

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>RETURN TO:</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.

<p>Curraghinalt, Gortin, Co. Tyrone.</p> <p>Mineral exploration involving the extension of the existing underground exploration tunnel at Curraghinalt.</p> <p>Post Code BT 79 7SF</p>	
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2 DETAILSOFDISCHARGE(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) ☐

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?

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 Brian Kelly
Managing Director
Dalradian Gold Ltd.
3 Killybrack Road, Omagh
Post Code: BT 79 70G
E-mail Address: bkelly@dalradian.com
Daytime Telephone Number: 028 8224 6289 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: Brian Kelly PRINT NAME: BRIAN KELLY
ON BEHALF OF: DALRADIAN GOLD LIMITED DATED: 20th April 2017
(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?



Main Form WO1



Site Plan(s)



Fee



Relevant Annexes



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:

sbarnes@dalradian.com

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 m³/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

☒

3. Culvert

☐

2. Channel

☐

4. Other (please specify below)

☐

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_2SO_4), 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.

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)



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:

Curraghnalt 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 m².

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.

11,435 m²

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?

9.75 l/s

b) What is the average daily flow?

842 m³/d

c) What is the maximum daily flow?

842 m³/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.

- a) The application reference

a) The application reference

- b) Contact name of IPRI officer

b) Contact name of IPR1 officer

- 8.

Nature and Composition of Raw Effluent (if known)	
(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	Previously provided

- 9.

LIST I

LIST I		CONCENTRATION (ug/l)		
		MAX	MIN	MEAN
1.	<input checked="" type="checkbox"/> Cadmium (Total and dissolved) and its compounds	0.000000	0.000000	0.000000
2.	<input type="checkbox"/> Carbon tetrachloride	0.000000	0.000000	0.000000
3.	<input type="checkbox"/> Chloroform	0.000000	0.000000	0.000000
4.	<input type="checkbox"/> DDT (the isomers of 1,1,1-trichloro-2,2 bis (p-chlorophenyl) ethane)	0.000000	0.000000	0.000000
5.	<input type="checkbox"/> "The Drins" (aldrin, dieldrin, endrin and isodrin)	0.000000	0.000000	0.000000
6.	<input type="checkbox"/> 1,2-Dichloroethane (EDC)	0.000000	0.000000	0.000000
7.	<input type="checkbox"/> Hexachlorobenzene (HCB)	0.000000	0.000000	0.000000
8.	<input type="checkbox"/> Hexachlorobutadiene (HCBD)	0.000000	0.000000	0.000000
9.	<input type="checkbox"/> Hexachlorocyclohexane (lindane and related compounds)	0.000000	0.000000	0.000000
10.	<input checked="" type="checkbox"/> Mercury (Total and dissolved) and its compounds	0.000000	0.000000	0.000000
11.	<input type="checkbox"/> Pentachlorophenol (PCP)	0.000000	0.000000	0.000000
12.	<input type="checkbox"/> Tetrachloroethylene (PER)	0.000000	0.000000	0.000000
13.	<input type="checkbox"/> Trichlorobenzene (1,23-TCB, 1,24-TCB, 1,3,5-TCB)	0.000000	0.000000	0.000000
14.	<input type="checkbox"/> Trichloroethylene (TRI)	0.000000	0.000000	0.000000

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 ₁₀₋₁₃ -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.

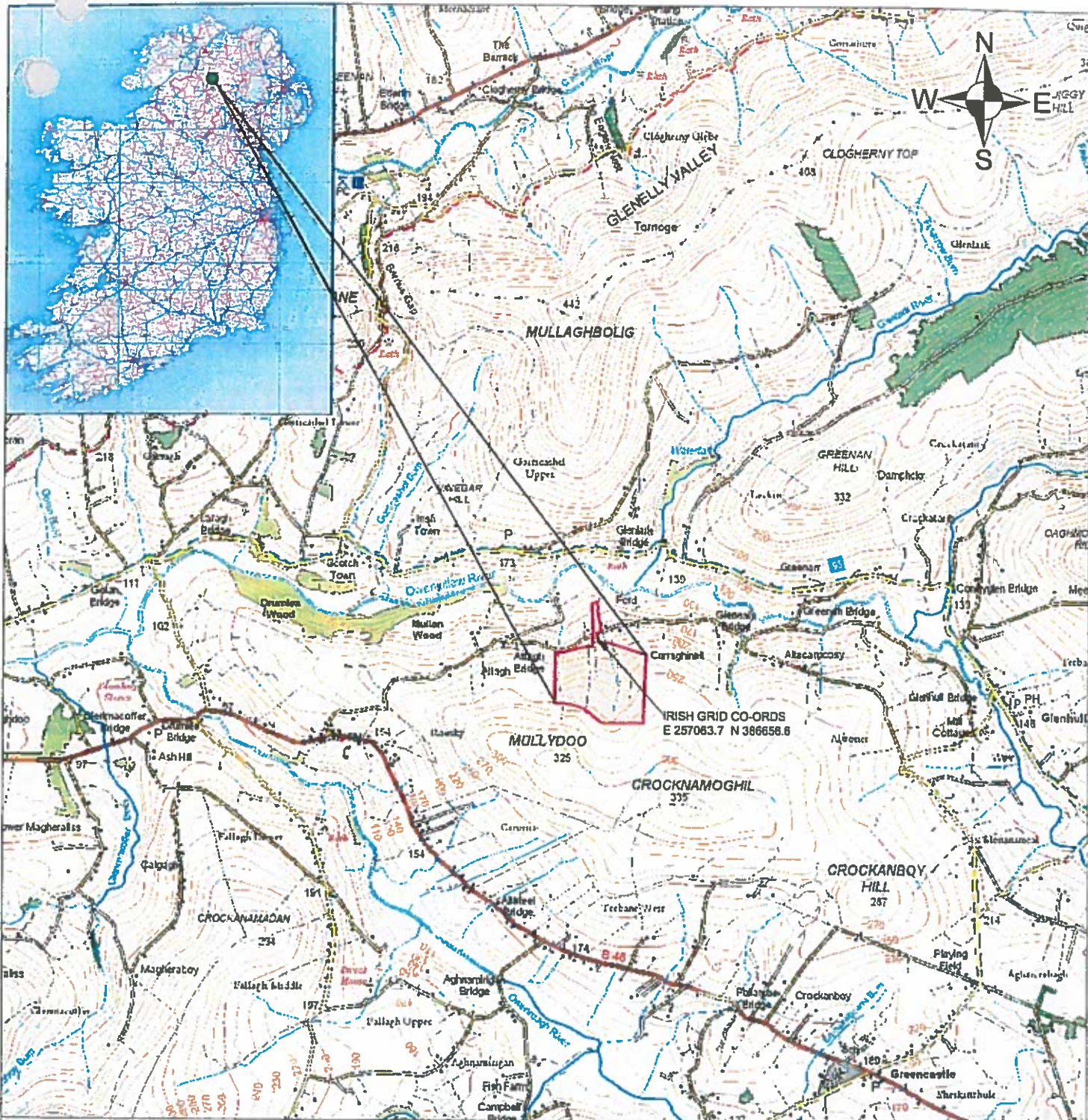
Are there any other significant chemical components used on site which may be contained in the effluent, including biocides or additives?
If yes, please give details

Yes ☒ No ☐

Hydraulic oil and engine oil
Sodium hydroxide (NaOH)
Sulphuric acid (H₂SO₄)

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

- 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.
- 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.
- 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



DALRADIAN

GOLD



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www.slrconsulting.com

**CURRAGHINALT GOLD PROJECT
CO. TYRONE**

**PROPOSED EXPLORATION TUNNEL
EXTENSION DISCHARGE CONSENT**

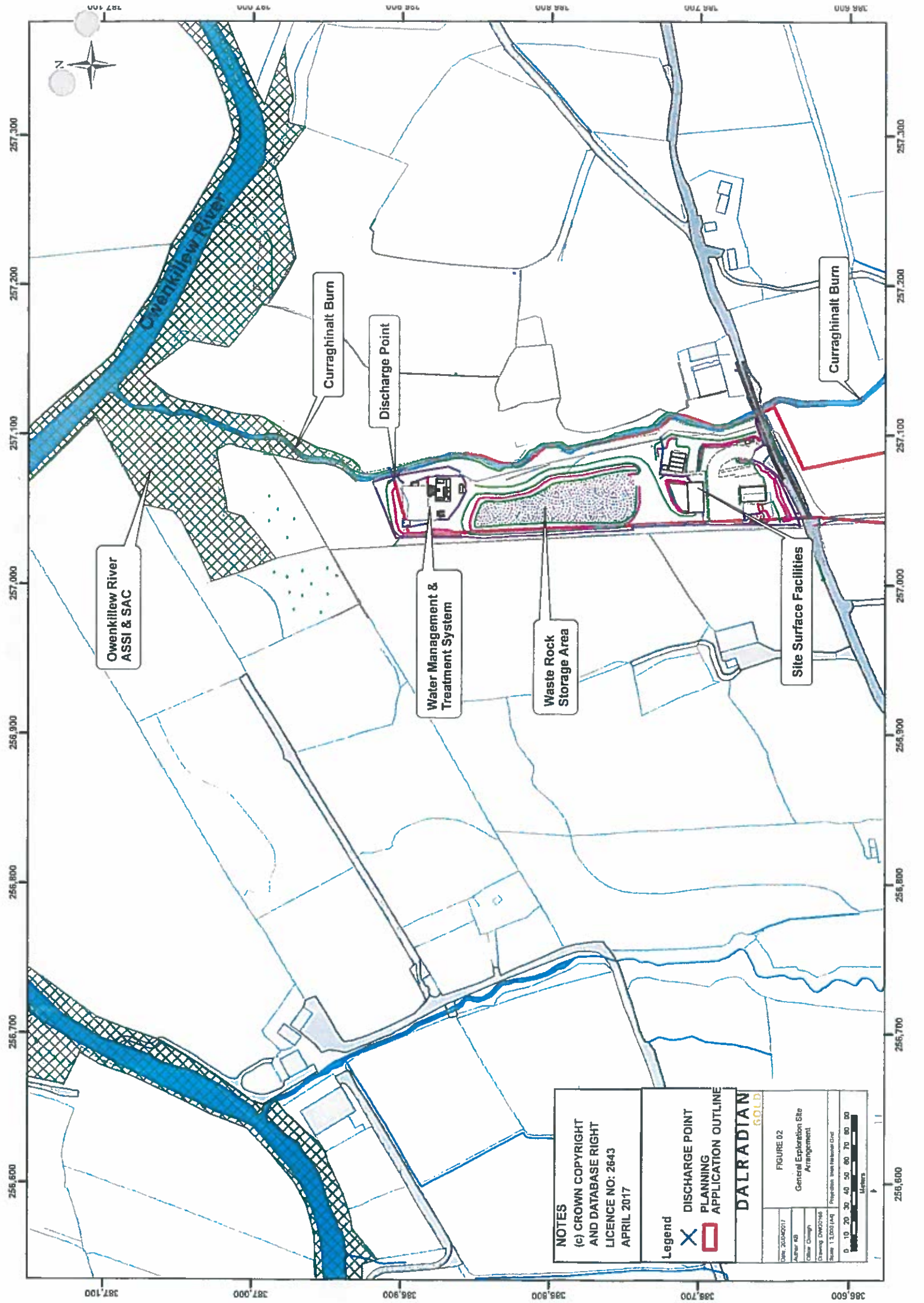
SITE LOCATION MAP

FIGURE 01

Scale
1:50,000 @ A4

Date
07.05.2013





NOTES

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LICENCE NO: 2643
APRIL 2017

Legend

DISCHARGE POINT

PLANNING APPLICATION OUTLINE

DALRADIAN
GOLD

FIGURE 02
General Exploration Site
Arrangement

Date: 20/04/2017	Author: KB
Checker: DMG/CHM	Scale: 1:1000 (A4)
Projection: Irish National Grid	

0 10 20 30 40 50 60 70 80 90
Meters

