

20 APR 2017

WATER (NORTHERN IRELAND) ORDER 1999

~~RECEIVED~~

**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.

<p><b>RETURN TO:</b></p> <p>Northern Ireland Environment Agency Water Regulation Group 17 Antrim Road LISBURN Co Antrim BT28 3AL</p>	<p><u>Official Use Only</u></p> <p>FileRef: T93/17</p> <p>Date Received: DALRADIAN GOLD LTD</p> <p>Applic Fee Received: <input type="checkbox"/> Yes £ 129.00 <input type="checkbox"/> No</p>
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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.

Curraghinalt, Gortin, Co. Tyrone.  
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 No. 068/12/2

## 3. SITE DETAILS

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

K/2014/0246/F granted

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

- |   |                          |                                      |                                     |
|---|--------------------------|--------------------------------------|-------------------------------------|
| 1. Domestic Dwellings - (please state number) | <input type="checkbox"/> | 5. Aquaculture Farm (please specify) | <input type="checkbox"/>            |
| 2. Vehicle Parking Area                       | <input type="checkbox"/> |                                      |                                     |
| 3. Trade Premises (please specify)            | <input type="checkbox"/> | 6. Mineral Workings                  | <input type="checkbox"/>            |
|   |                          | 7. Landfill Site                     | <input type="checkbox"/>            |
| 4. Commercial Premises (please specify)       | <input type="checkbox"/> | 8. Other (please specify)            | <input checked="" type="checkbox"/> |

Extension to existing underground exploration tunnel and ancillary activities

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

- |                                     |                                     |   |                          |
|-------------------------------------|-------------------------------------|---|--------------------------|
| 1. Well                             | <input type="checkbox"/>            | 5. River (please give name below)         | <input type="checkbox"/> |
| 2. Borehole                         | <input type="checkbox"/>            | 6. Estuary (please give name below)       | <input type="checkbox"/> |
| 3. Precipitation (eg, rain or snow) | <input checked="" type="checkbox"/> | 7. Coastal Water (please give name below) | <input type="checkbox"/> |
| 4. Mains                            | <input type="checkbox"/>            |   |                          |

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

Three integrally banded fuel tanks (110% capacity) with a collective capacity of 210,000 litres. 1000 litres sulphuric acid and 1000 litres sodium hydroxide; Separately banded.

## DETAILS OF RECEIVING ENVIRONMENT

- 4.1 Is there a foul sewer available to which the discharge(s) could be made? Yes  No   
(see note viii)  
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  
Dulradian Gold Ltd.  
3 Killybrack Road, Omagh  
Post Code: BT 79 70G  
E-mail Address: [REDACTED]@radian.com  
Daytime Telephone Number: 028 [REDACTED] Fax: 028 8225 7562

Company Registration Number (if appropriate): NI 008465

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

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

5.2

Please give full name and address to which invoices for any annual charges should be sent if different to that given 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 2 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: .....	PRINT NAME: .....
ON BEHALF OF: <u>DALRADIAN GOLD LIMITED</u> DATED: <u>20<sup>th</sup> April 2017</u>	
(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: .....	DATED: .....
---------------	--------------

CHECK LIST - Have you enclosed?

- |  |  |   |
|--|--|---|
| <input checked="" type="checkbox"/> Main Form WO1    | <input checked="" type="checkbox"/> Site Plan(s) | <input checked="" type="checkbox"/> Fee |
| <input checked="" type="checkbox"/> Relevant Annexes | <input checked="" type="checkbox"/> Location Map |   |

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

*We do not automatically provide a receipt for the payment of the fee but if one is required, please provide an email address:*

<u>.....@dalradian.com</u>
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W01 - 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 infrastructure area, waste rock runoff, surface and underground exploration drilling return water.

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 currently in place at the site. This includes a settlement tank and oil interceptor.

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<sup>3</sup>/day

Flow monitoring using a v-notch weir at the existing entrance to the exploration tunnel to measure discharge, plus Met Office rainfall data.

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    | <input checked="" type="checkbox"/> | 3. Culvert                      | <input type="checkbox"/> |
| 2. Channel | <input type="checkbox"/>            | 4. Other (please specify below) | <input type="checkbox"/> |

Discharge to Curraghinult Burn from water treatment plant.

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

/  /   
/  /   
 (please indicate on accompanying site plans)  
 ING 257077 E / 386907 N

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

/  /   
/  /   
 (please indicate on accompanying site plans)  
 ING 257073 E / 386898 N

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

A continuous flow monitoring device has been installed prior to the discharge of treated water to Curraghinult Burn.

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

Treatment Plant  Other   
\*Settlement System  Interceptor

A water treatment plant has been installed at the site. Main components include settlement tank, oil interceptor, lamella clarifier and pH control.

\* If settlement system proposed please state dimensions:-

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

Provision is in place for use of sulphuric acid (H<sub>2</sub>SO<sub>4</sub>), sodium hydroxide (NaOH) and a polymer solution to aid settlement.

2.4 a) Is the discharge existing  or proposed  If proposed:

On what date do you anticipate the discharge will commence?

b) If you require the consent for a limited time period please give dates;

from: / /  
to: / /

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

[Empty box for details of non-continuous discharge]

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

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

State name of receiving waterway if known:

Curraghinult 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<sup>2</sup>.  
 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  No

b) If yes, please give the total area drained.  m<sup>2</sup>

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

Activities at the site include surface infrastructure area; incorporating a covered workshop, refuelling facility, truck washdown area and the storage of waste and mineralised rock.  
Waste water from the office and welfare facilities goes to a holding tank which is emptied by a licenced contractor on an as need basis.

5. Rainfall Independent Discharges

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

b) What is the average daily flow?  m<sup>3</sup>/d

c) What is the maximum daily flow?  m<sup>3</sup>/d

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

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  No   
If yes, please give details.

A continuous flow monitoring device has been installed prior to the discharge of treated water in order to monitor discharge volume. DGL continue to monitor and report on water quality at the discharge point, Currughinult Burn and Owenkillew River (5 locations in total) to either meet or exceed requirements as set out in Consent No. 068/12/2.

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

Two pH probes and two total suspended solids probes are in place at the site prior to the discharge point. These are linked to continuous monitoring and an automatic shutdown facility.



7. Has an application for Authorisation been made for a 'prescribed process' under The Industrial Pollution Control (Northern Ireland) Order 1997?  
If yes, please complete the following:-

Yes  No

a) The application reference

b) Contact name of IPRI officer

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

(i) Biochemical Oxygen Demand (5 Days)	2.1 mg O <sub>2</sub> /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	Previously provided

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/l). Please see note c.

EC DANGEROUS SUBSTANCES DIRECTIVE/UK RED LIST

LIST I

		CONCENTRATION (ug/l)		
		MAX	MIN	MEAN
1.	<input checked="" type="checkbox"/> Cadmium ( <del>Total</del> and dissolved) and its compounds	.....	.....	.....
2.	<input type="checkbox"/> Carbon tetrachloride	.....	.....	.....
3.	<input type="checkbox"/> Chloroform	.....	.....	.....
4.	<input type="checkbox"/> DDT (the isomers of 1,1,1-trichloro-2,2 bis (p-chlorophenyl) ethane)	.....	.....	.....
5.	<input type="checkbox"/> "The Drins" (aldrin, dieldrin, endrin and isodrin)	.....	.....	.....
6.	<input type="checkbox"/> 1,2-Dichloroethane (EDC)	.....	.....	.....
7.	<input type="checkbox"/> Hexachlorobenzene (HCB)	.....	.....	.....
8.	<input type="checkbox"/> Hexachlorobutadiene (HCBd)	.....	.....	.....
9.	<input type="checkbox"/> Hexachlorocyclohexane (lindane and related compounds)	.....	.....	.....
10.	<input checked="" type="checkbox"/> Mercury ( <del>Total</del> and dissolved and its compounds)	.....	.....	.....
11.	<input type="checkbox"/> Pentachlorophenol (PCP)	.....	.....	.....
12.	<input type="checkbox"/> Tetrachloroethylene (PER)	.....	.....	.....
13.	<input type="checkbox"/> Trichlorobenzene (1,2,3-TCB, 1,2,4-TCB, 1,3,5-TCB)	.....	.....	.....
14.	<input type="checkbox"/> Trichloroethylene (TRI)	.....	.....	.....



LIST II

		MAX	MIN	MEAN
15.	<input checked="" type="checkbox"/> Arsenic (Dissolved)	.....	.....	.....
16.	<input type="checkbox"/> Boron (Total)	.....	.....	.....
17.	<input checked="" type="checkbox"/> Chromium (Total and dissolved)	.....	.....	.....
18.	<input checked="" type="checkbox"/> Copper (Total and dissolved)	.....	.....	.....
19.	<input type="checkbox"/> Cyanide	.....	.....	.....
20.	<input type="checkbox"/> Cyfluthrin	.....	.....	.....
21.	<input checked="" type="checkbox"/> Iron (Total and dissolved)	.....	.....	.....
22.	<input checked="" type="checkbox"/> Lead	.....	.....	.....
23.	<input checked="" type="checkbox"/> Nickel (Total and dissolved)	.....	.....	.....
24.	<input type="checkbox"/> Perchloroethylene	.....	.....	.....
25.	<input type="checkbox"/> Permethrin	.....	.....	.....
26.	<input type="checkbox"/> Polychlorinated biphenyls (PCB)	.....	.....	.....
27.	<input type="checkbox"/> Organotins (tributyltin & triphenyltin compounds)	.....	.....	.....
28.	<input type="checkbox"/> Vanadium	.....	.....	.....
29.	<input checked="" type="checkbox"/> Zinc (Total and dissolved)	.....	.....	.....
30.	<input type="checkbox"/> pH if outside the range 5.5 to 9.0	.....	.....	.....
31.	<input type="checkbox"/> PCSD	.....	.....	.....
32.	<input type="checkbox"/> Sulcofuron	.....	.....	.....
33.	<input type="checkbox"/> Flucofuron	.....	.....	.....

ADDITIONAL SUBSTANCES

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

		MAX	MIN	MEAN
57.	<input type="checkbox"/> Chloronitrotoluenes	.....	.....	.....
58.	<input type="checkbox"/> Demeton	.....	.....	.....
59.	<input type="checkbox"/> Dimethoate	.....	.....	.....
60.	<input type="checkbox"/> Linuron	.....	.....	.....
61.	<input type="checkbox"/> Mecoprop	.....	.....	.....
62.	<input type="checkbox"/> Naphthalene	.....	.....	.....
63.	<input type="checkbox"/> Omethoate	.....	.....	.....
64.	<input type="checkbox"/> Toluene	.....	.....	.....
65.	<input type="checkbox"/> Triazaphos	.....	.....	.....
66.	<input type="checkbox"/> Xylene	.....	.....	.....
67.	<input type="checkbox"/> Alachlor	.....	.....	.....
68.	<input type="checkbox"/> Anthracene	.....	.....	.....
69.	<input type="checkbox"/> Brominated diphenylether	.....	.....	.....
70.	<input type="checkbox"/> C <sub>10-13</sub> -Chloroalkanes	.....	.....	.....
71.	<input type="checkbox"/> Chloropyrifos	.....	.....	.....
72.	<input type="checkbox"/> Dichloromethane	.....	.....	.....
73.	<input type="checkbox"/> Di-2-ethylhexyl phthalate (DEHP)	.....	.....	.....
74.	<input type="checkbox"/> Diuron	.....	.....	.....
75.	<input type="checkbox"/> Isoproturon	.....	.....	.....
76.	<input type="checkbox"/> Nonylphenols	.....	.....	.....
77.	<input type="checkbox"/> Octylphenols	.....	.....	.....
78.	<input type="checkbox"/> 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?  
If yes, please give details

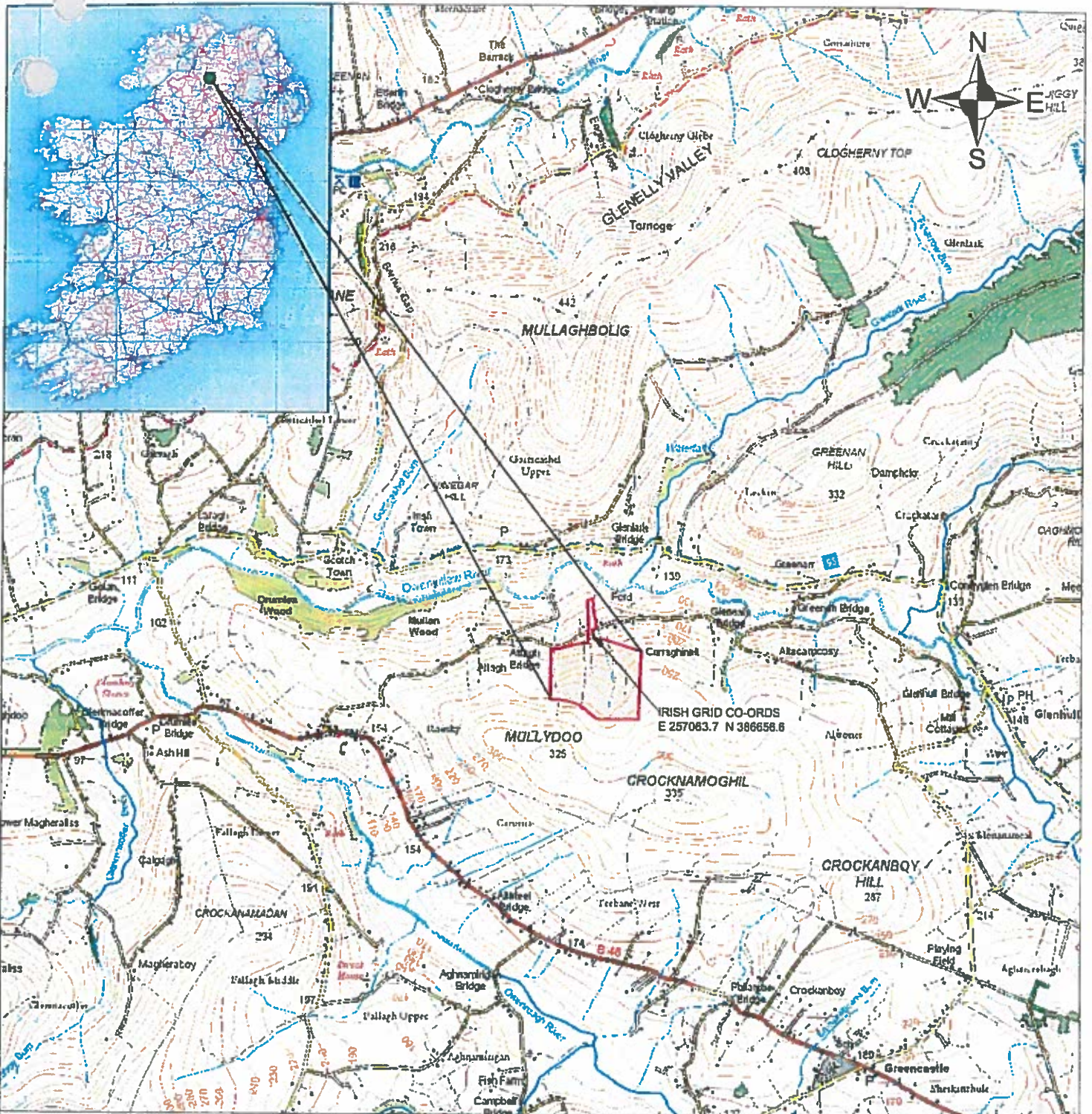
Yes  No

Hydraulic oil and engine oil  
Sodium hydroxide (NaOH)  
Sulphuric acid (H<sub>2</sub>SO<sub>4</sub>)

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.







**NOTES:**

1. (c) CROWN COPYRIGHT AND DATABASE RIGHT LICENCE NO. 2643 JUNE 2012
2. UNDERGROUND EXPLORATION TUNNEL EXTENSION WILL ONLY OCCUPY UP TO 1 HECTARE, OR 2% OF THE OVERALL PLANNING APPLICATION AREA

**LEGEND:**

-  PROJECT PLANNING APPLICATION AREA (c.49.4 Hectares)
-  UNDERGROUND EXPLORATION AREA



Metres  
1:50,000

**DALRADIAN**  
GOLD



24 BALLYNAHINCH STREET  
HILLSBOROUGH  
COUNTY DOWN  
N. IRELAND BT28 2AW  
T: +44 (0)28 9288036  
F: +44 (0)28 92881037  
www.slrconsulting.com

**CURRAGHINALT GOLD PROJECT  
CO. TYRONE**

**PROPOSED EXPLORATION TUNNEL  
EXTENSION DISCHARGE CONSENT**

**SITE LOCATION MAP**

**FIGURE 01**

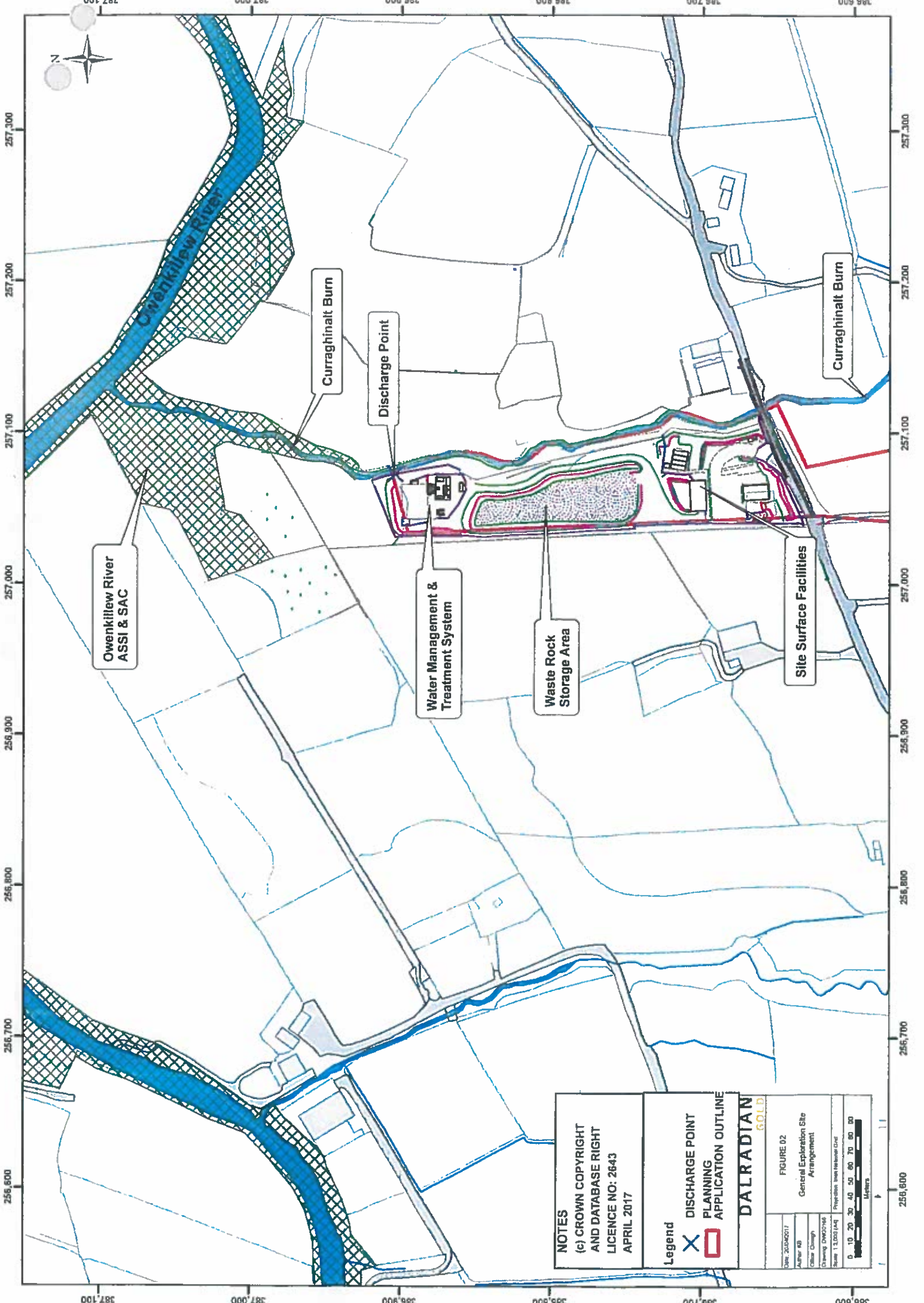
Scale  
1:50,000 @ A4

Date  
07.05.2013

○

○





Owenkilliew River  
ASSI & SAC

Curraghinait Burn



Discharge Point

Water Management &  
Treatment System

Waste Rock  
Storage Area

Site Surface Facilities

Curraghinait Burn

<p><b>NOTES</b> (c) CROWN COPYRIGHT AND DATABASE RIGHT LICENCE NO: 2643 APRIL 2017</p>		<p><b>Legend</b>   DISCHARGE POINT   PLANNING APPLICATION OUTLINE</p>		<p><b>DALRADIAN</b> GOLD</p>	
<p><b>FIGURE 02</b> General Exploration Site Arrangement</p>		<p>Date: 20/04/2017 Author: GB Client: Clough Drawing DWG02/04 Scale: 1:3000 (A4) Projection: Irish National Grid</p>		<p>0 10 20 30 40 50 60 70 80 90 Meters</p>	



7

3

1

