WATER (NORTHERN IRELAND) ORDER 1999

MAIN APPLICATION FORM (WO1)

Application for new consent/~~variation to an existing consent~~* to discharge
(*delete as appropriate)

NB: If application is in respect of a single domestic dwelling a separate form (WO2) should be completed.

RETURN TO:	Official Use Only
Northern Ireland Environment Agency Water Management Unit 17 Antrim Road LISBURN Co Antrim BT28 3AL Tel: 028 9262 3034	File Ref: Date Received: Applic Fee Received: ☐ Yes £ ☐ No

Each applicant must complete this main form and separate Annexes as required. Please look through the form and read the notes carefully before you complete it. Processing of your application will be aided by full and accurate completion of all the relevant sections and provision of the necessary plans. If you have any queries about the form please telephone the above number.

NOTE:

All information contained within this application will be made available on the public register unless there is a request to withhold any of it. Any such request should provide a full justification stating why the information should be withheld.

1 SITE ADDRESS

1.1 Address or other sufficient description of land or premises to which this application applies.

Address: Curraghinalt, Gortin, Co. Tyrone.
Description: Mineral Exploration involving the extension of the existing underground exploration tunnel at Curraghinalt.

Post Code BT 79 7SF

2 DETAILS OF DISCHARGE(S)

2.1 State the nature of the discharge(s) (see notes i and ii) - tick one or more boxes as appropriate:-

- Sewage discharged from a pumping station under emergency conditions (complete also Annex 1) ☐
- Trade Effluent (including site drainage) (complete Annex 2) ☒
- Landfill/Waste Disposal Site (complete Annex 3) ☐
- Aquaculture Farm (complete Annex 4) ☐
- Sewage Effluent (complete Annex 5) ☐

NB: *If application is in respect of a single domestic dwelling a separate form applies.* (Form WO2)

2.2 Are there any existing consents to discharge from the premises (see note vi)? Yes ☒ No ☐
If yes, please give the reference number(s).

Consent Number 68/12.

3. SITE DETAILS

3.1 Has planning permission been applied for or granted? Yes ☒ No ☐
If yes, please give details below.

Dalradian Gold Ltd. have applied for planning permission for: ' Extension to existing underground exploration tunnel; including temporary buildings, vehicle parking, waste rock storage area, water treatment system and passing bays (Planning Ref. No. K/2013/0072/F).

3.2 Please give details of the premises - tick as appropriate:-

1. Domestic Dwellings - (please state number) ☐ ☐
2. Vehicle Parking Area ☐
3. Trade Premises (please specify) ☐
4. Commercial Premises (please specify) ☐
5. Aquaculture Farm (please specify) ☐
6. Mineral Workings ☐
7. Landfill Site ☐
8. Other (please specify) ☒

Extension to existing underground exploration tunnel and ancillary activities

3.3 Please indicate source of the water supply - tick as appropriate:-

1. Well ☐
2. Borehole ☐
3. Precipitation (eg, rain or snow) ☒
4. Mains ☐
5. River (please give name below) ☐
6. Estuary (please give name below) ☐
7. Coastal Water (please give name below) ☐

3.4 Please list amounts/volumes of chemicals and fuels stored on the premises?

An above-ground diesel fuel storage tank, with a capacity of approx. 10,000 litres, will be partially covered. The fuel tank will be bunded to 110% capacity. Oils and lubricants will be stored undercover and on 110% bunded areas or trays.

4 DETAILS OF RECEIVING ENVIRONMENT

4.1 Is there a foul sewer available to which the discharge(s) could be made? (see note viii) Yes ☐ No ☒

If yes, please state why it is not practical to connect to it (eg, distance, flow etc)

5 DETAILS OF APPLICANT AND OTHER INFORMATION

(See general notes and note xi)

5.1 (a) Full name and postal address of applicant. This should be the person who will become the consent holder should consent be granted.

Mr. [redacted]
Managing Director,
Dalradian Gold Ltd.
3 Killybrack Road, Omagh

Post Code: BT 79 7DG
E-mail Address: [redacted]an.com
Daytime Telephone Number: [redacted] Fax: 028 82257562

Company Registration Number (if appropriate): NI 008465

(b) Agent (if any) - Full name and postal address:

[redacted]
SLR Consulting Ltd.
24 Ballynahinch St
Hillborough, Co. Down

Post Code: BT 26 6AW
E-mail Address: [redacted]ulting.com
Daytime Telephone Number: [redacted] Fax: 028 926 81 037

5.2 Please give full name and address to which invoices for any annual charges should be sent if different to that given above:

See Section 5.1 (a) above

Post Code: BT
E-mail Address:
Daytime Telephone Number: 028 Fax: 028

DECLARATION

I/We*:

1. apply under the Water (Northern Ireland) Order 1999 for consent to discharge, as described in this Application. "This Application" means this page, all the other pages of this form and any attached annexes, the attached plan(s), any other sheets attached, and any other written information supplied to support the application.

2. enclose the required application fee, payable to the "Department of the Environment" (see note xii).

3. enclose 7 copies of the location map and also the site plan(s) with all relevant information clearly marked (see note xiii).

4. will pay required advertising costs (see note xiv).

5. confirm that I/We* will notify the Department of any changes in the information in this application which might be material to the continuation of the consent, if granted.

6. confirm that the information given in this application and any questions which the Department may have about it is/will* be true to the best of my/our* knowledge, information and belief and ~~am~~/are* not aware of any other facts or information which might affect either the granting of a consent or the conditions which might be put on it (see note xv).

7. confirm that I/We* will pay any annual charges due should a consent be granted (see note xvii).

(*Delete as appropriate)

APPLICANT'S SIGNATURE: [redacted] PRINT NAME: [redacted]

ON BEHALF OF: Dalradian Gold Ltd DATED: 30/05/2013
(Name of Company if appropriate)

NB: This section must be signed by the Applicant. (Photocopies not acceptable.)

CONFIDENTIALITY

I/We apply for commercial confidentiality and enclose a full written justification (see note xv).

SIGNED: [redacted] DATED: 30/05/2013

CHECK LIST - Have you enclosed?

- [X] Main Form WO1
- [X] Site Plan(s)
- [X] Fee
- [X] Relevant Annexes
- [X] Location Map

PLEASE RETURN THIS FORM TO THE ADDRESS GIVEN ON THE FRONT PAGE

WO1 - ANNEX 2
TRADE EFFLUENT DISCHARGES

Official Use Only
File Ref:

Please complete this annex if you are proposing to discharge trade effluent (this includes site drainage).

1. a) Describe in full the trade effluent and the process(es) from which it arises.

Discharge of groundwater from underground exploration tunnel, surface water runoff from the Surface Compound Area, waste rock runoff, surface and underground exploration drilling return water and Acid Rock Drainage from waste and mineralised rock (see attached Environ report).

b) Please state the type and number of treatment units you are proposing to use *(if site drainage please include details of oil/petrol interception facilities).*

A Water Management and Treatment system is proposed for the site which will treat runoff and surface exploration drilling return water (see attached Environ report).

2. i) Please state the maximum quantity it is proposed to discharge in any one day. Briefly state how this figure was calculated (see note iii). 842 m^3/day

Flow monitoring using a v-notch weir at the existing entrance to the exploration tunnel to measure discharge and Met Office Rainfall data (see attached Environ report for details).

ii) Please state the maximum rate of discharge. 9.75 Litres/sec

2.1 a) Indicate proposed means of discharge - tick as appropriate and show on plan:- (for 1, 2 & 3 please state dimensions below)

1. Pipe [X]
2. Channel [ ]
3. Culvert [ ]
4. Other *(please specify below)* [ ]

Discharge from water treatment plant will be to the Curraghinalt Burn.

b) Irish Grid Reference(s) of point(s) of discharge (**see note iv**)

□/□□□□/□□□□ *(please indicate on accompanying site plans)*
□/□□□□/□□□□ ING 257077 E / 386907 N H 5707 8690 GR 10/Jan/12

2.2 a) Irish Grid Reference(s) of manhole or sampling chamber.

□/□□□□/□□□□ *(please indicate on accompanying site plans)*
□/□□□□/□□□□ ING 257073 E / 386898 N H5707 8689 GR 10/Jan/12

b) What flow measurement facilities will be provided? (see note vi) Please give details

A continuous flow monitoring device (e.g. magnetic flowmeter) will be installed prior to the discharge of treated water to the Curraghinalt Burn.

2.3 a) Type of Treatment Plant(s) to be used - tick as appropriate:-

Treatment Plant	X	Other	X
*Settlement System	X	Interceptor	X

A water treatment system will be installed at the site, including settlement lagoon pH control, Nitrate removal hydrocarbon seperator. Refer to attached Environ Report for details of the WMS. Settlement pond dimensions will comply with WMU guidance on lagoon sizing and best practice.

b) Will the treatment process involve the use of any chemicals (eg, ferric salts, polyeletrolytes) If yes, please give details. Yes [X] No [ ]

Bulk chemicals anticipated to be used at the water treatment system include: Sodium hydroxide (NaOH), Sulphuric acid (H2SO4), polymer solution to aid settlement and methanol as a carbon source (see attached Environ Report).

2.4 a) Is the discharge existing [ ] or proposed [X] If proposed:

On what date do you anticipate the discharge will commence? 01 / 10 / 13

b) If you require the consent for a limited time period please give dates; from: 01 / 10 / 13

to: 01 / 07 / 15

c) If the discharge is not continuous please detail the period/circumstances when it will occur.

3. Receiving Medium - tick the category(s) to which the proposed discharge(s) is(are) to be made:-

1. Estuary (tidal river or stream)	[ ]	5. Into Land	[ ]
2. River or Stream (non-tidal)	[X]	6. Onto Land	[ ]
3. Sub-Surface Irrigation System	[ ]	7. Directly into Groundwater	[ ]
4. Lake, or Pond	[ ]	8. Coastal Water (see note vii)	[ ]
		9. Waterways via sub-surface irrigation system	[ ]

State name of receiving waterway if known:

Curraghinalt Burn

3.1 In the case of sub-surface irrigation systems:-

(a) Is any part of the system within 5 metres of the boundary of the premises? Yes [ ] No [ ]

(b) Is any part of the system within 10 metres of a watercourse? Yes [ ] No [ ]

(c) Is any part of the system within 50 metres of a borehole or spring? Yes [ ] No [ ]

(d) Percolation tests must be carried out in accordance with British Standard BS6297:1983. Have tests been carried out? If yes please provide details below. Yes [ ] No [ ]

Date of Pre-soaking

Date of Test

Average percolation value obtained:

Minimum area of the sub-surface irrigation system will be ..... m^2.

Minimum length of irrigation drains will be ..... metres

I .....certify that the percolation test was carried out in accordance with British Standard BS 6297: 1983. (See Guidance Notes at Appendix 1.)

4. Rainfall Dependent Discharges

a) Will the volume be rainfall dependent? Yes [X] No [ ]

b) If yes, please give the total area drained. 11,435 m^2

c) Please give details of any activities which occur in the drainage area which could contaminate surface water (see note b).

The activities at the site include a site compound area facilities, a covered workshop, hardstand refuelling facility, truck washdown area and the storage of waste and mineralised rock. (see attached Environ report for detailed breakdown of site activities potential sources of contamination in runoff).
Waste water from the office and welfare facilities will go to a holding tank which will be emptied by a licenced contractor on an as need basis.

5. Rainfall Independent Discharges

a) What is the maximum rate of discharge? 9.75 l/s

b) What is the average daily flow? 842 m^3/d

c) What is the maximum daily flow? 842 m^3/d

d) For discharges where the source of supply is other than mains water: n/a

i) give the Irish Grid Reference of a point where the influent can be sampled.

~~[ ]/[ ][ ][ ][ ]/[ ][ ][ ][ ]~~ *(please mark on the plan)*

6. a) Will any self monitoring take place? Yes [X] No [ ]
If yes, please give details.

A continuous flow monitoring device (e.g. magnetic flowmeter) will be installed prior to the discharge of treated water in order to monitor discharge volume. Continuous sampling of treated discharge water quality for analysis. (see attached Environ report for details of proposed monitoring systems). DGL will continue to monitor receiving water quality in the Curraghinalt Burn and Owenkillew River which will be undertaken as part of their ongoing baseline sampling and for the planning application.

b) Will automatic sampling equipment be provided? Yes [X] No [ ]
If yes, please give details of type, frequency and location
(please indicate on plan)

A continuous automatic water quality monitoring will be undertaken to obtain a composite sample of the treated discharge for analysis. The automatic composite sampler will be located after the water treatment plant.
(see attached Environ report for details of proposed monitoring systems)

7. Has an application for Authorisation been made for a 'prescribed process' under The Industrial Pollution Control (Northern Ireland) Order 1997? Yes ☐ No ☒

If yes, please complete the following:-

a) The application reference

b) Contact name of IPRI officer

8. Nature and Composition of Raw Effluent - (if known)

		Pre treatment effluent quality
(i)	Biochemical Oxygen Demand (5 Days)	2.1 mg O_2/l
(ii)	Suspended Solids (mg/litre)	~ 500 mg/l
(iii)	pH Value.	~ 7 pH Units
(iv)	Temperature	SW ambient, GW ~ 10°C
(v)	Other Information (See Table 12, Environ report)	

9. a) Please indicate if any of the specified substances given below or their compounds will be present in the effluent and if so at what maximum concentration (please give values in micrograms per litre - µg/1). Please see note c.

EC DANGEROUS SUBSTANCES DIRECTIVE/UK RED LIST

LIST I

See Table 12 in attached Environ Report on the Water Management & Treatment for Treated Effluent values.

			CONCENTRATION (ug/l)		
			MAX	MIN	MEAN
1.	☒	Cadmium (Total and dissolved) and its compounds	0.2		
2.	☐	Carbon tetrachloride			
3.	☐	Chloroform			
4.	☐	DDT (the isomers of 1.1.1-trichloro-2,2 bis (p-chlorophentl ethane)			
5.	☐	"The Drins" (aldrin, dieldrin, endrim and isodrin)			
6.	☐	1,2-Dichloroethane (EDC)			
7.	☐	Hexachlorobenzene (HCB)			
8.	☐	Hexachlorobutadiene (HCBD)			
9.	☐	Hexachlorocyclohexane (lindane and related compounds)			
10.	☒	Mercury (~~Total and~~ dissolved and its compounds)	0.16		
11.	☐	Pentachlorophenol (PCP)			
12.	☐	Tetrachloroethylene (PER)			
13.	☐	Trichlorobenzene (1,23-TCB, 1,24-TCB, 1,3,5-TCB)			
14.	☐	Trichloroethylene (TRI)			

LIST II

			MAX	MIN	MEAN
15.	☒	Arsenic (Dissolved)	2.2	.....	.....
16.	☐	Boron (Total)	.....	.....	.....
17.	☒	Chromium (~~Total and~~ dissolved)	3	.....	.....
18.	☒	Copper (~~Total and~~ dissolved)	6.3	.....	.....
19.	☐	Cyanide	.....	.....	.....
20.	☐	Cyfluthrin	.....	.....	.....
21.	☒	Iron (~~Total and~~ dissolved)	329	.....	.....
22.	☒	Lead	2.1	.....	.....
23.	☒	Nickel (~~Total and~~ dissolved)	4.9	.....	.....
24.	☐	Perchloroethylene	.....	.....	.....
25.	☐	Permethrin	.....	.....	.....
26.	☐	Polychlorinated biphenyls (PCB)	.....	.....	.....
27.	☐	Organotins (tributylin & triphenyltin compounds)	.....	.....	.....
28.	☐	Vanadium	.....	.....	.....
29.	☒	Zinc (Total and dissolved)	7.4	.....	.....
30.	☐	pH if outside the range 5.5 to 9.0	.....	.....	.....
31.	☐	PCSD	.....	.....	.....
32.	☐	Sulcofuron	.....	.....	.....
33.	☐	Flucofuron	.....	.....	.....

ADDITIONAL SUBSTANCES

34.	☐	Atrazine	.....	.....	.....
35.	☐	Azinphos-ethyl	.....	.....	.....
36.	☐	Azinphos-methyl	.....	.....	.....
37.	☐	Dichlorvos	.....	.....	.....
38.	☐	Dioxins	.....	.....	.....
39.	☐	Endosulfan	.....	.....	.....
40.	☐	Fenthion	.....	.....	.....
41.	☐	Fenitrothion	.....	.....	.....
42.	☐	Malathion	.....	.....	.....
43.	☐	Parathion	.....	.....	.....
44.	☐	Parathion-methyl	.....	.....	.....
45.	☐	Simazine	.....	.....	.....
46.	☐	1,1,1 Trichloroethane	.....	.....	.....
47.	☐	Triforalin	.....	.....	.....
48.	☐	4-Chloro --methyl-phenol	.....	.....	.....
49.	☐	2-Chlorophenol	.....	.....	.....
50.	☐	2, 4-Dichlorophenol	.....	.....	.....
51.	☐	2, 4-D (ester)	.....	.....	.....
52.	☐	2, 4-D (non-ester)	.....	.....	.....
53.	☐	1, 1, 2-Trichloroethane	.....	.....	.....
54.	☐	Bentazone	.....	.....	.....
55.	☐	Benzene	.....	.....	.....
56.	☐	Biphenyl	.....	.....	.....

			MAX	MIN	MEAN
57.	☐	Chloronitrotoluenes	.....	.....	.....
58.	☐	Demeton	.....	.....	.....
59.	☐	Dimethoate	.....	.....	.....
60.	☐	Linuron	.....	.....	.....
61.	☐	Mecoprop	.....	.....	.....
62.	☐	Naphthalene	.....	.....	.....
63.	☐	Omethoate	.....	.....	.....
64.	☐	Toluene	.....	.....	.....
65.	☐	Triazaphos	.....	.....	.....
66.	☐	Xylene	.....	.....	.....
67.	☐	Alachior	.....	.....	.....
68.	☐	Anthracene	.....	.....	.....
69.	☐	Brominated diphenylether	.....	.....	.....
70.	☐	C_{10-13} -Chloroalkanes	.....	.....	.....
71.	☐	Chloropyrifes	.....	.....	.....
72.	☐	Dichloromethane	.....	.....	.....
73.	☐	Di-2-ethylhexyl phthalate (DEHP)	.....	.....	.....
74.	☐	Diuron	.....	.....	.....
75.	☐	Isoproturon	.....	.....	.....
76.	☐	Nonylphenols	.....	.....	.....
77.	☐	Octylphenols	.....	.....	.....
78.	☐	Polyaromatic hydrocarbons	.....	.....	.....
Other substance(s) that should be taken into account			.....	.....	.....

This list is applicable as at 1 November 2000.

Are there any other significant chemical components used on site which may be contained in the effluent, including biocides or additives? Yes [X] No [ ]
If yes, please give details

- Hydraulic Oil and Engine Oil
- Nitrates (Explosive Materials)
- Sodium hydroxide (NaOH), Sulphuric acid (H2SO4), polymer solution to aid settlement and methanol as a carbon source, see attached Environ Report.

Notes (see also the notes attached to the main form):

a) For direct trade effluent discharges, full details of the type of the effluent are required (eg, cooling water from air conditioning units), along with typical analytical details and the results of any toxicity studies on the effluent or its constituents. In certain circumstances the Department may require that specific samples be taken and tests and analysis carried out.

b) Possible sources of contamination include oil/chemical storage areas, vehicle loading/unloading areas, heavy vehicle parking areas and oil/petrol filling points. Any other potential sources of contamination should be detailed.

c) Where discharges of trade effluent take place to a sewerage system, as covered by this application, please give details of all authorised discharges of substances listed in table 7 overleaf.

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