

# Jones Environmental Laboratory

Registered Address : Unit 3 Decade Point, Zone 3, Decade reductrial Park, Decade, CHS 20A, UK

Unit 3 Deeside Point

Zone 3

Deeside Industrial Park

Deeside CH5 2UA

Dalradian Gold Ltd 3 Killybrack Rd Omagh BT79 7DG

Tel: +44 (0) 1244 833780

Fax: +44 (0) 1244 833781





Attention :

Date :

10th February, 2016

Your reference :

SUSPENDED SOLIDS

Our reference :

Test Report 16/4714 Batch 1

Location :

Curraghinalt

Date samples received :

10th February, 2016

Status:

Final report

Issue :

- 1

Four samples were received for analysis on 10th February, 2016 of which four were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Compiled By:



## Jones Environmental Laboratory

Client Name:

Dalradian Gold Ltd

Reference:

SUSPENDED SOLIDS

Location:

Curraghinalt

Contact:

16/4714

Report: Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle H=H<sub>2</sub>SO<sub>4</sub>, Z=ZnAC, N=NaOH, HN=HN0<sub>3</sub>

| JE Job No.:            | 16/4714          |                               |                  |                  |       |          | H=H <sub>2</sub> SO <sub>4</sub> , 2 | Z=ZnAc, N= | NaOH, HN |               |         |                        |          |
|------------------------|------------------|-------------------------------|------------------|------------------|-------|----------|--------------------------------------|------------|----------|---------------|---------|------------------------|----------|
| J E Sample No.         | 1                | 2                             | 3                | 4                | #E-1% |          | -                                    |            |          |               |         |                        |          |
|                        | MEA<br>UPSTREAM  | NIEA                          |                  |                  |       |          |                                      |            | 1        |               |         |                        |          |
| Sample ID              |                  | UPSTREAM<br>DALRADIAN<br>SITE | SW05             | 59906            | - *   |          |                                      |            |          | Marie Control |         |                        |          |
|                        | COMCOSY          | SHE                           | hora-            | 35               |       |          | 18                                   | - (0)      |          | 1.000.00      |         |                        |          |
| Depth                  | 1.000            | dian.                         | 1 CHANGE         |                  | 1,740 |          | 1,=                                  |            | W -      | 1             |         | attached nations and a |          |
| COC No / misc          | 122              |                               | - 8 3            |                  | 188   |          | - 8                                  |            | -2 B     | - 30          |         |                        | •        |
| Containers             | Р                | Р                             | G                | G                |       |          | THE ST                               | 8          |          |               |         |                        |          |
| Sample Date            | 05/02/2016 11 15 | 06/02/2016 11:25              | 05/02/2018 12:00 | 05/02/2016 12:10 |       | 119      | 3                                    | M_8        |          | 1             |         |                        |          |
| Sample Type            | Surface Water    | Surface Water                 | Surface Water    | Surface Water    |       | X        |                                      |            | - X      | 1 = 88        |         |                        |          |
| Batch Number           | 1                | 1                             | 1                | 1                |       |          | 160                                  |            | 100      |               | LOD/LOR | Units                  | Method   |
| Date of Receipt        | 10/02/2016       | 10/02/2016                    | 10/02/2016       | 10/02/2016       |       |          | 130                                  |            |          |               | LODILOR | Offits                 | No.      |
| Total Suspended Solids | 157              | <10                           | <10              | 10               |       |          |                                      |            |          |               | <10     | mg/l                   | TM37/PM0 |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
| here are the second    | _                |                               |                  |                  |       |          | _                                    |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            | -        |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  | İ                |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  | _                |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
| The second second      |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
| 200                    |                  |                               |                  |                  |       | 1        |                                      |            |          |               | -       |                        |          |
| V                      |                  | _                             | !                |                  |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               | 1                |                  |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  | _     |          |                                      |            |          |               |         |                        | :        |
|                        |                  |                               |                  |                  |       |          |                                      | =          | -        |               |         |                        |          |
|                        |                  |                               |                  |                  |       | = =      |                                      |            |          |               |         |                        | _        |
|                        |                  | _                             |                  |                  |       | i        |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
| o 72 at 25             |                  |                               |                  |                  |       |          |                                      |            |          |               | =       |                        |          |
|                        | _                |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
| 29                     |                  |                               |                  |                  | =     | = -      | 30                                   |            | = =      |               |         |                        | _        |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               | _ =     |                        |          |
|                        |                  |                               |                  |                  | = =   |          |                                      |            | = =      | =             |         |                        |          |
|                        |                  |                               |                  | = =              | = =   | =        |                                      | _          | _        |               |         |                        |          |
| 8 = F = F              |                  |                               |                  |                  |       | -        |                                      |            |          | _             | _       |                        |          |
|                        |                  |                               | _                |                  |       |          | = =                                  |            | _        |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  |       |          |                                      |            |          |               |         |                        |          |
|                        |                  |                               |                  |                  |       | _        |                                      |            |          | _             | _       |                        |          |
|                        | <u> </u>         |                               |                  |                  |       | <u> </u> |                                      | 1          |          | <u> </u>      |         |                        | <u> </u> |

## NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

JE Job No.:

16/4714

#### SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCI (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

#### **WATERS**

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 (UKAS) accreditation applies to surface water and groundwater and one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is guoted, this refers to Total Aliphatics C10-C40.

#### **DEVIATING SAMPLES**

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any test results that may be compromised highlighted on your deviating samples report.

#### **SURROGATES**

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

## **DILUTIONS**

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

#### NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

JE Job No.:

16/4714

# ABBREVIATIONS and ACRONYMS USED

| #       | ISO17025 (UKAS) accredited - UK.   |
|---------|--|
| В       | Indicates analyte found in associated method blank.  |
| DR      | Dilution required.   |
| М       | MCERTS accredited.   |
| NA      | Not applicable   |
| NAD     | No Asbestos Detected.  |
| ND      | None Detected (usually refers to VOC and/SVOC TICs).   |
| NDP     | No Determination Possible  |
| SS      | Calibrated against a single substance  |
| SV      | Surrogate recovery outside performance criteria. This may be due to a matrix effect.                       |
| W       | Results expressed on as received basis.  |
| +       | AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page. |
| ++      | Result outside calibration range, results should be considered as indicative only and are not accredited.  |
| *       | Analysis subcontracted to a Jones Environmental approved laboratory.                                       |
| AD      | Samples are dried at 35°C ±5°C   |
| CO      | Suspected carry over   |
| LOD/LOR | Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS                                  |
| ME      | Matrix Effect  |
| NFD     | No Fibres Detected   |
| BS      | AQC Sample   |
| LB      | Blank Sample   |
| N       | Client Sample  |
| TB      | Trip Blank Sample  |
| ОС      | Outside Calibration Range  |

Jones Environmental Laboratory

JE Job No: 16/4714

|   |   |   |   |  | The state of the s |  |   |   |   |
|---|---|---|---|--|--|--|---|---|---|
|   |   |   |   |  |  |  |   | - of the state of |   |
|   | -Pillad-Sundve-refrontenire das   |   |   |  |  |  |   |   | - And of the control |
| Yes   |   |   |   |  |  |  |   |   |   |
| No preparation is required.   |   |   |   |  |  |  |   |   |   |
| PIMO  |   |   |   |  |  | Walking you have a second and a |   |   |   |
| Modified USEPA 160.2, Gravimetric determination of Total Suspended Solids, Sample is fiftered and the resulting residue is dried and weighed. |   |   |   |  |  |  |   |   |   |
| TM37  |   |   |   |  |  |  |   |   |   |
|   | Modified USEPA 160.2. Gravimetric determination of Total Suspended Solids, Sample is fiftered and the resulting residue is dried and weighed. | Modified USEPA 160.2. Gravimetric determination of Total Suspended Solids, Sample is filtered and the resulting residue is dried and weighed. | Modified USEPA 160.2. Gravimetric determination of Total Suspended Solids, Sample is filtered and the resulting residue is dried and weighed. | Modified USEPA 160.2. Gravimetric determination of Total Suspended Solids, Sample is filtered and the resulting residue is dried and weighed.  No preparation is required. | Modified USEPA 160.2. Ciravimetric determination of Total Suspended Solids. Sample is fiftered and the resulting residue is dired and weighed.  PMO No preparation is required.  | Modified USEPA 160.2. Gravimatric determination of Total Suspanded Solds. Sample is filtered and the resulting residue is dred and weighted.  No preparation is required.  | Modified USEDA 1960.2 Caramination of Total Suspended Solids. Sample is Reserved and the reskuling residue is direct and weighted.  No preparation is required. | Modes USE Pox (4012. Gravimatin: destanting resolue is direct and weighted.  No preparation is required.  | Woodlead USE PA 190.2 Gramment conservingson of Total Suispanded Solels. Sample is filtered and the resulting resolute is dired and weighted.   |