



Environmental Division

Certificate of Analysis

HOPE BAY MINING LTD

ATTN: JILL TURK

300, 889 HARBOURSIDE DRIVE

NORTH VANCOUVER BC V7P 3S1

Report Date: 14-JUL-10 08:24 (MT)

Version: FINAL

Lab Work Order #: L905779

Date Received: 07-JUL-10

Project P.O. #: H00288

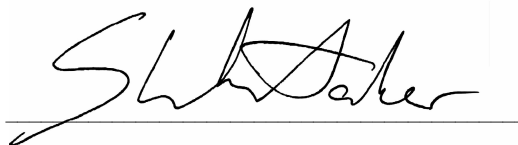
Job Reference: COMPLIANCE WATER SAMPLES

Legal Site Desc:

CofC Numbers:

Other Information:

Comments:



THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN AUTHORITY OF THE LABORATORY.
ALL SAMPLES WILL BE DISPOSED OF AFTER 30 DAYS FOLLOWING ANALYSIS. PLEASE CONTACT THE LAB IF YOU
REQUIRE ADDITIONAL SAMPLE STORAGE TIME.

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters		Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L905779-1	HOP 5 POST TREATMENT							
Sampled By: JT on 05-JUL-10 @ 14:00								
Matrix: WATER								
BTEX & F1-F4								
BTEX and F1 (C6-C10)								
Benzene		<0.00050		0.00050	mg/L		10-JUL-10	R1339943
Toluene		<0.00050		0.00050	mg/L		10-JUL-10	R1339943
Ethylbenzene		<0.00050		0.00050	mg/L		10-JUL-10	R1339943
o-Xylene		<0.00050		0.00050	mg/L		10-JUL-10	R1339943
m+p-Xylene		<0.00050		0.00050	mg/L		10-JUL-10	R1339943
F1(C6-C10)		<0.10		0.10	mg/L		10-JUL-10	R1339943
F1-BTEX		<0.10		0.10	mg/L		10-JUL-10	R1339943
Xylenes		<0.0010		0.0010	mg/L		10-JUL-10	R1339943
F2, F3, F4								
F2 (>C10-C16)		<0.25		0.25	mg/L	09-JUL-10	09-JUL-10	R1344604
F3 (C16-C34)		<0.25		0.25	mg/L	09-JUL-10	09-JUL-10	R1344604
F4 (C34-C50)		<0.25		0.25	mg/L	09-JUL-10	09-JUL-10	R1344604
Total Metals - CCME								
Total Metals in Water by ICPMS (Low)								
Aluminum (Al)-Total		0.419	DLM	0.040	mg/L		11-JUL-10	R1344204
Antimony (Sb)-Total		<0.0016	DLM	0.0016	mg/L		11-JUL-10	R1344204
Arsenic (As)-Total		0.0023	DLM	0.0016	mg/L		11-JUL-10	R1344204
Barium (Ba)-Total		0.0211	DLM	0.0030	mg/L		11-JUL-10	R1344204
Beryllium (Be)-Total		<0.0040	DLM	0.0040	mg/L		11-JUL-10	R1344204
Boron (B)-Total		0.120	DLM	0.050	mg/L		11-JUL-10	R1344204
Cadmium (Cd)-Total		<0.00020	DLM	0.00020	mg/L		11-JUL-10	R1344204
Chromium (Cr)-Total		<0.0050	DLM	0.0050	mg/L		11-JUL-10	R1344204
Cobalt (Co)-Total		<0.0020	DLM	0.0020	mg/L		11-JUL-10	R1344204
Copper (Cu)-Total		0.0080	DLM	0.0040	mg/L		11-JUL-10	R1344204
Lead (Pb)-Total		<0.00040	DLM	0.00040	mg/L		11-JUL-10	R1344204
Lithium (Li)-Total		<0.024	DLM	0.024	mg/L		11-JUL-10	R1344204
Molybdenum (Mo)-Total		<0.0050	DLM	0.0050	mg/L		11-JUL-10	R1344204
Nickel (Ni)-Total		0.0037	DLM	0.0020	mg/L		11-JUL-10	R1344204
Selenium (Se)-Total		<0.0080	DLM	0.0080	mg/L		11-JUL-10	R1344204
Silver (Ag)-Total		<0.00040	DLM	0.00040	mg/L		11-JUL-10	R1344204
Thallium (Tl)-Total		<0.00040	DLM	0.00040	mg/L		11-JUL-10	R1344204
Tin (Sn)-Total		<0.050	DLM	0.050	mg/L		11-JUL-10	R1344204
Titanium (Ti)-Total		0.0086	DLM	0.0024	mg/L		11-JUL-10	R1344204
Uranium (U)-Total		0.00088	DLM	0.00040	mg/L		11-JUL-10	R1344204
Vanadium (V)-Total		0.0026	DLM	0.0020	mg/L		11-JUL-10	R1344204
Zinc (Zn)-Total		<0.016	DLM	0.016	mg/L		11-JUL-10	R1344204
Total Metals in Water by ICPOES (Low)								
Calcium (Ca)-Total		44.7		0.50	mg/L		11-JUL-10	R1344125
Iron (Fe)-Total		0.495		0.010	mg/L		11-JUL-10	R1344125
Magnesium (Mg)-Total		28.9		0.10	mg/L		11-JUL-10	R1344125
Manganese (Mn)-Total		0.0367		0.0020	mg/L		11-JUL-10	R1344125
Potassium (K)-Total		6.02		0.10	mg/L		11-JUL-10	R1344125
Sodium (Na)-Total		137		1.0	mg/L		11-JUL-10	R1344125
Miscellaneous Parameters								
Oil And Grease (Visible Sheen)		No Visible Sheen					12-JUL-10	R1345784
Oil and Grease		<1.0		1.0	mg/L		12-JUL-10	R1347683
Phenols (4AAP)		0.0080		0.0010	mg/L		12-JUL-10	R1347443
Phosphorus, Total		0.040		0.020	mg/L	12-JUL-10	12-JUL-10	R1348283
Mercury (Hg)-Total		<0.00010		0.00010	mg/L		13-JUL-10	R1352523
Total Suspended Solids		9.0		3.0	mg/L		12-JUL-10	R1346983

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L905779-1 HOP 5 POST TREATMENT							
Sampled By: JT on 05-JUL-10 @ 14:00							
Matrix: WATER							
CCME PAHs							
Naphthalene	<0.000030	DLMB	0.000030	mg/L	12-JUL-10	13-JUL-10	R1350403
Quinoline	<0.000010		0.000010	mg/L	12-JUL-10	13-JUL-10	R1350403
Acenaphthene	<0.000010		0.000010	mg/L	12-JUL-10	13-JUL-10	R1350403
Fluorene	<0.000020	DLMB	0.000020	mg/L	12-JUL-10	13-JUL-10	R1350403
Phenanthrene	0.000043	DLMB	0.000040	mg/L	12-JUL-10	13-JUL-10	R1350403
Anthracene	<0.000010		0.000010	mg/L	12-JUL-10	13-JUL-10	R1350403
Acridine	<0.000010		0.000010	mg/L	12-JUL-10	13-JUL-10	R1350403
Fluoranthene	<0.000010		0.000010	mg/L	12-JUL-10	13-JUL-10	R1350403
Pyrene	<0.000010		0.000010	mg/L	12-JUL-10	13-JUL-10	R1350403
Benzo(a)anthracene	<0.000010		0.000010	mg/L	12-JUL-10	13-JUL-10	R1350403
Chrysene	<0.000010		0.000010	mg/L	12-JUL-10	13-JUL-10	R1350403
Benzo(b&j)fluoranthene	<0.000010		0.000010	mg/L	12-JUL-10	13-JUL-10	R1350403
Benzo(k)fluoranthene	<0.000010		0.000010	mg/L	12-JUL-10	13-JUL-10	R1350403
Benzo(a)pyrene	<0.000010		0.000010	mg/L	12-JUL-10	13-JUL-10	R1350403
Indeno(1,2,3-cd)pyrene	<0.000010		0.000010	mg/L	12-JUL-10	13-JUL-10	R1350403
Dibenzo(a,h)anthracene	<0.000010		0.000010	mg/L	12-JUL-10	13-JUL-10	R1350403
Surrogate: Nitrobenzene d5	81		N/A	%	12-JUL-10	13-JUL-10	R1350403
Surrogate: 2-Fluorobiphenyl	80		N/A	%	12-JUL-10	13-JUL-10	R1350403
Surrogate: p-Terphenyl d14	83		N/A	%	12-JUL-10	13-JUL-10	R1350403
Note: Raised PAH detection limits due to lab background.							
Total Nitrogen							
Nitrogen, Total							
Nitrogen, Total	1.48		0.20	mg/L		12-JUL-10	
Total Kjeldahl Nitrogen							
Total Kjeldahl Nitrogen	1.21		0.20	mg/L	10-JUL-10	10-JUL-10	R1343600
Routine Water: Major Ions, Fluoride							
Chloride by IC							
Chloride (Cl)	264		0.50	mg/L		09-JUL-10	R1348243
Dissolved Metals in Water by ICPOES							
Calcium (Ca)-Dissolved	48.9		0.50	mg/L		09-JUL-10	R1341543
Magnesium (Mg)-Dissolved	30.4		0.10	mg/L		09-JUL-10	R1341543
Potassium (K)-Dissolved	6.71		0.50	mg/L		09-JUL-10	R1341543
Sodium (Na)-Dissolved	153		1.0	mg/L		09-JUL-10	R1341543
Fluoride by IC							
Fluoride (F)	0.083		0.050	mg/L		09-JUL-10	R1348243
Ion Balance Calculation							
Ion Balance	92.2			%		12-JUL-10	
TDS (Calculated)	710			mg/L		12-JUL-10	
Hardness (as CaCO3)	247			mg/L		12-JUL-10	
Nitrate as N by IC							
Nitrate (as N)	0.270		0.050	mg/L		09-JUL-10	R1348243
Nitrate+Nitrite							
Nitrate and Nitrite as N	0.270		0.071	mg/L		12-JUL-10	
Nitrite as N by IC							
Nitrite (as N)	<0.050		0.050	mg/L		09-JUL-10	R1348243
Sulfate by IC							
Sulfate (SO4)	125		0.50	mg/L		09-JUL-10	R1348243
pH, Conductivity and Total Alkalinity							
pH	8.09		0.10	pH		09-JUL-10	R1340723
Conductivity (EC)	1360		0.20	uS/cm		09-JUL-10	R1340723
Bicarbonate (HCO3)	164		5.0	mg/L		09-JUL-10	R1340723

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L905779-1 HOP 5 POST TREATMENT Sampled By: JT on 05-JUL-10 @ 14:00 Matrix: WATER pH, Conductivity and Total Alkalinity Carbonate (CO3) Hydroxide (OH) Alkalinity, Total (as CaCO3)	 <5.0 <5.0 135	 	 5.0 5.0 5.0	 mg/L mg/L mg/L	 	 09-JUL-10 09-JUL-10 09-JUL-10	 R1340723 R1340723 R1340723

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Aluminum (Al)-Total	B	L905779-1
Method Blank	Fluorene	DLMB	L905779-1
Comments:	Raised PAH detection limits due to lab background.		
Method Blank	Naphthalene	DLMB	L905779-1
Comments:	Raised PAH detection limits due to lab background.		
Method Blank	Phenanthrene	DLMB	L905779-1
Comments:	Raised PAH detection limits due to lab background.		
Matrix Spike	Copper (Cu)-Total	E	L905779-1
Matrix Spike	Chloride (Cl)	MS-B	L905779-1
Matrix Spike	Sulfate (SO4)	MS-B	L905779-1

Sample Parameter Qualifier Key:

Qualifier	Description
B	Method Blank exceeds ALS DQO. All associated sample results are at least 5 times greater than blank levels and are considered reliable.
DLM	Detection Limit Adjusted For Sample Matrix Effects
DLMB	Detection Limit increased due to background in Method Blank.
E	Matrix Spike recovery outside ALS DQO due to analyte background in sample.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BTX,F1-ED	Water	BTEX and F1 (C6-C10)	EPA 5021/8015&8260 GC-MS & FID
CL-IC-ED	Water	Chloride by IC	APHA 4110 B-ION CHROMATOGRAPHY
ETL-N-TOT-CALC-ED	Water	Nitrogen, Total	APHA 4500 N-Calculated
F-IC-ED	Water	Fluoride by IC	APHA 4110 B-ION CHROMATOGRAPHY
F2,F3,F4-ED	Water	F2, F3, F4	EPA 3510/CCME PHC CWS-GC-FID
HG-TOT-CVAFS-CL	Water	Total Mercury in Water by CVAFS	EPA 245.7

This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves a cold-oxidation of the acidified sample using bromine monochloride prior to reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry (EPA Method 245.7).

IONBALANCE-ED	Water	Ion Balance Calculation	APHA 1030E
MET-D-ICP-ED	Water	Dissolved Metals in Water by ICPOES	APHA 3120 B-ICP-OES
MET-T-L-ICP-ED	Water	Total Metals in Water by ICPOES (Low)	APHA 3120 B-ICP-OES
MET-T-L-MS-ED	Water	Total Metals in Water by ICPMS (Low)	SW 846 - 6020-ICPMS
N-TOTKJ-ED	Water	Total Kjeldahl Nitrogen	APHA 4500N-C -Dig.-Auto-Colorimetry
NO2+NO3-CALC-ED	Water	Nitrate+Nitrite	CALCULATION
NO2-IC-ED	Water	Nitrite as N by IC	APHA 4110 B-ION CHROMATOGRAPHY
NO3-IC-ED	Water	Nitrate as N by IC	APHA 4110 B-ION CHROMATOGRAPHY
OGG-ED	Water	Oil and Grease-Gravimetric	APHA 5520 G HEXANE MTBE EXT. GRAVIME
OGG-VISIBLE-SHEEN-ED	Water	Oil and Grease - Visible Sheen	Alberta Environment Regs. (Ind. Runoff)
P-TOTAL-ED	Water	Phosphorus, Total	APHA 4500 P B,E-Auto-Colorimetry
PAH-CCME-ED	Water	CCME PAHs	EPA 3510/8270-GC/MS
PH/EC/ALK-ED	Water	pH, Conductivity and Total Alkalinity	APHA 4500-H, 2510, 2320
PHENOLS-4AAP-ED	Water	Phenols (4AAP)	AB ENV.06537-COLORIMETRIC

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
SO4-IC-ED	Water	Sulfate by IC	APHA 4110 B-ION CHROMATOGRAPHY
SOLIDS-TOTSUS-ED	Water	Total Suspended Solids	APHA 2540 D-Gravimetric

** 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 Code	Laboratory Location
ED	ALS LABORATORY GROUP - EDMONTON, ALBERTA, CANADA
CL	ALS LABORATORY GROUP - CALGARY, ALBERTA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

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

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

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.

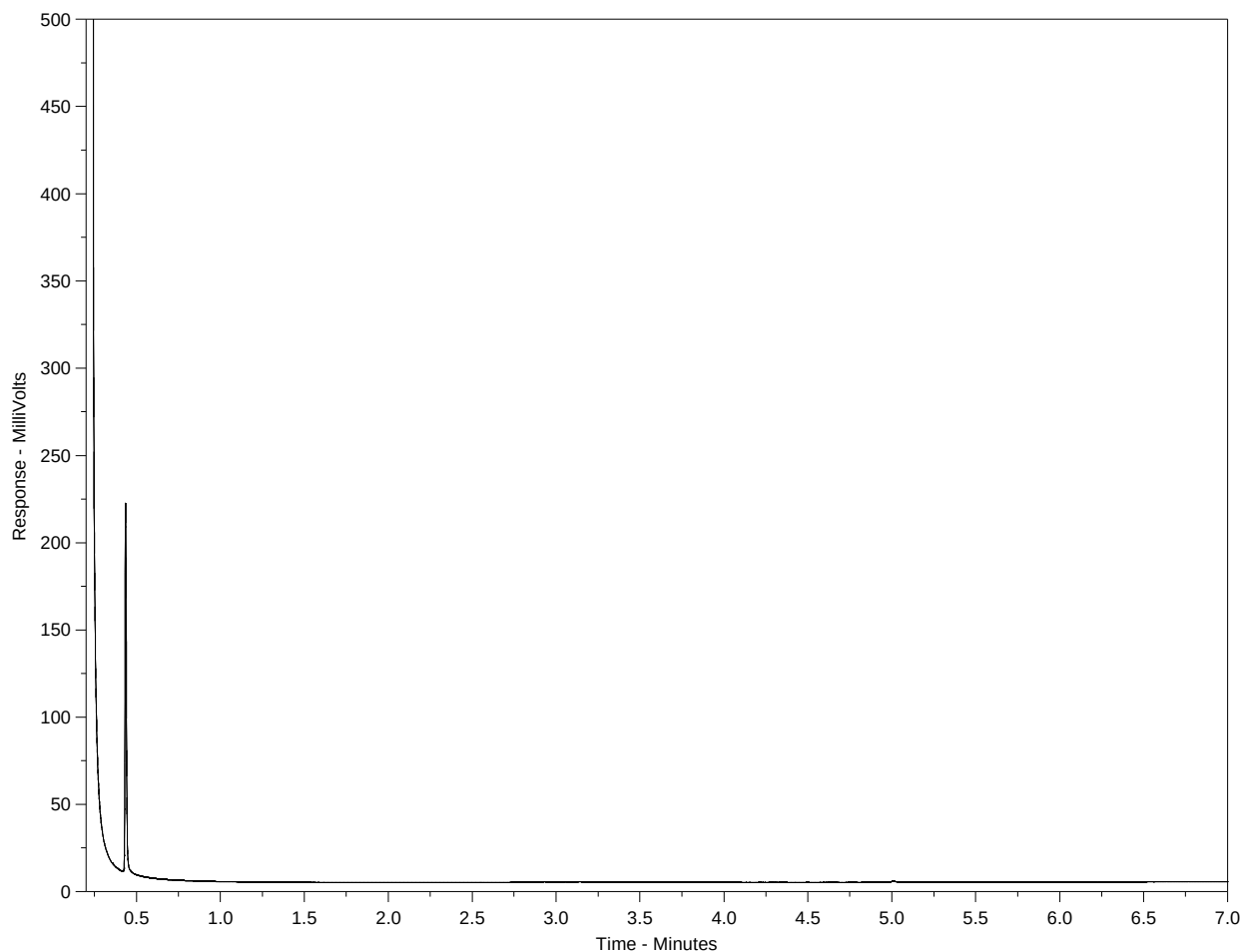
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Hydrocarbon Distribution Report



ALS Sample ID: L905779-1
Client ID: HOP 5 POST TREATMENT



<-nC10-----nC16-----nC34-----nC50->
<-----Gasoline-----> <-----Heavy Oils----->
|-----Diesel-----|

The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced with a high temperature GC method that is specific to the Canada-Wide Standard method (December 2007 version). Note that retention times and distribution profiles from reports produced using different GC programs will differ.



Vancouver BC, 1888 Lumnip Street, V6L 1K5, Tel: 604-253-4188 Toll Free: 1-800-455-0243 Fax: 604-253-4700
 Fort St John BC, Box 256, 9831 - 98A Avenue, V1J 6W7, Tel: 250-261-5517 Fax 250-261-5587
 Grand Prairie AB, 9505 - 111 Street, T6V 5W1, Tel: 780-539-5196 Toll Free 1-800-668-9878 Fax: 780-513-2191
 Fort McMurray AB, Bay 1, 245 Macdonald Ct, T9H 4B5, Tel: 780-791-1524 Fax: 780-791-1588
 Edmonton AB, 9936 - 67th Avenue, T6E 0P5, Tel: 780-413-5227 Toll Free: 1-800-668-9878 Fax: 780-437-2311
 AB, Bay 1, 1313 - 44th Avenue NE, T2E 6L5, Tel: 403-291-9897 Toll Free: 1-800-668-9878 Fax: 403-291-0298
 Saskatoon SK, 819 - 58th Street East, S7K 6X5 Tel: 306-668-8370 Toll Free: 1-800-667-7645 Fax: 306-668-8383

CHAIN OF CUSTODY FORM

SEND REPORT TO:

PAGE 1 OF

COMPANY: Hope Bay Mining Limited ADDRESS: 300-889 Habourside Drive CITY: North Vancouver TEL: 1-604-985-2572 FAX: 1-604-980-0731 PROV: British Columbia POSTAL CODE: V7P 3S1 SAMPLER: J. Turk		PROJECT NAME AND NO.: Compliance Water Samples ALS CONTACT: Sean Whittaker PO NO.: H00288		REPORT FORMAT: ☐ FAX ☒ EXCEL ☐ PDF ☐ OTHER:		SAMPLE IDENTIFICATION DATE / TIME COLLECTED: YYY-MM-DD TIME MATRIX:		PAH X TPH ROUTINE, TSS, pH NUTRIENTS PHENOLS Oil and Grease (mg/L and vis) BTEX CCME - Total Metals		NOTES (sample specific comments, due dates, etc.)	
FOR LAB USE ONLY											
TURN AROUND REQUIRED: ☐ ROUTINE ☒ RUSH SPECIFY DATE: (surcharge may apply)		SEND INVOICE TO: ☒ SAME AS REPORT ☐ DIFFERENT FROM REPORT (provide details below)		INVOICE FORMAT: ☒ HARD COPY ☒ PDF ☐ FAX		SPECIAL INSTRUCTIONS: Please send invoice to Attention: HBML Accounting Section using the above address: Please quote this PO #: H00288 Electronic results to: Jill.Turk@Newmont.com and MHBL.Environmental@Newmont.com					
RELINQUISHED BY: J. Turk DATE: July 7/10 TIME: 9:00am RECEIVED BY: DATE: TIME:		RELINQUISHED BY: DATE: TIME:		RELINQUISHED BY: DATE: TIME:		FOR LAB USE ONLY Cooler Seal intact? Yes No N/A Sample Temperature: °C Frozen? Yes No Cooling Method? Ice None					