mg/L	Suspended solids	mg/L
		mg/L	Specific conductivity	uhmo/cm
	T/HCN	-	pН	
	_	mg/L		
		mg/L		
	1/IVIII	mg/L		
19.	Was (or will) the above	e discharge (	be) treated chemically ?	
	N/A			
20.	If "YES" above, descri	be the applie	ed treatment.	
	N/A			
21.	Briefly describe what v	vill be done v	with the camp sewage.	
	There will be no campobtain accommodation		l to support the land use opera e Bay.	ation. All personnel will

## **SECTION 2:**

#### **GEOLOGY AND MINERALOGY**

22. Briefly describe the physical nature of the mineralization, including known dimensions and approximate shape.

The Q1-4 complex is interpreted as multiple kimberlite pipes that coalesce into one complex pipe shape. The surface expression of the Q1-4 complex reflects a "U" shape and covers

approximately 14 hectares. The 'U' shape is approximately 700m by 500m on surface and has been modeled down to 300m below surface which is supported by drilling. The Q1-4 complex is steep sided and decreasing in size with depth. The Q1-4 complex is exposed at surface on the eastern lobe on the south side under minimal till cover.

23. Briefly describe the host rock in the general vicinity of the mineralization (from the surface to the mineralized zone.)

The Q1-4 complex was emplaced into the Archean basement of the Rae domain. The country rock adjacent to the kimberlite body consists mainly of fine- to coarse-grained fresh pink to grey granitoid gneiss and biotite-rich granitoid gneiss. They range from more massive weakly banded granitoid gneiss to strongly banded biotite-rich granitoid gneiss with localized pegmatite veins. There are some zones of pink unfoliated fine-grained granite.

24. Provide a geological description of the mineralized zone. (If possible, include the percentage of metals.)

The Q1-4 kimberlite complex is composed of rocks that have macrocrystic textures with two generations of olivine and fine grained groundmass dominated by phlogopite with lesser serpentine and carbonate and minor perovskite, spinel and apetite. Also included are mantle-derived xenocrysts of ilmenite, peridotitic and ecolgitic garnets, chromite, rare chrome diopside and diamonds. Local country rock granitoid gneiss dilution is variable and occurs in all units. The mineralogical classification is predominantly serpentine-carbonate-phlogopite-kimberlite to serpentine-phlogopite-kimberlite. The textural varieties of kimberlite present within the Q1-4 complex include tuffisitic kimberlite breccia (TKB) to hypabyssal kimberlite (HK) and possibly represents the deep-diatreme to root zone of a Class I kimberlite pipe.

25. Describe the geochemical tests which have been (or will be) performed on the ore, host rock, and waste rock to determine their relative acid generation and contaminant leaching potential. Outline methods used (or to be used) and provide test results in an attached report (ie. static tests, kinetic tests.)

There will be no rock stockpiles remaining upon the completion of the sample extraction. The overburden in the area is thin and any that may be removed in order to reach the kimberlite beneath it will be replaced upon completion of the sample activities, when the site trenches are recontoured. All rock extracted from the area will be placed in the mega bags and removed from the area. No extracted rock will be left at the site.

26. Estimate the percentage of sulphide in the mineralization:

<u>SEC</u>	<u>TION</u>	3:		
EXPI	LORAT	TION OPERATION		
27.	Check			oration operation that will be used on the detail.
	a) b) c) d) e) f) g)	Reverse circulation to a Trenching Conventional open pit Decline Conventional underground Strip mining activity Other Exploration activity	und	<u>X</u> ain)
28.	1,500 All sa sample	es	aken from the area	be obtained.  I identified in this application number of m different areas (note location) to form one
29.		ate the <u>present or proposes</u> es on the property:	sed average rate of	exploratory production from all mineralized
	<u>1,500</u>	tonnes will be extracted	d over a period of 4	12 days ore / day
30.		ne the water usage (or ge and volume of water fo		ge) in the exploration activity, indicate the
		Source	Use	Volume (m <sup>3</sup> / day)
	1. 2.	N/A N/A	N/A N/A	N/A N/A

31.	If applicable, indicate or estimate the volume of natural ground water presently gaining access to the mine workings.
	$N/A m^3 / day$
32.	If applicable, outline methods used underground or on surface to decrease mine water flow. (For example: recycling)
	N/A
33.	List the brand names and constituents of the drill additives to be used.
	No drilling will be conducted in association with the land use operation described herein.
SEC	CTION 4:
THE	MILL OR PROCESSING PLANT
34.	Is there (or will there be) a portable mill processing plant be operating on the property in conjunction with the exploration activity?
	YesNo
35.	If "yes" indicate the proposed point of discharge for the mill or process plant water and the volume of the discharge.
	Point of discharge
	Volume of discharge m <sup>3</sup> / day
36.	Attach a copy of the portable mill or processing plant flow sheet. Indicate the points of addition of all the various reagents (chemicals) that are (or will be) used.
37.	Indicate the proposed rate of milling.
	not applicable (check) or tonnes / day
38.	List the types and quantities of all reagents used in the mill or processing plant (in kg/tonne ore milled.

	Reagent:		Amount in kg/tonne o	re milled:	
39.	If applicable	, is the (propose	ed) milling circuit based	on autogenous grinding?	
	Yes	No _	Partially		
40		1	· · · · · · · · · · · · · · · · · · ·	escribe the chemical and physics directed to the tailing dep	
	T/Cu	mg/L	Total Ammonia	mg/L	
	T/Pb	_			
	T/Zn			uhmo/cm	
	T/Ag		рH		
	T/Mn	•	Alkalinity	CaCo <sub>3</sub> /L	
	T/Ni	mg/L	•	mg/L	
	T/Fe		7D ( 1 1 1	mg/L	
	T/Hg	_	Oil and Grease	mg/L	
	T/As	g/L			
	T/Cd				
	T/Cr	mg/L			
	T/Al	mg/L			
41.	Provide a ge	ochemical desc	ription of the solid fracti	on of the tailings.	
	Cu	mg/g	Al	mg/g	
	Pb	mg/g	Fe	mg/g	
	Zn	mg/g	Hg	mg/g	
	Ag	mg/g	Ni	mg/g	
	Mn	mg/g	As	mg/g	
	Cr	mg/g	CN	mg/g	
	Cd	mg/g			

## **SECTION 5:**

## THE CONTAINMENT AREAS

42. What is the (Proposed) method of disposal of the mine water, mill or process plant tailings (ie. sump, subaqueous, surface tailings pond, settling pond)?

•	^

43.	Attach	detailed	scale	plan	drawings	of	the	proposed	(or	present)	containment	area.	The
	drawings must include the following:												

- a) details of pond size and elevation;
- b) details of all retaining structures (length, width, height, materials of construction, etc.);
- c) details of the drainage basin;
- d) details of all decant, siphon mechanisms etc., including water treatment plant facilities;
- e) details with regard to the direction and route followed by the flow of wastes and / or waste water from the area; and
- f) indicate of the distance to nearby major watercourses.
- 44. Justify your choice of location for the containment area design by rationalising rejection of other options. Consider the following criteria in your comparisons: subsurface strata permeability, abandonment, recycling/reclaiming waters, and assessment of runoff into basins. Attach a brief summation.

N/A

45. The <u>average</u> depth of the <u>existing or proposed</u> containment area is <u>dependent on the volume of water encountered</u> metres.

N/A

46. Indicate the total capacity for the <u>existing or proposed</u> containment area by using water balance and stage volume calculations and curves. (Attach a description of inputs and outputs along with volume calculations.)

N/A

47. Has any evaporation and/or precipitation data been collected at the site? \_\_\_\_\_\_ if so, please include the data.

48.	Will the <u>present or proposed</u> containment area contain the entire production from the mill or processing plant complex for the life of the project ?
	N/A
49.	Will the proposed tailings deposition area engulf or otherwise disturb any existing watercourse?
	N/A
50.	If "Yes", attach all pertinent details (Name of watercourse, present average flow, direction of flow, proposed diversions, etc.)
	N/A
51.	Describe the proposed or present operation, maintenance and monitoring of the containment area.
	N/A
SEC'	<u>ΓΙΟΝ 6 :</u>
WAT	ER TREATMENT
52.	If applicable, will the minewater, mill or process plant water be chemically treated before being discharged to the containment area? If so, explain the treatment process (Attach flow sheet if available.
	N/A
53.	Will (treated) effluent be discharged directly to a natural water body or will polishing or settling ponds be employed? Describe location, control structures, and process of water retention and transfer. Attach any relevant design drawings.

54. Name the first major watercourse the discharge flow enters after it leaves the area of company operations.

N/A

### **SECTION 7:**

#### ENVIRONMENTAL MONITORING PROGRAM

55. Has Traditional Knowledge in the area been considered? If so, how? If not, why not?

Due to the fact that this project is still in its early stages and the land use activities conducted by the proponent since it acquired an interest in the property have been short term and relatively low impact in nature there have been no traditional knowledge studies done in association with this project to date. Should the project advance traditional knowledge studies appropriate to the level of land use being conducted will be undertaken.

56. Has any baseline data been collected for the main water bodies in the area prior to development?

No baseline data has been collected in association with this project to date due to the fact that it is still in its early stages and the land use activities conducted by the proponent since it acquired an interest in the property have been short term and relatively low impact in nature.

As no water will be used and no waste deposited into or near any water bodies in association with the proposed land use operation no baseline studies will be conducted at this time.

Should the project advance baseline studies appropriate to the level of land use being conducted will be undertaken.

57. If "Yes", include all data gathered on the physical, biotic and chemical characteristics at each sampling location. Identify sampling locations on a map.

N/A

58. Provide an inventory of hazardous materials on the property and storage locations.

The main chemicals and/or hazardous materials that are projected to be on the land use area during the bulk sampling activities are all associated with the operation of the mini tracked excavator and include engine oil, antifreeze, and its 12 VDC, 52 AH battery.

Please see enclosed Spill Contingency Plan for the Qilalugaq Project for further information on fuel storage and handling.

59. Provide a conceptual abandonment and restoration plan for the site, detailing the costs to carry out the plan, and a proposal for a financial assurance which covers the costs to carry out the plan.

Please see the enclosed Abandonment and Restoration Plan for the Qilalugaq Project.

### **SECTION 8:**

#### ENVIRONMENTAL ASSESSMENT AND SCREENING

60. Has this project ever undergone an initial environmental review? If yes, by whom and when.

An application detailing the proposed land use activities for the Qilalugaq Project was submitted to the Nunavut Impact Review Board on March 1, 2012.

61. Has any baseline data collection and evaluation been undertaken with respect to the various biophysical components of the environment potentially affected by the project (eg. Wildlife, soils, air quality), ie. In addition to water treated information requested in this questionnaire?

Yes	NT W	7 TT 1	
V AC	INO X	Linknown	
103	110 2	Unknown	

62. If "Yes" please attach copies of reports or cite titles, authors and dates.

N/A

63. If no, are such studies being planned?

Due to the fact that this project is still in its early stages and the land use activities conducted by the proponent since it acquired an interest in the property have been short term and relatively low impact in nature there have been no baseline studies done in association with this project to

date. Should the project advance traditional knowledge studi	ies appropriate to the level of la	nd
use being conducted will be undertaken.		

Briefly describe the proposals.

N/A

64. Has authorization been obtained or sought from the Department of Fisheries and Oceans for dewatering or using any waterbodies for containment of waste?

N/A

65. Has a socio-economic impact assessment or evaluation of this project been undertaken? (this would include a review of any public concerns, land, water and cultural uses of the implications of land claims, compensation, local employment opportunities, etc.)

Yes \_\_\_\_\_ No <u>X</u> Unknown \_\_\_\_\_

Due to the fact that this project is still in its early stages and the land use activities conducted by the proponent since it acquired an interest in the property have been short term and relatively low impact in nature there have been no socio- economic impact assessments done in association with this project to date.

As reported elsewhere in this application, as of the date of the submission of this application no consultation has been conducted regarding the proposed land use activity however it is recognized that due to the land use area's close proximity to the hamlet of Repulse Bay local residents engaging in traditional land use activities and members of the Repulse Bay Hunters and Trapper's Association are among those who could be effected by this project proposal.

A project summary outlining the details for the proposed bulk sample activity and full contact information for the Proponent's Land Administrator will be sent to the SAO at the Repulse Bay Hamlet office and to the president of the Repulse Bay Hunters and Trappers Association. Stornoway's Land Administrator will contact the SAO and propose that an introductory conference call be scheduled with representatives from the local government whereupon a brief PowerPoint presentation can be delivered to the Council, remotely. This interactive approach to early contact will provide an opportunity for any initial questions and concerns regarding the proposed land use activity to be addressed and has proven to be a great first step in opening up the lines of communication with remote communities when used by Stornoway in the past.

Should the bulk sample activity take place in July and August of 2012 representatives from Stornoway will conduct a community information session upon their arrival in Repulse Bay and prior to the commencement of the bulk sample activity taking place.

Should the bulk sampling activity <u>not</u> take place in 2012 (with the projection that it may take place during July and August of 2013) representatives from Stornoway will hold a community information meeting at some point during the summer of 2012 when personnel are in the area to assist with the logistics of the planned surveying activities.

66. If "Yes" please describe the proposal briefly.

N/A

- 67. If "No" is such a study being planned? Yes \_\_\_\_\_ No X
- 68. Describe any cumulative impacts the project may create?

The effects from the land use activities described herein are expected to be minimal due to the relatively short time frame within which it will be conducted and the fact that no camp facilities or other structures will be required in order to support it.

While the identified land use area is relatively small the proponent holds a large block of mineral claims surrounding the sample location and therefore no competitor interests are present within immediate vicinity.

It has been addressed throughout this application that the proponent recognizes that the land use area is located within a close distance the hamlet of Repulse Bay and has addressed the mitigation measures that will be implemented regarding the two main foreseeable concerns; the potential of the possible disturbance to wildlife by helicopter flights, and the fact that individuals engaging in traditional land use activities have established quad trails near the bulk sample site location. The proponent believes that the mitigation measures described are sufficient to address any potential concerns.

69. Does the project alter the quantity or quality or flow of waters through Inuit Owned Lands?

No.

70. If yes, has the applicant entered into an agreement with the Designated Inuit Organization to pay compensation for any loss or damage that may be caused by the alteration.

71.	If no compensation	arrangement has	been made, how	will compensation	be determined?
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