Registered Address :	
Dalradian Gold Ltd	
Darradian Gold Etd	Tel: Fax:
	IAC-MRA UKAS USAS USAS USAS USAS USAS USAS USA

Attention :

Date: 29th December, 2015

Your reference : DCS

Our reference : Test Report

Location : Curraghinalt

Date samples received : 3rd September, 2015

Status: Final report

Issue:

Six samples were received for analysis on 3rd September, 2015 of which six 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:



BSc

**Project Manager** 

Client Name: Dalradian Gold Ltd

15/12300

Reference: DCS
Location: Curraghinalt
Contact:

JE Job No.:

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=HNO<sub>3</sub>

JE Job No.:	15/12300						Π=Π <sub>2</sub> δΟ <sub>4</sub> , 2	Z=ZNAC, N=	NaOH, HN=	: I I I I I I I I I I I I I I I I I I I			
J E Sample No.	1-6	7-12	13-18	19-24	25-30	31-36							
Sample ID	DCS1	DCS2	DCS3	DCS4	DCS5	DCS6							
Depth											Please se	e attached n	otes for all
COC No / misc												ations and a	
Containers	V H HN P G	V H HN P G	V H HN P G	V H HN P G	V H HN P G	V H HN P G							
Sample Date													
Sample Type													
Batch Number	1	1	1	1	1	1					LOD/LOR	Units	Method No.
Date of Receipt													
Dissolved Arsenic #	4.6	4.2	3.4	2.2	<0.9	<0.9					<0.9	ug/l	TM30/PM14
Dissolved Cadmium #	<0.03	0.36	<0.03	0.05	0.19	0.08					<0.03	ug/l	TM30/PM14
Total Dissolved Chromium #	1.2	0.6	<0.2	1.0	1.0	0.7					<0.2	ug/l	TM30/PM14 TM30/PM14
Dissolved Copper#  Total Dissolved Iron#	6.2690	<3 0.0082	3 3.4550	<3 1.8060	<3 1.8350	<3 <0.0047					<3 <0.0047	ug/l mg/l	TM30/PM14
Dissolved Lead #	2.7	4.7	1.2	4.0	2.2	0.5					<0.0047	ug/l	TM30/PM14
Dissolved Lead  Dissolved Nickel #	1.6	5.3	2.4	1.3	1.4	<0.2					<0.2	ug/l	TM30/PM14
Dissolved Zinc#	6.8	5.9	7.6	3.8	4.2	<1.5					<1.5	ug/l	TM30/PM14
Total Zinc	8	13	9	4	5	<3					<3	ug/l	TM30/PM14
Mercury Dissolved by CVAF #	<0.01	<0.01	<0.01	<0.01	0.01	<0.01					<0.01	ug/l	TM61/PM38
Total Hardness Dissolved (as CaCO3)	23	163	68	32	36	<1					<1	mg/l	TM30/PM14
EPH (C8-C40) #	<10	<10	<10	<10	<10	<10					<10	ug/l	TM5/PM30
GRO (>C4-C8) #	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
GRO (>C8-C12)#	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
GRO (>C4-C12)#	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
Hexavalent Chromium	<2	<2	<2	<2	<2	<2					<2	ug/l	TM38/PM0
Total Dissolved Chromium III	<2	<2	<2	<2	<2	<2					<2	ug/l	NONE/NONE
BOD (Settled) #	1	3	1	2	1	<1					<1	mg/l	TM58/PM0
pH <sup>#</sup>	7.46	8.09	7.12	7.79	6.51	5.37					<0.01	pH units	TM73/PM0
Total Suspended Solids #	32	11	<10	<10	<10	<10					<10	mg/l	TM37/PM0

### NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

**JE Job No.:** 15/12300

#### 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 quoted, 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.

# **ABBREVIATIONS and ACRONYMS USED**

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

JE Job No:

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM5	Modified USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7	PM14	Analysis of waters and leachates for metals by ICP OES. Samples are filtered for dissolved metals and acidified if required.				
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7	PM14	Analysis of waters and leachates for metals by ICP OES. Samples are filtered for dissolved metals and acidified if required.	Yes			
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM37	Modified USEPA 160.2 .Gravimetric determination of Total Suspended Solids. Sample is filtered and the resulting residue is dried and weighed.	PM0	No preparation is required.	Yes			
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	PM0	No preparation is required.				
TM58	Modified USEPA methods 405.1 and BS 5667-3. Measurement of Biochemical Oxygen Demand.	PM0	No preparation is required.	Yes			
TM61	Modified US EPA methods 245.7 and 200.7. Determination of Mercury by Cold Vapour Atomic Fluorescence.	PM38	Samples are brominated to reduce all mercury compounds to Mercury (II) which is analysed using method TM061.	Yes			
TM73	Modified US EPA methods 150.1 and 9045D. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
NONE	No Method Code	NONE	No Method Code				



Attention :

Date: 15th October, 2015

Your reference : DCS

Our reference: Test Report 15/13972 Batch 1

Location: Curraghinalt

Date samples received : 29th September, 2015

Status: Final report

Issue:

Two samples were received for analysis on 29th September, 2015 of which two 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:



BSc

**Project Manager** 

Dalradian Gold Ltd Client Name:

DCS Reference: Curraghinalt Location: Contact:

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle

Contact: JE Job No.:	15/13972					H=H <sub>2</sub> SO <sub>4</sub> , 2		ottle, P=plastic bottle						
J E Sample No.	1-6	7-12												
Sample ID	DCS2	DCS7												
Depth	14.35	14.55						Plagga ga	e attached n	otes for all				
COC No / misc									ations and a					
Containers	V HN P BOD G	V HN P BOD G												
Sample Date	28/09/2015	28/09/2015												
Sample Type	Liquid	Liquid												
Batch Number	1	1								Method				
Date of Receipt	29/09/2015	29/09/2015						LOD/LOR	Units	No.				
Dissolved Arsenic	7.5	6.5						<0.9	ug/l	TM30/PM14				
Dissolved Cadmium	0.20	0.21						<0.03	ug/l	TM30/PM14				
Total Dissolved Chromium	<0.2	<0.2						<0.2	ug/l	TM30/PM14				
Dissolved Copper	5	5						<3	ug/l	TM30/PM14				
Total Dissolved Iron	0.5821	0.5538						<0.0047	mg/l	TM30/PM14				
Dissolved Lead	4.4	4.5						<0.4	ug/l	TM30/PM14				
Dissolved Mercury Dissolved Nickel	<0.5 5.0	<0.5 4.9						<0.5 <0.2	ug/l ug/l	TM30/PM14 TM30/PM14				
Dissolved Nickel  Dissolved Zinc	23.8	22.6						<1.5	ug/l	TM30/PM14				
Total Zinc	28	31						<3	ug/l	TM30/PM14				
Total Hardness Dissolved (as CaCO3)	157	157						<1	mg/l	TM30/PM14				
EPH (C8-C40)	<10	<10						<10	ug/l	TM5/PM30				
GRO (>C4-C8)	<10	<10						<10	ug/l	TM36/PM12				
GRO (>C8-C12)	<10	<10						<10	ug/l	TM36/PM12				
GRO (>C4-C12)	<10	<10						<10	ug/l	TM36/PM12				
Hexavalent Chromium	<2	<2						<2	ug/l	TM38/PM0				
Total Dissolved Chromium III	<2	<2						<2	ug/l	NONE/NONE				
BOD (Settled)	3	3						<1	mg/l	TM58/PM0				
pH	7.74 <10	7.73						<0.01 <10	pH units	TM73/PM0				
Total Suspended Solids	<10	12						210	mg/l	TM37/PM0				
	<u> </u>	I	l	l	l	l				Į.				

Client Name: Dalradian Gold Ltd

Reference: DCS

**Location:** Curraghinalt

Contact:

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Analysis	Reason
					No deviating sample report results for job 15/13972	

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

#### NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

**JE Job No.:** 15/13972

#### SOILS

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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.

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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 quoted, 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.

# ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS) accredited - UK.
В	Indicates analyte found in associated method blank.
DR	Dilution required.
M	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 approved laboratory.
AD	Samples are dried at 35°C ±5°C
СО	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
OC	Outside Calibration Range

**JE Job No:** 15/13972

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM5	Modified USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7	PM14	Analysis of waters and leachates for metals by ICP OES. Samples are filtered for dissolved metals and acidified if required.				
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.				
TM37	Modified USEPA 160.2 .Gravimetric determination of Total Suspended Solids. Sample is filtered and the resulting residue is dried and weighed.	PM0	No preparation is required.				
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	PM0	No preparation is required.				
TM58	Modified USEPA methods 405.1 and BS 5667-3. Measurement of Biochemical Oxygen Demand.	PM0	No preparation is required.				
TM73	Modified US EPA methods 150.1 and 9045D. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.				
NONE	No Method Code	NONE	No Method Code				



Attention :

Date: 15th October, 2015

Your reference : DCS

Our reference: Test Report 15/14143 Batch 1

Location: Curraghinalt

Date samples received : 2nd October, 2015

Status: Final report

Issue:

Four samples were received for analysis on 2nd October, 2015 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:



**Project Manager** 

# Jones Environmental Laboratory

Dalradian Gold Ltd Client Name:

DCS Reference: Curraghinalt Location: Contact:

Report : Liquid

Location: Contact:	Curraghin	ait				Liquide/pr	oducte: \/_	40ml vial G	:_alace hottle	n D-nlastic	hottle						
	15/14143						Z=ZnAc, N=		-	bottle, P=plastic bottle							
J E Sample No.	1-6	7-12	13-18	19-24													
Sample ID	DCS1	DCS2	DCS3	DCS4													
Depth										Please se	e attached n	otes for all					
COC No / misc											ations and a						
Containers	V HN P BOD G																
Sample Date																	
Sample Type																	
Batch Number		1															
	1		1	1						LOD/LOR	Units	Method No.					
Date of Receipt Dissolved Arsenic#	5.9	4.7		2.8						.0.0	/1	TM30/PM14					
Dissolved Arsenic  Dissolved Cadmium #	<0.03	0.25	6.5 <0.03	0.14						<0.9 <0.03	ug/l ug/l	TM30/PM14					
Total Dissolved Chromium #	0.4	0.2	<0.2	0.6						<0.2	ug/l	TM30/PM14					
Dissolved Copper#	<3	4	<3	<3						<3	ug/l	TM30/PM14					
Total Dissolved Iron #	6.6460	0.3261	6.5740	1.5030						<0.0047	mg/l	TM30/PM14					
Dissolved Lead #	<0.4	<0.4	0.9	<0.4						<0.4	ug/l	TM30/PM14					
Dissolved Mercury # Dissolved Nickel #	<0.5 1.3	0.5 2.7	0.6 1.4	0.6						<0.5 <0.2	ug/l ug/l	TM30/PM14 TM30/PM14					
Dissolved Zinc#	5.0	2.7	5.0	2.4						<1.5	ug/l	TM30/PM14					
Total Zinc	7	7	7	3						<3	ug/l	TM30/PM14					
Total Hardness Dissolved (as CaCO3)	30	93	31	41						<1	mg/l	TM30/PM14					
EPH (C8-C40) #	<10	<10	<10	<10						<10	ug/l	TM5/PM30					
GRO (>C4-C8)#	<10	<10	<10	<10						<10	ug/l	TM36/PM12					
GRO (>C8-C12)#	<10	<10	<10	<10						<10	ug/l	TM36/PM12					
GRO (>C4-C12)#	<10	<10	<10	<10						<10	ug/l	TM36/PM12					
Hexavalent Chromium	<2	<2	<2	<2						<2	ug/l	TM38/PM0					
Total Dissolved Chromium III	<2	<2	<2	<2						<2	ug/l	NONE/NONE					
BOD (Settled)#	2	2	1	1						<1	mg/l	TM58/PM0					
pH#	6.75	8.96	6.45	6.45						<0.01	pH units	TM73/PM0					
Total Suspended Solids #	<10	12	<10	<10						<10	mg/l	TM37/PM0					
		•			•	•						•					

### NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

**JE Job No.:** 15/14143

#### 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.

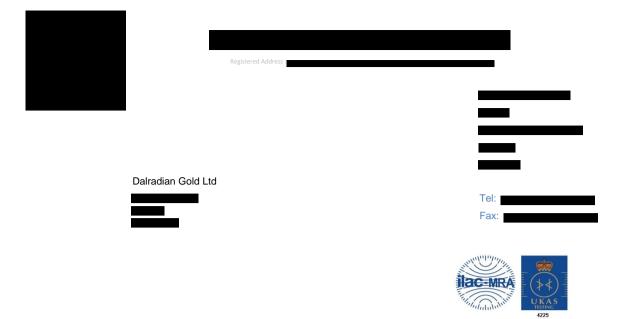
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

# ABBREVIATIONS and ACRONYMS USED

ISO17025 (UKAS) accredited - UK.
Indicates analyte found in associated method blank.
Dilution required.
MCERTS accredited.
Not applicable
No Asbestos Detected.
None Detected (usually refers to VOC and/SVOC TICs).
No Determination Possible
Calibrated against a single substance
Surrogate recovery outside performance criteria. This may be due to a matrix effect.
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 approved laboratory.
Samples are dried at 35°C ±5°C
Suspected carry over
Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
Matrix Effect
No Fibres Detected
AQC Sample
Blank Sample
Client Sample
Trip Blank Sample
Outside Calibration Range

**JE Job No:** 15/14143

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM5	Modified USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7	PM14	Analysis of waters and leachates for metals by ICP OES. Samples are filtered for dissolved metals and acidified if required.				
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TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM37	Modified USEPA 160.2 .Gravimetric determination of Total Suspended Solids. Sample is filtered and the resulting residue is dried and weighed.	PM0	No preparation is required.	Yes			
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser.  Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	PM0	No preparation is required.				
TM58	Modified USEPA methods 405.1 and BS 5667-3. Measurement of Biochemical Oxygen Demand.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 and 9045D. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
NONE	No Method Code	NONE	No Method Code				



Attention :

Date: 29th December, 2015

Your reference : DCS

Our reference : Test Report 15/14141

Location: Curraghinalt

Date samples received : 2nd October, 2015

Status: Final report

Issue:

Two samples were received for analysis on 2nd October, 2015 of which two 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:



BSc

**Project Manager** 

Dalradian Gold Ltd Client Name:

DCS Reference: Curraghinalt Location: Contact:

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=HNO<sub>3</sub>

Contact: JE Job No.:	15/14141					NaOH, HN=	-	ttle, P=plastic bottle					
J E Sample No.	1-6	7-12											
Sample ID	DCS5	DCS6											
Depth								Diago co	e attached n	otos for all			
COC No / misc	:								ations and a				
Containers	V HN P BOD G	V HN P BOD G											
Sample Date	01/10/2015	01/10/2015											
Sample Type													
Batch Number		1											
Date of Receipt								LOD/LOR	Units	Method No.			
Dissolved Arsenic#	1.8	<0.9						<0.9	ug/l	TM30/PM14			
Dissolved Cadmium #	<0.03	<0.03						<0.03	ug/l	TM30/PM14			
Total Dissolved Chromium #	<0.2	<0.2						<0.2	ug/l	TM30/PM14			
Dissolved Copper#	<3	<3						<3	ug/l	TM30/PM14			
Total Dissolved Iron #	1.9380	<0.0047						<0.0047	mg/l	TM30/PM14			
Dissolved Lead #	<0.4	<0.4						<0.4	ug/l	TM30/PM14			
Dissolved Mercury <sup>#</sup> Dissolved Nickel <sup>#</sup>	<0.5 0.5	<0.5 <0.2						<0.5 <0.2	ug/l	TM30/PM14 TM30/PM14			
Dissolved Rickel  Dissolved Zinc#	<1.5	<1.5						<1.5	ug/l ug/l	TM30/PM14			
Total Zinc	<3	<3						<3	ug/l	TM30/PM14			
Total Hardness Dissolved (as CaCO3)	43	<1						<1	mg/l	TM30/PM14			
EPH (C8-C40)#	<10	<10						<10	ug/l	TM5/PM30			
GRO (>C4-C8)#	<10	<10						<10	ug/l	TM36/PM12			
GRO (>C8-C12) #	<10	<10						<10	ug/l	TM36/PM12			
GRO (>C4-C12)#	<10	<10						<10	ug/l	TM36/PM12			
Hexavalent Chromium	<2	<2						<2	ug/l	TM38/PM0			
Total Dissolved Chromium III	<2	<2						<2	ug/l	NONE/NONE			
BOD (Settled) #	1	<1						<1	mg/l	TM58/PM0			
pH#	7.91	7.68						<0.01	pH units	TM73/PM0			
Total Suspended Solids #	<10	<10						<10	mg/l	TM37/PM0			

### NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

**JE Job No.:** 15/14141

#### SOILS

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

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

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

#### **DEVIATING SAMPLES**

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### **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

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# **ABBREVIATIONS and ACRONYMS USED**

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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 approved laboratory.
AD	Samples are dried at 35°C ±5°C
СО	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

**JE Job No:** 15/14141

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM5	Modified USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7	PM14	Analysis of waters and leachates for metals by ICP OES. Samples are filtered for dissolved metals and acidified if required.				
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7	PM14	Analysis of waters and leachates for metals by ICP OES. Samples are filtered for dissolved metals and acidified if required.	Yes			
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM37	Modified USEPA 160.2 .Gravimetric determination of Total Suspended Solids. Sample is filtered and the resulting residue is dried and weighed.	PM0	No preparation is required.	Yes			
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	PM0	No preparation is required.				
TM58	Modified USEPA methods 405.1 and BS 5667-3. Measurement of Biochemical Oxygen Demand.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 and 9045D. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
NONE	No Method Code	NONE	No Method Code				



Attention :

Date: 5th November, 2015

Your reference : DCS

Our reference: Test Report 15/15165 Batch 1

Location: Curraghinalt

Date samples received: 23rd October, 2015

Status: Final report

Issue:

Four samples were received for analysis on 23rd October, 2015 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:



**Project Manager** 

Dalradian Gold Ltd Client Name:

DCS Reference: Curraghinalt Location: Contact:

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle

Contact: JE Job No.:	15/15165					Liquids/pro	oducts: V= Z=ZnAc, N=			e, P=plastic	bottle	
J E Sample No.	1-6	7-12	13-18	19-24								
Sample ID	DCS1	DCS2	DCS3	DCS4								
Depth										Diago co	e attached n	otos for all
COC No / misc											ations and a	
Containers	V HN P BOD G											
Sample Date	22/10/2015	22/10/2015	22/10/2015	22/10/2015								
Sample Type												
Batch Number	1	1	1	1								
Date of Receipt										LOD/LOR	Units	Method No.
Dissolved Arsenic #	2.8	3.5	3.9	1.6						<0.9	ug/l	TM30/PM14
Dissolved Cadmium #	<0.03	0.16	<0.03	<0.03						<0.03	ug/l	TM30/PM14
Total Dissolved Chromium#	<0.2	<0.2	<0.2	<0.2						<0.2	ug/l	TM30/PM14
Dissolved Copper#	<3	<3	<3	<3						<3	ug/l	TM30/PM14
Total Dissolved Iron #	5.3900	0.6625	3.4240	0.9033						<0.0047	mg/l	TM30/PM14
Dissolved Lead #	<0.4	1.9	<0.4	<0.4						<0.4	ug/l	TM30/PM14
Dissolved Mercury #	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM30/PM14
Dissolved Nickel # Dissolved Zinc #	0.3 5.9	3.3 10.8	2.3 6.5	0.4 1.7						<0.2 <1.5	ug/l ug/l	TM30/PM14 TM30/PM14
Total Zinc	6	12	8	<3						<3	ug/l	TM30/PM14
Total Hardness Dissolved (as CaCO3)	24	167	84	29						<1	mg/l	TM30/PM14
EPH (C8-C40)#	<10	<10	<10	<10						<10	ug/l	TM5/PM30
GRO (>C4-C8)#	<10	<10	<10	<10						<10	ug/l	TM36/PM12
GRO (>C8-C12)#	<10	<10	<10	<10						<10	ug/l	TM36/PM12
GRO (>C4-C12)#	<10	<10	<10	<10						<10	ug/l	TM36/PM12
Hexavalent Chromium	<2	<2	<2	<2						<2	ug/l	TM38/PM0
Total Dissolved Chromium III	<2	<2	<2	<2						<2	ug/l	NONE/NONE
BOD (Settled) #	-	2	-	2						<1	mg/l	TM58/PM0
BOD (Settled)#	<1	-	<1	-						<1	mg/l	TM58/PM0
pH <sup>#</sup> Total Suspended Solids <sup>#</sup>	7.34 <10	7.35 <10	7.46 <10	7.46 <10						<0.01 <10	pH units mg/l	TM73/PM0 TM37/PM0
		J.	l			<u> </u>	<u> </u>	<u> </u>	l			

### NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

**JE Job No.:** 15/15165

#### 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.

# ABBREVIATIONS and ACRONYMS USED

ISO17025 (UKAS) accredited - UK.
Indicates analyte found in associated method blank.
Dilution required.
MCERTS accredited.
Not applicable
No Asbestos Detected.
None Detected (usually refers to VOC and/SVOC TICs).
No Determination Possible
Calibrated against a single substance
Surrogate recovery outside performance criteria. This may be due to a matrix effect.
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 approved laboratory.
Samples are dried at 35°C ±5°C
Suspected carry over
Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
Matrix Effect
No Fibres Detected
AQC Sample
Blank Sample
Client Sample
Trip Blank Sample
Outside Calibration Range

**JE Job No:** 15/15165

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM5	Modified USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7	PM14	Analysis of waters and leachates for metals by ICP OES. Samples are filtered for dissolved metals and acidified if required.				
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7	PM14	Analysis of waters and leachates for metals by ICP OES. Samples are filtered for dissolved metals and acidified if required.	Yes			
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM37	Modified USEPA 160.2 .Gravimetric determination of Total Suspended Solids. Sample is filtered and the resulting residue is dried and weighed.	PM0	No preparation is required.	Yes			
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	PM0	No preparation is required.				
TM58	Modified USEPA methods 405.1 and BS 5667-3. Measurement of Biochemical Oxygen Demand.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 and 9045D. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
NONE	No Method Code	NONE	No Method Code				



Attention :

Date: 5th November, 2015

Your reference : DCS

Our reference: Test Report 15/15164 Batch 1

Location: Curraghinalt

Date samples received: 23rd October, 2015

Status: Final report

Issue:

Three samples were received for analysis on 23rd October, 2015 of which three 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:



BSc

**Project Manager** 

Dalradian Gold Ltd Client Name:

DCS Reference: Curraghinalt Location: Contact:

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle

Contact: JE Job No.:	15/15164					oducts: V= Z=ZnAc, N=		bottle, P=plastic bottle					
J E Sample No.	1-6	7-12	13-18										
Sample ID	DCS5	DCS6	DCS7										
Depth								Plaasa sa	e attached n	otes for all			
COC No / misc									ations and a				
Containers	V HN P BOD G	V HN P BOD G	V HN P BOD G										
Sample Date	22/10/2015	22/10/2015	22/10/2015										
Sample Type	Surface Water	Surface Water	Surface Water										
Batch Number	1	1	1							Mathad			
Date of Receipt	23/10/2015	23/10/2015						LOD/LOR	Units	Method No.			
Dissolved Arsenic #	1.7	<0.9	1.8					<0.9	ug/l	TM30/PM14			
Dissolved Cadmium#	0.20	0.04	0.21					<0.03	ug/l	TM30/PM14			
Total Dissolved Chromium#	<0.2	<0.2	<0.2					<0.2	ug/l	TM30/PM14			
Dissolved Copper#	<3	<3	<3					<3	ug/l	TM30/PM14			
Total Dissolved Iron #	1.3120	<0.0047	0.6613					<0.0047	mg/l	TM30/PM14			
Dissolved Lead #	2.1	1.1	1.8					<0.4	ug/l	TM30/PM14			
Dissolved Mercury* Dissolved Nickel*	<0.5 0.6	<0.5 <0.2	<0.5 3.7					<0.5 <0.2	ug/l ug/l	TM30/PM14 TM30/PM14			
Dissolved Zinc#	3.6	<1.5	9.8					<1.5	ug/l	TM30/PM14			
Total Zinc	4	<3	10					<3	ug/l	TM30/PM14			
Total Hardness Dissolved (as CaCO3)	30	<1	168					<1	mg/l	TM30/PM14			
EPH (C8-C40)#	<10	<10	<10					<10	ug/l	TM5/PM30			
GRO (>C4-C8)#	<10	<10	<10					<10	ug/l	TM36/PM12			
GRO (>C8-C12) #	<10	<10	<10					<10	ug/l	TM36/PM12			
GRO (>C4-C12)#	<10	<10	<10					<10	ug/l	TM36/PM12			
Hexavalent Chromium	<2	<2	<2					<2	ug/l	TM38/PM0			
Total Dissolved Chromium III	<2	<2	<2					<2	ug/l	NONE/NONE			
BOD (Settled) #	-	<1	1					<1	mg/l	TM58/PM0			
BOD (Settled)#	<1	-	- 744					<1	mg/l	TM58/PM0			
pH # Total Suspended Solids #	7.12 <10	7.77 <10	7.14 <10					<0.01 <10	pH units mg/l	TM73/PM0 TM37/PM0			

### NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

**JE Job No.:** 15/15164

#### 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 quoted, 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.

# ABBREVIATIONS and ACRONYMS USED

ISO17025 (UKAS) accredited - UK.
Indicates analyte found in associated method blank.
Dilution required.
MCERTS accredited.
Not applicable
No Asbestos Detected.
None Detected (usually refers to VOC and/SVOC TICs).
No Determination Possible
Calibrated against a single substance
Surrogate recovery outside performance criteria. This may be due to a matrix effect.
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 approved laboratory.
Samples are dried at 35°C ±5°C
Suspected carry over
Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
Matrix Effect
No Fibres Detected
AQC Sample
Blank Sample
Client Sample
Trip Blank Sample
Outside Calibration Range

**JE Job No:** 15/15164

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM5	Modified USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7	PM14	Analysis of waters and leachates for metals by ICP OES. Samples are filtered for dissolved metals and acidified if required.				
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7	PM14	Analysis of waters and leachates for metals by ICP OES. Samples are filtered for dissolved metals and acidified if required.	Yes			
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM37	Modified USEPA 160.2 .Gravimetric determination of Total Suspended Solids. Sample is filtered and the resulting residue is dried and weighed.	PM0	No preparation is required.	Yes			
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	PM0	No preparation is required.				
TM58	Modified USEPA methods 405.1 and BS 5667-3. Measurement of Biochemical Oxygen Demand.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 and 9045D. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
NONE	No Method Code	NONE	No Method Code				



Attention :

Date: 18th November, 2015

Your reference : DCS

Our reference : Test Report 15/15903 Batch 1

Location: Curraghinalt

Date samples received: 6th November, 2015

Status: Final report

Issue:

Seven samples were received for analysis on 6th November, 2015 of which seven 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:



BSc

**Project Manager** 

Dalradian Gold Ltd Client Name:

DCS Reference: Curraghinalt Location: Contact:

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle

Contact: JE Job No.:	15/15903						Liquids/pro	:40ml vial, G :NaOH, HN=	-	e, P=plastic	bottle	
J E Sample No.	1-6	7-12	13-18	19-24	25-30	31-36	37-42					
Sample ID	DCS5	DCS6	DCS7	DCS1	DCS2	DCS3	DCS4					
Depth										Please se	e attached n	otes for all
COC No / misc											ations and a	
Containers	V HN P BOD G											
Sample Date	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015	05/11/2015					
Sample Type	Surface Water											
Batch Number	1	1	1	1	1	1	1					Method
Date of Receipt	06/11/2015	06/11/2015	06/11/2015	06/11/2015	06/11/2015	06/11/2015	06/11/2015			LOD/LOR	Units	No.
Dissolved Arsenic#	<0.9	<0.9	3.9	<0.9	3.2	3.6	<0.9			<0.9	ug/l	TM30/PM14
Dissolved Cadmium #	0.14	<0.03	0.14	0.09	0.24	0.07	0.08			<0.03	ug/l	TM30/PM14
Total Dissolved Chromium #	0.3	<0.2	<0.2	0.3	<0.2	0.9	<0.2			<0.2	ug/l	TM30/PM14
Dissolved Copper#	<3	<3	<3	4	<3	7	<3			<3	ug/l	TM30/PM14
Total Dissolved Iron #	1.3700	<0.0047	0.2208	4.4100	0.2782	2.8340	1.2690			<0.0047	mg/l	TM30/PM14
Dissolved Lead #	<0.4	<0.4	2.8	1.2	3.6	2.8	1.9			<0.4	ug/l	TM30/PM14
Dissolved Mercury #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			<0.5	ug/l	TM30/PM14
Dissolved Nickel #	0.9	<0.2	5.2	0.7	5.5	2.5	0.7			<0.2	ug/l	TM30/PM14
Dissolved Zinc#	2.3	<1.5	4.1	12.1	<1.5	6.7	<1.5			<1.5	ug/l	TM30/PM14
Total Zinc	4	<3	5	28	5	17	3			<3	ug/l	TM30/PM14
Total Hardness Dissolved (as CaCO3)	41	<1	198	37	197	100	38			<1	mg/l	TM30/PM14
EPH (C8-C40)#	<10	<10	<10	<10	<10	<10	<10			<10	ug/l	TM5/PM30
GRO (>C4-C8)#	<10	<10	<10	<10	<10	<10	<10			<10	ug/l	TM36/PM12
GRO (>C8-C12)#	<10	<10	<10	<10	<10	<10	<10			<10	ug/l	TM36/PM12
GRO (>C4-C12)#	<10	<10	<10	<10	<10	<10	<10			<10	ug/l	TM36/PM12
Hexavalent Chromium	<2	<2	<2	<2	<2	<2	<2			<2	ug/l	TM38/PM0
Total Dissolved Chromium III	<2	<2	<2	<2	<2	<2	<2			<2	ug/l	NONE/NONE
BOD (Settled)#	1	<1	<1	2	1	2	2			<1	mg/l	TM58/PM0
рН#	7.49	7.29	8.06	7.74	7.85	7.73	7.65			<0.01	pH units	TM73/PM0
Total Suspended Solids #	<10	<10	<10	17	<10	10	<10			<10	mg/l	TM37/PM0
			<u> </u>	<u> </u>	<u> </u>							

### NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

**JE Job No.:** 15/15903

#### 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 quoted, 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.

# **ABBREVIATIONS and ACRONYMS USED**

ISO17025 (UKAS) accredited - UK.
Indicates analyte found in associated method blank.
Dilution required.
MCERTS accredited.
Not applicable
No Asbestos Detected.
None Detected (usually refers to VOC and/SVOC TICs).
No Determination Possible
Calibrated against a single substance
Surrogate recovery outside performance criteria. This may be due to a matrix effect.
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 approved laboratory.
Samples are dried at 35°C ±5°C
Suspected carry over
Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
Matrix Effect
No Fibres Detected
AQC Sample
Blank Sample
Client Sample
Trip Blank Sample
Outside Calibration Range

**JE Job No**: 15/15903

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM5	Modified USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7	PM14	Analysis of waters and leachates for metals by ICP OES. Samples are filtered for dissolved metals and acidified if required.				
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7	PM14	Analysis of waters and leachates for metals by ICP OES. Samples are filtered for dissolved metals and acidified if required.	Yes			
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM37	Modified USEPA 160.2 .Gravimetric determination of Total Suspended Solids. Sample is filtered and the resulting residue is dried and weighed.	PM0	No preparation is required.	Yes			
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	PM0	No preparation is required.				
TM58	Modified USEPA methods 405.1 and BS 5667-3. Measurement of Biochemical Oxygen Demand.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 and 9045D. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
NONE	No Method Code	NONE	No Method Code				