

EDI ENVIRONMENTAL DYNAMICS INC. Date Received: 29-APR-16

ATTN: Lyndsay Doetzel Report Date: 19-MAY-16 15:45 (MT)

Version: FINAL

Whitehorse YT Y1A 3T8

2195 - 2nd Ave

Client Phone: 867-393-4882

Certificate of Analysis

Lab Work Order #: L1761990
Project P.O. #: NOT SUBMITTED

Job Reference: MOUNT NANSEN 16-Y-0089

C of C Numbers: 1

Legal Site Desc:

Comments: The bioassay analysis was subcontracted to Nautilus Environmental Ltd. in Burnaby, BC.

Refer to their report appended for detail.

Can Dang

Senior Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 8081 Lougheed Hwy, Suite 100, Burnaby, BC V5A 1W9 Canada | Phone: +1 604 253 4188 | Fax: +1 604 253 6700 ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company



L1761990 CONTD....

PAGE 2 of 3 19-MAY-16 15:45 (MT)

ALS ENVIRONMENTAL ANALYTICAL REPORT

Version: FINAL

	Sample ID Description Sampled Date Sampled Time Client ID			
Grouping	Analyte			

L1761990 CONTD.... PAGE 3 of 3

19-MAY-16 15:45 (MT) Version:

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**								
** ALS test methods may incorporate modifications from specified reference methods to improve performance.											
The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:											
Laboratory Definition Co	ode Labora	tory Location									

Chain of Custody Numbers:

1

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. mg/kg - milligrams per kilogram based on dry weight of sample.

mg/kg wwt - milligrams per kilogram based on wet weight of sample.

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory. UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION. Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



ALS Environmental ATTN: Can Dang Suite 100-8081 Lougheed Hwy. Burnaby, BC V5A 1W9 Report Date: May 12, 2016

Work Order: 16496

Data Report

Species: Rainbow trout (Oncorhynchus mykiss)

Protocol: EPS 1/RM/13 (Second Ed. 2000 with 2007 & 2016 amendments)

Table 1. Results for the 96-h rainbow trout acute toxicity test.

Sample ID	Collection Date and Time	96-h LC50 (%v/v)
L1761990-1 WQ-SEEP	April 28, 2016 @ N/A	>100

N/A = Not Available.

The test met performance criterion and there were no deviations from the test method. The results relate only to the sample tested.

Yvonne Lam, B.Sc. Laboratory Biologist Reviewed By: Edmund Canaria, R.P.Bio Senior Reviewer

Rainbow Trout Summary Sheet

Client:	ALS	Start Date/Time: May 2/16 @ 1330 V	1
Work Order No.:	16496	Test Species: Oncorhynchus mykiss	
Sample Information:		Test Validity Criteria: ≥ 90% control survival	
Sample ID: Sample Date: Date Received: Sample Volume: Other:	L1761990-1 WQ-SEEP Apr 28116 May 2116 22206	WQ Ranges: T (°C) = 15 ± 1; DO (mg/L) = 7.0 to 10.3; pH = 5.5 to 8.5	
Dilution Water:			
Type: Hardness (mg/L CaCo Alkalinity (mg/L CaCo		Tap Water	
Test Organism Infor	mation:		
Batch No.: Source: No. Fish/Volume (L): Loading Density (g/L) Mean Length ± SD (m Mean Weight ± SD (g	$\frac{10/10L}{0.32}$ nm): $\frac{30\pm 2}{0.32}$	Range: 26-34 Range: 0.22-0.48	
Zinc Reference Toxi	cant Results:		
Reference Toxicant II Stock Solution ID: Date Initiated: 96-h LC50 (95% CL):	15Zno5 Apr 28116	g/L Zn	
Reference Toxicant N	Mean and Historical Range:	69.4 (34.1-141.3) Mg/L Zn 43%	
Test Results:	The 96h LC50 TS	estimated to be 7100%(vh).	
Reviewed by:	<u>Un</u>	Date reviewed: May 11, 2014	2

96-Hour Rainbow Trout Toxicity Test Data Sheet

Client/Projects Sample I.D. W.O. # RBT Batch #: Date Collected		ALS (ED) ENV.) L1761990-1 WR-SEEP 16496 040716 Aprz8/16 @ Nol averlable							Number Fish/Volume: 7-d % Mortality: Total Pre-aeration Time (mins): Aeration rate adjusted to 6.5 ± 1 ml							 L/mir									
Date Setup/Ti			EL				ত	13	oh	11 0.0	Ĺt					Un	dilute	d Sar	nple \	7					
Sample Setup		•		Apr	EC	11.50					**						_	justm		30	min V	VQ \	1		
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				•		-		-				Salir	ity (p	pt)	0	. 6		/			9	.6]	
Concentration			# \$	Surviv	ors				Гетр	eratu	re (°C	;)	Diss	olved	Оху	gen (r	ng/L)			рH			Conductivity (µS/cm)		
(% v/v)	1	2	4	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	96	7
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6.25				10	(3)	10	10	140	150	150	15.0		+		9.8		9. 8	7.0	7.0				12.3	124	7
12.5				10	(0	10	10								9.9		1.8	 				7.2		216	7
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Sample Descriptio					n at											1		2910	_						
Other Observation	tions:																								
Reviewed by:		(Ü													Date	Revie	wed:		M	lay	11,	2016	f.	V

Version 2.3; Issued February 29, 2016

Nautilus Environmental Company Inc.





Subcontract Request Form

Subcontract To:

NAUTILUS ENVIRONMENTAL

8664 COMMERCE COURT BURNABY,BC V5A 4N7

レンちつ Please see enclosed 1 sa	ample(s) in 2 Container(s)		
SAMPLE NUMBER	TICAL REQUIRED	DATE SAMPLED DUE DATE	Priority Flag
L1761990-1 WQ-SEEP		4/28/2016	
Trout B	ioassay LC50 (96 Hour) - Nautilus (TROU 6HR-NL 1)	T- 5/10/2016	
Subcontract Info Contact:	Walter Lin (604) 253-4188		
Analysis and reporting info contact:	Can Dang 8081 LOUGHEED HWY SUITE 100 BURNABY,BC V5A 1W9		
	Phone: (604) 253-4188	Email: can.dang@alsglobal	.com
Please email confirmation of rec	ceipt to: can.dang@alsgl		111
Shipped By: Famp	Date Shipped:	MAY 2,	16.
Received By: Nautilus	Date Received:	May 02/16 @ 0	8:30
Verified By: NY-Naw Yan	namoko Date Verified:		
_	Temperature:	5.3℃	
Sample Integrity Issues:	. 5	2x20L	, , , , , , , , , , , , , , , , , , , ,
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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



COC Number: 14 -

Page	of	

Report To				Report Format	₩ <u>.</u>							(Rusi	h Tuma	round Tir	ne (TAT)	is not a	vailable	for all le	sts)	
Company:	EDI		Select Report F	R ☑ Regular (Standard TAT in received by 3 pm - business days)																
Contact:	Lyndsay Doetzel		Quality Control	Quality Control (QC) Report with Report							s if rece	elved by	y 3pm).	50% surc	:harge - c	ontact A	NLS to α	onfirm T	AT	
Address:	2195 - 2nd Avenue		☐ Criteria on Report - provide details below if box checked					☐ Eme	ergency	(1-2 bus.	days if	receive	ed by 3p	m) 1009	surchar	ge - con	tact ALS	to confi	im TAT	
	Whitehorse, YT Y1A 3T8		Select Distribut	E2	E2 🖸 Same day or weekend emergency - contact ALS to confirm TAT and surcharge															
Phone:	867-393-4882		Email 1 or Fax	ldoetzel@edynami	ics.com		Spec	cify Dat	te Req	uired fo	r E2,E	or P:								
			Email 2	Emilie.Hamm@go												•		.,		
*			Email 3	erik.pit@gov.yk.ca			╄	Analysis Request Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below												
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Contact:	S Jenner		Email 2	Idoetzel@edynami			4					ı							2	
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ALS Quote #: Job #:	MOUNT NANSEN 16-Y-0089		Approver ID:		Cost Center:	<u> </u>	1											l	Sori	
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ALS Sample #	Sample Identification	and/or Coordinates		Date	Time	Sample Type] 7/	1	li									- 1		
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Drinking	Water (DW) Samples ¹ (client use)	Special Ins	tructions / Speci	ify Criteria to add on	report (client Us	e)	SAMPLE CONDITION AS RECEIVED (lab use only) Frozen SIF Observations Yes No													
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Are samples for	human drinking water use?									EMPERA	TURES	°C .		FINA	L COOL	ER TEM	PERAT	JRES,*C		
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