

### **CERTIFICATE OF ANALYSIS**

REPORTED TO	Allterra Construction 2158 Millstream Road Victoria, BC V9B 6H4	TEL FAX	(250) 508-0726
ATTENTION	Rahim Gaidhar	WORK ORDER	6101996
PO NUMBER PROJECT PROJECT INFO	P15-06 SIRM SIRM 460 Stebbings	RECEIVED / TEMP REPORTED COC NUMBER	2016-10-28 10:30 / 12°C 2016-11-04 B33091

#### General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

S+LL

Authorized By:

Brent Coates, B.Sc. Division Manager, Richmond

*If you have any questions or concerns, please contact your Account Manager: Bryan Shaw, Ph.D. (bshaw@caro.ca)* 

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### **ANALYSIS INFORMATION**

REPORTED TO PROJECT	Allterra Constru SIRM 460 Steb	iction bings		WORK ORDER REPORTED	6101996 2016-11-04
Analysis Descri	ption	Method Reference	Technique		Location
Colour, True in Wa	iter	APHA 2120 C	Spectrophotometry (456 nm)		Kelowna
Solids, Total Suspe	ended in Water	APHA 2540 D*	Gravimetry (Dried at 103-105C)		Richmond
Turbidity in Water		APHA 2130 B	Nephelometry		Richmond

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

### Method Reference Descriptions:

APHA Standard Methods for the Examination of Water and Wastewater, 22nd Edition, American Public Health Association/American Water Works Association/Water Environment Federation

#### **Glossary of Terms:**

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
CU	Colour Units (referenced against a platinum cobalt standard)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units



## SAMPLE ANALYTICAL DATA

REPORTED TO PROJECT	Allterra Construction SIRM 460 Stebbings					WORK ORDER REPORTED		6101996 2016-11-04	
Analyte		Result / Recovery	Estimate of Uncertainty	MRL / Limits	Units	Prepared	Analyzed	Notes	
Sample ID: Bridge	e (6101996-01) [Water]	Sampled:	2016-10-26 13:15						
General Parameter	s								
Colour, True		33	± 6	5	CU	N/A	2016-10-29	)	
Solids, Total Suspe	nded	34	± 5	2	mg/L	N/A	2016-10-31		
Turbidity		50.0	± 6.3	0.10	NTU	N/A	2016-10-29	)	



REPORTED TO	Allterra Construction	WORK ORDER	6101996
PROJECT	SIRM 460 Stebbings	REPORTED	2016-11-04

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- Method Blank (Blk): Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup)**: Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- Blank Spike (BS): A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- Standard Reference Material (SRM): A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
General Parameters,Batch B6J1998									
Blank (B6J1998-BLK1)			Prepared	d: 2016-10-	29, Analy	zed: 2016	-10-29		
Turbidity	< 0.10	0.10 NTU							
LCS (B6J1998-BS1)			Prepared	d: 2016-10-	29, Analy	zed: 2016	-10-29		
Turbidity	10.3	0.10 NTU	10.0		103	82-115			
Duplicate (B6J1998-DUP1)	Sou	rce: 6101996-01	Prepared	d: 2016-10-	29, Analy	zed: 2016	-10-29		
Turbidity	48.6	0.10 NTU		50.0			3	18	
General Parameters, Batch B6J2005 Blank (B6J2005-BLK1)			Prepared	d: 2016-10-	29, Analy	zed: 2016	-10-29		
	< 5	5 CU	Перагес	u. 2010-10-	20, Analy	200. 2010	-10-23		
LCS (B6J2005-BS1)			Prepared	d: 2016-10-	29, Analy	zed: 2016	-10-29		
Colour, True	10	5 CU	10.0		97	85-115			
General Parameters, Batch B6J2033									
Blank (B6J2033-BLK1)			Prepared	d: 2016-10-	31, Analy	zed: 2016	-10-31		
Solids, Total Suspended	< 2	2 mg/L							
Blank (B6J2033-BLK2)			Prepared	d: 2016-10-	31, Analy	zed: 2016	-10-31		
Solids, Total Suspended	< 2	2 mg/L	-		-				
LCS (B6J2033-BS1)			Prepared	d: 2016-10-	31, Analy	zed: 2016	-10-31		
Solids, Total Suspended	46	2 mg/L	51.8		90	83-107			
LCS (B6J2033-BS2)			Prepared	d: 2016-10-	31, Analy	zed: 2016	-10-31		

2 mg/L

57.2

83-107

85

49

Solids, Total Suspended

# **Enviro**Chain<sup>®</sup> By Promium

Submission key D301-KBZ-9421	On 10/27/201	6 10:51	By Rahim Gaidhar		Page 1/1	
Client Information Allterra Construction 2158 Millstream Road Victoria BC V9B 6H4 Phone: (250) 508-0726	Project Ir SIRM 460 Stebbing Number: [none] Sample count: 1 TAT: 5	Project InformationLaboratory InformationM 460 StebbingsCARO Analytical ServicesNumbernber: [none]#110 - 4011 Viking WayShippednple count: 1Richmond BC V6V 2K9Phone: (604) 279-1499Fax: (604) 279-1599Fax: (604) 279-1599Fax: (604) 279-1599		COC Inf Number: B33091 Shipped via: ACE	COC Information er: B33091 ed via: ACE	
#1 Bridge (Template: 01) 10/26/2016 13:15 Grab / Water		Colour, True - 4 Solids, Total Si Furbidity (KEL)	Analyses 456 nm (KEL) TAT: 5 uspended (KEL) TAT: 5 ) TAT: 5	Co C11_1 L Plasti	ntainers c (General) (1)	

Relinquished by	Date/Time	Accepted by	Date/Time

