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CAPITAL REGIONAL DISTRICT

CRD Core Area Wastewater Treatment Pre-Discharge Monitoring Program Year 1 - Progress Data Report

09185

15 November 2010

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**CAPITAL REGIONAL DISTRICT
CRD CORE AREA WASTEWATER TREATMENT PRE-DISCHARGE MONITORING PROGRAM
YEAR 1 - PROGRESS DATA REPORT**

SYNOPSIS

WorleyParsons was engaged by the Capital Regional District (CRD) to carry out a pre-discharge monitoring program as part of the CRD Core Area Wastewater Treatment Project. WorleyParsons collected quarterly water quality and water column profile data beginning in January 2010. Pre-discharge monitoring was conducted in three geographic areas-; Albert Head, Finnerty Cove, and Macaulay Point. During the first two quarters (Jan/Feb and Apr/May) monitoring took place at Albert Head and Finnerty Cove. As a result of changing the proposed treatment plant site, monitoring took place at all three areas (Macaulay Point, Albert Head, Finnerty Cove) during July and August 2010.

The following data report provides a summary of water quality and water column profile data collected at four of the seven stations sampled during July and August 2010. Three of the stations are located in the vicinity of the existing Macaulay Point outfall and the fourth station is a reference located at Finnerty Cove. The report also provides a summary of the sediment chemistry and sediment benthic community data collected in September 2010.

PROJECT 09185 - CRD CORE AREA WASTEWATER TREATMENT PRE-DISCHARGE MONITORING PROGRAM

FILE LOC.: VICTORIA

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		P.Howland		J.Clark			
		_____	_____	_____		_____	

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1. INTRODUCTION

WorleyParsons is pleased to present this report summarizing the progress of the pre-discharge baseline monitoring activities conducted on behalf of the Capital Regional District (CRD) as part of the CRD Core Area Wastewater Treatment Project.

1.1 Background and Project Objectives

The CRD is planning to implement secondary wastewater treatment for the CRD core area. Proposed treatment and disposal options involve the discharge of treated effluent to the marine environment. As part of the Environmental Impact Study (EIS) for the discharge, the CRD has undertaken a pre-discharge baseline monitoring program. The monitoring program is intended to be suitable for a Stage II level EIS for site specific baseline characterization required by the BC Ministry of Environment (MOE). This program includes the collection of the following site specific biological, chemical and physical characteristics:

- water quality;
- water column profiles;
- current profiles;
- benthic chemistry;
- benthic toxicity;
- benthic bioaccumulation; and,
- benthic macro fauna.

The pre-discharge monitoring program was initiated in May 2009, by Golder Associates Ltd (Golder, 2009). At program start-up, CRD anticipated constructing three wastewater treatment facilities; one in Saanich East that would discharge effluent via a new outfall offshore of Finnerty Cove, and a second treatment facility in Colwood that would discharge effluent via a new outfall offshore of Albert Head, and a third at McLoughlin Point that would discharge effluent via the existing Macaulay Point outfall. The pre-discharge monitoring program was initiated at Finnerty Cove and Albert Head near the anticipated point of discharge for the two new outfalls.

1.2 Changes to Project Definition

Since the program was initiated, the siting of a treatment plant at both the Saanich East and Colwood locations have been abandoned. The CRD is focussing efforts on siting a single treatment plant at McLoughlin Point in Esquimalt. Effluent from the plant will likely be discharged in the vicinity of the existing Macaulay Point outfall. As a result, much of the work completed at Albert Head and Finnerty Cove is not directly applicable to the Macaulay Point discharge location. The scope of the monitoring program was modified to account for these project changes.



1.3 Summary of Work Completed

For completeness, a summary of the work completed as part of the pre-discharge monitoring program is provided in Table A and Table B. Table A presents the dates and locations of water sampling and *in situ* water column profiles collected. Figures 2 and 3 show the station locations of water sampling.

Table A Water Sample Collection and Water Column Profiling Dates

Season	Completed By	Dates	Location
Spring - 2009	Golder Associates Ltd.	May 4 - May 24 (2009)	Albert Head / Finnerty Cove
Summer/Fall - 2009	Golder Associates Ltd	Sep 14 – Oct 5 (2009)	Finnerty Cove
Winter - 2010	WorleyParsons	Jan 14- Feb 17 (2010)	Albert Head / Finnerty Cove
Spring - 2010	WorleyParsons	Apr 28 - May 25 (2010)	Albert Head / Finnerty Cove
Summer - 2010	WorleyParsons	Jul 26 - Aug 17 (2010)	Albert Head / Macaulay Point

Results from the work completed by Golder Associates Ltd. was summarized in the following reports:

- Golder Associates Ltd. 2009. Spring 2009 Water Quality Monitoring Survey for Baseline Monitoring at Proposed Outfall Study Areas Located in Finnerty Cove and Albert Head: Data Report. Letter to Chris Lowe, Capital Regional District Environmental Services.
- Golder Associates Ltd. 2009. Summer 2009 Water Quality Survey, Baseline Monitoring at Proposed Finnerty Cove Outfall Study Area: Data Report. Report to Capital Regional District Environmental Services

Benthic sediment chemistry, toxicity, bioaccumulation, and macro fauna samples were collected during the dates provided on Table B.

Table B Benthic Sample Collection

Season	Completed By	Dates	Location
Summer/Fall 2010	Capital Regional District	Sep (2010)	Macaulay Point
Fall 2010	WorleyParsons / Biologica	Sep 27 – Oct 3 (2010)	Albert Head

1.4 Future Pre-Discharge Monitoring and Additional Work

Pre-discharge monitoring planned for completion includes two additional seasons of baseline water quality sampling and water column profiling along with an additional round of sediment / benthic macro fauna sampling. The anticipated dates of sample collection and reports are provided in Table C

Table C Water Sample Collection and Water Column Profiling Dates

Season / Sample Collection	Scope	Anticipated Reporting Date	Location
Fall – 2010	Water Quality / CTD	Spring 2011	Macaulay Point / Albert Head
Winter - 2011	Water Quality / CTD		
Summer - 2011	Sediment Quality / Benthic Maco Fauna	6 to 7 months following sample collection	

Additional data collection completed and pending as part of the pre-discharge baseline monitoring program and outfall siting process is outlined in Table D. Applicable results from this work will be included in the final EIS report.

Table D Additional Work Completed

Scope	Completed By	Dates	Location
Bathymetry	WorleyParsons	March 2010	Albert Head / Finnerty Cove
Current Measurements	Drogues	Jun (2010)	Albert Head / Finnerty Cove
	Acoustic Doppler Current Profiling	WorleyParsons / ASL Environmental Sciences	May 26 – Jun 29 (2010)	Albert Head / Finnerty Cove
Outfall Routing Seabed Survey (Remotely Operated Vehicle & SCUBA)	WorleyParsons	To be completed Nov / Dec (2010)	Albert Head



1.5 Report Objective

This report is intended to be an interim progress data report summarizing the methods and data collected that specifically relates to the proposed discharge at Macaulay Point. More detailed analysis and interpretation of the results is to be conducted at a later date for inclusion in the final EIS report. Data collected at the Finnerty Cove and Albert Head sites are not included in this report but may be provided upon request.

2. METHODS

2.1 Water Quality Sampling

Baseline water samples were collected at four stations relating to the Macaulay Point discharge. The protocol for collecting water quality data involved five weekly sampling events conducted over a 30 day period. The locations of sampling stations are shown on Figures 1, 2 and 3. Stations 4, 5, & 6 (Figure 2) directly relate to a discharge a Macaulay Point. Station 7 (Figure 3) was also sampled as a measure of continuity should this station be used as a reference station for future post discharge receiving environment monitoring.

2.1.1 Positioning

The coordinates of the stations sampled are provided in Table E. Stations 4 and 5 correspond to sampling locations Mac – 01 and Mac -30 used by the CRD as part of their existing receiving environment monitoring (*pers. com.* Chris Lowe, 2010, CRD 2009).

Table E Water Quality Sampling Station Locations

Outfall ID	Station	Longitude	Latitude
MP	Station 4 / Mac - 01	48°24.18' N	123° 24.62' W
MP	Station 5 / Mac - 30	48°23.75' N	123° 24.62' W
MP	Station 6	48°23.37' N	123° 28.10' W
MP	Station 7	48°23.217' N	123° 27.826' W

Positioning of the sampling vessel was accomplished with the use of a notebook computer running navigational charting software and connected to a Garmin GPS 76™ Global Positioning System. At each station the drift track (a combination of wind and current forces) of the vessel was established. The vessel was then positioned up drift of the station. As the vessel approached the station, the sampler was deployed so that a sample was obtained on station.

2.1.2 *In situ* Water Column Profiling

Water quality profiles were obtained at each sampling station during each sampling event. The water column profiles were measured *in situ* using a Seabird Electronics Inc. SBE19V2 fitted with sensors to measure the following parameters:

- temperature;
- salinity;
- depth;
- pH;
- dissolved oxygen (DO); and,
- turbidity.



The instrument was lowered toward the seafloor at a steady speed of approximately 0.3 to 0.4 m/s, acquiring data a rate of 4 Hz. This descent rate is well within the recommended profiling rate for the SBE19 (Sea-Bird Electronics, Inc. 2009). The range and accuracy reported by the manufacturer for the Seabird SBE19 is provided in Table F.

Table F Range and Accuracy of the Seabird SBE19

Seabird SBE19		
Sensor	Range	Reported Accuracy
Conductivity (Salinity)	0 - 90 mS/cm	± 0.005
Temperature	-5 to +35 °C	± 0.005
pH	0 to 14 pH	±0.1
DO	120%	±2%
Turbidity	0-2,000 NTU	±1%

The instrument requires factory calibration annually. Certificates of factory calibration are provided in Appendix 1.

2.1.3 Water Sample Collection

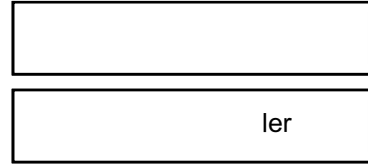
Discrete water samples were collected at each station, at three depths, using a 10 L OceanTest Equipment Niskin water sampler (see Photo A). Individual samples were collected at the following depths:

- Surface: 1 m below the water surface;
- Mid: mid-depth in the water column (depth is station specific); and,
- Bottom: 2 m above the seabed.

This sampler is fitted with an external spring mechanism and the interior is Teflon coated. These features reduce the potential for contamination of the samples. The sampler was also decontaminated before each sampling event by rinsing the interior of the bottle with de-ionized water and sulphuric acid. As an additional measure to reduce the potential of cross-contamination, deep water samples were obtained first at each station which allowed the sampler to be thoroughly rinsed through at least 40 to 50 m of water depth before a sample is taken.

The bottle was attached to a hydro wire with a weight suspended approximately 1 m below the sample bottle. The sampler was lowered to the required depth, determined using a metered pulley. When on station, the release mechanism on the sampler was tripped and the sample bottle retrieved. The water sample was sub-sampled into individual sample containers provided by the analytical laboratory.

Photo A Water Sampler Configuration



Bottom water samples (2 m above the seabed) were collected by lowering the bottle until the suspended weight touched the seabed. The bottle was then raised approximately 1 m above the seabed, triggered and the depth was noted from the metered pulley. The individual sampled depths for each sampling date are provided in Table G.



Table G Sampled Depths (m) – Summer 2010

		26-Jul-10*	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Station 4	Surface	1	1	1	1	1
	Mid	30	30	31	30	31
	Bottom	61	60	62	62	62
Station 5	Surface	1	1	1	1	1
	Mid	29	28	30	28	30
	Bottom	58	56	60	57	60
Station 6	Surface	1	1	1	1	1
	Mid	46	42	45	45	45
	Bottom	92	85	90	86	90
Station 7	Surface	1	1	1	1	1
	Mid	23	22	23	22	24
	Bottom	47	43	48	44	49

* Sampling was first attempted on July 22, 2010 but was abandoned due to high winds; two sampling events were therefore conducted during the week of July 26.

2.1.4 Analytical Parameters

Water samples were analyzed for eight parameter types; microbiological, nutrients, conventional (Group 1 & 2), trace metals, organics (Group 1 & 2), and hormones and sterols. Each parameter was sampled at specific locations and frequencies. Microbiological, nutrient, and conventional (Group 1) parameters were measured at all sampling stations at all depths on all dates. Conventional (Group 2) and trace metals were sampled at all stations and all depths during one sampling event. Organic parameters (Group 1) were sampled at two stations (4 & 7) at a single depth (bottom) during two sampling events. Organic (Group 2) and hormones and sterols were also sampled at two stations, at one depth (bottom) during one sampling event. The parameters analyzed along with the stations and depths sampled are summarized in Table H.

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Table H Sample Parameters, Dates and Stations Sampled – Summer 2010

Parameter Type	Parameter	Stations				
	Parameter	26-Jul	28-Jul	03-Aug	10-Aug	17-Aug
Microbiological	• <i>Enterococci</i>	All	All	All	All	All
	• Fecal Coliforms					
Nutrients	• Ammonia					
	• Nitrate and Nitrite (as N)	All	All	All	All	All
	• Nitrate					
Conventionals (Group 1)	• pH					
	• Conductivity					
	• Total Suspended Solids	All	All	All	All	All
	• Major Anions					
Conventionals (Group 2)	• Hardness					
	• Total Organic Carbon					
	• Dissolved Organic Carbon					
	• Total Kjeldahl Nitrogen			All		
	• Total Phosphate (as P)					
Trace Metals	• Orthophosphate					
	• Total & Dissolved Metal			All		
Organics (Group 1)	• Polycyclic Aromatic Hydrocarbons (PAHs)					
	• Organochlorine Pesticides					
	• Chlorinated Phenolics			4 (Btm)		4 (Btm)
	• Volatile Organic Compounds (VOCs, including BTEX)			& 7 (Btm)		& 7 (Btm)
	• Phthalates					
	• Polybrominate Diphenyl Ethers (PBDEs)					
Organics (Group 2)	• Polychlorinated Biphenyls (PCBs)				4 (Btm)	
	• Nonyphenol and its ethoxolates				& 7 (Btm)	
Hormones & Sterols			4 (Btm)			
			& 7 (Btm)			



2.2 Benthic Sample Collection

Sediment quality and benthic community samples were collected by the CRD and WorleyParsons in the vicinity of Macaulay Point, Albert Head and Parry Bay.

2.2.1 Vessel and Positioning

Benthic samples were collected by both the CRD and WorleyParsons aboard the Research Vessel *Richardson Point*. WorleyParsons collected samples from a total of 13 stations in the vicinity of Albert Head and the CRD collected samples from four stations; three in the vicinity of Macaulay Point and one at Parry Bay (*pers.com*. Shirely Lyons, 2010 & CRD, 2009).

The locations of the stations sampled are shown on Figure 4 and their coordinates are provided in Table I. Note, suitable sediment samples could not be collected at Station 3 due to unfavourable seabed conditions; therefore, the station was moved three times (Stations 3a, 3b, 3c) before suitable samples could be obtained at Station 3c.

Table I Benthic Sampling Station Locations

Station	Longitude	Latitude	Notes
Macaulay Point/Parry Bay (CRD)			
M100E	48° 24.158'	123° 24.516'	
M200E	48° 24.158'	123° 24.436'	
M800E	48° 24.159'	123° 23.988'	
Parry Bay 1	48° 21.258'	123° 30.647'	
Albert Head (WorleyParsons)			
1	48° 22.779	123° 27.609'	
2	48° 23.019	123° 28.116'	
3	48° 22.855	123° 28.683'	samples could not be collected
3a	48° 22.891	123° 28.623'	samples could not be collected
3b	48° 22.815	123° 28.740'	samples could not be collected
3c	48° 22.776	123° 28.464'	
4	48° 22.699	123° 29.072'	
5	48° 22.668	123° 28.196'	
6	48° 22.595	123° 27.805'	
7	48° 22.526	123° 28.322'	
8	48° 22.524	123° 28.779'	
9	48° 22.303	123° 29.106'	
10	48° 22.617	123° 26.995'	
11	48° 22.275	123° 27.978'	
12	48° 22.370	123° 28.767'	
13	48° 21.757	123° 28.589'	

Positioning of the sampling vessel was accomplished with the use of a notebook computer running a navigational charting program and connected to a Garmin GPS 76™ Global Positioning System. At each station the drift track (a combination of wind and current forces) of the vessel was established. The vessel was then positioned up drift of the station. As the vessel approached the station, the sampler was deployed so that a sample was obtained on station.

2.2.2 Sample Collection

A total of seven individual sediment samples were collected at each station. The samples were collected using a 0.1 m² stainless steel Van Veen sediment grab sampler. The Van Veen sampler has top screens and rubber flaps to reduce sediment disturbance during deployment and retrieval.

The Van Veen sampler was deployed to within 5 m of the seabed while the vessel was up drift of the station. Once directly on station and close to zero wire angle, the grab was lowered to the seabed. The grab was retrieved and excess water siphoned off from the sample using a sterile pipette and tubing so as not to introduce contamination or cross contaminate the samples.

Four samples from each station were used for benthic invertebrate taxonomy, and three grabs were used to create a composite sample to be used for chemical analysis. In addition to the seven samples collected at each station, additional grab samples were collected from six stations (Station M100E, M200E, M800E, Parry Bay 1, 5 and 12) for toxicity and bioaccumulation tests. Up to eight additional grab samples were collected at each of these stations to provide suitable volumes of sediment for analysis.

Taxonomic Identification

The four samples collected at each station for taxonomic identification were washed through a 1 mm screen and preserved onboard the *Richardson Point*. Three of the samples will be analyzed in the upcoming months. The fourth sample will be kept as an archive (to be analyzed based on the precision of the first 3 samples).

Sediment Chemistry & Toxicity / Bioaccumulation

Sediment chemistry samples were collected from three Van Veen grab samples. The top two centimetres of each the three samples were collected to prepare a composite sample to be analyzed for sediment physical parameters, nutrients, metals, and organics (group 1 and group 2). In addition, aliquots from the surface of one of the three grab samples were collected before the composite samples. The aliquots were analyzed for sediment-microbiology samples; acid volatile sulphides (AVS), simultaneously extractable metals (SEM) and moisture content.

The top 10 cm of each of the Toxicity / Bioaccumulation grab samples was collected to prepare composite samples for each station. The composite samples were analyzed for toxicity and bioaccumulation. The composite toxicity/bioaccumulation samples collected by the CRD were also analyzed for all parameters listed in Table J, while those collected by WorleyParsons were also



analyzed for organic parameters Group 1 and 2. A complete list of the analytes assigned to each station is provided in Table J.

Table J Sediment Analytical Parameters and Stations

Parameter Type	Parameter	Station																
		M100E	M200E	M800E	Parry Bay 1	1	2	3c	4	5	6	7 (Triplicate)	8	9	10	11	12	13
Sediment Grab Samples	Fecal Coliform	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Acid Volatile Sulphides	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Simultaneously Extractable Metals (SEM)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Moisture Content	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Physical	Particle Size	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Total Organic Carbon	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Total Carbon	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Nutrients	Total Nitrogen	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Total Phosphorous	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Trace Metals	Total Trace Metal Suite	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Organics (Group 1)	Polycyclic Aromatic Hydrocarbons (PAH's)	x	x	x	x		x			x		x				x		x
	Organochlorine Pesticides	x	x	x	x		x			x		x				x		x
	Chlorinated Phenolics	x	x	x	x		x			x		x				x		x
	Volatile Organic Compounds (VOC's including BTEX)	x	x	x	x		x			x		x				x		x
	Phthalates	x	x	x	x		x			x		x				x		x
	Polybrominated Diphenyl Ethers (PBDEs)	x	x	x	x		x			x		x				x		x
Organics (Group 2)	Polychlorinated Biphenyls (PCB's)	x	x	x	x		x					x				x		
	Nonylphenol and its Ethoxylates																	
Pharmaceuticals and Personal Care Products		x	x	x	x								x			x		
Toxicity	Marine Amphipod and Marine Polychaete	x	x	x	x						x							x
Bioaccumulation	Marine Polychaete	x	x	x	x						x							x

3. RESULTS

The results from the water column profiling and water quality sampling are provided in the following sections. Copies of field data sheets are provided in Appendix 2 and certificates of analysis are provided in Appendix 3.

3.1 *In Situ* Water Column Profiles

The results from the water column profiles are presented on Figures 5 to 9. Each parameter (temperature, salinity, pH, dissolved oxygen, and turbidity) are plotted for each station with respect to depth. The profiles are intended to provide physical oceanographic data to be used in future hydrodynamic modeling of the proposed discharge. Temperature, salinity, and pH profiles were also used to determine applicable water quality guidelines for Ammonia – N (see Section 3.2.2).

3.2 Water Samples

The results, from the water quality sampling, are provided in three formats. The parameters analyzed are tabulated for each sampling station and depth in Tables 1 to 12. Specific parameters, for which there are BC water quality guidelines, have been analyzed and compared to the applicable guidelines in the following sub-sections, and detailed certificates of analysis for all parameters have also been included in Appendix 3.

Comparisons for the following organic parameters to applicable marine water quality guidelines have not been provided as all measured concentrations for these parameters are below analytical detection limits of the analysis and the corresponding water quality guidelines. These include:

- polycyclic aromatic hydrocarbon (PAH's);
- chlorophenols;
- polychlorinated biphenyls (PCBs);
- ethylbenzene; and,
- methyl tertiary-butyl ether (MTBE)



3.2.1 Microbiological

Water samples were analyzed for both fecal coliform and *Enterococci* concentrations. BC water quality guidelines for microbiological parameters relate to the use(s) of the water body in question. The British Columbia approved water quality guidelines 2006 (MOE, 2006) for marine waters are provided in Table K. These guidelines are consistent with both Canadian Food Inspection Agency (2008) guidelines for shellfish waters and Health and Welfare Canada guidelines for Canadian recreational water quality (1992). The water bodies within which sampling occurred have yet to be classified (eg. recreational or shellfish harvesting); therefore, the guidelines are simply provided for reference purposes.

Table K Microbiological Indicator Guidelines

Water Use	<i>Enterococci</i>	Fecal Coliforms
Aquatic life - shellfish harvesting	less than or equal to 11/100 mL (90th percentile)	less than or equal to 43/100 mL (90th percentile)
Aquatic life - shellfish harvesting	less than or equal to 4/100 mL (median)	less than or equal to 14/100 mL (median)
Recreation - aesthetics - non contact	less than or equal to 100/100 mL (geometric mean)	None applicable
Recreation - primary contact	less than or equal to 20/100 mL (geometric mean)	less than or equal to 200/100 mL (geometric mean)

Results from the microbiological analysis are provided in Table L and Table M. Water quality guidelines under at least one of the water use categories for both microbiological parameters were exceeded at stations 4 and 5 at depth. Exceedences of water quality guidelines are highlighted in each table.

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Table L Fecal Coliform (CFU/100mL) – Summer 2010

Station	26-Jul	28-Jul	03-Aug	10-Aug	17-Aug	Median	90 th Percentile	Geometric Mean
4 Surface	2	2	<1	6	7	2	7	2
4 Mid	11	6	81	11	560	11	368	18
4 Bottom	42	58	10000	16000	7000	7000	13600	367
5 Surface	11	<1	2	7	13	7	12	3
5 Mid	8	4	31	6	36	8	34	8
5 Bottom	14	84	44	74	35	44	80	22
6 Surface	4	<1	1	4	2	2	4	2
6 Mid	1	6	8	1	3	3	7	2
6 Bottom	4	3	22	4	<1	4	15	3
7 Surface	<1	<1	<1	<1	<1	<1	<1	<1
7 Mid	<1	<1	3	2	4	2	4	2
7 Bottom	1	<1	<1	<1	2	<1	2	1

Table M Enterococci (CFU/100mL)- Summer 2010

Station	26-Jul	28-Jul	03-Aug	10-Aug	17-Aug	Median	90 th Percentile	Geometric Mean
4 Surface	<1.0	<1.0	<1.0	1.0	1.0	<1.0	1	<1.0
4 Mid	<1.0	<1.0	23	<1.0	66	<1.0	49	3
4 Bottom	4.0	6.0	5200	1100	3000	1100	4320	85
5 Surface	3.0	<1.0	<1.0	<1.0	<1.0	<1.0	2	1
5 Mid	<1.0	1.0	<1.0	1.0	6.0	1	4	1
5 Bottom	3.0	14	5.0	7.0	4.0	5	11	4
6 Surface	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
6 Mid	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
6 Bottom	1.0	<1.0	3.0	<1.0	<1.0	<1.0	2	1
7 Surface	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
7 Mid	<1.0	<1.0	2.0	<1.0	<1.0	<1.0	2	1
7 Bottom	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0



3.2.2 Nutrients

Ammonia (N)

Ammonia in marine waters is included in the British Columbia Approved Water Quality Guidelines (Criteria) 2006 (MOE, 2006). There are two applicable water quality guidelines:

- maximum concentration of total ammonia nitrogen for protection of saltwater aquatic life (mg/L of Nitrogen); and,
- average 5 to 30-day concentration of total ammonia nitrogen for protection of saltwater aquatic life (mg/L of Nitrogen)

The guidelines are based on the temperature, salinity, and pH of the receiving water. The most conservative values for each depth range event are given in Table N, along with the applicable water quality guideline.

Table N Temperature, pH, Salinity

Station Depth	Parameter	Most Conservative Value	Criteria (mg/L)	
			Maximum	5-30 Day Average
Surface	Temperature (max)	14 °C		
	Salinity (min)	28 PSU	6.2	0.94
	pH (max)	8.2		
Mid	Temperature (max)	13 °C		
	Salinity (min)	28 PSU	6.2	0.94
	pH (max)	8.1		
Bottom	Temperature (max)	11 °C		
	Salinity (min)	30 PSU	10	1.5
	pH (max)	8.0		

Measured ammonia nitrogen concentrations are provided in Table O. Values measured were within BC water quality guidelines.

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Table O Ammonia-N (mg/L) - Summer 2010

Station	26-Jul	28-Jul	03-Aug	10-Aug	17-Aug	Mean	Max
4	Surface	0.13	<0.05	0.15	0.12	0.11	0.16
	Mid	0.11	0.11	0.12	0.17	0.16	0.17
	Bottom	0.11	0.10	0.18	0.27	0.35	0.35
5	Surface	0.14	0.09	0.09	<0.05	0.10	0.18
	Mid	0.11	0.09	0.29	0.14	0.16	0.29
	Bottom	0.12	0.09	0.25	0.17	0.16	0.25
6	Surface	0.13	0.10	0.24	0.18	0.16	0.24
	Mid	0.66	0.11	0.14	0.13	0.24	0.66
	Bottom	0.16	0.08	0.14	0.11	0.14	0.19
7	Surface	0.12	0.09	0.15	0.12	0.13	0.17
	Mid	0.10	0.09	0.14	0.12	0.13	0.19
	Bottom	0.13	0.09	0.16	0.15	0.15	0.20



3.2.3 Conventionals (Group 1)

pH

The British Columbia water quality guideline for pH in marine waters is an unrestricted change within a range from 7.0 to 8.7 (MOE, 2006). The measured pH are provided in Table P. Values measured were within the applicable guidelines.

Table P pH

Station	26-Jul	28-Jul	03-Aug	10-Aug	17-Aug	Min	Max
4 Surface	7.9	8.0	8.2	7.9	8.0	7.9	8.2
4 Mid	7.9	7.9	7.9	7.9	8.0	7.9	8.0
4 Bottom	7.8	7.9	8.0	7.9	7.9	7.8	8.0
5 Surface	7.9	8.0	8.1	7.9	7.9	7.9	8.1
5 Mid	7.9	7.9	8.0	7.9	8.0	7.9	8.0
5 Bottom	7.8	7.8	7.8	7.9	8.0	7.8	8.0
6 Surface	7.9	7.9	8.1	8.0	8.0	7.9	8.1
6 Mid	7.9	7.9	8.0	8.0	8.0	7.9	8.0
6 Bottom	7.7	7.7	7.7	7.8	7.7	7.7	7.8
7 Surface	8.0	8.1	8.2	8.0	7.9	7.9	8.2
7 Mid	8.0	8.0	8.1	8.0	7.9	7.9	8.1
7 Bottom	7.8	8.0	7.9	7.9	7.8	7.8	8.0

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Fluoride

The British Columbia approved water quality guideline for fluoride for marine aquatic life is a maximum of 1.5 mg/L (MOE, 2006). The measured Fluoride concentrations are provided in Table Q. Values measured were within the applicable guidelines.

Table Q Fluoride (mg/L)

Station	26-Jul	28-Jul	03-Aug	10-Aug	17-Aug	Max
4 Surface	0.73	0.75	0.76	0.65	0.64	0.76
4 Mid	0.73	0.75	0.75	0.66	0.64	0.75
4 Bottom	0.74	0.76	0.77	0.65	0.64	0.77
5 Surface	0.73	0.74	0.74	0.48	0.63	0.74
5 Mid	0.74	0.74	0.75	0.68	0.63	0.75
5 Bottom	0.74	0.76	0.78	0.68	0.64	0.78
6 Surface	0.73	0.74	0.74	0.67	0.64	0.74
6 Mid	0.74	0.76	0.75	0.67	0.63	0.76
6 Bottom	0.75	0.79	0.79	0.70	0.65	0.79
7 Surface	0.70	1.02	0.70	0.65	0.62	1.02
7 Mid	0.71	0.72	0.72	0.65	0.64	0.72
7 Bottom	0.73	0.74	0.75	0.66	0.66	0.75



Solids

The British Columbia approved water quality guidelines for total suspended solids (TSS) are provided in Table R (MOE, 2006).

Table R Water Quality Guidelines for Suspended Sediments

Non-filterable residue (Total Suspended Solids)	Applicable Background Conditions
Change from background of 25 mg/L at any one time for a duration of 24 h	In all waters during clear flows or in clear waters
Change from background of 5 mg/L at any one time for a duration of 30 d	
Change from background of 10 mg/L at any time	When background is 25 - 100 mg/L during high flows or in turbid waters
Change from background of 10%	When background is >100 mg/L at any time during high flows or in turbid waters

The measured concentrations of total suspended solids are provided in Table S. Values measured were within water quality guidelines for TSS.

Table S Total Suspended Solids (mg/L)

Station	26-Jul	28-Jul	03-Aug	10-Aug	17-Aug	Mean	Max one time change from mean
4	Surface	3	3	13	2	5	8
	Mid	4	3	6	3	4	3
	Bottom	7	2	11	6	16	8
5	Surface	3	<2	12	7	2	7
	Mid	5	2	14	3	6	8
	Bottom	2	2	8	4	10	5
6	Surface	2	2	8	<2	3	5
	Mid	4	3	9	3	2	5
	Bottom	2	4	5	8	3	4
7	Surface	<2	2	8	5	<2	5
	Mid	5	3	11	4	4	6
	Bottom	7	6	9	<2	4	4

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3.2.4 Conventionals (Group 2)

There are no BC water quality guidelines for the parameters measured as part of the Conventionals Group 2. Measured values for all four stations are provided in Table T.

Table T Conventional Group 2

Station	4			5			6			7		
	Sur	Mid	Btm	Sur	Mid	Btm	Sur	Mid	Btm	Sur	Mid	Btm
Organic Carbon (C) in mg/L	1.9	1.0	1.1	1.6	1.0	1.8	1.5	1.0	1.1	1.2	1.4	1.3
Orthophosphate (P) in mg/L	0.024	0.057	0.084	0.034	0.058	0.078	0.053	0.057	0.084	0.018	0.049	0.068
Organic Carbon (C) in mg/L	2.7	1.9	2.2	1.7	1.9	1.7	0.9	1.7	1.9	2.5	1.6	1.7
Total Kjeldahl Nitrogen (Calc) mg/L	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1
Nitrogen (N)	0.31	0.39	0.59	0.30	0.38	0.47	0.32	0.38	0.54	0.22	0.30	0.41
Phosphorus (P)	0.050	0.069	0.100	0.056	0.066	0.084	0.058	0.066	0.089	0.046	0.060	0.075



3.2.5 Trace Metals

Copper

The British Columbia approved water quality guidelines for copper in marine and estuarine aquatic life are provided in Table U (MOE, 2006).

Table U Copper Water quality Guidelines

Guideline (µg/L Total Copper)	
30-day Mean µg/L total copper	≤ 2 µg/L
Maximum µg/L total copper	3 µg/L

The concentrations of total and dissolved copper measured are provided in Table V and Table W respectively. All measured concentrations were within the BC water quality guidelines.

Table V Copper – Total (µg/L)

Station	26-Jul	28-Jul	03-Aug	10-Aug	17-Aug	Mean	Maximum
4	Surface	0.31	0.22	0.34	0.34	0.29	0.34
	Mid	0.25	0.19	0.25	0.34	0.25	0.34
	Bottom	0.28	0.18	0.48	0.70	0.49	0.83
7	Surface	0.32	0.30	0.38	0.31	0.32	0.38
	Mid	0.42	0.43	0.30	0.35	0.35	0.43
	Bottom	0.42	0.31	0.28	0.40	0.34	0.42

Table W Copper – Dissolved (µg/L)

Station	26-Jul	28-Jul	03-Aug	10-Aug	17-Aug	Mean	Maximum
4	Surface	0.31	0.18	0.27	0.16	0.22	0.31
	Mid	0.32	0.23	0.25	0.22	0.25	0.32
	Bottom	0.30	0.19	0.66	0.35	0.49	0.66
7	Surface	0.38	0.35	0.37	0.24	0.31	0.38
	Mid	0.29	0.26	0.21	0.26	0.24	0.29
	Bottom	0.35	0.23	0.18	0.50	0.29	0.50

Zinc

The British Columbia approved water quality guidelines for zinc in marine and estuarine aquatic life are provided in Table R (MOE, 2006).

Table X Copper Water Quality Guidelines for Zinc

Water Use	Guideline (µg/L Total Zinc)
Marine Life	10
Recreation and Aesthetics	5000

The concentrations of total and dissolved zinc measured are provided in Table Y and Table Z respectively. All measured concentrations were within the BC water quality guidelines.

Table Y Zinc – Total (µg/L)

Station	26-Jul	28-Jul	03-Aug	10-Aug	17-Aug	Mean	Maximum	
4	Surface	0.8	0.7	1.7	0.6	<0.5	0.8	1.7
	Mid	<0.5	1.0	0.8	0.6	<0.5	0.5	1.0
	Bottom	0.9	0.7	1.0	0.7	0.9	0.8	1.0
7	Surface	0.7	1.6	0.9	0.6	<0.5	0.8	1.6
	Mid	1.8	1.6	1.1	0.7	<0.5	1.1	1.8
	Bottom	0.9	1.1	1.7	0.6	0.5	1.0	1.7

Table Z Zinc – Dissolved (µg/L)

Station	26-Jul	28-Jul	03-Aug	10-Aug	17-Aug	Mean	Maximum	
4	Surface	0.7	1.2	0.6	<0.5	0.6	0.63	1.20
	Mid	0.7	1.5	0.8	0.6	<0.5	0.73	1.50
	Bottom	0.7	1.4	2.3	0.8	1.0	1.24	2.30
7	Surface	0.7	0.7	0.9	<0.5	0.8	0.63	0.90
	Mid	1.6	1.0	0.6	0.5	0.5	0.84	1.60
	Bottom	0.9	0.9	0.9	0.5	0.5	0.74	0.90



Mercury

The British Columbia approved water quality guidelines for mercury in marine and estuarine aquatic life are provided in Table AA (MOE, 2006).

Table AA Water Quality Guidelines for Mercury

Water Use	30 day average µg/L total Hg	Maximum at any time µg/L total Hg
Marine and Estuarine Aquatic Life	0.02 µg/L	2.0 µg/L
Primary Contact Recreation	None proposed	1.0 µg/L

The concentrations of total mercury measured are provided in Table BB. All measured concentrations were within the BC water quality guidelines.

Table BB Mercury– Total (µg/L)

Station	26-Jul	28-Jul	03-Aug	10-Aug	17-Aug	Mean	Maximum
4	Surface	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Mid	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Bottom	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
7	Surface	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Mid	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	Bottom	<0.02	<0.02	0.04	<0.02	<0.02	0.04

Quality Assurance / Quality Control

Quality Assurance / Quality Control (QA/QC) employed during this sampling program included:

- the collection of field replicate samples for all parameters; and,
- analysis of an equipment rinsate for all parameter.

Field replicate samples were obtained by means of splitting an individual sample (i.e. a single cast of the Niskin bottle) into three separate sample containers. For samples where a single cast was insufficient to fill the required volume of containers multiple cast were obtained. When multiple casts were required, replicate samples of specific parameters were obtained from the same cast. Results from the comparison of the triplicate analysis from Station 4 are provided in Tables 13 to 15. The relative standard deviation (RSD) between the sample and its replicates were calculated. The RSD of all parameters at Station 4 - Surface and Mid were within the QA/QC guideline of 18 % (MELP, 1998). Several parameters measured at Station 4 – Bottom in triplicate exceeded the QA/QC guideline. These exceedences are highlighted in Table 15

Organic parameters were sampled in triplicate at Station 1, the results of the analysis are provided in Table 16. The majority of the results were either below or near the detection limit of the analysis. The RSD was not calculated for these parameters. Exceedences of the QA/QC guidelines are highlighted in Table 16.

The equipment rinsate was obtained at the end of each day. The results of the analysis of the equipment rinsate (Blank) are provided in Table 16. Parameters that exceed five times the detection limit of the analysis are highlighted. Nitrate concentration exceeded five times the detection limit on three dates. The source of this error is unknown at this time; therefore, it recommended that travel blanks be analyzed for nitrates in future sampling. This should confirm if the source of this error is the sampling procedure or originates from the de-ionized water provided by the analytical laboratory.



4. CLOSURE

We trust this report satisfies your current requirements and provides suitable documentation for your records. If you have any questions or require further details, please contact the undersigned at any time.

Report Prepared by
WorleyParsons

A handwritten signature in black ink, appearing to read "Peter Howland".

Peter Howland, B.Sc.
Physical Oceanographer

Senior Review by

A handwritten signature in blue ink, appearing to read "Jason Clarke".

Jason Clarke, E.I.T.
Marine Environment Specialist

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Personal Communications

Chirs Lowe. Capital Regional District. Email dated July 17 2010.

Tables



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resources & energy

Client Capital Regional District
Season S ummer
Year 2010

Table 1
Project # 9185
Date 15-Oct-10

Station 4 - SURFACE

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Microbiological							
Enterococcus spp.	CFU/100mL	1.0	<1.0	<1.0	<1.0	1.0	1.0
Fecal Coliforms	CFU/100mL	1	2	2	<1	6	7
Nutirents							
Ammonia (N)	mg/L	0.05	0.13	<0.05	0.15	0.12	0.16
Nitrite (N)	mg/L	0.002	0.005	0.005	0.003	0.005	0.005
Nitrate plus Nitrite (N)	mg/L	0.002	0.176	0.284	0.082	0.256	0.266
Nitrate (N)	mg/L	0.002	0.171	0.279	0.079	0.251	0.261
Conventional (Group 1)							
Chloride (Cl)	mg/L	50	18000	18000	18000	19000	18000
Sulphate (SO4)	mg/L	5	2500	1900	1900	2900	2700
Conductivity	uS/cm	1	47200	46500	46700	50700	49200
Fluoride F) (	mg/L	0.01	0.73	0.75	0.76	0.65	0.64
pH	pH Units		7.9	8.0	8.2	7.9	8.0
Hardness (CaCO3)	mg/L	0.5	5360	5160	5400	5740	5070
Solids	mg/L	1	3	3	13	2	5
Conventional (Group 2)							
Organic Carbon (C)	mg/L	0.5	*	*	1.9	*	*
Orthophosphate (P)	mg/L	0.003	*	*	0.024	*	*
Organic Carbon (C)	mg/L	0.5	*	*	2.7	*	*
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	0.22	*	*
Nitrogen (N)	mg/L	0.02	*	*	0.31	*	*
Phosphorus (P)	mg/L	0.003	*	*	0.050	*	*
Dissolved Metals							
Cobalt (Co)	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper (Cu)	ug/L	0.05	0.31	0.18	0.27	0.16	0.20
Iron (Fe)	ug/L	1	2	1	<1	1	1
Lead (Pb)	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese (Mn)	ug/L	0.2	1.0	0.8	0.9	1.3	0.8
Nickel Ni) (	ug/L	0.05	0.56	0.50	0.40	0.43	0.41
Zinc (Zn)	ug/L	0.5	0.7	1.2	0.6	<0.5	0.6
Cadmium Cd) (	ug/L	0.01	0.07	0.07	0.08	0.08	0.08
Total Metals							
Mercury (Hg)	ug/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Magnesium (Mg)	mg/L	0.5	1090	1050	1110	1170	1030
Calcium (Ca)	mg/L	0.5	343	332	334	361	325
Copper (Cu)	ug/L	0.05	0.31	0.22	0.34	0.34	0.25
Iron (Fe)	ug/L	1	18	18	8	17	9
Lead (Pb)	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel Ni) (ug/L	0.05	0.49	1.81	0.42	0.42	0.40
Zinc (Zn)	ug/L	0.5	0.8	0.7	1.7	0.6	<0.5
Cadmium Cd) (ug/L	0.01	0.08	0.07	0.08	0.08	0.09



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Table 2

Client Capital Regional District
Season S ummer
Year 2010

Project # 9185
Date 15-Oct-10

Station 4 - Mid

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Microbiological							
Enterococcus spp.	CFU/100mL	1.0	<1.0	<1.0	23	<1.0	66
Fecal Coliforms	CFU/100mL	1	11	6	81	11	560
Nutrients							
Ammonia N) (	mg/L	0.05	0.11	0.11	0.12	0.17	0.16
Nitrite (N)	mg/L	0.002	0.005	0.005	0.003	0.005	0.005
Nitrate plus Nitrite (N)	mg/L	0.002	0.190	0.300	0.215	0.256	0.266
Nitrate (N)	mg/L	0.002	0.185	0.295	0.212	0.251	0.261
Conventional (Group 1)							
Chloride (Cl)	mg/L	50	18000	18000	18000	17000	17000
Sulphate (SO4)	mg/L	5	2600	1900	2600	3000	2600
Conductivity	uS/cm	1	47300	47000	48000	50900	50200
Fluoride F) (	mg/L	0.01	0.73	0.75	0.75	0.66	0.64
pH	pH Units		7.9	7.9	7.9	7.9	8.0
Hardness (CaCO3)	mg/L	0.5	5460	5330	5730	5560	4970
Solids	mg/L	1	4	3	6	3	4
Conventional (Group 2)							
Organic Carbon (C)	mg/L	0.5	*	*	1.0	*	*
Orthophosphate (P)	mg/L	0.003	*	*	0.057	*	*
Organic Carbon (C)	mg/L	0.5	*	*	1.9	*	*
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	0.17	*	*
Nitrogen (N)	mg/L	0.02	*	*	0.39	*	*
Phosphorus (P)	mg/L	0.003	*	*	0.069	*	*
Dissolved Metals							
Cobalt (Co)	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper (Cu)	ug/L	0.05	0.32	0.23	0.25	0.22	0.22
Iron (Fe)	ug/L	1	4	2	<1	4	<1
Lead (Pb)	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese (Mn)	ug/L	0.2	1.0	0.9	0.7	1.3	0.8
Nickel Ni) (	ug/L	0.05	0.56	0.52	0.41	0.50	0.40
Zinc (Zn)	ug/L	0.5	0.7	1.5	0.8	0.6	<0.5
Cadmium Cd) (	ug/L	0.01	0.07	0.07	0.08	0.07	0.10
Total Metals							
Mercury (Hg)	ug/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Magnesium (Mg)	mg/L	0.5	1120	1090	1180	1140	1010
Calcium (Ca)	mg/L	0.5	345	338	355	353	320
Copper (Cu)	ug/L	0.05	0.25	0.19	0.25	0.34	0.24
Iron (Fe)	ug/L	1	24	22	16	26	26
Lead (Pb)	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel Ni) (ug/L	0.05	0.55	0.51	0.44	0.46	0.39
Zinc (Zn)	ug/L	0.5	<0.5	1.0	0.8	0.6	<0.5
Cadmium Cd) (ug/L	0.01	0.08	0.09	0.10	0.07	0.08



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Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Microbiological							
Enterococcus spp.	CFU/100mL	1.0	4.0	6.0	5200	1100	3000
Fecal Coliforms	CFU/100mL	1	42	58	10000	16000	7000
Nutirents							
Ammonia N) (	mg/L	0.05	0.11	0.10	0.18	0.27	0.35
Nitrite (N)	mg/L	0.002	0.005	0.005	0.003	0.005	0.005
Nitrate plus Nitrite (N)	mg/L	0.002	0.236	0.331	0.311	0.259	0.318
Nitrate (N)	mg/L	0.002	0.231	0.326	0.308	0.254	0.313
Conventional (Group 1)							
Chloride (Cl)	mg/L	50	18000	18000	20000	19000	18000
Sulphate (SO4)	mg/L	50	2700	2600	2700	2900	2800
Conductivity	uS/cm	1	48500	47800	49000	50900	53000
Fluoride F) (	mg/L	0.01	0.74	0.76	0.77	0.65	0.64
pH	pH Units		7.8	7.9	8.0	7.9	7.9
Hardness (CaCO3)	mg/L	0.5	5610	5840	5880	5830	5430
Solids	mg/L	1	7	2	11	6	16
Conventional (Group 2)							
Organic Carbon (C)	mg/L	0.5	*	*	1.1	*	*
Orthophosphate (P)	mg/L	0.003	*	*	0.084	*	*
Organic Carbon (C)	mg/L	0.5	*	*	2.2	*	*
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	0.28	*	*
Nitrogen (N)	mg/L	0.02	*	*	0.59	*	*
Phosphorus (P)	mg/L	0.003	*	*	0.100	*	*
Dissolved Metals							
Cobalt (Co)	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper (Cu)	ug/L	0.05	0.30	0.19	0.66	0.35	0.49
Iron (Fe)	ug/L	1	1	3	40	1	2
Lead (Pb)	ug/L	0.05	<0.05	<0.05	0.08	<0.05	<0.05
Manganese (Mn)	ug/L	0.2	1.2	0.9	2.5	1.6	1.1
Nickel (Ni)	ug/L	0.05	0.47	0.54	0.52	0.51	0.34
Zinc (Zn)	ug/L	0.5	0.7	1.4	2.3	0.8	1.0
Cadmium Cd) (	ug/L	0.01	0.08	0.08	0.11	0.08	0.09
Total Metals							
Mercury (Hg)	ug/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Magnesium (Mg)	mg/L	0.5	1150	1200	1200	1190	1110
Calcium (Ca)	mg/L	0.05	353	363	368	364	346
Copper (Cu)	ug/L	0.05	0.28	0.18	0.48	0.70	0.83
Iron (Fe)	ug/L	1	59	28	2	46	102
Lead (Pb)	ug/L	0.05	0.05	<0.05	<0.05	0.05	0.09
Nickel (Ni)	ug/L	0.05	0.67	0.52	0.38	0.46	0.50
Zinc (Zn)	ug/L	0.5	0.9	0.7	1.0	0.7	0.9
Cadmium Cd) (ug/L	0.01	0.08	0.08	0.08	0.08	0.10



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Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Phenols							
2,3,4,5-tetrachlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3,4-trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3,5-trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3,6-Trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,4,5-trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,4,6-trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,6-dichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
3,4,5-Trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,4 2,5-Dichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
3,4-Dichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
3 & 4-chlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
3 & 4-chlorophenol	ug/L	0.1	*	*	*	*	<0.1
2,3-Dichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
3,5-Dichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3,4,6-tetrachlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3,5,6-tetrachlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2-chlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
Pentachlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
Phenol	ug/L	0.5	*	*	<0.5	*	<0.5
2-methylphenol	ug/L	0.5	*	*	<0.5	*	<0.5
3 & 4-methylphenol	ug/L	0.5	*	*	<0.5	*	<0.5
2,4-dimethylphenol	ug/L	0.5	*	*	<0.5	*	<0.5
2-nitrophenol	ug/L	0.5	*	*	<0.5	*	<0.5
4-nitrophenol	ug/L	0.5	*	*	<0.5	*	<0.5
4,6-dinitro-2-methylphenol	ug/L	0.5	*	*	<0.5	*	<0.5
2,4-dinitrophenol	ug/L	3	*	*	<3	*	<0.5
Phthalate Esters							
Dimethyl phthalate	ug/L	3	*	*	<3	*	<3
Diethyl phthalate	ug/L	3	*	*	<3	*	<3
Di-n-butyl phthalate	ug/L	1	*	*	<1	*	<1
Bis(2-ethylhexyl)phthalate	ug/L	1	*	*	<1	*	<1
Di-n-octyl phthalate	ug/L	1	*	*	<1	*	<1
Butyl benzyl phthalate	ug/L	5	*	*	<5	*	<5
Surrogate Recovery							
2,4,6-TRIBROMOPHENOL (sur.)	%		*	*	73	*	73
2-FLUOROBIPHENYL (sur.)	%		*	*	81	*	84
TERPHENYL-D14 (sur.)	%		*	*	87	*	85
D5-NITROBENZENE (sur.)	%		*	*	79	*	82
D5-PHENOL (sur.)	%		*	*	38	*	40
2,4,6-TRIBROMOPHENOL (sur.)	%		*	*	72	*	87
D5-PHENOL (sur.)	%		*	*	42	*	47
Polycyclic Aromatics							
Low Molecular Weight PAH's	ug/L	0.05	*	*	<0.05	*	<0.05
High Molecular Weight PAH's	ug/L	0.02	*	*	<0.02	*	<0.02
Total PAH	ug/L	0.05	*	*	<0.05	*	<0.05
Naphthalene	ug/L	0.05	*	*	<0.05	*	<0.05
2-Methylnaphthalene	ug/L	0.05	*	*	<0.05	*	<0.05
Quinoline	ug/L	0.05	*	*	<0.05	*	<0.05
Acenaphthylene	ug/L	0.01	*	*	<0.01	*	<0.01
Acenaphthene	ug/L	0.01	*	*	<0.01	*	<0.01
Fluorene	ug/L	0.01	*	*	<0.01	*	<0.01
Phenanthrene	ug/L	0.01	*	*	<0.01	*	<0.01
Anthracene	ug/L	0.01	*	*	<0.01	*	<0.01
Acridine	ug/L	0.05	*	*	<0.05	*	<0.05
Fluoranthene	ug/L	0.01	*	*	<0.01	*	<0.01
Pyrene	ug/L	0.01	*	*	<0.01	*	<0.01
Benzo(a)anthracene	ug/L	0.01	*	*	<0.01	*	<0.01
Chrysene	ug/L	0.01	*	*	<0.01	*	<0.01
Benzo(b&j)fluoranthene	ug/L	0.01	*	*	<0.01	*	<0.01
Benzo(k)fluoranthene	ug/L	0.01	*	*	<0.01	*	<0.01



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Benzo(a)pyrene	ug/L	0.01	*	*	<0.01	*	<0.01
Indeno(1,2,3-cd)pyrene	ug/L	0.02	*	*	<0.02	*	<0.02
Benzo(g,h,i)perylene	ug/L	0.02	*	*	<0.02	*	<0.02
Dibenz(a,h)anthracene	ug/L	0.02	*	*	<0.02	*	<0.02
Surrogate Recovery							
D10-ANTHRACENE (sur.)	%		*	*	94	*	86
D12-BENZO(A)PYRENE (sur.)	%		*	*	73	*	81
TERPHENYL-D14 (sur.)	%		*	*	83	*	86
D8-ACENAPHTHYLENE (sur.)	%		*	*	84	*	63
D8-NAPHTHALENE (sur.)	%		*	*	77	*	62
Volatiles							
1,1,1,2-tetrachloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,1,1-trichloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,1,2,2-tetrachloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,1,2-trichloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,1-dichloroethene	ug/L	0.5	*	*	<0.5	*	<0.5
1,1-dichloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,2-dichloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,2-dichloropropane	ug/L	0.5	*	*	<0.5	*	<0.5
Bromodichloromethane	ug/L	1	*	*	<1	*	<1
Bromoform	ug/L	1	*	*	<1	*	<1
Bromomethane	ug/L	1	*	*	<1	*	<1
Carbon tetrachloride	ug/L	1	*	*	<1	*	<1
Chlorodibromomethane	ug/L	1	*	*	<1	*	<1
Chloroethane	ug/L	1	*	*	<1	*	<1
Chloroform	ug/L	1	*	*	<1	*	<1
Chloromethane	ug/L	1	*	*	2	*	3
cis-1,2-dichloroethene	ug/L	1	*	*	<1	*	<1
cis-1,3-dichloropropene	ug/L	1	*	*	<1	*	<1
Dibromoethane	ug/L	0.2	*	*	<0.2	*	<0.2
Dichloromethane	ug/L	2	*	*	<2	*	<2
Methyl-tert-butylether (MTBE)	ug/L	4	*	*	<4	*	<4
Tetrachloroethene	ug/L	0.5	*	*	<0.5	*	<0.5
trans-1,2-dichloroethene	ug/L	1	*	*	<1	*	<1
trans-1,3-dichloropropene	ug/L	1	*	*	<1	*	<1
Trichloroethene	ug/L	0.5	*	*	<0.5	*	<0.5
Trichlorofluoromethane	ug/L	4	*	*	<4	*	<4
Vinyl chloride	ug/L	0.5	*	*	<0.5	*	<0.5
Surrogate Recovery							
4-BROMOFLUOROBENZENE (sur.)	%		*	*	82	*	93
D4-1,2-DICHLOROETHANE (sur.)	%		*	*	87	*	98
D8-TOLUENE (sur.)	%		*	*	95	*	99



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Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Volatiles							
VPH (VH6 to 10 - BTEX)	ug/L	300	*	*	<300	*	<300
Volatile Hydrocarbons							
VH C6-C10	ug/L	300	*	*	<300	*	<300
Chlorobenzenes							
1,2-dichlorobenzene	ug/L	0.5	*	*	<0.5	*	<0.5
1,3-dichlorobenzene	ug/L	0.5	*	*	<0.5	*	<0.5
1,4-dichlorobenzene	ug/L	0.5	*	*	<0.5	*	<0.5
Chlorobenzene	ug/L	0.5	*	*	<0.5	*	<0.5
Monocyclic Aromatics							
Benzene	ug/L	0.5	*	*	<0.5	*	<0.5
Ethylbenzene	ug/L	0.5	*	*	<0.5	*	<0.5
m & p-Xylene	ug/L	1	*	*	<1	*	<1
o-Xylene	ug/L	0.5	*	*	<0.5	*	<0.5
Styrene	ug/L	0.5	*	*	<0.5	*	<0.5
Toluene	ug/L	0.5	*	*	<0.5	*	<0.5
Xylenes (Total)	ug/L	1	*	*	<1	*	<1
PBDE							
Br2-DPE-7	pg/L		*	*	< 0.943	*	< 0.987
Br2-DPE-8/11	pg/L		*	*	< 0.943	*	< 0.987
Br2-DPE-10	pg/L		*	*	< 0.943	*	< 0.987
Br2-DPE-12/13	pg/L		*	*	< 0.943	*	< 0.987
Br2-DPE-15	pg/L		*	*	NDR 1.04	*	< 0.987
Br3-DPE-17/25	pg/L		*	*	< 0.943	*	NDR 1.82
Br3-DPE-28/33	pg/L		*	*	NDR 2.72	*	NDR 2.46
Br3-DPE-30	pg/L		*	*	< 1.30	*	< 0.987
Br3-DPE-32	pg/L		*	*	< 0.943	*	< 0.987
Br3-DPE-35	pg/L		*	*	< 0.943	*	< 0.987
Br3-DPE-37	pg/L		*	*	< 0.943	*	< 0.987
Br4-DPE-47	pg/L		*	*	64.4	*	48.1
Br4-DPE-49	pg/L		*	*	< 1.21	*	NDR 1.21
Br4-DPE-51	pg/L		*	*	< 0.943	*	< 0.987
Br4-DPE-66	pg/L		*	*	< 1.77	*	< 0.987
Br4-DPE-71	pg/L		*	*	< 1.21	*	< 0.987
Br4-DPE-75	pg/L		*	*	< 1.11	*	< 0.987
Br4-DPE-77	pg/L		*	*	< 0.992	*	< 0.987
Br4-DPE-79	pg/L		*	*	< 1.09	*	< 0.987
Br5-DPE-85	pg/L		*	*	NDR 3.01	*	1.37
Br5-DPE-99	pg/L		*	*	51.6	*	35.8
Br5-DPE-100	pg/L		*	*	10.1	*	NDR 7.48
Br5-DPE-105	pg/L		*	*	< 1.73	*	< 1.26
Br5-DPE-116	pg/L		*	*	< 2.22	*	< 1.62
Br5-DPE-119/120	pg/L		*	*	< 1.31	*	< 1.03
Br5-DPE-126	pg/L		*	*	< 0.943	*	< 0.987
Br6-DPE-128	pg/L		*	*	< 1.98	*	< 0.987
Br6-DPE-138/166	pg/L		*	*	NDR 2.73	*	< 1.79
Br6-DPE-140	pg/L		*	*	< 1.30	*	< 1.13
Br6-DPE-153	pg/L		*	*	NDR 5.17	*	6.84
Br6-DPE-154	pg/L		*	*	NDR 4.99	*	3.26
Br6-DPE-155	pg/L		*	*	< 0.943	*	< 0.987
Br7-DPE-181	pg/L		*	*	< 2.37	*	< 1.38
Br7-DPE-183	pg/L		*	*	NDR 2.87	*	2.15
Br7-DPE-190	pg/L		*	*	< 4.04	*	< 2.37
Br8-DPE-203	pg/L		*	*	< 2.90	*	NDR 12.7
Br9-DPE-206	pg/L		*	*	NDR 25.6	*	NDR 13.0
Br9-DPE-207	pg/L		*	*	NDR 31.2	*	36.4
Br9-DPE-208	pg/L		*	*	NDR 43.6	*	NDR 26.3



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Br10-DPE-209	pg/L		*	*	NDR 282	*	307
Polychlorinated Biphenyls							
Aroclor 1242	ug/L	0.10	*	*	*	<0.10	*
Aroclor 1248	ug/L	0.10	*	*	*	<0.10	*
Aroclor 1254	ug/L	0.10	*	*	*	<0.10	*
Aroclor 1260	ug/L	0.10	*	*	*	<0.10	*
Surrogate Recovery							
Hexabromobiphenyl (sur.)	%		*	*	*	89	*
Hormones & Sterols							
Androsterone	ng/L		*	*	*	< 1.91	*
Desogestrel	ng/L		*	*	*	< 5.14	*
17 alpha-Estradiol	ng/L		*	*	*	< 0.736	*
Estrone	ng/L		*	*	*	< 2.65	*
Equilin	ng/L		*	*	*	< 2.26	*
Androstenedione	ng/L		*	*	*	NDR 10.1	*
17 alpha-Dihydroequilin	ng/L		*	*	*	< 1.93	*
17 beta-Estradiol	ng/L		*	*	*	< 1.06	*
Testosterone	ng/L		*	*	*	< 3.07	*
Equilenin	ng/L		*	*	*	< 0.824	*
Mestranol	ng/L		*	*	*	< 1.82	*
Norethindrone	ng/L		*	*	*	< 4.20	*
17 alpha-Ethinyl-Estradiol	ng/L		*	*	*	NDR 3.06	*
Progesterone	ng/L		*	*	*	< 20.6	*
Norgestrel	ng/L		*	*	*	< 11.0	*
Estriol	ng/L		*	*	*	< 3.92	*
beta-Estradiol 3-benzoate	ng/L		*	*	*	< 0.872	*
Coprostanol	ng/L		*	*	*	15.1	*
Epicoprostanol	ng/L		*	*	*	19.6	*
Cholesterol	ng/L		*	*	*	301	*
Cholestanol	ng/L		*	*	*	< 14.3	*
Desmosterol	ng/L		*	*	*	< 22.1	*
Ergosterol	ng/L		*	*	*	< 2.91	*
Campesterol	ng/L		*	*	*	42.5	*
Stigmasterol	ng/L		*	*	*	362	*
beta-Sitosterol	ng/L		*	*	*	1530	*
beta Stigmastanol	ng/L		*	*	*	NDR 740	*
<p>NDR = peak detected but did not meet quantification criteria number following this flag represents the estimated maximum possible concentration</p>							



WorleyParsons

resources & energy

Table 4

Client Capital Regional District
Season Summer
Year 2010

Project # 9185
Date 15-Oct-10

Station 5 - SURFACE

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Microbiological							
Enterococcus spp.	CFU/100mL	1.0	3.0	<1.0	<1.0	<1.0	<1.0
Fecal Coliforms	CFU/100mL	1	11	<1	2	7	13
Nutirents							
Ammonia (N)	mg/L	0.05	0.14	0.09	0.09	<0.05	0.18
Nitrite (N)	mg/L	0.002	0.005	0.005	0.003	0.005	0.005
Nitrate plus Nitrite (N)	mg/L	0.002	0.192	0.273	0.108	0.261	0.278
Nitrate (N)	mg/L	0.002	0.187	0.268	0.105	0.256	0.273
Conventional (Group 1)							
Chloride (Cl)	mg/L	50	18000	18000	18000	20000	17000
Sulphate (SO4)	mg/L	5	2600	1900	1900	*	2500
Conductivity	uS/cm	1	47200	46500	46300	50600	49600
Fluoride F ()	mg/L	0.01	0.73	0.74	0.74	0.48	0.63
pH	pH Units		7.9	8.0	8.1	7.9	7.9
Hardness (CaCO3)	mg/L	0.5	5690	5570	5400	5040	5410
Solids	mg/L	1	3	<2	12	7	2
Conventional (Group 2)							
Organic Carbon (C)	mg/L	0.5	*	*	1.6	*	*
Orthophosphate (P)	mg/L	0.003	*	*	0.034	*	*
Organic Carbon (C)	mg/L	0.5	*	*	1.7	*	*
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	0.20	*	*
Nitrogen (N)	mg/L	0.02	*	*	0.30	*	*
Phosphorus (P)	mg/L	0.003	*	*	0.056	*	*
Dissolved Metals							
Cobalt (Co)	ug/L	0.05	*	*	*	*	*
Copper (Cu)	ug/L	0.05	*	*	*	*	*
Iron Fe ()	ug/L	1	*	*	*	*	*
Lead (Pb)	ug/L	0.05	*	*	*	*	*
Manganese (Mn)	ug/L	0.2	*	*	*	*	*
Nickel Ni ()	ug/L	0.05	*	*	*	*	*
Zinc Zn ()	ug/L	0.5	*	*	*	*	*
Cadmium Cd ()	ug/L	0.01	*	*	*	*	*
Total Metals							
Mercury Hg ()	ug/L	0.02	*	*	*	*	*
Magnesium (Mg)	mg/L	0.5	1170	1140	1110	1020	1110
Calcium (Ca)	mg/L	0.5	357	349	340	331	343
Copper (Cu)	ug/L	0.05	*	*	*	*	*
Iron Fe ()	ug/L	1	*	*	*	*	*
Lead (Pb)	ug/L	0.05	*	*	*	*	*
Nickel Ni ()	ug/L	0.05	*	*	*	*	*
Zinc Zn ()	ug/L	0.5	*	*	*	*	*
Cadmium Cd ()	ug/L	0.01	*	*	*	*	*



WorleyParsons

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Client Capital Regional District
Season Summer
Year 2010

Table 5
Project # 9185
Date 15-Oct-10

Station 5 -MID

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Microbiological							
Enterococcus spp.	CFU/100mL	1.0	<1.0	1.0	<1.0	1.0	6.0
Fecal Coliforms	CFU/100mL	1	8	4	31	6	36
Nutirents							
Ammonia N) (	mg/L	0.05	0.11	0.09	0.29	0.14	0.16
Nitrite (N)	mg/L	0.002	0.005	0.005	0.003	0.005	0.005
Nitrate plus Nitrite (N)	mg/L	0.002	0.201	0.305	0.219	0.268	0.283
Nitrate (N)	mg/L	0.002	0.196	0.300	0.216	0.263	0.278
Conventional (Group 1)							
Chloride (Cl)	mg/L	50	18000	18000	19000	20000	19000
Sulphate (SO4)	mg/L	5	2600	2600	2000	2900	2600
Conductivity	uS/cm	1	47400	47300	47600	51000	50300
Fluoride F) (	mg/L	0.01	0.74	0.74	0.75	0.68	0.63
pH	pH Units		7.9	7.9	8.0	7.9	8.0
Hardness (CaCO3)	mg/L	0.5	5520	5300	5140	5280	5450
Solids	mg/L	1	5	2	14	3	6
Conventional (Group 2)							
Organic Carbon (C)	mg/L	0.5	*	*	1.0	*	*
Orthophosphate (P)	mg/L	0.003	*	*	0.058	*	*
Organic Carbon (C)	mg/L	0.5	*	*	1.9	*	*
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	0.16	*	*
Nitrogen (N)	mg/L	0.02	*	*	0.38	*	*
Phosphorus (P)	mg/L	0.003	*	*	0.066	*	*
Dissolved Metals							
Cobalt (Co)	ug/L	0.05	*	*	*	*	*
Copper (Cu)	ug/L	0.05	*	*	*	*	*
Iron Fe) (	ug/L	1	*	*	*	*	*
Lead (Pb)	ug/L	0.05	*	*	*	*	*
Manganese (Mn)	ug/L	0.2	*	*	*	*	*
Nickel Ni) (	ug/L	0.05	*	*	*	*	*
Zinc Zn) (	ug/L	0.5	*	*	*	*	*
Cadmium Cd) (	ug/L	0.01	*	*	*	*	*
Total Metals							
Mercury Hg) (	ug/L	0.02	*	*	*	*	*
Magnesium (Mg)	mg/L	0.5	1130	1080	1050	1080	1110
Calcium (Ca)	mg/L	0.5	348	340	330	342	346
Copper (Cu)	ug/L	0.05	*	*	*	*	*
Iron Fe) (	ug/L	1	*	*	*	*	*
Lead (Pb)	ug/L	0.05	*	*	*	*	*
Nickel Ni) (ug/L	0.05	*	*	*	*	*
Zinc Zn) (ug/L	0.5	*	*	*	*	*
Cadmium Cd) (ug/L	0.01	*	*	*	*	*



WorleyParsons

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Client Capital Regional District
Season S ummer
Year 2010

Station 5 - BOTTOM

Table 6

Project # 9185
Date 15- Oct-10

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Microbiological							
Enterococcus spp.	CFU/100mL	1.0	3.0	14	5.0	7.0	4.0
Fecal Coliforms	CFU/100mL	1	14	84	44	74	35
Nutirents							
Ammonia (N)	mg/L	0.05	0.12	0.09	0.25	0.17	0.16
Nitrite (N)	mg/L	0.002	0.005	0.005	0.003	0.005	0.005
Nitrate plus Nitrite (N)	mg/L	0.002	0.219	0.340	0.333	0.274	0.306
Nitrate (N)	mg/L	0.002	0.214	0.335	0.330	0.269	0.301
Conventional (Group 1)							
Chloride (Cl)	mg/L	50	18000	19000	19000	20000	17000
Sulphate (SO4)	mg/L	50	2600	2500	2500	2900	2600
Conductivity	uS/cm	1	48300	48100	50400	51800	49300
Fluoride (F)	mg/L	0.01	0.74	0.76	0.78	0.68	0.64
pH	pH Units		7.8	7.8	7.8	7.9	8.0
Hardness (CaCO3)	mg/L	0.5	5850	5540	5750	5440	5270
Solids	mg/L	1	2	2	8	4	10
Conventional (Group 2)							
Organic Carbon (C)	mg/L	0.5	*	*	1.8	*	*
Orthophosphate (P)	mg/L	0.003	*	*	0.078	*	*
Organic Carbon (C)	mg/L	0.5	*	*	1.7	*	*
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	0.14	*	*
Nitrogen (N)	mg/L	0.02	*	*	0.47	*	*
Phosphorus (P)	mg/L	0.003	*	*	0.084	*	*
Dissolved Metals							
Cobalt (Co)	ug/L	0.05	*	*	*	*	*
Copper (Cu)	ug/L	0.05	*	*	*	*	*
Iron (Fe)	ug/L	1	*	*	*	*	*
Lead (Pb)	ug/L	0.05	*	*	*	*	*
Manganese (Mn)	ug/L	0.2	*	*	*	*	*
Nickel (Ni)	ug/L	0.05	*	*	*	*	*
Zinc (Zn)	ug/L	0.5	*	*	*	*	*
Cadmium (Cd)	ug/L	0.01	*	*	*	*	*
Total Metals							
Mercury (Hg)	ug/L	0.02	*	*	*	*	*
Magnesium (Mg)	mg/L	0.5	1200	1130	1180	1110	1080
Calcium (Ca)	mg/L	0.5	365	359	363	350	336
Copper (Cu)	ug/L	0.05	*	*	*	*	*
Iron (Fe)	ug/L	1	*	*	*	*	*
Lead (Pb)	ug/L	0.05	*	*	*	*	*
Nickel (Ni)	ug/L	0.05	*	*	*	*	*
Zinc (Zn)	ug/L	0.5	*	*	*	*	*
Cadmium (Cd)	ug/L	0.01	*	*	*	*	*



WorleyParsons

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Table 6

Project # 9185
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Station 5 - BOTTOM

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Phenols							
2,3,4,5-tetrachlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3,4,6-tetrachlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3,4-trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3,5,6-tetrachlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3,5-trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3,6-Trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3-Dichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,4 2,5-Dichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,4,5-trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,4,6-trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,4-dimethylphenol	ug/L	0.5	*	*	<0.5	*	<0.5
2,4-dinitrophenol	ug/L	3	*	*	<3	*	<0.5
2,6-dichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2-chlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2-methylphenol	ug/L	0.5	*	*	<0.5	*	<0.5
2-nitrophenol	ug/L	0.5	*	*	<0.5	*	<0.5
3,4-Dichlorophenol	ug/L	0.1	*	*	*	*	<0.1
3 & 4-chlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
3 & 4-methylphenol	ug/L	0.5	*	*	<0.5	*	<0.5
3,4,5-Trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
3,4-Dichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
3,5-Dichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
4,6-dinitro-2-methylphenol	ug/L	0.5	*	*	<0.5	*	<0.5
4-nitrophenol	ug/L	0.5	*	*	<0.5	*	<0.5
Pentachlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
Phenol	ug/L	0.5	*	*	<0.5	*	<0.5
Phthalate Esters							
Bis(2-ethylhexyl)phthalate	ug/L	1	*	*	<1	*	<1
Butyl benzyl phthalate	ug/L	5	*	*	<5	*	<5
Diethyl phthalate	ug/L	3	*	*	<3	*	<3
Dimethyl phthalate	ug/L	3	*	*	<3	*	<3
Di-n-butyl phthalate	ug/L	1	*	*	<1	*	<1
Di-n-octyl phthalate	ug/L	1	*	*	<1	*	<1
Surrogate Recovery							
2,4,6-TRIBROMOPHENOL (sur.)	%		*	*	68	*	86
2,4,6-TRIBROMOPHENOL (sur.)	%		*	*	72	*	80
2-FLUOROBIPHENYL (sur.)	%		*	*	77	*	88
TERPHENYL-D14 (sur.)	%		*	*	86	*	93
D5-NITROBENZENE (sur.)	%		*	*	87	*	83
D5-PHENOL (sur.)	%		*	*	37	*	42
Polycyclic Aromatics							
Low Molecular Weight PAH's	ug/L	0.05	*	*	<0.05	*	<0.05
High Molecular Weight PAH's	ug/L	0.02	*	*	<0.02	*	<0.02
Total PAH	ug/L	0.05	*	*	<0.05	*	<0.05
Naphthalene	ug/L	0.05	*	*	<0.05	*	<0.05
2-Methylnaphthalene	ug/L	0.05	*	*	<0.05	*	<0.05
Quinoline	ug/L	0.05	*	*	<0.05	*	<0.05
Acenaphthylene	ug/L	0.01	*	*	<0.01	*	<0.01
Acenaphthene	ug/L	0.01	*	*	<0.01	*	<0.01
Fluorene	ug/L	0.01	*	*	<0.01	*	<0.01
Phenanthrene	ug/L	0.01	*	*	<0.01	*	<0.01
Anthracene	ug/L	0.01	*	*	<0.01	*	<0.01
Acridine	ug/L	0.05	*	*	<0.05	*	<0.05
Fluoranthene	ug/L	0.01	*	*	<0.01	*	<0.01

**WorleyParsons**

resources & energy

Client Capital Regional District
 Season S ummer
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Table 6

Project # 9185
 Date 15- Oct-10

Station 5 - BOTTOM

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Pyrene	ug/L	0.01	*	*	<0.01	*	<0.01
Benzo(a)anthracene	ug/L	0.01	*	*	<0.01	*	<0.01
Chrysene	ug/L	0.01	*	*	<0.01	*	<0.01
Benzo(b&j)fluoranthene	ug/L	0.01	*	*	<0.01	*	<0.01
Benzo(k)fluoranthene	ug/L	0.01	*	*	<0.01	*	<0.01
Benzo(a)pyrene	ug/L	0.01	*	*	<0.01	*	<0.01
Indeno(1,2,3-cd)pyrene	ug/L	0.02	*	*	<0.02	*	<0.02
Benzo(g,h,i)perylene	ug/L	0.02	*	*	<0.02	*	<0.02
Dibenz(a,h)anthracene	ug/L	0.02	*	*	<0.02	*	<0.02
Surrogate Recovery							
D10-ANTHRACENE (sur.)	%		*	*	94	*	105
D12-BENZO(A)PYRENE (sur.)	%		*	*	84	*	82
TERPHENYL-D14 (sur.)	%		*	*	90	*	89
D8-ACENAPHTHYLENE (sur.)	%		*	*	82	*	72
D8-NAPHTHALENE (sur.)	%		*	*	81	*	66
Volatiles							
1,1,1,2-tetrachloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,1,1-trichloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,1,2,2-tetrachloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,1,2-trichloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,1-dichloroethene	ug/L	0.5	*	*	<0.5	*	<0.5
1,1-dichloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,2-dichloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,2-dichloropropane	ug/L	0.5	*	*	<0.5	*	<0.5
Bromodichloromethane	ug/L	1	*	*	<1	*	<1
Bromoform	ug/L	1	*	*	<1	*	<1
Bromomethane	ug/L	1	*	*	<1	*	<1
Carbon tetrachloride	ug/L	1	*	*	<1	*	<1
Chlorodibromomethane	ug/L	1	*	*	<1	*	<1
Chloroethane	ug/L	1	*	*	<1	*	<1
Chloroform	ug/L	1	*	*	<1	*	<1
Chloromethane	ug/L	1	*	*	2	*	7
cis-1,2-dichloroethene	ug/L	1	*	*	<1	*	<1
cis-1,3-dichloropropene	ug/L	1	*	*	<1	*	<1
Dibromoethane	ug/L	0.2	*	*	<0.2	*	<0.2
Dichloromethane	ug/L	2	*	*	<2	*	<2
Methyl-tert-butylether (MTBE)	ug/L	4	*	*	<4	*	<4
Tetrachloroethene	ug/L	0.5	*	*	<0.5	*	<0.5
trans-1,2-dichloroethene	ug/L	1	*	*	<1	*	<1
trans-1,3-dichloropropene	ug/L	1	*	*	<1	*	<1
Trichloroethene	ug/L	0.5	*	*	<0.5	*	<0.5
Trichlorofluoromethane	ug/L	4	*	*	<4	*	<4
Vinyl chloride	ug/L	0.5	*	*	<0.5	*	<0.5
Surrogate Recovery							
4-BROMOFLUOROBENZENE (sur.)	%		*	*	79	*	76
D4-1,2-DICHLOROETHANE (sur.)	%		*	*	85	*	76
D8-TOLUENE (sur.)	%		*	*	95	*	97
Volatiles							
VPH (VH6 to 10 - BTEX)	ug/L	300	*	*	<300	*	<300
Volatile Hydrocarbons							
VH C6-C10	ug/L	300	*	*	<300	*	<300
Chlorobenzenes							
1,2-dichlorobenzene	ug/L	0.5	*	*	<0.5	*	<0.5
1,3-dichlorobenzene	ug/L	0.5	*	*	<0.5	*	<0.5
1,4-dichlorobenzene	ug/L	0.5	*	*	<0.5	*	<0.5
Chlorobenzene	ug/L	0.5	*	*	<0.5	*	<0.5

**WorleyParsons**

resources & energy

Table 6

Client Capital Regional District
 Season S ummer
 Year 2010

Project # 9185
 Date 15- Oct-10

Station 5 - BOTTOM

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Monocyclic Aromatics							
Benzene	ug/L	0.5	*	*	<0.5	*	<0.5
Ethylbenzene	ug/L	0.5	*	*	<0.5	*	<0.5
m & p-Xylene	ug/L	1	*	*	<1	*	<1
o-Xylene	ug/L	0.5	*	*	<0.5	*	<0.5
Styrene	ug/L	0.5	*	*	<0.5	*	<0.5
Toluene	ug/L	0.5	*	*	<0.5	*	<0.5
Xylenes (Total)	ug/L	1	*	*	<1	*	<1
Polychlorinated Biphenyls							
Aroclor 1242	ug/L	0.10					*
Aroclor 1248	ug/L	0.10					*
Aroclor 1254	ug/L	0.10					*
Aroclor 1260	ug/L	0.10					*
Surrogate Recovery							
Hexabromobiphenyl (sur.)	%						*



WorleyParsons

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Table 7

Client Capital Regional District
Season S ummer
Year 2010

Project # 9185
Date 15-Oct-10

Station 6 - SURFACE

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Microbiological							
Enterococcus spp.	CFU/100mL	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fecal Coliforms	CFU/100mL	1	4	<1	1	4	2
Nutrients							
Ammonia N) (	mg/L	0.05	0.13	0.10	0.24	0.18	0.17
Nitrite (N)	mg/L	0.002	0.005	0.004	0.005	0.005	0.005
Nitrate plus Nitrite (N)	mg/L	0.002	0.174	0.225	0.161	0.219	0.268
Nitrate (N)	mg/L	0.002	0.169	0.221	0.156	0.214	0.263
Conventional (Group 1)							
Chloride (Cl)	mg/L	50	18000	17000	18000	19000	18000
Sulphate (SO4)	mg/L	50	2700	2400	1900	2800	2700
Conductivity	uS/cm	1	47200	46500	46900	50400	49500
Fluoride F) (	mg/L	0.01	0.73	0.74	0.74	0.67	0.64
pH	pH Units		7.9	7.9	8.1	8.0	8.0
Hardness (CaCO3)	mg/L	0.5	5590	5670	5240	5180	5350
Solids	mg/L	1	2	2	8	<2	3
Conventional (Group 2)							
Organic Carbon (C)	mg/L	0.5	*	*	1.5	*	*
Orthophosphate (P)	mg/L	0.003	*	*	0.053	*	*
Organic Carbon (C)	mg/L	0.5	*	*	0.9	*	*
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	0.16	*	*
Nitrogen (N)	mg/L	0.02	*	*	0.32	*	*
Phosphorus (P)	mg/L	0.003	*	*	0.058	*	*
Dissolved Metals							
Cobalt (Co)	ug/L	0.05	*	*	*	*	*
Copper (Cu)	ug/L	0.05	*	*	*	*	*
Iron Fe) (	ug/L	1	*	*	*	*	*
Lead (Pb)	ug/L	0.05	*	*	*	*	*
Manganese (Mn)	ug/L	0.2	*	*	*	*	*
Nickel Ni) (	ug/L	0.05	*	*	*	*	*
Zinc Zn) (	ug/L	0.5	*	*	*	*	*
Cadmium Cd) (	ug/L	0.01	*	*	*	*	*
Total Metals							
Magnesium (Mg)	mg/L	0.5	1140	1160	1070	1050	1090
Calcium (Ca)	mg/L	0.5	352	355	331	337	338



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Table 8

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Project # 9185
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Station 6 - MID

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Microbiological							
Enterococcus spp.	CFU/100mL	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fecal Coliforms	CFU/100mL	1	1	6	8	1	3
Nutrients							
Ammonia N) (	mg/L	0.05	0.66	0.11	0.14	0.13	0.17
Nitrite (N)	mg/L	0.002	0.005	0.004	0.004	0.005	0.005
Nitrate plus Nitrite (N)	mg/L	0.002	0.225	0.315	0.204	0.273	0.305
Nitrate (N)	mg/L	0.002	0.220	0.311	0.200	0.268	0.300
Conventional (Group 1)							
Chloride (Cl)	mg/L	50	17000	17000	19000	18000	17000
Sulphate (SO4)	mg/L	50	2400	2500	2400	3000	2500
Conductivity	uS/cm	1	48300	47000	48100	51200	49700
Fluoride F) (	mg/L	0.01	0.74	0.76	0.75	0.67	0.63
pH	pH Units		7.9	7.9	8.0	8.0	8.0
Hardness (CaCO3)	mg/L	0.5	5550	6170	5630	5530	5030
Solids	mg/L	1	4	3	9	3	2
Conventional (Group 2)							
Organic Carbon (C)	mg/L	0.5	*	*	1.0	*	*
Orthophosphate (P)	mg/L	0.003	*	*	0.057	*	*
Organic Carbon (C)	mg/L	0.5	*	*	1.7	*	*
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	0.17	*	*
Nitrogen (N)	mg/L	0.02	*	*	0.38	*	*
Phosphorus (P)	mg/L	0.003	*	*	0.066	*	*
Dissolved Metals							
Cobalt (Co)	ug/L	0.05	*	*	*	*	*
Copper (Cu)	ug/L	0.05	*	*	*	*	*
Iron Fe) (	ug/L	1	*	*	*	*	*
Lead (Pb)	ug/L	0.05	*	*	*	*	*
Manganese (Mn)	ug/L	0.2	*	*	*	*	*
Nickel Ni) (	ug/L	0.05	*	*	*	*	*
Zinc Zn) (	ug/L	0.5	*	*	*	*	*
Cadmium Cd) (	ug/L	0.01	*	*	*	*	*
Total Metals							
Magnesium (Mg)	mg/L	0.5	1130	1270	1150	1130	1030
Calcium (Ca)	mg/L	0.5	355	377	353	351	323



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Table 9

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Station 6 - SURFACE

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Microbiological							
Enterococcus spp.	CFU/100mL	1.0	1.0	<1.0	3.0	<1.0	<1.0
Fecal Coliforms	CFU/100mL	1	4	3	22	4	<1
Nutrients							
Ammonia N) (	mg/L	0.05	0.16	0.08	0.14	0.11	0.19
Nitrite (N)	mg/L	0.002	0.005	0.004	0.004	0.005	0.005
Nitrate plus Nitrite (N)	mg/L	0.002	0.253	0.445	0.367	0.400	0.318
Nitrate (N)	mg/L	0.002	0.248	0.441	0.363	0.395	0.313
Conventional (Group 1)							
Chloride (Cl)	mg/L	50	19000	18000	18000	19000	17000
Sulphate (SO4)	mg/L	50	2700	2700	2700	2900	2700
Conductivity	uS/cm	1	49100	51000	51400	54100	50800
Fluoride F) (	mg/L	0.01	0.75	0.79	0.79	0.70	0.65
pH	pH Units		7.7	7.7	7.7	7.8	7.7
Hardness (CaCO3)	mg/L	0.5	5520	6270	6170	5620	5360
Solids	mg/L	1	2	4	5	8	3
Conventional (Group 2)							
Organic Carbon (C)	mg/L	0.5	*	*	1.1	*	*
Orthophosphate (P)	mg/L	0.003	*	*	0.084	*	*
Organic Carbon (C)	mg/L	0.5	*	*	1.9	*	*
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	0.17	*	*
Nitrogen (N)	mg/L	0.02	*	*	0.54	*	*
Phosphorus (P)	mg/L	0.003	*	*	0.089	*	*
Dissolved Metals							
Cobalt (Co)	ug/L	0.05	*	*	*	*	*
Copper (Cu)	ug/L	0.05	*	*	*	*	*
Iron Fe) (	ug/L	1	*	*	*	*	*
Lead (Pb)	ug/L	0.05	*	*	*	*	*
Manganese (Mn)	ug/L	0.2	*	*	*	*	*
Nickel Ni) (	ug/L	0.05	*	*	*	*	*
Zinc Zn) (	ug/L	0.5	*	*	*	*	*
Cadmium Cd) (	ug/L	0.01	*	*	*	*	*
Total Metals							
Magnesium (Mg)	mg/L	0.5	1130	1290	1260	1150	1090
Calcium (Ca)	mg/L	0.5	353	389	386	362	343



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Station 7 - Surface

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Microbiological							
Enterococcus spp.	CFU/100mL	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fecal Coliforms	CFU/100mL	1	<1	<1	<1	<1	<1
Nutrients							
Ammonia N) (	mg/L	0.05	0.12	0.09	0.15	0.12	0.17
Nitrite (N)	mg/L	0.002	0.004	0.004	<0.002	0.004	0.005
Nitrate plus Nitrite (N)	mg/L	0.002	0.113	0.179	0.014	0.223	0.219
Nitrate (N)	mg/L	0.002	0.109	0.175	0.014	0.219	0.214
Conventional (Group 1)							
Chloride (Cl)	mg/L	50	17000	16000	18000	19000	19000
Sulphate (SO4)	mg/L	5	2400	1900	1900	2000	2900
Conductivity	uS/cm	1	44600	44400	47000	49800	48000
Fluoride F) (	mg/L	0.05	0.70	1.02	0.70	0.65	0.62
pH	pH Units		8.0	8.1	8.2	8.0	7.9
Hardness (CaCO3)	mg/L	0.5	4590	5160	5300	5520	4910
Solids	mg/L	1	<2	2	8	5	<2
Conventional (Group 2)							
Organic Carbon (C)	mg/L	0.5	*	*	1.2	*	*
Orthophosphate (P)	mg/L	0.003	*	*	0.018	*	*
Organic Carbon (C)	mg/L	0.5	*	*	2.5	*	*
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	0.20	*	*
Nitrogen (N)	mg/L	0.02	*	*	0.22	*	*
Phosphorus (P)	mg/L	0.003	*	*	0.046	*	*
Dissolved Metals							
Cobalt (Co)	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper (Cu)	ug/L	0.05	0.38	0.35	0.37	0.24	0.23
Iron (Fe)	ug/L	1	3	3	12	2	<1
Lead (Pb)	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese (Mn)	ug/L	0.2	1.7	1.3	2.3	1.9	1.2
Nickel Ni) (	ug/L	0.05	0.48	0.47	0.61	0.42	0.33
Zinc (Zn)	ug/L	0.5	0.7	0.7	0.9	<0.5	0.8
Cadmium Cd) (	ug/L	0.01	0.07	0.07	0.08	0.07	0.08
Total Metals							
Mercury (Hg)	ug/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Magnesium (Mg)	mg/L	0.5	931	1060	1090	1130	1000
Calcium (Ca)	mg/L	0.5	302	325	330	346	315
Copper (Cu)	ug/L	0.05	0.32	0.30	0.38	0.31	0.27
Iron (Fe)	ug/L	1	31	29	19	42	15
Lead (Pb)	ug/L	0.05	<0.05	<0.05	0.10	0.07	<0.05
Nickel Ni) (ug/L	0.05	0.51	0.46	0.54	0.51	0.41
Zinc (Zn)	ug/L	0.5	0.7	1.6	0.9	0.6	<0.5
Cadmium Cd) (ug/L	0.01	0.07	0.07	0.08	0.06	0.08



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Table 11

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Station 7 - MID

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Microbiological							
Enterococcus spp.	CFU/100mL	1.0	<1.0	<1.0	2.0	<1.0	<1.0
Fecal Coliforms	CFU/100mL	1	<1	<1	3	2	4
Nutirents							
Ammonia N) (	mg/L	0.05	0.10	0.09	0.14	0.12	0.19
Nitrite (N)	mg/L	0.002	0.004	0.004	0.003	0.005	0.005
Nitrate plus Nitrite (N)	mg/L	0.002	0.121	0.196	0.171	0.225	0.260
Nitrate (N)	mg/L	0.002	0.117	0.192	0.168	0.220	0.255
Conventional (Group 1)							
Chloride (Cl)	mg/L	50	18000	16000	17000	19000	19000
Sulphate (SO4)	mg/L	5	2000	1900	1900	2700	2900
Conductivity	uS/cm	1	45000	44800	47000	50000	47700
Fluoride F) (	mg/L	0.01	0.71	0.72	0.72	0.65	0.64
pH	pH Units		8.0	8.0	8.1	8.0	7.9
Hardness (CaCO3)	mg/L	0.5	4880	5320	5320	5100	5050
Solids	mg/L	1	5	3	11	4	4
Conventional (Group 2)							
Organic Carbon (C)	mg/L	0.5	*	*	1.4	*	*
Orthophosphate (P)	mg/L	0.003	*	*	0.049	*	*
Organic Carbon (C)	mg/L	0.5	*	*	1.6	*	*
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	0.12	*	*
Nitrogen (N)	mg/L	0.02	*	*	0.30	*	*
Phosphorus (P)	mg/L	0.003	*	*	0.060	*	*
Dissolved Metals							
Cobalt (Co)	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper (Cu)	ug/L	0.05	0.29	0.26	0.21	0.26	0.17
Iron (Fe)	ug/L	1	1	1	2	<1	1
Lead (Pb)	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese (Mn)	ug/L	0.2	1.8	1.3	1.4	1.8	0.9
Nickel Ni) (	ug/L	0.05	0.46	0.48	0.41	0.41	0.38
Zinc (Zn)	ug/L	0.5	1.6	1.0	0.6	0.5	0.5
Cadmium Cd) (	ug/L	0.01	0.06	0.07	0.08	0.07	0.08
Total Metals							
Mercury (Hg)	ug/L	0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Magnesium (Mg)	mg/L	0.5	991	1090	1090	1040	1030
Calcium (Ca)	mg/L	0.5	318	333	332	329	323
Copper (Cu)	ug/L	0.05	0.42	0.43	0.30	0.35	0.25
Iron (Fe)	ug/L	1	61	54	23	39	18
Lead (Pb)	ug/L	0.05	0.08	0.08	<0.05	0.06	<0.05
Nickel Ni) (ug/L	0.05	0.72	0.55	0.50	0.48	0.41
Zinc (Zn)	ug/L	0.5	1.8	1.6	1.1	0.7	<0.5
Cadmium Cd) (ug/L	0.01	0.06	0.08	0.08	0.08	0.08



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Station 7 BOTTOM

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Microbiological							
Enterococcus spp.	CFU/100mL	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fecal Coliforms	CFU/100mL	1	1	<1	<1	<1	2
Nutirents							
Ammonia N ()	mg/L	0.05	0.13	0.09	0.16	0.15	0.20
Nitrite (N)	mg/L	0.002	0.005	0.004	0.003	0.005	0.005
Nitrate plus Nitrite (N)	mg/L	0.002	0.186	0.292	0.261	0.249	0.320
Nitrate (N)	mg/L	0.002	0.181	0.288	0.258	0.244	0.315
Conventional (Group 1)							
Chloride (Cl)	mg/L	50	18000	17000	19000	19000	20000
Sulphate (SO4)	mg/L	5	2500	1900	2800	2700	3000
Conductivity	uS/cm	1	46800	46000	48200	50300	51000
Fluoride F ()	mg/L	0.01	0.73	0.74	0.75	0.66	0.66
pH	pH Units		7.8	8.0	7.9	7.9	7.8
Hardness (CaCO3)	mg/L	0.5	5190	5500	5570	5170	5360
Solids	mg/L	1	7	6	9	<2	4
Conventional (Group 2)							
Organic Carbon (C)	mg/L	0.5	*	*	1.3	*	*
Orthophosphate (P)	mg/L	0.003	*	*	0.068	*	*
Organic Carbon (C)	mg/L	0.5	*	*	1.7	*	*
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	0.14	*	*
Nitrogen (N)	mg/L	0.02	*	*	0.41	*	*
Phosphorus (P)	mg/L	0.003	*	*	0.075	*	*
Dissolved Metals							
Cobalt (Co)	ug/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper (Cu)	ug/L	0.05	0.35	0.23	0.18	0.50	0.17
Iron Fe ()	ug/L	1	3	3	1	2	1
Lead (Pb)	ug/L	0.05	<0.05	<0.05	<0.05	0.07	<0.05
Manganese (Mn)	ug/L	0.2	2.1	1.7	1.2	1.7	1.0
Nickel (Ni)	ug/L	0.05	0.62	0.48	0.44	0.44	0.39
Zinc (Zn)	ug/L	0.5	0.9	0.9	0.9	0.5	0.5
Cadmium (Cd)	ug/L	0.01	0.07	0.08	0.08	0.07	0.08
Total Metals							
Mercury (Hg)	ug/L	0.02	<0.02	<0.02	0.04	<0.02	<0.02
Magnesium (Mg)	mg/L	0.5	1050	1130	1140	1050	1100
Calcium (Ca)	mg/L	0.5	341	344	353	336	339
Copper (Cu)	ug/L	0.05	0.42	0.31	0.28	0.40	0.28
Iron (Fe)	ug/L	1	131	63	54	31	41
Lead (Pb)	ug/L	0.05	0.08	0.05	0.06	0.06	<0.05
Nickel (Ni)	ug/L	0.05	0.76	0.61	0.53	0.48	0.48
Zinc (Zn)	ug/L	0.5	0.9	1.1	1.7	0.6	0.5
Cadmium (Cd)	ug/L	0.01	0.08	0.08	0.10	0.07	0.09



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Station 7 BOTTOM

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Phenols							
2,3,4,5-tetrachlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3,4-trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3,5-trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3,6-Trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,4,5-trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,4,6-trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,6-dichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
3,4,5-Trichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,4 2,5-Dichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
3,4-Dichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
3 & 4-chlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
3-chlorophenol	ug/L	0.1	*	*	*	*	<0.1
2,3-Dichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
3,5-Dichlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3,4,6-tetrachlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2,3,5,6-tetrachlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
2-chlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
Pentachlorophenol	ug/L	0.1	*	*	<0.1	*	<0.1
Phenol	ug/L	0.5	*	*	<0.5	*	<0.5
2-methylphenol	ug/L	0.5	*	*	<0.5	*	<0.5
3 & 4-methylphenol	ug/L	0.5	*	*	<0.5	*	<0.5
2,4-dimethylphenol	ug/L	0.5	*	*	<0.5	*	<0.5
2-nitrophenol	ug/L	0.5	*	*	<0.5	*	<0.5
4-nitrophenol	ug/L	0.5	*	*	<0.5	*	<0.5
4,6-dinitro-2-methylphenol	ug/L	0.5	*	*	<0.5	*	<0.5
2,4-dinitrophenol	ug/L	3	*	*	<3	*	<0.5
Phthalate Esters							
Dimethyl phthalate	ug/L	3	*	*	<3	*	<3
Diethyl phthalate	ug/L	3	*	*	<3	*	<3
Di-n-butyl phthalate	ug/L	1	*	*	<1	*	<1
Bis(2-ethylhexyl)phthalate	ug/L	1	*	*	<1	*	<1
Di-n-octyl phthalate	ug/L	1	*	*	<1	*	<1
Butyl benzyl phthalate	ug/L	5	*	*	<5	*	<5
Surrogate Recovery							
2,4,6-TRIBROMOPHENOL (sur.)	%		*	*	54	*	88
2-FLUOROBIPHENYL (sur.)	%		*	*	77	*	83
TERPHENYL-D14 (sur.)	%		*	*	81	*	85
D5-NITROBENZENE (sur.)	%		*	*	78	*	77
D5-PHENOL (sur.)	%		*	*	38	*	41
2,4,6-TRIBROMOPHENOL (sur.)	%		*	*	54	*	88
D5-PHENOL (sur.)	%		*	*	40	*	45



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Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Polycyclic Aromatics							
Low Molecular Weight PAH's	ug/L	0.05	*	*	<0.05	*	<0.05
High Molecular Weight PAH's	ug/L	0.02	*	*	<0.02	*	<0.02
Total PAH	ug/L	0.05	*	*	<0.05	*	<0.05
Naphthalene	ug/L	0.05	*	*	<0.05	*	<0.05
2-Methylnaphthalene	ug/L	0.05	*	*	<0.05	*	<0.05
Quinoline	ug/L	0.05	*	*	<0.05	*	<0.05
Acenaphthylene	ug/L	0.01	*	*	<0.01	*	<0.01
Acenaphthene	ug/L	0.01	*	*	<0.01	*	<0.01
Fluorene	ug/L	0.01	*	*	<0.01	*	<0.01
Phenanthrene	ug/L	0.01	*	*	<0.01	*	<0.01
Anthracene	ug/L	0.01	*	*	<0.01	*	<0.01
Acridine	ug/L	0.05	*	*	<0.05	*	<0.05
Fluoranthene	ug/L	0.01	*	*	<0.01	*	<0.01
Pyrene	ug/L	0.01	*	*	<0.01	*	<0.01
Benzo(a)anthracene	ug/L	0.01	*	*	<0.01	*	<0.01
Chrysene	ug/L	0.01	*	*	<0.01	*	<0.01
Benzo(b&j)fluoranthene	ug/L	0.01	*	*	<0.01	*	<0.01
Benzo(k)fluoranthene	ug/L	0.01	*	*	<0.01	*	<0.01
Benzo(a)pyrene	ug/L	0.01	*	*	<0.01	*	<0.01
Indeno(1,2,3-cd)pyrene	ug/L	0.02	*	*	<0.02	*	<0.02
Benzo(g,h,i)perylene	ug/L	0.02	*	*	<0.02	*	<0.02
Dibenz(a,h)anthracene	ug/L	0.02	*	*	<0.02	*	<0.02
Surrogate Recovery							
D10-ANTHRACENE (sur.)	%		*	*	82	*	86
D12-BENZO(A)PYRENE (sur.)	%		*	*	60	*	81
TERPHENYL-D14 (sur.)	%		*	*	74	*	87
D8-ACENAPHTHYLENE (sur.)	%		*	*	70	*	67
D8-NAPHTHALENE (sur.)	%		*	*	67	*	61
Volatiles							
1,1,1,2-tetrachloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,1,1-trichloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,1,2,2-tetrachloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,1,2-trichloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,1-dichloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,1-dichloroethene	ug/L	0.5	*	*	<0.5	*	<0.5
1,2-dichloroethane	ug/L	0.5	*	*	<0.5	*	<0.5
1,2-dichloropropane	ug/L	0.5	*	*	<0.5	*	<0.5
Bromodichloromethane	ug/L	1	*	*	<1	*	<1
Bromoform	ug/L	1	*	*	<1	*	<1
Bromomethane	ug/L	1	*	*	<1	*	<1
Carbon tetrachloride	ug/L	1	*	*	<1	*	<1
Chlorodibromomethane	ug/L	1	*	*	<1	*	<1
Chloroethane	ug/L	1	*	*	<1	*	<1
Chloroform	ug/L	1	*	*	<1	*	<1
Chloromethane	ug/L	1	*	*	2	*	<1
cis-1,2-dichloroethene	ug/L	1	*	*	<1	*	<1
cis-1,3-dichloropropene	ug/L	1	*	*	<1	*	<1
Dibromoethane	ug/L	0.2	*	*	<0.2	*	<0.2
Dichloromethane	ug/L	2	*	*	<2	*	<2
Methyl-tert-butylether (MTBE)	ug/L	4	*	*	<4	*	<4
Tetrachloroethene	ug/L	0.5	*	*	<0.5	*	<0.5
trans-1,2-dichloroethene	ug/L	1	*	*	<1	*	<1
trans-1,3-dichloropropene	ug/L	1	*	*	<1	*	<1
Trichloroethene	ug/L	0.5	*	*	<0.5	*	<0.5
Trichlorofluoromethane	ug/L	4	*	*	<4	*	<4
Vinyl chloride	ug/L	0.5	*	*	<0.5	*	<0.5
Surrogate Recovery							
4-BROMOFLUOROBENZENE (sur.)	%		*	*	82	*	85
D4-1,2-DICHLOROETHANE (sur.)	%		*	*	88	*	78
D8-TOLUENE (sur.)	%		*	*	95	*	99



WorleyParsons

resources & energy

Client Capital Regional District
Season Summer
Year 2010

Table 12
Project # 9185
Date 15- Oct-10

Station 7 BOTTOM

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Volatiles							
VPH (VH6 to 10 - BTEX)	ug/L	300	*	*	<300	*	<300
Volatile Hydrocarbons							
VH C6-C10	ug/L	300	*	*	<300	*	<300
Chlorobenzenes							
1,2-dichlorobenzene	ug/L	0.5	*	*	<0.5	*	<0.5
1,3-dichlorobenzene	ug/L	0.5	*	*	<0.5	*	<0.5
1,4-dichlorobenzene	ug/L	0.5	*	*	<0.5	*	<0.5
Chlorobenzene	ug/L	0.5	*	*	<0.5	*	<0.5
Monocyclic Aromatics							
Benzene	ug/L	0.5	*	*	<0.5	*	<0.5
Ethylbenzene	ug/L	0.5	*	*	<0.5	*	<0.5
m & p-Xylene	ug/L	1	*	*	<1	*	<1
o-Xylene	ug/L	0.5	*	*	<0.5	*	<0.5
Styrene	ug/L	0.5	*	*	<0.5	*	<0.5
Toluene	ug/L	0.5	*	*	<0.5	*	<0.5
Xylenes (Total)	ug/L	1	*	*	<1	*	<1
PBDE							
Br2-DPE-7	pg/L		*	*	< 0.928	*	< 0.923
Br2-DPE-8/11	pg/L		*	*	< 0.928	*	< 0.923
Br2-DPE-10	pg/L		*	*	< 0.928	*	< 0.923
Br2-DPE-12/13	pg/L		*	*	< 0.928	*	< 0.923
Br2-DPE-15	pg/L		*	*	< 0.928	*	< 0.923
Br3-DPE-17/25	pg/L		*	*	0.939	*	< 0.923
Br3-DPE-28/33	pg/L		*	*	NDR 1.09	*	< 0.923
Br3-DPE-30	pg/L		*	*	< 0.928	*	< 0.923
Br3-DPE-32	pg/L		*	*	< 0.928	*	< 0.923
Br3-DPE-35	pg/L		*	*	< 0.928	*	< 0.923
Br3-DPE-37	pg/L		*	*	< 0.928	*	< 0.923
Br4-DPE-47	pg/L		*	*	73.3	*	NDR 32.0
Br4-DPE-49	pg/L		*	*	NDR 1.17	*	< 0.923
Br4-DPE-51	pg/L		*	*	< 0.928	*	< 0.923
Br4-DPE-66	pg/L		*	*	< 1.13	*	< 1.25
Br4-DPE-71	pg/L		*	*	< 0.928	*	< 0.923
Br4-DPE-75	pg/L		*	*	< 0.928	*	< 0.923
Br4-DPE-77	pg/L		*	*	< 0.928	*	< 0.923
Br4-DPE-79	pg/L		*	*	< 0.928	*	< 0.923
Br5-DPE-85	pg/L		*	*	NDR 2.11	*	< 0.923
Br5-DPE-99	pg/L		*	*	45.1	*	NDR 18.2
Br5-DPE-100	pg/L		*	*	NDR 8.82	*	NDR 5.46
Br5-DPE-105	pg/L		*	*	< 1.04	*	< 1.15
Br5-DPE-116	pg/L		*	*	< 1.33	*	< 1.47
Br5-DPE-119/120	pg/L		*	*	< 0.934	*	< 0.941
Br5-DPE-126	pg/L		*	*	< 0.928	*	< 0.923
Br6-DPE-128	pg/L		*	*	< 1.58	*	< 1.67
Br6-DPE-138/166	pg/L		*	*	< 1.38	*	< 2.02
Br6-DPE-140	pg/L		*	*	< 0.928	*	< 1.28
Br6-DPE-153	pg/L		*	*	NDR 3.73	*	NDR 2.39
Br6-DPE-154	pg/L		*	*	NDR 3.38	*	NDR 1.68
Br6-DPE-155	pg/L		*	*	< 0.928	*	< 0.923
Br7-DPE-181	pg/L		*	*	< 1.54	*	< 1.97
Br7-DPE-183	pg/L		*	*	NDR 5.34	*	NDR 1.95
Br7-DPE-190	pg/L		*	*	< 2.62	*	< 3.39
Br8-DPE-203	pg/L		*	*	NDR 2.06	*	< 5.88
Br9-DPE-206	pg/L		*	*	NDR 34.2	*	NDR 72.6
Br9-DPE-207	pg/L		*	*	37.8	*	NDR 156
Br9-DPE-208	pg/L		*	*	NDR 33.3	*	72.4
Br10-DPE-209	pg/L		*	*	NDR 429	*	934



WorleyParsons

resources & energy

Table 12

Client Capital Regional District
Season Summer
Year 2010

Project # 9185
Date 15- Oct-10

Station 7 BOTTOM

Parameter	Unit	DL	26-Jul-10	28-Jul-10	03-Aug-10	10-Aug-10	17-Aug-10
Polychlorinated Biphenyls							
Aroclor 1260	ug/L	0.10	*	*	*	<0.10	*
Aroclor 1254	ug/L	0.10	*	*	*	<0.10	*
Aroclor 1248	ug/L	0.10	*	*	*	<0.10	*
Aroclor 1242	ug/L	0.10	*	*	*	<0.10	*
Surrogate Recovery							
Hexabromobiphenyl (sur.)	%		*	*	*	86	*
Hormones & Sterols							
Androsterone	ng/L		*	*	*	< 2.44	*
Desogestrel	ng/L		*	*	*	< 4.10	*
17 alpha-Estradiol	ng/L		*	*	*	< 1.37	*
Estrone	ng/L		*	*	*	< 1.31	*
Equilin	ng/L		*	*	*	< 1.33	*
Androstenedione	ng/L		*	*	*	< 5.71	*
17 alpha-Dihydroequilin	ng/L		*	*	*	< 1.39	*
17 beta-Estradiol	ng/L		*	*	*	< 1.17	*
Testosterone	ng/L		*	*	*	< 6.38	*
Equilenin	ng/L		*	*	*	< 0.624	*
Mestranol	ng/L		*	*	*	< 3.24	*
Norethindrone	ng/L		*	*	*	< 3.59	*
17 alpha-Ethinyl-Estradiol	ng/L		*	*	*	9.25	*
Progesterone	ng/L		*	*	*	< 16.0	*
Norgestrel	ng/L		*	*	*	< 8.62	*
Estriol	ng/L		*	*	*	< 1.98	*
beta-Estradiol 3-benzoate	ng/L		*	*	*	< 0.502	*
Coprostanol	ng/L		*	*	*	< 5.86	*
Epicoprostanol	ng/L		*	*	*	< 7.29	*
Cholesterol	ng/L		*	*	*	233	*
Cholestanol	ng/L		*	*	*	< 8.38	*
Desmosterol	ng/L		*	*	*	< 20.3	*
Ergosterol	ng/L		*	*	*	< 8.22	*
Campesterol	ng/L		*	*	*	22.4	*
Stigmasterol	ng/L		*	*	*	< 56.3	*
beta-Sitosterol	ng/L		*	*	*	191	*
beta Stigmastanol	ng/L		*	*	*	< 36.2	*

NDR = peak detected but did not meet quantification criteria
number following this flag represents the estimated maximum possible concentration



Client Capital Regional District
Season S ummer
Year 2010

Project # 9185
Date 15-Oct-10

Station 4 - Surface Replicates

Parameter	Unit	DL	Sample 28-Jul-10	Triplicate 1 28-Jul-10	Triplicate 2 28-Jul-10	RSD (%)	Sample 3-Aug-10	Triplicate 1 3-Aug-10	Triplicate 2 3-Aug-10	RSD (%)
Enterococcus spp.	FU/100mL	1.0	<1.0	<1.0	<1.0	<5*DL	<1.0	*	*	
Fecal Coliforms	FU/100mL	1	2	4	<1	<5*DL	<1	*	*	
Nutrients										
Ammonia (N)	mg/L	0.05	<0.05	<0.05	<0.05	<5*DL	0.15	*	*	
Nitrite (N)	mg/L	0.002	0.005	0.004	0.004	<5*DL	0.003	*	*	
Nitrate plus Nitrite (N)	mg/L	0.002	0.284	0.262	0.262	5%	0.082	0.081	0.089	5%
Nitrate (N)	mg/L	0.002	0.279	0.258	0.258	5%	0.079	*	*	
Conventional (Group 1)										
Chloride (Cl)	mg/L	50	18000	17000	17000	3%	18000	*	*	
Sulphate (SO4)	mg/L	5	1900	2400	2300	12%	1900	*	*	
Conductivity	uS/cm	1	46500	46500	46400	0%	46700	*	*	
Fluoride (F)	mg/L	0.01	0.75	0.74	0.74	1%	0.76	*	*	
pH	pH Units	0.1	8.0	8.0	8.0	0%	8.2	*	*	
Hardness (CaCO3)	mg/L	0.5	5160	5830	5340	6%	5400	*	*	
Solids	mg/L	1	3	2	<2	<5*DL	13	*	*	
Conventional (Group 2)										
Organic Carbon (C)	mg/L	0.5	*	*	*		1.9	1.0	1.1	<5*DL
Orthophosphate (P)	mg/L	0.003	*	*	*		0.024	0.029	0.029	11%
Organic Carbon (C)	mg/L	0.5	*	*	*		2.7	2.1	1.9	<5*DL
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	*		0.22	0.17	0.24	17%
Nitrogen (N)	mg/L	0.02	*	*	*		0.31	0.25	0.33	14%
Phosphorus (P)	mg/L	0.003	*	*	*		0.050	0.051	0.055	5%
Dissolved Metals										
Cobalt (Co)	ug/L	0.05	<0.05	*	*		<0.05	*	*	
Copper (Cu)	ug/L	0.05	0.18	*	*		0.27	*	*	
Iron (Fe)	ug/L	1	1	*	*		<1	*	*	
Lead (Pb)	ug/L	0.05	<0.05	*	*		<0.05	*	*	
Manganese (Mn)	ug/L	0.2	0.8	*	*		0.9	*	*	
Nickel (Ni)	ug/L	0.05	0.50	*	*		0.40	*	*	
Zinc (Zn)	ug/L	0.5	1.2	*	*		0.6	*	*	
Cadmium (Cd)	ug/L	0.01	0.07	*	*		0.08	*	*	
Mercury (Hg)	ug/L	0.02	<0.02	*	*		<0.02	*	*	
Magnesium (Mg)	mg/L	0.5	1050	1200	1090	7%	1110	*	*	
Calcium (Ca)	mg/L	0.5	332	361	337	5%	334	*	*	
Copper (Cu)	ug/L	0.05	0.22	*	*		0.34	*	*	
Iron (Fe)	ug/L	1	18	*	*		8	*	*	
Lead (Pb)	ug/L	0.05	<0.05	*	*		<0.05	*	*	
Nickel (Ni)	ug/L	0.05	1.81	*	*		0.42	*	*	
Zinc (Zn)	ug/L	0.5	0.7	*	*		1.7	*	*	
Cadmium (Cd)	ug/L	0.01	0.07	*	*		0.08	*	*	



Client Capital Regional District
Season S ummer
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Project # 9185
Date 15-Oct-10

Station 4 - Mid Replicates

Parameter	Unit	DL	Sample	Triplicate 1	Triplicate 2	RSD (%)	Sample	Triplicate 1	Triplicate 2	RSD (%)
			28-Jul-10	28-Jul-10	28-Jul-10		3-Aug-10	3-Aug-10	3-Aug-10	
Enterococcus spp.	FU/100mL	1.0	<1.0	<1.0	1.0	<5*DL	23	*	*	
Fecal Coliforms	FU/100mL	1	6	5	7	17%	81	*	*	
				0	0					
				0	0					
Nutirents										
Ammonia (N)	mg/L	0.05	0.11	0.07	0.08	<5*DL	0.12	*	*	
Nitrite (N)	mg/L	0.002	0.005	0.004	0.004	<5*DL	0.003	*	*	
Nitrate plus Nitrite (N)	mg/L	0.002	0.300	0.277	0.289	4%	0.215	0.201	0.211	3%
Nitrate (N)	mg/L	0.002	0.295	0.273	0.285	4%	0.212	*	*	
				0	0					
				0	0					
Conventional (Group 1)										
Chloride (Cl)	mg/L	50	18000	18000	17000	3%	18000	*	*	
Sulphate (SO4)	mg/L	5	1900	2500	2400	14%	2600	*	*	
Conductivity	uS/cm	1	47000	46900	47100	0%	48000	*	*	
Fluoride (F)	mg/L	0.01	0.75	0.74	0.74	1%	0.75	*	*	
pH	pH Units	0.1	7.9	7.9	7.9	0%	7.9	*	*	
Hardness (CaCO3)	mg/L	0.5	5330	5580	5040	5%	5730	*	*	
Solids	mg/L	1	3	<2	2	<5*DL	6	*	*	
Conventional (Group 2)										
Organic Carbon (C)	mg/L	0.5	*	*	*		1.0	1.6	1.5	<5*DL
Orthophosphate (P)	mg/L	0.003	*	*	*		0.057	0.055	0.059	4%
Organic Carbon (C)	mg/L	0.5	*	*	*		1.9	1.7	1.1	<5*DL
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	*		0.17	0.15	0.15	7%
Nitrogen (N)	mg/L	0.02	*	*	*		0.39	0.35	0.36	6%
Phosphorus (P)	mg/L	0.003	*	*	*		0.069	0.065	0.059	8%
Dissolved Metals										
Cobalt (Co)	ug/L	0.05	<0.05	*	*		<0.05	*	*	
Copper (Cu)	ug/L	0.05	0.23	*	*		0.25	*	*	
Iron (Fe)	ug/L	1	2	*	*		<1	*	*	
Lead (Pb)	ug/L	0.05	<0.05	*	*		<0.05	*	*	
Manganese (Mn)	ug/L	0.2	0.9	*	*		0.7	*	*	
Nickel (Ni)	ug/L	0.05	0.52	*	*		0.41	*	*	
Zinc (Zn)	ug/L	0.5	1.5	*	*		0.8	*	*	
Cadmium (Cd)	ug/L	0.01	0.07	*	*		0.08	*	*	
Mercury (Hg)	ug/L	0.02	<0.02	*	*		<0.02	*	*	
Magnesium (Mg)	mg/L	0.5	1090	1140	1030	5%	1180	*	*	
Calcium (Ca)	mg/L	0.5	338	349	327	3%	355	*	*	
Copper (Cu)	ug/L	0.05	0.19	*	*		0.25	*	*	
Iron (Fe)	ug/L	1	22	*	*		16	*	*	
Lead (Pb)	ug/L	0.05	<0.05	*	*		<0.05	*	*	
Nickel (Ni)	ug/L	0.05	0.51	*	*		0.44	*	*	
Zinc (Zn)	ug/L	0.5	1.0	*	*		0.8	*	*	
Cadmium (Cd)	ug/L	0.01	0.09	*	*		0.10	*	*	



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Station

4 - BOTTOM Replicates

Project # 9185
Date 15-Oct-10

Parameter	Unit	DL	Sample 28-Jul-10	Triplicate 1 28-Jul-10	Triplicate 2 28-Jul-10	RSD (%)	Sample 3-Aug-10	Triplicate 1 3-Aug-10	Triplicate 2 3-Aug-10	RSD (%)
Enterococcus spp.	FU/100mL	1.0	6.0	8.0	1.0	<5*DL	5200	*	*	
Fecal Coliforms	FU/100mL	1	58	40	7	74%	10000	*	*	
Nutrients										
Ammonia (N)	mg/L	0.05	0.10	0.10	0.08	<5*DL	0.18	*	*	
Nitrite (N)	mg/L	0.002	0.005	0.004	0.004	<5*DL	0.003	*	*	
Nitrate plus Nitrite (N)	mg/L	0.002	0.331	0.303	0.289	7%	0.311	0.223	0.211	22%
Nitrate (N)	mg/L	0.002	0.326	0.299	0.285	7%	0.308	*	*	
Conventional (Group 1)										
Chloride (Cl)	mg/L	50	18000	18000	17000	3%	20000	*	*	
Sulphate (SO4)	mg/L	5	2600	2600	2400	5%	2700	*	*	
Conductivity	uS/cm	1	47800	47500	47100	1%	49000	*	*	
Fluoride (F)	mg/L	0.01	0.76	0.75	0.74	1%	0.77	*	*	
pH	pH Units	0.1	7.9	7.9	7.9	0%	8.0	*	*	
Hardness (CaCO3)	mg/L	0.5	5840	5590	5040	7%	5880	*	*	
Solids	mg/L	1	2	<2	2	<5*DL	11	*	*	
Conventional (Group 2)										
Organic Carbon (C)	mg/L	0.5	*	*	*		1.1	0.9	1.5	<5*DL
Orthophosphate (P)	mg/L	0.003	*	*	*		0.084	0.084	0.059	19%
Organic Carbon (C)	mg/L	0.5	*	*	*		2.2	1.4	1.1	<5*DL
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	*		0.28	0.30	0.15	33%
Nitrogen (N)	mg/L	0.02	*	*	*		0.59	0.52	0.36	24%
Phosphorus (P)	mg/L	0.003	*	*	*		0.100	0.091	0.059	26%
Dissolved Metals										
Cobalt (Co)	ug/L	0.05	<0.05	*	*		<0.05	*	*	
Copper (Cu)	ug/L	0.05	0.19	*	*		0.66	*	*	
Iron (Fe)	ug/L	1	3	*	*		40	*	*	
Lead (Pb)	ug/L	0.05	<0.05	*	*		0.08	*	*	
Manganese (Mn)	ug/L	0.2	0.9	*	*		2.5	*	*	
Nickel (Ni)	ug/L	0.05	0.54	*	*		0.52	*	*	
Zinc (Zn)	ug/L	0.5	1.4	*	*		2.3	*	*	
Cadmium (Cd)	ug/L	0.01	0.08	*	*		0.11	*	*	
Mercury (Hg)	ug/L	0.02	<0.02	*	*		<0.02	*	*	
Magnesium (Mg)	mg/L	0.5	1200	1140	1030	8%	1200	*	*	
Calcium (Ca)	mg/L	0.5	363	355	327	5%	368	*	*	
Copper (Cu)	ug/L	0.05	0.18	*	*		0.48	*	*	
Iron (Fe)	ug/L	1	28	*	*		2	*	*	
Lead (Pb)	ug/L	0.05	<0.05	*	*		<0.05	*	*	
Nickel (Ni)	ug/L	0.05	0.52	*	*		0.38	*	*	
Zinc (Zn)	ug/L	0.5	0.7	*	*		1.0	*	*	
Cadmium (Cd)	ug/L	0.01	0.08	*	*		0.08	*	*	



Client Capital Regional District
Season Summer
Year 2010
Station 1 - BOTTOM (Replicates)

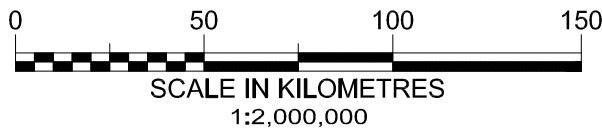
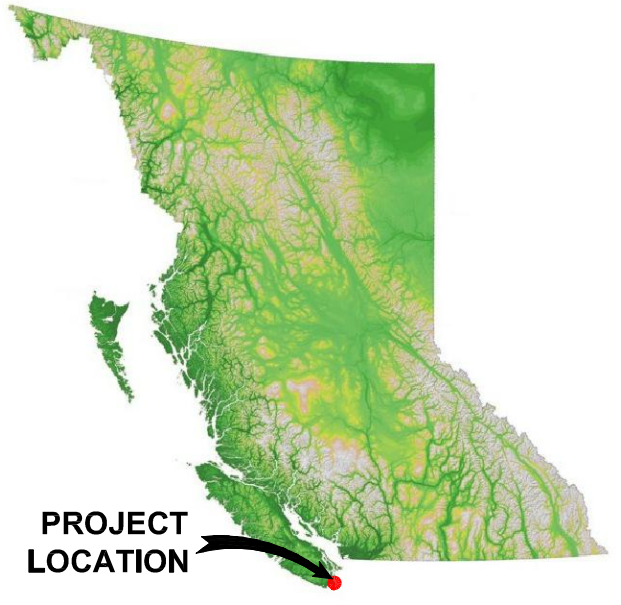
Project # 9185
Date 15- Oct-10

Parameter	Unit	DL	Sample	Triplicate 1	Triplicate 2	RSD (%)	Sample	Triplicate 1	Triplicate 2	RSD (%)
			28-Jul-10	28-Jul-10	28-Jul-10		3-Aug-10	3-Aug-10	3-Aug-10	
Microbiological										
Enterococcus spp.	CFU/100m	1.0	5.0	5.0	10	<5*DL	18	*	*	
Fecal Coliforms	CFU/100m	1	23	34	28	19%	68	*	*	
Nutrients										
Ammonia (N)	mg/L	0.05	0.07	0.10	0.12	<5*DL	0.13	*	*	
Nitrite (N)	mg/L	0.002	0.005	0.004	0.004	<5*DL	0.003	*	*	
Nitrate plus Nitrite (N)	mg/L	0.002	0.292	0.285	0.319	6%	0.218	0.213	0.208	2%
Nitrate (N)	mg/L	0.002	0.287	0.281	0.315	6%	0.215	*	*	
Conventional (Group 1)										
Chloride (Cl)	mg/L	50	18000	18000	17000	3%	19000	*	*	
Sulphate (SO4)	mg/L	50	2000	2600	2000	16%	2600	*	*	
Conductivity	uS/cm	1	47600	47700	47800	0%	48600	*	*	
Fluoride (F)	mg/L	0.01	0.77	0.75	0.74	2%	0.74	*	*	
pH	pH Units	0.1	7.8	7.9	7.9	1%	8.0	*	*	
Hardness (CaCO3)	mg/L	0.5	5520	5450	5710	2%	5170	*	*	
Solids	mg/L	1	4	<2	3	<5*DL	9	*	*	
Conventional (Group 2)										
Organic Carbon (C)	mg/L	0.5	*	*	*		1.2	1.5	1.1	<5*DL
Orthophosphate (P)	mg/L	0.003	*	*	*		0.055	0.058	0.057	3%
Organic Carbon (C)	mg/L	0.5	*	*	*		2.5	1.7	1.4	<5*DL
Total Kjeldahl Nitrogen (Calc)	mg/L	0.02	*	*	*		0.15	0.14	0.17	10%
Nitrogen (N)	mg/L	0.02	*	*	*		0.36	0.35	0.38	4%
Phosphorus (P)	mg/L	0.003	*	*	*		0.045	0.067	0.069	22%
Dissolved Metals										
Cobalt (Co)	ug/L	0.05	<0.05	<0.05	<0.05	<5*DL	<0.05	*	*	
Copper (Cu)	ug/L	0.05	0.11	0.17	0.17	<5*DL	0.23	*	*	
Iron (Fe)	ug/L	1	<1	<1	3	<5*DL	77	*	*	
Lead (Pb)	ug/L	0.05	<0.05	<0.05	<0.05	<5*DL	<0.05	*	*	
Manganese (Mn)	ug/L	0.2	0.6	0.7	0.7	<5*DL	1.1	*	*	
Nickel (Ni)	ug/L	0.05	0.40	0.54	0.43	<5*DL	0.43	*	*	
Zinc (Zn)	ug/L	0.5	0.7	0.7	1.0	<5*DL	0.9	*	*	
Cadmium (Cd)	ug/L	0.01	0.07	0.07	0.08	<5*DL	0.09	*	*	
Total Metals										
Mercury (Hg)	ug/L	0.02	<0.02	<0.02	<0.02	<5*DL	<0.02	*	*	
Magnesium (Mg)	mg/L	0.5	1130	1110	1170	3%	1060	*	*	
Calcium (Ca)	mg/L	0.5	348	346	358	2%	328	*	*	
Copper (Cu)	ug/L	0.05	0.17	0.19	0.25	<5*DL	0.27	*	*	
Iron (Fe)	ug/L	1	25	28	26	6%	27	*	*	
Lead (Pb)	ug/L	0.05	<0.05	<0.05	0.07	<5*DL	<0.05	*	*	
Nickel (Ni)	ug/L	0.05	0.46	0.48	0.55	10%	0.59	*	*	
Zinc (Zn)	ug/L	0.5	0.8	0.8	1.2	<5*DL	1.0	*	*	
Cadmium (Cd)	ug/L	0.01	0.09	0.09	0.09	0%	0.09	*	*	
Phenols										
2,3,4,5-tetrachlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
2,3,4,6-tetrachlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
2,3,4-trichlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
2,3,5,6-tetrachlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
2,3,5-trichlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
2,3,6-Trichlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
2,3-Dichlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
2,4 2,5-Dichlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
2,4,5-trichlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
2,4,6-trichlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
2,4-dimethylphenol	ug/L	0.5	*	*	*		<0.5	<0.5	<0.5	<5*DL
2,4-dinitrophenol	ug/L	3	*	*	*		<3	<3	<3	<5*DL
2,6-dichlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
2-chlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
2-methylphenol	ug/L	0.5	*	*	*		<0.5	<0.5	<0.5	<5*DL
2-nitrophenol	ug/L	0.5	*	*	*		<0.5	<0.5	<0.5	<5*DL
3 & 4-chlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
3 & 4-methylphenol	ug/L	0.5	*	*	*		<0.5	<0.5	<0.5	<5*DL
3,4,5-Trichlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
3,4-Dichlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
3,5-Dichlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
4,6-dinitro-2-methylphenol	ug/L	0.5	*	*	*		<0.5	<0.5	<0.5	<5*DL
4-nitrophenol	ug/L	0.5	*	*	*		<0.5	<0.5	<0.5	<5*DL
Pentachlorophenol	ug/L	0.1	*	*	*		<0.1	<0.1	<0.1	<5*DL
Phenol	ug/L	0.5	*	*	*		<0.5	<0.5	<0.5	<5*DL

Phthalate Esters									
Bis(2-ethylhexyl)phthalate	ug/L	1	*	*	*	<1	1	<1	<5*DL
Butyl benzyl phthalate	ug/L	5	*	*	*	<5	<5	<5	<5*DL
Diethyl phthalate	ug/L	3	*	*	*	<3	<3	<3	<5*DL
Dimethyl phthalate	ug/L	3	*	*	*	<3	<3	<3	<5*DL
Di-n-butyl phthalate	ug/L	1	*	*	*	<1	<1	<1	<5*DL
Di-n-octyl phthalate	ug/L	1	*	*	*	<1	<1	<1	<5*DL
Polycyclic Aromatics									
2-Methylnaphthalene	ug/L	0.05	*	*	*	<0.05	<0.05	<0.05	<5*DL
Acenaphthene	ug/L	0.01	*	*	*	<0.01	<0.01	<0.01	<5*DL
Acenaphthylene	ug/L	0.01	*	*	*	<0.01	<0.01	<0.01	<5*DL
Acridine	ug/L	0.05	*	*	*	<0.05	<0.05	<0.05	<5*DL
Anthracene	ug/L	0.01	*	*	*	<0.01	<0.01	<0.01	<5*DL
Benzo(a)anthracene	ug/L	0.01	*	*	*	<0.01	<0.01	<0.01	<5*DL
Benzo(a)pyrene	ug/L	0.01	*	*	*	<0.01	<0.01	<0.01	<5*DL
Benzo(b&j)fluoranthene	ug/L	0.01	*	*	*	<0.01	<0.01	<0.01	<5*DL
Benzo(g,h,i)perylene	ug/L	0.02	*	*	*	<0.02	<0.02	<0.02	<5*DL
Benzo(k)fluoranthene	ug/L	0.01	*	*	*	<0.01	<0.01	<0.01	<5*DL
Chrysene	ug/L	0.01	*	*	*	<0.01	<0.01	<0.01	<5*DL
Dibenz(a,h)anthracene	ug/L	0.02	*	*	*	<0.02	<0.02	<0.02	<5*DL
Fluoranthene	ug/L	0.01	*	*	*	<0.01	<0.01	<0.01	<5*DL
Fluorene	ug/L	0.01	*	*	*	<0.01	<0.01	<0.01	<5*DL
High Molecular Weight PAH's	ug/L	0.02	*	*	*	<0.02	<0.02	<0.02	<5*DL
Indeno(1,2,3-cd)pyrene	ug/L	0.02	*	*	*	<0.02	<0.02	<0.02	<5*DL
Low Molecular Weight PAH's	ug/L	0.05	*	*	*	<0.05	<0.05	<0.05	<5*DL
Naphthalene	ug/L	0.05	*	*	*	<0.05	<0.05	<0.05	<5*DL
Phenanthrene	ug/L	0.01	*	*	*	<0.01	<0.01	<0.01	<5*DL
Pyrene	ug/L	0.01	*	*	*	<0.01	<0.01	<0.01	<5*DL
Quinoline	ug/L	0.05	*	*	*	<0.05	<0.05	<0.05	<5*DL
Total PAH	ug/L	0.05	*	*	*	<0.05	<0.05	<0.05	<5*DL
Volatiles									
1,1,1,2-tetrachloroethane	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
1,1,1-trichloroethane	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
1,1,2,2-tetrachloroethane	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
1,1,2-trichloroethane	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
1,1-dichloroethane	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
1,1-dichloroethene	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
1,2-dichlorobenzene	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
1,2-dichloroethane	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
1,2-dichloropropane	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
Bromodichloromethane	ug/L	1	*	*	*	<1	<1	<1	<5*DL
Bromoform	ug/L	1	*	*	*	<1	<1	<1	<5*DL
Bromomethane	ug/L	1	*	*	*	<1	<1	<1	<5*DL
Carbon tetrachloride	ug/L	1	*	*	*	<1	<1	<1	<5*DL
Chlorodibromomethane	ug/L	1	*	*	*	<1	<1	<1	<5*DL
Chloroethane	ug/L	1	*	*	*	<1	<1	<1	<5*DL
Chloroform	ug/L	1	*	*	*	<1	<1	<1	<5*DL
Chloromethane	ug/L	1	*	*	*	2	2	2	<5*DL
cis-1,2-dichloroethene	ug/L	1	*	*	*	<1	<1	<1	<5*DL
cis-1,3-dichloropropene	ug/L	1	*	*	*	<1	<1	<1	<5*DL
Dibromoethane	ug/L	0.2	*	*	*	<0.2	<0.2	<0.2	<5*DL
Dichloromethane	ug/L	2	*	*	*	<2	<2	<2	<5*DL
Methyl-tert-butylether (MTBE)	ug/L	4	*	*	*	<4	<4	<4	<5*DL
Tetrachloroethene	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
trans-1,2-dichloroethene	ug/L	1	*	*	*	<1	<1	<1	<5*DL
trans-1,3-dichloropropene	ug/L	1	*	*	*	<1	<1	<1	<5*DL
Trichloroethene	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
Trichlorofluoromethane	ug/L	4	*	*	*	<4	<4	<4	<5*DL
Vinyl chloride	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
Volatiles									
VPH (VH6 to 10 - BTEX)	ug/L	300	*	*	*	<300	<300	<300	<5*DL
Volatile Hydrocarbons									
VH C6-C10	ug/L	300	*	*	*	<300	<300	<300	<5*DL
Chlorobenzenes									
Chlorobenzene	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
1,3-dichlorobenzene	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
1,4-dichlorobenzene	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
Monocyclic Aromatics									
Benzene	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
m & p-Xylene	ug/L	1	*	*	*	<1	<1	<1	<5*DL
Xylenes (Total)	ug/L	1	*	*	*	<1	<1	<1	<5*DL
Toluene	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
Ethylbenzene	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
o-Xylene	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
Styrene	ug/L	0.5	*	*	*	<0.5	<0.5	<0.5	<5*DL
PBDE									
Br2-DPE-7	pg/L		*	*	*	< 0.926	< 1.09	< 0.927	
Br2-DPE-8/11	pg/L		*	*	*	< 0.926	NDR 2.33	< 0.927	
Br2-DPE-10	pg/L		*	*	*	< 0.926	< 1.10	< 0.927	
Br2-DPE-12/13	pg/L		*	*	*	< 0.926	NDR 1.06	< 0.927	
Br2-DPE-15	pg/L		*	*	*	< 0.926	1.64	< 0.927	
Br3-DPE-17/25	pg/L		*	*	*	NDR 1.29	NDR 2.71	NDR 2.23	35%
Br3-DPE-28/33	pg/L		*	*	*	NDR 1.93	2.36	NDR 1.86	13%

Br3-DPE-30	pg/L	*	*	*	< 0.926	< 0.928	< 1.24	
Br3-DPE-32	pg/L	*	*	*	< 0.926	< 0.928	< 0.963	
Br3-DPE-35	pg/L	*	*	*	< 0.926	< 0.928	< 0.927	
Br3-DPE-37	pg/L	*	*	*	< 0.926	< 0.928	< 0.927	
Br4-DPE-47	pg/L	*	*	*	65	NDR 27.6	NDR 130	62%
Br4-DPE-49	pg/L	*	*	*	< 1.25	NDR 2.51	NDR 1.95	
Br4-DPE-51	pg/L	*	*	*	< 0.926	< 0.928	< 1.18	
Br4-DPE-66	pg/L	*	*	*	< 1.06	NDR 3.97	< 1.05	
Br4-DPE-71	pg/L	*	*	*	< 0.926	< 0.928	< 1.51	
Br4-DPE-75	pg/L	*	*	*	< 0.926	< 0.928	< 0.927	
Br4-DPE-77	pg/L	*	*	*	< 0.926	< 0.928	< 0.927	
Br4-DPE-79	pg/L	*	*	*	< 0.926	< 0.928	< 0.927	
Br5-DPE-85	pg/L	*	*	*	1.32	< 0.973	18.2	
Br5-DPE-99	pg/L	*	*	*	42.7	21.6	204	112%
Br5-DPE-100	pg/L	*	*	*	NDR 8.97	4.1	41.3	112%
Br5-DPE-105	pg/L	*	*	*	< 0.926	< 1.29	< 0.927	
Br5-DPE-116	pg/L	*	*	*	< 0.926	< 1.65	NDR 2.59	
Br5-DPE-119/120	pg/L	*	*	*	< 0.926	< 1.62	< 0.927	
Br5-DPE-126	pg/L	*	*	*	< 0.926	< 0.928	< 0.927	
Br6-DPE-128	pg/L	*	*	*	< 0.926	< 2.41	< 1.38	
Br6-DPE-138/166	pg/L	*	*	*	NDR 1.55	< 2.43	NDR 8.86	
Br6-DPE-140	pg/L	*	*	*	< 0.926	< 1.55	< 0.940	
Br6-DPE-153	pg/L	*	*	*	NDR 6.06	NDR 2.57	23.2	104%
Br6-DPE-154	pg/L	*	*	*	3.65	4.24	18.1	94%
Br6-DPE-155	pg/L	*	*	*	< 0.926	< 0.939	NDR 1.87	
Br7-DPE-181	pg/L	*	*	*	< 0.926	< 2.46	< 1.55	
Br7-DPE-183	pg/L	*	*	*	NDR 1.31	< 1.68	5.7	
Br7-DPE-190	pg/L	*	*	*	< 1.29	< 4.19	< 2.64	
Br8-DPE-203	pg/L	*	*	*	NDR 6.92	< 3.07	NDR 4.15	
Br9-DPE-206	pg/L	*	*	*	NDR 13.7	< 5.95	NDR 13.0	
Br9-DPE-207	pg/L	*	*	*	29.4	NDR 57.3	NDR 14.6	64%
Br9-DPE-208	pg/L	*	*	*	9.77	NDR 12.8	NDR 10.5	14%
Br10-DPE-209	pg/L	*	*	*	NDR 193	NDR 204	115	28%
					Sample	TriPLICATE 1	TriPLICATE 2	
					10-Aug-10	10-Aug-10	10-Aug-10	
Polychlorinated Biphenyls								
Aroclor 1242	ug/L	0.10	*	*	<0.10	<0.10	<0.10	<5*DL
Aroclor 1248	ug/L	0.10	*	*	<0.10	<0.10	<0.10	<5*DL
Aroclor 1254	ug/L	0.10	*	*	<0.10	<0.10	<0.10	<5*DL
Aroclor 1260	ug/L	0.10	*	*	<0.10	<0.10	<0.10	<5*DL
Hormones & Sterols								
		DL (max)						
Androsterone	ng/L		*	*	< 1.36	< 1.41	< 1.61	
Desogestrel	ng/L		*	*	< 3.70	< 5.68	< 7.62	
17 alpha-Estradiol	ng/L		*	*	< 0.986	< 2.04	< 1.97	
Estrone	ng/L		*	*	< 2.09	< 1.00	< 2.29	
Equilin	ng/L		*	*	< 1.61	< 2.23	< 2.65	
Androstenedione	ng/L		*	*	< 4.23	< 2.90	NDR 10.1	
17 alpha-Dihydroequilin	ng/L		*	*	< 1.05	< 2.01	< 2.24	
17 beta-Estradiol	ng/L		*	*	< 1.00	< 1.74	< 1.29	
Testosterone	ng/L		*	*	< 3.07	< 4.58	< 3.08	
Equilenin	ng/L		*	*	< 0.479	< 0.868	< 1.17	
Mestranol	ng/L		*	*	< 2.31	< 3.37	< 1.33	
Norethindrone	ng/L		*	*	< 3.48	< 3.37	< 3.38	
17 alpha-Ethinyl-Estradiol	ng/L		*	*	6.62	7.53	NDR 7.37	7%
Progesterone	ng/L		*	*	< 12.8	< 23.0	< 26.7	
Norgestrel	ng/L		*	*	< 9.69	< 9.39	< 9.66	
Estriol	ng/L		*	*	< 1.95	< 2.82	< 2.98	
beta-Estradiol 3-benzoate	ng/L		*	*	< 1.05	< 0.667	< 1.08	
Coprostanol	ng/L		*	*	9.38	< 9.47	NDR 11.3	
Epicooprostanol	ng/L		*	*	< 6.80	< 11.8	13.4	
Cholesterol	ng/L		*	*	374	335	339	6%
Cholestanol	ng/L		*	*	< 15.4	< 16.7	14.5	
Desmosterol	ng/L		*	*	78.6	50.2	58.8	23%
Ergosterol	ng/L		*	*	< 5.33	< 4.93	< 6.16	
Campesterol	ng/L		*	*	25.1	24.9	49.6	100%
Stigmasterol	ng/L		*	*	< 38.5	< 45.2	281	
beta-Sitosterol	ng/L		*	*	120	130	1260	130%
beta Stigmastanol	ng/L		*	*	< 34.0	< 46.7	< 39.5	

Figures



FILE: J:\2009 Projects\09185_CRD - Monitoring Program\11.0_Drafting Files\11.4_CAD_Files\09185-MA-FIG-0001.dwg Issued By: Victoria CAD

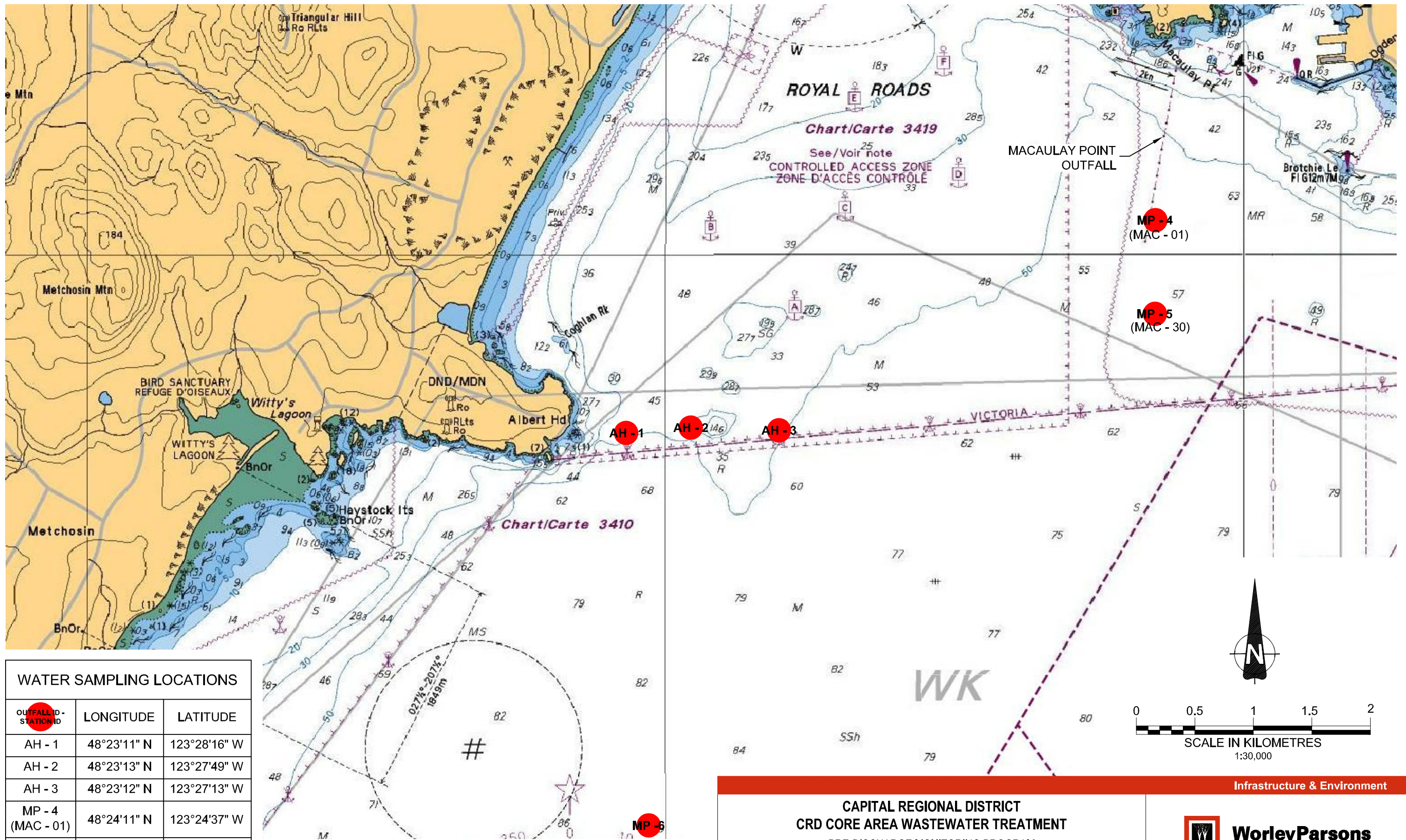
Infrastructure & Environment

**CAPITAL REGIONAL DISTRICT
CRD CORE AREA WASTEWATER TREATMENT
PRE-DISCHARGE MONITORING PROGRAM
YEAR 1 - PROGRESS DATA REPORT
LOCATION MAP**




2010-11-16	date		edited by	MR	drawn by	PH	app by
<small>PREPARED SOLELY FOR THE USE OF OUR CLIENT AS SPECIFIED IN THE ACCOMPANYING REPORT. NO REPRESENTATION OF ANY KIND IS MADE TO OTHER PARTIES WITH WHICH WORLEYPARSONS HAS NOT ENTERED INTO A CONTRACT.</small>							

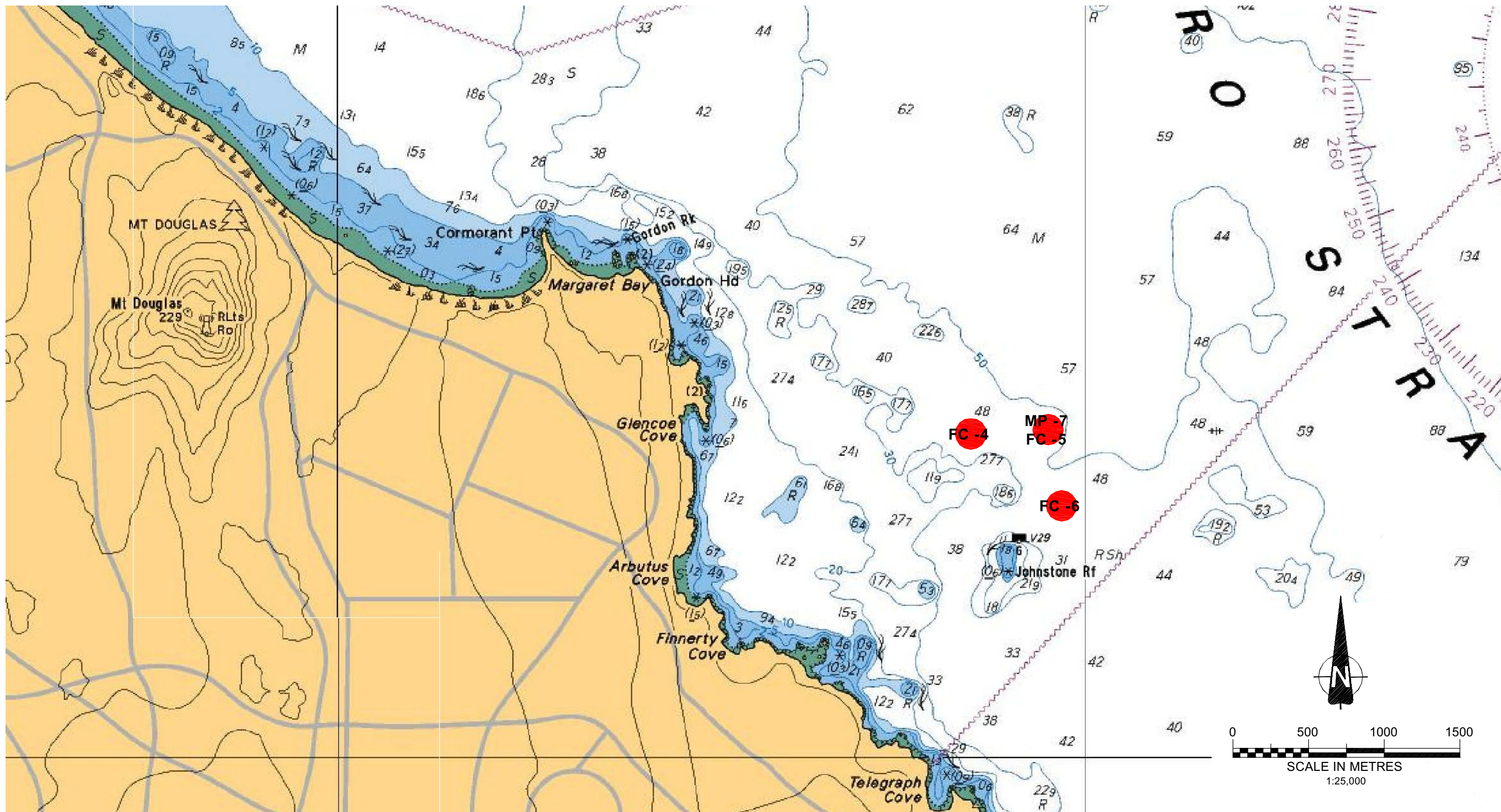
PROJECT NUMBER:	FIGURE:
09185	1



WATER SAMPLING LOCATIONS		
OUTFALL ID - STATION ID	LONGITUDE	LATITUDE
AH - 1	48°23'11" N	123°28'16" W
AH - 2	48°23'13" N	123°27'49" W
AH - 3	48°23'12" N	123°27'13" W
MP - 4 (MAC - 01)	48°24'11" N	123°24'37" W
MP - 5 (MAC - 30)	48°23'45" N	123°24'37" W
MP - 6	48°21'22" N	123°28'6" W

SOURCE: CANADIAN HYDROGRAPHIC SERVICE CHART #3440

Infrastructure & Environment			
CAPITAL REGIONAL DISTRICT CRD CORE AREA WASTEWATER TREATMENT PRE-DISCHARGE MONITORING PROGRAM YEAR 1 - PROGRESS DATA REPORT WATER SAMPLING STATIONS - ALBERT HEAD / MACAULAY POINT			
 WorleyParsons resources & energy		PROJECT NUMBER:	FIGURE:
2010-11-16 date edited by MR drawn by PH app by		09185	2
PREPARED SOLELY FOR THE USE OF OUR CLIENT AS SPECIFIED IN THE ACCOMPANYING REPORT. NO REPRESENTATION OF ANY KIND IS MADE TO OTHER PARTIES WITH WHICH WORLEYPARSONS HAS NOT ENTERED INTO A CONTRACT.			



WATER SAMPLING LOCATIONS

OUTFALL ID-STATION ID	LATITUDE	LONGITUDE
FC -4	48°29'8" N	123°16'36" W
FC -5 MP -7	48°29'9" N	123°16'11" W
FC -6	48°28'53" N	123°16'6" W

SOURCE: CANADIAN HYDROGRAPHIC SERVICE CHART #3440

**CAPITAL REGIONAL DISTRICT
CRD CORE AREA WASTEWATER TREATMENT
PRE-DISCHARGE MONITORING PROGRAM
YEAR 1 - PROGRESS DATA REPORT
WATER SAMPLING STATIONS - FINNERTY COVE**

2010-11-16 date edited by MR drawn by PH app by

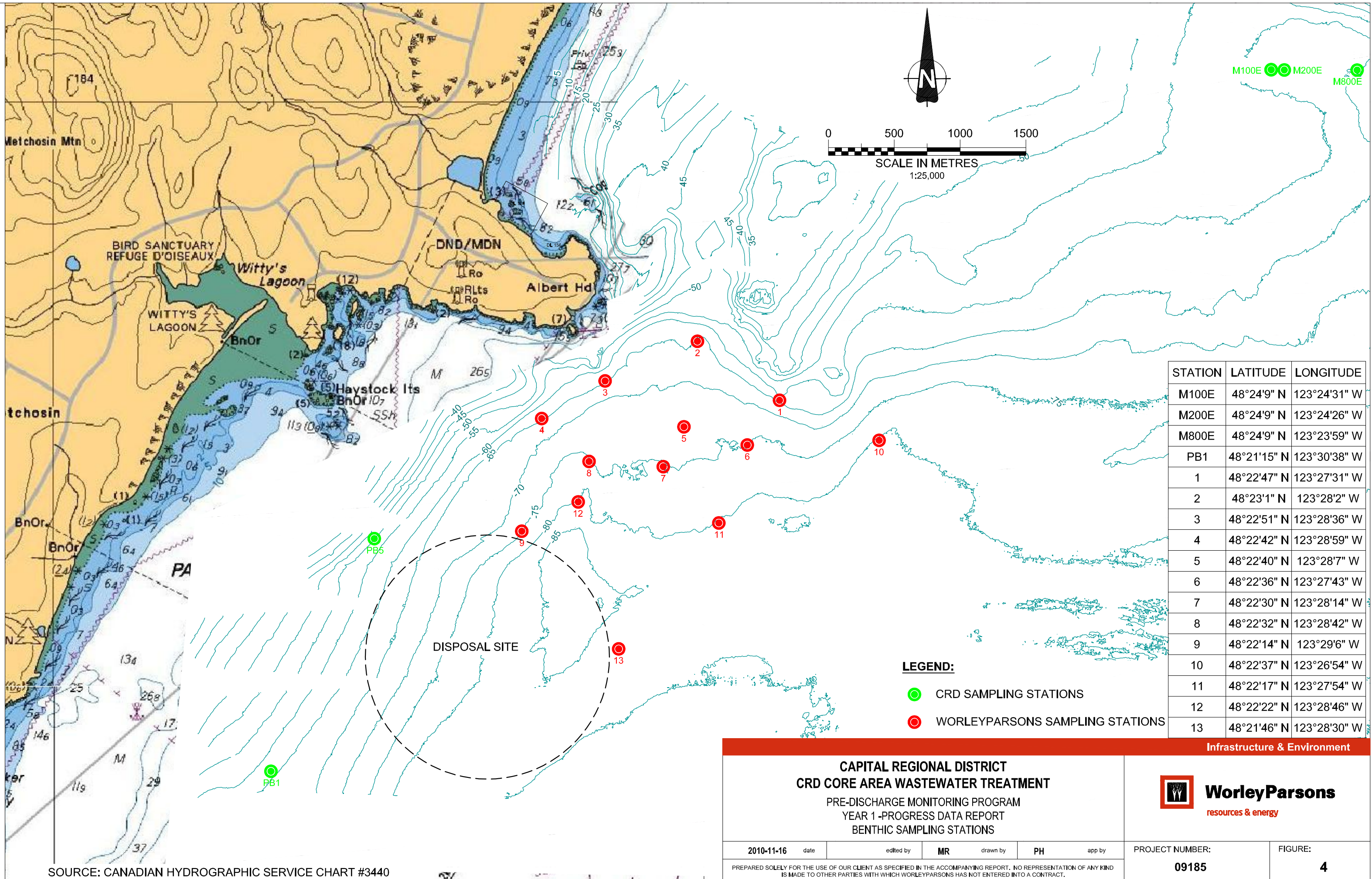
PREPARED SOLELY FOR THE USE OF OUR CLIENT AS SPECIFIED IN THE ACCOMPANYING REPORT. NO REPRESENTATION OF ANY KIND IS MADE TO OTHER PARTIES WITH WHICH WORLEYPARSONS HAS NOT ENTERED INTO A CONTRACT.

Infrastructure & Environment



PROJECT NUMBER:
09185

FIGURE:
3

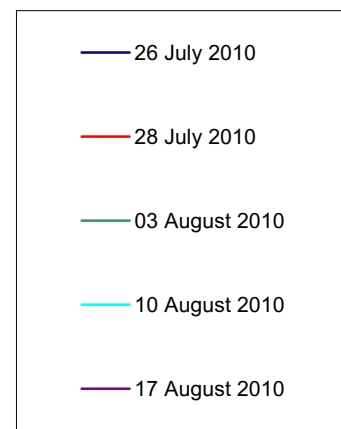
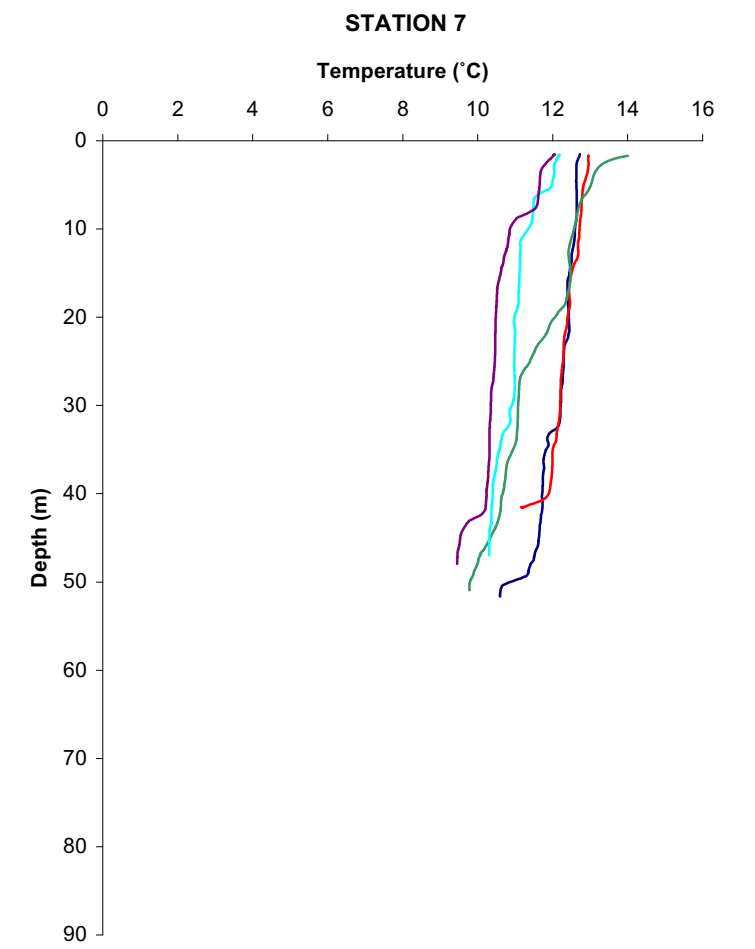
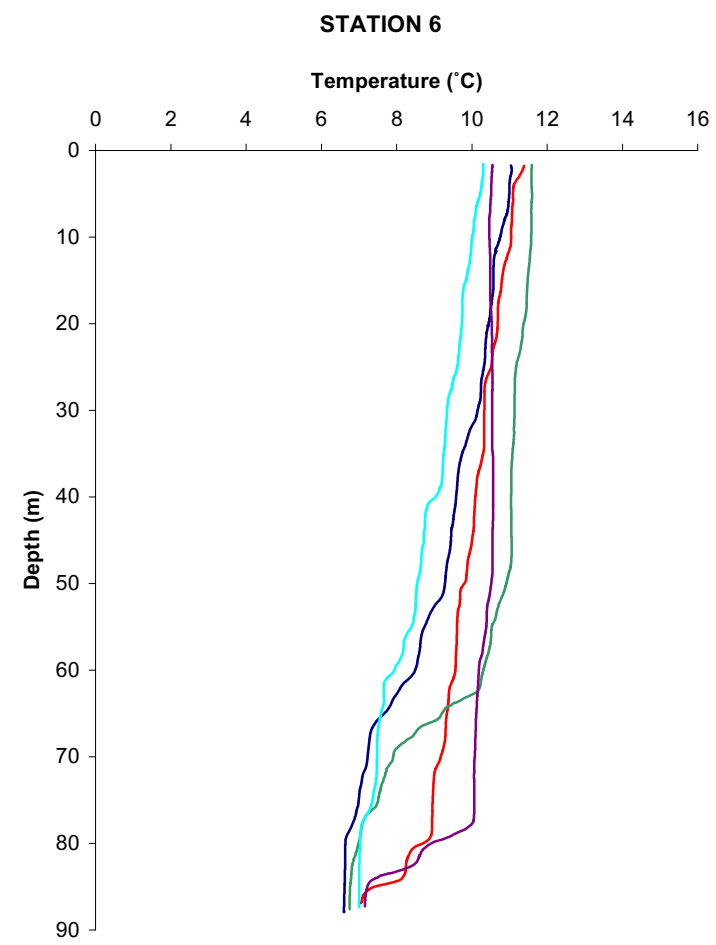
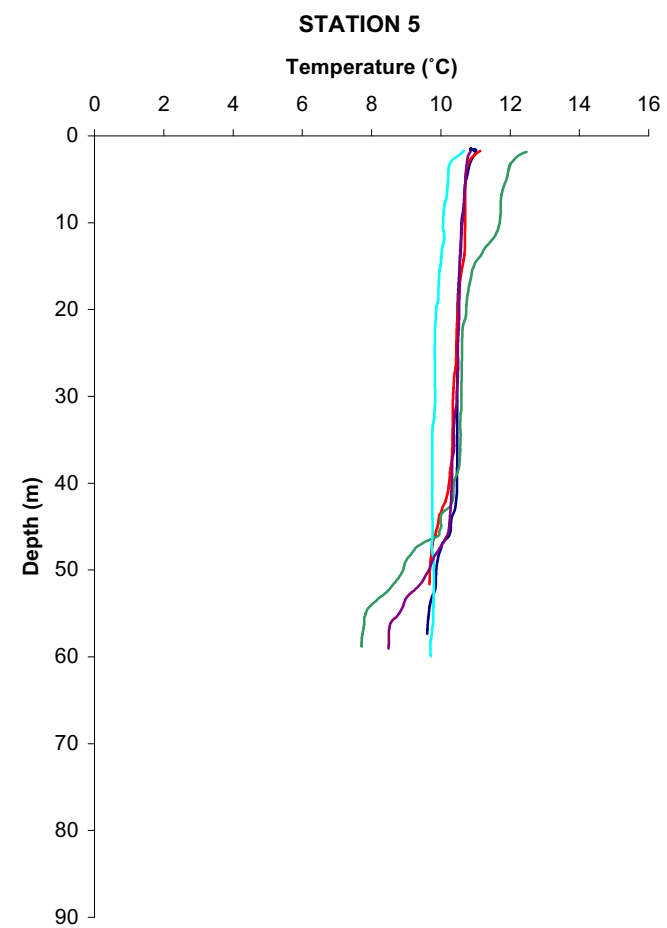
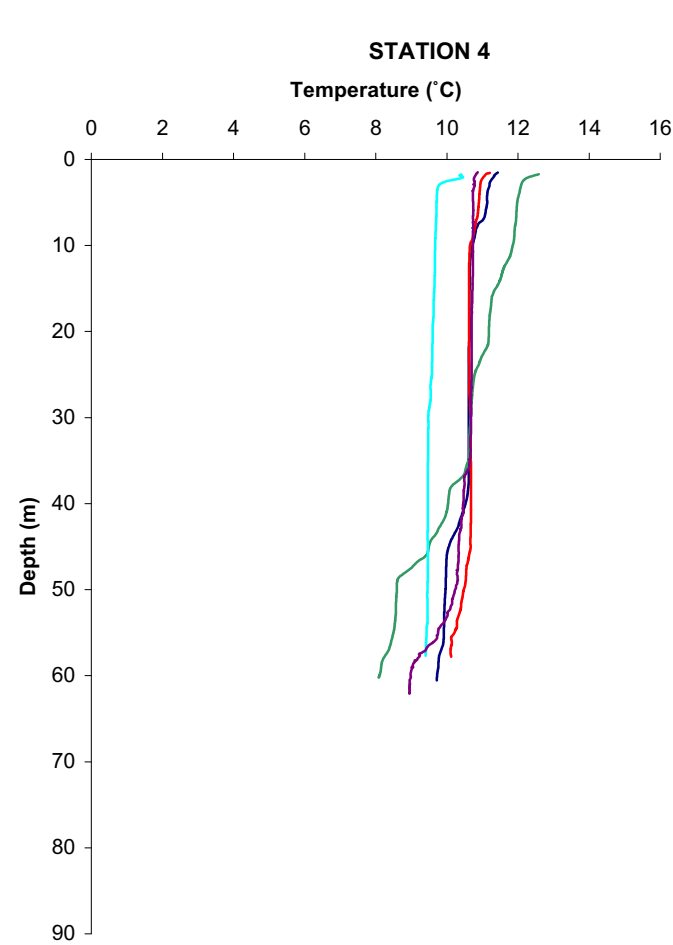



STATION	LATITUDE	LONGITUDE
M100E	48°24'9" N	123°24'31" W
M200E	48°24'9" N	123°24'26" W
M800E	48°24'9" N	123°23'59" W
PB1	48°21'15" N	123°30'38" W
1	48°22'47" N	123°27'31" W
2	48°23'1" N	123°28'2" W
3	48°22'51" N	123°28'36" W
4	48°22'42" N	123°28'59" W
5	48°22'40" N	123°28'7" W
6	48°22'36" N	123°27'43" W
7	48°22'30" N	123°28'14" W
8	48°22'32" N	123°28'42" W
9	48°22'14" N	123°29'6" W
10	48°22'37" N	123°26'54" W
11	48°22'17" N	123°27'54" W
12	48°22'22" N	123°28'46" W
13	48°21'46" N	123°28'30" W

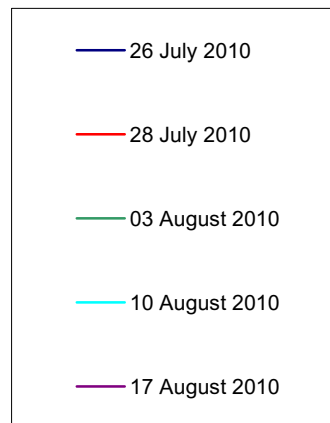
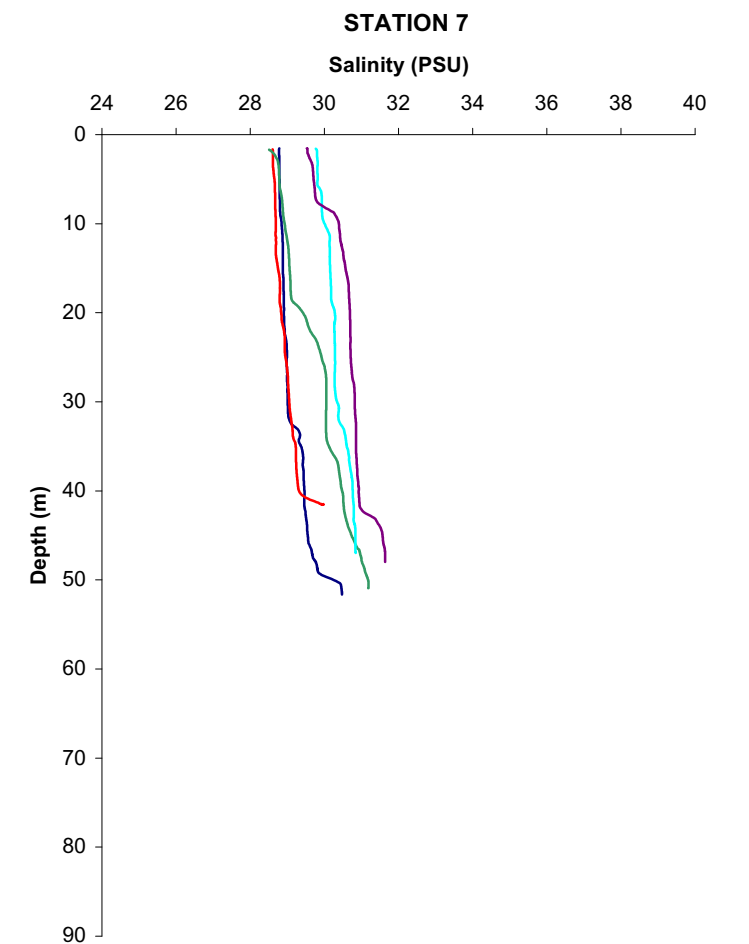
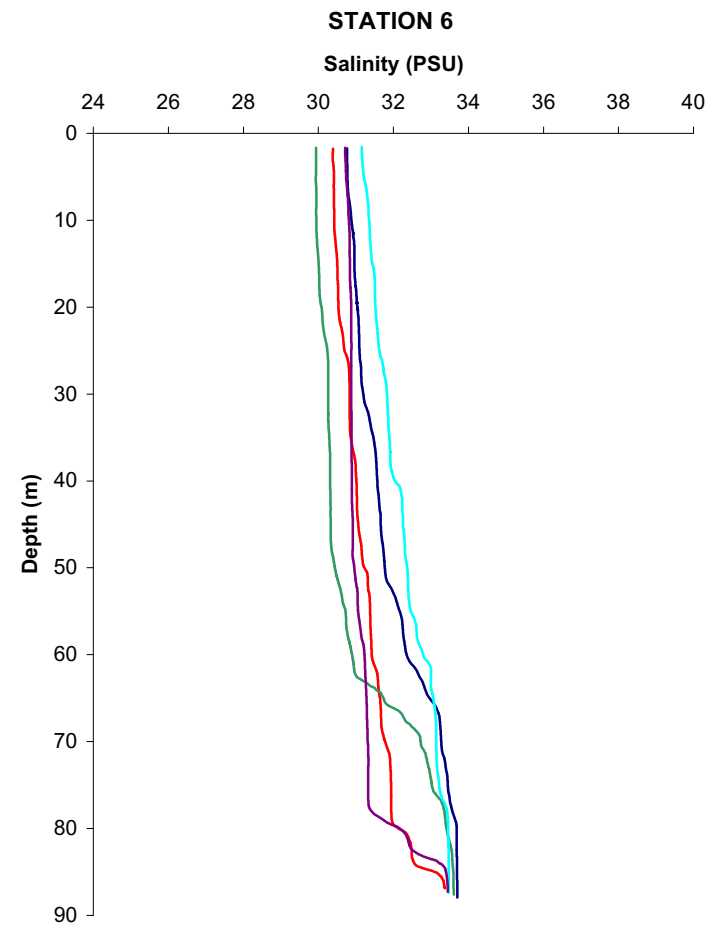
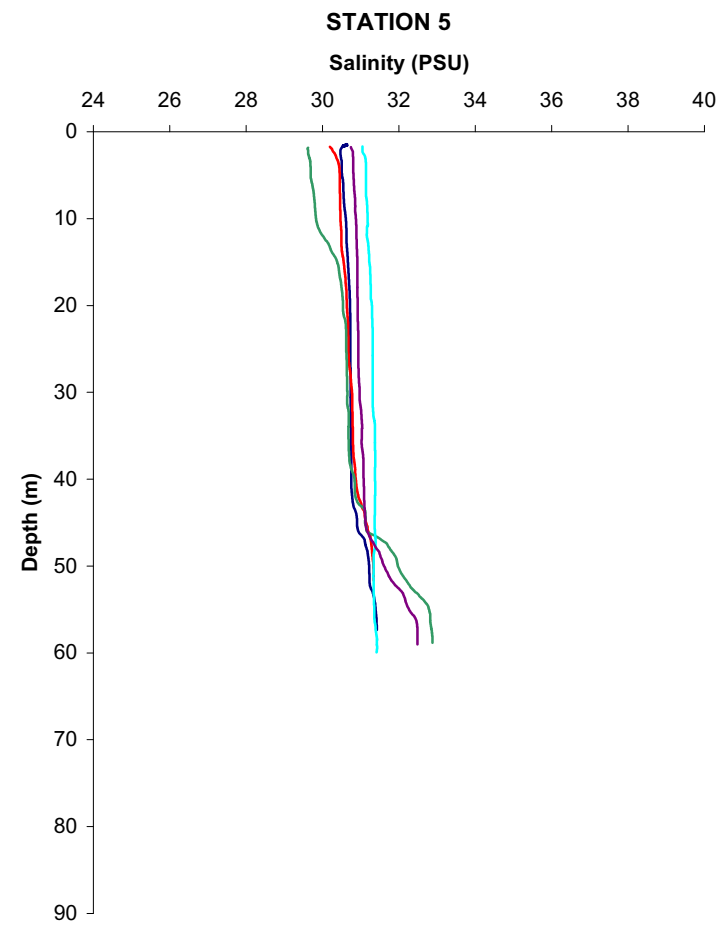
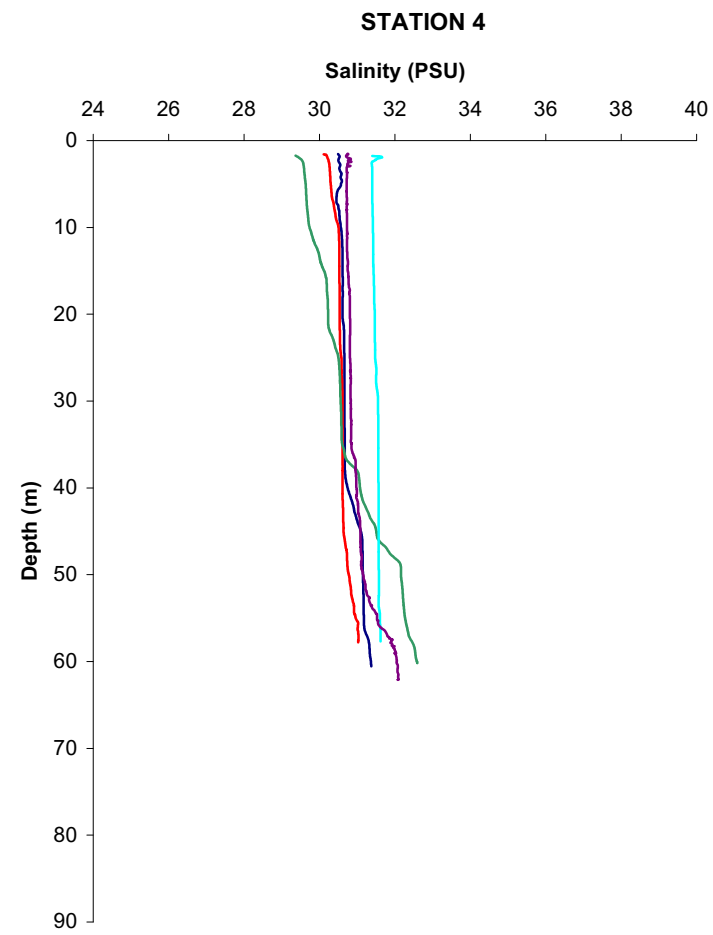
LEGEND:
 CRD SAMPLING STATIONS
 WORLEYPARSONS SAMPLING STATIONS


CAPITAL REGIONAL DISTRICT CRD CORE AREA WASTEWATER TREATMENT PRE-DISCHARGE MONITORING PROGRAM YEAR 1 -PROGRESS DATA REPORT BENTHIC SAMPLING STATIONS					Infrastructure & Environment 	
2010-11-16	date	MR	PH	app by	PROJECT NUMBER:	FIGURE:
<small>PREPARED SOLELY FOR THE USE OF OUR CLIENT AS SPECIFIED IN THE ACCOMPANYING REPORT. NO REPRESENTATION OF ANY KIND IS MADE TO OTHER PARTIES WITH WHICH WORLEYPARSONS HAS NOT ENTERED INTO A CONTRACT.</small>					09185	4

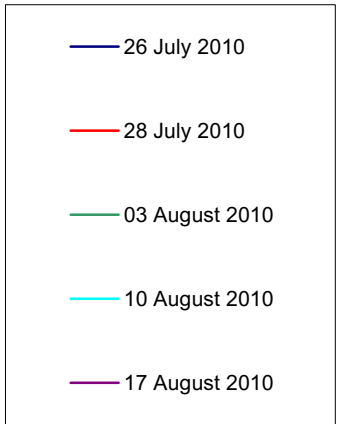
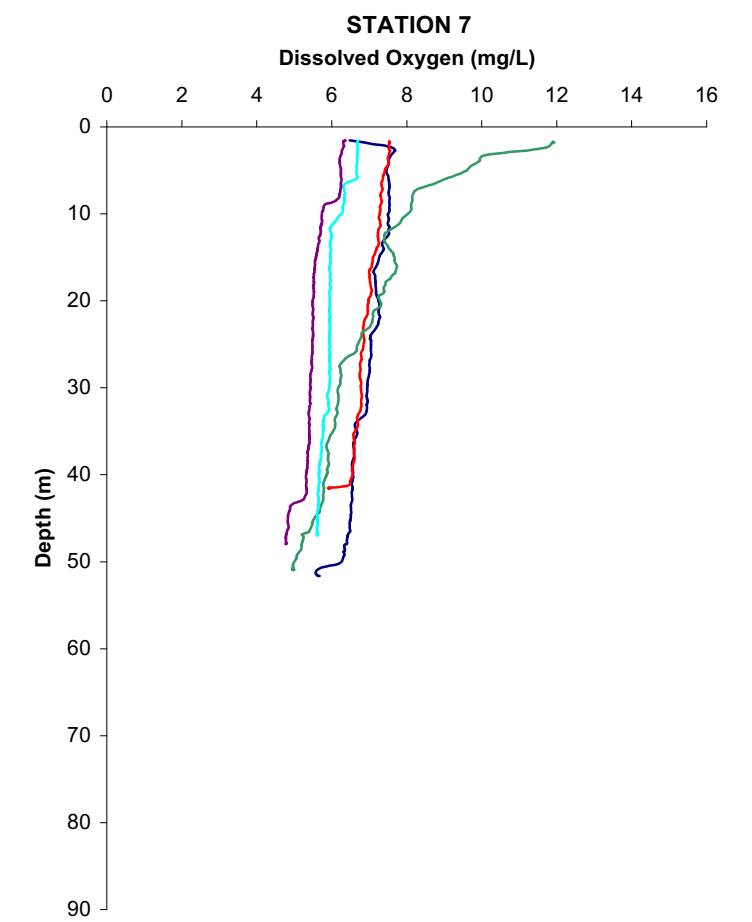
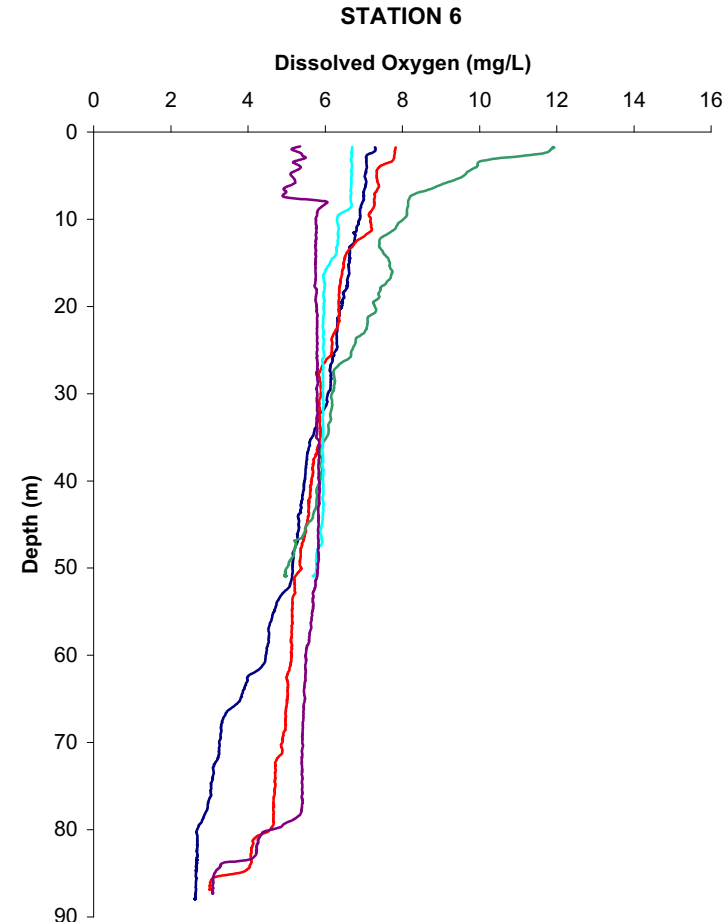
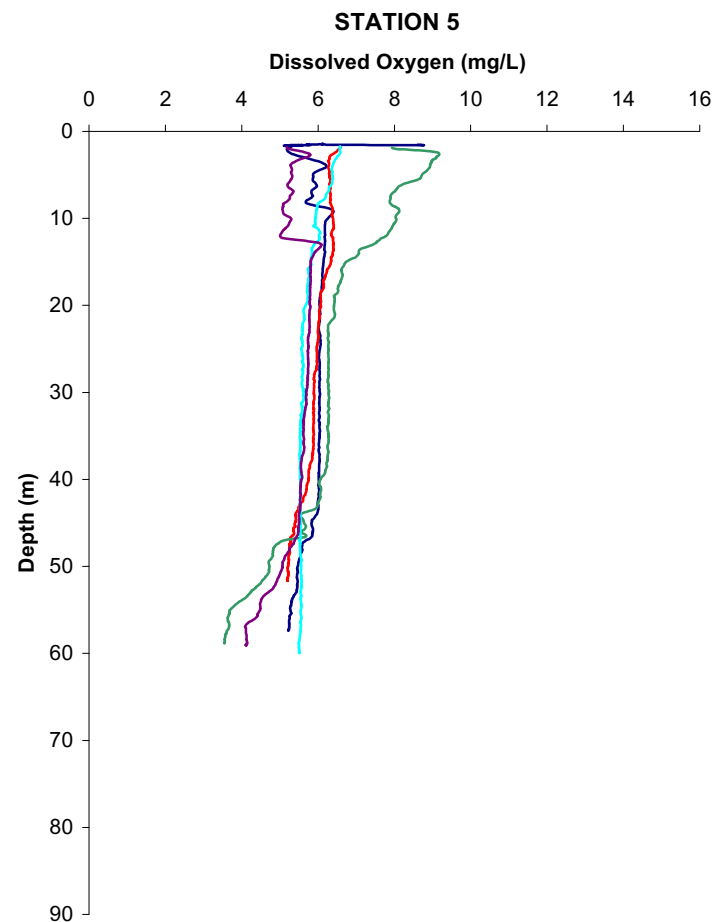
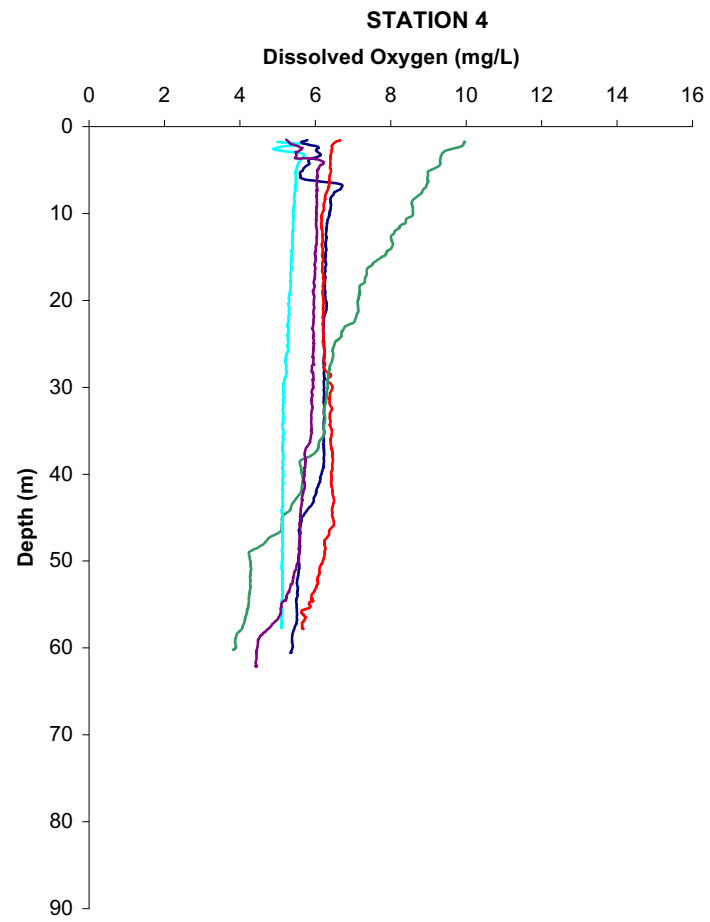
SOURCE: CANADIAN HYDROGRAPHIC SERVICE CHART #3440




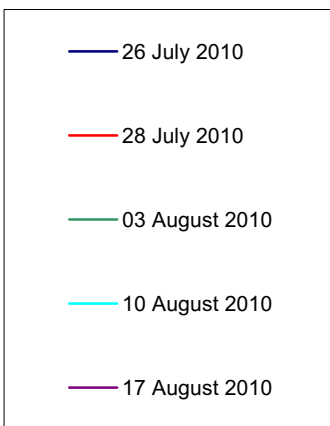
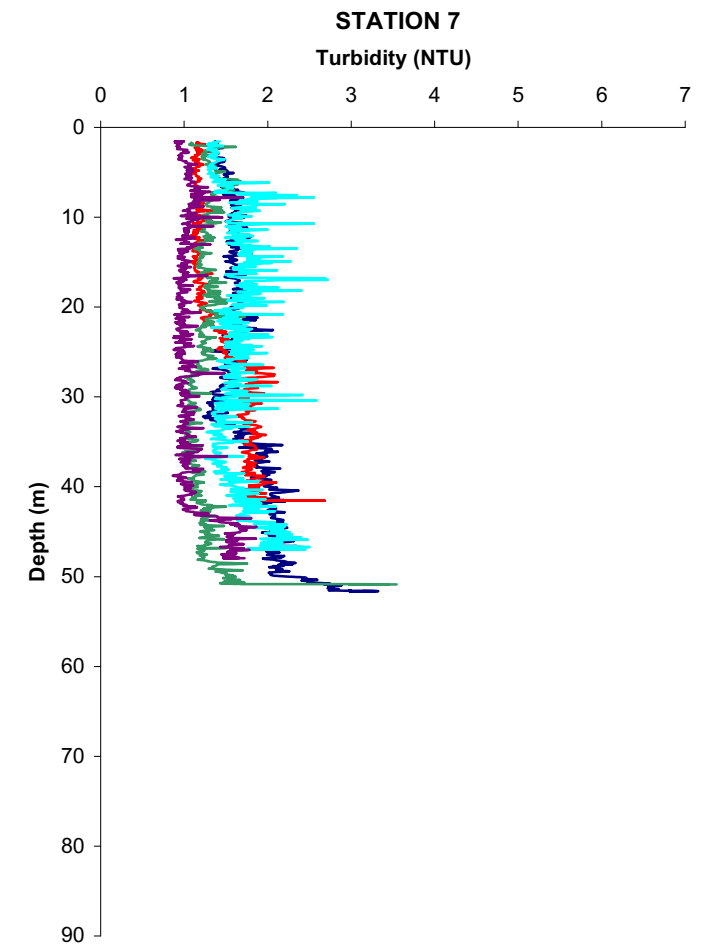
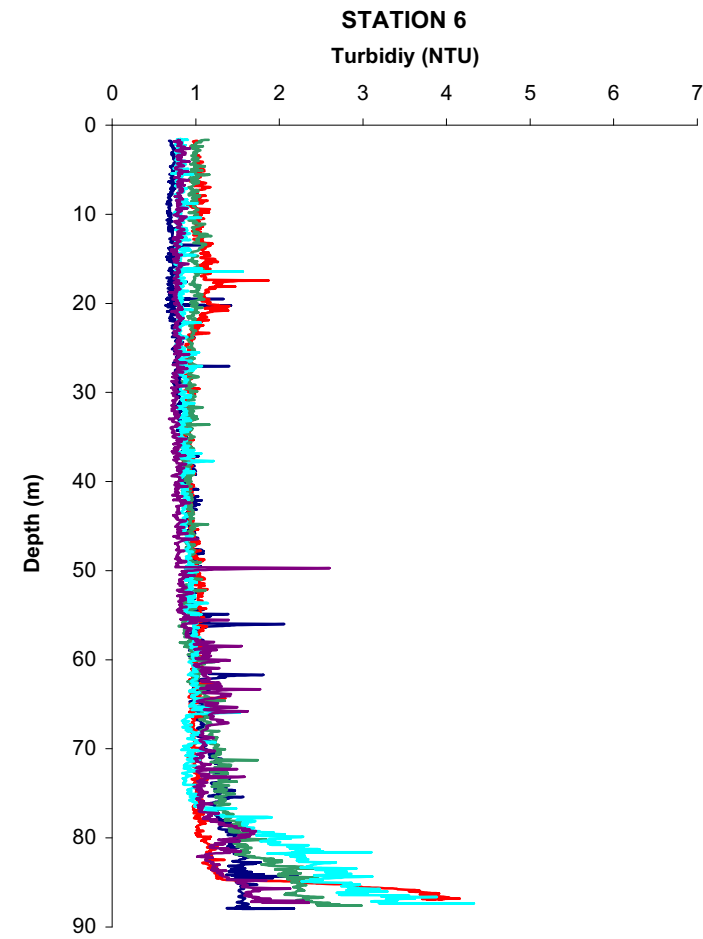
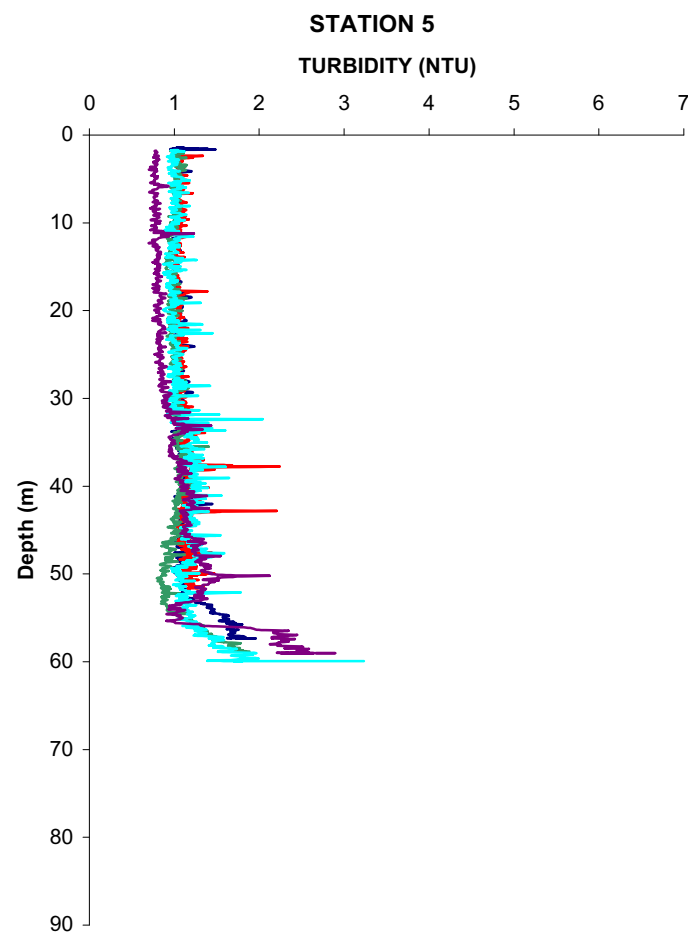
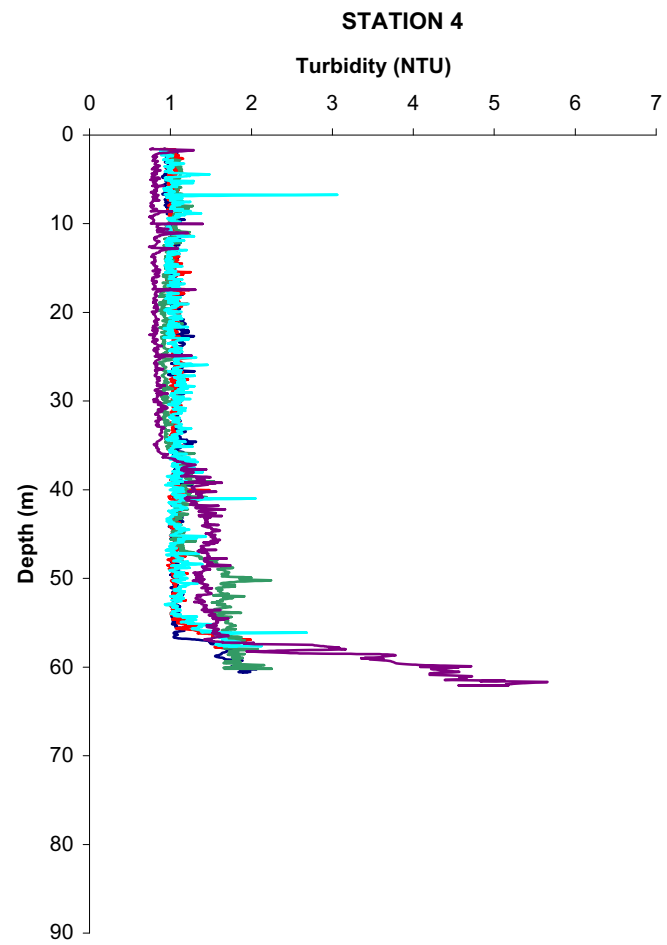
CAPITAL REGIONAL DISTRICT					Infrastructure & Environment	
CRD CORE AREA WASTEWATER TREATMENT					 WorleyParsons resources & energy	
PRE-DISCHARGE MONITORING PROGRAM						
YEAR 1 - PROGRESS DATA REPORT						
WATER COLUMN PROFILES - TEMPERATURE						
2010-11-16	<small>date</small>	<small>edited by</small>	MR	<small>drawn by</small>	PH	<small>app by</small>
<small>PREPARED SOLELY FOR THE USE OF OUR CLIENT AS SPECIFIED IN THE ACCOMPANYING REPORT. NO REPRESENTATION OF ANY KIND IS MADE TO OTHER PARTIES WITH WHICH WORLEYPARSONS HAS NOT ENTERED INTO A CONTRACT.</small>					PROJECT NUMBER:	FIGURE:
					09185	5




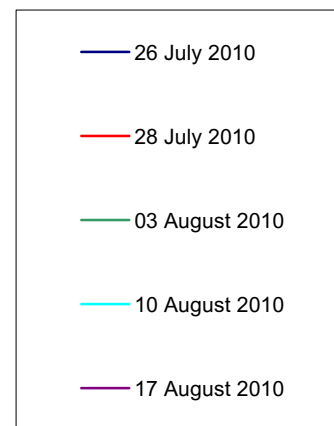
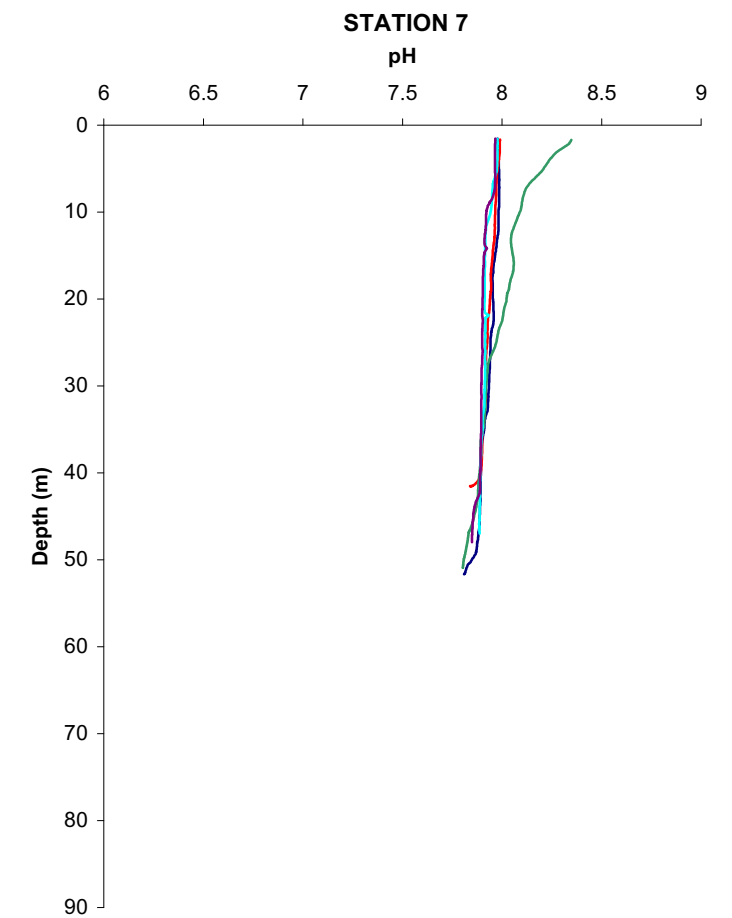
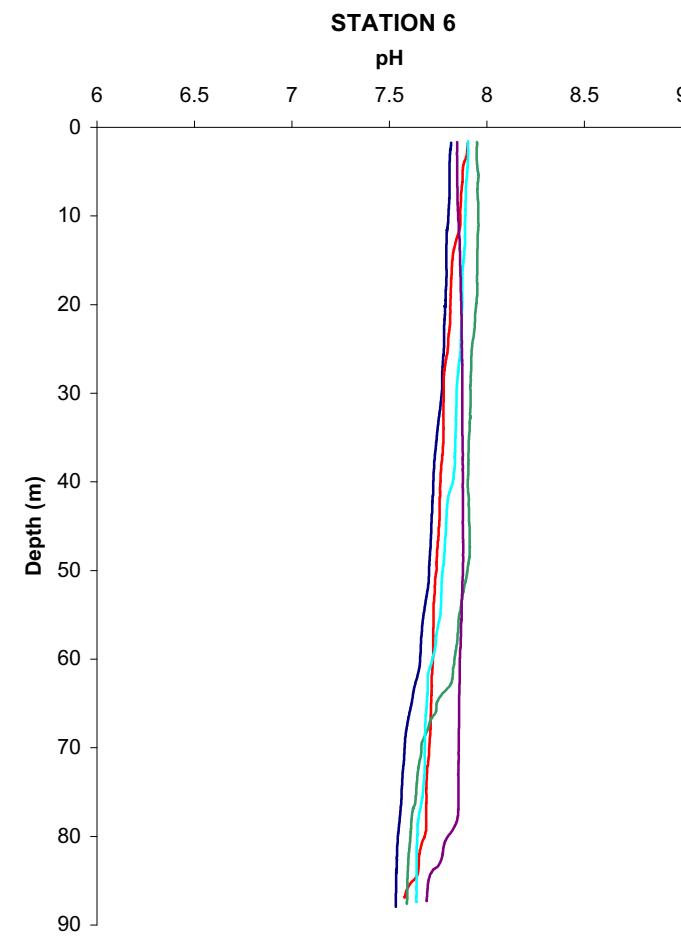
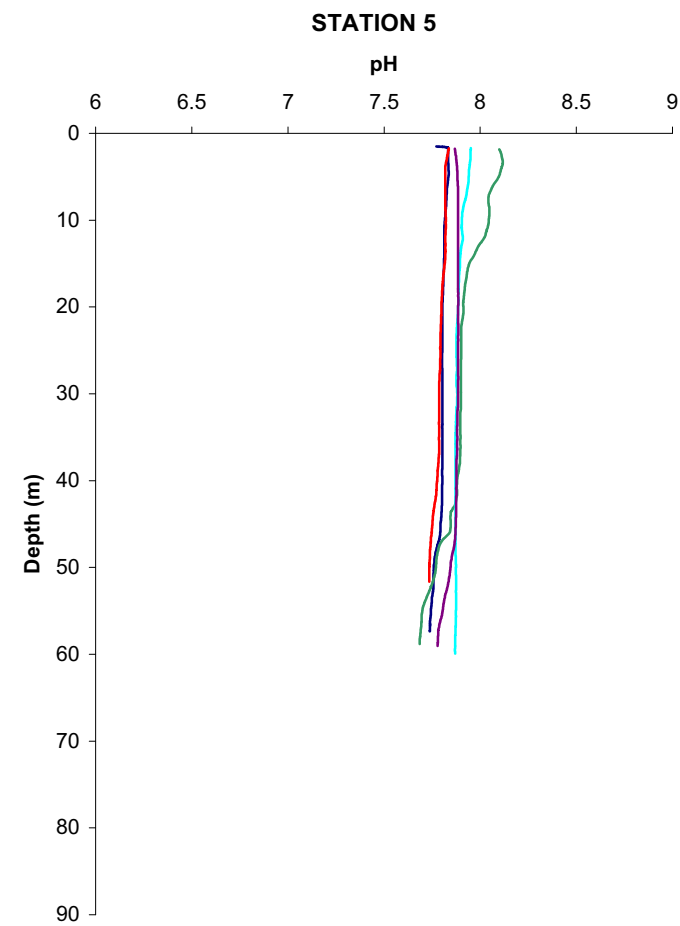
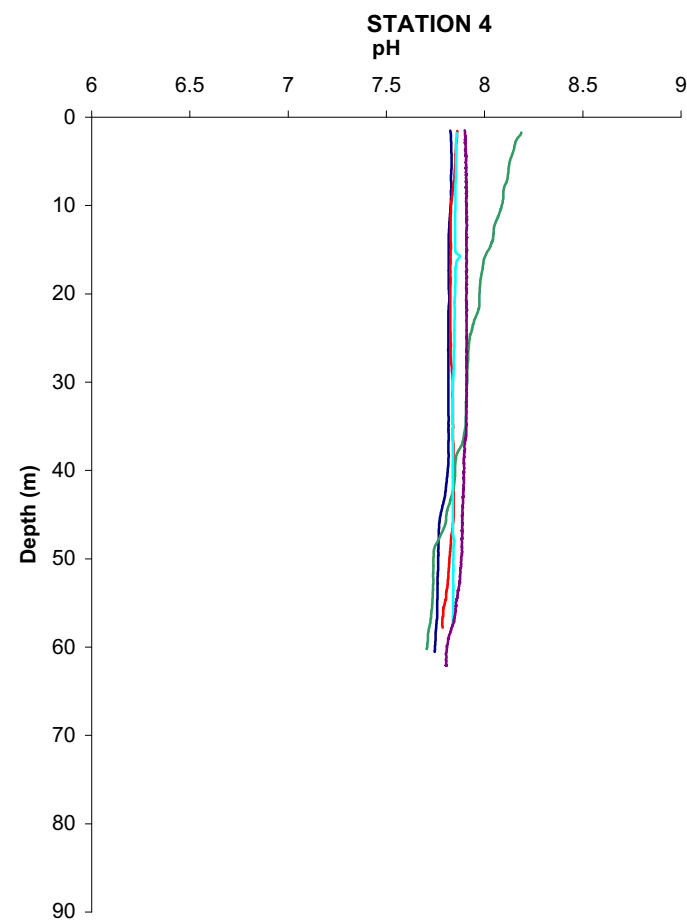
Infrastructure & Environment				
CAPITAL REGIONAL DISTRICT CRD CORE AREA WASTEWATER TREATMENT PRE-DISCHARGE MONITORING PROGRAM YEAR 1 - PROGRESS DATA REPORT WATER COLUMN PROFILES - SALINITY			 WorleyParsons resources & energy	
2010-11-16	date	MR	PH	PROJECT NUMBER: 09185
<small>PREPARED SOLELY FOR THE USE OF OUR CLIENT AS SPECIFIED IN THE ACCOMPANYING REPORT. NO REPRESENTATION OF ANY KIND IS MADE TO OTHER PARTIES WITH WHICH WORLEYPARSONS HAS NOT ENTERED INTO A CONTRACT.</small>				FIGURE: 6




CAPITAL REGIONAL DISTRICT					Infrastructure & Environment	
CRD CORE AREA WASTEWATER TREATMENT					 WorleyParsons resources & energy	
PRE-DISCHARGE MONITORING PROGRAM						
YEAR 1 - PROGRESS DATA REPORT						
WATER COLUMN PROFILES - DISSOLVED OXYGEN						
2010-11-16	<small>date</small>	<small>edited by</small>	MR	<small>drawn by</small>	PH	<small>app by</small>
<small>PREPARED SOLELY FOR THE USE OF OUR CLIENT AS SPECIFIED IN THE ACCOMPANYING REPORT. NO REPRESENTATION OF ANY KIND IS MADE TO OTHER PARTIES WITH WHICH WORLEYPARSONS HAS NOT ENTERED INTO A CONTRACT.</small>					PROJECT NUMBER:	FIGURE:
					09185	7



CAPITAL REGIONAL DISTRICT CRD CORE AREA WASTEWATER TREATMENT PRE-DISCHARGE MONITORING PROGRAM YEAR 1 - PROGRESS DATA REPORT WATER COLUMN PROFILES - TURBIDITY				Infrastructure & Environment	
				 WorleyParsons resources & energy	
2010-11-16	date	MR	drawn by	PH	app by
<small>PREPARED SOLELY FOR THE USE OF OUR CLIENT AS SPECIFIED IN THE ACCOMPANYING REPORT. NO REPRESENTATION OF ANY KIND IS MADE TO OTHER PARTIES WITH WHICH WORLEYPARSONS HAS NOT ENTERED INTO A CONTRACT.</small>				PROJECT NUMBER: 09185	FIGURE: 8



CAPITAL REGIONAL DISTRICT CRD CORE AREA WASTEWATER TREATMENT PRE-DISCHARGE MONITORING PROGRAM YEAR 1 - PROGRESS DATA REPORT WATER COLUMN PROFILES - pH					Infrastructure & Environment	
 WorleyParsons resources & energy						
2010-11-16	<small>date</small>	<small>edited by</small>	MR	<small>drawn by</small>	PH	<small>app by</small>
<small>PREPARED SOLELY FOR THE USE OF OUR CLIENT AS SPECIFIED IN THE ACCOMPANYING REPORT. NO REPRESENTATION OF ANY KIND IS MADE TO OTHER PARTIES WITH WHICH WORLEYPARSONS HAS NOT ENTERED INTO A CONTRACT.</small>					PROJECT NUMBER:	FIGURE:
					09185	9

Appendix 1 Seabird Calibration Certificates

CALIBRATION SHEETS

Temperature Calibration - S/N 6482.....	1
Conductivity Calibration - S/N 6482.....	2
Pressure Calibration - S/N 6482.....	3
SBE 5P Configuration - S/N 055508.....	4
SBE 18 pH Calibration - S/N 180740.....	5
SBE 43 Oxygen Calibration - S/N 431731.....	6
D and A OBS-3 Calibration - S/N T8610.....	7

SEA-BIRD ELECTRONICS, INC.

1808 136th Place N.E., Bellevue, Washington, 98005 USA

Phone: (425) 643 - 9866 Fax (425) 643 - 9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 6482
CALIBRATION DATE: 17-Dec-09

SBE19plus TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

ITS-90 COEFFICIENTS

a0 = 1.253367e-003
a1 = 2.600994e-004
a2 = -3.189288e-007
a3 = 1.484506e-007

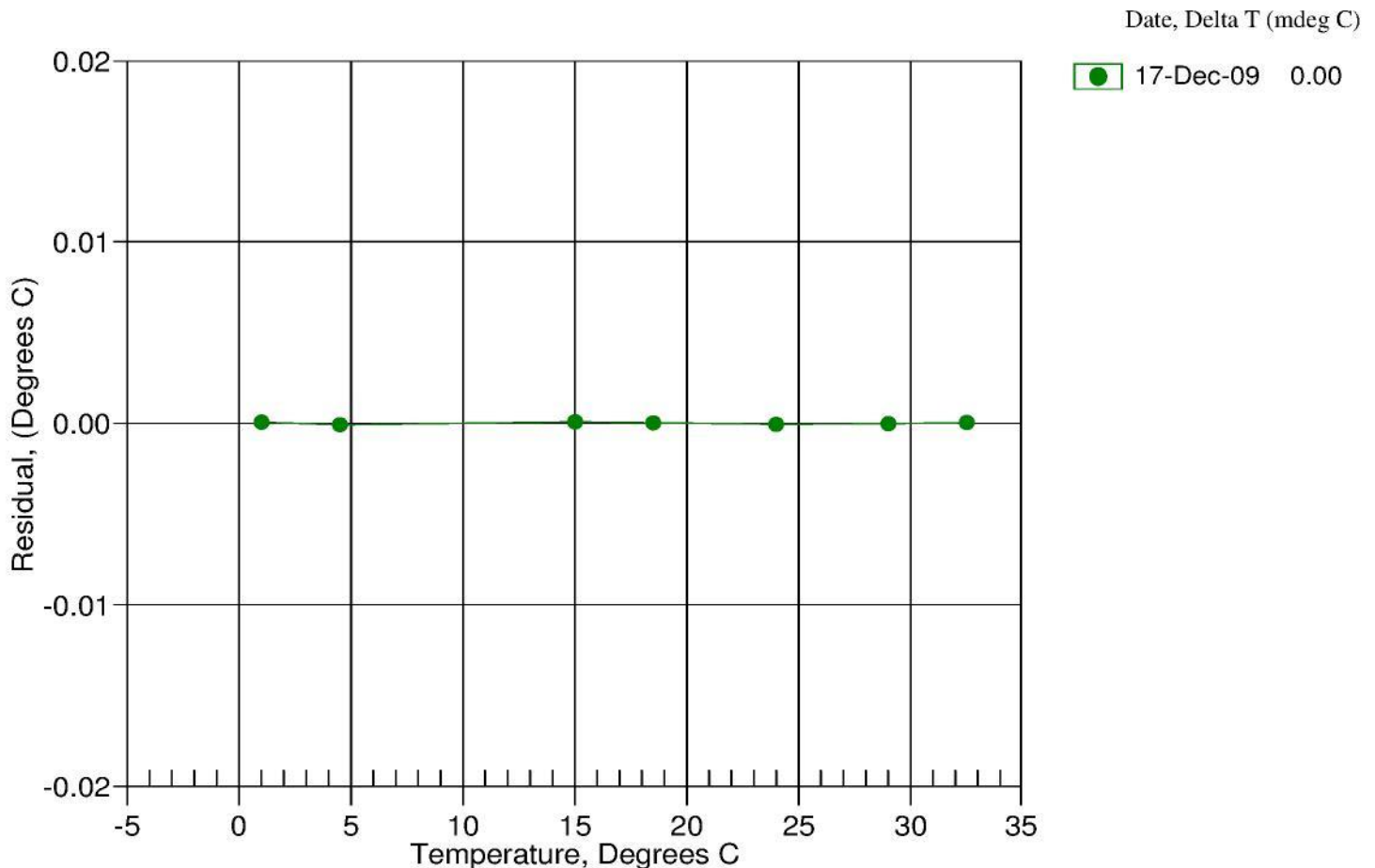
BATH TEMP (ITS-90)	INSTRUMENT OUTPUT(n)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
1.0000	699285.508	1.0000	0.0000
4.5000	623272.610	4.4999	-0.0001
15.0000	431825.424	15.0001	0.0001
18.5000	379827.017	18.5000	0.0000
24.0000	308905.610	23.9999	-0.0001
29.0000	254712.305	29.0000	-0.0000
32.5000	221914.271	32.5000	0.0000

$$MV = (n - 524288) / 1.6e+007$$

$$R = (MV * 2.900e+009 + 1.024e+008) / (2.048e+004 - MV * 2.0e+005)$$

$$\text{Temperature ITS-90} = 1 / \{ a_0 + a_1[\ln(R)] + a_2[\ln^2(R)] + a_3[\ln^3(R)] \} - 273.15 \text{ (}^\circ\text{C)}$$

$$\text{Residual} = \text{instrument temperature} - \text{bath temperature}$$



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SENSOR SERIAL NUMBER: 6482
CALIBRATION DATE: 17-Dec-09

SBE19plus CONDUCTIVITY CALIBRATION DATA
PSS 1978: C(35,15,0) = 4.2914 Siemens/meter

COEFFICIENTS:

g = -1.057543e+000

CPcor = -9.5700e-008

h = 1.421697e-001

CTcor = 3.2500e-006

i = -1.518545e-004

j = 2.965842e-005

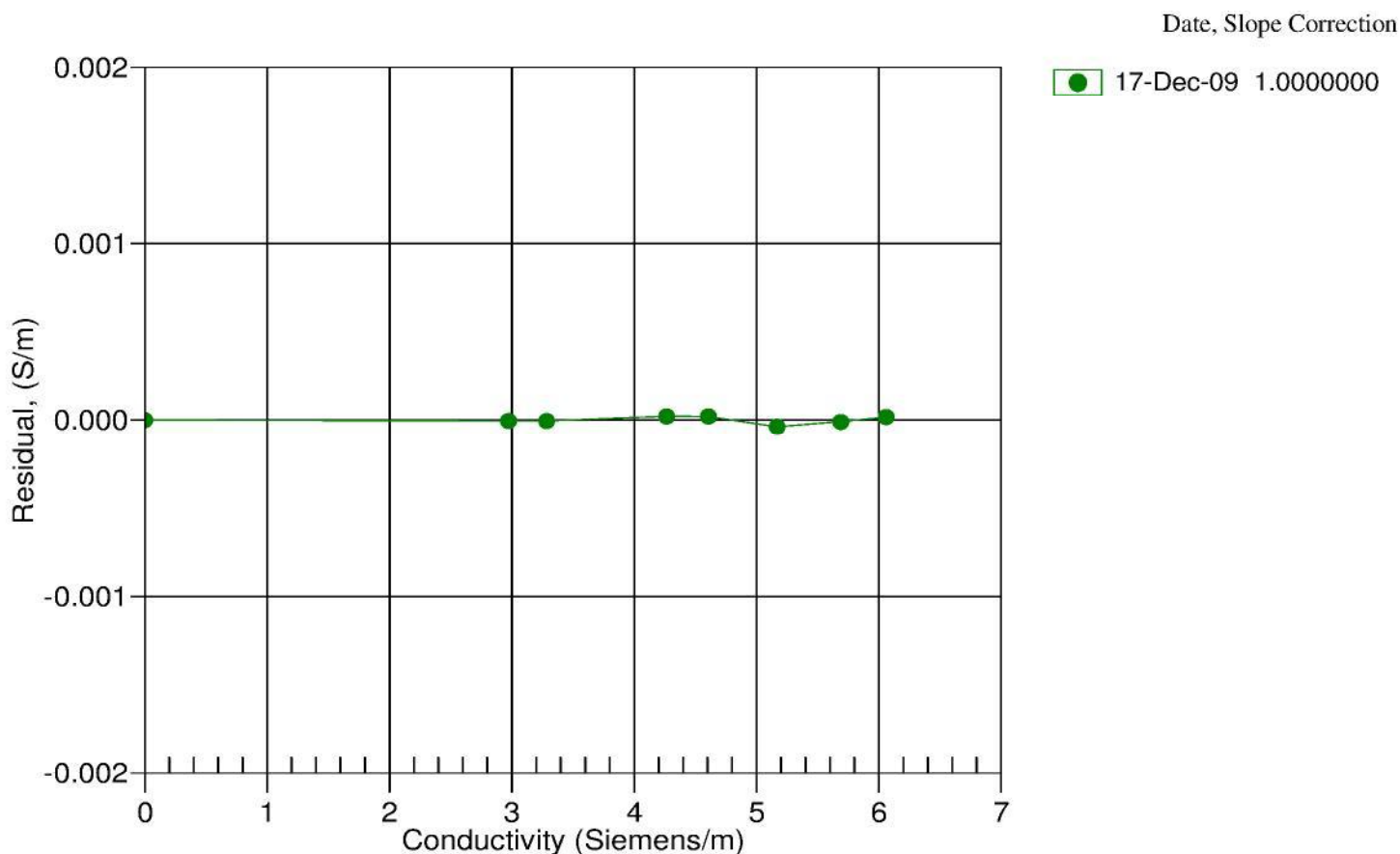
BATH TEMP (ITS-90)	BATH SAL (PSU)	BATH COND (Siemens/m)	INST FREQ (Hz)	INST COND (Siemens/m)	RESIDUAL (Siemens/m)
22.0000	0.0000	0.00000	2729.24	0.0000	0.00000
1.0000	34.8076	2.97529	5325.40	2.9753	-0.00001
4.5000	34.7875	3.28227	5523.74	3.2823	-0.00001
15.0000	34.7436	4.26364	6114.13	4.2637	0.00002
18.5000	34.7342	4.60865	6308.33	4.6087	0.00002
24.0000	34.7237	5.16637	6609.91	5.1663	-0.00004
29.0000	34.7177	5.68798	6879.77	5.6880	-0.00001
32.5000	34.7145	6.06024	7065.89	6.0603	0.00002

f = INST FREQ / 1000.0

Conductivity = $(g + hf^2 + if^3 + jf^4) / (1 + \delta t + \epsilon p)$ Siemens/meter

t = temperature[°C]; p = pressure[decibars]; δ = CTcor; ϵ = CPcor;

Residual = instrument conductivity - bath conductivity



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Phone: (425) 643 - 9866 Fax (425) 643 - 9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 6482
CALIBRATION DATE: 14-Dec-09

SBE19plus PRESSURE CALIBRATION DATA
160 psia S/N 2932954

COEFFICIENTS:

PA0 =	8.651570e-002	PTCA0 =	5.250039e+005
PA1 =	4.883403e-004	PTCA1 =	2.255154e+001
PA2 =	-5.151139e-012	PTCA2 =	-6.934837e-001
PTEMPA0 =	-6.500782e+001	PTCB0 =	2.499950e+001
PTEMPA1 =	5.185782e+001	PTCB1 =	7.000000e-004
PTEMPA2 =	-2.533178e-001	PTCB2 =	0.000000e+000

PRESSURE SPAN CALIBRATION

PRESSURE PSIA	INST OUTPUT	THERMISTOR OUTPUT	COMPUTED PRESSURE	ERROR %FSR
14.63	554948.0	1.6	14.61	-0.01
29.85	586257.0	1.6	29.88	0.02
59.87	647843.0	1.6	59.88	0.00
94.91	719819.0	1.6	94.89	-0.01
124.89	781561.0	1.6	124.89	-0.01
159.89	853740.0	1.6	159.90	0.00
124.90	781609.0	1.6	124.91	0.00
94.92	719857.0	1.6	94.91	-0.00
59.93	647946.0	1.6	59.93	0.00
29.94	586436.0	1.6	29.96	0.02
14.64	554972.0	1.6	14.62	-0.01

THERMAL CORRECTION

TEMP ITS90	THERMISTOR OUTPUT	INST OUTPUT
32.50	1.90	555513.19
29.00	1.83	555567.88
24.00	1.73	555626.55
18.50	1.62	555678.25
15.00	1.55	555695.46
4.50	1.35	555606.57
1.00	1.28	555508.06

TEMP (ITS90)	SPAN (mV)
-5.00	25.00
35.00	25.02

$y = \text{thermistor output}; t = PTEMPA0 + PTEMPA1 * y + PTEMPA2 * y^2$

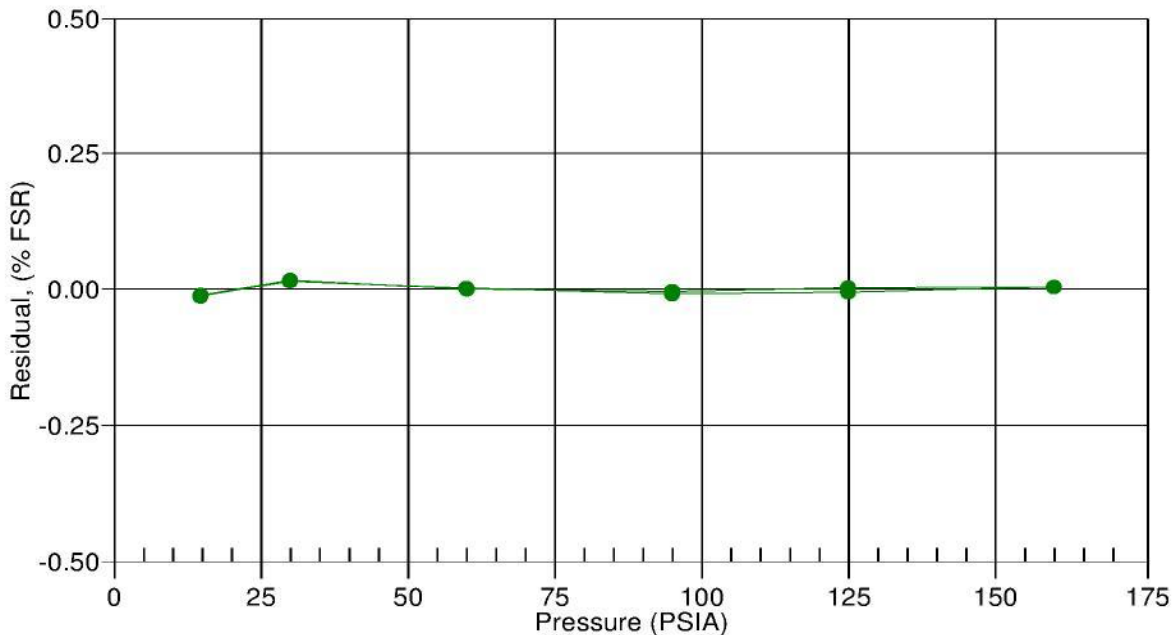
$x = \text{pressure output} - PTCA0 - PTCA1 * t - PTCA2 * t^2$

$n = x * PTCB0 / (PTCB0 + PTCB1 * t + PTCB2 * t^2)$

$\text{pressure (psia)} = PA0 + PA1 * n + PA2 * n^2$

Date, Avg Delta P %FS

14-Dec-09 0.00





Sea-Bird Electronics, Inc.

1808 136th Place NE, Bellevue, Washington 98005 USA

Website: http://www.seabird.com

Tel: (425) 643-9866

Email: seabird@seabird.com

Fax: (425) 643-9866

SBE 5P SUBMERSIBLE PUMP CONFIGURATION SHEETCustomer: **WorleyParsons Canada**Delivery Date: **12/30/2009**Serial Number: **5508**MRP PN: **90618**Job Number: **55714**

Pressure Case: 600 meters (Plastic)

Pittman Motor Type:**P/N 3711B113-R1, 18.02 ohms nominal (For applications up to 2000 RPM MAX)** 5 Winding, low voltage input (jump P5 to P7)
(80676 assy/3711B113-R1 motor) 5 Winding, standard voltage input (jump P5 to P6)
(80676 assy/3711B113-R1 motor) **P/N 3711B112-R1, 7.40 ohms nominal (For applications up to 4500 RPM MAX)** 3 Winding, low voltage input (jump P5 to P7)
(80675 assy/3711B112-R1 motor) 3 Winding, standard voltage input (jump P5 to P6)
(80675 assy/3711B112-R1 motor) **P/N 3711B112-R2, 3.55 ohms nominal (For applications up to 4500 RPM MAX)** 3 Winding, low voltage input (jump P5 to P7)
(801572 assy/3711B112-R2 motor) 3 Winding, standard voltage input (jump P5 to P6)
(801572 assy/3711B112-R2 motor) Speed Adjust Range: Min: **975** RPM Max: **5201** RPM (@ 12 Vin/300mA load)Final Speed Setting: **2000** RPM (TP1 = **66.7** Hz)**Low voltage pumps only:**Motor speed at 7.5 Vin with no load: **0** RPM (TP1 = **0.0** Hz)Motor speed at 7.5 Vin with 200mA load: **0** RPM (TP1 = **0.0** Hz)Motor dropout voltage: **9.3**

SEA-BIRD ELECTRONICS, INC.

1808 136th Place N.E., Bellevue, Washington, 98005 USA

Phone: (425) 643 - 9866 Fax (425) 643 - 9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 0740
CALIBRATION DATE: 23-Dec-09

SBE18 pH CALIBRATION DATA

pH COEFFICIENTS

pHslope = 4.4843

pHoffset = 2.5173

pH	Temperature (deg C)	Vout	Instrument Output (pH units)	Residual (pH units)
4.0	20.0	1.733	3.993	-0.007
7.0	20.0	2.521	7.014	0.014
10.0	20.0	3.298	9.993	-0.007

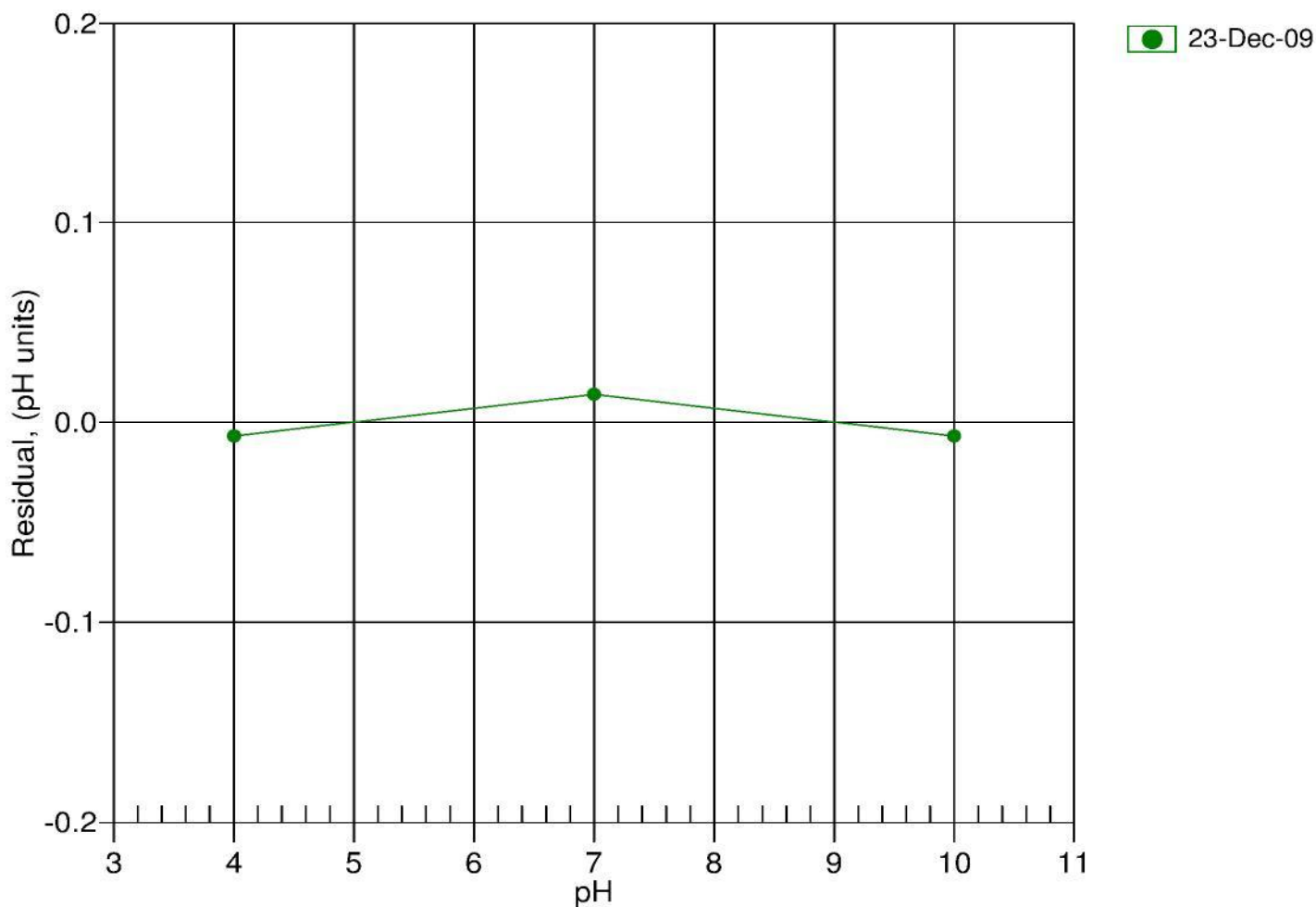
$$\text{pH} = 7.0 + (\text{Vout} - \text{pHoffset}) / (\text{pHslope} * \text{°K} * 1.98416\text{E-}4)$$

Where:

Vout = pH sensor output in volts

K is the water temperature in degrees Kelvin

Residual = instrument pH - buffer pH



SEA-BIRD ELECTRONICS, INC.

1808 136th Place N.E., Bellevue, Washington, 98005 USA

Phone: (425) 643 - 9866 Fax (425) 643 - 9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 1731
CALIBRATION DATE: 22-Dec-09p

SBE 43 OXYGEN CALIBRATION DATA

COEFFICIENTS

Soc = 0.4347

Voffset = -0.4924

Tau20 = 1.56

A = -3.3327e-003

B = 1.8199e-004

C = -3.3656e-006

E nominal = 0.036

NOMINAL DYNAMIC COEFFICIENTS

D1 = 1.92634e-4 H1 = -3.30000e-2

D2 = -4.64803e-2 H2 = 5.00000e+3

H3 = 1.45000e+3

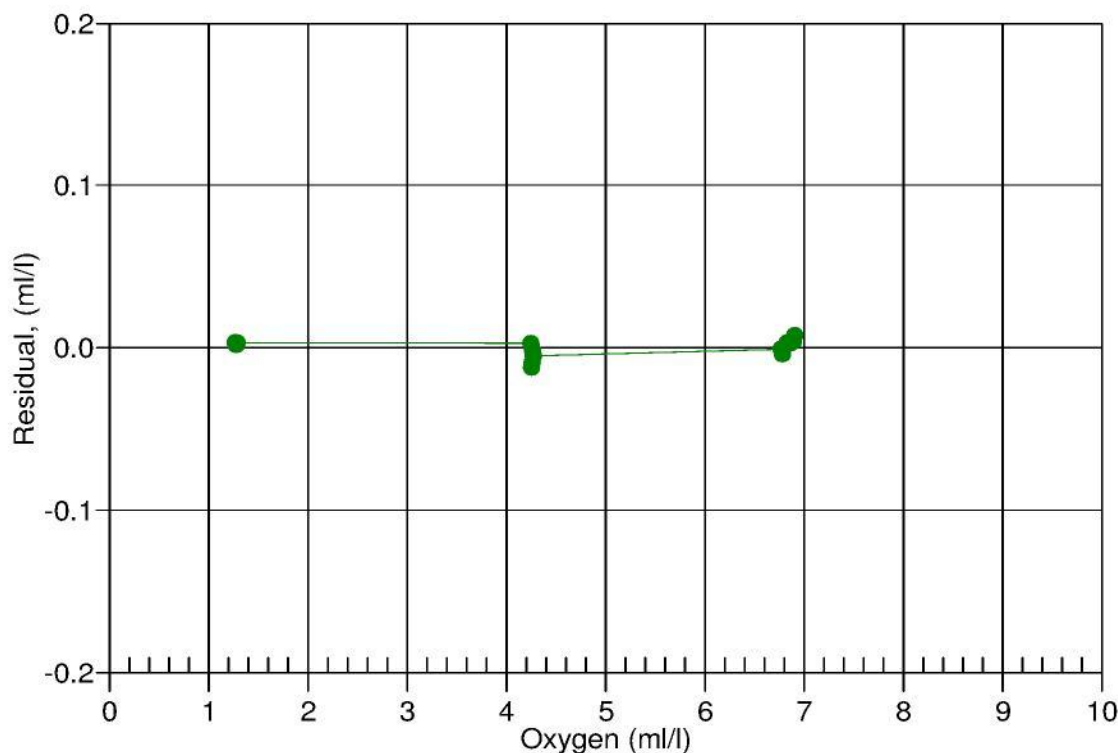
BATH OX (ml/l)	BATH TEMP ITS-90	BATH SAL PSU	INSTRUMENT OUTPUT(VOLTS)	INSTRUMENT OXYGEN(ml/l)	RESIDUAL (ml/l)
1.26	2.00	0.00	0.795	1.27	0.00
1.27	6.00	0.00	0.834	1.27	0.00
1.28	12.00	0.01	0.890	1.28	0.00
1.28	26.00	0.01	1.024	1.28	0.00
1.28	20.00	0.01	0.966	1.28	0.00
1.29	30.00	0.01	1.068	1.29	0.00
4.24	30.00	0.01	2.391	4.25	0.00
4.25	26.00	0.01	2.256	4.25	0.00
4.25	2.00	0.00	1.507	4.24	-0.01
4.26	6.00	0.00	1.632	4.25	-0.01
4.27	20.00	0.01	2.067	4.26	-0.00
4.27	12.00	0.01	1.819	4.26	-0.01
6.76	30.00	0.01	3.516	6.76	-0.00
6.78	26.00	0.01	3.303	6.78	-0.00
6.83	20.00	0.01	3.014	6.83	0.00
6.86	12.00	0.01	2.628	6.86	0.00
6.89	6.00	0.00	2.339	6.89	0.00
6.90	2.00	0.00	2.146	6.91	0.01

Oxygen (ml/l) = Soc * (V + Voffset) * (1.0 + A * T + B * T² + C * T³) * OxSol(T,S) * exp(E * P / K)

V = voltage output from SBE43, T = temperature [deg C], S = salinity [PSU] K = temperature [deg K]

OxSol(T,S) = oxygen saturation [ml/l], P = pressure [dbar], Residual = instrument oxygen - bath oxygen

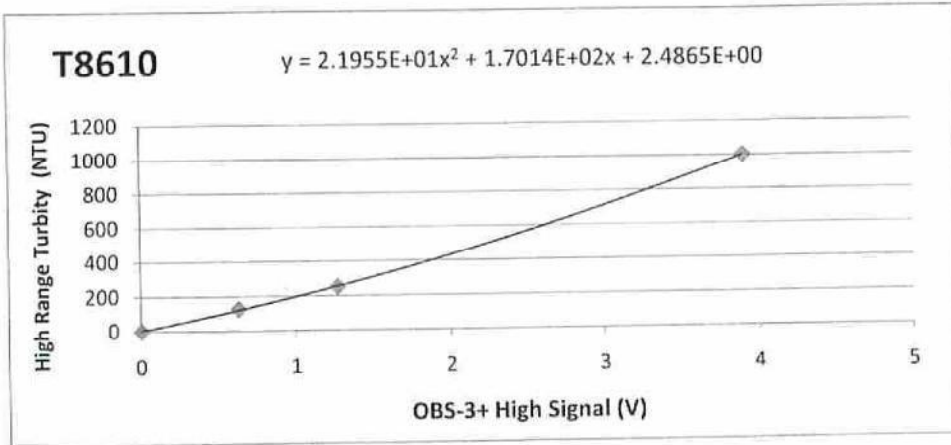
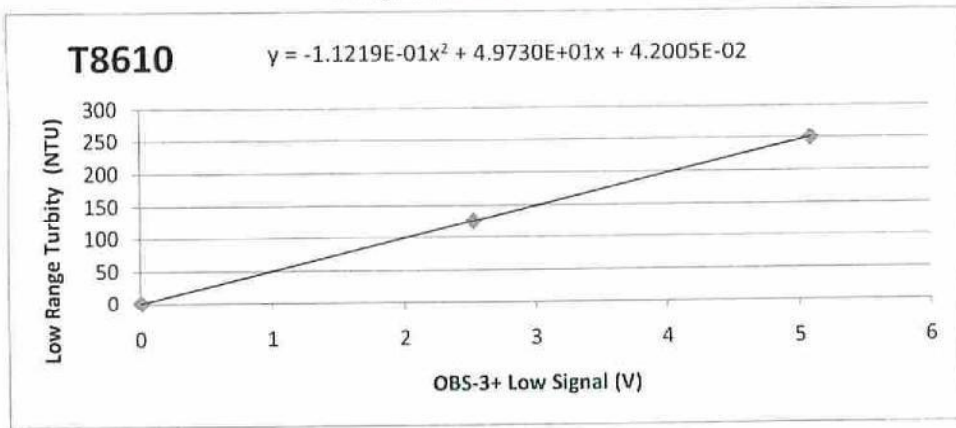
Date, Delta Ox (ml/l)



OBS-3+ AMCO Clear Calibration Certificate

Serial Number: T8610 Nominal Low Range: 250 NTU
 Customer: Sea- Bird Electronics Inc. Nominal High Range: 1000 NTU

Voltage Calibration



Performed by



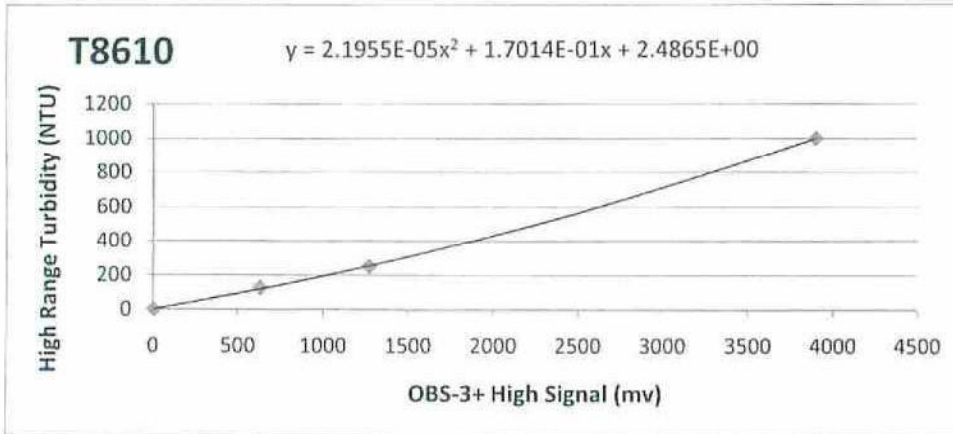
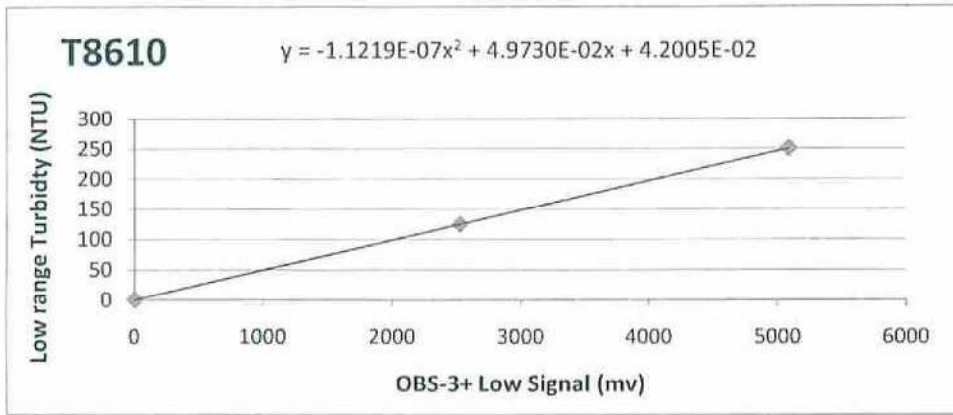
November 25, 2009

815w 1800n Logan UT 84321 435-753-2342

OBS-3+ AMCO Clear Calibration Certificate

Serial Number: T8610 Nominal Low Range: 250 NTU
 Customer: Sea- Bird Electronics Inc. Nominal High Range: 1000 NTU

Milli-Volt Calibration



Performed by



November 25, 2009

815w 1800n Logan UT 84321 435-753-2342

Appendix 2 Field Data Sheets



WorleyParsons

resources & energy
 106-2780 Veterans' Memorial Parkway
 Victoria BC, V9B 3S6
 Ph: (250) 384-1499, F: (250) 384-1201

CTD & WATER SAMPLING SHEET

Project Details

Client: **Capital Regional District**
 Proj. Name: **Baseline Marine Monitoring**
 Project No.: **09185**
 Location:
 Description:

Date (Spring/Summer/Fall/Winter): July 26
 Personnel:
 Checked By: P.M.

Sampling Conditions

Tide:
 Wind Speed: 0
 Wind Direction: N/A
 Precipitation: light
 Air Temperature: 15°C

Station:

6 Parry Bay Deep

CTD Cast Time 7:25 am

Sample ID 6 Bottom

Depth 92m

Time 7:35

Sample ID 6 mid

Depth 46m

Time 8:14

Sample ID 6S

Depth 1m

Time 8:26

Notes:

Station:

1 Albert Head

CTD Cast Time 8:43 (47m)

Sample ID 1B

Depth 46m

Time 9:21

Sample ID 1M

Depth 23m

Time 9:31

Sample ID 1S

Depth 1m

Time 9:38

Notes:

Station:

2AH

CTD Cast Time 2 AH 9:03

Sample ID 2B

Depth 40m

Time 9:52

Sample ID 2M

Depth 20m

Time 9:59

Sample ID 2S

Depth 1m

Time 10:06

Notes:



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 106-2780 Veterans' Memorial Parkway
 Victoria BC, V9B 3S6
 Ph: (250) 384-1499, F: (250) 384-1201

CTD & WATER SAMPLING SHEET

Project Details

Client: **Capital Regional District**
 Proj. Name: **Baseline Marine Monitoring**
 Project No.: **09185**
 Location:
 Description:

Date (Spring/Summer/Fall/Winter):
 Personnel:
 Checked By:

July 26/2010
 PH

Sampling Conditions

Tide:
 Wind Speed: 0-5 kts

Wind Direction: 025 S
 Precipitation: 0/0
 Air Temperature: 15-20

Station: 3 AH

CTD Cast Time 9:10

Sample ID 3B

Depth 46 m

Time 10:17 am

Sample ID 3M

Depth 23 m

Time 10:21

Sample ID 3 S

Depth 1 m

Time 10:26

Notes:

Station:

CTD Cast Time 4 MP 10:50

Sample ID ~~10:50~~ 4 Bottom

Depth 61 m

Time 11:11

Sample ID 4 mid

Depth 30 m

Time 11:21

Sample ID 4 surface

Depth 1 m

Time 11:28

Notes:

Station: 5 MP

CTD Cast Time 5 11:00

Sample ID 5 Bottom

Depth 58

Time 11:42

Sample ID 5 mid

Depth 29

Time 11:50

Sample ID 5 surface

Depth 1 m

Time 11:57

Notes:



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Victoria BC, V9B 3S6
Ph: (250) 384-1499, F: (250) 384-1201

CTD & WATER SAMPLING SHEET

Project Details

Client: **Capital Regional District**
Proj. Name: **Baseline Marine Monitoring**
Project No.: **09185**
Location :
Description:

Date (Spring/Summer/Fall/Winter):
Personnel:
Checked By:

July 26/201
DNY

Sampling Conditions

Tide:
Wind Speed: Alto calm

Wind Direction: N calm
Precipitation: N/A
Air Temperature: 20.0C

Station:

7 (old 5 @ FL)

CTD Cast Time 12:34

Sample ID 7 Bottom

Sample ID 7 m01

Sample ID 75

Depth 49

Depth 23 m

Depth 1m

Time 12:43

Time 12:46

Time 12:58

Notes: Blank @ 1-16

Station:

CTD Cast Time _____

Sample ID _____

Sample ID _____

Sample ID _____

Depth _____

Depth _____

Depth _____

Time _____

Time _____

Time _____

Notes: _____

Station:

CTD Cast Time _____

Sample ID _____

Sample ID _____

Sample ID _____

Depth _____

Depth _____

Depth _____

Time _____

Time _____

Time _____

Notes: _____



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 Victoria BC, V9B 3S6
 Ph: (250) 384-1499, F: (250) 384-1201

CTD & WATER SAMPLING SHEET

Project Details

Client: **Capital Regional District**
 Proj. Name: **Baseline Marine Monitoring**
 Project No.: **09185**
 Location:
 Description:

Date (Spring/Summer/Fall/Winter): July 25
 Personnel:
 Checked By: FB

Sampling Conditions

Tide: EOD
 Wind Speed: 10-15 kts

Wind Direction: W
 Precipitation: Nil
 Air Temperature: 15°C

Station: 1 AM

CTD Cast Time 8:15 amSample ID 1 BSample ID 1 midSample ID 1 SurfaceDepth 46 mDepth 23 mDepth 1 mTime 8:44 am, 9:15 amTime 9:30 amTime 9:47

Notes: Cast #1 (water haul)
cast #2 good

Station: 2 AM

CTD Cast Time ~~2 AM~~ 8:23Sample ID 2 BottomSample ID 2 midSample ID 2 SurfaceDepth 41 mDepth 20 mDepth 1 mTime 10:01Time 10:15Time 10:23

Notes:

Station: 3 AM

CTD Cast Time ~~3 AM~~ 8:55 amSample ID 3 BottomSample ID 3 midSample ID 3 SurfaceDepth 46 mDepth 23Depth 1 mTime 10:57Time 10:43Time 10:57

Notes:



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Victoria BC, V9B 3S6
Ph: (250) 384-1499, F: (250) 384-1201

CTD & WATER SAMPLING SHEET

Project Details

Client: **Capital Regional District**
Proj. Name: **Baseline Marine Monitoring**
Project No.: **09185**
Location :
Description:

Date (Spring/Summer/Fall/Winter): July 28/2000
Personnel:
Checked By:

Sampling Conditions

Tide:
Wind Speed: 15 kts

Wind Direction: SW
Precipitation:
Air Temperature: 15

Station: 6 - Parry Bay

CTD Cast Time 11:52 AM

Sample ID 6 Boltz

Depth 85 m

Time 11:13

Sample ID 6 mid

Depth 42

Time 11:23

Sample ID 6 surface

Depth 1 m

Time 11:30

Notes:

Station: SMD

CTD Cast Time ~~12:00~~ 12:09

Sample ID 5 Boltz

Depth 58 m

Time 12:29

Sample ID 5 mid

Depth 28 m

Time 12:33

Sample ID 5

Depth 1 m

Time 12:41

Notes:

Station: UMP CDE 1403

CTD Cast Time UMP CDE 1403

Sample ID 4 Boltz

Depth 60 m

Time 12:51

Sample ID 4 mid

Depth 30 m

Time 13:27

Sample ID 4 surface

Depth 1 m

Time 13:42

Notes:



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CTD & WATER SAMPLING SHEET

Project Details

Client: **Capital Regional District**
Proj. Name: **Baseline Marine Monitoring**
Project No.: **09185**
Location :
Description:

Date (Spring/Summer/Fall/Winter): July 20
Personnel: PK
Checked By:

Sampling Conditions

Tide:
Wind Speed: 10-15

Wind Direction: S
Precipitation: W1
Air Temperature: 15

Station:

7 Finney Cove

CTD Cast Time 14:21

Sample ID 7B

Sample ID 7mid

Sample ID 7 surface

Depth 43m

Depth 22m

Depth 1m

Time 14:41

Time 14:53

Time 14:59

Notes: Blank @ 15:30

Station:

CTD Cast Time _____

Sample ID _____

Sample ID _____

Sample ID _____

Depth _____

Depth _____

Depth _____

Time _____

Time _____

Time _____

Notes: _____

Station:

CTD Cast Time _____

Sample ID _____

Sample ID _____

Sample ID _____

Depth _____

Depth _____

Depth _____

Time _____

Time _____

Time _____

Notes: _____



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CTD & WATER SAMPLING SHEET

Project Details

Client: **Capital Regional District**
 Proj. Name: **Baseline Marine Monitoring**
 Project No.: **09185**
 Location:
 Description:

Date (Spring/Summer/Fall/Winter): Aug 3 / 2010
 Personnel: PH
 Checked By:

Sampling Conditions

Tide:
 Wind Speed: SEts
 Wind Direction: S
 Precipitation:
 Air Temperature:

Station: 6 Parry Bay

CTD Cast Time 7.45

Sample ID 6B

Depth 7:57 90m

Time 7.57

Sample ID 6 mid

Depth 45m

Time 8.15

Sample ID 6S

Depth 1m

Time 8:20

Notes:

Station: 1 AH

CTD Cast Time ~~1 AH~~ 8:23

Sample ID 2 IB

Depth 46m 3rd

Time 8:56 - 9.42

Sample ID 1 mid

Depth 23m

Time 9.54

Sample ID 1 surf

Depth 1m

Time 11.00

Notes:

Station: 7 AH

CTD Cast Time 11.15

Sample ID 7B

Depth 38m

Time 11.21

Sample ID 7 mid

Depth 24m

Time 11.40

Sample ID 7S

Depth 1m

Time 11.55

Notes:



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Victoria BC, V9B 3S6
Ph: (250) 384-1499, F: (250) 384-1201

CTD & WATER SAMPLING SHEET

Project Details

Client: **Capital Regional District**
Proj. Name: **Baseline Marine Monitoring**
Project No.: **09185**
Location:
Description:

Date (Spring/Summer/Fall/Winter):
Personnel:
Checked By:

Aug 31/2010
PK

Sampling Conditions

Tide:
Wind Speed: 5 kt

Wind Direction: SW
Precipitation:
Air Temperature:

Station: 3 AH

CTD Cast Time 12:15

Sample ID 3 Botb.

Depth 46m

Time 12:20

Sample ID 3 m.19

Depth 73m

Time 12:38

Sample ID 3 surface

Depth 1m

Time 12:48

Notes:

Station: 5 MP

CTD Cast Time 1:14

Sample ID 5B

Depth 20m / 30m

Time 13:33

Sample ID 5M

Depth 30m

Time 13:51

Sample ID 5S

Depth 1m

Time 14:00

Notes:

Station: 4 MP

CTD Cast Time 4 MP 15:45

Sample ID 4B

Depth 62m

Time 14:16

Sample ID 4M

Depth 57m

Time 15:30

Sample ID 4S

Depth 1m

Time 15:39

Notes:



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Victoria BC, V9B 3S6
Ph: (250) 384-1499, F: (250) 384-1201

CTD & WATER SAMPLING SHEET

Project Details

Client: **Capital Regional District**
Proj. Name: **Baseline Marine Monitoring**
Project No.: **09185**
Location:
Description:

Date (Spring/Summer/Fall/Winter):
Personnel:
Checked By:

Aug 31 2010
PA

Sampling Conditions

Tide:
Wind Speed: 5 kts

Wind Direction: S
Precipitation:
Air Temperature:

Station: 7

CTD Cast Time 16:44

Sample ID 7B

Depth 48m

Time 16:49

Notes:

Sample ID 7BM

Depth 23m

Time 17:00

Sample ID 7S

Depth

Time 17:10

Station: Blank

CTD Cast Time 17:49

Sample ID Blank

Depth

Time 17:50

Notes:

Sample ID

Depth

Time

Sample ID

Depth

Time

Station:

CTD Cast Time

Sample ID

Depth

Time

Notes:

Sample ID

Depth

Time

Sample ID

Depth

Time



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 Victoria BC, V9B 3S6
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CTD & WATER SAMPLING SHEET

Project Details

Client: **Capital Regional District**
 Proj. Name: **Baseline Marine Monitoring**
 Project No.: **09185**
 Location :
 Description:

Date (Spring/Summer/Fall/Winter): Aug 10/2010
 Personnel:
 Checked By:

Sampling Conditions

Tide:
 Wind Speed: 0-5
 Wind Direction: S
 Precipitation:
 Air Temperature:

Station:

6 Pairy Bay

CTD Cast Time

7:50

Sample ID

6B

Sample ID

6m

Sample ID

6S

Depth

285 ft

Depth

45m

Depth

1m

Time

8:02 am

Time

8:16 am

Time

8:24

Notes:

Station:

1 AH

CTD Cast Time

8:42

Sample ID

1B

Sample ID

1m

Sample ID

1S

Depth

46m

Depth

23m

Depth

1m

Time

9:20 am

Time

9:49

Time

10:07

Notes:

Station:

2 AH

CTD Cast Time

8:54

Sample ID

2B

Sample ID

2m

Sample ID

2S

Depth

42m

Depth

21m

Depth

1m

Time

10:06

Time

10:17

Time

10:26

Notes:



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CTD & WATER SAMPLING SHEET

Project Details

Client: **Capital Regional District**
Proj. Name: **Baseline Marine Monitoring**
Project No.: **09185**
Location:
Description:

Date (Spring/Summer/Fall/Winter): Aug 10/2010
Personnel:
Checked By: PH

Sampling Conditions

Tide:
Wind Speed: 0-5kts
Wind Direction: S
Precipitation:
Air Temperature:

Station: 3AH

CTD Cast Time 9:04

Sample ID 3B

Depth 46m (150ft)

Time 10:42

Sample ID 3m

Depth 23m

Time 10:59

Sample ID 3S

Depth 1m

Time 11:03

Notes:

Station: 4MP

CTD Cast Time 12:07

Sample ID 4B

Depth 60m 205ft

Time 12:20

Sample ID 4M

Depth 30m

Time 12:35

Sample ID 4S

Depth 1m

Time 12:38

Notes:

Station: 5MP

CTD Cast Time 11:52

Sample ID 5B

Depth 55m (195ft - 2m)

Time 11:22

Sample ID 5M

Depth 22m

Time 11:32

Sample ID 5S

Depth 1m

Time 11:42

Notes:



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 Victoria BC, V9B 3S6
 Ph: (250) 384-1499, F: (250) 384-1201

CTD & WATER SAMPLING SHEET

Project Details

Client: **Capital Regional District**
 Proj. Name: **Baseline Marine Monitoring**
 Project No.: **09185**
 Location:
 Description:

Date (Spring/Summer/Fall/Winter):

Aut 10 / 2016

Personnel:

PR

Checked By:

Sampling Conditions

Wind Direction: E

Tide:

Precipitation:

Wind Speed: 5 kts

Air Temperature:

Station:

7 FC.

CTD Cast Time 13:10

Sample ID 7B

Sample ID 7M

Sample ID 7S

Depth 44m

Depth 22m

Depth 1m

Time 13:26

Time 13:40

Time 13:47

Notes:

Station:

Blank

CTD Cast Time ~~14:05~~ 14:05

Sample ID Blank

Sample ID

Sample ID

Depth n/a

Depth

Depth

Time 14:05

Time

Time

Notes:

Station:

CTD Cast Time

Sample ID

Sample ID

Sample ID

Depth

Depth

Depth

Time

Time

Time

Notes:



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 106-2780 Veterans' Memorial Parkway
 Victoria BC, V9B 3S6
 Ph: (250) 384-1499, F: (250) 384-1201

CTD & WATER SAMPLING SHEET

Project Details

Client: **Capital Regional District**
 Proj. Name: **Baseline Marine Monitoring**
 Project No.: **09185**
 Location:
 Description:

Date (Spring/Summer/Fall/Winter): Aug 17/2010
 Personnel:
 Checked By: PK

Sampling Conditions

Tide:
 Wind Speed: 10 kts
 Wind Direction: S
 Precipitation:
 Air Temperature:

Station:

6 AH Perry Day

CTD Cast Time 7:45

Sample ID 6B

Depth 30.5m - 2m

Time 8:00 am

Sample ID 6m

Depth 4.5m

Time 8:18

Sample ID 6S

Depth 4.1m

Time 8:28

Notes:

Station:

1 AH

CTD Cast Time 8:44

Sample ID 1B

Depth 46m

Time 9:30 am

Sample ID 1m

Depth 23m

Time 9:55

Sample ID 1S

Depth 1m

Time 10:02

Notes:

Station:

2 AH

CTD Cast Time 9:05

Sample ID 2B

Depth 47m

Time 10:18

Sample ID 2m

Depth 23m

Time 10:35

Sample ID 2S

Depth 1m

Time 10:45

Notes:



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 Victoria BC, V9B 3S6
 Ph: (250) 384-1499, F: (250) 384-1201

CTD & WATER SAMPLING SHEET

Project Details

Client: **Capital Regional District**
 Proj. Name: **Baseline Marine Monitoring**
 Project No.: **09185**
 Location:
 Description:

Date (Spring/Summer/Fall/Winter): Aug 17/2010
 Personnel:
 Checked By: PK

Sampling Conditions

Tide:
 Wind Speed:
 Wind Direction:
 Precipitation:
 Air Temperature:

Station:

3 AH.CTD Cast Time 9:18Sample ID 3BSample ID 3mSample ID 3SDepth 48Depth 24mDepth 1mTime 10:54Time 11:05Time 11:10Notes:

Station:

4 BMD *samples labeled sta 5 are actually from sta 4*CTD Cast Time 12:25Sample ID 4BSample ID 4mSample ID 4SDepth 20ft - 2mDepth 31mDepth 1mTime 12:35Time 12:50Time 12:58Notes:

Station:

5 MP *samples labeled 4 are actually from sta 5*CTD Cast Time 12:07Sample ID 5BSample ID 5MSample ID 5SDepth 20ft - 2mDepth 30mDepth 1mTime 11:28Time 11:45Time 11:55Notes:



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Victoria BC, V9B 3S6
Ph: (250) 384-1499, F: (250) 384-1201

CTD & WATER SAMPLING SHEET

Project Details

Client: **Capital Regional District**
Proj. Name: **Baseline Marine Monitoring**
Project No.: **09185**
Location :
Description:

Date (Spring/Summer/Fall/Winter):
Personnel:
Checked By:

Aug 19/2010
AM
PM

Sampling Conditions

Tide:
Wind Speed: 5 Kts
Wind Direction: S
Precipitation:
Air Temperature:

Station: 7

CTD Cast Time 13:45

Sample ID 7B

Depth 49

Time 13:56

Sample ID 8m

Depth 24m

Time 14:13

Sample ID 75

Depth 1m

Time 14:21

Notes:

Station: Blank

CTD Cast Time ~~14:46~~

Sample ID B

Depth 0.19

Time 14:46

Sample ID _____

Depth _____

Time _____

Sample ID _____

Depth _____

Time _____

Notes:

Station:

CTD Cast Time _____

Sample ID _____

Depth _____

Time _____

Sample ID _____

Depth _____

Time _____

Sample ID _____

Depth _____

Time _____

Notes:

Appendix 3 Certificates of Analysis



WorleyParsons

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CAPITAL REGIONAL DISTRICT
CRD CORE AREA WASTEWATER TREATMENT PRE-DISCHARGE MONITORING PROGRAM
YEAR 1 - PROGRESS DATA REPORT

INDEX OF CERTIFICATES

MAXXAM	JOB # B062668	SAMPLE DATE:	26 JULY 2010
MAXXAM	JOB # B063834	SAMPLE DATE:	28 JULY 2010
MAXXAM	JOB # B066176	SAMPLE DATE:	3 AUGUST 2010
MAXXAM	JOB # B0A5788	SAMPLE DATE:	3 AUGUST 2010
MAXXAM	JOB # B069347	SAMPLE DATE:	10 AUGUST 2010
MAXXAM	JOB # B072723	SAMPLE DATE:	17 AUGUST 2010
MAXXAM	JOB # B0B4109	SAMPLE DATE:	17 AUGUST 2010
AXYS	BATCH ID # WG33569	SAMPLE DATE:	28 JULY 2010
AXYS	BATCH ID # WG33599	SAMPLE DATE:	3 AUGUST 2010
AXYS	BATCH ID # WG33687	SAMPLE DATE:	3 & 17 AUGUST 2010

SAMPLE ID CROSS REFERENCE

SAMPLE DATE	WORLEYPARSONS ID	MAXXAM ID	AXYS ID
28 Jul 2010	1 BOTTOM	V78513-08R	L15119-6
	1 BOTTOM TRIPLICATE 1	V78550-08R	L15119-4
	1 BOTTOM TRIPLICATE 2	V78553-08R	L15119-5
	4 BOTTOM	V78534-08R	L15119-2
	7 BOTTOM	V78543-08R	L15119-3
	EQUIPMENT BLANK	V78595-08R	L15119-1
	3 Aug 2010	1 BOTTOM	V93322-06R	L15145-4
1 BOTTOM TRIPLICATE 1		V93252-10R	L15145-2
1 BOTTOM TRIPLICATE 2		V93255-10R	L15145-3
4 BOTTOM		V93324-06R	L15145-6
5 BOTTOM		V93325-06R	L15145-7
7 BOTTOM		V93326-06R	L15145-8
EQUIPMENT BLANK		V93321-06R	L15145-1
17 Aug 2010	1 BOTTOM	W29468-08R	L15215-2
	2 BOTTOM	W29471-07R	L15215-3
	4 BOTTOM	W29563-07R	L15215-4
	5 BOTTOM	W29566-08R	L15215-5
	7 BOTTOM	W29573-08R	L15215-6
	EQUIPMENT BLANK	W29570-08R	L15215-1



WorleyParsons

resources & energy

Your Project #: 09185
Your C.O.C. #: 072610

Attention: Jason Clarke
WORLEYPARSONS
106-2780 VETERANS MEMORIAL
PARKWAY
VICTORIA, BC
CANADA V9B 3S6

Report Date: 2010/09/07

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B062668
Received: 2010/07/26, 14:40

Sample Matrix: Water
Samples Received: 22

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
Chloride by Automated Colourimetry	22	N/A	2010/07/30	BRN-SOP 00234 R3.0	Based on EPA 325.2
Conductance - water (l)	22	N/A	2010/07/27	56-C-003	Based on SM-2510
Enterococcus spp.	22	N/A	2010/07/28	BRN SOP 00364 R2.0	Based on SM-9230
Fluoride	22	N/A	2010/07/29	BRN SOP-00282 R4.0	Based SM - 4500 F C
Fecal Coliform by membrane filtration (l)	22	N/A	2010/07/26	70-C-200	Based on SM-9222
Hardness Total (calculated as CaCO3)	22	N/A	2010/08/03		
Mercury (Total) by CVAF	10	2010/07/29	2010/08/03	65-A-002-10	EPA 245.7
Elements by ICP-AES (total)	22	2010/08/03	2010/08/03	65-S-060	Based on EPA 200.7
Metals by Chelation CRC ICPMS (dis)	10	N/A	2010/08/27	BRN SOP-00206	Based on EPA 200.8
Metals by Chelation CRC ICPMS (tot)	10	N/A	2010/08/27	BRN SOP-00206	Based on EPA 200.8
Ammonia-N	22	N/A	2010/07/29	BBY6SOP-00044	Based on EPA 350.1
Nitrate + Nitrite (N) (l)	22	N/A	2010/07/28	56-C-005	Based SM-4500 NO2 E
Nitrite (N) by CFA (l)	22	N/A	2010/07/28	56-C-006	Based SM-4500 NO2 B
Nitrogen - Nitrate (as N) (l)	22	N/A	2010/08/03	56-C-005	Based SM-4500 NO3 E
Filter and HNO3 Preserve for Metals	10	N/A	2010/07/29	BRN WI-00006 R1.0	Based on EPA 200.2
pH Water (l)	22	N/A	2010/07/27	56-C-007	Based on SM-4500 pH
Sulphate by Automated Colourimetry	1	N/A	2010/07/29	BRN-SOP 00243 R1.0	Based on EPA 375.4
Sulphate by Automated Colourimetry	21	N/A	2010/07/30	BRN-SOP 00243 R1.0	Based on EPA 375.4
Total Suspended Solids(Fixed & Volatile) (l)	22	N/A	2010/07/28	56-C-010	Based on SM2540 D E

* Results relate only to the items tested.

(1) This test was performed by Maxxam Victoria

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

DEBBIE NORDBRUGET, Sample Logistics Technician
Email: Debbie.Nordbruget@MaxxamAnalytics.com
Phone# (250) 385-6112

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Maxxam Job #: B062668
Report Date: 2010/09/07

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V71673	V71674		V71675		V71676	V71677			V71678		
Sampling Date		2010/07/26 09:38	2010/07/26 09:31		2010/07/26 09:21		2010/07/26 10:06	2010/07/26 09:59			2010/07/26 09:52		
	Units	1 SURFACE	1 MID	RDL	1 BOTTOM	RDL	2 SURFACE	2 MID	RDL	QC Batch	2 BOTTOM	RDL	QC Batch
Misc. Inorganics													
Fluoride (F)	mg/L	0.72	0.73	0.01	0.73	0.01	0.73	0.73	0.01	4139288	1.03	0.05	4139288
ANIONS													
Nitrite (N)	mg/L	0.006	0.005	0.002	0.005	0.002	0.005	0.005	0.002	4136125	0.005	0.002	4136505
Calculated Parameters													
Filter and HNO3 Preservation	N/A	LAB	LAB	N/A	LAB	N/A				4139922			
Total Hardness (CaCO3)	mg/L	5410	5120	0.5	5380	0.5	5340	5360	0.5	4132734	5340	0.5	4132734
Nitrate (N)	mg/L	0.173	0.177	0.002	0.184	0.002	0.150	0.171	0.002	4133895	0.184	0.002	4133895
Misc. Inorganics													
Total Suspended Solids	mg/L	<2	<2	2	3	1	<2	<2	2	4136432	2	2	4136432
Anions													
Dissolved Sulphate (SO4)	mg/L	2600	2600	50	2600	50	2600	2700	50	4146750	2600	50	4146750
Dissolved Chloride (Cl)	mg/L	18000	18000	50	18000	50	18000	18000	50	4146746	18000	50	4146746
Nutrients													
Ammonia (N)	mg/L	0.10 ⁽¹⁾	0.09 ⁽¹⁾	0.05	0.09 ⁽¹⁾	0.05	0.10 ⁽¹⁾	0.11 ⁽¹⁾	0.05	4141280	0.10 ⁽¹⁾	0.05	4141280
Nitrate plus Nitrite (N)	mg/L	0.179	0.182	0.002	0.189	0.002	0.155	0.176	0.002	4136437	0.189	0.002	4136473
Physical Properties													
Conductivity	uS/cm	47600	47600	1	47900	1	47600	48000	1	4136776	48600	1	4136776
pH	pH Units	7.9	7.9		7.9		8.0	7.9		4136727	7.9		4136727

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B062668
Report Date: 2010/09/07

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V71679	V71680		V71681	V71682		V71683		V71684	V71685		
Sampling Date		2010/07/26 10:26	2010/07/26 10:21		2010/07/26 10:17	2010/07/26 11:28		2010/07/26 11:21		2010/07/26 11:11	2010/07/26 11:57		
	Units	3 SURFACE	3 MID	RDL	3 BOTTOM	4 SURFACE	QC Batch	4 MID	QC Batch	4 BOTTOM	5 SURFACE	RDL	QC Batch
Misc. Inorganics													
Fluoride (F)	mg/L	0.72	0.73	0.01	0.74	0.73	4139288	0.73	4139288	0.74	0.73	0.01	4139288
ANIONS													
Nitrite (N)	mg/L	0.005	0.005	0.002	0.005	0.005	4136505	0.005	4136505	0.005	0.005	0.002	4136556
Calculated Parameters													
Filter and HNO3 Preservation	N/A					LAB	4139922	LAB	4139922	LAB		N/A	4139922
Total Hardness (CaCO3)	mg/L	5340	5320	0.5	5620	5360	4132734	5460	4132734	5610	5690	0.5	4132734
Nitrate (N)	mg/L	0.177	0.178	0.002	0.202	0.171	4133895	0.185	4133895	0.231	0.187	0.002	4133895
Misc. Inorganics													
Total Suspended Solids	mg/L	<2	<2	2	4	3	4136432	4	4136432	7	3	1	4136432
Anions													
Dissolved Sulphate (SO4)	mg/L	2600	2500	50	2600	2500	4146750	2600	4146750	2700	2600	50	4146750
Dissolved Chloride (Cl)	mg/L	18000	18000	50	18000	18000	4146746	18000	4146746	18000	18000	50	4146746
Nutrients													
Ammonia (N)	mg/L	0.12 ⁽¹⁾	0.12 ⁽¹⁾	0.05	0.12 ⁽¹⁾	0.13 ⁽¹⁾	4141280	0.11 ⁽¹⁾	4141280	0.11 ⁽¹⁾	0.14 ⁽¹⁾	0.05	4141280
Nitrate plus Nitrite (N)	mg/L	0.182	0.183	0.002	0.207	0.176	4136473	0.190	4136475	0.236	0.192	0.002	4136475
Physical Properties													
Conductivity	uS/cm	47100	47600	1	48200	47200	4136776	47300	4136776	48500	47200	1	4136776
pH	pH Units	7.9	7.9		7.9	7.9	4136727	7.9	4136727	7.8	7.9		4136727

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B062668
Report Date: 2010/09/07

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V71686	V71687		V71688	V71689	V71690		V71691		
Sampling Date		2010/07/26 11:50	2010/07/26 11:42		2010/07/26 07:35	2010/07/26 08:19	2010/07/26 08:26		2010/07/26 13:16		
	Units	5 MID	5 BOTTOM	QC Batch	6 SURFACE	6 MID	6 BOTTOM	RDL	BLANK	RDL	QC Batch
Misc. Inorganics											
Fluoride (F)	mg/L	0.74	0.74	4139288	0.73	0.74	0.75	0.01	0.01	0.01	4139288
ANIONS											
Nitrite (N)	mg/L	0.005	0.005	4136556	0.005	0.005	0.005	0.002	<0.002	0.002	4136565
Calculated Parameters											
Filter and HNO3 Preservation	N/A			4139922				N/A	LAB	N/A	4139922
Total Hardness (CaCO3)	mg/L	5520	5850	4132734	5590	5550	5520	0.5	<0.5	0.5	4132734
Nitrate (N)	mg/L	0.196	0.214	4133895	0.169	0.220	0.248	0.002	0.014	0.002	4133895
Misc. Inorganics											
Total Suspended Solids	mg/L	5	2	4136432	2	4	2	1	<2	2	4136432
Anions											
Dissolved Sulphate (SO4)	mg/L	2600	2600	4146750	2700	2400	2700	50	<0.5	0.5	4146750
Dissolved Chloride (Cl)	mg/L	18000	18000	4146746	18000	17000	19000	50	<0.5	0.5	4146746
Nutrients											
Ammonia (N)	mg/L	0.11 ⁽¹⁾	0.12 ⁽¹⁾	4141280	0.13 ⁽¹⁾	0.66 ⁽¹⁾	0.16 ⁽¹⁾	0.05	<0.005	0.005	4141280
Nitrate plus Nitrite (N)	mg/L	0.201	0.219	4136475	0.174	0.225	0.253	0.002	0.014	0.002	4136478
Physical Properties											
Conductivity	uS/cm	47400	48300	4136776	47200	48300	49100	1	7	1	4136776
pH	pH Units	7.9	7.8	4136727	7.9	7.9	7.7		6.2		4136727

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B062668
Report Date: 2010/09/07

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V71692			V71693			V71694		
Sampling Date		2010/07/26 12:43			2010/07/26 12:46			2010/07/26 12:58		
	Units	7 SURFACE	RDL	QC Batch	7 MID	RDL	QC Batch	7 BOTTOM	RDL	QC Batch
Misc. Inorganics										
Fluoride (F)	mg/L	0.70	0.01	4139288	0.71	0.01	4139288	0.73	0.01	4139288
ANIONS										
Nitrite (N)	mg/L	0.004	0.002	4136565	0.004	0.002	4136567	0.005	0.002	4136567
Calculated Parameters										
Filter and HNO3 Preservation	N/A	LAB	N/A	4139922	LAB	N/A	4139922	LAB	N/A	4139922
Total Hardness (CaCO3)	mg/L	4590	0.5	4132734	4880	0.5	4132734	5190	0.5	4132734
Nitrate (N)	mg/L	0.109	0.002	4133895	0.117	0.002	4133895	0.181	0.002	4133895
Misc. Inorganics										
Total Suspended Solids	mg/L	<2	2	4136432	5	1	4136432	7	1	4136432
Anions										
Dissolved Sulphate (SO4)	mg/L	2400	50	4146750	2000	5	4144028	2500	50	4146750
Dissolved Chloride (Cl)	mg/L	17000	50	4146746	18000	50	4146746	18000	50	4146746
Nutrients										
Ammonia (N)	mg/L	0.12 ⁽¹⁾	0.05	4141280	0.10 ⁽¹⁾	0.05	4141280	0.13 ⁽¹⁾	0.05	4141280
Nitrate plus Nitrite (N)	mg/L	0.113	0.002	4136478	0.121	0.002	4136481	0.186	0.002	4136481
Physical Properties										
Conductivity	uS/cm	44600	1	4136776	45000	1	4136776	46800	1	4136776
pH	pH Units	8.0		4136727	8.0		4136727	7.8		4136727

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B062668
Report Date: 2010/09/07

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		V71673	V71674	V71675	V71676	V71677	V71678	V71679	V71680	V71681	V71682		
Sampling Date		2010/07/26 09:38	2010/07/26 09:31	2010/07/26 09:21	2010/07/26 10:06	2010/07/26 09:59	2010/07/26 09:52	2010/07/26 10:26	2010/07/26 10:21	2010/07/26 10:17	2010/07/26 11:28		
	Units	1 SURFACE	1 MID	1 BOTTOM	2 SURFACE	2 MID	2 BOTTOM	3 SURFACE	3 MID	3 BOTTOM	4 SURFACE	RDL	QC Batch
Elements													
Total Mercury (Hg)	ug/L	<0.02	<0.02	<0.02							<0.02	0.02	4142332
Dissolved Metals by ICPMS													
Dissolved Cadmium (Cd)	ug/L	0.07	0.08	0.07							0.07	0.01	4181501
Dissolved Cobalt (Co)	ug/L	<0.05	<0.05	<0.05							<0.05	0.05	4181501
Dissolved Copper (Cu)	ug/L	0.30	0.31	0.24							0.31	0.05	4181501
Dissolved Iron (Fe)	ug/L	<1	1	<1							2	1	4181501
Dissolved Lead (Pb)	ug/L	<0.05	<0.05	<0.05							<0.05	0.05	4181501
Dissolved Manganese (Mn)	ug/L	0.8	0.9	1.2							1.0	0.2	4181501
Dissolved Nickel (Ni)	ug/L	0.54	0.46	0.63							0.56	0.05	4181501
Dissolved Zinc (Zn)	ug/L	0.6	0.7	0.6							0.7	0.5	4181501
Total Metals by ICP													
Total Calcium (Ca)	mg/L	346	331	346	341	344	344	342	341	356	343	0.05	4148621
Total Magnesium (Mg)	mg/L	1100	1040	1100	1090	1090	1090	1090	1090	1150	1090	0.05	4148621
Total Metals by ICPMS													
Total Cadmium (Cd)	ug/L	0.08	0.06	0.06							0.08	0.01	4181642
Total Copper (Cu)	ug/L	0.26	0.24	0.29							0.31	0.05	4181642
Total Iron (Fe)	ug/L	24	17	40							18	1	4181642
Total Lead (Pb)	ug/L	<0.05	<0.05	<0.05							<0.05	0.05	4181642
Total Nickel (Ni)	ug/L	0.53	0.53	0.56							0.49	0.05	4181642
Total Zinc (Zn)	ug/L	0.6	<0.5	<0.5							0.8	0.5	4181642

Maxxam Job #: B062668
Report Date: 2010/09/07

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		V71683	V71684	V71685	V71686	V71687	V71688		
Sampling Date		2010/07/26 11:21	2010/07/26 11:11	2010/07/26 11:57	2010/07/26 11:50	2010/07/26 11:42	2010/07/26 07:35		
	Units	4 MID	4 BOTTOM	5 SURFACE	5 MID	5 BOTTOM	6 SURFACE	RDL	QC Batch
Elements									
Total Mercury (Hg)	ug/L	<0.02	<0.02					0.02	4142332
Dissolved Metals by ICPMS									
Dissolved Cadmium (Cd)	ug/L	0.07	0.08					0.01	4181501
Dissolved Cobalt (Co)	ug/L	<0.05	<0.05					0.05	4181501
Dissolved Copper (Cu)	ug/L	0.32	0.30					0.05	4181501
Dissolved Iron (Fe)	ug/L	4	1					1	4181501
Dissolved Lead (Pb)	ug/L	<0.05	<0.05					0.05	4181501
Dissolved Manganese (Mn)	ug/L	1.0	1.2					0.2	4181501
Dissolved Nickel (Ni)	ug/L	0.56	0.47					0.05	4181501
Dissolved Zinc (Zn)	ug/L	0.7	0.7					0.5	4181501
Total Metals by ICP									
Total Calcium (Ca)	mg/L	345	353	357	348	365	352	0.05	4148621
Total Magnesium (Mg)	mg/L	1120	1150	1170	1130	1200	1140	0.05	4148621
Total Metals by ICPMS									
Total Cadmium (Cd)	ug/L	0.08	0.08					0.01	4181642
Total Copper (Cu)	ug/L	0.25	0.28					0.05	4181642
Total Iron (Fe)	ug/L	24	59					1	4181642
Total Lead (Pb)	ug/L	<0.05	0.05					0.05	4181642
Total Nickel (Ni)	ug/L	0.55	0.67					0.05	4181642
Total Zinc (Zn)	ug/L	<0.5	0.9					0.5	4181642

Maxxam Job #: B062668
Report Date: 2010/09/07

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		V71689	V71690	V71691	V71692	V71693	V71694		
Sampling Date		2010/07/26 08:19	2010/07/26 08:26	2010/07/26 13:16	2010/07/26 12:43	2010/07/26 12:46	2010/07/26 12:58		
	Units	6 MID	6 BOTTOM	BLANK	7 SURFACE	7 MID	7 BOTTOM	RDL	QC Batch
Elements									
Total Mercury (Hg)	ug/L			<0.02	<0.02	<0.02	<0.02	0.02	4142332
Dissolved Metals by ICPMS									
Dissolved Cadmium (Cd)	ug/L			<0.01	0.07	0.06	0.07	0.01	4181501
Dissolved Cobalt (Co)	ug/L			<0.05	<0.05	<0.05	<0.05	0.05	4181501
Dissolved Copper (Cu)	ug/L			0.14	0.38	0.29	0.35	0.05	4181501
Dissolved Iron (Fe)	ug/L			<1	3	1	3	1	4181501
Dissolved Lead (Pb)	ug/L			<0.05	<0.05	<0.05	<0.05	0.05	4181501
Dissolved Manganese (Mn)	ug/L			<0.2	1.7	1.8	2.1	0.2	4181501
Dissolved Nickel (Ni)	ug/L			0.15	0.48	0.46	0.62	0.05	4181501
Dissolved Zinc (Zn)	ug/L			0.6	0.7	1.6	0.9	0.5	4181501
Total Metals by ICP									
Total Calcium (Ca)	mg/L	355	353	<0.05	302	318	341	0.05	4148621
Total Magnesium (Mg)	mg/L	1130	1130	<0.05	931	991	1050	0.05	4148621
Total Metals by ICPMS									
Total Cadmium (Cd)	ug/L			<0.01	0.07	0.06	0.08	0.01	4181642
Total Copper (Cu)	ug/L			0.06	0.32	0.42	0.42	0.05	4181642
Total Iron (Fe)	ug/L			<1	31	61	131	1	4181642
Total Lead (Pb)	ug/L			<0.05	<0.05	0.08	0.08	0.05	4181642
Total Nickel (Ni)	ug/L			0.23	0.51	0.72	0.76	0.05	4181642
Total Zinc (Zn)	ug/L			0.6	0.7	1.8	0.9	0.5	4181642

MICROBIOLOGY (WATER)

Maxxam ID		V71673	V71674	V71675	V71676	V71677	V71678	V71679	V71680	V71681		
Sampling Date		2010/07/26 09:38	2010/07/26 09:31	2010/07/26 09:21	2010/07/26 10:06	2010/07/26 09:59	2010/07/26 09:52	2010/07/26 10:26	2010/07/26 10:21	2010/07/26 10:17		
	Units	1 SURFACE	1 MID	1 BOTTOM	2 SURFACE	2 MID	2 BOTTOM	3 SURFACE	3 MID	3 BOTTOM	RDL	QC Batch
MICROBIOLOGY												
Fecal Coliforms	CFU/100mL	1	7	16	6	16	32	6	7	58	1	4133724
Microbiological Param.												
Enterococcus spp.	CFU/100mL	<1.0	2.0	4.0	1.0	6.0	5.0	2.0	2.0	5.0	1.0	4136979

RDL = Reportable Detection Limit

Maxxam Job #: B062668
Report Date: 2010/09/07

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

MICROBIOLOGY (WATER)

Maxxam ID		V71682	V71683	V71684	V71685	V71686	V71687	V71688		
Sampling Date		2010/07/26 11:28	2010/07/26 11:21	2010/07/26 11:11	2010/07/26 11:57	2010/07/26 11:50	2010/07/26 11:42	2010/07/26 07:35		
	Units	4 SURFACE	4 MID	4 BOTTOM	5 SURFACE	5 MID	5 BOTTOM	6 SURFACE	RDL	QC Batch
MICROBIOLOGY										
Fecal Coliforms	CFU/100mL	2	11	42	11	8	14	4	1	4133724
Microbiological Param.										
Enterococcus spp.	CFU/100mL	<1.0	<1.0	4.0	3.0	<1.0	3.0	<1.0	1.0	4136979

Maxxam ID		V71689	V71690	V71691	V71692	V71693	V71694			
Sampling Date		2010/07/26 08:19	2010/07/26 08:26	2010/07/26 13:16	2010/07/26 12:43	2010/07/26 12:46	2010/07/26 12:58			
	Units	6 MID	6 BOTTOM	BLANK	7 SURFACE	7 MID	7 BOTTOM	RDL	QC Batch	
MICROBIOLOGY										
Fecal Coliforms	CFU/100mL	1	4	<1	<1	<1	1	1	4133724	
Microbiological Param.										
Enterococcus spp.	CFU/100mL	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	1.0	4136979	

Maxxam Job #: B062668
Report Date: 2010/09/07

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

Package 1	9.0°C
Package 2	14.3°C
Package 3	12.3°C
Package 4	14.3°C

Each temperature is the average of up to three cooler temperatures taken at receipt

RESULTS OF CHEMICAL ANALYSES OF WATER Comments

Sample V71678-02 Fluoride: Detection limits raised due to matrix interference

Maxxam Job #: B062668
Report Date: 2010/09/07

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
4133724	Fecal Coliforms	2010/07/26							NC	N/A
4136125	Nitrite (N)	2010/07/28	100	79 - 115	105	80 - 122	<0.002	mg/L	NC	20
4136432	Total Suspended Solids	2010/07/28			98	86 - 110	<1	mg/L	NC	20
4136437	Nitrate plus Nitrite (N)	2010/07/28	89	80 - 120	99	80 - 120	<0.002	mg/L	5.7	20
4136473	Nitrate plus Nitrite (N)	2010/07/28	83	80 - 120					5.2	20
4136475	Nitrate plus Nitrite (N)	2010/07/28	88	80 - 120					0	20
4136478	Nitrate plus Nitrite (N)	2010/07/28	86	80 - 120					1.7	20
4136481	Nitrate plus Nitrite (N)	2010/07/28	82	80 - 120					3.7	20
4136505	Nitrite (N)	2010/07/28	108	79 - 115					NC	20
4136556	Nitrite (N)	2010/07/28	108	79 - 115					NC	20
4136565	Nitrite (N)	2010/07/28	108	79 - 115					NC	20
4136567	Nitrite (N)	2010/07/28	108	79 - 115					NC	20
4136776	Conductivity	2010/07/27			101	96 - 104	<1	uS/cm	0.4	20
4139288	Fluoride (F)	2010/07/29	106	80 - 120	96	80 - 120	<0.01	mg/L	0	20
4141280	Ammonia (N)	2010/07/29	NC	80 - 120	100	80 - 120	<0.005	mg/L	NC ⁽¹⁾	20
4142332	Total Mercury (Hg)	2010/08/03	96	80 - 120	105	80 - 120	<0.02	ug/L	NC	20
4144028	Dissolved Sulphate (SO ₄)	2010/07/29	NC	80 - 120	93	80 - 120	<0.5	mg/L	NC	20
4146746	Dissolved Chloride (Cl)	2010/07/30	NC	80 - 120	96	80 - 120	<0.5	mg/L	2.7	20
4146750	Dissolved Sulphate (SO ₄)	2010/07/30	NC	80 - 120	96	80 - 120	<0.5	mg/L	3.0	20
4148621	Total Calcium (Ca)	2010/08/03					<0.05	mg/L	2.0	20
4148621	Total Magnesium (Mg)	2010/08/03					<0.05	mg/L	2.8	20
4181501	Dissolved Cadmium (Cd)	2010/08/27	92	80 - 120	90	80 - 120	<0.01	ug/L	13.1	25
4181501	Dissolved Cobalt (Co)	2010/08/27	103	80 - 120	96	80 - 120	<0.05	ug/L	NC	25
4181501	Dissolved Copper (Cu)	2010/08/27	96	80 - 120	102	80 - 120	<0.05	ug/L	3.1	25
4181501	Dissolved Lead (Pb)	2010/08/27	93	80 - 120	99	80 - 120	<0.05	ug/L	NC	25
4181501	Dissolved Nickel (Ni)	2010/08/27	98	80 - 120	102	80 - 120	0.05, RDL=0.05	ug/L	7.6	25
4181501	Dissolved Zinc (Zn)	2010/08/27	96	80 - 120	95	80 - 120	<0.5	ug/L	NC	25
4181501	Dissolved Iron (Fe)	2010/08/27					<1	ug/L	NC	25
4181501	Dissolved Manganese (Mn)	2010/08/27					<0.2	ug/L	NC	25
4181642	Total Cadmium (Cd)	2010/08/27	92	80 - 120	92	80 - 120	<0.01	ug/L	9.7	25
4181642	Total Copper (Cu)	2010/08/27	94	80 - 120	101	80 - 120	<0.05	ug/L	7.3	25
4181642	Total Lead (Pb)	2010/08/27	93	80 - 120	100	80 - 120	<0.05	ug/L	NC	25
4181642	Total Nickel (Ni)	2010/08/27	98	80 - 120	90	80 - 120	0.06, RDL=0.05	ug/L	1.4	25

Maxxam Job #: B062668
Report Date: 2010/09/07

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
4181642	Total Zinc (Zn)	2010/08/27	94	80 - 120	95	80 - 120	<0.5	ug/L	NC	25
4181642	Total Iron (Fe)	2010/08/27					<1	ug/L	1.9	25

N/A = Not Applicable

RDL = Reportable Detection Limit

RPD = Relative Percent Difference

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

(1) - RDL raised due to sample matrix interference.



WorleyParsons

resources & energy

CANTEST

Suite 1104 South Wing, 4464 Markam Street
Victoria BC
Tel: (250) 385 6112, Fax: (250) 382 6364

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

WorleyParsons Canada Ltd.

Suite 106, 2780 veterans' Memorial Pkwy
Victoria BC, V9B 3S6
Tel: (250) 384 1499, Fax: (250) 384 1201

COC#: 072610

PAGE 1 OF 2

B06268

Client: <u>WorleyParsons Canada Ltd.</u>		ANALYSES REQUESTED										<input type="checkbox"/> Invoice WorleyParsons <input type="checkbox"/> Report WorleyParsons <input type="checkbox"/> Digital WorleyParsons <input type="checkbox"/> PDF WorleyParsons <input type="checkbox"/> Invoice Client care of WorleyParson																																																																																																																																																																																												
Project Manager: <u>Jason Clarke</u>		<table border="1"> <tr><td><small>In Bottle</small></td><td><small>Transfer</small></td><td><small>from</small></td><td><small>IF</small></td><td><small>N</small></td><td><small>H2SO4</small></td><td><small>HNO3</small></td><td><small>N</small></td><td><small>or Fresh</small></td><td><small>Bottle from Lab</small></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Enterococcus</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Fecal Coliform</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>pH/Cond./TSS/NO3/N&N/NI</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Major Anions</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Ammonia</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Total Trace Metal</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Hardness</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Diss. Trace Metals / Mercur</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>										<small>In Bottle</small>	<small>Transfer</small>	<small>from</small>	<small>IF</small>	<small>N</small>	<small>H2SO4</small>	<small>HNO3</small>	<small>N</small>	<small>or Fresh</small>	<small>Bottle from Lab</small>											Enterococcus																					Fecal Coliform																					pH/Cond./TSS/NO3/N&N/NI																					Major Anions																					Ammonia																					Total Trace Metal																					Hardness																					Diss. Trace Metals / Mercur																					
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Project ID: <u>09185</u>																																																																																																																																																																																																								

SAMPLE DESCRIPTION/ID	Sample ID	Date & Time Sampled (D/M/Y)	Enterococcus	Fecal Coliform	pH/Cond./TSS/NO3/N&N/NI	Major Anions	Ammonia	Total Trace Metal	Hardness	Diss. Trace Metals / Mercur	Comments	Sample Type	No. of Containers
1 Surface		<i>July 24/2010 9:38</i>	X	X	X	X	X	X	X	X		Sea Water	<i>7</i>
1 Mid		<i>9:31</i>	X	X	X	X	X	X	X	X		Sea Water	<i>7</i>
1 Bottom		<i>9:21</i>	X	X	X	X	X	X	X	X		Sea Water	<i>7</i>
2 Surface		<i>10:06</i>	X	X	X	X	X	X	X	X		Sea Water	<i>6</i>
2 Mid		<i>9:59</i>	X	X	X	X	X	X	X	X		Sea Water	<i>6</i>
2 Bottom		<i>9:52</i>	X	X	X	X	X	X	X	X		Sea Water	<i>6</i>
3 Surface		<i>10:26</i>	X	X	X	X	X	X	X	X		Sea Water	<i>6</i>
3 Mid		<i>10:21</i>	X	X	X	X	X	X	X	X		Sea Water	<i>6</i>
3 Bottom		<i>10:17</i>	X	X	X	X	X	X	X	X		Sea Water	<i>6</i>
4 Surface		<i>11:25</i>	X	X	X	X	X	X	X	X		Sea Water	<i>7</i>
4 Mid		<i>11:21</i>	X	X	X	X	X	X	X	X		Sea Water	<i>7</i>

PLEASE FILL IN ALL THE REQUIRED AREAS BELOW

LABORATORY USE ONLY

TAT (Turnaround Time) <input checked="" type="checkbox"/> STD <input type="checkbox"/> RUSH (2-DAY) <input type="checkbox"/> RUSH (1-DAY) <input type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> Hydrocarbon Screening		Regulatory Guideline <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> Other (specify) <input type="checkbox"/> Other (specify) <input type="checkbox"/> Special Detection Limits / Contaminant Type:		Reporting Format <input checked="" type="checkbox"/> AutoFax <input checked="" type="checkbox"/> AutoEmail <input type="checkbox"/> Mailing Address: If different than above <u>peter.howland@worleyparsons.com</u> <u>brian.lynych@worleyparsons.com</u>		Received by: <i>[Signature]</i> Date: <i>20100720</i> Time: <i>11:10</i> Comment(s): <i>[Handwritten]</i> Work Order Number: Temperature: Laboratory prepared Containers: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal in Place on Cooler: <input type="checkbox"/> Yes <input type="checkbox"/> No Due Date:	
DATE Required: TIME Required:		Sampled by: <i>[Signature]</i> Name (print): <u>Peter Howland</u> Date: <u>July 26/2010</u>		Relinquished by: _____ Name (print): _____ Date: _____		Date: _____ Time: _____	

CANTEST

Suite 1104 South Wing, 4464 Markam Street
Victoria BC
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CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

WorleyParsons Canada Ltd.

Suite 106, 2780 veterans' Memorial Pkwy
Victoria BC, V9B 3S6
Tel: (250) 384 1499, Fax: (250) 384 1201

COC#: 072610

PAGE 2 OF 2

Client: <u>WorleyParsons Canada Ltd.</u> Project Manager: <u>Jason Clarke</u> Address: <u>106-2780 Veteran Memorial Parkway</u> <u>Victoria, BC V9B 3S6</u> Tel #: <u>250-384-1499</u> Fax #: <u>250-384-1201</u> Email: <u>Jason.R.Clarke@worleyparsons.com</u> Project ID: <u>09185</u>	ANALYSES REQUESTED	<input type="checkbox"/> Invoice WorleyParsons <input type="checkbox"/> Report WorleyParsons <input type="checkbox"/> Digital WorleyParsons <input type="checkbox"/> PDF WorleyParsons <input type="checkbox"/> Invoice Client care of WorleyParson
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SAMPLE DESCRIPTION/ID	Sample ID	Date & Time Sampled (ONLY)	Enterococcus	Fecal Coliform	pH/Cond./TSS/NO3/N&N	Major Anions	Ammonia	Total Trace Metal	Hardness	Diss. Trace Metals / Mercur	Comments	Sample Type	No. of Containers
4 Bottom		July 21/2010 11:28	X	X	X	X	X	X	X	X		Sea Water	7
5 Surface		11:57	X	X	X	X	X	X				Sea Water	6
5 Mid		11:50	X	X	X	X	X	X				Sea Water	6
5 Bottom		11:42	X	X	X	X	X	X				Sea Water	6
6 Surface			X	X	X	X	X	X				Sea Water	6
6 Mid			X	X	X	X	X	X				Sea Water	6
6 Bottom			X	X	X	X	X	X				Sea Water	6
Blank		13:16	X	X	X	X	X	X	X	X		Sea Water	7
7 Surface		12:43	X	X	X	X	X	X	X	X			7
7 mid		12:46	X	X	X	X	X	X	X	X			7
7 Bottom		12:58	X	X	X	X	X	X	X	X			7

PLEASE FILL IN ALL THE REQUIRED AREAS BELOW			LABORATORY USE ONLY		
TAT (Turnaround Time) <input checked="" type="checkbox"/> STD <input type="checkbox"/> RUSH (2-DAY) <input type="checkbox"/> RUSH (1-DAY) <input type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> Hydrocarbon Screening	Regulatory Guideline <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> Other (specify) <input type="checkbox"/> Other (specify) <input type="checkbox"/> Special Detection Limits / Contaminant Type:	Reporting Format <input checked="" type="checkbox"/> AutoFax <input checked="" type="checkbox"/> AutoEmail <input checked="" type="checkbox"/> Mailing Address: <u>If different than above</u> <u>peter.howland@worleyparsons.com</u> <u>brian.lynch@worleyparsons.com</u>	Received by: <u>[Signature]</u> Date: <u>26/07/10</u> Time: <u>12:50</u> Comment(s): <u>[Signature]</u>	Work Order Number: Temperature: Laboratory prepared Containers: <input type="checkbox"/> Yes <input type="checkbox"/> No Quality Seal in Test on Cooler: <input type="checkbox"/> Yes <input type="checkbox"/> No Date (Lab):	DATE Required: TIME Required:
Sampled by: <u>[Signature]</u> Name (print): <u>Peter Howland</u> Date: <u>July 26/2010</u>		Relinquished by: _____ Name (print): _____ Date: _____		Date: _____ Time: _____	

Your Project #: 09185
 Your C.O.C. #: 0728101, 072810-1, 072810-2, 072810-3, 072810-4

Attention: JASON CLARKE

WORLEYPARSONS
 100-3795 CAREY RD
 VICTORIA, BC
 CANADA V8Z 6T8

Report Date: 2010/10/25

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B063834

Received: 2010/07/28, 17:00

Sample Matrix: Water
 # Samples Received: 34

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
Chloride by Automated Colourimetry	32	N/A	2010/08/05	BRN-SOP 00234 R3.0	Based on EPA 325.2
Chloride by Automated Colourimetry	2	N/A	2010/08/06	BRN-SOP 00234 R3.0	Based on EPA 325.2
Conductance - water (1)	34	N/A	2010/07/29	56-C-003	Based on SM-2510
Enterococcus spp.	34	N/A	2010/07/30	BRN SOP 00364 R2.0	Based on SM-9230
Fluoride	34	N/A	2010/08/03	BRN SOP-00282 R4.0	Based SM - 4500 F C
Fecal Coliform by membrane filtration (1)	34	N/A	2010/07/29	70-C-200	Based on SM-9222
Hardness Total (calculated as CaCO3)	34	N/A	2010/08/04		
Mercury (Total) by CVAf	9	2010/07/29	2010/08/03	65-A-002-10	EPA 245.7
Mercury (Total) by CVAf	7	2010/08/03	2010/08/03	65-A-002-10	EPA 245.7
Elements by ICP-AES (total)	34	2010/08/04	2010/08/04	65-S-060	Based on EPA 200.7
Metals by Chelation CRC ICPMS (dis)	16	N/A	2010/09/11	BRN SOP-00206	Based on EPA 200.8
Metals by Chelation CRC ICPMS (tot)	16	N/A	2010/09/11	BRN SOP-00206	Based on EPA 200.8
Ammonia-N	34	N/A	2010/08/03	BBY6SOP-00044	Based on EPA 350.1
Nitrate + Nitrite (N) (1)	34	N/A	2010/07/29	56-C-005	Based SM-4500 NO2 E
Nitrite (N) by CFA (1)	28	N/A	2010/07/29	56-C-006	Based SM-4500 NO2 B
Nitrite (N) by CFA (1)	6	N/A	2010/08/27	56-C-006	Based SM-4500 NO2 B
Nitrogen - Nitrate (as N) (1)	34	N/A	2010/08/03	56-C-005	Based SM-4500 NO3 E
Filter and HNO3 Preserve for Metals	16	N/A	2010/08/03	BRN WI-00006 R1.0	Based on EPA 200.2
pH Water (1)	34	N/A	2010/07/29	56-C-007	Based on SM-4500 pH
Sulphate by Automated Colourimetry	10	N/A	2010/08/04	BRN-SOP 00243 R1.0	Based on EPA 375.4
Sulphate by Automated Colourimetry	24	N/A	2010/08/05	BRN-SOP 00243 R1.0	Based on EPA 375.4
Sublet (ORGANICS) (1)	6	N/A	2010/10/23		
Total Suspended Solids(Fixed & Volatile) (1)	34	N/A	2010/07/29	56-C-010	Based on SM2540 D E

* Results relate only to the items tested.

- (1) This test was performed by Maxxam Victoria
 (2) This test was performed by Ext. Sublet from Vancouver



Maxxam Job #: B063834
Report Date: 2010/10/25

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

-2-

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

DEBBIE NORDBRUGET, Sample Logistics Technician
Email: DNordbruket@maxxam.ca
Phone# (250) 385-6112

=====
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 2

Maxxam Job #: B063834
 Report Date: 2010/10/25

 WORLEYPARSONS
 Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V78511			V78512			V78513	V78514			V78515		
Sampling Date		2010/07/28 09:47			2010/07/28 09:30			2010/07/28 09:49	2010/07/28 10:23			2010/07/28 10:15		
	Units	1 SURFACE	RDL	QC Batch	1 MID	RDL	QC Batch	1 BOTTOM	2 SURFACE	RDL	QC Batch	2 MID	RDL	QC Batch
Parameter														
Subcontract Parameter	N/A							ATTACHED		N/A	4370069			
ANIONS														
Nitrite (N)	mg/L	0.005	0.002	4150346	0.005	0.002	4150346	0.005	0.005	0.002	4150346	0.005	0.002	4150346
Calculated Parameters														
Filter and HNO3 Preservation	N/A	LAB	N/A	4150032	LAB	N/A	4150032	LAB		N/A	4150032			
Total Hardness (CaCO3)	mg/L	5330	0.5	4139973	5290	0.5	4139973	5520	5360	0.5	4139973	5360	0.5	4139973
Nitrate (N)	mg/L	0.268	0.002	4140945	0.289	0.002	4140945	0.287	0.245	0.002	4140945	0.264	0.002	4140945
Misc. Inorganics														
Fluoride (F)	mg/L	0.75	0.01	4148721	0.76	0.01	4148721	0.77	0.75	0.01	4148721	0.75	0.01	4148721
Total Suspended Solids	mg/L	<2	2	4149964	<2	2	4149964	4	3	1	4149964	3	1	4149964
Anions														
Dissolved Sulphate (SO4)	mg/L	2000	5	4156695	2400	50	4158117	2000	2000	5	4156695	2500	50	4158117
Dissolved Chloride (Cl)	mg/L	18000	50	4158116	17000	50	4158116	18000	18000	50	4158116	18000	50	4158116
Nutrients														
Ammonia (N)	mg/L	<0.05 ⁽¹⁾	0.05	4150002	0.08 ⁽¹⁾	0.05	4150002	0.07 ⁽¹⁾	0.08 ⁽¹⁾	0.05	4150002	<0.05 ⁽¹⁾	0.05	4150002
Nitrate plus Nitrite (N)	mg/L	0.273	0.002	4150738	0.294	0.002	4150738	0.292	0.250	0.002	4150738	0.269	0.002	4150738
Physical Properties														
Conductivity	uS/cm	47400	1	4150932	47400	1	4150932	47600	47000	1	4150932	47100	1	4150932
pH	pH Units	7.9		4150919	7.9		4150919	7.8	7.9		4150919	7.9		4150919

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B063834
 Report Date: 2010/10/25

 WORLEYPARSONS
 Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V78516	V78517	V78518		V78519			V78520		V78521		
Sampling Date		2010/07/28 10:01	2010/07/28 10:51	2010/07/28 10:43		2010/07/28 10:37			2010/07/28 13:42		2010/07/28 13:23		
	Units	2 BOTTOM	3 SURFACE	3 MID	RDL	3 BOTTOM	RDL	QC Batch	4 SURFACE	QC Batch	4 MID	RDL	QC Batch
ANIONS													
Nitrite (N)	mg/L	0.005	0.005	0.005	0.002	0.005	0.002	4150462	0.005	4150462	0.005	0.002	4150476
Calculated Parameters													
Filter and HNO3 Preservation	N/A								LAB	4150032	LAB	N/A	4150032
Total Hardness (CaCO3)	mg/L	5610	5290	5720	0.5	5530	0.5	4139973	5160	4139973	5330	0.5	4139973
Nitrate (N)	mg/L	0.309	0.279	0.311	0.002	0.331	0.002	4140945	0.279	4140945	0.295	0.002	4140945
Misc. Inorganics													
Fluoride (F)	mg/L	0.76	0.75	0.76	0.01	0.77	0.01	4148721	0.75	4148721	0.75	0.01	4148721
Total Suspended Solids	mg/L	<2	<2	<2	2	5	1	4149964	3	4149964	3	1	4149964
Anions													
Dissolved Sulphate (SO4)	mg/L	2500	2500	2600	50	2600	50	4158117	1900	4156695	1900	5	4156695
Dissolved Chloride (Cl)	mg/L	19000	19000	18000	50	18000	50	4158116	18000	4158116	18000	50	4158116
Nutrients													
Ammonia (N)	mg/L	0.11 ⁽¹⁾	0.09 ⁽¹⁾	0.09 ⁽¹⁾	0.05	0.09 ⁽¹⁾	0.05	4150002	<0.05 ⁽¹⁾	4150002	0.11 ⁽¹⁾	0.05	4150002
Nitrate plus Nitrite (N)	mg/L	0.314	0.284	0.316	0.002	0.336	0.002	4150774	0.284	4150774	0.300	0.002	4150798
Physical Properties													
Conductivity	uS/cm	47600	47100	47800	1	48400	1	4150932	46500	4150932	47000	1	4150932
pH	pH Units	7.8	7.9	7.9		7.9		4150919	8.0	4150919	7.9		4150919

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B063834
 Report Date: 2010/10/25

 WORLEYPARSONS
 Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V78534			V78535			V78536	V78537		V78538		
Sampling Date		2010/07/28 12:51			2010/07/28 12:41			2010/07/28 12:33	2010/07/28 12:27		2010/07/28 11:30		
	Units	4 BOTTOM	RDL	QC Batch	5 SURFACE	RDL	QC Batch	5 MID	5 BOTTOM	QC Batch	6 SURFACE	RDL	QC Batch
Parameter													
Subcontract Parameter	N/A	ATTACHED	N/A	4370069									
ANIONS													
Nitrite (N)	mg/L	0.005	0.002	4150476	0.005	0.002	4150476	0.005	0.005	4150476	0.004	0.002	4150485
Calculated Parameters													
Filter and HNO3 Preservation	N/A	LAB	N/A	4150032									
Total Hardness (CaCO3)	mg/L	5840	0.5	4139973	5570	0.5	4139973	5300	5540	4139973	5670	0.5	4139973
Nitrate (N)	mg/L	0.326	0.002	4140945	0.268	0.002	4140945	0.300	0.335	4140945	0.221	0.002	4140945
Misc. Inorganics													
Fluoride (F)	mg/L	0.76	0.01	4148721	0.74	0.01	4148721	0.74	0.76	4148721	0.74	0.01	4148721
Total Suspended Solids	mg/L	2	1	4149964	<2	2	4149964	2	2	4149964	2	1	4149964
Anions													
Dissolved Sulphate (SO4)	mg/L	2600	50	4158117	1900	5	4156695	2600	2500	4158117	2400	50	4158117
Dissolved Chloride (Cl)	mg/L	18000	50	4158116	18000	50	4158116	18000	19000	4158116	17000	50	4158116
Nutrients													
Ammonia (N)	mg/L	0.10 ⁽¹⁾	0.05	4150002	0.09 ⁽¹⁾	0.05	4150002	0.09 ⁽¹⁾	0.09 ⁽¹⁾	4150002	0.10 ⁽¹⁾	0.05	4150002
Nitrate plus Nitrite (N)	mg/L	0.331	0.002	4150798	0.273	0.002	4150798	0.305	0.340	4150798	0.225	0.002	4150803
Physical Properties													
Conductivity	uS/cm	47800	1	4150932	46500	1	4150932	47300	48100	4150932	46500	1	4150932
pH	pH Units	7.9		4150919	8.0		4150919	7.9	7.8	4150919	7.9		4150919

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B063834
 Report Date: 2010/10/25

 WORLEYPARSONS
 Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V78539	V78540			V78541		V78542		V78543		
Sampling Date		2010/07/28 11:23	2010/07/28 11:13			2010/07/28 14:59		2010/07/28 14:53		2010/07/28 14:41		
	Units	6 MID	6 BOTTOM	RDL	QC Batch	7 SURFACE	RDL	7 MID	QC Batch	7 BOTTOM	RDL	QC Batch
Parameter												
Subcontract Parameter	N/A									ATTACHED	N/A	4370069
ANIONS												
Nitrite (N)	mg/L	0.004	0.004	0.002	4150485	0.004	0.002	0.004	4150485	0.004	0.002	4150531
Calculated Parameters												
Filter and HNO3 Preservation	N/A					LAB	N/A	LAB	4150032	LAB	N/A	4150032
Total Hardness (CaCO3)	mg/L	6170	6270	0.5	4139973	5160	0.5	5320	4139973	5500	0.5	4139973
Nitrate (N)	mg/L	0.311	0.441	0.002	4140945	0.175	0.002	0.192	4140945	0.288	0.002	4140945
Misc. Inorganics												
Fluoride (F)	mg/L	0.76	0.79	0.01	4148721	1.02	0.05	0.72	4148721	0.74	0.01	4148721
Total Suspended Solids	mg/L	3	4	1	4149964	2	1	3	4149964	6	1	4149964
Anions												
Dissolved Sulphate (SO4)	mg/L	2500	2700	50	4158117	1900	5	1900	4156695	1900	5	4158115
Dissolved Chloride (Cl)	mg/L	17000	18000	50	4158116	16000	50	16000	4158116	17000	50	4162035
Nutrients												
Ammonia (N)	mg/L	0.11 ⁽¹⁾	0.08 ⁽¹⁾	0.05	4150002	0.09 ⁽¹⁾	0.05	0.09 ⁽¹⁾	4150002	0.09 ⁽¹⁾	0.05	4150002
Nitrate plus Nitrite (N)	mg/L	0.315	0.445	0.002	4150803	0.179	0.002	0.196	4150803	0.292	0.002	4150805
Physical Properties												
Conductivity	uS/cm	47000	51000	1	4150932	44400	1	44800	4150932	46000	1	4150932
pH	pH Units	7.9	7.7		4150919	8.1		8.0	4150919	8.0		4150919

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B063834
 Report Date: 2010/10/25

 WORLEYPARSONS
 Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V78548		V78549	V78550			V78551		V78552		
Sampling Date		2010/07/28 09:47		2010/07/28 09:30	2010/07/28 08:49			2010/07/28 09:47		2010/07/28 09:30		
	Units	1 SURFACE TRIPLICATE 1	RDL	1 MID TRIPLICATE 1	1 BOTTOM TRIPLICATE 1	RDL	QC Batch	1 SURFACE TRIPLICATE 2	QC Batch	1 MID TRIPLICATE 2	RDL	QC Batch
Parameter												
Subcontract Parameter	N/A				ATTACHED	N/A	4370069					
ANIONS												
Nitrite (N)	mg/L	0.004	0.002	0.004	0.004	0.002	4150531	0.004	4150531	0.004	0.002	4150586
Calculated Parameters												
Filter and HNO3 Preservation	N/A	LAB	N/A	LAB	LAB	N/A	4150032	LAB	4150032	LAB	N/A	4150032
Total Hardness (CaCO3)	mg/L	5740	0.5	5540	5450	0.5	4139973	5280	4139973	5370	0.5	4139973
Nitrate (N)	mg/L	0.232	0.002	0.278	0.281	0.002	4140945	0.232	4140945	0.272	0.002	4140945
Misc. Inorganics												
Fluoride (F)	mg/L	0.74	0.01	0.75	0.75	0.01	4148721	0.74	4148721	0.73	0.01	4148721
Total Suspended Solids	mg/L	3	1	<2	<2	2	4149964	3	4149964	2	1	4149964
Anions												
Dissolved Sulphate (SO4)	mg/L	2500	50	2500	2600	50	4158117	1900	4156695	2000	5	4158115
Dissolved Chloride (Cl)	mg/L	17000	50	17000	18000	50	4158116	18000	4158116	17000	50	4162035
Nutrients												
Ammonia (N)	mg/L	<0.05 ⁽¹⁾	0.05	0.11 ⁽¹⁾	0.10 ⁽¹⁾	0.05	4150002	<0.05 ⁽¹⁾	4150002	0.10 ⁽¹⁾	0.05	4150002
Nitrate plus Nitrite (N)	mg/L	0.236	0.002	0.282	0.285	0.002	4150805	0.236	4150805	0.276	0.002	4150807
Physical Properties												
Conductivity	uS/cm	46800	1	47200	47700	1	4150932	47000	4150932	47500	1	4150932
pH	pH Units	8.0		8.0	7.9		4150919	8.0	4150919	7.9		4150919

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B063834
 Report Date: 2010/10/25

WORLEYPARSONS
 Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V78553			V78554		V78555	V78556		
Sampling Date		2010/07/28 08:49			2010/07/28 13:42		2010/07/28 13:23	2010/07/28 12:51		
	Units	1 BOTTOM TRIPLICATE 2	RDL	QC Batch	4 SURFACE TRIPLICATE 1	RDL	4 MID TRIPLICATE 1	4 BOTTOM TRIPLICATE 1	RDL	QC Batch
Parameter										
Subcontract Parameter	N/A	ATTACHED	N/A	4370069						
ANIONS										
Nitrite (N)	mg/L	0.004	0.002	4150586	0.004	0.002	0.004	0.004	0.002	4150586
Calculated Parameters										
Filter and HNO3 Preservation	N/A	LAB	N/A	4150032						
Total Hardness (CaCO3)	mg/L	5710	0.5	4139973	5830	0.5	5580	5590	0.5	4139973
Nitrate (N)	mg/L	0.315	0.002	4140945	0.258	0.002	0.273	0.299	0.002	4140945
Misc. Inorganics										
Fluoride (F)	mg/L	0.74	0.01	4148721	0.74	0.01	0.74	0.75	0.01	4148721
Total Suspended Solids	mg/L	3	1	4149964	2	1	<2	<2	2	4149964
Anions										
Dissolved Sulphate (SO4)	mg/L	2000	5	4156695	2400	50	2500	2600	50	4158117
Dissolved Chloride (Cl)	mg/L	17000	50	4158116	17000	50	18000	18000	50	4158116
Nutrients										
Ammonia (N)	mg/L	0.12 ⁽¹⁾	0.05	4150002	<0.05 ⁽¹⁾	0.05	0.07 ⁽¹⁾	0.10 ⁽¹⁾	0.05	4150002
Nitrate plus Nitrite (N)	mg/L	0.319	0.002	4150807	0.262	0.002	0.277	0.303	0.002	4150807
Physical Properties										
Conductivity	uS/cm	47800	1	4150932	46500	1	46900	47500	1	4150932
pH	pH Units	7.9		4150919	8.0		7.9	7.9		4150919

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B063834
 Report Date: 2010/10/25

 WORLEYPARSONS
 Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V78557		V78558	V78594		V78595		
Sampling Date		2010/07/28 13:42		2010/07/28 13:23	2010/07/28 12:51		2010/07/28 15:30		
	Units	4 SURFACE TRIPLICATE 2	RDL	4 MID TRIPLICATE 2	4 BOTTOM TRIPLICATE 2	RDL	EQUIPMENT BLANK	RDL	QC Batch
Parameter									
Subcontract Parameter	N/A						ATTACHED	N/A	4370069
ANIONS									
Nitrite (N)	mg/L	0.004	0.002	0.004	0.004	0.002	<0.002	0.002	4150599
Calculated Parameters									
Filter and HNO3 Preservation	N/A						LAB	N/A	4150032
Total Hardness (CaCO3)	mg/L	5340	0.5	5040	5470	0.5	<0.5	0.5	4139973
Nitrate (N)	mg/L	0.258	0.002	0.285	0.285	0.002	0.303	0.002	4140945
Misc. Inorganics									
Fluoride (F)	mg/L	0.74	0.01	0.74	0.75	0.01	0.01	0.01	4148721
Total Suspended Solids	mg/L	<2	2	2	2	1	<2	2	4149964
Anions									
Dissolved Sulphate (SO4)	mg/L	2300	50	2400	2400	50	1.8	0.5	4158117
Dissolved Chloride (Cl)	mg/L	17000	50	17000	18000	50	<0.5	0.5	4158116
Nutrients									
Ammonia (N)	mg/L	<0.05 ⁽¹⁾	0.05	0.08 ⁽¹⁾	0.10 ⁽¹⁾	0.05	<0.005	0.005	4150002
Nitrate plus Nitrite (N)	mg/L	0.262	0.002	0.289	0.289	0.002	0.303	0.002	4150811
Physical Properties									
Conductivity	uS/cm	46400	1	47100	47200	1	6	1	4150932
pH	pH Units	8.0		7.9	7.9		5.9		4150919

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.



Maxxam Job #: B063834
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WORLEYPARSONS
 Client Project #: 09185

Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		V78511	V78512	V78513	V78514	V78515	V78516	V78517	V78518	V78519	V78520		
Sampling Date		2010/07/28 09:47	2010/07/28 09:30	2010/07/28 09:49	2010/07/28 10:23	2010/07/28 10:15	2010/07/28 10:01	2010/07/28 10:51	2010/07/28 10:43	2010/07/28 10:37	2010/07/28 13:42		
	Units	1 SURFACE	1 MID	1 BOTTOM	2 SURFACE	2 MID	2 BOTTOM	3 SURFACE	3 MID	3 BOTTOM	4 SURFACE	RDL	QC Batch
Elements													
Total Mercury (Hg)	ug/L	<0.02	<0.02	<0.02							<0.02	0.02	4142332
Dissolved Metals by ICPMS													
Dissolved Cadmium (Cd)	ug/L	0.07	0.07	0.07							0.07	0.01	4248706
Dissolved Cobalt (Co)	ug/L	<0.05	<0.05	<0.05							<0.05	0.05	4248706
Dissolved Copper (Cu)	ug/L	0.23	0.17	0.11							0.18	0.05	4248706
Dissolved Iron (Fe)	ug/L	<1	<1	<1							1	1	4248706
Dissolved Lead (Pb)	ug/L	<0.05	<0.05	<0.05							<0.05	0.05	4248706
Dissolved Manganese (Mn)	ug/L	0.6	0.6	0.6							0.8	0.2	4248706
Dissolved Nickel (Ni)	ug/L	0.55	0.48	0.40							0.50	0.05	4248706
Dissolved Zinc (Zn)	ug/L	1.0	1.0	0.7							1.2	0.5	4248706
Total Metals by ICP													
Total Calcium (Ca)	mg/L	340	337	348	341	340	352	337	356	350	332	0.5	4152218
Total Magnesium (Mg)	mg/L	1090	1080	1130	1090	1100	1150	1080	1170	1130	1050	0.5	4152218
Total Metals by ICPMS													
Total Cadmium (Cd)	ug/L	0.08	0.08	0.09							0.07	0.01	4248702
Total Copper (Cu)	ug/L	0.27	0.21	0.17							0.22	0.05	4248702
Total Iron (Fe)	ug/L	14	21	25							18	1	4248702
Total Lead (Pb)	ug/L	<0.05	<0.05	<0.05							<0.05	0.05	4248702
Total Nickel (Ni)	ug/L	0.45	0.45	0.46							1.81	0.05	4248702
Total Zinc (Zn)	ug/L	0.8	0.8	0.8							0.7	0.5	4248702

RDL = Reportable Detection Limit



Maxxam Job #: B063834
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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		V78521	V78534	V78535	V78536	V78537	V78538	V78539		V78540	V78541		
Sampling Date		2010/07/28 13:23	2010/07/28 12:51	2010/07/28 12:41	2010/07/28 12:33	2010/07/28 12:27	2010/07/28 11:30	2010/07/28 11:23		2010/07/28 11:13	2010/07/28 14:59		
	Units	4 MID	4 BOTTOM	5 SURFACE	5 MID	5 BOTTOM	6 SURFACE	6 MID	QC Batch	6 BOTTOM	7 SURFACE	RDL	QC Batch
Elements													
Total Mercury (Hg)	ug/L	<0.02	<0.02						4142332		<0.02	0.02	4142332
Dissolved Metals by ICPMS													
Dissolved Cadmium (Cd)	ug/L	0.07	0.08						4248706		0.07	0.01	4248706
Dissolved Cobalt (Co)	ug/L	<0.05	<0.05						4248706		<0.05	0.05	4248706
Dissolved Copper (Cu)	ug/L	0.23	0.19						4248706		0.35	0.05	4248706
Dissolved Iron (Fe)	ug/L	2	3						4248706		3	1	4248706
Dissolved Lead (Pb)	ug/L	<0.05	<0.05						4248706		<0.05	0.05	4248706
Dissolved Manganese (Mn)	ug/L	0.9	0.9						4248706		1.3	0.2	4248706
Dissolved Nickel (Ni)	ug/L	0.52	0.54						4248706		0.47	0.05	4248706
Dissolved Zinc (Zn)	ug/L	1.5	1.4						4248706		0.7	0.5	4248706
Total Metals by ICP													
Total Calcium (Ca)	mg/L	338	363	349	340	359	355	377	4152218	389	325	0.5	4152229
Total Magnesium (Mg)	mg/L	1090	1200	1140	1080	1130	1160	1270	4152218	1290	1060	0.5	4152229
Total Metals by ICPMS													
Total Cadmium (Cd)	ug/L	0.09	0.08						4248702		0.07	0.01	4248702
Total Copper (Cu)	ug/L	0.19	0.18						4248702		0.30	0.05	4248702
Total Iron (Fe)	ug/L	22	28						4248702		29	1	4248702
Total Lead (Pb)	ug/L	<0.05	<0.05						4248702		<0.05	0.05	4248702
Total Nickel (Ni)	ug/L	0.51	0.52						4248702		0.46	0.05	4248702
Total Zinc (Zn)	ug/L	1.0	0.7						4248702		1.6	0.5	4248702

RDL = Reportable Detection Limit



Maxxam Job #: B063834
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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		V78542	V78543		V78548	V78549	V78550	V78551	V78552	V78553		
Sampling Date		2010/07/28 14:53	2010/07/28 14:41		2010/07/28 09:47	2010/07/28 09:30	2010/07/28 08:49	2010/07/28 09:47	2010/07/28 09:30	2010/07/28 08:49		
	Units	7 MID	7 BOTTOM	QC Batch	1 SURFACE TRIPLICATE 1	1 MID TRIPLICATE 1	1 BOTTOM TRIPLICATE 1	1 SURFACE TRIPLICATE 2	1 MID TRIPLICATE 2	1 BOTTOM TRIPLICATE 2	RDL	QC Batch
Elements												
Total Mercury (Hg)	ug/L	<0.02	<0.02	4142332	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	4149543
Dissolved Metals by ICPMS												
Dissolved Cadmium (Cd)	ug/L	0.07	0.08	4248706	0.09	0.08	0.07	0.07	0.08	0.08	0.01	4248706
Dissolved Cobalt (Co)	ug/L	<0.05	<0.05	4248706	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4248706
Dissolved Copper (Cu)	ug/L	0.26	0.23	4248706	0.21	0.22	0.17	0.18	0.22	0.17	0.05	4248706
Dissolved Iron (Fe)	ug/L	1	3	4248706	1	<1	<1	2	1	3	1	4248706
Dissolved Lead (Pb)	ug/L	<0.05	<0.05	4248706	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	0.05	4248706
Dissolved Manganese (Mn)	ug/L	1.3	1.7	4248706	0.7	0.5	0.7	0.7	0.6	0.7	0.2	4248706
Dissolved Nickel (Ni)	ug/L	0.48	0.48	4248706	0.43	0.44	0.54	0.54	0.62	0.43	0.05	4248706
Dissolved Zinc (Zn)	ug/L	1.0	0.9	4248706	0.8	0.7	0.7	0.8	0.9	1.0	0.5	4248706
Total Metals by ICP												
Total Calcium (Ca)	mg/L	333	344	4152229	356	347	346	335	340	358	0.5	4152229
Total Magnesium (Mg)	mg/L	1090	1130	4152229	1180	1140	1110	1080	1100	1170	0.5	4152229
Total Metals by ICPMS												
Total Cadmium (Cd)	ug/L	0.08	0.08	4248702	0.08	0.08	0.09	0.08	0.08	0.09	0.01	4248702
Total Copper (Cu)	ug/L	0.43	0.31	4248702	0.25	0.21	0.19	0.21	0.18	0.25	0.05	4248702
Total Iron (Fe)	ug/L	54	63	4248702	14	21	28	16	17	26	1	4248702
Total Lead (Pb)	ug/L	0.08	0.05	4248702	22.3	<0.05	<0.05	<0.05	<0.05	0.07	0.05	4248702
Total Nickel (Ni)	ug/L	0.55	0.61	4248702	0.47	0.49	0.48	0.46	0.47	0.55	0.05	4248702
Total Zinc (Zn)	ug/L	1.6	1.1	4248702	0.9	0.7	0.8	1.5	0.8	1.2	0.5	4248702

RDL = Reportable Detection Limit

Maxxam Job #: B063834
 Report Date: 2010/10/25

 WORLEYPARSONS
 Client Project #: 09185

Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		V78554	V78555	V78556	V78557	V78558	V78594		V78595		
Sampling Date		2010/07/28 13:42	2010/07/28 13:23	2010/07/28 12:51	2010/07/28 13:42	2010/07/28 13:23	2010/07/28 12:51		2010/07/28 15:30		
	Units	4 SURFACE TRIPLICATE 1	4 MID TRIPLICATE 1	4 BOTTOM TRIPLICATE 1	4 SURFACE TRIPLICATE 2	4 MID TRIPLICATE 2	4 BOTTOM TRIPLICATE 2	RDL	EQUIPMENT BLANK	RDL	QC Batch
Elements											
Total Mercury (Hg)	ug/L							0.02	<0.02	0.02	4149543
Dissolved Metals by ICPMS											
Dissolved Cadmium (Cd)	ug/L							0.01	<0.01	0.01	4248706
Dissolved Cobalt (Co)	ug/L							0.05	<0.05	0.05	4248706
Dissolved Copper (Cu)	ug/L							0.05	<0.05	0.05	4248706
Dissolved Iron (Fe)	ug/L							1	1	1	4248706
Dissolved Lead (Pb)	ug/L							0.05	<0.05	0.05	4248706
Dissolved Manganese (Mn)	ug/L							0.2	<0.2	0.2	4248706
Dissolved Nickel (Ni)	ug/L							0.05	0.10	0.05	4248706
Dissolved Zinc (Zn)	ug/L							0.5	<0.5	0.5	4248706
Total Metals by ICP											
Total Calcium (Ca)	mg/L	361	349	355	337	327	347	0.5	<0.05	0.05	4152229
Total Magnesium (Mg)	mg/L	1200	1140	1140	1090	1030	1120	0.5	<0.05	0.05	4152229
Total Metals by ICPMS											
Total Cadmium (Cd)	ug/L							0.01	<0.01	0.01	4248702
Total Copper (Cu)	ug/L							0.05	<0.05	0.05	4248702
Total Iron (Fe)	ug/L							1	<1	1	4248702
Total Lead (Pb)	ug/L							0.05	<0.05	0.05	4248702
Total Nickel (Ni)	ug/L							0.05	0.11	0.05	4248702
Total Zinc (Zn)	ug/L							0.5	0.7	0.5	4248702

MICROBIOLOGY (WATER)

Maxxam ID		V78511	V78512	V78513	V78514	V78515	V78516	V78517	V78518	V78519		
Sampling Date		2010/07/28 09:47	2010/07/28 09:30	2010/07/28 09:49	2010/07/28 10:23	2010/07/28 10:15	2010/07/28 10:01	2010/07/28 10:51	2010/07/28 10:43	2010/07/28 10:37		
	Units	1 SURFACE	1 MID	1 BOTTOM	2 SURFACE	2 MID	2 BOTTOM	3 SURFACE	3 MID	3 BOTTOM	RDL	QC Batch
MICROBIOLOGY												
Fecal Coliforms	CFU/100mL	6	22	23	4	15	24	10	18	68	1	4146063
Microbiological Param.												
Enterococcus spp.	CFU/100mL	<1.0	5.0	5.0	1.0	4.0	3.0	2.0	4.0	6.0	1.0	4145423

RDL = Reportable Detection Limit

Maxxam Job #: B063834
 Report Date: 2010/10/25

 WORLEYPARSONS
 Client Project #: 09185

Sampler Initials: PH

MICROBIOLOGY (WATER)

Maxxam ID		V78520	V78521	V78534	V78535	V78536	V78537	V78538	V78539	V78540		
Sampling Date		2010/07/28 13:42	2010/07/28 13:23	2010/07/28 12:51	2010/07/28 12:41	2010/07/28 12:33	2010/07/28 12:27	2010/07/28 11:30	2010/07/28 11:23	2010/07/28 11:13		
	Units	4 SURFACE	4 MID	4 BOTTOM	5 SURFACE	5 MID	5 BOTTOM	6 SURFACE	6 MID	6 BOTTOM	RDL	QC Batch
MICROBIOLOGY												
Fecal Coliforms	CFU/100mL	2	6	58	<1	4	84	<1	6	3	1	4146063
Microbiological Param.												
Enterococcus spp.	CFU/100mL	<1.0	<1.0	6.0	<1.0	1.0	14	<1.0	<1.0	<1.0	1.0	4145423

Maxxam ID		V78541	V78542	V78543	V78548	V78549	V78550	V78551	V78552			
Sampling Date		2010/07/28 14:59	2010/07/28 14:53	2010/07/28 14:41	2010/07/28 09:47	2010/07/28 09:30	2010/07/28 08:49	2010/07/28 09:47	2010/07/28 09:30			
	Units	7 SURFACE	7 MID	7 BOTTOM	1 SURFACE TRIPLICATE 1	1 MID TRIPLICATE 1	1 BOTTOM TRIPLICATE 1	1 SURFACE TRIPLICATE 2	1 MID TRIPLICATE 2	RDL	QC Batch	
MICROBIOLOGY												
Fecal Coliforms	CFU/100mL	<1	<1	<1	4	20	34	7	13	1	4146063	
Microbiological Param.												
Enterococcus spp.	CFU/100mL	<1.0	<1.0	<1.0	<1.0	5.0	5.0	<1.0	4.0	1.0	4145423	

Maxxam ID		V78553	V78554	V78555	V78556	V78557	V78558	V78594	V78595			
Sampling Date		2010/07/28 08:49	2010/07/28 13:42	2010/07/28 13:23	2010/07/28 12:51	2010/07/28 13:42	2010/07/28 13:23	2010/07/28 12:51	2010/07/28 15:30			
	Units	1 BOTTOM TRIPLICATE 2	4 SURFACE TRIPLICATE 1	4 MID TRIPLICATE 1	4 BOTTOM TRIPLICATE 1	4 SURFACE TRIPLICATE 2	4 MID TRIPLICATE 2	4 BOTTOM TRIPLICATE 2	EQUIPMENT BLANK	RDL	QC Batch	
MICROBIOLOGY												
Fecal Coliforms	CFU/100mL	28	4	5	40	<1	7	45	<1	1	4146063	
Microbiological Param.												
Enterococcus spp.	CFU/100mL	10	<1.0	<1.0	8.0	<1.0	1.0	4.0	<1.0	1.0	4145423	

RDL = Reportable Detection Limit

Maxxam Job #: B063834
Report Date: 2010/10/25

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

Package 1	11.3°C
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Each temperature is the average of up to three cooler temperatures taken at receipt

RESULTS OF CHEMICAL ANALYSES OF WATER Comments

Sample V78541-04 Fluoride: Detection limits raised due to matrix interference

Maxxam Job #: B063834
 Report Date: 2010/10/25

 WORLEYPARSONS
 Client Project #: 09185

Sampler Initials: PH

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
4142332	Total Mercury (Hg)	2010/08/03	96	80 - 120	105	80 - 120	<0.02	ug/L	NC	20
4146063	Fecal Coliforms	2010/07/29							NC	N/A
4148721	Fluoride (F)	2010/08/03	96	80 - 120	97	80 - 120	<0.01	mg/L	0	20
4149543	Total Mercury (Hg)	2010/08/03	109	80 - 120	108	80 - 120	<0.02	ug/L	NC	20
4149964	Total Suspended Solids	2010/07/29			87	86 - 110	<1	mg/L	NC	20
4150002	Ammonia (N)	2010/08/03	119	80 - 120	99	80 - 120	<0.005	mg/L	NC ⁽¹⁾	20
4150346	Nitrite (N)	2010/08/27	100	79 - 115	102	80 - 122	<0.002	mg/L	NC	20
4150462	Nitrite (N)	2010/07/29	100	79 - 115	102	80 - 122	<0.002	mg/L	NC	20
4150476	Nitrite (N)	2010/07/29	100	79 - 115					NC	20
4150485	Nitrite (N)	2010/07/29	108	79 - 115					NC	20
4150531	Nitrite (N)	2010/07/29	108	79 - 115					NC	20
4150586	Nitrite (N)	2010/07/29	108	79 - 115					NC	20
4150599	Nitrite (N)	2010/07/29	98	79 - 115					NC	20
4150738	Nitrate plus Nitrite (N)	2010/07/29	89	80 - 120	98	80 - 120	<0.002	mg/L	2.6	20
4150774	Nitrate plus Nitrite (N)	2010/07/29	96	80 - 120					2.5	20
4150798	Nitrate plus Nitrite (N)	2010/07/29	95	80 - 120					5.5	20
4150803	Nitrate plus Nitrite (N)	2010/07/29	92	80 - 120					1.8	20
4150805	Nitrate plus Nitrite (N)	2010/07/29	95	80 - 120					2.7	20
4150807	Nitrate plus Nitrite (N)	2010/07/29	90	80 - 120					2.5	20
4150811	Nitrate plus Nitrite (N)	2010/07/29	95	80 - 120					0	20
4150932	Conductivity	2010/07/29			100	96 - 104	<1	uS/cm	0	20
4152218	Total Calcium (Ca)	2010/08/04					<0.5	mg/L	1	20
4152218	Total Magnesium (Mg)	2010/08/04					<0.5	mg/L	0.8	20
4152229	Total Calcium (Ca)	2010/08/04					<0.5	mg/L	2.6	20
4152229	Total Magnesium (Mg)	2010/08/04					<0.5	mg/L	4.0	20
4156695	Dissolved Sulphate (SO4)	2010/08/04	NC	80 - 120	94	80 - 120	0.6, RDL=0.5	mg/L	0.6	20
4158115	Dissolved Sulphate (SO4)	2010/08/05	110	80 - 120	95	80 - 120	<0.5	mg/L	1	20
4158116	Dissolved Chloride (Cl)	2010/08/05	NC	80 - 120	91	80 - 120	<0.5	mg/L	5.4	20
4158117	Dissolved Sulphate (SO4)	2010/08/05			95	80 - 120	<0.5	mg/L	6.1	20
4162035	Dissolved Chloride (Cl)	2010/08/06	91	80 - 120	92	80 - 120	<0.5	mg/L	0.2	20
4248702	Total Cadmium (Cd)	2010/09/11	98	80 - 120	97	80 - 120	<0.01	ug/L	4.9	25
4248702	Total Copper (Cu)	2010/09/11	104	80 - 120	96	80 - 120	<0.05	ug/L	1.9	25
4248702	Total Lead (Pb)	2010/09/11	94	80 - 120	100	80 - 120	<0.05	ug/L	NC	25
4248702	Total Nickel (Ni)	2010/09/11	105	80 - 120	89	80 - 120	<0.05	ug/L	3.0	25
4248702	Total Zinc (Zn)	2010/09/11	102	80 - 120	102	80 - 120	<0.5	ug/L	NC	25
4248702	Total Iron (Fe)	2010/09/11					<1	ug/L	0.9	25
4248706	Dissolved Cadmium (Cd)	2010/09/11	98	80 - 120	97	80 - 120	<0.01	ug/L	6.8	25
4248706	Dissolved Cobalt (Co)	2010/09/11	98	80 - 120	92	80 - 120	<0.05	ug/L	NC	25
4248706	Dissolved Copper (Cu)	2010/09/11	86	80 - 120	93	80 - 120	<0.05	ug/L	NC	25
4248706	Dissolved Lead (Pb)	2010/09/11	91	80 - 120	100	80 - 120	<0.05	ug/L	NC	25

Maxxam Job #: B063834
 Report Date: 2010/10/25

WORLEYPARSONS
 Client Project #: 09185

Sampler Initials: PH

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
4248706	Dissolved Nickel (Ni)	2010/09/11	92	80 - 120	89	80 - 120	<0.05	ug/L	16.0	25
4248706	Dissolved Zinc (Zn)	2010/09/11	92	80 - 120	99	80 - 120	0.9, RDL=0.5	ug/L	NC	25
4248706	Dissolved Iron (Fe)	2010/09/11					<1	ug/L	NC	25
4248706	Dissolved Manganese (Mn)	2010/09/11					<0.2	ug/L	NC	25

N/A = Not Applicable

RDL = Reportable Detection Limit

RPD = Relative Percent Difference

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

(1) - RDL raised due to sample matrix interference.



WorleyParsons

resources & energy

CANTEST

Suite 1104 South Wing, 4464 Markam Street
Victoria BC
Tel: (250) 385 6112, Fax: (250) 382 6364

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

WorleyParsons Canada Ltd.

Suite 106, 2780 veterans' Memorial Pkwy
Victoria BC, V9B 3S6
Tel: (250) 384 1499, Fax: (250) 384 1201

B063884

COC#: *077810-1*

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Client: <u>WorleyParsons Canada Ltd.</u>		ANALYSES REQUESTED										<input type="checkbox"/> Invoice WorleyParsons <input type="checkbox"/> Report WorleyParsons <input type="checkbox"/> Digital WorleyParsons <input type="checkbox"/> PDF WorleyParsons <input type="checkbox"/> Invoice Client care of WorleyParson	
Project Manager: <u>Jason Clarke</u>													
Address: <u>106-2780 Veteran Memorial Parkway</u> <u>Victoria, BC V9B 3S6</u>													
Tel #: <u>250-384-1499</u> Fax #: <u>250-384-1201</u>													
Email: <u>Jason.R.Clarke@worleyparsons.com</u>													
Project ID: <u>09185</u>													

SAMPLE DESCRIPTION/ID	Maxxam ID	Date & Time Sampled (D/M/Y)	Enterococcus	Fecal Coliform	pH, Conductivity, TSS, Nitre	Major Anions	Ammonia	Total Metals/Mercury	Hardness	Diss. Trace Metals	Hormones & Sterols	Comments	Sample Type	No. of Containers
1 Surface		<i>July 28/2010 9:47</i>	X	X	X	X	X	X	X	X			Sea Water	
1 Mid		<i>9:30</i>	X	X	X	X	X	X	X	X			Sea Water	
1 Bottom		<i>9:49</i>	X	X	X	X	X	X	X	X	X		Sea Water	
2 Surface		<i>10:23</i>	X	X	X	X	X	X					Sea Water	
2 Mid		<i>10:15</i>	X	X	X	X	X	X					Sea Water	
2 Bottom		<i>10:01</i>	X	X	X	X	X	X					Sea Water	
3 Surface		<i>10:51</i>	X	X	X	X	X	X					Sea Water	
3 Mid		<i>10:43</i>	X	X	X	X	X	X					Sea Water	
3 Bottom		<i>10:37</i>	X	X	X	X	X	X					Sea Water	
4 Surface		<i>13:42 11:30</i>	X	X	X	X	X	X	X	X			Sea Water	
4 Mid		<i>13:20 11:23</i>	X	X	X	X	X	X	X	X			Sea Water	

PLEASE FILL IN ALL THE REQUIRED AREAS BELOW

LABORATORY USE ONLY

TAT (Turnaround Time) <input checked="" type="checkbox"/> STD <input type="checkbox"/> RUSH (2-DAY) <input type="checkbox"/> RUSH (1-DAY) <input type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> Hydrocarbon Screening		Regulatory Guideline <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> Other (specify) <input type="checkbox"/> Other (specify) <input type="checkbox"/> Special Detection Limits / Contaminant Type:		Reporting Format <input checked="" type="checkbox"/> AutoFax <input checked="" type="checkbox"/> AutoEmail <input checked="" type="checkbox"/> Mailing Address: If different than above <u>peter.howland@worleyparsons.com</u> <u>brian.lynch@worleyparsons.com</u>		Received by: <i>[Signature]</i> Date: <i>28/7/2010</i> Time: <i>17:00</i> Comment(s): Work Order Number: Temperature: Laboratory prepared Containers: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal in Tact on Cooler: <input type="checkbox"/> Yes <input type="checkbox"/> No Due Date:	
DATE Required: TIME Required:		Sampled by: <i>[Signature]</i> Name (print): <u>Peter Howland</u> Date: <u>July 28/2010</u>		Relinquished by: Name (print): _____ Date: _____		Date: Time:	

CANTEST

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CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

WorleyParsons Canada Ltd.

Suite 106, 2780 veterans' Memorial Pkwy
Victoria BC, V9B 3S6
Tel: (250) 384 1499, Fax: (250) 384 1201

COC#: 072810-2
3063834
PAGE 2 OF 4

Client: <u>WorleyParsons Canada Ltd.</u> Project Manager: <u>Jason Clarke</u> Address: <u>106-2780 Veteran Memorial Parkway</u> <u>Victoria, BC V9B 3S6</u> Tel #: <u>250-384-1499</u> Fax #: <u>250-384-1201</u> Email: <u>Jason.R.Clarke@worleyparsons.com</u> Project ID: <u>09185</u>		ANALYSES REQUESTED <input type="checkbox"/> In Bottle from the Field <input type="checkbox"/> In First Bottle from Lab										<input type="checkbox"/> Invoice WorleyParsons <input type="checkbox"/> Report WorleyParsons <input type="checkbox"/> Digital WorleyParsons <input type="checkbox"/> PDF WorleyParsons <input type="checkbox"/> Invoice Client care of WorleyParson						
Enterococcus	Fecal Coliform	pH, Conductivity, TSS, Nitrate	Major Anions	Ammonia	Total Metals/Mercury	Hardness	Diss. Trace Metals	Hormones & Sterols										

SAMPLE DESCRIPTION/ID	Maxcam ID	Date & Time Sampled (DD/MY)																Comments	Sample Type	No. of Containers
4 Bottom		July 28 / 12:51	X	X	X	X	X	X	X	X	X	X							Sea Water	
5 Surface		12:41	X	X	X	X	X		X										Sea Water	
5 Mid		12:33	X	X	X	X	X		X										Sea Water	
5 Bottom		12:27	X	X	X	X	X		X										Sea Water	
6 Surface		11:30	X	X	X	X	X		X										Sea Water	
6 Mid		11:23	X	X	X	X	X		X										Sea Water	
6 Bottom		11:13	X	X	X	X	X		X										Sea Water	
7 surface		14:59	X	X	X	X	X	X	X	X	X								Sea Water	
7 mid		14:53	X	X	X	X	X	X	X	X	X								Sea Water	
7 bottom		14:41	X	X	X	X	X	X	X	X	X	X							Sea Water	

TAT (Turnaround Time) <input checked="" type="checkbox"/> STD <input type="checkbox"/> RUSH (2-DAY) <input type="checkbox"/> RUSH (1-DAY) <input type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> Hydrocarbon Screening		Regulatory Guideline <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> Other (specify) <input type="checkbox"/> Other (specify) <input type="checkbox"/> Special Detection Limits / Contaminant Type:		Reporting Format <input checked="" type="checkbox"/> AutoFax <input checked="" type="checkbox"/> AutoEmail <input checked="" type="checkbox"/> Mailing Address: If different than above <u>peter.howland@worleyparsons.com</u> <u>brian.lynch@worleyparsons.com</u>		LABORATORY USE ONLY Received by: <u>[Signature]</u> Date: <u>28/7/2010</u> Time: <u>1300</u> Comment(s): Work Order Number: Temperature: Laboratory prepared Containers: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal in Tact on Cooler: <input type="checkbox"/> Yes <input type="checkbox"/> No Due Date:	
DATE Required: TIME Required:		Sampled by: Name (print): <u>Peter Howland</u> Date: <u>July 28/2010</u>		Relinquished by: Name (print): _____ Date: _____		Date: Time:	



WorleyParsons

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CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

WorleyParsons Canada Ltd.

Suite 106, 2780 veterans' Memorial Pkwy
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15063834 COC#: 072810-8

PAGE 1 OF 4

Client: <u>WorleyParsons Canada Ltd.</u>		ANALYSES REQUESTED										<input type="checkbox"/> Invoice WorleyParsons <input type="checkbox"/> Report WorleyParsons <input type="checkbox"/> Digital WorleyParsons <input type="checkbox"/> PDF WorleyParsons <input type="checkbox"/> Invoice Client care of WorleyParson	
Project Manager: <u>Jason Clarke</u>		<small>(In Bottle for the Iron)</small> Enterococcus Fecal Coliform pH, Conductivity, TSS, Nitrate Major Anions Ammonia Total Metals/Mercury Hardness Diss. Trace Metals Hormones & Sterols											
Address: <u>106-2780 Veteran Memorial Parkway</u> <u>Victoria, BC V9B 3S6</u>													
Tel #: <u>250-384-1499</u> Fax #: <u>250-384-1201</u>													
Email: <u>Jason.R.Clarke@worleyparsons.com</u>													
Project ID: <u>09185</u>													

SAMPLE DESCRIPTION/ID	Maxxam ID	Date & Time Sampled (D/M/Y)	Enterococcus	Fecal Coliform	pH, Conductivity, TSS, Nitrate	Major Anions	Ammonia	Total Metals/Mercury	Hardness	Diss. Trace Metals	Hormones & Sterols	Comments	Sample Type	No. of Containers
1 Surface TRIPLICATE 1		July 28/2010 9:47	X	X	X	X	X	X	X	X			Sea Water	
1 Mid TRIPLICATE 1		9:30	X	X	X	X	X	X	X	X			Sea Water	
1 Bottom TRIPLICATE 1		8:49	X	X	X	X	X	X	X	X	X		Sea Water	
1 Surface TRIPLICATE 2		9:47 10:23	X	X	X	X	X	X	X	X			Sea Water	
1 Mid TRIPLICATE 2		9:30 10:15	X	X	X	X	X	X	X	X			Sea Water	
1 Bottom TRIPLICATE 2		8:49 10:01	X	X	X	X	X	X	X	X	X		Sea Water	
4 Surface TRIPLICATE 1		12:13:42	X	X	X	X	X	X					Sea Water	
4 Mid TRIPLICATE 1		13:23	X	X	X	X	X	X					Sea Water	
4 Bottom TRIPLICATE 1		12:51	X	X	X	X	X	X					Sea Water	
4 Surface TRIPLICATE 2		13:42	X	X	X	X	X	X					Sea Water	
4 Mid TRIPLICATE 2		13:23	X	X	X	X	X	X					Sea Water	

PLEASE FILL IN ALL THE REQUIRED AREAS BELOW

LABORATORY USE ONLY

TAT (Turnaround Time) <input checked="" type="checkbox"/> STD <input type="checkbox"/> RUSH (2-DAY) <input type="checkbox"/> RUSH (1-DAY) <input type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> Hydrocarbon Screening		Regulatory Guideline <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> Other (specify) <input type="checkbox"/> Other (specify) <input type="checkbox"/> Special Detection Limits / Contaminant Type:		Reporting Format <input checked="" type="checkbox"/> AutoFax <input checked="" type="checkbox"/> AutoEmail <input checked="" type="checkbox"/> Mailing Address: <u>If different than above</u> <u>peter.howland@worleyparsons.com</u> <u>brian.lynch@worleyparsons.com</u>		Received by: <u>[Signature]</u> Date: <u>28/07/2010</u> Time: <u>17:00</u> Comment(s): Work Order Number: Temperature: Laboratory prepared Containers: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal in Tact on Cooler <input type="checkbox"/> Yes <input type="checkbox"/> No Due Date:	
DATE Required: TIME Required:		Sampled by: <u>[Signature]</u> Name (print): <u>Peter Howland</u> Date: <u>July 28/2010</u>		Relinquished by: Name (print): _____ Date: _____		Date: Time:	

Your Project #: 09185
Your C.O.C. #: 0804101, 0804102, 0804103, 0804104

Attention: JASON CLARKE
WORLEYPARSONS
106-2780 VETERANS MEMORIAL
PARKWAY
VICTORIA, BC
CANADA V9B 3S6

Report Date: 2010/09/27

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B066176
Received: 2010/08/04, 08:45

Sample Matrix: Water
Samples Received: 40

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
ABN Compounds in Water by GC/MS (f)	8	2010/08/11	2010/08/31	BRN SOP-00333 R4.0	Based on EPA 8270D
Chloride by Automated Colourimetry (f)	1	N/A	2010/08/06	BRN-SOP 00234 R3.0	Based on EPA 325.2
Chloride by Automated Colourimetry (f)	21	N/A	2010/08/09	BRN-SOP 00234 R3.0	Based on EPA 325.2
Phenols in Water by GCMS (f)	8	2010/08/11	2010/08/28	BRN SOP-00335 R3.0	Based on EPA 8270D
Carbon (DOC) (f)	17	N/A	2010/08/06	BRN SOP-00224 R4.0	Based on M 860-87T
Carbon (DOC) (f)	17	N/A	2010/08/09	BRN SOP-00224 R4.0	Based on M 860-87T
Conductance - water	21	N/A	2010/08/04	56-C-003	Based on SM-2510
Conductance - water	1	N/A	2010/09/08	56-C-003	Based on SM-2510
Enterococcus spp. (f)	22	N/A	2010/08/05	BRN SOP 00364 R2.0	Based on SM-9230
Fluoride (f)	22	N/A	2010/08/09	BRN SOP-00282 R4.0	Based SM - 4500 F C
Fecal Coliform by membrane filtration	22	N/A	2010/08/03	70-C-200	Based on SM-9222
Hardness Total (calculated as CaCO3) (f)	22	N/A	2010/08/09		
Mercury (Total) by CVAf (f)	10	2010/08/05	2010/08/11	65-A-002-10	EPA 245.7
Elements by ICP-AES (total) (f)	22	2010/08/09	2010/08/09	65-S-060	Based on EPA 200.7
Metals by Chelation CRC ICPMS (dis) (f)	10	N/A	2010/09/10	BRN SOP-00206	Based on EPA 200.8
Metals by Chelation CRC ICPMS (tot) (f)	10	N/A	2010/09/10	BRN SOP-00206	Based on EPA 200.8
Nitrogen (Total) (f)	34	2010/08/10	2010/08/10	BRN SOP-00242 R3.0	Based on SM-4500N C
Ammonia-N (f)	21	N/A	2010/08/06	BBY6SOP-00044	Based on EPA 350.1
Ammonia-N (f)	1	N/A	2010/09/08	BBY6SOP-00044	Based on EPA 350.1
Nitrate + Nitrite (N)	21	N/A	2010/08/06	56-C-005	Based SM-4500 NO2 E
Nitrate + Nitrite (N)	12	N/A	2010/08/11	56-C-005	Based SM-4500 NO2 E
Nitrate + Nitrite (N)	1	N/A	2010/09/09	56-C-005	Based SM-4500 NO2 E
Nitrite (N) by CFA	19	N/A	2010/08/05	56-C-006	Based SM-4500 NO2 B
Nitrite (N) by CFA	3	N/A	2010/08/06	56-C-006	Based SM-4500 NO2 B
Nitrogen - Nitrate (as N)	22	N/A	2010/08/10	56-C-005	Based SM-4500 NO3 E
PAH in Water by GC/MS (SIM) (f)	5	2010/08/09	2010/08/10	BRN SOP-00331 R11.0	Based on EPA 8270D
PAH in Water by GC/MS (SIM) (f)	3	2010/08/09	2010/08/11	BRN SOP-00331 R11.0	Based on EPA 8270D
Total LMW, HMW, Total PAH Calc (f)	8	N/A	2010/08/11		
Filter and HNO3 Preserve for Metals (f)	8	N/A	2010/08/06	BRN WI-00006 R1.0	Based on EPA 200.2
Filter and HNO3 Preserve for Metals (f)	2	N/A	2010/08/09	BRN WI-00006 R1.0	Based on EPA 200.2
pH Water	22	N/A	2010/08/04	56-C-007	Based on SM-4500 pH
Phosphate-P (Ortho)	33	N/A	2010/08/07	56-C-008	Based on SM 4500 P E
Phosphate-P (Ortho)	1	N/A	2010/09/10	56-C-008	Based on SM 4500 P E
CSR VH C6-C10 in Water by HS GC/MS (f)	8	N/A	2010/08/09	BRN SOP-00304 R10.0	Based on EPA 8260B
Sulphate by Automated Colourimetry (f)	10	N/A	2010/08/06	BRN-SOP 00243 R1.0	Based on EPA 375.4
Sulphate by Automated Colourimetry (f)	12	N/A	2010/08/09	BRN-SOP 00243 R1.0	Based on EPA 375.4
Sublet (ORGANICS) (f)	8	N/A	2010/09/24		
TKN (Calc. TN, N/N) total (f)	22	N/A	2010/08/11		
TKN (Calc. TN, N/N) total (f)	12	N/A	2010/08/19		
Carbon (Total Organic) (f)	7	N/A	2010/08/06	BRN SOP-00224 R4.0	Based on SM-5310C
Carbon (Total Organic) (f)	27	N/A	2010/08/09	BRN SOP-00224 R4.0	Based on SM-5310C
Total Phosphorus	12	N/A	2010/09/01	56-C-008	Based on SM 4500 P E

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Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

-2-

Sample Matrix: Water
Samples Received: 40

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Total Phosphorus	22	N/A	2010/09/02	56-C-008	Based on SM 4500 P E
Total Suspended Solids(Fixed & Volatile)	22	N/A	2010/08/07	56-C-010	Based on SM2540 D E
VOCs in Water by HS GC/MS (1)	8	N/A	2010/08/09	BRN SOP-00311 R8.0	Based on EPA 8260B
Volatile HC-BTEX (1)	8	N/A	2010/08/10		
Pesticides, OC Water Subcontract (1)	8	2010/08/16	2010/08/10		

* Results relate only to the items tested.

- (1) This test was performed by Maxxam Vancouver
- (2) This test was performed by Ext. Sublet from Victoria
- (3) This test was performed by Maxxam Ontario (From Burnaby)

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

DEBBIE NORDBRUGET, Sample Logistics Technician
Email: Debbie.Nordbruget@MaxxamAnalytics.com
Phone# (250) 385-6112

=====
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 2

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V93179	V93180	V93181			V93182			V93183		
Sampling Date		2010/08/03 11:00	2010/08/03 09:54	2010/08/03 08:56			2010/08/03 11:55			2010/08/03 11:40		
	Units	1 SURFACE	1 MID	1 BOTTOM	RDL	QC Batch	2 SURFACE	RDL	QC Batch	2 MID	RDL	QC Batch
Misc. Inorganics												
Fluoride (F)	mg/L	0.73	0.75	0.74	0.01	4163240	0.73	0.01	4163240	1.21	0.05	4163240
ANIONS												
Nitrite (N)	mg/L	0.004	0.004	0.003	0.002	4155356	0.003	0.002	4155356	0.003	0.002	4155356
Calculated Parameters												
Filter and HNO3 Preservation	N/A	LAB	LAB	LAB	N/A	4161641						
Total Hardness (CaCO3)	mg/L	5010	5200	5170	0.5	4153870	5430	0.5	4153870	5340	0.5	4153870
Nitrate (N)	mg/L	0.114	0.211	0.215	0.002	4153509	0.119	0.002	4153509	0.177	0.002	4153509
Misc. Inorganics												
Dissolved Organic Carbon (C)	mg/L	1.6	1.7	1.2	0.5	4164487	1.4	0.5	4164487	1.2	0.5	4164487
Total Organic Carbon (C)	mg/L	2.2	2.8	2.5	0.5	4164519	3.1	0.5	4164519	2.0	0.5	4164519
Total Suspended Solids	mg/L	10	12	9	1	4169199	12	1	4169199	6	1	4169199
Anions												
Dissolved Sulphate (SO4)	mg/L	2800	2900	2600	50	4165493	1900	5	4162055	2500	50	4165493
Dissolved Chloride (Cl)	mg/L	18000	19000	19000	50	4165487	18000	50	4165487	19000	50	4165487
Nutrients												
Ammonia (N)	mg/L	0.12 ⁽¹⁾	0.13 ⁽¹⁾	0.13 ⁽¹⁾	0.05	4160518	0.16 ⁽¹⁾	0.05	4160518	0.14 ⁽¹⁾	0.05	4160518
Total Kjeldahl Nitrogen (Calc)	mg/L	0.15	0.14	0.15	0.02	4151323	0.16	0.02	4151323	0.18	0.02	4151323
Dissolved Orthophosphate (P)	mg/L	0.031	0.054	0.055	0.003	4155536	0.029	0.003	4155536	0.059	0.003	4155536
Nitrate plus Nitrite (N)	mg/L	0.118	0.215	0.218	0.002	4157619	0.122	0.002	4157619	0.180	0.002	4157619
Total Nitrogen (N)	mg/L	0.27	0.36	0.36	0.02	4168168	0.28	0.02	4168168	0.36	0.02	4168168
Total Phosphorus (P)	mg/L	0.052	0.070	0.045	0.003	4227210	0.059	0.003	4227210	0.066	0.003	4227210
Physical Properties												
Conductivity	uS/cm	47700	46800	48600	1	4164906	46800	1	4164906	47600	1	4164906
pH	pH Units	8.1	8.0	8.0		4164877	8.2		4164877	8.0		4164877

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V93184			V93185	V93186			V93187			V93188		
Sampling Date		2010/08/03 11:21			2010/08/03 12:48	2010/08/03 12:38			2010/08/03 12:20			2010/08/03 13:33		
	Units	2 BOTTOM	RDL	QC Batch	3 SURFACE	3 MID	RDL	QC Batch	3 BOTTOM	RDL	QC Batch	4 SURFACE	RDL	QC Batch
Misc. Inorganics														
Fluoride (F)	mg/L	0.74	0.01	4163240	0.75	0.76	0.01	4163240	0.78	0.01	4163240	0.76	0.01	4163240
ANIONS														
Nitrite (N)	mg/L	0.005	0.002	4191132	0.003	0.003	0.002	4155356	0.004	0.002	4155356	0.003	0.002	4155356
Calculated Parameters														
Filter and HNO3 Preservation	N/A											LAB	N/A	4161641
Total Hardness (CaCO3)	mg/L	5790	0.5	4153870	5490	5400	0.5	4153870	5440	0.5	4153870	5400	0.5	4153870
Nitrate (N)	mg/L	0.267	0.002	4153509	0.108	0.210	0.002	4153509	0.275	0.002	4153509	0.079	0.002	4153509
Misc. Inorganics														
Dissolved Organic Carbon (C)	mg/L	0.8	0.5	4164487	1.4	1.9	0.5	4164487	1.1	0.5	4164487	1.9	0.5	4164487
Total Organic Carbon (C)	mg/L	0.7	0.5	4164519	2.1	2.5	0.5	4164519	1.9	0.5	4164519	2.7	0.5	4164519
Total Suspended Solids	mg/L	11	1	4169199	14	7	1	4169199	5	1	4169199	13	1	4169199
Anions														
Dissolved Sulphate (SO4)	mg/L	2700	50	4165493	1900	2000	5	4162055	2800	50	4165493	1900	5	4162055
Dissolved Chloride (Cl)	mg/L	18000	50	4165487	19000	19000	50	4165487	19000	50	4165487	18000	50	4165487
Nutrients														
Ammonia (N)	mg/L	<0.05 ⁽¹⁾	0.05	4160518	0.11 ⁽¹⁾	0.12 ⁽¹⁾	0.05	4160518	0.13 ⁽¹⁾	0.05	4160518	0.15 ⁽¹⁾	0.05	4160518
Total Kjeldahl Nitrogen (Calc)	mg/L	0.15	0.02	4151323	0.18	0.15	0.02	4151323	0.18	0.02	4151323	0.22	0.02	4151323
Dissolved Orthophosphate (P)	mg/L	0.065	0.003	4161845	0.033	0.055	0.003	4161845	0.070	0.003	4161845	0.024	0.003	4161845
Nitrate plus Nitrite (N)	mg/L	0.272	0.002	4168007	0.111	0.213	0.002	4168007	0.279	0.002	4168007	0.082	0.002	4168007
Total Nitrogen (N)	mg/L	0.42	0.02	4168168	0.29	0.36	0.02	4168168	0.46	0.02	4168168	0.31	0.02	4168168
Total Phosphorus (P)	mg/L	0.077	0.003	4227210	0.055	0.066	0.003	4227210	0.075	0.003	4227210	0.050	0.003	4227210
Physical Properties														
Conductivity	uS/cm	49300	1	4164906	47300	47400	1	4164906	48300	1	4164906	46700	1	4164906
pH	pH Units	7.9		4164877	8.1	8.0		4164877	7.9		4164877	8.2		4164877

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V93189	V93201			V93202		V93203			V93204		
Sampling Date		2010/08/03 13:51	2010/08/03 15:39			2010/08/03 14:00		2010/08/03 13:51			2010/08/03 13:33		
	Units	4 MID	4 BOTTOM	RDL	QC Batch	5 SURFACE	QC Batch	5 MID	RDL	QC Batch	5 BOTTOM	RDL	QC Batch
Misc. Inorganics													
Fluoride (F)	mg/L	0.75	0.77	0.01	4163240	0.74	4163240	0.75	0.01	4163240	0.78	0.01	4163240
ANIONS													
Nitrite (N)	mg/L	0.003	0.003	0.002	4155356	0.003	4155356	0.003	0.002	4155356	0.003	0.002	4191132
Calculated Parameters													
Filter and HNO3 Preservation	N/A	LAB	LAB	N/A	4164846								
Total Hardness (CaCO3)	mg/L	5730	5880	0.5	4153870	5400	4153870	5140	0.5	4153870	5750	0.5	4153870
Nitrate (N)	mg/L	0.212	0.308	0.002	4153509	0.105	4153509	0.216	0.002	4153509	0.330	0.002	4153509
Misc. Inorganics													
Dissolved Organic Carbon (C)	mg/L	1.0	1.1	0.5	4164487	1.6	4164487	1.0	0.5	4164487	1.8	0.5	4164487
Total Organic Carbon (C)	mg/L	1.9	2.2	0.5	4164519	1.7	4164519	1.9	0.5	4164519	1.7	0.5	4164519
Total Suspended Solids	mg/L	6	11	1	4169199	12	4169199	14	1	4169199	8	1	4169199
Anions													
Dissolved Sulphate (SO4)	mg/L	2600	2700	50	4165493	1900	4162055	2000	5	4162055	2500	50	4165493
Dissolved Chloride (Cl)	mg/L	18000	20000	50	4165487	18000	4165487	19000	50	4165487	19000	50	4165487
Nutrients													
Ammonia (N)	mg/L	0.12 ⁽¹⁾	0.18 ⁽¹⁾	0.05	4160518	0.09 ⁽¹⁾	4160518	0.29 ⁽¹⁾	0.05	4242697	0.25 ⁽¹⁾	0.05	4160518
Total Kjeldahl Nitrogen (Calc)	mg/L	0.17	0.28	0.02	4151323	0.20	4151323	0.16	0.02	4151323	0.14	0.02	4151323
Dissolved Orthophosphate (P)	mg/L	0.057	0.084	0.003	4161847	0.034	4161847	0.058	0.003	4161847	0.078	0.003	4161847
Nitrate plus Nitrite (N)	mg/L	0.215	0.311	0.002	4168022	0.108	4168022	0.219	0.002	4168022	0.333	0.002	4168022
Total Nitrogen (N)	mg/L	0.39	0.59	0.02	4168168	0.30	4168168	0.38	0.02	4168168	0.47	0.02	4168168
Total Phosphorus (P)	mg/L	0.069	0.100	0.003	4227210	0.056	4229801	0.066	0.003	4229801	0.084	0.003	4229801
Physical Properties													
Conductivity	uS/cm	48000	49000	1	4164906	46300	4164906	47600	1	4164906	50400	1	4164906
pH	pH Units	7.9	8.0		4164877	8.1	4164877	8.0		4164877	7.8		4164877

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V93205			V93206		V93207			V93208		
Sampling Date		2010/08/03 08:20			2010/08/03 08:15		2010/08/03 07:57			2010/08/03 17:50		
	Units	6 SURFACE	RDL	QC Batch	6 MID	QC Batch	6 BOTTOM	RDL	QC Batch	EQUIPMENT BLANK	RDL	QC Batch
Misc. Inorganics												
Fluoride (F)	mg/L	0.74	0.01	4163240	0.75	4163240	0.79	0.01	4163240	0.02	0.01	4163240
ANIONS												
Nitrite (N)	mg/L	0.005	0.002	4191138	0.004	4155356	0.004	0.002	4155356	<0.002	0.002	4155356
Calculated Parameters												
Filter and HNO3 Preservation	N/A									LAB	N/A	4161641
Total Hardness (CaCO3)	mg/L	5240	0.5	4153870	5630	4153870	6170	0.5	4153870	<0.5	0.5	4153870
Nitrate (N)	mg/L	0.156	0.002	4153509	0.200	4153509	0.363	0.002	4153509	0.002	0.002	4153509
Misc. Inorganics												
Dissolved Organic Carbon (C)	mg/L	1.5	0.5	4164487	1.0	4164487	1.1	0.5	4157742	<0.5	0.5	4157742
Total Organic Carbon (C)	mg/L	0.9	0.5	4164519	1.7	4157732	1.9	0.5	4157732	<0.5	0.5	4157732
Total Suspended Solids	mg/L	8	1	4169199	9	4169199	5	1	4169199	<2	2	4169199
Anions												
Dissolved Sulphate (SO4)	mg/L	1900	5	4162055	2400	4165493	2700	50	4165493	<0.5	0.5	4162055
Dissolved Chloride (Cl)	mg/L	18000	50	4165487	19000	4165487	18000	50	4165487	<0.5	0.5	4162035
Nutrients												
Ammonia (N)	mg/L	0.24 ⁽¹⁾	0.05	4160518	0.14 ⁽¹⁾	4160518	0.14 ⁽¹⁾	0.05	4160518	<0.005	0.005	4160518
Total Kjeldahl Nitrogen (Calc)	mg/L	0.16	0.02	4151323	0.17	4151323	0.17	0.02	4151323	<0.02	0.02	4151323
Dissolved Orthophosphate (P)	mg/L	0.053	0.003	4161848	0.057	4161848	0.084	0.003	4161848	0.004	0.003	4249561
Nitrate plus Nitrite (N)	mg/L	0.161	0.002	4168027	0.204	4168027	0.367	0.002	4168027	0.002	0.002	4246502
Total Nitrogen (N)	mg/L	0.32	0.02	4168168	0.38	4168168	0.54	0.02	4168168	<0.02	0.02	4168168
Total Phosphorus (P)	mg/L	0.058	0.003	4229801	0.066	4229801	0.089	0.003	4229801	<0.003	0.003	4229801
Physical Properties												
Conductivity	uS/cm	46900	1	4164906	48100	4164906	51400	1	4164906	2	1	4248549
pH	pH Units	8.1		4164877	8.0	4164877	7.7		4164877	6.4		4164877

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V93209		V93210			V93211		V93250		V93251		
Sampling Date		2010/08/03 16:49		2010/08/03 17:00			2010/08/03 17:10		2010/08/03 11:00		2010/08/03 09:54		
	Units	7 SURFACE	QC Batch	7 MID	RDL	QC Batch	7 BOTTOM	QC Batch	1 SURFACE TRIPLICATE 1	QC Batch	1 MID TRIPLICATE 1	RDL	QC Batch
Misc. Inorganics													
Fluoride (F)	mg/L	0.70	4163240	0.72	0.01	4163240	0.75	4163240				0.01	
ANIONS													
Nitrite (N)	mg/L	<0.002	4155356	0.003	0.002	4155356	0.003	4155356				0.002	
Calculated Parameters													
Filter and HNO3 Preservation	N/A	LAB	4161641	LAB	N/A	4161641	LAB	4161641				N/A	
Total Hardness (CaCO3)	mg/L	5300	4153870	5320	0.5	4153870	5570	4153870				0.5	
Nitrate (N)	mg/L	0.014	4153509	0.168	0.002	4153509	0.258	4153509				0.002	
Misc. Inorganics													
Dissolved Organic Carbon (C)	mg/L	1.2	4157742	1.4	0.5	4157742	1.3	4157742	1.3	4157742	1.6	0.5	4157742
Total Organic Carbon (C)	mg/L	2.5	4157732	1.6	0.5	4164519	1.7	4164519	2.4	4164519	1.7	0.5	4157732
Total Suspended Solids	mg/L	8	4169199	11	1	4169199	9	4169199				1	
Anions													
Dissolved Sulphate (SO4)	mg/L	1900	4162055	1900	5	4162055	2800	4165493				50	
Dissolved Chloride (Cl)	mg/L	18000	4165487	17000	50	4165487	19000	4165487				50	
Nutrients													
Ammonia (N)	mg/L	0.15 ⁽¹⁾	4160518	0.14 ⁽¹⁾	0.05	4160518	0.16 ⁽¹⁾	4160518				0.05	
Total Kjeldahl Nitrogen (Calc)	mg/L	0.20	4151323	0.12	0.02	4151323	0.14	4151323	0.19	4151323	0.15	0.02	4151323
Dissolved Orthophosphate (P)	mg/L	0.018	4161848	0.049	0.003	4161849	0.068	4161849	0.043	4161849	0.055	0.003	4161849
Nitrate plus Nitrite (N)	mg/L	0.014	4168027	0.171	0.002	4168167	0.261	4168167	0.083	4168237	0.201	0.002	4168237
Total Nitrogen (N)	mg/L	0.22	4168168	0.30	0.02	4168168	0.41	4168168	0.27	4168168	0.35	0.02	4168168
Total Phosphorus (P)	mg/L	0.046	4229801	0.060	0.003	4229801	0.075	4229801	0.049	4229801	0.065	0.003	4229801
Physical Properties													
Conductivity	uS/cm	47000	4164906	47000	1	4164906	48200	4164906				1	
pH	pH Units	8.2	4164877	8.1		4164877	7.9	4164877					

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V93252		V93253		V93254		V93255	V93256	V93257		
Sampling Date		2010/08/03 08:56		2010/08/03 11:00		2010/08/03 09:54		2010/08/03 08:56	2010/08/03 13:33	2010/08/03 13:51		
	Units	1 BOTTOM TRIPLICATE 1	QC Batch	1 SURFACE TRIPLICATE 2	QC Batch	1 MID TRIPLICATE 2	QC Batch	1 BOTTOM TRIPLICATE 2	4 SURFACE TRIPLICATE 1	4 MID TRIPLICATE 1	RDL	QC Batch
Parameter												
Subcontract Parameter	N/A	ATTACHED	4288834					ATTACHED			N/A	4288834
Volatiles												
VPH (VHW6 to 10 - BTEX)	ug/L	<300	4151878					<300			300	4151878
Misc. Inorganics												
Dissolved Organic Carbon (C)	mg/L	1.5	4157742	1.3	4157742	1.2	4157742	1.1	1.0	0.7	0.5	4157742
Total Organic Carbon (C)	mg/L	1.7	4157732	2.0	4157732	1.8	4164519	1.4	2.1	1.6	0.5	4164519
Nutrients												
Total Kjeldahl Nitrogen (Calc)	mg/L	0.14	4151323	0.17	4151323	0.19	4151323	0.17	0.17	0.14	0.02	4151323
Dissolved Orthophosphate (P)	mg/L	0.058	4161849	0.031	4161851	0.057	4161851	0.057	0.029	0.057	0.003	4161851
Nitrate plus Nitrite (N)	mg/L	0.213	4168237	0.086	4168237	0.191	4168237	0.208	0.081	0.211	0.002	4194022
Total Nitrogen (N)	mg/L	0.35	4168168	0.25	4168168	0.38	4168168	0.38	0.25	0.35	0.02	4168168
Total Phosphorus (P)	mg/L	0.067	4229801	0.043	4229801	0.067	4229801	0.069	0.051	0.064	0.003	4229801
Polycyclic Aromatics												
Low Molecular Weight PAH's	ug/L	<0.05	4151874					<0.05			0.05	4151874
High Molecular Weight PAH's	ug/L	<0.02	4151874					<0.02			0.02	4151874
Total PAH	ug/L	<0.05	4151874					<0.05			0.05	4151874

N/A = Not Applicable
RDL = Reportable Detection Limit

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V93258		V93259	V93260	V93320		
Sampling Date		2010/08/03 15:39		2010/08/03 13:33	2010/08/03 13:51	2010/08/03 15:39		
	Units	4 BOTTOM TRIPLICATE 1	QC Batch	4 SURFACE TRIPLICATE 2	4 MID TRIPLICATE 2	4 BOTTOM TRIPLICATE 2	RDL	QC Batch
Misc. Inorganics								
Dissolved Organic Carbon (C)	mg/L	0.9	4157742	1.1	1.5	1.5	0.5	4157742
Total Organic Carbon (C)	mg/L	1.4	4164519	1.9	1.1	1.5	0.5	4164519
Nutrients								
Total Kjeldahl Nitrogen (Calc)	mg/L	0.30	4151323	0.24	0.15	0.23	0.02	4151323
Dissolved Orthophosphate (P)	mg/L	0.084	4161853	0.029	0.059	0.083	0.003	4161853
Nitrate plus Nitrite (N)	mg/L	0.223	4194022	0.089	0.211	0.304	0.002	4194023
Total Nitrogen (N)	mg/L	0.52	4168168	0.33	0.36	0.53	0.02	4168168
Total Phosphorus (P)	mg/L	0.091	4229801	0.055	0.059	0.094	0.003	4229801

RDL = Reportable Detection Limit

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V93321	V93322	V93323	V93324	V93325	V93326		
Sampling Date		2010/08/03 17:50	2010/08/03 08:56	2010/08/03 11:21	2010/08/03 15:39	2010/08/03 13:33	2010/08/03 17:10		
	Units	EQUIPMENT BLANK	1 BOTTOM	2 BOTTOM	4 BOTTOM	5 BOTTOM	7 BOTTOM	RDL	QC Batch
Parameter									
Subcontract Parameter	N/A	ATTACHED	ATTACHED	ATTACHED	ATTACHED	ATTACHED	ATTACHED	N/A	4288834
Volatiles									
VPH (VHW6 to 10 - BTEX)	ug/L	<300	<300	<300	<300	<300	<300	300	4151878
Polycyclic Aromatics									
Low Molecular Weight PAH's	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4151874
High Molecular Weight PAH's	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	4151874
Total PAH	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4151874

N/A = Not Applicable
RDL = Reportable Detection Limit

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		V93252		V93255		V93321		V93322		
Sampling Date		2010/08/03 08:56		2010/08/03 08:56		2010/08/03 17:50		2010/08/03 08:56		
	Units	1 BOTTOM TRIPLICATE 1	QC Batch	1 BOTTOM TRIPLICATE 2	QC Batch	EQUIPMENT BLANK	QC Batch	1 BOTTOM	RDL	QC Batch
Phenols										
2,3,4,5-tetrachlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,3,4,6-tetrachlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,3,4-trichlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,3,5,6-tetrachlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,3,5-trichlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,3,6-Trichlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,3-Dichlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,4 + 2,5-Dichlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,4,5-trichlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,4,6-trichlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,4-dimethylphenol	ug/L	<0.5	4170576	<0.5	4170576	<0.5	4170576	<0.5	0.5	4170576
2,4-dinitrophenol	ug/L	<3 ⁽¹⁾	4170576	<3 ⁽¹⁾	4170576	<3 ⁽¹⁾	4170576	<3 ⁽¹⁾	3	4170576
2,6-dichlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2-chlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2-methylphenol	ug/L	<0.5	4170576	<0.5	4170576	<0.5	4170576	<0.5	0.5	4170576
2-nitrophenol	ug/L	<0.5	4170576	<0.5	4170576	<0.5	4170576	<0.5	0.5	4170576
3 & 4-chlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
3 & 4-methylphenol	ug/L	<0.5	4170576	<0.5	4170576	<0.5	4170576	<0.5	0.5	4170576
3,4,5-Trichlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
3,4-Dichlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
3,5-Dichlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
4,6-dinitro-2-methylphenol	ug/L	<0.5	4170576	<0.5	4170576	<0.5	4170576	<0.5	0.5	4170576
4-nitrophenol	ug/L	<0.5	4170576	<0.5	4170576	<0.5	4170576	<0.5	0.5	4170576
Pentachlorophenol	ug/L	<0.1	4170576	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
Phenol	ug/L	<0.5	4170576	<0.5	4170576	<0.5	4170576	<0.5	0.5	4170576
Phthalate Esters										
Bis(2-ethylhexyl)phthalate	ug/L	1	4173064	<1	4173064	<1	4173064	<1	1	4173064
Butyl benzyl phthalate	ug/L	<5	4173064	<5	4173064	<5	4173064	<5	5	4173064
Diethyl phthalate	ug/L	<3	4173064	<3	4173064	<3	4173064	<3	3	4173064
Dimethyl phthalate	ug/L	<3	4173064	<3	4173064	<3	4173064	<3	3	4173064
Di-n-butyl phthalate	ug/L	<1	4173064	<1	4173064	<1	4173064	<1	1	4173064
Di-n-octyl phthalate	ug/L	<1	4173064	<1	4173064	<1	4173064	<1	1	4173064

RDL = Reportable Detection Limit

(1) - RDL raised due to Continuing Calibration Verification below criteria - Pot. low bias

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		V93252		V93255		V93321		V93322		
Sampling Date		2010/08/03 08:56		2010/08/03 08:56		2010/08/03 17:50		2010/08/03 08:56		
	Units	1 BOTTOM TRIPLICATE 1	QC Batch	1 BOTTOM TRIPLICATE 2	QC Batch	EQUIPMENT BLANK	QC Batch	1 BOTTOM	RDL	QC Batch
Polycyclic Aromatics										
Naphthalene	ug/L	<0.05	4165180	<0.05	4165180	<0.05	4165180	<0.05	0.05	4165180
2-Methylnaphthalene	ug/L	<0.05	4165180	<0.05	4165180	<0.05	4165180	<0.05	0.05	4165180
Quinoline	ug/L	<0.05	4165180	<0.05	4165180	<0.05	4165180	<0.05	0.05	4165180
Acenaphthylene	ug/L	<0.01	4165180	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Acenaphthene	ug/L	<0.01	4165180	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Fluorene	ug/L	<0.01	4165180	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Phenanthrene	ug/L	<0.01	4165180	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Anthracene	ug/L	<0.01	4165180	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Acridine	ug/L	<0.05	4165180	<0.05	4165180	<0.05	4165180	<0.05	0.05	4165180
Fluoranthene	ug/L	<0.01	4165180	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Pyrene	ug/L	<0.01	4165180	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Benzo(a)anthracene	ug/L	<0.01	4165180	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Chrysene	ug/L	<0.01	4165180	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Benzo(b&j)fluoranthene	ug/L	<0.01	4165180	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Benzo(k)fluoranthene	ug/L	<0.01	4165180	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Benzo(a)pyrene	ug/L	<0.01	4165180	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Indeno(1,2,3-cd)pyrene	ug/L	<0.02	4165180	<0.02	4165180	<0.02	4165180	<0.02	0.02	4165180
Dibenz(a,h)anthracene	ug/L	<0.02	4165180	<0.02	4165180	<0.02	4165180	<0.02	0.02	4165180
Benzo(g,h,i)perylene	ug/L	<0.02	4165180	<0.02	4165180	<0.02	4165180	<0.02	0.02	4165180
Surrogate Recovery (%)										
2,4,6-TRIBROMOPHENOL (sur.)	%	83	4170576	63	4173064	70	4170576	66		4173064
2-FLUOROBIPHENYL (sur.)	%	83	4173064	79	4173064	76	4173064	77		4173064
TERPHENYL-D14 (sur.)	%	85	4165180	76	4165180	92	4165180	79		4165180
D5-PHENOL (sur.)	%	52	4170576	40	4173064	32	4170576	40		4173064
D5-NITROBENZENE (sur.)	%	82	4173064	84	4173064	77	4173064	87		4173064
D10-ANTHRACENE (sur.)	%	93	4165180	84	4165180	102	4165180	91		4165180
D12-BENZO(A)PYRENE (sur.)	%	79	4165180	69	4165180	95	4165180	67		4165180
D8-ACENAPHTHYLENE (sur.)	%	81	4165180	73	4165180	95	4165180	76		4165180
D8-NAPHTHALENE (sur.)	%	78	4165180	68	4165180	94	4165180	72		4165180

RDL = Reportable Detection Limit

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		V93323	V93324		V93325		V93326		
Sampling Date		2010/08/03 11:21	2010/08/03 15:39		2010/08/03 13:33		2010/08/03 17:10		
	Units	2 BOTTOM	4 BOTTOM	QC Batch	5 BOTTOM	QC Batch	7 BOTTOM	RDL	QC Batch
Phenols									
2,3,4,5-tetrachlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,3,4,6-tetrachlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,3,4-trichlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,3,5,6-tetrachlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,3,5-trichlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,3,6-Trichlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,3-Dichlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,4 + 2,5-Dichlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,4,5-trichlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,4,6-trichlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2,4-dimethylphenol	ug/L	<0.5	<0.5	4170576	<0.5	4170576	<0.5	0.5	4170576
2,4-dinitrophenol	ug/L	<3 ⁽¹⁾	<3 ⁽¹⁾	4170576	<3 ⁽¹⁾	4170576	<3 ⁽¹⁾	3	4170576
2,6-dichlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2-chlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
2-methylphenol	ug/L	<0.5	<0.5	4170576	<0.5	4170576	<0.5	0.5	4170576
2-nitrophenol	ug/L	<0.5	<0.5	4170576	<0.5	4170576	<0.5	0.5	4170576
3 & 4-chlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
3 & 4-methylphenol	ug/L	<0.5	<0.5	4170576	<0.5	4170576	<0.5	0.5	4170576
3,4,5-Trichlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
3,4-Dichlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
3,5-Dichlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
4,6-dinitro-2-methylphenol	ug/L	<0.5	<0.5	4170576	<0.5	4170576	<0.5	0.5	4170576
4-nitrophenol	ug/L	<0.5	<0.5	4170576	<0.5	4170576	<0.5	0.5	4170576
Pentachlorophenol	ug/L	<0.1	<0.1	4170576	<0.1	4170576	<0.1	0.1	4170576
Phenol	ug/L	<0.5	<0.5	4170576	<0.5	4170576	<0.5	0.5	4170576
Phthalate Esters									
Bis(2-ethylhexyl)phthalate	ug/L	<1	<1	4173064	<1	4173064	<1	1	4173064
Butyl benzyl phthalate	ug/L	<5	<5	4173064	<5	4173064	<5	5	4173064
Diethyl phthalate	ug/L	<3	<3	4173064	<3	4173064	<3	3	4173064
Dimethyl phthalate	ug/L	<3	<3	4173064	<3	4173064	<3	3	4173064
Di-n-butyl phthalate	ug/L	<1	<1	4173064	<1	4173064	<1	1	4173064
Di-n-octyl phthalate	ug/L	<1	<1	4173064	<1	4173064	<1	1	4173064

RDL = Reportable Detection Limit

(1) - RDL raised due to Continuing Calibration Verification below criteria - Pot. low bias

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		V93323	V93324		V93325		V93326		
Sampling Date		2010/08/03 11:21	2010/08/03 15:39		2010/08/03 13:33		2010/08/03 17:10		
	Units	2 BOTTOM	4 BOTTOM	QC Batch	5 BOTTOM	QC Batch	7 BOTTOM	RDL	QC Batch
Polycyclic Aromatics									
Naphthalene	ug/L	<0.05	<0.05	4165180	<0.05	4165180	<0.05	0.05	4165180
2-Methylnaphthalene	ug/L	<0.05	<0.05	4165180	<0.05	4165180	<0.05	0.05	4165180
Quinoline	ug/L	<0.05	<0.05	4165180	<0.05	4165180	<0.05	0.05	4165180
Acenaphthylene	ug/L	<0.01	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Acenaphthene	ug/L	<0.01	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Fluorene	ug/L	<0.01	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Phenanthrene	ug/L	<0.01	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Anthracene	ug/L	<0.01	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Acridine	ug/L	<0.05	<0.05	4165180	<0.05	4165180	<0.05	0.05	4165180
Fluoranthene	ug/L	<0.01	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Pyrene	ug/L	<0.01	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Benzo(a)anthracene	ug/L	<0.01	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Chrysene	ug/L	<0.01	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Benzo(b&j)fluoranthene	ug/L	<0.01	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Benzo(k)fluoranthene	ug/L	<0.01	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Benzo(a)pyrene	ug/L	<0.01	<0.01	4165180	<0.01	4165180	<0.01	0.01	4165180
Indeno(1,2,3-cd)pyrene	ug/L	<0.02	<0.02	4165180	<0.02	4165180	<0.02	0.02	4165180
Dibenz(a,h)anthracene	ug/L	<0.02	<0.02	4165180	<0.02	4165180	<0.02	0.02	4165180
Benzo(g,h,i)perylene	ug/L	<0.02	<0.02	4165180	<0.02	4165180	<0.02	0.02	4165180
Surrogate Recovery (%)									
2,4,6-TRIBROMOPHENOL (sur.)	%	58	73	4173064	68	4170576	54		4173064
2-FLUOROBIPHENYL (sur.)	%	82	81	4173064	77	4173064	77		4173064
TERPHENYL-D14 (sur.)	%	85	83	4165180	90	4165180	74		4165180
D5-PHENOL (sur.)	%	37	38	4173064	40	4170576	38		4173064
D5-NITROBENZENE (sur.)	%	81	79	4173064	87	4173064	78		4173064
D10-ANTHRACENE (sur.)	%	93	94	4165180	94	4165180	82		4165180
D12-BENZO(A)PYRENE (sur.)	%	77	73	4165180	84	4165180	60		4165180
D8-ACENAPHTHYLENE (sur.)	%	83	84	4165180	82	4165180	70		4165180
D8-NAPHTHALENE (sur.)	%	77	77	4165180	81	4165180	67		4165180

RDL = Reportable Detection Limit

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		V93179	V93180	V93181	V93182	V93183	V93184	V93185	V93186	V93187	V93188		
Sampling Date		2010/08/03 11:00	2010/08/03 09:54	2010/08/03 08:56	2010/08/03 11:55	2010/08/03 11:40	2010/08/03 11:21	2010/08/03 12:48	2010/08/03 12:38	2010/08/03 12:20	2010/08/03 13:33		
	Units	1 SURFACE	1 MID	1 BOTTOM	2 SURFACE	2 MID	2 BOTTOM	3 SURFACE	3 MID	3 BOTTOM	4 SURFACE	RDL	QC Batch
Elements													
Total Mercury (Hg)	ug/L	<0.02	<0.02	<0.02							<0.02	0.02	4171876
Dissolved Metals by ICPMS													
Dissolved Cadmium (Cd)	ug/L	0.07	0.07	0.09							0.08	0.01	4212567
Dissolved Cobalt (Co)	ug/L	<0.05	<0.05	<0.05							<0.05	0.05	4212567
Dissolved Copper (Cu)	ug/L	0.19	0.21	0.23							0.27	0.05	4212567
Dissolved Iron (Fe)	ug/L	<1	<1	77							<1	1	4212567
Dissolved Lead (Pb)	ug/L	<0.05	<0.05	<0.05							<0.05	0.05	4212567
Dissolved Manganese (Mn)	ug/L	1.1	0.8	1.1							0.9	0.2	4212567
Dissolved Nickel (Ni)	ug/L	0.40	0.48	0.43							0.40	0.05	4212567
Dissolved Zinc (Zn)	ug/L	0.7	0.6	0.9							0.6	0.5	4212567
Total Metals by ICP													
Total Calcium (Ca)	mg/L	320	329	328	339	338	358	342	339	344	334	0.5	4164044
Total Magnesium (Mg)	mg/L	1020	1060	1060	1110	1090	1190	1130	1110	1110	1110	0.5	4164044
Total Metals by ICPMS													
Total Cadmium (Cd)	ug/L	0.07	0.08	0.09							0.08	0.01	4212610
Total Copper (Cu)	ug/L	0.41	0.31	0.27							0.34	0.05	4212610
Total Iron (Fe)	ug/L	12	32	27							8	1	4212610
Total Lead (Pb)	ug/L	<0.05	<0.05	<0.05							<0.05	0.05	4212610
Total Nickel (Ni)	ug/L	0.58	0.51	0.59							0.42	0.05	4212610
Total Zinc (Zn)	ug/L	1.6	1.6	1.0							1.7	0.5	4212610

RDL = Reportable Detection Limit

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		V93189	V93201	V93202	V93203	V93204	V93205	V93206		
Sampling Date		2010/08/03 13:51	2010/08/03 15:39	2010/08/03 14:00	2010/08/03 13:51	2010/08/03 13:33	2010/08/03 08:20	2010/08/03 08:15		
	Units	4 MID	4 BOTTOM	5 SURFACE	5 MID	5 BOTTOM	6 SURFACE	6 MID	RDL	QC Batch
Elements										
Total Mercury (Hg)	ug/L	<0.02	<0.02						0.02	4171876
Dissolved Metals by ICPMS										
Dissolved Cadmium (Cd)	ug/L	0.08	0.11						0.01	4212567
Dissolved Cobalt (Co)	ug/L	<0.05	<0.05						0.05	4212567
Dissolved Copper (Cu)	ug/L	0.25	0.66						0.05	4212567
Dissolved Iron (Fe)	ug/L	<1	40						1	4212567
Dissolved Lead (Pb)	ug/L	<0.05	0.08						0.05	4212567
Dissolved Manganese (Mn)	ug/L	0.7	2.5						0.2	4212567
Dissolved Nickel (Ni)	ug/L	0.41	0.52						0.05	4212567
Dissolved Zinc (Zn)	ug/L	0.8	2.3						0.5	4212567
Total Metals by ICP										
Total Calcium (Ca)	mg/L	355	368	340	330	363	331	353	0.5	4164044
Total Magnesium (Mg)	mg/L	1180	1200	1110	1050	1180	1070	1150	0.5	4164044
Total Metals by ICPMS										
Total Cadmium (Cd)	ug/L	0.10	0.08						0.01	4212610
Total Copper (Cu)	ug/L	0.25	0.48						0.05	4212610
Total Iron (Fe)	ug/L	16	2						1	4212610
Total Lead (Pb)	ug/L	<0.05	<0.05						0.05	4212610
Total Nickel (Ni)	ug/L	0.44	0.38						0.05	4212610
Total Zinc (Zn)	ug/L	0.8	1.0						0.5	4212610

RDL = Reportable Detection Limit

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		V93207		V93208		V93209	V93210	V93211		
Sampling Date		2010/08/03 07:57		2010/08/03 17:50		2010/08/03 16:49	2010/08/03 17:00	2010/08/03 17:10		
	Units	6 BOTTOM	RDL	EQUIPMENT BLANK	RDL	7 SURFACE	7 MID	7 BOTTOM	RDL	QC Batch
Elements										
Total Mercury (Hg)	ug/L		0.02	<0.02	0.02	<0.02	<0.02	0.04	0.02	4171876
Dissolved Metals by ICPMS										
Dissolved Cadmium (Cd)	ug/L		0.01	<0.01	0.01	0.08	0.08	0.08	0.01	4212567
Dissolved Cobalt (Co)	ug/L		0.05	<0.05	0.05	<0.05	<0.05	<0.05	0.05	4212567
Dissolved Copper (Cu)	ug/L		0.05	0.06	0.05	0.37	0.21	0.18	0.05	4212567
Dissolved Iron (Fe)	ug/L		1	<1	1	12	2	1	1	4212567
Dissolved Lead (Pb)	ug/L		0.05	<0.05	0.05	<0.05	<0.05	<0.05	0.05	4212567
Dissolved Manganese (Mn)	ug/L		0.2	<0.2	0.2	2.3	1.4	1.2	0.2	4212567
Dissolved Nickel (Ni)	ug/L		0.05	0.10	0.05	0.61	0.41	0.44	0.05	4212567
Dissolved Zinc (Zn)	ug/L		0.5	0.7	0.5	0.9	0.6	0.9	0.5	4212567
Total Metals by ICP										
Total Calcium (Ca)	mg/L	386	0.5	<0.05	0.05	330	332	353	0.5	4164044
Total Magnesium (Mg)	mg/L	1260	0.5	<0.05	0.05	1090	1090	1140	0.5	4164044
Total Metals by ICPMS										
Total Cadmium (Cd)	ug/L		0.01	<0.01	0.01	0.08	0.08	0.10	0.01	4212610
Total Copper (Cu)	ug/L		0.05	0.08	0.05	0.38	0.30	0.28	0.05	4212610
Total Iron (Fe)	ug/L		1	<1	1	19	23	54	1	4212610
Total Lead (Pb)	ug/L		0.05	<0.05	0.05	0.10	<0.05	0.06	0.05	4212610
Total Nickel (Ni)	ug/L		0.05	0.11	0.05	0.54	0.50	0.53	0.05	4212610
Total Zinc (Zn)	ug/L		0.5	<0.5	0.5	0.9	1.1	1.7	0.5	4212610

BTEX BY GC-MS (WATER)

Maxxam ID		V93252	V93255	V93321	V93322	V93323	V93324	V93325	V93326		
Sampling Date		2010/08/03 08:56	2010/08/03 08:56	2010/08/03 17:50	2010/08/03 08:56	2010/08/03 11:21	2010/08/03 15:39	2010/08/03 13:33	2010/08/03 17:10		
	Units	1 BOTTOM TRIPLICATE 1	1 BOTTOM TRIPLICATE 2	EQUIPMENT BLANK	1 BOTTOM	2 BOTTOM	4 BOTTOM	5 BOTTOM	7 BOTTOM	RDL	QC Batch
Volatile Hydrocarbons											
VH C6-C10	ug/L	<300	<300	<300	<300	<300	<300	<300	<300	300	4165476

RDL = Reportable Detection Limit

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		V93252	V93255	V93321	V93322	V93323	V93324	V93325	V93326		
Sampling Date		2010/08/03 08:56	2010/08/03 08:56	2010/08/03 17:50	2010/08/03 08:56	2010/08/03 11:21	2010/08/03 15:39	2010/08/03 13:33	2010/08/03 17:10		
	Units	1 BOTTOM TRIPLICATE 1	1 BOTTOM TRIPLICATE 2	EQUIPMENT BLANK	1 BOTTOM	2 BOTTOM	4 BOTTOM	5 BOTTOM	7 BOTTOM	RDL	QC Batch
Chlorobenzenes											
1,2-dichlorobenzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
1,3-dichlorobenzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
1,4-dichlorobenzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
Chlorobenzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
Monocyclic Aromatics											
Benzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
Ethylbenzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
m & p-Xylene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	1	4165311
o-Xylene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
Styrene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
Toluene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
Xylenes (Total)	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	1	4165311

RDL = Reportable Detection Limit

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		V93252	V93255	V93321	V93322	V93323	V93324	V93325	V93326		
Sampling Date		2010/08/03 08:56	2010/08/03 08:56	2010/08/03 17:50	2010/08/03 08:56	2010/08/03 11:21	2010/08/03 15:39	2010/08/03 13:33	2010/08/03 17:10		
	Units	1 BOTTOM TRIPLICATE 1	1 BOTTOM TRIPLICATE 2	EQUIPMENT BLANK	1 BOTTOM	2 BOTTOM	4 BOTTOM	5 BOTTOM	7 BOTTOM	RDL	QC Batch
Volatiles											
1,1,1,2-tetrachloroethane	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
1,1,1-trichloroethane	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
1,1,2,2-tetrachloroethane	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
1,1,2-trichloroethane	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
1,1-dichloroethane	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
1,1-dichloroethene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
1,2-dichloroethane	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
1,2-dichloropropane	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	1	4165311
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	1	4165311
Bromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	1	4165311
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	1	4165311
Chlorodibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	1	4165311
Chloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	1	4165311
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	1	4165311
Chloromethane	ug/L	2	2	<1	2	2	2	2	2	1	4165311
cis-1,2-dichloroethene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	1	4165311
cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	1	4165311
Dibromoethane	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	4165311
Dichloromethane	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	2	4165311
Methyl-tert-butylether (MTBE)	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	4	4165311
Tetrachloroethene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
trans-1,2-dichloroethene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	1	4165311
trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	1	4165311
Trichloroethene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
Trichlorofluoromethane	ug/L	<4	<4	<4	<4	<4	<4	<4	<4	4	4165311
Vinyl chloride	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	4165311
Surrogate Recovery (%)											
4-BROMOFLUOROBENZENE (sur.)	%	83	86	84	84	81	82	79	82		4165311
D4-1,2-DICHLOROETHANE (sur.)	%	90	89	77	91	87	87	85	88		4165311
D8-TOLUENE (sur.)	%	96	96	96	96	96	95	95	95		4165311

RDL = Reportable Detection Limit

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

MICROBIOLOGY (WATER)

Maxxam ID		V93179	V93180	V93181	V93182	V93183	V93184	V93185	V93186	V93187		
Sampling Date		2010/08/03 11:00	2010/08/03 09:54	2010/08/03 08:56	2010/08/03 11:55	2010/08/03 11:40	2010/08/03 11:21	2010/08/03 12:48	2010/08/03 12:38	2010/08/03 12:20		
	Units	1 SURFACE	1 MID	1 BOTTOM	2 SURFACE	2 MID	2 BOTTOM	3 SURFACE	3 MID	3 BOTTOM	RDL	QC Batch
MICROBIOLOGY												
Fecal Coliforms	CFU/100mL	2	40	68	2	16	55	<1	13	100	1	4155631
Microbiological Param.												
Enterococcus spp.	CFU/100mL	<1.0	4.0	18	<1.0	3.0	12	<1.0	<1.0	6.0	1.0	4176382

Maxxam ID		V93188	V93189		V93201		V93202	V93203	V93204	V93205		
Sampling Date		2010/08/03 13:33	2010/08/03 13:51		2010/08/03 15:39		2010/08/03 14:00	2010/08/03 13:51	2010/08/03 13:33	2010/08/03 08:20		
	Units	4 SURFACE	4 MID	RDL	4 BOTTOM	RDL	5 SURFACE	5 MID	5 BOTTOM	6 SURFACE	RDL	QC Batch
MICROBIOLOGY												
Fecal Coliforms	CFU/100mL	<1	81	1	10000	100	2	31	44	1	1	4155631
Microbiological Param.												
Enterococcus spp.	CFU/100mL	<1.0	23	1.0	5200	1.0	<1.0	<1.0	5.0	<1.0	1.0	4176382

Maxxam ID		V93206	V93207	V93208	V93209	V93210	V93211		
Sampling Date		2010/08/03 08:15	2010/08/03 07:57	2010/08/03 17:50	2010/08/03 16:49	2010/08/03 17:00	2010/08/03 17:10		
	Units	6 MID	6 BOTTOM	EQUIPMENT BLANK	7 SURFACE	7 MID	7 BOTTOM	RDL	QC Batch
MICROBIOLOGY									
Fecal Coliforms	CFU/100mL	8	22	1	<1	3	<1	1	4155631
Microbiological Param.									
Enterococcus spp.	CFU/100mL	<1.0	3.0	<1.0	<1.0	2.0	<1.0	1.0	4176382

RDL = Reportable Detection Limit

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

Package 1	11.7°C
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Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Sample V93181-01: Phosphorus: Total Phosphate was determined to be slightly lower than the ortho Phosphate. Discrepancy is within expected variability of the test - djn, September 2, 2010.

Sample V93201-01: Fecal coliform tested within holding time for this sample (4 Bottom) resulted in an overgrown plate with an estimate of >19000 CFU/100 ml. Retested past 24-hr holding time with a result of 10000 CFU/100 ml.

RESULTS OF CHEMICAL ANALYSES OF WATER Comments

Sample V93183-04 Fluoride: Detection limits raised due to matrix interference

Maxxam Job #: B066176
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4155356	Nitrite (N)	2010/08/05			102	80 - 122	<0.002	mg/L	NC	20		
4155536	Dissolved Orthophosphate (P)	2010/08/07	99	90 - 110	100	90 - 106	<0.003	mg/L	3.3	20		
4155631	Fecal Coliforms	2010/08/03							NC	N/A		
4157619	Nitrate plus Nitrite (N)	2010/08/06	80	80 - 120	93	80 - 120	<0.002	mg/L	8.8	20		
4157732	Total Organic Carbon (C)	2010/08/06	113	80 - 120	95	80 - 120	<0.5	mg/L	NC	20		
4157742	Dissolved Organic Carbon (C)	2010/08/06	NC	80 - 120	99	80 - 120	<0.5	mg/L	0.6	20		
4160518	Ammonia (N)	2010/08/06	95	80 - 120	113	80 - 120	<0.005	mg/L	NC	20		
4161845	Dissolved Orthophosphate (P)	2010/08/07	101	90 - 110	100	90 - 106	<0.003	mg/L	0	20		
4161847	Dissolved Orthophosphate (P)	2010/08/07	100	90 - 110	100	90 - 106	<0.003	mg/L	3.4	20		
4161848	Dissolved Orthophosphate (P)	2010/08/07	100	90 - 110	100	90 - 106	<0.003	mg/L	1.9	20		
4161849	Dissolved Orthophosphate (P)	2010/08/07	100	90 - 110	100	90 - 106	<0.003	mg/L	0	20		
4161851	Dissolved Orthophosphate (P)	2010/08/07	100	90 - 110	100	90 - 106	<0.003	mg/L	0	20		
4161853	Dissolved Orthophosphate (P)	2010/08/07	100	90 - 110	100	90 - 106	<0.003	mg/L	0	20		
4162035	Dissolved Chloride (Cl)	2010/08/06	91	80 - 120	92	80 - 120	<0.5	mg/L	0.2	20		
4162055	Dissolved Sulphate (SO4)	2010/08/06	102	80 - 120	89	80 - 120	<0.5	mg/L	2.1	20		
4163240	Fluoride (F)	2010/08/09	96	80 - 120	100	80 - 120	<0.01	mg/L	0.5	20		
4164044	Total Calcium (Ca)	2010/08/09					<0.05	mg/L	1.8	20		
4164044	Total Magnesium (Mg)	2010/08/09					<0.05	mg/L	3.0	20		
4164487	Dissolved Organic Carbon (C)	2010/08/09	94	80 - 120	97	80 - 120	<0.5	mg/L	NC	20		
4164519	Total Organic Carbon (C)	2010/08/09	99	80 - 120	98	80 - 120	<0.5	mg/L	NC	20		
4164906	Conductivity	2010/08/04			99	96 - 104	<1	uS/cm	0.2	20		
4165180	D10-ANTHRACENE (sur.)	2010/08/10	88	60 - 130	98	60 - 130	100	%				
4165180	D12-BENZO(A)PYRENE (sur.)	2010/08/10	80	60 - 130	99	60 - 130	95	%				
4165180	D8-ACENAPHTHYLENE (sur.)	2010/08/10	87	50 - 130	97	50 - 130	92	%				
4165180	D8-NAPHTHALENE (sur.)	2010/08/10	77	50 - 130	95	50 - 130	88	%				
4165180	TERPHENYL-D14 (sur.)	2010/08/10	85	60 - 130	100	60 - 130	93	%				
4165180	Naphthalene	2010/08/11	83	50 - 130	97	50 - 130	<0.05	ug/L	NC	40		
4165180	2-Methylnaphthalene	2010/08/11	93	50 - 130	105	50 - 130	<0.05	ug/L	NC	40		
4165180	Quinoline	2010/08/11	112	50 - 130	111	50 - 130	<0.05	ug/L	NC(1)	40		
4165180	Acenaphthylene	2010/08/11	91	50 - 130	101	50 - 130	<0.01	ug/L	NC	40		
4165180	Acenaphthene	2010/08/11	83	50 - 130	104	50 - 130	<0.01	ug/L	NC	40		
4165180	Fluorene	2010/08/11	86	50 - 130	98	50 - 130	<0.01	ug/L	NC	40		
4165180	Phenanthrene	2010/08/11	92	60 - 130	100	60 - 130	<0.01	ug/L	NC	40		
4165180	Anthracene	2010/08/11	96	60 - 130	103	60 - 130	<0.01	ug/L	NC	40		
4165180	Acridine	2010/08/11	95	50 - 130	99	50 - 130	<0.05	ug/L	NC	40		
4165180	Fluoranthene	2010/08/11	93	60 - 130	103	60 - 130	<0.01	ug/L	NC	40		
4165180	Pyrene	2010/08/11	97	60 - 130	106	60 - 130	<0.01	ug/L	NC	40		
4165180	Benzo(a)anthracene	2010/08/11	90	60 - 130	98	60 - 130	<0.01	ug/L	NC	40		
4165180	Chrysene	2010/08/11	93	60 - 130	103	60 - 130	<0.01	ug/L	NC	40		
4165180	Benzo(b&j)fluoranthene	2010/08/11	85	60 - 130	107	60 - 130	<0.01	ug/L	NC	40		

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Sampler Initials: PH

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4165180	Benzo(k)fluoranthene	2010/08/11	98	60 - 130	110	60 - 130	<0.01	ug/L	NC	40		
4165180	Benzo(a)pyrene	2010/08/11	91	60 - 130	102	60 - 130	<0.01	ug/L	NC	40		
4165180	Indeno(1,2,3-cd)pyrene	2010/08/11	91	60 - 130	101	60 - 130	<0.02	ug/L	NC	40		
4165180	Dibenz(a,h)anthracene	2010/08/11	87	60 - 130	97	60 - 130	<0.02	ug/L	NC	40		
4165180	Benzo(g,h,i)perylene	2010/08/11	87	60 - 130	99	60 - 130	<0.02	ug/L	NC	40		
4165311	1,2-dichlorobenzene	2010/08/09	102	70 - 130	83	70 - 130	<0.5	ug/L	NC	30		
4165311	1,3-dichlorobenzene	2010/08/09	102	70 - 130	85	70 - 130	<0.5	ug/L	NC	30		
4165311	1,4-dichlorobenzene	2010/08/09	102	70 - 130	85	70 - 130	<0.5	ug/L	NC	30		
4165311	Chlorobenzene	2010/08/09	88	70 - 130	90	70 - 130	<0.5	ug/L	NC	30		
4165311	Benzene	2010/08/09	90	70 - 130	91	70 - 130	<0.5	ug/L	NC	30		
4165311	Ethylbenzene	2010/08/09	84	70 - 130	89	70 - 130	<0.5	ug/L	NC	30		
4165311	m & p-Xylene	2010/08/09	87	70 - 130	91	70 - 130	<1	ug/L	NC	30		
4165311	o-Xylene	2010/08/09	84	70 - 130	88	70 - 130	<0.5	ug/L	NC	30		
4165311	Styrene	2010/08/09	87	70 - 130	91	70 - 130	<0.5	ug/L	NC	30		
4165311	Toluene	2010/08/09	87	70 - 130	86	70 - 130	<0.5	ug/L	NC	30		
4165311	1,1,1,2-tetrachloroethane	2010/08/09	88	70 - 130	91	70 - 130	<0.5	ug/L	NC	30		
4165311	1,1,1-trichloroethane	2010/08/09	90	70 - 130	94	70 - 130	<0.5	ug/L	NC	30		
4165311	1,1,2,2-tetrachloroethane	2010/08/09	96	70 - 130	80	70 - 130	<0.5	ug/L	NC	30		
4165311	1,1,2-trichloroethane	2010/08/09	83	70 - 130	85	70 - 130	<0.5	ug/L	NC	30		
4165311	1,1-dichloroethane	2010/08/09	96	70 - 130	93	70 - 130	<0.5	ug/L	NC	30		
4165311	1,1-dichloroethene	2010/08/09	103	70 - 130	104	70 - 130	<0.5	ug/L	NC	30		
4165311	1,2-dichloroethane	2010/08/09	92	70 - 130	81	70 - 130	<0.5	ug/L	NC	30		
4165311	1,2-dichloropropane	2010/08/09	87	70 - 130	91	70 - 130	<0.5	ug/L	NC	30		
4165311	4-BROMOFLUOROBENZENE (sur.)	2010/08/09	89	70 - 130	80	70 - 130	80	%				
4165311	Bromodichloromethane	2010/08/09	82	70 - 130	85	70 - 130	<1	ug/L	NC	30		
4165311	Bromoform	2010/08/09	84	70 - 130	83	70 - 130	<1	ug/L	NC	30		
4165311	Bromomethane	2010/08/09	117	60 - 140	111	60 - 140	<1	ug/L	NC	30		
4165311	Carbon tetrachloride	2010/08/09	79	70 - 130	93	70 - 130	<1	ug/L	NC	30		
4165311	Chlorodibromomethane	2010/08/09	85	70 - 130	86	70 - 130	<1	ug/L	NC	30		
4165311	Chloroethane	2010/08/09	112	60 - 140	114	60 - 140	<1	ug/L	NC	30		
4165311	Chloroform	2010/08/09	82	70 - 130	93	70 - 130	<1	ug/L	NC	30		
4165311	Chloromethane	2010/08/09	82	60 - 140	112	60 - 140	<1	ug/L	NC	30		
4165311	cis-1,2-dichloroethene	2010/08/09	85	70 - 130	83	70 - 130	<1	ug/L	NC	30		
4165311	cis-1,3-dichloropropene	2010/08/09	81	70 - 130	79	70 - 130	<1	ug/L	NC	30		
4165311	D4-1,2-DICHLOROETHANE (sur.)	2010/08/09	83	70 - 130	74	70 - 130	78	%				
4165311	D8-TOLUENE (sur.)	2010/08/09	99	70 - 130	84	70 - 130	97	%				
4165311	Dibromoethane	2010/08/09	83	70 - 130	87	70 - 130	<0.2	ug/L	NC	30		
4165311	Dichloromethane	2010/08/09	81	70 - 130	84	70 - 130	<2	ug/L	NC	30		
4165311	Methyl-tert-butylether (MTBE)	2010/08/09	97	70 - 130	96	70 - 130	<4	ug/L	NC	30		
4165311	Tetrachloroethene	2010/08/09	91	70 - 130	91	70 - 130	<0.5	ug/L	NC	30		

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QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4165311	trans-1,2-dichloroethene	2010/08/09	98	70 - 130	92	70 - 130	<1	ug/L	NC	30		
4165311	trans-1,3-dichloropropene	2010/08/09	95	70 - 130	86	70 - 130	<1	ug/L	NC	30		
4165311	Trichloroethene	2010/08/09	90	70 - 130	90	70 - 130	<0.5	ug/L	NC	30		
4165311	Trichlorofluoromethane	2010/08/09	107	60 - 140	105	60 - 140	<4	ug/L	NC	30		
4165311	Vinyl chloride	2010/08/09	93	60 - 140	105	60 - 140	<0.5	ug/L	NC	30		
4165311	Xylenes (Total)	2010/08/09					<1	ug/L	NC	30		
4165476	VH C6-C10	2010/08/09					<300	ug/L	NC	40	121	70 - 130
4165487	Dissolved Chloride (Cl)	2010/08/09	104	80 - 120	96	80 - 120	<0.5	mg/L	4.3	20		
4165493	Dissolved Sulphate (SO4)	2010/08/09			102	80 - 120	<0.5	mg/L	5.0	20		
4168007	Nitrate plus Nitrite (N)	2010/08/06	82	80 - 120	92	80 - 120	<0.002	mg/L	2.6	20		
4168022	Nitrate plus Nitrite (N)	2010/08/06	86	80 - 120	92	80 - 120	<0.002	mg/L	5.9	20		
4168027	Nitrate plus Nitrite (N)	2010/08/06	86	80 - 120	92	80 - 120	<0.002	mg/L	5.1	20		
4168167	Nitrate plus Nitrite (N)	2010/08/06	85	80 - 120	92	80 - 120	<0.002	mg/L	1.5	20		
4168168	Total Nitrogen (N)	2010/08/10	100	80 - 120	92	80 - 120	<0.02	mg/L	0.3	20		
4168237	Nitrate plus Nitrite (N)	2010/08/11	80	80 - 120	89	80 - 120	<0.002	mg/L	4.9	20		
4169199	Total Suspended Solids	2010/08/07			100	86 - 110	<1	mg/L	47.6(2)	20		
4170576	2,4,6-TRIBROMOPHENOL (sur.)	2010/08/26			81	10 - 123	100	%				
4170576	D5-PHENOL (sur.)	2010/08/26			72	10 - 94	47	%				
4170576	2,3,4,5-tetrachlorophenol	2010/08/26			66	14 - 176	<0.1	ug/L				
4170576	2,3,4,6-tetrachlorophenol	2010/08/26			115	14 - 176	<0.1	ug/L				
4170576	2,3,4-trichlorophenol	2010/08/26			91	37 - 144	<0.1	ug/L				
4170576	2,3,5,6-tetrachlorophenol	2010/08/26			82	14 - 176	<0.1	ug/L				
4170576	2,3,5-trichlorophenol	2010/08/26			89	37 - 144	<0.1	ug/L				
4170576	2,3,6-Trichlorophenol	2010/08/26			92	37 - 144	<0.1	ug/L				
4170576	2,3-Dichlorophenol	2010/08/26			87	39 - 135	<0.1	ug/L				
4170576	2,4 + 2,5-Dichlorophenol	2010/08/26			92	39 - 135	<0.1	ug/L				
4170576	2,4,5-trichlorophenol	2010/08/26			90	37 - 144	<0.1	ug/L				
4170576	2,4,6-trichlorophenol	2010/08/26			91	37 - 144	<0.1	ug/L				
4170576	2,4-dimethylphenol	2010/08/26			82	32 - 119	<0.5	ug/L				
4170576	2,4-dinitrophenol	2010/08/26			116	1 - 191	<0.5	ug/L				
4170576	2,6-dichlorophenol	2010/08/26			93	39 - 135	<0.1	ug/L				
4170576	2-chlorophenol	2010/08/26			91	27 - 123	<0.1	ug/L				
4170576	2-methylphenol	2010/08/26			84	25 - 120	<0.5	ug/L				
4170576	2-nitrophenol	2010/08/26			101	29 - 182	<0.5	ug/L				
4170576	3 & 4-chlorophenol	2010/08/26			81	27 - 123	<0.1	ug/L				
4170576	3 & 4-methylphenol	2010/08/26			81	25 - 120	<0.5	ug/L				
4170576	3,4,5-Trichlorophenol	2010/08/26			84	37 - 144	<0.1	ug/L				
4170576	3,4-Dichlorophenol	2010/08/26			85	39 - 135	<0.1	ug/L				
4170576	3,5-Dichlorophenol	2010/08/26			81	39 - 135	<0.1	ug/L				
4170576	4,6-dinitro-2-methylphenol	2010/08/26			89	1 - 181	<0.5	ug/L				

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QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4170576	4-nitrophenol	2010/08/26			47	1 - 132	<0.5	ug/L				
4170576	Pentachlorophenol	2010/08/26			85	14 - 176	<0.1	ug/L				
4170576	Phenol	2010/08/26			53	12 - 110	<0.5	ug/L				
4171876	Total Mercury (Hg)	2010/08/11	118	80 - 120	118	80 - 120	<0.02	ug/L	NC	20		
4173064	2,4,6-TRIBROMOPHENOL (sur.)	2010/08/31			81	10 - 123	88	%				
4173064	2-FLUOROBIPHENYL (sur.)	2010/08/31			79	43 - 116	83	%				
4173064	TERPHENYL-D14 (sur.)	2010/08/31			86	33 - 141	85	%				
4173064	D5-PHENOL (sur.)	2010/08/31			58	10 - 94	42	%				
4173064	D5-NITROBENZENE (sur.)	2010/08/31			87	35 - 114	85	%				
4173064	Bis(2-ethylhexyl)phthalate	2010/08/31					<1	ug/L				
4173064	Butyl benzyl phthalate	2010/08/31					<5	ug/L				
4173064	Diethyl phthalate	2010/08/31					<3	ug/L				
4173064	Dimethyl phthalate	2010/08/31					<3	ug/L				
4173064	Di-n-butyl phthalate	2010/08/31					<1	ug/L				
4173064	Di-n-octyl phthalate	2010/08/31					<1	ug/L				
4191132	Nitrite (N)	2010/08/06	91	79 - 115	98	80 - 122	<0.002	mg/L				
4191138	Nitrite (N)	2010/08/06	123 ⁽²⁾	79 - 115	98	80 - 122	<0.002	mg/L				
4194022	Nitrate plus Nitrite (N)	2010/08/11	86	80 - 120	89	80 - 120	<0.002	mg/L	2.3	20		
4194023	Nitrate plus Nitrite (N)	2010/08/11	86	80 - 120	89	80 - 120	<0.002	mg/L	18.4	20		
4212567	Dissolved Cadmium (Cd)	2010/09/10	102	80 - 120	96	80 - 120	<0.01	ug/L	11.0	25		
4212567	Dissolved Cobalt (Co)	2010/09/10	94	80 - 120	82	80 - 120	<0.05	ug/L	NC	25		
4212567	Dissolved Copper (Cu)	2010/09/10	87	80 - 120	88	80 - 120	<0.05	ug/L	NC	25		
4212567	Dissolved Lead (Pb)	2010/09/10	91	80 - 120	95	80 - 120	<0.05	ug/L	NC	25		
4212567	Dissolved Nickel (Ni)	2010/09/10	90	80 - 120	90	80 - 120	<0.05	ug/L	3.7	25		
4212567	Dissolved Zinc (Zn)	2010/09/10	98	80 - 120	92	80 - 120	<0.5	ug/L	NC	25		
4212567	Dissolved Iron (Fe)	2010/09/10					<1	ug/L	NC	25		
4212567	Dissolved Manganese (Mn)	2010/09/10					<0.2	ug/L	0.4	25		
4212610	Total Cadmium (Cd)	2010/09/10	100	80 - 120	94	80 - 120	<0.01	ug/L	13.0	25		
4212610	Total Copper (Cu)	2010/09/10	92	80 - 120	97	80 - 120	<0.05	ug/L	2.5	25		
4212610	Total Lead (Pb)	2010/09/10	89	80 - 120	100	80 - 120	<0.05	ug/L	NC	25		
4212610	Total Nickel (Ni)	2010/09/10	96	80 - 120	88	80 - 120	<0.05	ug/L	0.1	25		
4212610	Total Zinc (Zn)	2010/09/10	97	80 - 120	99	80 - 120	<0.5	ug/L	NC	25		
4212610	Total Iron (Fe)	2010/09/10					<1	ug/L	0.8	25		
4227210	Total Phosphorus (P)	2010/09/01	98	90 - 110	100	88 - 108	<0.003	mg/L	0.4	20		
4229801	Total Phosphorus (P)	2010/09/02	91	90 - 110	100	88 - 108	<0.003	mg/L	7.2	20		
4242697	Ammonia (N)	2010/09/08	102	80 - 120	101	80 - 120	<0.005	mg/L				
4246502	Nitrate plus Nitrite (N)	2010/09/09	118	80 - 120	111	80 - 120	<0.002	mg/L	NC	20		

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Client Project #: 09185

Sampler Initials: PH

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4248549	Conductivity	2010/09/08			100	96 - 104	<1	uS/cm	0.6	20		
4249561	Dissolved Orthophosphate (P)	2010/09/10	100	90 - 110	99	90 - 106	<0.003	mg/L	0	20		

N/A = Not Applicable

RPD = Relative Percent Difference

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

(1) - RDL raised due to sample matrix interference.

(2) - Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

B066176

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

WorleyParsons Canada Ltd.
Suite 106, 2780 veterans' Memorial Pkwy
Victoria BC, V9B 3S6
Tel: (250) 384 1499, Fax: (250) 384 1201

COC#: *080910-1*

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Client: <u>WorleyParsons Canada Ltd.</u>	ANALYSES REQUESTED												<input type="checkbox"/> Invoice WorleyParsons <input type="checkbox"/> Report WorleyParsons <input type="checkbox"/> Digital WorleyParsons <input type="checkbox"/> PDF WorleyParsons <input type="checkbox"/> Invoice Client care of WorleyParson			
Project Manager: <u>Jason Clarke</u>	Enterococcus	Fecal Coliform	pH, Conductivity, TSS, Nitrite -3	Major Anions	Ammonia	Total Metal / Mercury	Hardness	Diss. Trace Metals	2SCHL	Total Phosphate (as P)	TOC	DOC	Dissolved Orthophosphate	TKN		
Address: <u>106-2780 Veteran Memorial Parkway</u> <u>Victoria, BC V9B 3S6</u>	#1	#2		4	5		6	10	7	5	8	9	5			
Tel #: <u>250-384-1499</u> Fax #: <u>250-384-1201</u>																
Email: <u>Jason.R.Clarke@worleyparsons.com</u>																
Project ID: <u>09185</u>																

SAMPLE DESCRIPTION/ID	Maxxam ID	Date & Time Sampled (D/M/Y)														Comments	Sample Type	No. of Containers
1 Surface		<i>Aug 3/200 11:00</i>	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
1 Mid		<i>9:54</i>	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
1 Bottom		<i>8:56</i>	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
2 Surface		<i>11:55</i>	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
2 Mid		<i>11:40</i>	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
2 Bottom		<i>11:21</i>	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
3 Surface		<i>12:48</i>	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
3 Mid		<i>12:38</i>	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
3 Bottom		<i>12:20</i>	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
4 Surface		<i>13:33 15:34</i>	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
4 Mid		<i>13:51 15:30</i>	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	

PLEASE FILL IN ALL THE REQUIRED AREAS BELOW

LABORATORY USE ONLY

TAT (Turnaround Time) <input checked="" type="checkbox"/> STD <input type="checkbox"/> RUSH (2-DAY) <input type="checkbox"/> RUSH (1-DAY) <input type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> Hydrocarbon Screening DATE Required: _____ TIME Required: _____	Regulatory Guideline <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Special Detection Limits / Contaminant Type: _____	Reporting Format <input checked="" type="checkbox"/> AutoFax <input checked="" type="checkbox"/> AutoEmail <input checked="" type="checkbox"/> Mailing Address: _____ If different than above <u>peter.howland@worleyparsons.com</u> <u>brian.lynych@worleyparsons.com</u>	Received by: <i>[Signature]</i> Date: <i>4/1/200</i> Time: <i>0815</i> Comment(s): _____ Work Order Number: _____ Temperature: <i>11.5°C</i> Laboratory prepared Containers: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal in Tact on Cooler: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Due Date: _____
Sampled by: <i>[Signature]</i> Name (print): <i>[Name]</i> Date: <i>Aug 4/200</i>	Relinquished by: _____ Name (print): _____ Date: _____	Date: _____ Time: _____	

White: PSC Yellow: Mail Pink: Receiver Golden Rod: Customer Copy

CANTEST

Suite 1104 South Wing, 4464 Markam Street
Victoria BC
Tel: (250) 385 6112, Fax: (250) 382 6364

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

WorleyParsons Canada Ltd.

Suite 106, 2780 veterans' Memorial Pkwy
Victoria BC, V9B 3S6
Tel: (250) 384 1499, Fax: (250) 384 1201

COC#: 080410-2

PAGE 2 OF 2 2 of 4

Client: <u>WorleyParsons Canada Ltd.</u> Project Manager: <u>Jason Clarke</u> Address: <u>106-2780 Veteran Memorial Parkway</u> <u>Victoria, BC V9B 3S6</u> Tel #: <u>250-384-1499</u> Fax #: <u>250-384-1201</u> Email: <u>Jason.R.Clarke@worleyparsons.com</u> Project ID: <u>09185</u>			ANALYSES REQUESTED <input type="checkbox"/> Enterococcus <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> pH, Conductivity, TSS, Nitrate <input type="checkbox"/> Major Anions <input type="checkbox"/> Ammonia <input type="checkbox"/> Total Metal / Mercury <input type="checkbox"/> Hardness <input type="checkbox"/> Diss. Trace Metals <input type="checkbox"/> Total Phosphate (as P) <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> Dissolved Orthophosphate <input type="checkbox"/> TKN												<input type="checkbox"/> Invoice WorleyParsons <input type="checkbox"/> Report WorleyParsons <input type="checkbox"/> Digital WorleyParsons <input type="checkbox"/> PDF WorleyParsons <input type="checkbox"/> Invoice Client care of WorleyParson					
SAMPLE DESCRIPTION/ID	Maxxam ID	Date & Time Sampled (D/M/Y)													Comments	Sample Type	No. of Containers			
4 Bottom		Aug 3/2010 13:33	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
5 Surface		14:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
5 Mid		13:51	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
5 Bottom		13:33	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
6 Surface		8:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
6 Mid		6:15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
6 Bottom		7:57	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
Equipment Blank		17:50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
7 Surface		16:49	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
7 Mid		17:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
7 Bottom		17:10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
PLEASE FILL IN ALL THE REQUIRED AREAS BELOW												LABORATORY USE ONLY								
TAT (Turnaround Time) <input checked="" type="checkbox"/> STD <input type="checkbox"/> RUSH (2-DAY) <input type="checkbox"/> RUSH (1-DAY) <input type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> Hydrocarbon Screening DATE Required: _____ TIME Required: _____			Regulatory Guideline <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Special Detection Limits / Contaminant Type: _____			Reporting Format <input checked="" type="checkbox"/> AutoFax <input checked="" type="checkbox"/> AutoEmail <input checked="" type="checkbox"/> Mailing Address: If different than above <u>peter.howland@worleyparsons.com</u> <u>brian.lynch@worleyparsons.com</u>			Received by: <u>Mark Schiller</u> Date: <u>Aug 10</u> Time: <u>08:45</u> Comment(s): _____ Work Order Number: _____ Temperature: <u>11.5°C</u> Laboratory prepared Containers: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal in Tact on Cooler: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Due Date: _____											
Sampled by: <u>Peter Howland</u> Date: <u>Aug 4/2010</u> Name (print): _____ Date: _____			Relinquished by: _____ Name (print): _____ Date: _____			Date: _____ Time: _____														

Client: <u>WorleyParsons Canada Ltd.</u> Project Manager: <u>Jason Clarke</u> Address: <u>106-2780 Veteran Memorial Parkway</u> <u>Victoria, BC V9B 3S6</u> Tel #: <u>250-384-1499</u> Fax #: <u>250-384-1201</u> Email: <u>Jason.R.Clarke@worleyparsons.com</u> Project ID: <u>09185</u>	ANALYSES REQUESTED	<input type="checkbox"/> Invoice WorleyParsons <input type="checkbox"/> Report WorleyParsons <input type="checkbox"/> Digital WorleyParsons <input type="checkbox"/> PDF WorleyParsons <input type="checkbox"/> Invoice Client care of WorleyParson																										
	<table border="1"> <tr><td>Total Phosphate (as P)</td><td>1</td></tr> <tr><td>TOC</td><td>2</td></tr> <tr><td>DOC</td><td>3</td></tr> <tr><td>Dissolved Orthophosphate</td><td>4</td></tr> <tr><td>PAHs</td><td>5</td></tr> <tr><td>Organochlorine Pesticides</td><td>6</td></tr> <tr><td>Chlorinated Phenolics</td><td>7</td></tr> <tr><td>VOCs Including BTEX</td><td>8</td></tr> <tr><td>Phthalates</td><td>9</td></tr> <tr><td>PBDEs</td><td>10</td></tr> <tr><td>PCBs</td><td>11</td></tr> <tr><td>Nonyphenol and its ethoxylate</td><td>12</td></tr> <tr><td>TKN</td><td>13</td></tr> </table>	Total Phosphate (as P)	1	TOC	2	DOC	3	Dissolved Orthophosphate	4	PAHs	5	Organochlorine Pesticides	6	Chlorinated Phenolics	7	VOCs Including BTEX	8	Phthalates	9	PBDEs	10	PCBs	11	Nonyphenol and its ethoxylate	12	TKN	13	
Total Phosphate (as P)	1																											
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PCBs	11																											
Nonyphenol and its ethoxylate	12																											
TKN	13																											

SAMPLE DESCRIPTION/ID	Maxxam ID	Date & Time Sampled (DAY)															Comments	Sample Type	No. of Containers
1 Surface TRIPLICATE 1		Aug 31 2010 11:00	X	X	X	X												Sea Water	
1 Mid TRIPLICATE 1		9:54	X	X	X	X												Sea Water	
1 Bottom TRIPLICATE 1		8:56	X	X	X	X	X	X	X	X	X	X	X	X	X			Sea Water	
1 Surface TRIPLICATE 2		11:00	X	X	X	X												Sea Water	
1 Mid TRIPLICATE 2		9:54	X	X	X	X												Sea Water	
1 Bottom TRIPLICATE 2		8:56	X	X	X	X	X	X	X	X	X	X	X	X	X			Sea Water	
4 Surface TRIPLICATE 1		13:33	X	X	X	X												Sea Water	
4 Mid TRIPLICATE 1		13:57	X	X	X	X												Sea Water	
4 Bottom TRIPLICATE 1		15:39	X	X	X	X												Sea Water	
4 Surface TRIPLICATE 2		13:33	X	X	X	X												Sea Water	
4 Mid TRIPLICATE 2		13:57	X	X	X	X												Sea Water	

PLEASE FILL IN ALL THE REQUIRED AREAS BELOW

LABORATORY USE ONLY

TAT (Turnaround Time) <input checked="" type="checkbox"/> STD <input type="checkbox"/> RUSH (2-DAY) <input type="checkbox"/> RUSH (1-DAY) <input type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> Hydrocarbon Screening	Regulatory Guideline <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> Other (specify) <input type="checkbox"/> Other (specify) <input type="checkbox"/> Special Detection Limits / Contaminant Type:	Reporting Format <input checked="" type="checkbox"/> AutoFax <input checked="" type="checkbox"/> AutoEmail <input checked="" type="checkbox"/>	Received by: <u>[Signature]</u> Date: <u>9/1/2010</u> Time: <u>08:35</u> Comment(s):
DATE Required: TIME Required:	Mailing Address: <u>If different than above</u> <u>peter.howland@worleyparsons.com</u> <u>brian.lynych@worleyparsons.com</u>	Work Order Number: Temperature: <u>11.5°C</u> Laboratory prepared Containers: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal in Tact on Cooler: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Due Date:	Date: Time:
Sampled by: <u>[Signature]</u> Name (print): _____ Date: <u>Aug 31/2010</u>	Relinquished by: _____ Name (print): _____ Date: _____		

CANTEST

Suite 1104 South Wing, 4464 Markam Street
Victoria BC
Tel: (250) 385 6112, Fax: (250) 382 6364

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

WorleyParsons Canada Ltd.

Suite 106, 2780 veterans' Memorial Pkwy
Victoria BC, V9B 3S6
Tel: (250) 384 1499, Fax: (250) 384 1201

COC#: 08040-4

PAGE 2 OF 2 4 of 4

Client: <u>WorleyParsons Canada Ltd.</u> Project Manager: <u>Jason Clarke</u> Address: <u>106-2780 Veteran Memorial Parkway</u> <u>Victoria, BC V9B 3S6</u> Tel #: <u>250-384-1499</u> Fax #: <u>250-384-1201</u> Email: <u>Jason.R.Clarke@worleyparsons.com</u> Project ID: <u>09185</u>			ANALYSES REQUESTED											<input type="checkbox"/> Invoice WorleyParsons <input type="checkbox"/> Report WorleyParsons <input type="checkbox"/> Digital WorleyParsons <input type="checkbox"/> PDF WorleyParsons <input type="checkbox"/> Invoice Client care of WorleyParson				
SAMPLE DESCRIPTION/ID	Maxxam ID	Date & Time Sampled (D/M/Y)	Total Phosphate (as P)	TOC	DOC	Dissolved Orthophosphate	PAHs	Organochlorine Pesticides	Chlorinated Phenolics	VOCs including BTEX	Phthalates	PBDEs	PCBs	Nonyphenol and its ethoxyle	TKN	Comments	Sample Type	No. of Containers
4 Bottom TRIPLICATE 2			X	X	X	X									X		Sea Water	
Equipment Blank			X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
1 Bottom			X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
2 Bottom			X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
4 Bottom			X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
5 Bottom			X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
7 Surface			X	X	X	X									X		Sea Water	
7 Mid			X	X	X	X									X		Sea Water	
7 Bottom			X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
																	Sea Water	
																	Sea Water	
PLEASE FILL IN ALL THE REQUIRED AREAS BELOW																LABORATORY USE ONLY		
TAT (Turnaround Time) <input checked="" type="checkbox"/> STD <input type="checkbox"/> RUSH (2-DAY) <input type="checkbox"/> RUSH (1-DAY) <input type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> Hydrocarbon Screening DATE Required: _____ TIME Required: _____			Regulatory Guideline <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Special Detection Limits / Contaminant Type: _____						Reporting Format <input checked="" type="checkbox"/> AutoFax <input checked="" type="checkbox"/> AutoEmail <input checked="" type="checkbox"/> Mailing Address: If different than above <u>peter.howland@worleyparsons.com</u> <u>brian.lynch@worleyparsons.com</u>						Received By: <u>[Signature]</u> Date: <u>11/19/12</u> Time: <u>0845</u> Comment(s): _____ Work Order Number: _____ Temperature: <u>11.5C</u> Laboratory prepared Containers: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal in Tact on Cooler: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Due Date: _____			
Sampled by: <u>[Signature]</u> Name (print): <u>Peter Howland</u> Date: _____			Relinquished by: _____ Name (print): _____ Date: _____						Date: _____ Time: _____									

Your Project #: B066176
 Your C.O.C. #: n/a

Attention: Debbie Nordbruget

Maxxam Analytics
 Vancouver Island Technology
 Park 1104-4464
 Victoria, BC
 CANADA V8Z 7X8

Report Date: 2010/08/16

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0A5788

Received: 2010/08/06, 09:29

Sample Matrix: Water
 # Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
OC Pesticides (Selected) & PCB (1)	8	2010/08/09	2010/08/10	CAM SOP-00307	SW846 8081,8082

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Chlordane (Total) = Alpha Chlordane + Gamma Chlordane

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
 Email: ABrasil@maxxamanalytics.com
 Phone# (905) 817-5817

=====
 Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Maxxam Job #: B0A5788
 Report Date: 2010/08/16

 Maxxam Analytics
 Client Project #: B066176

ORGANOCHLORINATED PESTICIDES BY GC-ECD (WATER)

Maxxam ID		GT0851	GT0852	GT0853	GT0854	GT0855		
Sampling Date		2010/08/03	2010/08/03	2010/08/03	2010/08/03	2010/08/03		
COC Number		n/a	n/a	n/a	n/a	n/a		
	Units	V93252-06R/1 BOTTOM TRIP	V93255-06R/1 BOTTOM TRIP	V93321-02R/EQUIPMENT BL	V93322-02R/1 BOTTOM	V93323-02R/2 BOTTOM	RDL	QC Batch

Pesticides & Herbicides								
Aldrin + Dieldrin	ug/L	ND	ND	ND	ND	ND	0.005	2229689
Aroclor 1262	ug/L	ND	ND	ND	ND	ND	0.05	2229689
Aroclor 1268	ug/L	ND	ND	ND	ND	ND	0.05	2229689
Hexachlorobutadiene	ug/L	ND	ND	ND	ND	ND	0.009	2229689
Hexachlorocyclopentadiene	ug/L	ND	ND	ND	ND	ND	0.02	2229689
Hexachloroethane	ug/L	ND	ND	ND	ND	ND	0.01	2229689
Aldrin	ug/L	ND	ND	ND	ND	ND	0.005	2229689
alpha-BHC	ug/L	ND	ND	ND	ND	ND	0.005	2229689
beta-BHC	ug/L	ND	ND	ND	ND	ND	0.005	2229689
delta-BHC	ug/L	ND	ND	ND	ND	ND	0.005	2229689
a-Chlordane	ug/L	ND	ND	ND	ND	ND	0.005	2229689
g-Chlordane	ug/L	ND	ND	ND	ND	ND	0.005	2229689
Chlordane (Total)	ug/L	ND	ND	ND	ND	ND	0.005	2229689
o,p-DDD	ug/L	ND	ND	ND	ND	ND	0.005	2229689
p,p-DDD	ug/L	ND	ND	ND	ND	ND	0.005	2229689
o,p-DDD + p,p-DDD	ug/L	ND	ND	ND	ND	ND	0.005	2229689
o,p-DDE	ug/L	ND	ND	ND	ND	ND	0.005	2229689
p,p-DDE	ug/L	ND	ND	ND	ND	ND	0.005	2229689
o,p-DDE + p,p-DDE	ug/L	ND	ND	ND	ND	ND	0.005	2229689
o,p-DDT	ug/L	ND	ND	ND	ND	ND	0.005	2229689
p,p-DDT	ug/L	ND	ND	ND	ND	ND	0.005	2229689
o,p-DDT + p,p-DDT	ug/L	ND	ND	ND	ND	ND	0.005	2229689
DDT+ Metabolites	ug/L	ND	ND	ND	ND	ND	0.005	2229689
Dieldrin	ug/L	ND	ND	ND	ND	ND	0.005	2229689
Endosulfan I (alpha)	ug/L	ND	ND	ND	ND	ND	0.005	2229689
Endosulfan II	ug/L	ND	ND	ND	ND	ND	0.005	2229689
Endosulfan sulfate	ug/L	ND	ND	ND	ND	ND	0.005	2229689
Total Endosulfan	ug/L	ND	ND	ND	ND	ND	0.005	2229689
Endrin	ug/L	ND	ND	ND	ND	ND	0.005	2229689
Endrin aldehyde	ug/L	ND	ND	ND	ND	ND	0.005	2229689

ND = Not detected
 N/A = Not Applicable
 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0A5788
 Report Date: 2010/08/16

 Maxxam Analytics
 Client Project #: B066176

ORGANOCHLORINATED PESTICIDES BY GC-ECD (WATER)

Maxxam ID		GT0851	GT0852	GT0853	GT0854	GT0855		
Sampling Date		2010/08/03	2010/08/03	2010/08/03	2010/08/03	2010/08/03		
COC Number		n/a	n/a	n/a	n/a	n/a		
	Units	V93252-06R/1 BOTTOM TRIP	V93255-06R/1 BOTTOM TRIP	V93321-02R/EQUIPMENT BL	V93322-02R/1 BOTTOM	V93323-02R/2 BOTTOM	RDL	QC Batch

Endrin ketone	ug/L	ND	ND	ND	ND	ND	0.005	2229689
Heptachlor	ug/L	ND	ND	ND	ND	ND	0.005	2229689
Heptachlor epoxide	ug/L	ND	ND	ND	ND	ND	0.005	2229689
Hexachlorobenzene	ug/L	ND	ND	ND	ND	ND	0.005	2229689
Lindane	ug/L	ND	ND	ND	ND	ND	0.003	2229689
Methoxychlor	ug/L	ND	ND	ND	ND	ND	0.01	2229689
Mirex	ug/L	ND	ND	ND	ND	ND	0.005	2229689
Octachlorostyrene	ug/L	ND	ND	ND	ND	ND	0.005	2229689
Total PCB	ug/L	ND	ND	ND	ND	ND	0.05	2229689
Aroclor 1016	ug/L	ND	ND	ND	ND	ND	0.05	2229689
Aroclor 1221	ug/L	ND	ND	ND	ND	ND	0.05	2229689
Aroclor 1232	ug/L	ND	ND	ND	ND	ND	0.05	2229689
Aroclor 1242	ug/L	ND	ND	ND	ND	ND	0.05	2229689
Aroclor 1248	ug/L	ND	ND	ND	ND	ND	0.05	2229689
Aroclor 1254	ug/L	ND	ND	ND	ND	ND	0.05	2229689
Aroclor 1260	ug/L	ND	ND	ND	ND	ND	0.05	2229689
Toxaphene	ug/L	ND	ND	ND	ND	ND	0.2	2229689
Surrogate Recovery (%)								
2,4,5,6-Tetrachloro-m-xylene	%	24 (1)	47	74	52	55		2229689
Decachlorobiphenyl	%	48	84	72	78	84		2229689

ND = Not detected

N/A = Not Applicable

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

(1) Surrogate recovery was below the lower control limit. This may represent a low bias in some results.

Maxxam Job #: B0A5788
 Report Date: 2010/08/16

 Maxxam Analytics
 Client Project #: B066176

ORGANOCHLORINATED PESTICIDES BY GC-ECD (WATER)

Maxxam ID		GT0856	GT0857	GT0858		
Sampling Date		2010/08/03	2010/08/03	2010/08/03		
COC Number		n/a	n/a	n/a		
	Units	V93324-02R/4 BOTTOM	V93325-02R/5 BOTTOM	V93326-02R/7 BOTTOM	RDL	QC Batch

Pesticides & Herbicides						
Aldrin + Dieldrin	ug/L	ND	ND	ND	0.005	2229689
Aroclor 1262	ug/L	ND	ND	ND	0.05	2229689
Aroclor 1268	ug/L	ND	ND	ND	0.05	2229689
Hexachlorobutadiene	ug/L	ND	ND	ND	0.009	2229689
Hexachlorocyclopentadiene	ug/L	ND	ND	ND	0.02	2229689
Hexachloroethane	ug/L	ND	ND	ND	0.01	2229689
Aldrin	ug/L	ND	ND	ND	0.005	2229689
alpha-BHC	ug/L	ND	ND	ND	0.005	2229689
beta-BHC	ug/L	ND	ND	ND	0.005	2229689
delta-BHC	ug/L	ND	ND	ND	0.005	2229689
a-Chlordane	ug/L	ND	ND	ND	0.005	2229689
g-Chlordane	ug/L	ND	ND	ND	0.005	2229689
Chlordane (Total)	ug/L	ND	ND	ND	0.005	2229689
o,p-DDD	ug/L	ND	ND	ND	0.005	2229689
p,p-DDD	ug/L	ND	ND	ND	0.005	2229689
o,p-DDD + p,p-DDD	ug/L	ND	ND	ND	0.005	2229689
o,p-DDE	ug/L	ND	ND	ND	0.005	2229689
p,p-DDE	ug/L	ND	ND	ND	0.005	2229689
o,p-DDE + p,p-DDE	ug/L	ND	ND	ND	0.005	2229689
o,p-DDT	ug/L	ND	ND	ND	0.005	2229689
p,p-DDT	ug/L	ND	ND	ND	0.005	2229689
o,p-DDT + p,p-DDT	ug/L	ND	ND	ND	0.005	2229689
DDT+ Metabolites	ug/L	ND	ND	ND	0.005	2229689
Dieldrin	ug/L	ND	ND	ND	0.005	2229689
Endosulfan I (alpha)	ug/L	ND	ND	ND	0.005	2229689
Endosulfan II	ug/L	ND	ND	ND	0.005	2229689
Endosulfan sulfate	ug/L	ND	ND	ND	0.005	2229689
Total Endosulfan	ug/L	ND	ND	ND	0.005	2229689
Endrin	ug/L	ND	ND	ND	0.005	2229689
Endrin aldehyde	ug/L	ND	ND	ND	0.005	2229689

ND = Not detected
 N/A = Not Applicable
 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0A5788
 Report Date: 2010/08/16

 Maxxam Analytics
 Client Project #: B066176

ORGANOCHLORINATED PESTICIDES BY GC-ECD (WATER)

Maxxam ID		GT0856	GT0857	GT0858		
Sampling Date		2010/08/03	2010/08/03	2010/08/03		
COC Number		n/a	n/a	n/a		
	Units	V93324-02R/4 BOTTOM	V93325-02R/5 BOTTOM	V93326-02R/7 BOTTOM	RDL	QC Batch

Endrin ketone	ug/L	ND	ND	ND	0.005	2229689
Heptachlor	ug/L	ND	ND	ND	0.005	2229689
Heptachlor epoxide	ug/L	ND	ND	ND	0.005	2229689
Hexachlorobenzene	ug/L	ND	ND	ND	0.005	2229689
Lindane	ug/L	ND	ND	ND	0.003	2229689
Methoxychlor	ug/L	ND	ND	ND	0.01	2229689
Mirex	ug/L	ND	ND	ND	0.005	2229689
Octachlorostyrene	ug/L	ND	ND	ND	0.005	2229689
Total PCB	ug/L	ND	ND	ND	0.05	2229689
Aroclor 1016	ug/L	ND	ND	ND	0.05	2229689
Aroclor 1221	ug/L	ND	ND	ND	0.05	2229689
Aroclor 1232	ug/L	ND	ND	ND	0.05	2229689
Aroclor 1242	ug/L	ND	ND	ND	0.05	2229689
Aroclor 1248	ug/L	ND	ND	ND	0.05	2229689
Aroclor 1254	ug/L	ND	ND	ND	0.05	2229689
Aroclor 1260	ug/L	ND	ND	ND	0.05	2229689
Toxaphene	ug/L	ND	ND	ND	0.2	2229689
Surrogate Recovery (%)						
2,4,5,6-Tetrachloro-m-xylene	%	26 (1)	55	56		2229689
Decachlorobiphenyl	%	42	85	76		2229689

ND = Not detected
 N/A = Not Applicable
 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 (1) Surrogate recovery was below the lower control limit. This may represent a low bias in some results.

Maxxam Job #: B0A5788
Report Date: 2010/08/16

Maxxam Analytics
Client Project #: B066176

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics
 Attention: Debbie Nordbruket
 Client Project #: B066176
 P.O. #:
 Project name:

Quality Assurance Report

Maxxam Job Number: MB0A5788

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2229689 MAK	Matrix Spike	2,4,5,6-Tetrachloro-m-xylene	2010/08/10		67	%	40 - 130
		Decachlorobiphenyl	2010/08/10		84	%	40 - 130
		Hexachlorobutadiene	2010/08/10		30	%	30 - 130
		Hexachlorocyclopentadiene	2010/08/10		27 (1)	%	30 - 130
		Hexachloroethane	2010/08/10		37	%	N/A
		Aldrin	2010/08/10		85	%	30 - 130
		alpha-BHC	2010/08/10		91	%	30 - 130
		beta-BHC	2010/08/10		75	%	30 - 130
		delta-BHC	2010/08/10		89	%	30 - 130
		a-Chlordane	2010/08/10		93	%	30 - 130
		g-Chlordane	2010/08/10		92	%	30 - 130
		o,p-DDD	2010/08/10		89	%	40 - 130
		p,p-DDD	2010/08/10		97	%	30 - 130
		o,p-DDE	2010/08/10		91	%	40 - 130
		p,p-DDE	2010/08/10		96	%	30 - 130
		o,p-DDT	2010/08/10		89	%	40 - 130
		p,p-DDT	2010/08/10		86	%	30 - 130
		Dieldrin	2010/08/10		95	%	36 - 130
		Endosulfan I (alpha)	2010/08/10		89	%	30 - 130
		Endosulfan II	2010/08/10		91	%	30 - 130
		Endosulfan sulfate	2010/08/10		108	%	30 - 130
		Endrin	2010/08/10		81	%	30 - 130
		Endrin aldehyde	2010/08/10		78	%	40 - 130
		Endrin ketone	2010/08/10		99	%	40 - 130
		Heptachlor	2010/08/10		77	%	30 - 130
		Heptachlor epoxide	2010/08/10		95	%	30 - 130
		Hexachlorobenzene	2010/08/10		72	%	30 - 130
		Lindane	2010/08/10		89	%	30 - 130
		Methoxychlor	2010/08/10		86	%	40 - 130
		Mirex	2010/08/10		88	%	40 - 130
		Octachlorostyrene	2010/08/10		86	%	30 - 130
	Spiked Blank	2,4,5,6-Tetrachloro-m-xylene	2010/08/10		74	%	40 - 130
		Decachlorobiphenyl	2010/08/10		74	%	40 - 130
		Hexachlorobutadiene	2010/08/10		43	%	30 - 130
		Hexachlorocyclopentadiene	2010/08/10		39	%	30 - 130
		Hexachloroethane	2010/08/10		41	%	N/A
		Aldrin	2010/08/10		93	%	30 - 130
		alpha-BHC	2010/08/10		96	%	30 - 130
		beta-BHC	2010/08/10		77	%	30 - 130
		delta-BHC	2010/08/10		83	%	30 - 130
		a-Chlordane	2010/08/10		99	%	30 - 130
		g-Chlordane	2010/08/10		96	%	30 - 130
		o,p-DDD	2010/08/10		92	%	40 - 130
		p,p-DDD	2010/08/10		101	%	30 - 130
		o,p-DDE	2010/08/10		94	%	40 - 130
		p,p-DDE	2010/08/10		100	%	30 - 130
		o,p-DDT	2010/08/10		91	%	40 - 130
		p,p-DDT	2010/08/10		90	%	30 - 130
		Dieldrin	2010/08/10		101	%	36 - 130
		Endosulfan I (alpha)	2010/08/10		94	%	30 - 130
		Endosulfan II	2010/08/10		95	%	30 - 130
		Endosulfan sulfate	2010/08/10		115	%	30 - 130
		Endrin	2010/08/10		80	%	30 - 130
		Endrin aldehyde	2010/08/10		88	%	40 - 130
		Endrin ketone	2010/08/10		104	%	40 - 130

Maxxam Analytics
 Attention: Debbie Nordbruket
 Client Project #: B066176
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0A5788

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2229689 MAK	Spiked Blank	Heptachlor	2010/08/10		81	%	30 - 130
		Heptachlor epoxide	2010/08/10		106	%	30 - 130
		Hexachlorobenzene	2010/08/10		81	%	30 - 130
		Lindane	2010/08/10		95	%	30 - 130
		Methoxychlor	2010/08/10		83	%	40 - 130
		Mirex	2010/08/10		91	%	40 - 130
		Octachlorostyrene	2010/08/10		88	%	30 - 130
	RPD	Total PCB	2010/08/10	NC		%	40
		Aroclor 1242	2010/08/10	NC		%	40
		Toxaphene	2010/08/10	NC		%	40
	Method Blank	2,4,5,6-Tetrachloro-m-xylene	2010/08/10		70	%	40 - 130
		Decachlorobiphenyl	2010/08/10		73	%	40 - 130
		Aldrin + Dieldrin	2010/08/10	ND, RDL=0.005		ug/L	
		Aroclor 1262	2010/08/10	ND, RDL=0.05		ug/L	
		Aroclor 1268	2010/08/10	ND, RDL=0.05		ug/L	
		Hexachlorobutadiene	2010/08/10	ND, RDL=0.009		ug/L	
		Hexachlorocyclopentadiene	2010/08/10	ND, RDL=0.02		ug/L	
		Hexachloroethane	2010/08/10	ND, RDL=0.01		ug/L	
		Aldrin	2010/08/10	ND, RDL=0.005		ug/L	
		alpha-BHC	2010/08/10	ND, RDL=0.005		ug/L	
		beta-BHC	2010/08/10	ND, RDL=0.005		ug/L	
		delta-BHC	2010/08/10	ND, RDL=0.005		ug/L	
		a-Chlordane	2010/08/10	ND, RDL=0.005		ug/L	
		g-Chlordane	2010/08/10	ND, RDL=0.005		ug/L	
		Chlordane (Total)	2010/08/10	ND, RDL=0.005		ug/L	
		o,p-DDD	2010/08/10	ND, RDL=0.005		ug/L	
		p,p-DDD	2010/08/10	ND, RDL=0.005		ug/L	
		o,p-DDD + p,p-DDD	2010/08/10	ND, RDL=0.005		ug/L	
		o,p-DDE	2010/08/10	ND, RDL=0.005		ug/L	
		p,p-DDE	2010/08/10	ND, RDL=0.005		ug/L	
		o,p-DDE + p,p-DDE	2010/08/10	ND, RDL=0.005		ug/L	
		o,p-DDT	2010/08/10	ND, RDL=0.005		ug/L	
		p,p-DDT	2010/08/10	ND, RDL=0.005		ug/L	
		o,p-DDT + p,p-DDT	2010/08/10	ND, RDL=0.005		ug/L	
		DDT+ Metabolites	2010/08/10	ND, RDL=0.005		ug/L	
		Dieldrin	2010/08/10	ND, RDL=0.005		ug/L	
		Endosulfan I (alpha)	2010/08/10	ND, RDL=0.005		ug/L	
		Endosulfan II	2010/08/10	ND, RDL=0.005		ug/L	
		Endosulfan sulfate	2010/08/10	ND, RDL=0.005		ug/L	
		Total Endosulfan	2010/08/10	ND, RDL=0.005		ug/L	
		Endrin	2010/08/10	ND, RDL=0.005		ug/L	
		Endrin aldehyde	2010/08/10	ND, RDL=0.005		ug/L	
		Endrin ketone	2010/08/10	ND, RDL=0.005		ug/L	
		Heptachlor	2010/08/10	ND, RDL=0.005		ug/L	
		Heptachlor epoxide	2010/08/10	ND, RDL=0.005		ug/L	
		Hexachlorobenzene	2010/08/10	ND, RDL=0.005		ug/L	
		Lindane	2010/08/10	ND, RDL=0.003		ug/L	
		Methoxychlor	2010/08/10	ND, RDL=0.01		ug/L	
		Mirex	2010/08/10	ND, RDL=0.005		ug/L	
		Octachlorostyrene	2010/08/10	ND, RDL=0.005		ug/L	
		Total PCB	2010/08/10	ND, RDL=0.05		ug/L	
		Aroclor 1016	2010/08/10	ND, RDL=0.05		ug/L	
		Aroclor 1221	2010/08/10	ND, RDL=0.05		ug/L	
		Aroclor 1232	2010/08/10	ND, RDL=0.05		ug/L	
		Aroclor 1242	2010/08/10	ND, RDL=0.05		ug/L	

Maxxam Analytics
 Attention: Debbie Nordbruket
 Client Project #: B066176
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0A5788

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2229689 MAK	Method Blank	Aroclor 1248	2010/08/10	ND, RDL=0.05		ug/L	
		Aroclor 1254	2010/08/10	ND, RDL=0.05		ug/L	
		Aroclor 1260	2010/08/10	ND, RDL=0.05		ug/L	
		Toxaphene	2010/08/10	ND, RDL=0.2		ug/L	
	RPD	Aldrin	2010/08/10	NC		%	40
		alpha-BHC	2010/08/10	NC		%	40
		beta-BHC	2010/08/10	NC		%	40
		delta-BHC	2010/08/10	NC		%	40
		a-Chlordane	2010/08/10	NC		%	40
		g-Chlordane	2010/08/10	NC		%	40
		Chlordane (Total)	2010/08/10	NC		%	40
		o,p-DDT	2010/08/10	NC		%	40
		p,p-DDT	2010/08/10	NC		%	40
		o,p-DDT + p,p-DDT	2010/08/10	NC		%	40
		Dieldrin	2010/08/10	NC		%	40
		Hexachlorobenzene	2010/08/10	NC		%	40
		Lindane	2010/08/10	NC		%	40
		Mirex	2010/08/10	NC		%	40

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
 Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
 Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.
 NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
 (1) Recovery in the matrix spike was below the lower control limit. This may represent a low bias in some results for this specific analyte.

Validation Signature Page

Maxxam Job #: B0A5788

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



CHARLES ANCKER, B.Sc., M.Sc., C.Chem, Senior Analyst

=====
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Your Project #: 09185
Your C.O.C. #: 1008101, 100810-1, 100810-2, 100810-3

Attention: JASON CLARKE
WORLEYPARSONS
106-2780 VETERANS MEMORIAL
PARKWAY
VICTORIA, BC
CANADA V9B 3S6

Report Date: 2010/10/01

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B069347
Received: 2010/08/10, 16:00

Sample Matrix: Water
Samples Received: 24

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
Chloride by Automated Colourimetry (1)	22	N/A	2010/08/17	BRN-SOP 00234 R3.0	Based on EPA 325.2
Conductance - water	22	N/A	2010/08/12	56-C-003	Based on SM-2510
Enterococcus spp. (1)	22	N/A	2010/08/12	BRN SOP 00364 R2.0	Based on SM-9230
Fluoride (1)	22	N/A	2010/08/19	BRN SOP-00282 R4.0	Based SM - 4500 F C
Fecal Coliform by membrane filtration	22	N/A	2010/08/11	70-C-200	Based on SM-9222
Hardness Total (calculated as CaCO3) (1)	22	N/A	2010/08/16		
Mercury (Total) by CVAF (1)	10	2010/08/13	2010/08/13	65-A-002-10	EPA 245.7
Elements by ICP-AES (total) (1)	22	2010/08/13	2010/08/13	65-S-060	Based on EPA 200.7
Metals by Chelation CRC ICPMS (dis) (1)	10	N/A	2010/09/14	BRN SOP-00206	Based on EPA 200.8
Metals by Chelation CRC ICPMS (tot) (1)	10	N/A	2010/09/14	BRN SOP-00206	Based on EPA 200.8
Ammonia-N (1)	21	N/A	2010/08/13	BBY6SOP-00044	Based on EPA 350.1
Ammonia-N (1)	1	N/A	2010/08/18	BBY6SOP-00044	Based on EPA 350.1
Nitrate + Nitrite (N)	5	N/A	2010/08/11	56-C-005	Based SM-4500 NO2 E
Nitrate + Nitrite (N)	17	N/A	2010/08/12	56-C-005	Based SM-4500 NO2 E
Nitrite (N) by CFA	22	N/A	2010/08/12	56-C-006	Based SM-4500 NO2 B
Nitrogen - Nitrate (as N)	22	N/A	2010/08/19	56-C-005	Based SM-4500 NO3 E
Polychlorinated Biphenyls in Water (1)	6	2010/08/12	2010/08/17	60-C-044-05	EPA 608/8080
Filter and HNO3 Preserve for Metals (1)	10	N/A	2010/08/13	BRN WI-00006 R1.0	Based on EPA 200.2
pH Water	22	N/A	2010/08/12	56-C-007	Based on SM-4500 pH
Sulphate by Automated Colourimetry (1)	1	N/A	2010/08/16	BRN-SOP 00243 R1.0	Based on EPA 375.4
Sulphate by Automated Colourimetry (1)	19	N/A	2010/08/17	BRN-SOP 00243 R1.0	Based on EPA 375.4
Sulphate by Automated Colourimetry (1)	2	N/A	2010/09/28	BRN-SOP 00243 R1.0	Based on EPA 375.4
Total Suspended Solids(Fixed & Volatile)	22	N/A	2010/08/11	56-C-010	Based on SM2540 D E

* Results relate only to the items tested.

(1) This test was performed by Maxxam Vancouver

Maxxam Job #: B069347
Report Date: 2010/10/01

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

-2-

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

DEBBIE NORDBRUGET, Sample Logistics Technician
Email: Debbie.Nordbruget@MaxxamAnalytics.com
Phone# (250) 385-6112

=====
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Maxxam Analytics - Partial/Rush Results

Total cover pages: 2

Maxxam Job #: B069347
Report Date: 2010/10/01

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		W10960		W10961	W10962		W10963		W10964			W10965		
Sampling Date		2010/08/10 10:03		2010/08/10 09:49	2010/08/10 09:20		2010/08/10 10:26		2010/08/10 10:17			2010/08/10 10:06		
	Units	1 SURFACE	RDL	1 MID	1 BOTTOM	RDL	2 SURFACE	RDL	2 MID	RDL	QC Batch	2 BOTTOM	RDL	QC Batch
ANIONS														
Nitrite (N)	mg/L	0.005	0.002	0.005	0.005	0.002	0.005	0.002	0.005	0.002	4194014	0.005	0.002	4194015
Calculated Parameters														
Filter and HNO3 Preservation	N/A	LAB	N/A	LAB	LAB	N/A					4177264			
Total Hardness (CaCO3)	mg/L	5710	0.5	5570	5550	0.5	5690	0.5	5850	0.5	4171423	5740	0.5	4171423
Nitrate (N)	mg/L	0.193	0.002	0.198	0.228	0.002	0.181	0.002	0.204	0.002	4171441	0.246	0.002	4171441
Misc. Inorganics														
Fluoride (F)	mg/L	0.58	0.01	0.63	0.63	0.01	0.63	0.01	0.63	0.01	4191823	1.01	0.05	4191823
Total Suspended Solids	mg/L	<2	2	3	2	1	<2	2	4	1	4192260	<2	2	4192260
Anions														
Dissolved Sulphate (SO4)	mg/L	2700	50	2900	2800	50	2800	50	2800	50	4189385	3000	50	4189385
Dissolved Chloride (Cl)	mg/L	19000	50	20000	19000	50	19000	50	20000	50	4189303	20000	50	4189303
Nutrients														
Ammonia (N)	mg/L	0.15 ⁽¹⁾	0.05	0.12 ⁽¹⁾	0.17 ⁽¹⁾	0.05	0.15 ⁽¹⁾	0.05	0.14 ⁽¹⁾	0.05	4177862	0.14 ⁽¹⁾	0.05	4177862
Nitrate plus Nitrite (N)	mg/L	0.198	0.002	0.203	0.233	0.002	0.186	0.002	0.209	0.002	4174627	0.251	0.002	4174668
Physical Properties														
Conductivity	uS/cm	50300	1	50900	51000	1	50900	1	50700	1	4175569	50900	1	4175569
pH	pH Units	7.9		7.9	7.9		8.0		7.9		4176428	7.9		4176428

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Analytics - Partial/Rush Results

Maxxam Job #: B069347
Report Date: 2010/10/01

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		W10966			W10967	W10968	W10969		W10970	W10986		
Sampling Date		2010/08/10 11:03			2010/08/10 10:59	2010/08/10 10:42	2010/08/10 12:38		2010/08/10 12:35	2010/08/10 12:20		
	Units	3 SURFACE	RDL	QC Batch	3 MID	3 BOTTOM	4 SURFACE	QC Batch	4 MID	4 BOTTOM	RDL	QC Batch
ANIONS												
Nitrite (N)	mg/L	0.005	0.002	4194015	0.005	0.005	0.005	4194015	0.005	0.005	0.002	4194016
Calculated Parameters												
Filter and HNO3 Preservation	N/A						LAB	4177264	LAB	LAB	N/A	4177264
Total Hardness (CaCO3)	mg/L	5520	0.5	4171423	5480	5610	5740	4171423	5560	5830	0.5	4171423
Nitrate (N)	mg/L	0.251	0.002	4171441	0.259	0.266	0.251	4171441	0.251	0.254	0.002	4171441
Misc. Inorganics												
Fluoride (F)	mg/L	0.42	0.01	4191823	0.60	0.66	0.65	4191823	0.66	0.65	0.01	4191823
Total Suspended Solids	mg/L	4	1	4192260	7	7	2	4192260	3	6	1	4192260
Anions												
Dissolved Sulphate (SO4)	mg/L	NP ⁽¹⁾	0.5	4302777	3000	3000	2900	4189385	3000	2900	50	4189385
Dissolved Chloride (Cl)	mg/L	20000	50	4189303	20000	20000	19000	4189303	17000	19000	50	4189303
Nutrients												
Ammonia (N)	mg/L	<0.05 ⁽²⁾	0.05	4177862	0.15 ⁽²⁾	0.20 ⁽²⁾	0.12 ⁽²⁾	4177862	0.17 ⁽²⁾	0.27 ⁽²⁾	0.05	4177862
Nitrate plus Nitrite (N)	mg/L	0.256	0.002	4174668	0.264	0.271	0.256	4174668	0.256	0.259	0.002	4174709
Physical Properties												
Conductivity	uS/cm	50400	1	4175569	50400	50900	50700	4175569	50900	50900	1	4175569
pH	pH Units	7.9		4176428	7.9	7.9	7.9	4176428	7.9	7.9		4176428

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - The test can not be performed - the original Anion bottle was preserved with H2SO4 and no unpreserved sample left for SO4 re-analysis.

(2) - RDL raised due to sample matrix interference.

Maxxam Job #: B069347
Report Date: 2010/10/01

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		W10987			W10988	W10989			W10990		W10991	W10992		
Sampling Date		2010/08/10 11:42			2010/08/10 11:32	2010/08/10 11:22			2010/08/10 08:24		2010/08/10 08:16	2010/08/10 08:02		
	Units	5 SURFACE	RDL	QC Batch	5 MID	5 BOTTOM	RDL	QC Batch	6 SURFACE	RDL	6 MID	6 BOTTOM	RDL	QC Batch
ANIONS														
Nitrite (N)	mg/L	0.005	0.002	4194016	0.005	0.005	0.002	4194016	0.005	0.002	0.005	0.005	0.002	4194017
Calculated Parameters														
Total Hardness (CaCO3)	mg/L	5040	0.5	4171423	5280	5440	0.5	4171423	5180	0.5	5530	5620	0.5	4171423
Nitrate (N)	mg/L	0.256	0.002	4171441	0.263	0.269	0.002	4171441	0.214	0.002	0.268	0.395	0.002	4171441
Misc. Inorganics														
Fluoride (F)	mg/L	0.48	0.01	4191823	0.68	0.68	0.01	4191823	0.67	0.01	0.67	0.70	0.01	4191823
Total Suspended Solids	mg/L	7	1	4192260	3	4	1	4192260	<2	2	3	8	1	4192260
Anions														
Dissolved Sulphate (SO4)	mg/L	NP ⁽¹⁾	0.5	4302777	2900	2900	50	4189385	2800	50	3000	2900	50	4189385
Dissolved Chloride (Cl)	mg/L	20000	50	4189303	20000	20000	50	4189303	19000	50	18000	19000	50	4189303
Nutrients														
Ammonia (N)	mg/L	<0.05 ⁽²⁾	0.05	4177862	0.14 ⁽²⁾	0.17 ⁽²⁾	0.05	4177862	0.18 ⁽²⁾	0.05	0.13 ⁽²⁾	0.11 ⁽²⁾	0.05	4177862
Nitrate plus Nitrite (N)	mg/L	0.261	0.002	4174709	0.268	0.274	0.002	4174709	0.219	0.002	0.273	0.400	0.002	4174762
Physical Properties														
Conductivity	uS/cm	50600	1	4175569	51000	51800	1	4175569	50400	1	51200	54100	1	4175569
pH	pH Units	7.9		4176428	7.9	7.9		4176428	8.0		8.0	7.8		4176428

RDL = Reportable Detection Limit

- (1) - The test can not be performed - the original Anion bottle was preserved with H2SO4 and no unpreserved sample left for SO4 re-analysis.
- (2) - RDL raised due to sample matrix interference.

Maxxam Analytics - Partial/Rush Results

Maxxam Job #: B069347
Report Date: 2010/10/01

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		W10993			W10994			W10995			W10996		
Sampling Date		2010/08/10 13:26			2010/08/10 13:40			2010/08/10 13:47			2010/08/10 14:05		
	Units	7 BOTTOM	RDL	QC Batch	7 MID	RDL	QC Batch	7 SURFACE	RDL	QC Batch	BLANK	RDL	QC Batch
ANIONS													
Nitrite (N)	mg/L	0.005	0.002	4194019	0.005	0.002	4194017	0.004	0.002	4194017	<0.002	0.002	4194019
Calculated Parameters													
Filter and HNO3 Preservation	N/A	LAB	N/A	4177264	LAB	N/A	4177264	LAB	N/A	4177264	LAB	N/A	4177264
Total Hardness (CaCO3)	mg/L	5170	0.5	4171423	5100	0.5	4171423	5520	0.5	4171423	<0.5	0.5	4171423
Nitrate (N)	mg/L	0.244	0.002	4171441	0.220	0.002	4171441	0.219	0.002	4171441	0.022	0.002	4171441
Misc. Inorganics													
Fluoride (F)	mg/L	0.66	0.01	4191823	0.65	0.01	4191823	0.65	0.01	4191823	<0.01	0.01	4191823
Total Suspended Solids	mg/L	<2	2	4192260	4	1	4192260	5	1	4192260	<2	2	4192260
Anions													
Dissolved Sulphate (SO4)	mg/L	2700	50	4189385	2700	50	4189385	2000	5	4184296	<0.5	0.5	4189385
Dissolved Chloride (Cl)	mg/L	19000	50	4189303	19000	50	4189303	19000	50	4189303	<0.5	0.5	4189303
Nutrients													
Ammonia (N)	mg/L	0.15 ⁽¹⁾	0.05	4177862	0.12 ⁽¹⁾	0.05	4177862	0.12 ⁽¹⁾	0.05	4177862	<0.005	0.005	4188649
Nitrate plus Nitrite (N)	mg/L	0.249	0.002	4174764	0.225	0.002	4174762	0.223	0.002	4174762	0.022	0.002	4174764
Physical Properties													
Conductivity	uS/cm	50300	1	4175569	50000	1	4175569	49800	1	4175569	2	1	4175569
pH	pH Units	7.9		4176428	8.0		4176428	8.0		4176428	6.2		4176428

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B069347
Report Date: 2010/10/01

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

POLYCHLORINATED BIPHENYLS BY GC-ECD (WATER)

Maxxam ID		W10962	W10986	W10993	W10996	W11002	W11003		
Sampling Date		2010/08/10 09:20	2010/08/10 12:20	2010/08/10 13:26	2010/08/10 14:05	2010/08/10 10:03	2010/08/10 10:03		
	Units	1 BOTTOM	4 BOTTOM	7 BOTTOM	BLANK	1 BOTTOM TRIPLICATE 1	1 BOTTOM TRIPLICATE 2	RDL	QC Batch
Polychlorinated Biphenyls									
Aroclor 1242	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	4175314
Aroclor 1248	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	4175314
Aroclor 1254	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	4175314
Aroclor 1260	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	4175314
Surrogate Recovery (%)									
Hexabromobiphenyl (sur.)	%	90	89	86	92	103	96		4175314

Maxxam Analytics - Partial/Rush Results

RDL = Reportable Detection Limit

Maxxam Job #: B069347
Report Date: 2010/10/01

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		W10960	W10961	W10962	W10963	W10964	W10965	W10966	W10967	W10968	W10969		
Sampling Date		2010/08/10 10:03	2010/08/10 09:49	2010/08/10 09:20	2010/08/10 10:26	2010/08/10 10:17	2010/08/10 10:06	2010/08/10 11:03	2010/08/10 10:59	2010/08/10 10:42	2010/08/10 12:38		
	Units	1 SURFACE	1 MID	1 BOTTOM	2 SURFACE	2 MID	2 BOTTOM	3 SURFACE	3 MID	3 BOTTOM	4 SURFACE	RDL	QC Batch
Elements													
Total Mercury (Hg)	ug/L	<0.02	<0.02	<0.02							<0.02	0.02	4176777
Dissolved Metals by ICPMS													
Dissolved Cadmium (Cd)	ug/L	0.08	0.09	0.07							0.08	0.01	4252494
Dissolved Cobalt (Co)	ug/L	<0.05	<0.05	<0.05							<0.05	0.05	4252494
Dissolved Copper (Cu)	ug/L	0.19	0.17	0.20							0.16	0.05	4252494
Dissolved Iron (Fe)	ug/L	<1	<1	2							1	1	4252494
Dissolved Lead (Pb)	ug/L	0.11	<0.05	<0.05							<0.05	0.05	4252494
Dissolved Manganese (Mn)	ug/L	1.2	1.4	1.5							1.3	0.2	4252494
Dissolved Nickel (Ni)	ug/L	0.37	0.37	0.42							0.43	0.05	4252494
Dissolved Zinc (Zn)	ug/L	<0.5	0.8	<0.5							<0.5	0.5	4252494
Total Metals by ICP													
Total Calcium (Ca)	mg/L	383	359	355	359	364	362	350	351	357	361	0.5	4177343
Total Magnesium (Mg)	mg/L	1160	1140	1130	1160	1200	1180	1130	1120	1140	1170	0.5	4177343
Total Metals by ICPMS													
Total Cadmium (Cd)	ug/L	0.08	0.08	0.08							0.08	0.01	4252493
Total Copper (Cu)	ug/L	0.29	0.25	0.31							0.34	0.05	4252493
Total Iron (Fe)	ug/L	9	12	32							17	1	4252493
Total Lead (Pb)	ug/L	<0.05	<0.05	<0.05							<0.05	0.05	4252493
Total Nickel (Ni)	ug/L	0.43	0.48	0.48							0.42	0.05	4252493
Total Zinc (Zn)	ug/L	0.6	<0.5	0.7							0.6	0.5	4252493

RDL = Reportable Detection Limit

Maxxam Analytics - Partial/Rush Results

Maxxam Job #: B069347
Report Date: 2010/10/01

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		W10970	W10986	W10987	W10988	W10989	W10990		
Sampling Date		2010/08/10 12:35	2010/08/10 12:20	2010/08/10 11:42	2010/08/10 11:32	2010/08/10 11:22	2010/08/10 08:24		
	Units	4 MID	4 BOTTOM	5 SURFACE	5 MID	5 BOTTOM	6 SURFACE	RDL	QC Batch
Elements									
Total Mercury (Hg)	ug/L	<0.02	<0.02					0.02	4176777
Dissolved Metals by ICPMS									
Dissolved Cadmium (Cd)	ug/L	0.07	0.08					0.01	4252494
Dissolved Cobalt (Co)	ug/L	<0.05	<0.05					0.05	4252494
Dissolved Copper (Cu)	ug/L	0.22	0.35					0.05	4252494
Dissolved Iron (Fe)	ug/L	4	1					1	4252494
Dissolved Lead (Pb)	ug/L	<0.05	<0.05					0.05	4252494
Dissolved Manganese (Mn)	ug/L	1.3	1.6					0.2	4252494
Dissolved Nickel (Ni)	ug/L	0.50	0.51					0.05	4252494
Dissolved Zinc (Zn)	ug/L	0.6	0.8					0.5	4252494
Total Metals by ICP									
Total Calcium (Ca)	mg/L	353	364	331	342	350	337	0.5	4177343
Total Magnesium (Mg)	mg/L	1140	1190	1020	1080	1110	1050	0.5	4177343
Total Metals by ICPMS									
Total Cadmium (Cd)	ug/L	0.07	0.08					0.01	4252493
Total Copper (Cu)	ug/L	0.34	0.70					0.05	4252493
Total Iron (Fe)	ug/L	26	46					1	4252493
Total Lead (Pb)	ug/L	<0.05	0.05					0.05	4252493
Total Nickel (Ni)	ug/L	0.46	0.46					0.05	4252493
Total Zinc (Zn)	ug/L	0.6	0.7					0.5	4252493

Maxxam Analytics - Partial/Rush Results

RDL = Reportable Detection Limit

Maxxam Job #: B069347
Report Date: 2010/10/01

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		W10991	W10992	W10993	W10994	W10995		W10996		
Sampling Date		2010/08/10 08:16	2010/08/10 08:02	2010/08/10 13:26	2010/08/10 13:40	2010/08/10 13:47	RDL	2010/08/10 14:05	RDL	QC Batch
	Units	6 MID	6 BOTTOM	7 BOTTOM	7 MID	7 SURFACE		BLANK		
Elements										
Total Mercury (Hg)	ug/L			<0.02	<0.02	<0.02	0.02	<0.02	0.02	4176777
Dissolved Metals by ICPMS										
Dissolved Cadmium (Cd)	ug/L			0.07	0.07	0.07	0.01	<0.01	0.01	4252494
Dissolved Cobalt (Co)	ug/L			<0.05	<0.05	<0.05	0.05	<0.05	0.05	4252494
Dissolved Copper (Cu)	ug/L			0.50	0.26	0.24	0.05	<0.05	0.05	4252494
Dissolved Iron (Fe)	ug/L			2	<1	2	1	<1	1	4252494
Dissolved Lead (Pb)	ug/L			0.07	<0.05	<0.05	0.05	<0.05	0.05	4252494
Dissolved Manganese (Mn)	ug/L			1.7	1.8	1.9	0.2	<0.2	0.2	4252494
Dissolved Nickel (Ni)	ug/L			0.44	0.41	0.42	0.05	<0.05	0.05	4252494
Dissolved Zinc (Zn)	ug/L			0.5	0.5	<0.5	0.5	<0.5	0.5	4252494
Total Metals by ICP										
Total Calcium (Ca)	mg/L	351	362	336	329	346	0.5	<0.05	0.05	4177343
Total Magnesium (Mg)	mg/L	1130	1150	1050	1040	1130	0.5	<0.05	0.05	4177343
Total Metals by ICPMS										
Total Cadmium (Cd)	ug/L			0.07	0.08	0.06	0.01	<0.01	0.01	4252493
Total Copper (Cu)	ug/L			0.40	0.35	0.31	0.05	<0.05	0.05	4252493
Total Iron (Fe)	ug/L			31	39	42	1	<1	1	4252493
Total Lead (Pb)	ug/L			0.06	0.06	0.07	0.05	<0.05	0.05	4252493
Total Nickel (Ni)	ug/L			0.48	0.48	0.51	0.05	<0.05	0.05	4252493
Total Zinc (Zn)	ug/L			0.6	0.7	0.6	0.5	<0.5	0.5	4252493

MICROBIOLOGY (WATER)

Maxxam ID		W10960	W10961	W10962	W10963	W10964	W10965	W10966	W10967	W10968		
Sampling Date		2010/08/10 10:03	2010/08/10 09:49	2010/08/10 09:20	2010/08/10 10:26	2010/08/10 10:17	2010/08/10 10:06	2010/08/10 11:03	2010/08/10 10:59	2010/08/10 10:42	RDL	QC Batch
	Units	1 SURFACE	1 MID	1 BOTTOM	2 SURFACE	2 MID	2 BOTTOM	3 SURFACE	3 MID	3 BOTTOM		
MICROBIOLOGY												
Fecal Coliforms	CFU/100mL	7	9	63	4	11	12	4	13	23	1	4175347
Microbiological Param.												
Enterococcus spp.	CFU/100mL	<1.0	2.0	8.0	<1.0	<1.0	3.0	<1.0	<1.0	1.0	1.0	4175753

RDL = Reportable Detection Limit

Maxxam Job #: B069347
Report Date: 2010/10/01

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

MICROBIOLOGY (WATER)

Maxxam ID		W10969	W10970	W10986	W10987	W10988	W10989	W10990		
Sampling Date		2010/08/10 12:38	2010/08/10 12:35	2010/08/10 12:20	2010/08/10 11:42	2010/08/10 11:32	2010/08/10 11:22	2010/08/10 08:24		
	Units	4 SURFACE	4 MID	4 BOTTOM	5 SURFACE	5 MID	5 BOTTOM	6 SURFACE	RDL	QC Batch
MICROBIOLOGY										
Fecal Coliforms	CFU/100mL	6	11	16000	7	6	74	4	1	4175347
Microbiological Param.										
Enterococcus spp.	CFU/100mL	1.0	<1.0	1100	<1.0	1.0	7.0	<1.0	1.0	4175753

Maxxam ID		W10991	W10992	W10993	W10994	W10995	W10996			
Sampling Date		2010/08/10 08:16	2010/08/10 08:02	2010/08/10 13:26	2010/08/10 13:40	2010/08/10 13:47	2010/08/10 14:05			
	Units	6 MID	6 BOTTOM	7 BOTTOM	7 MID	7 SURFACE	BLANK	RDL	QC Batch	
MICROBIOLOGY										
Fecal Coliforms	CFU/100mL	1	4	<1	2	<1	<1	1		4175347
Microbiological Param.										
Enterococcus spp.	CFU/100mL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0		4175753

RDL = Reportable Detection Limit

Maxxam Analytics - Partial/Rush Results

Maxxam Job #: B069347
Report Date: 2010/10/01

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

Package 1	10.0°C
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Each temperature is the average of up to three cooler temperatures taken at receipt

RESULTS OF CHEMICAL ANALYSES OF WATER Comments

Sample W10965-04 Fluoride: Detection limits raised due to matrix interference

Maxxam Analytics - Partial/Rush Results

Maxxam Job #: B069347
Report Date: 2010/10/01

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
4174627	Nitrate plus Nitrite (N)	2010/08/11	84	80 - 120	87	80 - 120	<0.002	mg/L	2.5	20
4174668	Nitrate plus Nitrite (N)	2010/08/12	88	80 - 120	87	80 - 120	<0.002	mg/L	3.5	20
4174709	Nitrate plus Nitrite (N)	2010/08/12	87	80 - 120	87	80 - 120	<0.002	mg/L	1.6	20
4174762	Nitrate plus Nitrite (N)	2010/08/12	84	80 - 120	87	80 - 120	<0.002	mg/L	0.5	20
4174764	Nitrate plus Nitrite (N)	2010/08/12	91	80 - 120	87	80 - 120	<0.002	mg/L	1.6	20
4175314	Hexabromobiphenyl (sur.)	2010/08/12			104	60 - 130	84	%		
4175314	Aroclor 1254	2010/08/12			98	70 - 110	<0.10	ug/L		
4175314	Aroclor 1242	2010/08/12					<0.10	ug/L		
4175314	Aroclor 1248	2010/08/12					<0.10	ug/L		
4175314	Aroclor 1260	2010/08/12					<0.10	ug/L		
4175347	Fecal Coliforms	2010/08/11							NC	N/A
4175569	Conductivity	2010/08/12			100	96 - 104	<1	uS/cm	0.6	20
4176777	Total Mercury (Hg)	2010/08/13	101	80 - 120	103	80 - 120	<0.02	ug/L	NC	20
4177343	Total Calcium (Ca)	2010/08/13					<0.05	mg/L	6.9	20
4177343	Total Magnesium (Mg)	2010/08/13					<0.05	mg/L	2.5	20
4177862	Ammonia (N)	2010/08/13	118	80 - 120	101	80 - 120	<0.005	mg/L	NC ₍₁₎	20
4184296	Dissolved Sulphate (SO ₄)	2010/08/16	105	80 - 120	102	80 - 120	<0.5	mg/L	1.3	20
4188649	Ammonia (N)	2010/08/18	97	80 - 120	97	80 - 120	<0.005	mg/L	5.3	20
4189303	Dissolved Chloride (Cl)	2010/08/17	NC	80 - 120	91	80 - 120	<0.5	mg/L	0.8	20
4189385	Dissolved Sulphate (SO ₄)	2010/08/17	NC	80 - 120	96	80 - 120	<0.5	mg/L	0.9	20
4191823	Fluoride (F)	2010/08/19	85	80 - 120	95	80 - 120	0.01, RDL=0.01	mg/L	0.5	20
4192260	Total Suspended Solids	2010/08/11			94	86 - 110	<1	mg/L	NC	20
4194014	Nitrite (N)	2010/08/12	104	79 - 115	93	80 - 122	<0.002	mg/L	NC	20
4194015	Nitrite (N)	2010/08/12	106	79 - 115	93	80 - 122	<0.002	mg/L	NC	20
4194016	Nitrite (N)	2010/08/12	103	79 - 115	93	80 - 122	<0.002	mg/L	NC	20
4194017	Nitrite (N)	2010/08/12	103	79 - 115	93	80 - 122	<0.002	mg/L	NC	20
4194019	Nitrite (N)	2010/08/12	100	79 - 115	93	80 - 122	<0.002	mg/L	NC	20
4252493	Total Cadmium (Cd)	2010/09/14	98	80 - 120	94	80 - 120	<0.01	ug/L	1.5	25
4252493	Total Copper (Cu)	2010/09/14	98	80 - 120	107	80 - 120	<0.05	ug/L	NC	25
4252493	Total Lead (Pb)	2010/09/14	92	80 - 120	101	80 - 120	<0.05	ug/L	NC	25
4252493	Total Nickel (Ni)	2010/09/14	106	80 - 120	101	80 - 120	<0.05	ug/L	3.7	25
4252493	Total Zinc (Zn)	2010/09/14	106	80 - 120	99	80 - 120	<0.5	ug/L	NC	25
4252493	Total Iron (Fe)	2010/09/14					<1	ug/L	13.0	25
4252494	Dissolved Cadmium (Cd)	2010/09/14	98	80 - 120	93	80 - 120	<0.01	ug/L	7.3	25
4252494	Dissolved Cobalt (Co)	2010/09/14	98	80 - 120	96	80 - 120	<0.05	ug/L	NC	25
4252494	Dissolved Copper (Cu)	2010/09/14	93	80 - 120	101	80 - 120	<0.05	ug/L	NC	25
4252494	Dissolved Lead (Pb)	2010/09/14	94	80 - 120	98	80 - 120	<0.05	ug/L	NC	25
4252494	Dissolved Nickel (Ni)	2010/09/14	97	80 - 120	98	80 - 120	<0.05	ug/L	9.7	25
4252494	Dissolved Zinc (Zn)	2010/09/14	102	80 - 120	96	80 - 120	<0.5	ug/L	NC	25

Maxxam Job #: B069347
Report Date: 2010/10/01

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits
4252494	Dissolved Iron (Fe)	2010/09/14					<1	ug/L	NC	25
4252494	Dissolved Manganese (Mn)	2010/09/14					<0.2	ug/L	6.3	25

Maxxam Analytics - Partial/Rush Results

N/A = Not Applicable

RDL = Reportable Detection Limit

RPD = Relative Percent Difference

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

(1) - RDL raised due to sample matrix interference.



WorleyParsons

resources & energy

CANTEST

Suite 1104 South Wing, 4464 Markam Street
Victoria BC
Tel: (250) 385 6112, Fax: (250) 382 6364

3009347

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

WorleyParsons Canada Ltd.

Suite 106, 2780 veterans' Memorial Pkwy
Victoria BC, V9B 3S6
Tel: (250) 384 1499, Fax: (250) 384 1201

COC#: *100310-1*

PAGE 1 OF *3*

Client: <u>WorleyParsons Canada Ltd.</u>		ANALYSES REQUESTED										<input type="checkbox"/> Invoice WorleyParsons <input type="checkbox"/> Report WorleyParsons <input type="checkbox"/> Digital WorleyParsons <input type="checkbox"/> PDF WorleyParsons <input type="checkbox"/> Invoice Client care of WorleyParson														
Project Manager: <u>Jason Clarke</u>		<table border="1"> <tr> <td><small>In Bottle Portable Test</small></td> <td><small>Enterococcus</small></td> <td><small>Fecal Coliform</small></td> <td><small>pH/Cond./TSS/NO3/N&N/12</small></td> <td><small>Major Anions</small></td> <td><small>Ammonia</small></td> <td><small>H2PO4</small></td> <td><small>NO3</small></td> <td><small>N</small></td> <td><small>or Freshwater from Lab</small></td> <td><small>Hardness</small></td> <td><small>Diss. Trace Metals</small></td> <td><small>Nonyphenol and its ethoxyls</small></td> <td><small>PCBs</small></td> </tr> </table>										<small>In Bottle Portable Test</small>	<small>Enterococcus</small>	<small>Fecal Coliform</small>	<small>pH/Cond./TSS/NO3/N&N/12</small>	<small>Major Anions</small>	<small>Ammonia</small>	<small>H2PO4</small>	<small>NO3</small>	<small>N</small>	<small>or Freshwater from Lab</small>	<small>Hardness</small>	<small>Diss. Trace Metals</small>	<small>Nonyphenol and its ethoxyls</small>	<small>PCBs</small>	
<small>In Bottle Portable Test</small>	<small>Enterococcus</small>	<small>Fecal Coliform</small>	<small>pH/Cond./TSS/NO3/N&N/12</small>	<small>Major Anions</small>	<small>Ammonia</small>	<small>H2PO4</small>	<small>NO3</small>	<small>N</small>	<small>or Freshwater from Lab</small>	<small>Hardness</small>	<small>Diss. Trace Metals</small>	<small>Nonyphenol and its ethoxyls</small>	<small>PCBs</small>													
Address: <u>106-2780 Veteran Memorial Parkway</u> <u>Victoria, BC V9B 3S6</u>																										
Tel #: <u>250-384-1499</u> Fax #: <u>250-384-1201</u>																										
Email: <u>Jason.R.Clarke@worleyparsons.com</u>																										
Project ID: <u>09185</u>																										

SAMPLE DESCRIPTION/ID	Sample ID	Date & Time Sampled (GMT)	Enterococcus	Fecal Coliform	pH/Cond./TSS/NO3/N&N/12	Major Anions	Ammonia	H2PO4	NO3	N	or Freshwater from Lab	Hardness	Diss. Trace Metals	Nonyphenol and its ethoxyls	PCBs	Comments	Sample Type	No. of Containers
1 Surface		<i>Aug 10/2010 10:03</i>	X	X	X	X	X	X	X	X	X	X					Sea Water	
2 1 Mid		<i>9:49</i>	X	X	X	X	X	X	X	X	X	X					Sea Water	
3 1 Bottom		<i>9:20</i>	X	X	X	X	X	X	X	X	X	X		X	X		Sea Water	
4 2 Surface		<i>10:26</i>	X	X	X	X	X	X	X	X	X	X					Sea Water	
5 2 Mid		<i>10:17</i>	X	X	X	X	X	X	X	X	X	X					Sea Water	
6 2 Bottom		<i>10:06</i>	X	X	X	X	X	X	X	X	X	X					Sea Water	
7 3 Surface		<i>11:03</i>	X	X	X	X	X	X	X	X	X	X					Sea Water	
8 3 Mid		<i>10:59</i>	X	X	X	X	X	X	X	X	X	X					Sea Water	
9 3 Bottom		<i>10:42</i>	X	X	X	X	X	X	X	X	X	X					Sea Water	
10 4 Surface		<i>12:38</i>	X	X	X	X	X	X	X	X	X	X					Sea Water	
11 4 Mid		<i>12:35</i>	X	X	X	X	X	X	X	X	X	X					Sea Water	

PLEASE FILL IN ALL THE REQUIRED AREAS BELOW

LABORATORY USE ONLY

TAT (Turnaround Time) <input checked="" type="checkbox"/> STD <input type="checkbox"/> RUSH (2-DAY) <input type="checkbox"/> RUSH (1-DAY) <input type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> Hydrocarbon Screening		Regulatory Guideline <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> Other (specify) <input type="checkbox"/> Other (specify) <input type="checkbox"/> Special Detection Limits / Contaminant Type:		Reporting Format <input checked="" type="checkbox"/> AutoFax <input checked="" type="checkbox"/> AutoEmail <input checked="" type="checkbox"/> Mailing Address: <u>If different than above</u> <u>peter.howland@worleyparsons.com</u> <u>brian.lynch@worleyparsons.com</u>		Received by: <i>[Signature]</i> Date: <i>10/10/2010</i> Time: <i>1600</i> Comment(s): <i>[Signature]</i> Work Order Number: _____ Temperature: _____ Laboratory prepared Containers: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal in Tact on Cooler: <input type="checkbox"/> Yes <input type="checkbox"/> No Due Date: _____	
DATE Required: _____ TIME Required: _____		Sampled by: <i>[Signature]</i> Name (print): <u>Peter Howland</u> Date: <u>Aug 10/2010</u>		Relinquished by: _____ Name (print): _____ Date: _____		Date: _____ Time: _____	

White: PSC Yellow: Mail Pink: Receiver Golden Rod: Customer Copy

CANTEST

Suite 1104 South Wing, 4464 Markam Street
Victoria BC
Tel: (250) 385 6112, Fax: (250) 382 6364

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

WorleyParsons Canada Ltd.

Suite 106, 2780 veterans' Memorial Pkwy
Victoria BC, V9B 3S6
Tel: (250) 384 1499, Fax: (250) 384 1201

COC#: 10080-2

PAGE 2 OF 3

Client: <u>WorleyParsons Canada Ltd.</u> Project Manager: <u>Jason Clarke</u> Address: <u>106-2780 Veteran Memorial Parkway</u> <u>Victoria, BC V9B 3S6</u> Tel #: <u>250-384-1499</u> Fax #: <u>250-384-1201</u> Email: <u>Jason.R.Clarke@worleyparsons.com</u> Project ID: <u>09185</u>		ANALYSES REQUESTED <small>In Bottle / Sample from</small> Enterococcus Fecal Coliform pH/Cond./TSS/NO3/N/N/N Major Anions Ammonia T Metal / Hardness / Mercury Hardness Diss. Trace Metals <small>or Fresh/Note from Lab:</small> Nonyphenol and its ethoxylate PCB's										<input type="checkbox"/> Invoice WorleyParsons <input type="checkbox"/> Report WorleyParsons <input type="checkbox"/> Digital WorleyParsons <input type="checkbox"/> PDF WorleyParsons <input type="checkbox"/> Invoice Client care of WorleyParson			
---	--	--	--	--	--	--	--	--	--	--	--	---	--	--	--

SAMPLE DESCRIPTION/ID	Sample ID	Date & Time Sampled (D/M/Y)	Enterococcus	Fecal Coliform	pH/Cond./TSS/NO3/N/N/N	Major Anions	Ammonia	T Metal / Hardness / Mercury	Hardness	Diss. Trace Metals	Nonyphenol and its ethoxylate	PCB's	Comments	Sample Type	No. of Containers
12 4 Bottom		Aug 10 / 2010 12:20	X	X	X	X	X	X	X				X X	Sea Water	
13 5 Surface		11:42	X	X	X	X	X	X	X					Sea Water	
14 5 Mid		11:52	X	X	X	X	X	X	X					Sea Water	
15 5 Bottom		11:22	X	X	X	X	X	X	X					Sea Water	
16 6 Surface		8:24	X	X	X	X	X	X	X					Sea Water	
17 6 Mid		8:16	X	X	X	X	X	X	X					Sea Water	
18 6 Bottom		8:02	X	X	X	X	X	X	X					Sea Water	
19 7 Bottom		13:26	X	X	X	X	X	X	X				X X	Sea Water	
20 7 Mid		13:40	X	X	X	X	X	X	X					Sea Water	
21 7 Surface		13:49	X	X	X	X	X	X	X					Sea Water	
22 Blank		14:05	X	X	X	X	X	X	X				X X		

PLEASE FILL IN ALL THE REQUIRED AREAS BELOW

TAT (Turnaround Time) <input checked="" type="checkbox"/> STD <input type="checkbox"/> RUSH (2-DAY) <input type="checkbox"/> RUSH (1-DAY) <input type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> Hydrocarbon Screening		Regulatory Guideline <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> Other (specify) <input type="checkbox"/> Other (specify) <input type="checkbox"/> Special Detection Limits / Contaminant Type:		Reporting Format <input checked="" type="checkbox"/> AutoFax <input checked="" type="checkbox"/> AutoEmail <input type="checkbox"/> Mailing Address: <u>If different than above</u> <u>peter.howland@worleyparsons.com</u> <u>brian.lynch@worleyparsons.com</u>		LABORATORY USE ONLY Received by: <u>[Signature]</u> Date: <u>10 Aug 2010</u> Time: <u>1600</u> Comment(s): <u>Delivered</u> Work Order Number: _____ Temperature: _____ Laboratory prepared Containers: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal in Tact on Cooler: <input type="checkbox"/> Yes <input type="checkbox"/> No Due Date: _____ Date: _____ Time: _____	
DATE Required: TIME Required:		Sampled by: <u>[Signature]</u> Name (print): <u>Peter Howland</u> Date: <u>Aug 10 / 2010</u>		Relinquished by: _____ Name (print): _____ Date: _____			



WorleyParsons

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CANTEST

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CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

WorleyParsons Canada Ltd.

Suite 106, 2780 veterans' Memorial Pkwy
Victoria BC, V9B 3S6
Tel: (250) 384 1499, Fax: (250) 384 1201

COC#: 100810-3

PAGE 1 OF 2 3 of 3

Client: <u>WorleyParsons Canada Ltd.</u>		ANALYSES REQUESTED										<input type="checkbox"/> Invoice WorleyParsons <input type="checkbox"/> Report WorleyParsons <input type="checkbox"/> Digital WorleyParsons <input type="checkbox"/> PDF WorleyParsons <input type="checkbox"/> Invoice Client care of WorleyParson	
Project Manager: <u>Jason Clarke</u>													
Address: <u>106-2780 Veteran Memorial Parkway</u>													
<u>Victoria, BC V9B 3S6</u>													
Tel #: <u>250-384-1499</u> Fax #: <u>250-384-1201</u>													
Email: <u>Jason.R.Clarke@worleyparsons.com</u>													
Project ID: <u>09185</u>													

<small>In Bottle from site from</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>	<small>In Bottle from Lab</small>
Enterococcus	Fecal Coliform	pH/Cond/TSS/NO3/N&N/NI	Major Anions	Ammonia	Total Trace Metal Suite	Hardness	Diss. Trace Metals	Mercury	Hormones & Sterols	Nonyphenol and its ethoxyls	PCBs									

23
24

SAMPLE DESCRIPTION/ID	Sample ID	Date & Time Sampled (D/M/Y)																			Comments	Sample Type	No. of Containers
1 Bottom Triplicate 1		Aug 10/2010 10:00																				Sea Water	
1 Bottom Triplicate 2		Aug 10/2010 10:05																				Sea Water	
																						Sea Water	
																						Sea Water	
																						Sea Water	
																						Sea Water	
																						Sea Water	
																						Sea Water	
																						Sea Water	
																						Sea Water	
																						Sea Water	
																						Sea Water	

PLEASE FILL IN ALL THE REQUIRED AREAS BELOW **LABORATORY USE ONLY**

TAT (Turnaround Time) <input checked="" type="checkbox"/> STD <input type="checkbox"/> RUSH (2-DAY) <input type="checkbox"/> RUSH (1-DAY) <input type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> Hydrocarbon Screening		Regulatory Guideline <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> Other (specify) <input type="checkbox"/> Other (specify) <input type="checkbox"/> Special Detection Limits / Contaminant Type:		Reporting Format <input checked="" type="checkbox"/> AutoFax <input checked="" type="checkbox"/> AutoEmail <input checked="" type="checkbox"/> Mailing Address: If different than above <u>peter.howland@worleyparsons.com</u> <u>brian.lynch@worleyparsons.com</u>		Received by: <u>[Signature]</u> Date: <u>10 Aug 2010</u> Time: <u>1600</u> Comment(s): <u>[Signature]</u>	
DATE Required: TIME Required:						Work Order Number: _____ Temperature: _____ Laboratory prepared Containers: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal in fact on Cooler: <input type="checkbox"/> Yes <input type="checkbox"/> No Due Date: _____	
Sampled by: <u>[Signature]</u> Name (print): <u>Peter Howland</u> Date: <u>Aug 10/2010</u>		Relinquished by: _____ Name (print): _____ Date: _____		Date: _____ Time: _____			

Your Project #: 09185
Your C.O.C. #: 08313970, 08313971

Attention: JASON CLARKE
WORLEYPARSONS
106-2780 VETERANS MEMORIAL
PARKWAY
VICTORIA, BC
CANADA V9B 3S6

Report Date: 2010/09/27

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B072723
Received: 2010/08/17, 16:20

Sample Matrix: Water
Samples Received: 22

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
ABN Compounds in Water by GC/MS	6	2010/08/24	2010/09/03	BRN SOP-00333 R4.0	Based on EPA 8270D
Chloride by Automated Colourimetry	3	N/A	2010/08/23	BRN-SOP 00234 R3.0	Based on EPA 325.2
Chloride by Automated Colourimetry	18	N/A	2010/08/24	BRN-SOP 00234 R3.0	Based on EPA 325.2
Chloride by Automated Colourimetry	1	N/A	2010/08/26	BRN-SOP 00234 R3.0	Based on EPA 325.2
Phenols in Water by GCMS	6	2010/08/22	2010/08/24	BRN SOP-00335 R3.0	Based on EPA 8270D
Conductance - water (l)	22	N/A	2010/08/18	56-C-003	Based on SM-2510
Enterococcus spp.	22	N/A	2010/08/19	BRN SOP 00364 R2.0	Based on SM-9230
Fluoride	22	N/A	2010/08/24	BRN SOP-00282 R4.0	Based SM - 4500 F C
Fecal Coliform by membrane filtration (l)	22	N/A	2010/08/18	70-C-200	Based on SM-9222
Hardness Total (calculated as CaCO3)	22	N/A	2010/08/24		
Mercury (Total) by CVAF	10	2010/08/23	2010/08/23	65-A-002-10	EPA 245.7
Elements by ICP-AES (total)	21	2010/08/23	2010/08/23	65-S-060	Based on EPA 200.7
Elements by ICP-AES (total)	1	2010/08/23	2010/08/24	65-S-060	Based on EPA 200.7
Metals by Chelation CRC ICPMS (dis)	10	N/A	2010/09/15	BRN SOP-00206	Based on EPA 200.8
Metals by Chelation CRC ICPMS (tot)	10	N/A	2010/09/15	BRN SOP-00206	Based on EPA 200.8
Ammonia-N	22	N/A	2010/08/23	BBY6SOP-00044	Based on EPA 350.1
Nitrate + Nitrite (N) (l)	22	N/A	2010/08/20	56-C-005	Based SM-4500 NO2 E
Nitrite (N) by CFA (l)	22	N/A	2010/08/20	56-C-006	Based SM-4500 NO2 B
Nitrogen - Nitrate (as N) (l)	22	N/A	2010/08/26	56-C-005	Based SM-4500 NO3 E
PAH in Water by GC/MS (SIM)	6	2010/08/20	2010/08/24	BRN SOP-00331 R11.0	Based on EPA 8270D
Total LMW, HMW, Total PAH Calc	1	N/A	2010/08/24		
Total LMW, HMW, Total PAH Calc	5	N/A	2010/08/25		
Filter and HNO3 Preserve for Metals	7	N/A	2010/08/24	BRN WI-00006 R1.0	Based on EPA 200.2
Filter and HNO3 Preserve for Metals	3	N/A	2010/08/30	BRN WI-00006 R1.0	Based on EPA 200.2
pH Water (l)	22	N/A	2010/08/18	56-C-007	Based on SM-4500 pH
CSR VH C6-C10 in Water by HS GC/MS	1	N/A	2010/08/21	BRN SOP-00304 R10.0	Based on EPA 8260B
CSR VH C6-C10 in Water by HS GC/MS	5	N/A	2010/08/23	BRN SOP-00304 R10.0	Based on EPA 8260B
Sulphate by Automated Colourimetry	3	N/A	2010/08/23	BRN-SOP 00243 R1.0	Based on EPA 375.4
Sulphate by Automated Colourimetry	18	N/A	2010/08/24	BRN-SOP 00243 R1.0	Based on EPA 375.4
Sulphate by Automated Colourimetry	1	N/A	2010/08/26	BRN-SOP 00243 R1.0	Based on EPA 375.4
Sublet (ORGANICS) (l)	6	N/A	2010/09/24		
Total Suspended Solids(Fixed & Volatile) (l)	22	N/A	2010/08/19	56-C-010	Based on SM2540 D E
VOCs in Water by HS GC/MS	1	N/A	2010/08/21	BRN SOP-00311 R8.0	Based on EPA 8260B
VOCs in Water by HS GC/MS	5	N/A	2010/08/23	BRN SOP-00311 R8.0	Based on EPA 8260B
Volatile HC-BTEX	1	N/A	2010/08/22		
Volatile HC-BTEX	3	N/A	2010/08/23		
Volatile HC-BTEX	2	N/A	2010/08/24		
Pesticides, OC Water Subcontract (l)	6	2010/09/24	2010/09/24		

* Results relate only to the items tested.

- (1) This test was performed by Maxxam Victoria
- (2) This test was performed by Ext. Sublet from Vancouver
- (3) This test was performed by Maxxam Ontario (From Burnaby)

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

DEBBIE NORDBRUGET, Sample Logistics Technician
Email: Debbie.Nordbruget@MaxxamAnalytics.com
Phone# (250) 385-6112

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		W29466		W29467		W29468		W29469		W29470		W29471		
Sampling Date		2010/08/17 10:02		2010/08/17 09:55		2010/08/17 09:30		2010/08/17 10:45		2010/08/17 10:35		2010/08/17 10:18		
	Units	1 SURFACE	RDL	1 MID	RDL	1 BOTTOM	RDL	2 SURFACE	RDL	2 MID	QC Batch	2 BOTTOM	RDL	QC Batch
Misc. Inorganics														
Fluoride (F)	mg/L	0.59	0.01	0.61	0.01	0.62	0.01	0.62	0.01	0.62	4203534	0.63	0.01	4203534
Parameter														
Subcontract Parameter	N/A					ATTACHED	N/A				4288694	ATTACHED	N/A	4288694
ANIONS														
Nitrite (N)	mg/L	0.005	0.002	0.005	0.002	0.005	0.002	0.005	0.002	0.005	4194742	0.005	0.002	4194744
Calculated Parameters														
Filter and HNO3 Preservation	N/A	LAB	N/A	LAB	N/A	LAB	N/A				4203046			
Total Hardness (CaCO3)	mg/L	5640	0.5	5990	0.5	6100	0.5	5910	0.5	5850	4187994	5720	0.5	4187994
Nitrate (N)	mg/L	0.295	0.002	0.295	0.002	0.299	0.002	0.275	0.002	0.266	4189380	0.273	0.002	4189380
Misc. Inorganics														
Total Suspended Solids	mg/L	2	1	<2	2	3	1	<2	2	2	4193335	4	1	4193335
Anions														
Dissolved Sulphate (SO4)	mg/L	2600	50	2600	50	2600	50	2600	50	2600	4210685	2600	50	4210685
Dissolved Chloride (Cl)	mg/L	17000	50	17000	50	18000	50	18000	50	17000	4210620	17000	50	4210620
Nutrients														
Ammonia (N)	mg/L	0.15 ⁽¹⁾	0.05	0.16 ⁽¹⁾	0.05	0.16 ⁽¹⁾	0.05	0.18 ⁽¹⁾	0.05	0.18 ⁽¹⁾	4200117	0.23 ⁽¹⁾	0.05	4200117
Nitrate plus Nitrite (N)	mg/L	0.300	0.002	0.300	0.002	0.304	0.002	0.280	0.002	0.271	4196125	0.278	0.002	4196221
Physical Properties														
Conductivity	uS/cm	49900	1	48800	1	51000	1	48800	1	49100	4191780	49100	1	4191780
pH	pH Units	7.9		7.9		7.9		7.9		8.0	4191974	7.9		4191974

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		W29472		W29473	W29474	W29475		W29476	W29563	W29564		
Sampling Date		2010/08/17 11:10		2010/08/17 11:05	2010/08/17 11:59	2010/08/17 11:58		2010/08/17 12:50	2010/08/17 12:35	2010/08/17 11:55		
	Units	3 SURFACE	RDL	3 MID	3 BOTTOM	4 SURFACE	QC Batch	4 MID	4 BOTTOM	5 SURFACE	RDL	QC Batch
Misc. Inorganics												
Fluoride (F)	mg/L	0.62	0.01	0.63	0.65	0.63	4203534	0.63	0.64	0.64	0.01	4203534
Parameter												
Subcontract Parameter	N/A						4288694		ATTACHED		N/A	4288694
ANIONS												
Nitrite (N)	mg/L	0.005	0.002	0.005	0.005	0.005	4194744	0.005	0.005	0.005	0.002	4194748
Calculated Parameters												
Filter and HNO3 Preservation	N/A									LAB	N/A	4203046
Total Hardness (CaCO3)	mg/L	5640	0.5	5350	5560	5410	4187994	5450	5270	5070	0.5	4187994
Nitrate (N)	mg/L	0.266	0.002	0.277	0.328	0.273	4189380	0.278	0.301	0.261	0.002	4189380
Misc. Inorganics												
Total Suspended Solids	mg/L	<2	2	3	10	2	4193335	6	10	5	1	4193335
Anions												
Dissolved Sulphate (SO4)	mg/L	2600	50	2800	2800	2500	4210685	2600	2600	2700	50	4210685
Dissolved Chloride (Cl)	mg/L	18000	50	19000	19000	17000	4210620	19000	17000	18000	50	4210620
Nutrients												
Ammonia (N)	mg/L	0.18 ⁽¹⁾	0.05	0.17 ⁽¹⁾	0.18 ⁽¹⁾	0.18 ⁽¹⁾	4200117	0.16 ⁽¹⁾	0.16 ⁽¹⁾	0.16 ⁽¹⁾	0.05	4200117
Nitrate plus Nitrite (N)	mg/L	0.271	0.002	0.282	0.333	0.278	4196221	0.283	0.306	0.266	0.002	4196222
Physical Properties												
Conductivity	uS/cm	48900	1	48700	50800	49600	4191780	50300	49300	49200	1	4191780
pH	pH Units	7.9		7.9	7.9	7.9	4191974	8.0	8.0	8.0		4191974

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		W29565	W29566		W29567	W29568	W29569		
Sampling Date		2010/08/17 11:45	2010/08/17 11:28		2010/08/17 08:28	2010/08/17 08:18	2010/08/17 08:00		
	Units	5 MID	5 BOTTOM	QC Batch	6 SURFACE	6 MID	6 BOTTOM	RDL	QC Batch
Misc. Inorganics									
Fluoride (F)	mg/L	0.64	0.64	4203534	0.64	0.63	0.65	0.01	4203534
Parameter									
Subcontract Parameter	N/A		ATTACHED	4288694				N/A	
ANIONS									
Nitrite (N)	mg/L	0.005	0.005	4194748	0.005	0.005	0.005	0.002	4194750
Calculated Parameters									
Filter and HNO3 Preservation	N/A	LAB	LAB	4203046				N/A	
Total Hardness (CaCO3)	mg/L	4970	5430	4187994	5350	5030	5360	0.5	4187994
Nitrate (N)	mg/L	0.261	0.313	4189380	0.263	0.300	0.313	0.002	4189380
Misc. Inorganics									
Total Suspended Solids	mg/L	4	16	4193335	3	2	3	1	4193335
Anions									
Dissolved Sulphate (SO4)	mg/L	2600	2800	4210685	2700	2500	2700	50	4210685
Dissolved Chloride (Cl)	mg/L	17000	18000	4210620	18000	17000	17000	50	4210620
Nutrients									
Ammonia (N)	mg/L	0.16 ⁽¹⁾	0.35 ⁽¹⁾	4200117	0.17 ⁽¹⁾	0.17 ⁽¹⁾	0.19 ⁽¹⁾	0.05	4200117
Nitrate plus Nitrite (N)	mg/L	0.266	0.318	4196222	0.268	0.305	0.318	0.002	4196225
Physical Properties									
Conductivity	uS/cm	50200	53000	4191780	49500	49700	50800	1	4191780
pH	pH Units	8.0	7.9	4191974	8.0	8.0	7.7		4191974

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		W29570			W29571			W29572	W29573		
Sampling Date		2010/08/17 14:46			2010/08/17 14:21			2010/08/17 14:13	2010/08/17 13:56		
	Units	BLANK	RDL	QC Batch	7 SURFACE	RDL	QC Batch	7 MID	7 BOTTOM	RDL	QC Batch
Misc. Inorganics											
Fluoride (F)	mg/L	0.03	0.01	4203534	0.62	0.01	4203534	0.64	0.66	0.01	4203534
Parameter											
Subcontract Parameter	N/A	ATTACHED	N/A	4288694					ATTACHED	N/A	4288694
ANIONS											
Nitrite (N)	mg/L	<0.002	0.002	4194750	0.005	0.002	4194750	0.005	0.005	0.002	4194762
Calculated Parameters											
Filter and HNO3 Preservation	N/A	LAB	N/A	4203046	LAB	N/A	4220546	LAB	LAB	N/A	4220546
Total Hardness (CaCO3)	mg/L	<0.5	0.5	4187994	4910	0.5	4187994	5050	5360	0.5	4187994
Nitrate (N)	mg/L	0.010	0.002	4189380	0.214	0.002	4189380	0.255	0.315	0.002	4189380
Misc. Inorganics											
Total Suspended Solids	mg/L	<2	2	4193335	<2	2	4193335	4	4	1	4193335
Anions											
Dissolved Sulphate (SO4)	mg/L	<0.5	0.5	4212966	2900	50	4206538	2900	3000	50	4206538
Dissolved Chloride (Cl)	mg/L	<0.5	0.5	4212960	19000	50	4206536	19000	20000	50	4206536
Nutrients											
Ammonia (N)	mg/L	<0.005	0.005	4200117	0.17 ⁽¹⁾	0.05	4200117	0.19 ⁽¹⁾	0.20 ⁽¹⁾	0.05	4200117
Nitrate plus Nitrite (N)	mg/L	0.010	0.002	4196225	0.219	0.002	4196225	0.260	0.320	0.002	4196226
Physical Properties											
Conductivity	uS/cm	3	1	4191780	48000	1	4191780	47700	51000	1	4191780
pH	pH Units	5.3		4191974	7.9		4191974	7.9	7.8		4191974

N/A = Not Applicable

RDL = Reportable Detection Limit

(1) - RDL raised due to sample matrix interference.

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		W29468	W29471		W29563		W29566		W29570		W29573		
Sampling Date		2010/08/17 09:30	2010/08/17 10:18		2010/08/17 12:35		2010/08/17 11:28		2010/08/17 14:46		2010/08/17 13:56		
	Units	1 BOTTOM	2 BOTTOM	QC Batch	4 BOTTOM	QC Batch	5 BOTTOM	QC Batch	BLANK	QC Batch	7 BOTTOM	RDL	QC Batch
Phenols													
2,3,4,5-tetrachlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
2,3,4,6-tetrachlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
2,3,4-trichlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
2,3,5,6-tetrachlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
2,3,5-trichlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
2,3,6-Trichlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
2,3-Dichlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
2,4 + 2,5-Dichlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
2,4,5-trichlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
2,4,6-trichlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
2,4-dimethylphenol	ug/L	<0.5	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	0.5	4198603
2,4-dinitrophenol	ug/L	<0.5	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	0.5	4198603
2,6-dichlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
2-chlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
2-methylphenol	ug/L	<0.5	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	0.5	4198603
2-nitrophenol	ug/L	<0.5	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	0.5	4198603
3 & 4-chlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
3 & 4-methylphenol	ug/L	<0.5	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	0.5	4198603
3,4,5-Trichlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
3,4-Dichlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
3,5-Dichlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
4,6-dinitro-2-methylphenol	ug/L	<0.5	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	0.5	4198603
4-nitrophenol	ug/L	<0.5	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	0.5	4198603
Pentachlorophenol	ug/L	<0.1	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	4198603	<0.1	0.1	4198603
Phenol	ug/L	<0.5	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	4198603	<0.5	0.5	4198603
Phthalate Esters													
Bis(2-ethylhexyl)phthalate	ug/L	<1	<1	4205143	<1	4205143	<1	4205143	<1	4205143	<1	1	4205143
Butyl benzyl phthalate	ug/L	<5	<5	4205143	<5	4205143	<5	4205143	<5	4205143	<5	5	4205143
Diethyl phthalate	ug/L	<3	<3	4205143	<3	4205143	<3	4205143	<3	4205143	<3	3	4205143
Dimethyl phthalate	ug/L	<3	<3	4205143	<3	4205143	<3	4205143	<3	4205143	<3	3	4205143
Di-n-butyl phthalate	ug/L	<1	<1	4205143	<1	4205143	<1	4205143	<1	4205143	<1	1	4205143
Di-n-octyl phthalate	ug/L	<1	<1	4205143	<1	4205143	<1	4205143	<1	4205143	<1	1	4205143

RDL = Reportable Detection Limit

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		W29468	W29471		W29563		W29566		W29570		W29573		
Sampling Date		2010/08/17 09:30	2010/08/17 10:18		2010/08/17 12:35		2010/08/17 11:28		2010/08/17 14:46		2010/08/17 13:56		
	Units	1 BOTTOM	2 BOTTOM	QC Batch	4 BOTTOM	QC Batch	5 BOTTOM	QC Batch	BLANK	QC Batch	7 BOTTOM	RDL	QC Batch
Surrogate Recovery (%)													
2,4,6-TRIBROMOPHENOL (sur.)	%	85	80	4198603	80	4205143	87	4198603	91	4198603	88		4205143
2-FLUOROBIPHENYL (sur.)	%	85	82	4205143	88	4205143	84	4205143	83	4205143	83		4205143
TERPHENYL-D14 (sur.)	%	90	95	4205143	93	4205143	85	4205143	92	4205143	85		4205143
D5-PHENOL (sur.)	%	44	41	4198603	42	4205143	40	4205143	42	4198603	45		4198603
D5-NITROBENZENE (sur.)	%	82	77	4205143	83	4205143	82	4205143	84	4205143	77		4205143

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		W29466	W29467	W29468	W29469	W29470	W29471	W29472	W29473	W29474	W29475		
Sampling Date		2010/08/17 10:02	2010/08/17 09:55	2010/08/17 09:30	2010/08/17 10:45	2010/08/17 10:35	2010/08/17 10:18	2010/08/17 11:10	2010/08/17 11:05	2010/08/17 11:59	2010/08/17 11:58		
	Units	1 SURFACE	1 MID	1 BOTTOM	2 SURFACE	2 MID	2 BOTTOM	3 SURFACE	3 MID	3 BOTTOM	4 SURFACE	RDL	QC Batch
Elements													
Total Mercury (Hg)	ug/L	<0.02	<0.02	<0.02								0.02	4200012
Dissolved Metals by ICPMS													
Dissolved Cadmium (Cd)	ug/L	0.09	0.08	0.09								0.01	4256367
Dissolved Cobalt (Co)	ug/L	<0.05	<0.05	<0.05								0.05	4256367
Dissolved Copper (Cu)	ug/L	0.19	0.23	0.34								0.05	4256367
Dissolved Iron (Fe)	ug/L	2	1	1								1	4256367
Dissolved Lead (Pb)	ug/L	<0.05	<0.05	<0.05								0.05	4256367
Dissolved Manganese (Mn)	ug/L	1.0	0.7	0.9								0.2	4256367
Dissolved Nickel (Ni)	ug/L	0.37	0.33	0.37								0.05	4256367
Dissolved Zinc (Zn)	ug/L	0.6	<0.5	0.5								0.5	4256367
Total Metals by ICP													
Total Calcium (Ca)	mg/L	356	373	379	367	364	358	354	342	354	343	0.05	4202301
Total Magnesium (Mg)	mg/L	1150	1230	1250	1210	1200	1170	1150	1090	1140	1110	0.05	4202301
Total Metals by ICPMS													
Total Cadmium (Cd)	ug/L	0.09	0.09	0.09								0.01	4256363
Total Copper (Cu)	ug/L	0.24	0.28	0.32								0.05	4256363
Total Iron (Fe)	ug/L	8	31	38								1	4256363
Total Lead (Pb)	ug/L	<0.05	<0.05	<0.05								0.05	4256363
Total Nickel (Ni)	ug/L	0.38	0.46	0.43								0.05	4256363
Total Zinc (Zn)	ug/L	<0.5	0.8	0.8								0.5	4256363

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		W29476	W29563	W29564	W29565	W29566	W29567		
Sampling Date		2010/08/17 12:50	2010/08/17 12:35	2010/08/17 11:55	2010/08/17 11:45	2010/08/17 11:28	2010/08/17 08:28		
	Units	4 MID	4 BOTTOM	5 SURFACE	5 MID	5 BOTTOM	6 SURFACE	RDL	QC Batch
Elements									
Total Mercury (Hg)	ug/L			<0.02	<0.02	<0.02		0.02	4200012
Dissolved Metals by ICPMS									
Dissolved Cadmium (Cd)	ug/L			0.08	0.10	0.09		0.01	4256367
Dissolved Cobalt (Co)	ug/L			<0.05	<0.05	<0.05		0.05	4256367
Dissolved Copper (Cu)	ug/L			0.20	0.22	0.49		0.05	4256367
Dissolved Iron (Fe)	ug/L			1	<1	2		1	4256367
Dissolved Lead (Pb)	ug/L			<0.05	<0.05	<0.05		0.05	4256367
Dissolved Manganese (Mn)	ug/L			0.8	0.8	1.1		0.2	4256367
Dissolved Nickel (Ni)	ug/L			0.41	0.40	0.34		0.05	4256367
Dissolved Zinc (Zn)	ug/L			0.6	<0.5	1.0		0.5	4256367
Total Metals by ICP									
Total Calcium (Ca)	mg/L	346	336	325	320	346	338	0.05	4202301
Total Magnesium (Mg)	mg/L	1110	1080	1030	1010	1110	1090	0.05	4202301
Total Metals by ICPMS									
Total Cadmium (Cd)	ug/L			0.09	0.08	0.10		0.01	4256363
Total Copper (Cu)	ug/L			0.25	0.24	0.83		0.05	4256363
Total Iron (Fe)	ug/L			9	26	102		1	4256363
Total Lead (Pb)	ug/L			<0.05	<0.05	0.09		0.05	4256363
Total Nickel (Ni)	ug/L			0.40	0.39	0.50		0.05	4256363
Total Zinc (Zn)	ug/L			<0.5	<0.5	0.9		0.5	4256363

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		W29568	W29569	W29570	W29571	W29572	W29573		
Sampling Date		2010/08/17 08:18	2010/08/17 08:00	2010/08/17 14:46	2010/08/17 14:21	2010/08/17 14:13	2010/08/17 13:56		
	Units	6 MID	6 BOTTOM	BLANK	7 SURFACE	7 MID	7 BOTTOM	RDL	QC Batch
Elements									
Total Mercury (Hg)	ug/L			<0.02	<0.02	<0.02	<0.02	0.02	4200012
Dissolved Metals by ICPMS									
Dissolved Cadmium (Cd)	ug/L			<0.01	0.08	0.08	0.08	0.01	4256367
Dissolved Cobalt (Co)	ug/L			<0.05	<0.05	<0.05	<0.05	0.05	4256367
Dissolved Copper (Cu)	ug/L			<0.05	0.23	0.17	0.17	0.05	4256367
Dissolved Iron (Fe)	ug/L			<1	<1	1	1	1	4256367
Dissolved Lead (Pb)	ug/L			<0.05	<0.05	<0.05	<0.05	0.05	4256367
Dissolved Manganese (Mn)	ug/L			<0.2	1.2	0.9	1.0	0.2	4256367
Dissolved Nickel (Ni)	ug/L			0.05	0.33	0.38	0.39	0.05	4256367
Dissolved Zinc (Zn)	ug/L			<0.5	0.8	0.5	0.5	0.5	4256367
Total Metals by ICP									
Total Calcium (Ca)	mg/L	323	343	<0.05	315	323	339	0.05	4202301
Total Magnesium (Mg)	mg/L	1030	1090	<0.05	1000	1030	1100	0.05	4202301
Total Metals by ICPMS									
Total Cadmium (Cd)	ug/L			<0.01	0.08	0.08	0.09	0.01	4256363
Total Copper (Cu)	ug/L			<0.05	0.27	0.25	0.28	0.05	4256363
Total Iron (Fe)	ug/L			<1	15	18	41	1	4256363
Total Lead (Pb)	ug/L			<0.05	<0.05	<0.05	<0.05	0.05	4256363
Total Nickel (Ni)	ug/L			<0.05	0.41	0.41	0.48	0.05	4256363
Total Zinc (Zn)	ug/L			<0.5	<0.5	<0.5	0.5	0.5	4256363

MICROBIOLOGY (WATER)

Maxxam ID		W29466	W29467		W29468	W29469	W29470	W29471	W29472	W29473	W29474		
Sampling Date		2010/08/17 10:02	2010/08/17 09:55		2010/08/17 09:30	2010/08/17 10:45	2010/08/17 10:35	2010/08/17 10:18	2010/08/17 11:10	2010/08/17 11:05	2010/08/17 11:59		
	Units	1 SURFACE	1 MID	RDL	1 BOTTOM	2 SURFACE	2 MID	2 BOTTOM	3 SURFACE	3 MID	3 BOTTOM	RDL	QC Batch
MICROBIOLOGY													
Fecal Coliforms	CFU/100mL	4	4	1	18	5	4	3	4	13	10	1	4192108
Microbiological Param.													
Enterococcus spp.	CFU/100mL	<2.0	<2.0	2.0	2.0	1.0	1.0	<1.0	<1.0	<1.0	2.0	1.0	4193217

RDL = Reportable Detection Limit

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

MICROBIOLOGY (WATER)

Maxxam ID		W29475	W29476	W29563	W29564	W29565	W29566	W29567		
Sampling Date		2010/08/17 11:58	2010/08/17 12:50	2010/08/17 12:35	2010/08/17 11:55	2010/08/17 11:45	2010/08/17 11:28	2010/08/17 08:28		
	Units	4 SURFACE	4 MID	4 BOTTOM	5 SURFACE	5 MID	5 BOTTOM	6 SURFACE	RDL	QC Batch
MICROBIOLOGY										
Fecal Coliforms	CFU/100mL	13	36	35	7	560	7000	2	1	4192108
Microbiological Param.										
Enterococcus spp.	CFU/100mL	<1.0	6.0	4.0	1.0	66	3000	<1.0	1.0	4193217

Maxxam ID		W29568	W29569	W29570	W29571	W29572	W29573			
Sampling Date		2010/08/17 08:18	2010/08/17 08:00	2010/08/17 14:46	2010/08/17 14:21	2010/08/17 14:13	2010/08/17 13:56			
	Units	6 MID	6 BOTTOM	BLANK	7 SURFACE	7 MID	7 BOTTOM	RDL	QC Batch	
MICROBIOLOGY										
Fecal Coliforms	CFU/100mL	3	<1	<1	<1	4	2	1	4192108	
Microbiological Param.										
Enterococcus spp.	CFU/100mL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	4193217	

RDL = Reportable Detection Limit

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

PAH IN WATER BY GC-MS (WATER)

Maxxam ID		W29468	W29471	W29563	W29566	W29570	W29573		
Sampling Date		2010/08/17 09:30	2010/08/17 10:18	2010/08/17 12:35	2010/08/17 11:28	2010/08/17 14:46	2010/08/17 13:56		
	Units	1 BOTTOM	2 BOTTOM	4 BOTTOM	5 BOTTOM	BLANK	7 BOTTOM	RDL	QC Batch
Polycyclic Aromatics									
Low Molecular Weight PAH's	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4190262
High Molecular Weight PAH's	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	4190262
Total PAH	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4190262
Naphthalene	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4197401
2-Methylnaphthalene	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4197401
Quinoline	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4197401
Acenaphthylene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	4197401
Acenaphthene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	4197401
Fluorene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	4197401
Phenanthrene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	4197401
Anthracene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	4197401
Acridine	ug/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	4197401
Fluoranthene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	4197401
Pyrene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	4197401
Benzo(a)anthracene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	4197401
Chrysene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	4197401
Benzo(b&j)fluoranthene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	4197401
Benzo(k)fluoranthene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	4197401
Benzo(a)pyrene	ug/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	4197401
Indeno(1,2,3-cd)pyrene	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	4197401
Dibenz(a,h)anthracene	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	4197401
Benzo(g,h,i)perylene	ug/L	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	4197401
Surrogate Recovery (%)									
D10-ANTHRACENE (sur.)	%	86	87	105	86	105	86		4197401
D12-BENZO(A)PYRENE (sur.)	%	85	82	82	81	86	81		4197401
D8-ACENAPHTHYLENE (sur.)	%	69	66	72	63	78	67		4197401
D8-NAPHTHALENE (sur.)	%	71	60	66	62	72	61		4197401
TERPHENYL-D14 (sur.)	%	92	88	89	86	86	87		4197401

RDL = Reportable Detection Limit

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

CSR VOC + VPH IN WATER (WATER)

Maxxam ID		W29468	W29471	W29563	W29566	W29570		W29573		
Sampling Date		2010/08/17 09:30	2010/08/17 10:18	2010/08/17 12:35	2010/08/17 11:28	2010/08/17 14:46		2010/08/17 13:56		
	Units	1 BOTTOM	2 BOTTOM	4 BOTTOM	5 BOTTOM	BLANK	QC Batch	7 BOTTOM	RDL	QC Batch
Volatiles										
VPH (VHW6 to 10 - BTEX)	ug/L	<300	<300	<300	<300	<300	4190263	<300	300	4190263
Volatile Hydrocarbons										
VH C6-C10	ug/L	<300	<300	<300	<300	<300	4198792	<300	300	4197747
Chlorobenzenes										
1,2-dichlorobenzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
1,3-dichlorobenzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
1,4-dichlorobenzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
Chlorobenzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
Monocyclic Aromatics										
Benzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
Ethylbenzene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
m & p-Xylene	ug/L	<1	<1	<1	<1	<1	4198747	<1	1	4194745
o-Xylene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
Styrene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
Toluene	ug/L	<0.5	<0.5	<0.5	<0.5	0.8	4198747	<0.5	0.5	4194745
Xylenes (Total)	ug/L	<1	<1	<1	<1	<1	4198747	<1	1	4194745

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

CSR VOC + VPH IN WATER (WATER)

Maxxam ID		W29468	W29471	W29563	W29566	W29570		W29573		
Sampling Date		2010/08/17 09:30	2010/08/17 10:18	2010/08/17 12:35	2010/08/17 11:28	2010/08/17 14:46		2010/08/17 13:56		
	Units	1 BOTTOM	2 BOTTOM	4 BOTTOM	5 BOTTOM	BLANK	QC Batch	7 BOTTOM	RDL	QC Batch
Volatiles										
1,1,1,2-tetrachloroethane	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
1,1,1-trichloroethane	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
1,1,2,2-tetrachloroethane	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
1,1,2-trichloroethane	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
1,1-dichloroethane	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
1,1-dichloroethene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
1,2-dichloroethane	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
1,2-dichloropropane	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	4198747	<1	1	4194745
Bromoform	ug/L	<1	<1	<1	<1	<1	4198747	<1	1	4194745
Bromomethane	ug/L	<1	<1	<1	<1	<1	4198747	<1	1	4194745
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	4198747	<1	1	4194745
Chlorodibromomethane	ug/L	<1	<1	<1	<1	<1	4198747	<1	1	4194745
Chloroethane	ug/L	<1	<1	<1	<1	<1	4198747	<1	1	4194745
Chloroform	ug/L	<1	<1	<1	<1	<1	4198747	<1	1	4194745
Chloromethane	ug/L	3	3	7	3	<1	4198747	<1	1	4194745
cis-1,2-dichloroethene	ug/L	<1	<1	<1	<1	<1	4198747	<1	1	4194745
cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	4198747	<1	1	4194745
Dibromoethane	ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	4198747	<0.2	0.2	4194745
Dichloromethane	ug/L	<2	<2	<2	<2	<2	4198747	<2	2	4194745
Methyl-tert-butylether (MTBE)	ug/L	<4	<4	<4	<4	<4	4198747	<4	4	4194745
Tetrachloroethene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
trans-1,2-dichloroethene	ug/L	<1	<1	<1	<1	<1	4198747	<1	1	4194745
trans-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	4198747	<1	1	4194745
Trichloroethene	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
Trichlorofluoromethane	ug/L	<4	<4	<4	<4	<4	4198747	<4	4	4194745
Vinyl chloride	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	4198747	<0.5	0.5	4194745
Surrogate Recovery (%)										
4-BROMOFLUOROBENZENE (sur.)	%	84	88	76	93	86	4198747	85		4194745
D4-1,2-DICHLOROETHANE (sur.)	%	97	101	76	98	87	4198747	78		4194745
D8-TOLUENE (sur.)	%	85	97	97	99	110	4198747	99		4194745

RDL = Reportable Detection Limit

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

Package 1	13.0°C
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Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4191780	Conductivity	2010/08/18			100	96 - 104	<1	uS/cm	2.3	20		
4192108	Fecal Coliforms	2010/08/18							NC	N/A		
4193335	Total Suspended Solids	2010/08/19			100	86 - 110	<1	mg/L	NC	20		
4194742	Nitrite (N)	2010/08/20	104	79 - 115	98	80 - 122	<0.002	mg/L	NC	20		
4194744	Nitrite (N)	2010/08/20	106	79 - 115	98	80 - 122	<0.002	mg/L	NC	20		
4194745	Chlorobenzene	2010/08/21	81	70 - 130	122	70 - 130	<0.5	ug/L				
4194745	Benzene	2010/08/21	NC	70 - 130	114	70 - 130	<0.5	ug/L	3.4	30		
4194745	Ethylbenzene	2010/08/21	NC	70 - 130	101	70 - 130	<0.5	ug/L	2.1	30		
4194745	m & p-Xylene	2010/08/21	NC	70 - 130	102	70 - 130	<1	ug/L	13.8	30		
4194745	o-Xylene	2010/08/21	NC	70 - 130	99	70 - 130	<0.5	ug/L	7.1	30		
4194745	Styrene	2010/08/21	154 ⁽¹⁾	70 - 130	99	70 - 130	<0.5	ug/L	NC	30		
4194745	Toluene	2010/08/21	NC	70 - 130	108	70 - 130	<0.5	ug/L	5.7	30		
4194745	1,1,1,2-tetrachloroethane	2010/08/21	95	70 - 130	124	70 - 130	<0.5	ug/L				
4194745	1,1,1-trichloroethane	2010/08/21	97	70 - 130	110	70 - 130	<0.5	ug/L				
4194745	1,1,2-trichloroethane	2010/08/21	105	70 - 130	132 ^(1, 2)	70 - 130	<0.5	ug/L				
4194745	1,1-dichloroethane	2010/08/21	100	70 - 130	119	70 - 130	<0.5	ug/L				
4194745	1,1-dichloroethene	2010/08/21	107	70 - 130	128	70 - 130	<0.5	ug/L				
4194745	1,2-dichloropropane	2010/08/21	92	70 - 130	118	70 - 130	<0.5	ug/L				
4194745	4-BROMOFLUOROBENZENE (sur.)	2010/08/21	70	70 - 130	90	70 - 130	83	%				
4194745	Bromodichloromethane	2010/08/21	101	70 - 130	119	70 - 130	<1	ug/L				
4194745	Bromoform	2010/08/21	78	70 - 130	111	70 - 130	<1	ug/L				
4194745	Bromomethane	2010/08/21	125	60 - 140	115	60 - 140	<1	ug/L				
4194745	Carbon tetrachloride	2010/08/21	85	70 - 130	129	70 - 130	<1	ug/L				
4194745	Chlorodibromomethane	2010/08/21	98	70 - 130	122	70 - 130	<1	ug/L				
4194745	Chloroethane	2010/08/21	103	60 - 140	128	60 - 140	<1	ug/L				
4194745	Chloroform	2010/08/21	93	70 - 130	125	70 - 130	<1	ug/L				
4194745	Chloromethane	2010/08/21	124	60 - 140	163 ^(1, 2)	60 - 140	<1	ug/L				
4194745	cis-1,2-dichloroethene	2010/08/21	105	70 - 130	122	70 - 130	<1	ug/L				
4194745	cis-1,3-dichloropropene	2010/08/21	91	70 - 130	91	70 - 130	<1	ug/L				
4194745	D4-1,2-DICHLOROETHANE (sur.)	2010/08/21	76	70 - 130	103	70 - 130	88	%				
4194745	D8-TOLUENE (sur.)	2010/08/21	72	70 - 130	96	70 - 130	94	%				
4194745	Dibromoethane	2010/08/21	99	70 - 130	118	70 - 130	<0.2	ug/L				
4194745	Methyl-tert-butylether (MTBE)	2010/08/21	84	70 - 130	99	70 - 130	<4	ug/L	NC	30		
4194745	Tetrachloroethene	2010/08/21	94	70 - 130	114	70 - 130	<0.5	ug/L				
4194745	trans-1,2-dichloroethene	2010/08/21	97	70 - 130	118	70 - 130	<1	ug/L				
4194745	Trichloroethene	2010/08/21	114	70 - 130	118	70 - 130	<0.5	ug/L				
4194745	Trichlorofluoromethane	2010/08/21	107	60 - 140	133	60 - 140	<4	ug/L				
4194745	Vinyl chloride	2010/08/21	106	60 - 140	137	60 - 140	<0.5	ug/L				
4194745	1,2-dichlorobenzene	2010/08/21			107	70 - 130	<0.5	ug/L				
4194745	1,3-dichlorobenzene	2010/08/21			101	70 - 130	<0.5	ug/L				

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4194745	1,4-dichlorobenzene	2010/08/21			99	70 - 130	<0.5	ug/L				
4194745	1,1,2,2-tetrachloroethane	2010/08/21			118	70 - 130	<0.5	ug/L				
4194745	1,2-dichloroethane	2010/08/21			116	70 - 130	<0.5	ug/L				
4194745	Dichloromethane	2010/08/21			104	70 - 130	<2	ug/L				
4194745	trans-1,3-dichloropropene	2010/08/21			143 ^(1,2)	70 - 130	<1	ug/L				
4194745	Xylenes (Total)	2010/08/21					<1	ug/L	12.3	30		
4194748	Nitrite (N)	2010/08/20	107	79 - 115	98	80 - 122	<0.002	mg/L	NC	20		
4194750	Nitrite (N)	2010/08/20	104	79 - 115	98	80 - 122	<0.002	mg/L	NC	20		
4194762	Nitrite (N)	2010/08/20	104	79 - 115	98	80 - 122	<0.002	mg/L	NC	20		
4196125	Nitrate plus Nitrite (N)	2010/08/20	92	80 - 120	102	80 - 120	<0.002	mg/L	4.4	20		
4196221	Nitrate plus Nitrite (N)	2010/08/20	86	80 - 120	102	80 - 120	<0.002	mg/L	0.4	20		
4196222	Nitrate plus Nitrite (N)	2010/08/20	86	80 - 120	102	80 - 120	<0.002	mg/L	1.1	20		
4196225	Nitrate plus Nitrite (N)	2010/08/20	93	80 - 120	102	80 - 120	<0.002	mg/L	2.9	20		
4196226	Nitrate plus Nitrite (N)	2010/08/20	86	80 - 120	102	80 - 120	<0.002	mg/L	2.7	20		
4197401	D10-ANTHRACENE (sur.)	2010/08/23	77	60 - 130	82	60 - 130	88	%				
4197401	D12-BENZO(A)PYRENE (sur.)	2010/08/23	85	60 - 130	87	60 - 130	93	%				
4197401	D8-ACENAPHTHYLENE (sur.)	2010/08/23	67	50 - 130	66	50 - 130	83	%				
4197401	D8-NAPHTHALENE (sur.)	2010/08/23	65	50 - 130	52	50 - 130	87	%				
4197401	TERPHENYL-D14 (sur.)	2010/08/23	90	60 - 130	87	60 - 130	91	%				
4197401	Naphthalene	2010/08/24	70	50 - 130	61	50 - 130	<0.05	ug/L	NC	40		
4197401	2-Methylnaphthalene	2010/08/24	70	50 - 130	63	50 - 130	<0.05	ug/L	NC	40		
4197401	Quinoline	2010/08/24	113	50 - 130	115	50 - 130	<0.05	ug/L	NC	40		
4197401	Acenaphthylene	2010/08/24	78	50 - 130	68	50 - 130	<0.01	ug/L	NC	40		
4197401	Acenaphthene	2010/08/24	74	50 - 130	70	50 - 130	<0.01	ug/L	NC	40		
4197401	Fluorene	2010/08/24	79	50 - 130	70	50 - 130	<0.01	ug/L	NC	40		
4197401	Phenanthrene	2010/08/24	89	60 - 130	84	60 - 130	<0.01	ug/L	NC	40		
4197401	Anthracene	2010/08/24	83	60 - 130	90	60 - 130	<0.01	ug/L	NC	40		
4197401	Acridine	2010/08/24	91	50 - 130	90	50 - 130	<0.05	ug/L	NC	40		
4197401	Fluoranthene	2010/08/24	90	60 - 130	92	60 - 130	<0.01	ug/L	NC	40		
4197401	Pyrene	2010/08/24	94	60 - 130	95	60 - 130	<0.01	ug/L	NC	40		
4197401	Benzo(a)anthracene	2010/08/24	90	60 - 130	90	60 - 130	<0.01	ug/L	NC	40		
4197401	Chrysene	2010/08/24	95	60 - 130	94	60 - 130	<0.01	ug/L	NC	40		
4197401	Benzo(b&j)fluoranthene	2010/08/24	95	60 - 130	93	60 - 130	<0.01	ug/L	NC	40		
4197401	Benzo(k)fluoranthene	2010/08/24	87	60 - 130	94	60 - 130	<0.01	ug/L	NC	40		
4197401	Benzo(a)pyrene	2010/08/24	90	60 - 130	94	60 - 130	<0.01	ug/L	NC	40		
4197401	Indeno(1,2,3-cd)pyrene	2010/08/24	89	60 - 130	92	60 - 130	<0.02	ug/L	NC	40		
4197401	Dibenz(a,h)anthracene	2010/08/24	85	60 - 130	86	60 - 130	<0.02	ug/L	NC	40		
4197401	Benzo(g,h,i)perylene	2010/08/24	89	60 - 130	92	60 - 130	<0.02	ug/L	NC	40		
4197747	VH C6-C10	2010/08/21					<300	ug/L	NC	40	100	70 - 130
4198603	2,4,6-TRIBROMOPHENOL (sur.)	2010/08/24			91	10 - 123	91	%				

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4198603	D5-PHENOL (sur.)	2010/08/24			66	10 - 94	41	%				
4198603	2,3,4,5-tetrachlorophenol	2010/08/24			101	14 - 176	<0.1	ug/L				
4198603	2,3,4,6-tetrachlorophenol	2010/08/24			71	14 - 176	<0.1	ug/L				
4198603	2,3,4-trichlorophenol	2010/08/24			92	37 - 144	<0.1	ug/L				
4198603	2,3,5,6-tetrachlorophenol	2010/08/24			89	14 - 176	<0.1	ug/L				
4198603	2,3,5-trichlorophenol	2010/08/24			91	37 - 144	<0.1	ug/L				
4198603	2,3,6-Trichlorophenol	2010/08/24			92	37 - 144	<0.1	ug/L				
4198603	2,3-Dichlorophenol	2010/08/24			91	39 - 135	<0.1	ug/L				
4198603	2,4 + 2,5-Dichlorophenol	2010/08/24			96	39 - 135	<0.1	ug/L				
4198603	2,4,5-trichlorophenol	2010/08/24			94	37 - 144	<0.1	ug/L				
4198603	2,4,6-trichlorophenol	2010/08/24			92	37 - 144	<0.1	ug/L				
4198603	2,4-dimethylphenol	2010/08/24			87	32 - 119	<0.5	ug/L				
4198603	2,4-dinitrophenol	2010/08/24			149	1 - 191	<0.5	ug/L				
4198603	2,6-dichlorophenol	2010/08/24			95	39 - 135	<0.1	ug/L				
4198603	2-chlorophenol	2010/08/24			95	27 - 123	<0.1	ug/L				
4198603	2-methylphenol	2010/08/24			87	25 - 120	<0.5	ug/L				
4198603	2-nitrophenol	2010/08/24			95	29 - 182	<0.5	ug/L				
4198603	3 & 4-chlorophenol	2010/08/24			78	27 - 123	<0.1	ug/L				
4198603	3 & 4-methylphenol	2010/08/24			82	25 - 120	<0.5	ug/L				
4198603	3,4,5-Trichlorophenol	2010/08/24			94	37 - 144	<0.1	ug/L				
4198603	3,4-Dichlorophenol	2010/08/24			89	39 - 135	<0.1	ug/L				
4198603	3,5-Dichlorophenol	2010/08/24			83	39 - 135	<0.1	ug/L				
4198603	4,6-dinitro-2-methylphenol	2010/08/24			115	1 - 181	<0.5	ug/L				
4198603	4-nitrophenol	2010/08/24			48	1 - 132	<0.5	ug/L				
4198603	Pentachlorophenol	2010/08/24			104	14 - 176	<0.1	ug/L				
4198603	Phenol	2010/08/24			46	12 - 110	<0.5	ug/L				
4198747	1,2-dichlorobenzene	2010/08/23	86	70 - 130	96	70 - 130	<0.5	ug/L	NC	30		
4198747	1,3-dichlorobenzene	2010/08/23	99	70 - 130	108	70 - 130	<0.5	ug/L	NC	30		
4198747	1,4-dichlorobenzene	2010/08/23	98	70 - 130	104	70 - 130	<0.5	ug/L	NC	30		
4198747	Chlorobenzene	2010/08/23	89	70 - 130	72	70 - 130	<0.5	ug/L	NC	30		
4198747	Benzene	2010/08/23	107	70 - 130	91	70 - 130	<0.5	ug/L	NC	30		
4198747	Ethylbenzene	2010/08/23	83	70 - 130	74	70 - 130	<0.5	ug/L	NC	30		
4198747	m & p-Xylene	2010/08/23	84	70 - 130	76	70 - 130	<1	ug/L	NC	30		
4198747	o-Xylene	2010/08/23	84	70 - 130	75	70 - 130	<0.5	ug/L	NC	30		
4198747	Toluene	2010/08/23	99	70 - 130	82	70 - 130	<0.5	ug/L	NC	30		
4198747	1,1,1,2-tetrachloroethane	2010/08/23	102	70 - 130	79	70 - 130	<0.5	ug/L	NC	30		
4198747	1,1,1-trichloroethane	2010/08/23	104	70 - 130	86	70 - 130	<0.5	ug/L	NC	30		
4198747	1,1,2,2-tetrachloroethane	2010/08/23	100	70 - 130	93	70 - 130	<0.5	ug/L	NC	30		
4198747	1,1,2-trichloroethane	2010/08/23	102	70 - 130	82	70 - 130	<0.5	ug/L	NC	30		
4198747	1,1-dichloroethane	2010/08/23	101	70 - 130	83	70 - 130	<0.5	ug/L	NC	30		

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4198747	1,1-dichloroethene	2010/08/23	102	70 - 130	92	70 - 130	<0.5	ug/L	NC	30		
4198747	1,2-dichloroethane	2010/08/23	99	70 - 130	81	70 - 130	<0.5	ug/L	NC	30		
4198747	1,2-dichloropropane	2010/08/23	92	70 - 130	87	70 - 130	<0.5	ug/L	NC	30		
4198747	4-BROMOFLUOROBENZENE (sur.)	2010/08/23	93	70 - 130	85	70 - 130	89	%				
4198747	Bromodichloromethane	2010/08/23	93	70 - 130	88	70 - 130	<1	ug/L				
4198747	Bromoform	2010/08/23	94	70 - 130	79	70 - 130	<1	ug/L				
4198747	Bromomethane	2010/08/23	104	60 - 140	89	60 - 140	<1	ug/L	NC	30		
4198747	Carbon tetrachloride	2010/08/23	103	70 - 130	91	70 - 130	<1	ug/L	NC	30		
4198747	Chlorodibromomethane	2010/08/23	114	70 - 130	74	70 - 130	<1	ug/L				
4198747	Chloroethane	2010/08/23	105	60 - 140	82	60 - 140	<1	ug/L	NC	30		
4198747	Chloroform	2010/08/23	NC	70 - 130	83	70 - 130	<1	ug/L	NC	30		
4198747	Chloromethane	2010/08/23	78	60 - 140	97	60 - 140	<1	ug/L				
4198747	cis-1,2-dichloroethene	2010/08/23	98	70 - 130	85	70 - 130	<1	ug/L	NC	30		
4198747	cis-1,3-dichloropropene	2010/08/23	89	70 - 130	76	70 - 130	<1	ug/L	NC	30		
4198747	D4-1,2-DICHLOROETHANE (sur.)	2010/08/23	111	70 - 130	86	70 - 130	97	%				
4198747	D8-TOLUENE (sur.)	2010/08/23	101	70 - 130	92	70 - 130	112	%				
4198747	Dibromoethane	2010/08/23	101	70 - 130	74	70 - 130	<0.2	ug/L	NC	30		
4198747	Dichloromethane	2010/08/23	88	70 - 130	82	70 - 130	<2	ug/L	NC	30		
4198747	Methyl-tert-butylether (MTBE)	2010/08/23	89	70 - 130	67 ^(1,2)	70 - 130	<4	ug/L	NC	30		
4198747	Tetrachloroethene	2010/08/23	106	70 - 130	92	70 - 130	<0.5	ug/L	NC	30		
4198747	trans-1,2-dichloroethene	2010/08/23	93	70 - 130	90	70 - 130	<1	ug/L	NC	30		
4198747	trans-1,3-dichloropropene	2010/08/23	112	70 - 130	77	70 - 130	<1	ug/L	NC	30		
4198747	Trichloroethene	2010/08/23	93	70 - 130	92	70 - 130	<0.5	ug/L	NC	30		
4198747	Trichlorofluoromethane	2010/08/23	109	60 - 140	95	60 - 140	<4	ug/L	NC	30		
4198747	Vinyl chloride	2010/08/23	101	60 - 140	82	60 - 140	<0.5	ug/L				
4198747	Styrene	2010/08/23			70	70 - 130	<0.5	ug/L	NC	30		
4198747	Xylenes (Total)	2010/08/23					<1	ug/L	NC	30		
4198792	VH C6-C10	2010/08/23					<300	ug/L			102	70 - 130
4200012	Total Mercury (Hg)	2010/08/23	93	80 - 120	95	80 - 120	<0.02	ug/L	NC	20		
4200117	Ammonia (N)	2010/08/23	NC	80 - 120	97	80 - 120	<0.005	mg/L	NC	20		
4202301	Total Calcium (Ca)	2010/08/24					<0.05	mg/L	1.3	20		
4202301	Total Magnesium (Mg)	2010/08/24					<0.05	mg/L	2.0	20		
4203534	Fluoride (F)	2010/08/24	95	80 - 120	93	80 - 120	<0.01	mg/L	NC	20		
4205143	2,4,6-TRIBROMOPHENOL (sur.)	2010/08/31			81	10 - 123	88	%				
4205143	2-FLUOROBIPHENYL (sur.)	2010/08/31			79	43 - 116	83	%				
4205143	TERPHENYL-D14 (sur.)	2010/08/31			86	33 - 141	85	%				
4205143	D5-PHENOL (sur.)	2010/08/31			58	10 - 94	42	%				
4205143	D5-NITROBENZENE (sur.)	2010/08/31			87	35 - 114	85	%				
4205143	Bis(2-ethylhexyl)phthalate	2010/08/31					<1	ug/L				
4205143	Butyl benzyl phthalate	2010/08/31					<5	ug/L				

Maxxam Job #: B072723
Report Date: 2010/09/27

WORLEYPARSONS
Client Project #: 09185

Sampler Initials: PH

QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4205143	Diethyl phthalate	2010/08/31					<3	ug/L				
4205143	Dimethyl phthalate	2010/08/31					<3	ug/L				
4205143	Di-n-butyl phthalate	2010/08/31					<1	ug/L				
4205143	Di-n-octyl phthalate	2010/08/31					<1	ug/L				
4206536	Dissolved Chloride (Cl)	2010/08/23	NC	80 - 120	99	80 - 120	<0.5	mg/L	1.2	20		
4206538	Dissolved Sulphate (SO4)	2010/08/23	NC	80 - 120	110	80 - 120	<0.5	mg/L	0.4	20		
4210620	Dissolved Chloride (Cl)	2010/08/24	NC	80 - 120	99	80 - 120	<0.5	mg/L	1.3	20		
4210685	Dissolved Sulphate (SO4)	2010/08/24	109	80 - 120	104	80 - 120	<0.5	mg/L	1.0	20		
4212960	Dissolved Chloride (Cl)	2010/08/26			98	80 - 120	<0.5	mg/L	1.8	20		
4212966	Dissolved Sulphate (SO4)	2010/08/26			106	80 - 120	<0.5	mg/L	NC	20		
4256363	Total Cadmium (Cd)	2010/09/15	100	80 - 120	96	80 - 120	<0.01	ug/L	9.8	25		
4256363	Total Copper (Cu)	2010/09/15	100	80 - 120	97	80 - 120	<0.05	ug/L	NC	25		
4256363	Total Lead (Pb)	2010/09/15	95	80 - 120	98	80 - 120	<0.05	ug/L	NC	25		
4256363	Total Nickel (Ni)	2010/09/15	108	80 - 120	94	80 - 120	<0.05	ug/L	3.5	25		
4256363	Total Zinc (Zn)	2010/09/15	101	80 - 120	95	80 - 120	<0.5	ug/L	NC	25		
4256363	Total Iron (Fe)	2010/09/15					<1	ug/L	1.1	25		
4256367	Dissolved Cadmium (Cd)	2010/09/15	96	80 - 120	95	80 - 120	<0.01	ug/L	19.2	25		
4256367	Dissolved Cobalt (Co)	2010/09/15	106	80 - 120	93	80 - 120	<0.05	ug/L	NC	25		
4256367	Dissolved Copper (Cu)	2010/09/15	101	80 - 120	97	80 - 120	<0.05	ug/L	NC	25		
4256367	Dissolved Lead (Pb)	2010/09/15	88	80 - 120	98	80 - 120	<0.05	ug/L	NC	25		
4256367	Dissolved Nickel (Ni)	2010/09/15	100	80 - 120	91	80 - 120	<0.05	ug/L	2.8	25		
4256367	Dissolved Zinc (Zn)	2010/09/15	102	80 - 120	91	80 - 120	<0.5	ug/L	NC	25		
4256367	Dissolved Iron (Fe)	2010/09/15					<1	ug/L	NC	25		
4256367	Dissolved Manganese (Mn)	2010/09/15					<0.2	ug/L	NC	25		

N/A = Not Applicable

RPD = Relative Percent Difference

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

(1) - Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(2) - LCS outside acceptance criteria (10% of analytes failure allowed)



WorleyParsons

resources & energy

CANTEST

Suite 1104 South Wing, 4464 Markam Street
Victoria BC
Tel: (250) 385 6112, Fax: (250) 382 6364

B 072723

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

WorleyParsons Canada Ltd.

Suite 106, 2780 veterans' Memorial Pkwy
Victoria BC, V9B 3S6
Tel: (250) 384 1499, Fax: (250) 384 1201



08313970

COC#:

PAGE 1 OF 2

Client: <u>WorleyParsons Canada Ltd.</u> Project Manager: <u>Jason Clarke</u> Address: <u>106-2780 Veteran Memorial Parkway</u> <u>Victoria, BC V9B 3S6</u> Tel #: <u>250-384-1499</u> Fax #: <u>250-384-1201</u> Email: <u>Jason.R.Clarke@worleyparsons.com</u> Project ID: <u>09185</u>			ANALYSES REQUESTED Enterococcus Faecal Coliform pH, Conductivity, TSS, Nitrate Major Anions Ammonia H2SO4 T Metal / Hardness / Mercury Hardness Diss. Trace Metals PBDEs PAHs Organochlorine Pesticides Chlorinated Phenolics VOCs Incl. BTEX Phthalates													<input type="checkbox"/> Invoice WorleyParsons <input type="checkbox"/> Report WorleyParsons <input type="checkbox"/> Digital WorleyParsons <input type="checkbox"/> PDF WorleyParsons <input type="checkbox"/> Invoice Client care of WorleyParson			
SAMPLE DESCRIPTION/ID	Maxxam ID	Date & Time Sampled (D/M/Y)															Comments	Sample Type	No. of Containers
1 1 Surface		Aug 17/2010 16:02	X	X	X	X	X	X	X	X	X	X	X	X	X			Sea Water	
2 1 Mid		9:55	X	X	X	X	X	X	X	X	X	X	X	X	X			Sea Water	
3 1 Bottom		9:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
4 2 Surface		10:45	X	X	X	X	X	X	X	X	X	X	X	X	X			Sea Water	
5 2 Mid		10:35	X	X	X	X	X	X	X	X	X	X	X	X	X			Sea Water	
6 2 Bottom		10:18	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
7 3 Surface		11:10	X	X	X	X	X	X	X	X	X	X	X	X	X			Sea Water	
8 3 Mid		11:05	X	X	X	X	X	X	X	X	X	X	X	X	X			Sea Water	
9 3 Bottom		11:54	X	X	X	X	X	X	X	X	X	X	X	X	X			Sea Water	
10 4 Surface		11:58	X	X	X	X	X	X	X	X	X	X	X	X	X			Sea Water	
11 4 Mid		12:50	X	X	X	X	X	X	X	X	X	X	X	X	X			Sea Water	
PLEASE FILL IN ALL THE REQUIRED AREAS BELOW																LABORATORY USE ONLY			
TAT (Turnaround Time) <input checked="" type="checkbox"/> STD <input type="checkbox"/> RUSH (2-DAY) <input type="checkbox"/> RUSH (1-DAY) <input type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> Hydrocarbon Screening			Regulatory Guideline <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> Other (specify) <input type="checkbox"/> Other (specify) <input type="checkbox"/> Special Detection Limits / Contaminant Type:					Reporting Format <input checked="" type="checkbox"/> AutoFax <input checked="" type="checkbox"/> AutoEmail <input checked="" type="checkbox"/> Mailing Address: If different than above <u>peter.howland@worleyparsons.com</u> <u>brian.lynch@worleyparsons.com</u>					Received by: <u>[Signature]</u> Date: <u>Aug 17/2010</u> Time: <u>16:20</u> Comment(s): <u>Public Workings</u> Work Order Number: Temperature: Laboratory prepared Containers: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal in Tecton Cooler: <input type="checkbox"/> Yes <input type="checkbox"/> No Due Date:						
DATE Required: TIME Required:			Sampled by: <u>[Signature]</u> Name (print): _____ Date: <u>Aug 17/2010</u>					Relinquished by: Name (print): _____ Date: _____					Date: Time:						

White: PSC Yellow: Mail Pink: Receiver Golden Rod: Customer Copy

08313971



CANTEST
 Suite 1104 South Wing, 4464 Markam Street
 Victoria BC
 Tel: (250) 385 6112, Fax: (250) 382 6364

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

WorleyParsons Canada Ltd.
 Suite 106, 2780 veterans' Memorial Pkwy
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COC#:

PAGE 2 OF 2

Client: <u>WorleyParsons Canada Ltd.</u> Project Manager: <u>Jason Clarke</u> Address: <u>106-2780 Veteran Memorial Parkway</u> <u>Victoria, BC V9B 3S6</u> Tel #: <u>250-384-1499</u> Fax #: <u>250-384-1201</u> Email: <u>Jason.R.Clarke@worleyparsons.com</u> Project ID: <u>09185</u>		ANALYSES REQUESTED Enterococcus Fecal Coliform pH, Conductivity, TSS, Nitre Major Anions Ammonia T Metal / Hardness / Mercu Hardness Diss. Trace Metals PBDEs PAHs Organochlorine Pesticides Chlorinated Phenolics VOCs Incl. BTEX <i>Phenolates</i>													<input type="checkbox"/> Invoice WorleyParsons <input type="checkbox"/> Report WorleyParsons <input type="checkbox"/> Digital WorleyParsons <input type="checkbox"/> PDF WorleyParsons <input type="checkbox"/> Invoice Client care of WorleyParson		
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SAMPLE DESCRIPTION/ID	Maxxam ID	Date & Time Sampled (D/M/Y)	Enterococcus	Fecal Coliform	pH, Conductivity, TSS, Nitre	Major Anions	Ammonia	T Metal / Hardness / Mercu	Hardness	Diss. Trace Metals	PBDEs	PAHs	Organochlorine Pesticides	Chlorinated Phenolics	VOCs Incl. BTEX	Phenolates	Comments	Sample Type	No. of Containers
12 4 Bottom		12:35	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
13 5 Surface		11:55	X	X	X	X	X	X	X	X								Sea Water	
14 5 Mid		11:45	X	X	X	X	X	X	X	X								Sea Water	
15 5 Bottom		11:28	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
16 6 Surface		8:28	X	X	X	X	X	X	X									Sea Water	
17 6 Mid		8:18	X	X	X	X	X	X	X									Sea Water	
18 6 Bottom		8:00	X	X	X	X	X	X	X									Sea Water	
19 Blank		14:46	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	
20 7 Surface		14:21	X	X	X	X	X	X	X									Sea Water	
21 7 Mid		14:13	X	X	X	X	X	X	X									Sea Water	
22 7 Bottom		13:56	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Sea Water	

PLEASE FILL IN ALL THE REQUIRED AREAS BELOW

LABORATORY USE ONLY

TAT (Turnaround Time) <input checked="" type="checkbox"/> STD <input type="checkbox"/> RUSH (2-DAY) <input type="checkbox"/> RUSH (1-DAY) <input type="checkbox"/> RUSH (Same Day) <input type="checkbox"/> Hydrocarbon Screening		Regulatory Guideline <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> Other (specify) <input type="checkbox"/> Other (specify) <input type="checkbox"/> Special Detection Limits / Contaminant Type:		Reporting Format <input checked="" type="checkbox"/> AutoFax <input checked="" type="checkbox"/> AutoEmail <input checked="" type="checkbox"/> Mailing Address: If different than above <u>peter.howland@worleyparsons.com</u> <u>brian.lynch@worleyparsons.com</u>		Received by: <u>[Signature]</u> Date: <u>17 Aug 2010</u> Time: <u>16:20</u> Comment(s): <u>Robert Ward brought</u> Work Order Number: Temperature: Laboratory prepared Containers: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal in Tact on Cooler <input type="checkbox"/> Yes <input type="checkbox"/> No Due Date:	
DATE Required: TIME Required:		Sampled by: <u>[Signature]</u> Name (print): _____ Date: <u>Aug 17/ 2010</u>		Reinquished by: Name (print): _____ Date: _____		Date: Time:	

White: PSC Yellow: Mail Pink: Receiver Golden Rod: Customer Copy

Your Project #: B072723
 Your C.O.C. #: N/A

Attention: Debbie Nordbruket

Maxxam Analytics
 Vancouver Island Technology
 Park 1104-4464
 Victoria, BC
 CANADA V8Z 7X8

Report Date: 2010/08/27

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0B4109

Received: 2010/08/20, 09:23

Sample Matrix: Water
 # Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
OC Pesticides (Selected) & PCB (1)	6	2010/08/23	2010/08/24	CAM SOP-00307	SW846 8081,8082

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Chlordane (Total) = Alpha Chlordane + Gamma Chlordane

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
 Email: ABrasil@maxxamanalytics.com
 Phone# (905) 817-5817

=====
 Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Maxxam Job #: B0B4109
 Report Date: 2010/08/27

 Maxxam Analytics
 Client Project #: B072723

ORGANOCHLORINATED PESTICIDES BY GC-ECD (WATER)

Maxxam ID		GX0739	GX0740	GX0741	GX0742	GX0743		
Sampling Date		2010/08/17	2010/08/17	2010/08/17	2010/08/17	2010/08/17		
COC Number		N/A	N/A	N/A	N/A	N/A		
	Units	W29468-10R1 BOTTOM	W29471-09R12 BOTTOM	W29563-09R14 BOTTOM	W29566-10R15 BOTTOM	W29570-10R1BLANK	RDL	QC Batch

Pesticides & Herbicides								
Aldrin + Dieldrin	ug/L	ND	ND	ND	ND	ND	0.005	2243688
Aroclor 1262	ug/L	ND	ND	ND	ND	ND	0.05	2243688
Aroclor 1268	ug/L	ND	ND	ND	ND	ND	0.05	2243688
Aldrin	ug/L	ND	ND	ND	ND	ND	0.005	2243688
alpha-BHC	ug/L	ND	ND	ND	ND	ND	0.005	2243688
beta-BHC	ug/L	ND	ND	ND	ND	ND	0.005	2243688
delta-BHC	ug/L	ND	ND	ND	ND	ND	0.005	2243688
a-Chlordane	ug/L	ND	ND	ND	ND	ND	0.005	2243688
g-Chlordane	ug/L	ND	ND	ND	ND	ND	0.005	2243688
Chlordane (Total)	ug/L	ND	ND	ND	ND	ND	0.005	2243688
o,p-DDD	ug/L	ND	ND	ND	ND	ND	0.005	2243688
p,p-DDD	ug/L	ND	ND	ND	ND	ND	0.005	2243688
o,p-DDD + p,p-DDD	ug/L	ND	ND	ND	ND	ND	0.005	2243688
o,p-DDE	ug/L	ND	ND	ND	ND	ND	0.005	2243688
p,p-DDE	ug/L	ND	ND	ND	ND	ND	0.005	2243688
o,p-DDE + p,p-DDE	ug/L	ND	ND	ND	ND	ND	0.005	2243688
o,p-DDT	ug/L	ND	ND	ND	ND	ND	0.005	2243688
p,p-DDT	ug/L	ND	ND	ND	ND	ND	0.005	2243688
o,p-DDT + p,p-DDT	ug/L	ND	ND	ND	ND	ND	0.005	2243688
DDT+ Metabolites	ug/L	ND	ND	ND	ND	ND	0.005	2243688
Dieldrin	ug/L	ND	ND	ND	ND	ND	0.005	2243688
Endosulfan I (alpha)	ug/L	ND	ND	ND	ND	ND	0.005	2243688
Endosulfan II	ug/L	ND	ND	ND	ND	ND	0.005	2243688
Endosulfan sulfate	ug/L	ND	ND	ND	ND	ND	0.005	2243688
Total Endosulfan	ug/L	ND	ND	ND	ND	ND	0.005	2243688
Endrin	ug/L	ND	ND	ND	ND	ND	0.005	2243688
Endrin aldehyde	ug/L	ND	ND	ND	ND	ND	0.005	2243688
Endrin ketone	ug/L	ND	ND	ND	ND	ND	0.005	2243688
Heptachlor	ug/L	ND	ND	ND	ND	ND	0.005	2243688
Heptachlor epoxide	ug/L	ND	ND	ND	ND	ND	0.005	2243688

ND = Not detected
 N/A = Not Applicable
 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0B4109
 Report Date: 2010/08/27

Maxxam Analytics
 Client Project #: B072723

ORGANOCHLORINATED PESTICIDES BY GC-ECD (WATER)

Maxxam ID		GX0739	GX0740	GX0741	GX0742	GX0743		
Sampling Date		2010/08/17	2010/08/17	2010/08/17	2010/08/17	2010/08/17		
COC Number		N/A	N/A	N/A	N/A	N/A		
	Units	W29468-10R1 BOTTOM	W29471-09R12 BOTTOM	W29563-09R14 BOTTOM	W29566-10R15 BOTTOM	W29570-10R1 BLANK	RDL	QC Batch

Hexachlorobenzene	ug/L	ND	ND	ND	ND	ND	0.005	2243688
Lindane	ug/L	ND	ND	ND	ND	ND	0.003	2243688
Methoxychlor	ug/L	ND	ND	ND	ND	ND	0.01	2243688
Mirex	ug/L	ND	ND	ND	ND	ND	0.005	2243688
Octachlorostyrene	ug/L	ND	ND	ND	ND	ND	0.005	2243688
Total PCB	ug/L	ND	ND	ND	ND	ND	0.05	2243688
Aroclor 1016	ug/L	ND	ND	ND	ND	ND	0.05	2243688
Aroclor 1221	ug/L	ND	ND	ND	ND	ND	0.05	2243688
Aroclor 1232	ug/L	ND	ND	ND	ND	ND	0.05	2243688
Aroclor 1242	ug/L	ND	ND	ND	ND	ND	0.05	2243688
Aroclor 1248	ug/L	ND	ND	ND	ND	ND	0.05	2243688
Aroclor 1254	ug/L	ND	ND	ND	ND	ND	0.05	2243688
Aroclor 1260	ug/L	ND	ND	ND	ND	ND	0.05	2243688
Toxaphene	ug/L	ND	ND	ND	ND	ND	0.2	2243688
Surrogate Recovery (%)								
2,4,5,6-Tetrachloro-m-xylene	%	70	56	50	56	67		2243688
Decachlorobiphenyl	%	81	91	90	85	87		2243688

ND = Not detected
 N/A = Not Applicable
 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0B4109
 Report Date: 2010/08/27

 Maxxam Analytics
 Client Project #: B072723

ORGANOCHLORINATED PESTICIDES BY GC-ECD (WATER)

Maxxam ID		G X 0 7 4 4		
Sampling Date		2010/08/17		
COC Number		N/A		
	Units	W29573-10R17 BOTTOM	RDL	QC Batch

Pesticides & Herbicides				
Aldrin + Dieldrin	ug/L	ND	0.005	2243688
Aroclor 1262	ug/L	ND	0.05	2243688
Aroclor 1268	ug/L	ND	0.05	2243688
Aldrin	ug/L	ND	0.005	2243688
alpha-BHC	ug/L	ND	0.005	2243688
beta-BHC	ug/L	ND	0.005	2243688
delta-BHC	ug/L	ND	0.005	2243688
a-Chlordane	ug/L	ND	0.005	2243688
g-Chlordane	ug/L	ND	0.005	2243688
Chlordane (Total)	ug/L	ND	0.005	2243688
o,p-DDD	ug/L	ND	0.005	2243688
p,p-DDD	ug/L	ND	0.005	2243688
o,p-DDD + p,p-DDD	ug/L	ND	0.005	2243688
o,p-DDE	ug/L	ND	0.005	2243688
p,p-DDE	ug/L	ND	0.005	2243688
o,p-DDE + p,p-DDE	ug/L	ND	0.005	2243688
o,p-DDT	ug/L	ND	0.005	2243688
p,p-DDT	ug/L	ND	0.005	2243688
o,p-DDT + p,p-DDT	ug/L	ND	0.005	2243688
DDT+ Metabolites	ug/L	ND	0.005	2243688
Dieldrin	ug/L	ND	0.005	2243688
Endosulfan I (alpha)	ug/L	ND	0.005	2243688
Endosulfan II	ug/L	ND	0.005	2243688
Endosulfan sulfate	ug/L	ND	0.005	2243688
Total Endosulfan	ug/L	ND	0.005	2243688
Endrin	ug/L	ND	0.005	2243688
Endrin aldehyde	ug/L	ND	0.005	2243688
Endrin ketone	ug/L	ND	0.005	2243688
Heptachlor	ug/L	ND	0.005	2243688
Heptachlor epoxide	ug/L	ND	0.005	2243688
ND = Not detected N/A = Not Applicable RDL = Reportable Detection Limit QC Batch = Quality Control Batch				

Maxxam Job #: B0B4109
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Maxxam Analytics
 Client Project #: B072723

ORGANOCHLORINATED PESTICIDES BY GC-ECD (WATER)

Maxxam ID		G X 0 7 4 4		
Sampling Date		2010/08/17		
COC Number		N/A		
	Units	W29573-10R17 BOTTOM	RDL	QC Batch

Hexachlorobenzene	ug/L	ND	0.005	2243688
Lindane	ug/L	ND	0.003	2243688
Methoxychlor	ug/L	ND	0.01	2243688
Mirex	ug/L	ND	0.005	2243688
Octachlorostyrene	ug/L	ND	0.005	2243688
Total PCB	ug/L	ND	0.05	2243688
Aroclor 1016	ug/L	ND	0.05	2243688
Aroclor 1221	ug/L	ND	0.05	2243688
Aroclor 1232	ug/L	ND	0.05	2243688
Aroclor 1242	ug/L	ND	0.05	2243688
Aroclor 1248	ug/L	ND	0.05	2243688
Aroclor 1254	ug/L	ND	0.05	2243688
Aroclor 1260	ug/L	ND	0.05	2243688
Toxaphene	ug/L	ND	0.2	2243688
Surrogate Recovery (%)				
2,4,5,6-Tetrachloro-m-xylene	%	52		2243688
Decachlorobiphenyl	%	89		2243688

ND = Not detected
 N/A = Not Applicable
 RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch

Maxxam Job #: B0B4109
Report Date: 2010/08/27

Maxxam Analytics
Client Project #: B072723

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics
 Attention: Debbie Nordbruket
 Client Project #: B072723
 P.O. #:
 Project name:

Quality Assurance Report

Maxxam Job Number: MB0B4109

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2243688 DH	Matrix Spike	2,4,5,6-Tetrachloro-m-xylene	2010/08/24		98	%	40 - 130
		Decachlorobiphenyl	2010/08/24		83	%	40 - 130
		Aldrin	2010/08/24		97	%	30 - 130
		alpha-BHC	2010/08/24		102	%	30 - 130
		beta-BHC	2010/08/24		77	%	30 - 130
		delta-BHC	2010/08/24		86	%	30 - 130
		a-Chlordane	2010/08/24		106	%	30 - 130
		g-Chlordane	2010/08/24		104	%	30 - 130
		o,p-DDD	2010/08/24		83	%	40 - 130
		p,p-DDD	2010/08/24		97	%	30 - 130
		o,p-DDE	2010/08/24		94	%	40 - 130
		p,p-DDE	2010/08/24		84	%	30 - 130
		o,p-DDT	2010/08/24		88	%	40 - 130
		p,p-DDT	2010/08/24		94	%	30 - 130
		Dieldrin	2010/08/24		101	%	36 - 130
		Endosulfan I (alpha)	2010/08/24		101	%	30 - 130
		Endosulfan II	2010/08/24		98	%	30 - 130
		Endosulfan sulfate	2010/08/24		85	%	30 - 130
		Endrin	2010/08/24		84	%	30 - 130
		Endrin aldehyde	2010/08/24		92	%	40 - 130
		Endrin ketone	2010/08/24		90	%	40 - 130
		Heptachlor	2010/08/24		79	%	30 - 130
		Heptachlor epoxide	2010/08/24		105	%	30 - 130
		Hexachlorobenzene	2010/08/24		95	%	30 - 130
		Lindane	2010/08/24		92	%	30 - 130
		Methoxychlor	2010/08/24		120	%	40 - 130
		Mirex	2010/08/24		93	%	40 - 130
		Octachlorostyrene	2010/08/24		108	%	30 - 130
	Spiked Blank	2,4,5,6-Tetrachloro-m-xylene	2010/08/24		109	%	40 - 130
		Decachlorobiphenyl	2010/08/24		80	%	40 - 130
		Aldrin	2010/08/24		100	%	30 - 130
		alpha-BHC	2010/08/24		106	%	30 - 130
		beta-BHC	2010/08/24		81	%	30 - 130
		delta-BHC	2010/08/24		85	%	30 - 130
		a-Chlordane	2010/08/24		111	%	30 - 130
		g-Chlordane	2010/08/24		107	%	30 - 130
		o,p-DDD	2010/08/24		87	%	40 - 130
		p,p-DDD	2010/08/24		99	%	30 - 130
		o,p-DDE	2010/08/24		96	%	40 - 130
		p,p-DDE	2010/08/24		85	%	30 - 130
		o,p-DDT	2010/08/24		88	%	40 - 130
		p,p-DDT	2010/08/24		90	%	30 - 130
		Dieldrin	2010/08/24		103	%	36 - 130
		Endosulfan I (alpha)	2010/08/24		103	%	30 - 130
		Endosulfan II	2010/08/24		100	%	30 - 130
		Endosulfan sulfate	2010/08/24		85	%	30 - 130
		Endrin	2010/08/24		80	%	30 - 130
		Endrin aldehyde	2010/08/24		99	%	40 - 130
		Endrin ketone	2010/08/24		89	%	40 - 130
		Heptachlor	2010/08/24		79	%	30 - 130
		Heptachlor epoxide	2010/08/24		108	%	30 - 130
		Hexachlorobenzene	2010/08/24		100	%	30 - 130
		Lindane	2010/08/24		98	%	30 - 130
		Methoxychlor	2010/08/24		114	%	40 - 130
		Mirex	2010/08/24		93	%	40 - 130

Maxxam Analytics
 Attention: Debbie Nordbruket
 Client Project #: B072723
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0B4109

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2243688 DH	Spiked Blank	Octachlorostyrene	2010/08/24		91	%	30 - 130
	RPD	Total PCB	2010/08/24	NC		%	40
		Aroclor 1242	2010/08/24	NC		%	40
		Toxaphene	2010/08/24	NC		%	40
	Method Blank	2,4,5,6-Tetrachloro-m-xylene	2010/08/24		96	%	40 - 130
		Decachlorobiphenyl	2010/08/24		79	%	40 - 130
		Aldrin + Dieldrin	2010/08/24	ND, RDL=0.005		ug/L	
		Aroclor 1262	2010/08/24	ND, RDL=0.05		ug/L	
		Aroclor 1268	2010/08/24	ND, RDL=0.05		ug/L	
		Aldrin	2010/08/24	ND, RDL=0.005		ug/L	
		alpha-BHC	2010/08/24	ND, RDL=0.005		ug/L	
		beta-BHC	2010/08/24	ND, RDL=0.005		ug/L	
		delta-BHC	2010/08/24	ND, RDL=0.005		ug/L	
		a-Chlordane	2010/08/24	ND, RDL=0.005		ug/L	
		g-Chlordane	2010/08/24	ND, RDL=0.005		ug/L	
		Chlordane (Total)	2010/08/24	ND, RDL=0.005		ug/L	
		o,p-DDD	2010/08/24	ND, RDL=0.005		ug/L	
		p,p-DDD	2010/08/24	ND, RDL=0.005		ug/L	
		o,p-DDD + p,p-DDD	2010/08/24	ND, RDL=0.005		ug/L	
		o,p-DDE	2010/08/24	ND, RDL=0.005		ug/L	
		p,p-DDE	2010/08/24	ND, RDL=0.005		ug/L	
		o,p-DDE + p,p-DDE	2010/08/24	ND, RDL=0.005		ug/L	
		o,p-DDT	2010/08/24	ND, RDL=0.005		ug/L	
		p,p-DDT	2010/08/24	ND, RDL=0.005		ug/L	
		o,p-DDT + p,p-DDT	2010/08/24	ND, RDL=0.005		ug/L	
		DDT+ Metabolites	2010/08/24	ND, RDL=0.005		ug/L	
		Dieldrin	2010/08/24	ND, RDL=0.005		ug/L	
		Endosulfan I (alpha)	2010/08/24	ND, RDL=0.005		ug/L	
		Endosulfan II	2010/08/24	ND, RDL=0.005		ug/L	
		Endosulfan sulfate	2010/08/24	ND, RDL=0.005		ug/L	
		Total Endosulfan	2010/08/24	ND, RDL=0.005		ug/L	
		Endrin	2010/08/24	ND, RDL=0.005		ug/L	
		Endrin aldehyde	2010/08/24	ND, RDL=0.005		ug/L	
		Endrin ketone	2010/08/24	ND, RDL=0.005		ug/L	
		Heptachlor	2010/08/24	ND, RDL=0.005		ug/L	
		Heptachlor epoxide	2010/08/24	ND, RDL=0.005		ug/L	
		Hexachlorobenzene	2010/08/24	ND, RDL=0.005		ug/L	
		Lindane	2010/08/24	ND, RDL=0.003		ug/L	
		Methoxychlor	2010/08/24	ND, RDL=0.01		ug/L	
		Mirex	2010/08/24	ND, RDL=0.005		ug/L	
		Octachlorostyrene	2010/08/24	ND, RDL=0.005		ug/L	
		Total PCB	2010/08/24	ND, RDL=0.05		ug/L	
		Aroclor 1016	2010/08/24	ND, RDL=0.05		ug/L	
		Aroclor 1221	2010/08/24	ND, RDL=0.05		ug/L	
		Aroclor 1232	2010/08/24	ND, RDL=0.05		ug/L	
		Aroclor 1242	2010/08/24	ND, RDL=0.05		ug/L	
		Aroclor 1248	2010/08/24	ND, RDL=0.05		ug/L	
		Aroclor 1254	2010/08/24	ND, RDL=0.05		ug/L	
		Aroclor 1260	2010/08/24	ND, RDL=0.05		ug/L	
		Toxaphene	2010/08/24	ND, RDL=0.2		ug/L	
	RPD [GX 0739-01]	Aldrin + Dieldrin	2010/08/24	NC		%	40
		Aroclor 1262	2010/08/24	NC		%	40
		Aroclor 1268	2010/08/24	NC		%	40
		Aldrin	2010/08/24	NC		%	40
		alpha-BHC	2010/08/24	NC		%	40

Maxxam Analytics
 Attention: Debbie Nordbruket
 Client Project #: B072723
 P.O. #:
 Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0B4109

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2243688 DH	RPD [GX0739-01]	beta-BHC	2010/08/24	NC		%	40
		delta-BHC	2010/08/24	NC		%	40
		a-Chlordane	2010/08/24	NC		%	40
		g-Chlordane	2010/08/24	NC		%	40
		Chlordane (Total)	2010/08/24	NC		%	40
		o,p-DDD	2010/08/24	NC		%	40
		p,p-DDD	2010/08/24	NC		%	40
		o,p-DDD + p,p-DDD	2010/08/24	NC		%	40
		o,p-DDE	2010/08/24	NC		%	40
		p,p-DDE	2010/08/24	NC		%	40
		o,p-DDE + p,p-DDE	2010/08/24	NC		%	40
		o,p-DDT	2010/08/24	NC		%	40
		p,p-DDT	2010/08/24	NC		%	40
		o,p-DDT + p,p-DDT	2010/08/24	NC		%	40
		DDT+ Metabolites	2010/08/24	NC		%	40
		Dieldrin	2010/08/24	NC		%	40
		Endosulfan I (alpha)	2010/08/24	NC		%	40
		Endosulfan II	2010/08/24	NC		%	40
		Endosulfan sulfate	2010/08/24	NC		%	40
		Total Endosulfan	2010/08/24	NC		%	40
		Endrin	2010/08/24	NC		%	40
		Endrin aldehyde	2010/08/24	NC		%	40
		Endrin ketone	2010/08/24	NC		%	40
		Heptachlor	2010/08/24	NC		%	40
		Heptachlor epoxide	2010/08/24	NC		%	40
		Hexachlorobenzene	2010/08/24	NC		%	40
		Lindane	2010/08/24	NC		%	40
		Methoxychlor	2010/08/24	NC		%	40
		Mirex	2010/08/24	NC		%	40
		Octachlorostyrene	2010/08/24	NC		%	40
		Total PCB	2010/08/24	NC		%	40
		Aroclor 1016	2010/08/24	NC		%	40
		Aroclor 1221	2010/08/24	NC		%	40
		Aroclor 1232	2010/08/24	NC		%	40
		Aroclor 1242	2010/08/24	NC		%	40
		Aroclor 1248	2010/08/24	NC		%	40
		Aroclor 1254	2010/08/24	NC		%	40
		Aroclor 1260	2010/08/24	NC		%	40
		Toxaphene	2010/08/24	NC		%	40

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
 Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
 Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
 Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.
 NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B0B4109

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



CHARLES ANCKER, B.Sc., M.Sc., C.Chem, Senior Analyst

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BATCH SUMMARY

Batch ID: WG33687	Date: 20-Sep-2010
Analysis Type: Polybrominated Diphenylether	Matrix Type: Aqueous
BATCH MAKEUP	
Contract: 2520 Samples: L15145-1 V93321-06R L15145-2 V93252-10R L15145-3 V93255-10R L15145-4 V93322-06R L15145-6 V93324-06R L15145-7 V93325-06R L15145-8 V93326-06R L15215-1 W29570-08R L15215-2 W29468-08R L15215-3 W29471-07R L15215-4 W29563-07R L15215-5 W29566-08R L15215-6 W29573-08R	Blank: WG33687-101 Reference or Spike: WG33687-102 Duplicate:
Comments: <ol style="list-style-type: none"> 1. Data are not blank corrected. 2. Elevated target concentrations above the method control limits were observed in the Lab Blank (Axys ID: WG33687-101). Reported concentrations in the samples should be interpreted as maximum values as they are lower or at similar level to that of the Lab Blank. As noted above, sample analyte concentrations are not blank corrected and blank levels should be considered during sample data review. 3. The recovery of ¹³C-labelled DPE-154 and ¹³C-labelled DPE-139 in W29468-08R (AXYS ID: L15215-2) did not meet the method criteria; these compounds are flagged with a 'V'. As the isotope dilution method of quantification produces data that are recovery corrected, the slight variances from the method acceptance criteria are deemed not to significantly affect the quantification of these analytes. Percent surrogate recoveries are used as general method performance indicator only. 4. A disturbance of the mass ion used to monitor instrument performance (lock-mass) was observed at retention time corresponding to DPE154 and DPE138/166 in V93321-06R, V93255-10R, V93322-06R, V93324-06R, V93325-06R and V93326-06R (Axys IDs: L15145-1, -3, -4, -6, -7 and -8, respectively) which are known to be due to alkanes. The variation in the lock mass is deemed not to significantly affect the data and these compounds have been flagged with a 'G'. 	



Form 3A

BROMINATED DIPHENYLETHER INITIAL CALIBRATION RELATIVE RESPONSES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010

Instrument ID: HR GC/MS

GC Column ID: DB5HT

CS0 Data Filename: N/A
 CS1 Data Filename: BE01_164W S: 2
 CS2 Data Filename: BE01_164X S: 2
 CS3 Data Filename: BE01_164X S: 3
 CS4 Data Filename: BE01_164X S: 5
 CS5 Data Filename: BE01_164X S: 4
 CS6 Data Filename: N/A

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	RELATIVE RESPONSE (RR)						MEAN RR	CV ² (%RSD)
				CS0	CS1	CS2	CS3	CS4	CS5			CS6
2,4,4'-TriBDE	28	28 + 33	C	0.99	0.91	0.95	0.94	0.91	0.94	3.71	
2',3,4-TriBDE	33	28 + 33	C28								
2,2',4,4'-TeBDE	47			1.13	1.13	1.20	1.18	1.19	1.16	2.80	
2,2',4,4',5-PeBDE	99			1.20	1.16	1.13	1.19	1.11	1.16	3.37	
2,2',4,4',6-PeBDE	100			1.23	1.20	1.20	1.19	1.19	1.20	1.29	
2,2',4,4',5,5'-HxBDE	153			1.11	1.07	1.13	1.10	1.10	1.10	2.01	
2,2',4,4',5,6'-HxBDE	154			1.45	1.29	1.29	1.35	1.30	1.33	5.08	
2,2',3,4,4',5',6-HpBDE	183			1.26	1.10	1.08	1.08	1.09	1.12	6.76	
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			1.12	1.15	1.23	1.20	1.19	1.18	3.78	

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
 (2) For contract CV specifications, see Section 10.4.4, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Kirsten Anderson_____



Form 3B

BROMINATED DIPHENYLETHER INITIAL CALIBRATION RELATIVE RESPONSES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010

Instrument ID: HR GC/MS

GC Column ID: DB5HT

CS0 Data Filename: N/A
 CS1 Data Filename: BE01_164W S: 2
 CS2 Data Filename: BE01_164X S: 2
 CS3 Data Filename: BE01_164X S: 3
 CS4 Data Filename: BE01_164X S: 5
 CS5 Data Filename: BE01_164X S: 4
 CS6 Data Filename: N/A

COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	RELATIVE RESPONSE (RR)						MEAN RR	CV ³ (%RSD)	
				CS0	CS1	CS2	CS3	CS4	CS5			CS6
13C12-2,4,4'-TriBDE	28L				2.29	2.03	2.25	2.40	3.20		2.43	18.5
13C12-2,2',4,4'-TeBDE	47L				0.92	0.90	0.92	1.13	1.51		1.08	24.1
13C12-2,2',4,4',5-PeBDE	99L				1.07	1.00	1.11	1.25	1.79		1.24	25.4
13C12-2,2',4,4',6-PeBDE	100L				1.52	1.48	1.60	1.86	2.41		1.77	21.5
13C12-2,2',4,4',5,5'-HxBDE	153L				1.99	2.05	2.06	2.64	3.97		2.54	33.2
13C12-2,2',4,4',5,6'-HxBDE	154L				2.78	2.74	2.87	3.34	5.06		3.36	29.2
13C12-2,2',3,4,4',5,6-HpBDE	183L				1.52	1.62	1.60	1.85	2.51		1.82	22.1
CLEAN-UP STANDARD												
13C12-2,2',3,4,4',6-HxBDE	139L				2.28	2.27	2.27	2.39	2.62		2.36	6.32

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (3) For contract CV specifications, see Section 10.5.6, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Kirsten Anderson _____



BROMINATED DIPHENYLETHER INITIAL CALIBRATION ION ABUNDANCE RATIOS

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010

Instrument ID: HR GC/MS

GC Column ID: DB5HT

CS0 Data Filename: N/A
 CS1 Data Filename: BE01_164W S: 2
 CS2 Data Filename: BE01_164X S: 2
 CS3 Data Filename: BE01_164X S: 3
 CS4 Data Filename: BE01_164X S: 5
 CS5 Data Filename: BE01_164X S: 4
 CS6 Data Filename: N/A

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	M/Z's FORMING RATIO ²	ION ABUNDANCE RATIO						QC LIMITS ²
					CS0	CS1	CS2	CS3	CS4	CS5		CS6
2,4,4'-TriBDE	28	28 + 33	C	M+2/M+4	0.98	1.07	1.08	1.05	1.05		0.88-1.18
2',3,4-TriBDE	33	28 + 33	C28								
2,2',4,4'-TeBDE	47			M+2/M+4	0.67	0.72	0.71	0.67	0.69		0.60-0.81
2,2',4,4',5-PeBDE	99			M+4/M+6	0.94	1.09	1.07	1.07	1.05		0.88-1.18
2,2',4,4',6-PeBDE	100			M+4/M+6	0.95	1.07	1.05	1.05	1.06		0.88-1.18
2,2',4,4',5,5'-HxBDE	153			M+4/M+6	0.66	0.78	0.79	0.76	0.77		0.65-0.89
2,2',4,4',5,6'-HxBDE	154			M+4/M+6	0.88	0.76	0.78	0.77	0.77		0.65-0.89
2,2',3,4,4',5,6'-HpBDE	183			M+6/M+8	1.07	1.00	1.04	1.02	1.02		0.88-1.18
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			M+8/M+10	0.80	0.88	0.83	0.85	0.85		0.73-0.99

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) See Table 8 Method 1614 for m/z specifications and ion abundance ratio control limits; QC Limits apply to CS2 to CS5 only.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Kirsten Anderson _____



BROMINATED DIPHENYLETHER INITIAL CALIBRATION ION ABUNDANCE RATIOS

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010

Instrument ID: HR GC/MS

GC Column ID: DB5HT

CS0 Data Filename: N/A
 CS1 Data Filename: BE01_164W S: 2
 CS2 Data Filename: BE01_164X S: 2
 CS3 Data Filename: BE01_164X S: 3
 CS4 Data Filename: BE01_164X S: 5
 CS5 Data Filename: BE01_164X S: 4
 CS6 Data Filename: N/A

LABELED COMPOUND	IUPAC NO. ¹	CO- ELUTIONS	LAB FLAG ²	M/Z's FORMING RATIO ³	ION ABUNDANCE RATIO						QC LIMITS ³
					CS0	CS1	CS2	CS3	CS4	CS5		CS6
13C12-2,4,4'-TriBDE	28L			M+2/M+4		1.03	1.03	1.05	1.03	1.05	0.88-1.18
13C12-2,2',4,4'-TeBDE	47L			M+4/M+6		1.51	1.53	1.61	1.53	1.56	1.31-1.77
13C12-2,2',4,4',5-PeBDE	99L			M+4/M+6		1.02	1.03	1.03	1.06	1.05	0.88-1.18
13C12-2,2',4,4',6-PeBDE	100L			M+4/M+6		1.07	1.03	1.04	1.02	1.06	0.88-1.18
13C12-2,2',4,4',5,5'-HxBDE	153L			M+6/M+8		1.37	1.33	1.35	1.39	1.40	1.16-1.58
13C12-2,2',4,4',5,6'-HxBDE	154L			M+6/M+8		1.38	1.39	1.38	1.41	1.40	1.16-1.58
13C12-2,2',3,4,4',5',6-HpBDE	183L			M+6/M+8		1.03	1.01	1.05	1.01	1.07	0.88-1.18
CLEAN-UP STANDARD											
13C12-2,2',3,4,4',6-HxBDE	139L			M+6/M+8		1.42	1.37	1.41	1.35	1.37	1.16-1.58

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(3) See Table 8 Method 1614 for m/z specifications and ion abundance ratio control limits.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Kirsten Anderson_____



BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185
Lab Sample I.D.: L15145-1 R

Matrix: AQUEOUS

Sample Size: 1.05 L

Sample Receipt Date: 05-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Sep-2010 Time: 02:14:10

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_200 S: 4

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_200 S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		1.15		
2,4'-DiBDE	8	8 + 11	C ND		0.952		
2,6-DiBDE	10		ND		1.10		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.952		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.952		
2,2',4-TriBDE	17	17 + 25	C NDR	3.73	0.952	0.80	0.973
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	3.50	0.952	0.68	1.000
2,4,6-TriBDE	30		ND		1.28		
2,4',6-TriBDE	32		ND		0.952		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.952		
3,4,4'-TriBDE	37		ND		0.952		
2,2',4,4'-TeBDE	47			67.1	0.952	0.71	1.001
2,2',4,5'-TeBDE	49		ND		0.952		
2,2',4,6'-TeBDE	51		ND		0.952		
2,3',4,4'-TeBDE	66		ND		1.83		
2,3',4',6-TeBDE	71		ND		1.30		
2,4,4',6-TeBDE	75		ND		0.952		
3,3',4,4'-TeBDE	77		ND		0.952		
3,3',4,5'-TeBDE	79		ND		0.952		
2,2',3,4,4'-PeBDE	85			3.06	0.952	0.93	0.992
2,2',4,4',5-PeBDE	99			50.9	0.952	1.17	1.001
2,2',4,4',6-PeBDE	100			11.8	0.952	1.00	1.001
2,3,3',4,4'-PeBDE	105		ND		0.952		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		0.952		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		0.952		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.952		
2,2',3,3',4,4'-HxBDE	128		ND		1.31		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C NDR G	4.25	1.23	0.44	1.045
2,2',3,4,4',6'-HxBDE	140		ND		0.952		
2,2',4,4',5,5'-HxBDE	153		NDR	7.53	0.956	1.43	1.000
2,2',4,4',5,6'-HxBDE	154		G	3.86	0.952	0.85	1.000
2,2',4,4',6,6'-HxBDE	155		NDR	1.12	0.952	0.29	0.981
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.14		
2,2',3,4,4',5',6-HpBDE	183			7.33	0.952	1.12	1.001
2,3,3',4,4',5,6-HpBDE	190		ND		2.44		
2,2',3,4,4',5,5',6-OcBDE	203			9.72	1.98	0.75	1.011
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	23.1	4.24	0.34	1.114
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	63.8	5.31	1.20	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208			39.6	6.18	0.92	1.091
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	525	23.7	1.08	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

For Axy's Internal Use Only [XSL Template: Form16141A.xsl; Created: 20-Sep-2010 10:20:22; Application: XMLTransformer-1.10.26; Report Filename: 1614_PBDPE_1614LS_L15145-1_Form1A_BE01_200S4_SJ1191464.html; Workgroup: WG33687; Design ID: 1303]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 05-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 08-Sep-2010 Time: 02:14:10
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15145-1 R
Sample Size: 1.05 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_200 S: 4
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_200 S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	808	40.4	0.51	0.665
13C12-2,4,4'-TriBDE	28L			2000	1390	69.3	1.05	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1450	72.6	1.55	0.987
13C12-3,3',4,4'-TeBDE	77L			2000	1820	90.9	1.49	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1650	83.5	1.09	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1800	90.1	1.00	1.101
13C12-3,3',4,4',5-PeBDE	126L			2000	1890	94.5	1.05	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1070	53.3	1.49	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L		G	2000	2260	113	1.42	0.850
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1480	74.2	1.08	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1100	55.2	0.85	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	4460	22.3	1.30	1.081
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	2200	110	1.48	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

For Axys Internal Use Only [XSL Template: Form16682.xml; Created: 20-Sep-2010 10:20:22; Application: XMLTransformer-1.10.26; Report Filename: 1614_PBDPE_1614LS_L15145-1_Form2_BE01_200S4_SJ1191464.html; Workgroup: WG33687; Design ID: 1303]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15145-2 R

Matrix: AQUEOUS

Sample Size: 1.08 L

Sample Receipt Date: 05-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Sep-2010 Time: 03:12:26

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_200 S: 5

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_200 S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		1.09		
2,4'-DiBDE	8	8 + 11	C NDR	2.33	0.928	0.43	0.959
2,6-DiBDE	10		ND		1.10		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C NDR	1.06	0.928	0.86	0.977
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15			1.64	0.928	0.52	1.000
2,2',4-TriBDE	17	17 + 25	C NDR	2.71	0.928	0.73	0.974
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C	2.36	0.928	0.97	1.000
2,4,6-TriBDE	30		ND		0.928		
2,4',6-TriBDE	32		ND		0.928		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.928		
3,4,4'-TriBDE	37		ND		0.928		
2,2',4,4'-TeBDE	47		NDR	27.6	0.928	0.43	1.000
2,2',4,5'-TeBDE	49		NDR	2.51	0.928	2.88	0.977
2,2',4,6'-TeBDE	51		ND		0.928		
2,3',4,4'-TeBDE	66		NDR	3.97	1.24	1.36	1.022
2,3',4',6-TeBDE	71		ND		0.928		
2,4,4',6-TeBDE	75		ND		0.928		
3,3',4,4'-TeBDE	77		ND		0.928		
3,3',4,5'-TeBDE	79		ND		0.928		
2,2',3,4,4'-PeBDE	85		ND		0.973		
2,2',4,4',5-PeBDE	99			21.6	0.928	0.91	1.001
2,2',4,4',6-PeBDE	100			4.10	0.928	0.95	1.001
2,3,3',4,4'-PeBDE	105		ND		1.29		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		1.65		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		1.62		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.928		
2,2',3,3',4,4'-HxBDE	128		ND		2.41		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND		2.43		
2,2',3,4,4',6'-HxBDE	140		ND		1.55		
2,2',4,4',5,5'-HxBDE	153		NDR	2.57	1.84	0.34	1.000
2,2',4,4',5,6'-HxBDE	154			4.24	0.982	0.86	1.000
2,2',4,4',6,6'-HxBDE	155		ND		0.939		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		2.46		
2,2',3,4,4',5',6-HpBDE	183		ND		1.68		
2,3,3',4,4',5,6-HpBDE	190		ND		4.19		
2,2',3,4,4',5,5',6-OcBDE	203		ND		3.07		
2,2',3,3',4,4',5,5',6-NoBDE	206		ND		5.95		
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	57.3	7.45	2.27	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	12.8	8.68	6.71	1.091
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	204	22.8	1.21	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 05-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 08-Sep-2010 Time: 03:12:26
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15145-2 R
Sample Size: 1.08 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_200 S: 5
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_200 S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1020	51.2	0.51	0.665
13C12-2,4,4'-TriBDE	28L			2000	1600	80.0	1.00	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1370	68.5	1.53	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1490	74.3	1.53	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1200	60.5	1.05	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1330	66.6	1.00	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1440	72.2	0.96	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1150	57.6	1.37	0.881
13C12-2,2',4,4',5,6'-HxBDE	154L			2000	1360	67.8	1.23	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1470	73.6	1.05	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1490	74.3	0.89	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	6280	31.4	1.24	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1530	76.6	1.43	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15145-3 R

Matrix: AQUEOUS

Sample Size: 1.08 L

Sample Receipt Date: 05-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Sep-2010 Time: 04:10:42

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_200 S: 6

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_200 S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.927		
2,4'-DiBDE	8	8 + 11	C ND		0.927		
2,6-DiBDE	10		ND		0.927		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.927		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.927		
2,2',4-TriBDE	17	17 + 25	C NDR	2.23	0.927	1.92	0.974
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	1.86	0.927	0.41	1.000
2,4,6-TriBDE	30		ND		1.24		
2,4',6-TriBDE	32		ND		0.963		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.927		
3,4,4'-TriBDE	37		ND		0.927		
2,2',4,4'-TeBDE	47		NDR	130	0.927	0.52	1.000
2,2',4,5'-TeBDE	49		NDR	4.95	0.927	0.29	0.975
2,2',4,6'-TeBDE	51		ND		1.18		
2,3',4,4'-TeBDE	66		ND		1.05		
2,3',4',6'-TeBDE	71		ND		1.51		
2,4,4',6'-TeBDE	75		ND		0.927		
3,3',4,4'-TeBDE	77		ND		0.927		
3,3',4,5'-TeBDE	79		ND		0.927		
2,2',3,4,4'-PeBDE	85			18.2	0.927	1.01	0.992
2,2',4,4',5'-PeBDE	99			204	0.927	0.95	1.001
2,2',4,4',6'-PeBDE	100			41.3	0.927	1.01	1.001
2,3,3',4,4'-PeBDE	105		ND		0.927		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		NDR	2.59	1.14	0.35	1.010
2,3',4,4',6-PeBDE	119	119 + 120	C ND		0.927		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.927		
2,2',3,3',4,4'-HxBDE	128		ND		1.38		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C NDR G	5.86	1.48	0.41	1.044
2,2',3,4,4',6'-HxBDE	140		ND		0.940		
2,2',4,4',5,5'-HxBDE	153			23.2	1.16	0.67	1.000
2,2',4,4',5,6'-HxBDE	154		G	18.1	0.927	0.66	1.000
2,2',4,4',6,6'-HxBDE	155		NDR	1.87	0.927	0.20	0.982
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.55		
2,2',3,4,4',5',6-HpBDE	183			5.70	1.06	1.12	1.000
2,3,3',4,4',5,6-HpBDE	190		ND		2.64		
2,2',3,4,4',5,5',6-OcBDE	203		NDR	4.15	2.05	0.02	1.012
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	13.0	3.76	1.90	1.115
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	14.6	4.71	0.19	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	10.5	5.49	0.06	1.091
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			115	33.4	0.73	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 05-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 08-Sep-2010 Time: 04:10:42
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15145-3 R
Sample Size: 1.08 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_200 S: 6
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_200 S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1170	58.6	0.51	0.665
13C12-2,4,4'-TriBDE	28L			2000	1740	86.8	1.04	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1440	71.9	1.62	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1780	89.1	1.65	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1530	77.4	0.98	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1650	82.4	1.02	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1840	92.1	1.07	1.199
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	986	49.3	1.37	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L		G	2000	1200	60.1	1.38	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1320	66.0	1.06	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1450	72.7	0.82	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	7560	37.8	1.32	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1410	70.3	1.47	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15145-4 R

Matrix: AQUEOUS

Sample Size: 1.08 L

Sample Receipt Date: 05-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Sep-2010 Time: 05:09:03

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_200 S: 7

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_200 S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.926		
2,4'-DiBDE	8	8 + 11	C ND		0.926		
2,6-DiBDE	10		ND		0.926		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.926		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.926		
2,2',4-TriBDE	17	17 + 25	C NDR	1.29	0.926	0.58	0.974
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	1.93	0.926	1.69	1.001
2,4,6-TriBDE	30		ND		0.926		
2,4',6-TriBDE	32		ND		0.926		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.926		
3,4,4'-TriBDE	37		ND		0.926		
2,2',4,4'-TeBDE	47			65.0	0.926	0.78	1.001
2,2',4,5'-TeBDE	49		ND		1.25		
2,2',4,6'-TeBDE	51		ND		0.926		
2,3',4,4'-TeBDE	66		ND		1.06		
2,3',4',6'-TeBDE	71		ND		0.926		
2,4,4',6'-TeBDE	75		ND		0.926		
3,3',4,4'-TeBDE	77		ND		0.926		
3,3',4,5'-TeBDE	79		ND		0.926		
2,2',3,4,4'-PeBDE	85			1.32	0.926	1.01	0.992
2,2',4,4',5'-PeBDE	99			42.7	0.926	1.07	1.001
2,2',4,4',6'-PeBDE	100		NDR	8.97	0.926	0.74	1.000
2,3,3',4,4'-PeBDE	105		ND		0.926		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		0.926		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		0.926		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.926		
2,2',3,3',4,4'-HxBDE	128		ND		0.926		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C NDR G	1.55	0.926	0.48	1.044
2,2',3,4,4',6'-HxBDE	140		ND		0.926		
2,2',4,4',5,5'-HxBDE	153		NDR	6.06	0.926	0.46	1.000
2,2',4,4',5,6'-HxBDE	154		G	3.65	0.926	0.77	1.000
2,2',4,4',6,6'-HxBDE	155		ND		0.926		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		0.926		
2,2',3,4,4',5',6-HpBDE	183		NDR	1.31	0.926	0.30	1.000
2,3,3',4,4',5,6-HpBDE	190		ND		1.29		
2,2',3,4,4',5,5',6-OcBDE	203		NDR	6.92	1.13	0.36	1.012
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	13.7	2.12	1.33	1.114
2,2',3,3',4,4',5,6,6'-NoBDE	207			29.4	2.65	0.96	1.098
2,2',3,3',4,5,5',6,6'-NoBDE	208			9.77	3.09	1.00	1.091
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	193	20.0	1.02	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 05-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 08-Sep-2010 **Time:** 05:09:03
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15145-4 R
Sample Size: 1.08 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_200 S: 7
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_200 S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1050	52.7	0.51	0.665
13C12-2,4,4'-TriBDE	28L			2000	1790	89.4	1.09	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1520	76.1	1.52	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1700	85.2	1.63	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1560	78.6	1.07	1.132
13C12-2,2',4,4',6-PeBDE	100L			2000	1550	77.4	1.02	1.101
13C12-3,3',4,4',5-PeBDE	126L			2000	2100	105	1.09	1.199
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1000	50.2	1.42	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L		G	2000	1800	89.9	1.35	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1450	72.4	0.99	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1420	71.1	0.90	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	8060	40.3	1.23	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1500	75.0	1.38	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15145-6 R

Matrix: AQUEOUS

Sample Size: 1.06 L

Sample Receipt Date: 05-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Sep-2010 Time: 06:07:25

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_200 S: 8

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_200 S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.943		
2,4'-DiBDE	8	8 + 11	C ND		0.943		
2,6-DiBDE	10		ND		0.943		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.943		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		NDR	1.04	0.943	0.38	1.002
2,2',4-TriBDE	17	17 + 25	C ND		0.943		
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	2.72	0.943	1.62	1.000
2,4,6-TriBDE	30		ND		1.30		
2,4',6-TriBDE	32		ND		0.943		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.943		
3,4,4'-TriBDE	37		ND		0.943		
2,2',4,4'-TeBDE	47			64.4	1.01	0.72	1.001
2,2',4,5'-TeBDE	49		ND		1.21		
2,2',4,6'-TeBDE	51		ND		0.943		
2,3',4,4'-TeBDE	66		ND		1.77		
2,3',4',6-TeBDE	71		ND		1.21		
2,4,4',6-TeBDE	75		ND		1.11		
3,3',4,4'-TeBDE	77		ND		0.992		
3,3',4,5'-TeBDE	79		ND		1.09		
2,2',3,4,4'-PeBDE	85		NDR	3.01	1.30	0.56	0.992
2,2',4,4',5-PeBDE	99			51.6	0.943	1.14	1.001
2,2',4,4',6-PeBDE	100			10.1	0.943	1.14	1.001
2,3,3',4,4'-PeBDE	105		ND		1.73		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		2.22		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		1.31		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.943		
2,2',3,3',4,4'-HxBDE	128		ND		1.98		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C NDR G	2.73	2.04	0.48	1.043
2,2',3,4,4',6'-HxBDE	140		ND		1.30		
2,2',4,4',5,5'-HxBDE	153		NDR	5.17	1.72	0.42	1.000
2,2',4,4',5,6'-HxBDE	154		NDR G	4.99	0.943	0.41	1.000
2,2',4,4',6,6'-HxBDE	155		ND		0.943		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		2.37		
2,2',3,4,4',5',6-HpBDE	183		NDR	2.87	1.62	0.73	1.000
2,3,3',4,4',5,6-HpBDE	190		ND		4.04		
2,2',3,4,4',5,5',6-OcBDE	203		ND		2.90		
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	25.6	6.43	0.50	1.115
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	31.2	8.04	0.23	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	43.6	9.37	2.41	1.091
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	282	17.2	1.01	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 05-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 08-Sep-2010 Time: 06:07:25
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15145-6 R
Sample Size: 1.06 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_200 S: 8
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_200 S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1110	55.7	0.51	0.665
13C12-2,4,4'-TriBDE	28L			2000	1730	86.6	1.08	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1530	76.3	1.56	0.987
13C12-3,3',4,4'-TeBDE	77L			2000	1770	88.4	1.56	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1540	78.0	1.04	1.132
13C12-2,2',4,4',6-PeBDE	100L			2000	1630	81.7	1.04	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1990	99.5	1.04	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1050	52.6	1.42	0.881
13C12-2,2',4,4',5,6'-HxBDE	154L		G	2000	1440	72.0	1.42	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1450	72.5	0.97	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1510	75.6	0.89	1.064
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	7460	37.3	1.34	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1480	74.0	1.36	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.
- (3) R% = percent recovery of labeled compounds.

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Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185
Lab Sample I.D.: L15145-7 R

Matrix: AQUEOUS

Sample Size: 1.08 L

Sample Receipt Date: 05-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Sep-2010 Time: 07:05:41

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_200 S: 9

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_200 S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		1.04		
2,4'-DiBDE	8	8 + 11	C ND		0.925		
2,6-DiBDE	10		ND		0.991		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.925		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.925		
2,2',4-TriBDE	17	17 + 25	C ND		1.02		
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C ND		0.925		
2,4,6-TriBDE	30		ND		0.925		
2,4',6-TriBDE	32		ND		0.925		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.925		
3,4,4'-TriBDE	37		ND		0.925		
2,2',4,4'-TeBDE	47		NDR	49.7	0.925	0.86	1.000
2,2',4,5'-TeBDE	49		ND		1.38		
2,2',4,6'-TeBDE	51		ND		0.925		
2,3',4,4'-TeBDE	66		ND		1.41		
2,3',4',6-TeBDE	71		ND		3.20		
2,4,4',6-TeBDE	75		ND		0.925		
3,3',4,4'-TeBDE	77		ND		0.925		
3,3',4,5'-TeBDE	79		ND		0.925		
2,2',3,4,4'-PeBDE	85		NDR	1.88	1.50	1.76	0.992
2,2',4,4',5-PeBDE	99		NDR	32.0	0.925	0.77	1.001
2,2',4,4',6-PeBDE	100		NDR	7.17	0.925	1.75	1.001
2,3,3',4,4'-PeBDE	105		ND		2.00		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		2.56		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		1.51		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.925		
2,2',3,3',4,4'-HxBDE	128		ND		2.43		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND G		2.15		
2,2',3,4,4',6'-HxBDE	140		ND		1.37		
2,2',4,4',5,5'-HxBDE	153		NDR	8.23	1.77	0.49	1.000
2,2',4,4',5,6'-HxBDE	154		NDR G	2.68	0.925	2.35	1.001
2,2',4,4',6,6'-HxBDE	155		ND		0.925		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		2.81		
2,2',3,4,4',5',6-HpBDE	183		ND		1.91		
2,3,3',4,4',5,6-HpBDE	190		ND		4.78		
2,2',3,4,4',5,5',6-OcBDE	203		ND		3.27		
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	7.86	5.43	1.45	1.115
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	38.2	6.79	2.62	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208			19.7	7.91	1.08	1.090
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	142	17.6	1.57	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 05-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 08-Sep-2010 **Time:** 07:05:41
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No.: 09185
Lab Sample I.D.: L15145-7 R
Sample Size: 1.08 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_200 S: 9
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_200 S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1170	58.3	0.51	0.665
13C12-2,4,4'-TriBDE	28L			2000	1800	89.8	1.05	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1600	80.2	1.44	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1920	95.9	1.64	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1760	88.9	0.98	1.132
13C12-2,2',4,4',6-PeBDE	100L			2000	1740	87.2	1.03	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	2190	109	1.06	1.199
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1020	51.2	1.42	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L		G	2000	1360	67.9	1.37	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1400	70.1	1.00	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1600	79.8	0.87	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	8320	41.6	1.25	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1500	74.9	1.28	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.
- (3) R% = percent recovery of labeled compounds.

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AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185
Lab Sample I.D.: L15145-8 R

Matrix: AQUEOUS

Sample Size: 1.08 L

Sample Receipt Date: 05-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Sep-2010 Time: 08:04:03

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_200 S: 10

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_200 S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.928		
2,4'-DiBDE	8	8 + 11	C ND		0.928		
2,6-DiBDE	10		ND		0.928		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.928		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.928		
2,2',4-TriBDE	17	17 + 25	C	0.939	0.928	0.95	0.973
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	1.09	0.928	8.80	1.000
2,4,6-TriBDE	30		ND		0.928		
2,4',6-TriBDE	32		ND		0.928		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.928		
3,4,4'-TriBDE	37		ND		0.928		
2,2',4,4'-TeBDE	47			73.3	0.928	0.67	1.000
2,2',4,5'-TeBDE	49		NDR	1.17	0.928	2.61	0.975
2,2',4,6'-TeBDE	51		ND		0.928		
2,3',4,4'-TeBDE	66		ND		1.13		
2,3',4',6-TeBDE	71		ND		0.928		
2,4,4',6-TeBDE	75		ND		0.928		
3,3',4,4'-TeBDE	77		ND		0.928		
3,3',4,5'-TeBDE	79		ND		0.928		
2,2',3,4,4'-PeBDE	85		NDR	2.11	0.928	1.48	0.991
2,2',4,4',5-PeBDE	99			45.1	0.928	0.93	1.000
2,2',4,4',6-PeBDE	100		NDR	8.82	0.928	0.59	1.000
2,3,3',4,4'-PeBDE	105		ND		1.04		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		1.33		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		0.934		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.928		
2,2',3,3',4,4'-HxBDE	128		ND		1.58		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND G		1.38		
2,2',3,4,4',6'-HxBDE	140		ND		0.928		
2,2',4,4',5,5'-HxBDE	153		NDR	3.73	1.28	0.59	1.000
2,2',4,4',5,6'-HxBDE	154		NDR G	3.38	0.928	1.01	1.000
2,2',4,4',6,6'-HxBDE	155		ND		0.928		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.54		
2,2',3,4,4',5',6-HpBDE	183		NDR	5.34	1.05	1.23	1.000
2,3,3',4,4',5,6-HpBDE	190		ND		2.62		
2,2',3,4,4',5,5',6-OcBDE	203		NDR	2.06	1.90	2.87	1.012
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	34.2	4.19	1.55	1.114
2,2',3,3',4,4',5,6,6'-NoBDE	207			37.8	5.24	1.17	1.098
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	33.3	6.11	0.53	1.090
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	429	6.51	1.04	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 05-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 08-Sep-2010 **Time:** 08:04:03
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15145-8 R
Sample Size: 1.08 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_200 S: 10
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_200 S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	870	43.5	0.52	0.665
13C12-2,4,4'-TriBDE	28L			2000	1420	71.1	1.04	0.831
13C12-2,2',4,4'-TeBDE	47L			2000	1280	63.9	1.53	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1600	80.1	1.59	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1370	69.0	1.08	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1470	73.4	1.04	1.101
13C12-3,3',4,4',5-PeBDE	126L			2000	1800	90.1	1.02	1.199
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	809	40.5	1.39	0.881
13C12-2,2',4,4',5,6'-HxBDE	154L		G	2000	1270	63.6	1.44	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1170	58.6	1.12	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1230	61.3	0.79	1.064
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	6940	34.7	1.20	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1150	57.4	1.35	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15215-1

Matrix: AQUEOUS

Sample Size: 1.05 L

Sample Receipt Date: 19-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010 Time: 17:23:20

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_199A S: 6

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_199A S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		1.64		
2,4'-DiBDE	8	8 + 11	C ND		1.26		
2,6-DiBDE	10		ND		1.54		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		1.15		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.970		
2,2',4-TriBDE	17	17 + 25	C ND		0.989		
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	4.24	0.949	2.08	1.001
2,4,6-TriBDE	30		ND		0.949		
2,4',6-TriBDE	32		ND		0.949		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.949		
3,4,4'-TriBDE	37		ND		0.949		
2,2',4,4'-TeBDE	47			60.4	1.49	0.60	1.001
2,2',4,5'-TeBDE	49		ND		1.76		
2,2',4,6'-TeBDE	51		ND		1.07		
2,3',4,4'-TeBDE	66		ND		2.45		
2,3',4',6-TeBDE	71		ND		1.75		
2,4,4',6-TeBDE	75		ND		1.46		
3,3',4,4'-TeBDE	77		ND		1.41		
3,3',4,5'-TeBDE	79		ND		1.55		
2,2',3,4,4'-PeBDE	85		ND		2.41		
2,2',4,4',5-PeBDE	99		NDR	41.2	1.15	1.19	1.001
2,2',4,4',6-PeBDE	100			11.1	0.949	1.14	1.001
2,3,3',4,4'-PeBDE	105		ND		2.49		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		3.19		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		2.04		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		1.15		
2,2',3,3',4,4'-HxBDE	128		NDR	3.93	2.22	6.23	1.091
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND		3.06		
2,2',3,4,4',6'-HxBDE	140		ND		1.94		
2,2',4,4',5,5'-HxBDE	153		NDR	6.40	2.33	0.34	1.000
2,2',4,4',5,6'-HxBDE	154		NDR	2.37	1.30	0.97	1.001
2,2',4,4',6,6'-HxBDE	155		ND		1.64		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		2.46		
2,2',3,4,4',5',6-HpBDE	183		ND		1.58		
2,3,3',4,4',5,6-HpBDE	190		ND		4.23		
2,2',3,4,4',5,5',6-OcBDE	203		ND		4.91		
2,2',3,3',4,4',5,5',6-NoBDE	206			17.9	8.92	1.15	1.115
2,2',3,3',4,4',5,6,6'-NoBDE	207			36.0	12.2	0.91	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	23.2	13.5	0.66	1.091
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			316	43.1	0.83	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Alina Tarnauceanu _____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 19-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 07-Sep-2010 Time: 17:23:20
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15215-1
Sample Size: 1.05 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_199A S: 6
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_199A S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1020	50.8	0.53	0.665
13C12-2,4,4'-TriBDE	28L			2000	1410	70.3	0.99	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1010	50.7	1.68	0.987
13C12-3,3',4,4'-TeBDE	77L			2000	1240	62.0	1.57	1.041
13C12-2,2',4,4',5-PeBDE	99L			1980	1070	54.3	1.16	1.132
13C12-2,2',4,4',6-PeBDE	100L			2000	1060	53.0	1.00	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1260	63.2	1.00	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	730	36.5	1.41	0.881
13C12-2,2',4,4',5,6'-HxBDE	154L			2000	758	37.9	1.23	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	964	48.2	1.08	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	891	44.6	0.86	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	4470	22.4	1.25	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	959	48.0	1.25	1.012

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15215-2

Matrix: AQUEOUS

Sample Size: 1.09 L

Sample Receipt Date: 19-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010 Time: 18:21:37

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_199A S: 7

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_199A S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.920		
2,4'-DiBDE	8	8 + 11	C ND		0.920		
2,6-DiBDE	10		ND		0.920		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.920		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.920		
2,2',4-TriBDE	17	17 + 25	C NDR	2.59	0.920	1.38	0.974
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C	5.60	0.920	0.90	1.001
2,4,6-TriBDE	30		ND		0.920		
2,4',6-TriBDE	32		ND		0.920		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.920		
3,4,4'-TriBDE	37		ND		0.920		
2,2',4,4'-TeBDE	47			177	0.920	0.65	1.001
2,2',4,5'-TeBDE	49		NDR	5.90	0.920	1.23	0.975
2,2',4,6'-TeBDE	51		NDR	1.64	0.920	0.49	0.967
2,3',4,4'-TeBDE	66		NDR	4.19	0.920	0.39	1.022
2,3',4',6-TeBDE	71		NDR	1.77	0.920	1.44	0.980
2,4,4',6-TeBDE	75			1.90	0.920	0.69	0.962
3,3',4,4'-TeBDE	77		NDR	2.61	0.920	1.98	1.001
3,3',4,5'-TeBDE	79		NDR	2.44	0.920	1.37	1.012
2,2',3,4,4'-PeBDE	85			8.66	0.920	1.12	0.991
2,2',4,4',5-PeBDE	99			159	0.920	1.06	1.001
2,2',4,4',6-PeBDE	100			34.5	0.920	1.14	1.001
2,3,3',4,4'-PeBDE	105		NDR	1.52	0.920	0.12	1.009



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116			5.39	0.951	0.92	1.008
2,3',4,4',6-PeBDE	119	119 + 120	C NDR	3.63	0.920	1.40	1.010
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		NDR	1.91	0.920	2.65	1.000
2,2',3,3',4,4'-HxBDE	128		ND		1.89		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C NDR	3.99	1.09	1.01	1.044
2,2',3,4,4',6'-HxBDE	140			1.50	0.920	0.84	1.021
2,2',4,4',5,5'-HxBDE	153			12.8	1.11	0.76	1.000
2,2',4,4',5,6'-HxBDE	154			10.0	0.920	0.73	1.001
2,2',4,4',6,6'-HxBDE	155		NDR	1.71	0.920	1.03	0.981
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.35		
2,2',3,4,4',5',6-HpBDE	183		NDR	3.68	0.920	0.80	1.000
2,3,3',4,4',5,6-HpBDE	190		ND		2.33		
2,2',3,4,4',5,5',6-OcBDE	203		NDR	10.4	3.77	0.54	1.012
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	130	10.4	0.64	1.115
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	181	14.2	1.36	1.098
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	34.8	15.8	15.9	1.090
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			1930	159	0.84	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 19-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 07-Sep-2010 **Time:** 18:21:37
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No.: 09185
Lab Sample I.D.: L15215-2
Sample Size: 1.09 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_199A S: 7
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_199A S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1020	50.8	0.52	0.666
13C12-2,4,4'-TriBDE	28L			2000	1630	81.4	1.00	0.831
13C12-2,2',4,4'-TeBDE	47L			2000	1620	80.9	1.58	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1880	94.1	1.52	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1250	63.0	1.04	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1440	71.8	1.05	1.101
13C12-3,3',4,4',5-PeBDE	126L			2000	1380	68.8	0.99	1.199
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	2390	120	1.40	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L		V	2000	3940	197	1.37	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	2260	113	0.98	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1150	57.4	0.83	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	6830	34.1	1.29	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L		V	2000	3070	153	1.35	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15215-3

Matrix: AQUEOUS

Sample Size: 1.09 L

Sample Receipt Date: 19-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010 Time: 19:19:53

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_199A S: 8

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_199A S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.929		
2,4'-DiBDE	8	8 + 11	C ND		0.916		
2,6-DiBDE	10		ND		0.916		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.916		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.916		
2,2',4-TriBDE	17	17 + 25	C	2.17	0.916	1.09	0.974
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C	2.36	0.916	1.15	1.001
2,4,6-TriBDE	30		ND		0.916		
2,4',6-TriBDE	32		ND		0.916		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		NDR	0.958	0.916	3.25	1.020
3,4,4'-TriBDE	37		ND		0.916		
2,2',4,4'-TeBDE	47			49.8	0.916	0.62	1.001
2,2',4,5'-TeBDE	49		NDR	2.64	0.916	1.03	0.976
2,2',4,6'-TeBDE	51		ND		0.916		
2,3',4,4'-TeBDE	66		ND		1.18		
2,3',4',6'-TeBDE	71		ND		0.916		
2,4,4',6'-TeBDE	75		ND		0.916		
3,3',4,4'-TeBDE	77		ND		0.916		
3,3',4,5'-TeBDE	79		ND		0.916		
2,2',3,4,4'-PeBDE	85		NDR	2.48	0.916	0.42	0.992
2,2',4,4',5'-PeBDE	99			42.9	0.916	1.09	1.000
2,2',4,4',6'-PeBDE	100		NDR	8.76	0.916	1.38	1.001
2,3,3',4,4'-PeBDE	105		ND		1.10		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		NDR	3.21	1.32	1.33	1.011
2,3',4,4',6-PeBDE	119	119 + 120	C ND		0.916		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.916		
2,2',3,3',4,4'-HxBDE	128		ND		2.07		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND		2.06		
2,2',3,4,4',6'-HxBDE	140		ND		1.30		
2,2',4,4',5,5'-HxBDE	153			5.59	1.57	0.76	1.000
2,2',4,4',5,6'-HxBDE	154		NDR	3.86	0.916	0.47	1.000
2,2',4,4',6,6'-HxBDE	155		ND		0.916		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.87		
2,2',3,4,4',5',6-HpBDE	183		ND		1.21		
2,3,3',4,4',5,6-HpBDE	190		ND		3.22		
2,2',3,4,4',5,5',6-OcBDE	203		ND		2.89		
2,2',3,3',4,4',5,5',6-NoBDE	206		ND		8.73		
2,2',3,3',4,4',5,6,6'-NoBDE	207			40.3	10.4	1.12	1.100
2,2',3,3',4,5,5',6,6'-NoBDE	208		ND		16.6		
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	168	70.9	1.20	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 19-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 07-Sep-2010 **Time:** 19:19:53
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No.: 09185
Lab Sample I.D.: L15215-3
Sample Size: 1.09 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_199A S: 8
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_199A S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1500	74.8	0.52	0.665
13C12-2,4,4'-TriBDE	28L			2000	2110	106	1.06	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1510	75.7	1.43	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1700	85.0	1.57	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1380	69.9	1.00	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1430	71.7	0.99	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1310	65.5	1.11	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1120	56.2	1.34	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L			2000	1210	60.6	1.45	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1480	73.9	1.01	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1390	69.4	0.83	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	6560	32.8	1.28	1.081
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1490	74.4	1.32	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15215-4

Matrix: AQUEOUS

Sample Size: 1.01 L

Sample Receipt Date: 19-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010 Time: 20:18:10

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_199A S: 9

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_199A S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.987		
2,4'-DiBDE	8	8 + 11	C ND		0.987		
2,6-DiBDE	10		ND		0.987		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.987		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.987		
2,2',4-TriBDE	17	17 + 25	C NDR	1.82	0.987	1.27	0.976
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	2.46	0.987	0.59	0.999
2,4,6-TriBDE	30		ND		0.987		
2,4',6-TriBDE	32		ND		0.987		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.987		
3,4,4'-TriBDE	37		ND		0.987		
2,2',4,4'-TeBDE	47			48.1	0.987	0.62	1.001
2,2',4,5'-TeBDE	49		NDR	1.21	0.987	1.56	0.976
2,2',4,6'-TeBDE	51		ND		0.987		
2,3',4,4'-TeBDE	66		ND		0.987		
2,3',4',6-TeBDE	71		ND		0.987		
2,4,4',6-TeBDE	75		ND		0.987		
3,3',4,4'-TeBDE	77		ND		0.987		
3,3',4,5'-TeBDE	79		ND		0.987		
2,2',3,4,4'-PeBDE	85			1.37	0.987	1.17	0.992
2,2',4,4',5-PeBDE	99			35.8	0.987	0.94	1.001
2,2',4,4',6-PeBDE	100		NDR	7.48	0.987	0.79	1.001
2,3,3',4,4'-PeBDE	105		ND		1.26		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		1.62		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		1.03		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.987		
2,2',3,3',4,4'-HxBDE	128		ND		0.987		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND		1.79		
2,2',3,4,4',6'-HxBDE	140		ND		1.13		
2,2',4,4',5,5'-HxBDE	153			6.84	1.65	0.68	1.000
2,2',4,4',5,6'-HxBDE	154			3.26	0.987	0.75	1.001
2,2',4,4',6,6'-HxBDE	155		ND		0.987		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.38		
2,2',3,4,4',5',6-HpBDE	183			2.15	0.987	0.91	1.000
2,3,3',4,4',5,6-HpBDE	190		ND		2.37		
2,2',3,4,4',5,5',6-OcBDE	203		NDR	12.7	1.42	0.49	1.011
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	13.0	4.23	1.52	1.114
2,2',3,3',4,4',5,6,6'-NoBDE	207			36.4	5.80	0.93	1.098
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	26.3	6.42	0.48	1.092
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			307	40.3	0.99	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 19-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 07-Sep-2010 Time: 20:18:10
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15215-4
Sample Size: 1.01 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_199A S: 9
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_199A S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1380	68.9	0.52	0.665
13C12-2,4,4'-TriBDE	28L			2000	1960	97.9	1.08	0.831
13C12-2,2',4,4'-TeBDE	47L			2000	1490	74.7	1.54	0.987
13C12-3,3',4,4'-TeBDE	77L			2000	1740	87.2	1.60	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1350	68.2	1.03	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1440	72.2	1.04	1.101
13C12-3,3',4,4',5-PeBDE	126L			2000	1620	80.9	1.03	1.199
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1040	51.9	1.37	0.881
13C12-2,2',4,4',5,6'-HxBDE	154L			2000	1560	78.2	1.37	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1450	72.5	1.02	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1360	68.2	0.84	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	7410	37.0	1.27	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1420	71.1	1.36	1.012

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15215-5

Matrix: AQUEOUS

Sample Size: 1.09 L

Sample Receipt Date: 19-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010 Time: 21:16:26

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_199A S: 10

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_199A S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.919		
2,4'-DiBDE	8	8 + 11	C ND		0.919		
2,6-DiBDE	10		ND		0.919		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.919		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.919		
2,2',4-TriBDE	17	17 + 25	C	4.06	0.919	1.04	0.975
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	5.94	0.919	0.58	1.001
2,4,6-TriBDE	30		ND		0.919		
2,4',6-TriBDE	32		ND		0.919		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.919		
3,4,4'-TriBDE	37		ND		0.919		
2,2',4,4'-TeBDE	47			190	0.919	0.73	1.001
2,2',4,5'-TeBDE	49		NDR	6.23	0.919	0.42	0.975
2,2',4,6'-TeBDE	51		ND		0.919		
2,3',4,4'-TeBDE	66		NDR	3.03	0.964	0.39	1.021
2,3',4',6'-TeBDE	71		ND		0.919		
2,4,4',6'-TeBDE	75		ND		0.919		
3,3',4,4'-TeBDE	77		ND		0.919		
3,3',4,5'-TeBDE	79		ND		1.72		
2,2',3,4,4'-PeBDE	85		NDR	8.20	0.958	1.39	0.991
2,2',4,4',5'-PeBDE	99			145	0.919	1.05	1.000
2,2',4,4',6'-PeBDE	100			34.2	0.919	1.07	1.001
2,3,3',4,4'-PeBDE	105		ND		1.32		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		NDR	2.70	1.70	0.75	1.007
2,3',4,4',6-PeBDE	119	119 + 120	C ND		1.08		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.919		
2,2',3,3',4,4'-HxBDE	128		ND		1.08		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND		2.13		
2,2',3,4,4',6'-HxBDE	140			1.86	1.35	0.71	1.021
2,2',4,4',5,5'-HxBDE	153		NDR	14.6	1.68	1.32	1.000
2,2',4,4',5,6'-HxBDE	154			10.8	0.919	0.87	1.001
2,2',4,4',6,6'-HxBDE	155		ND		0.919		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.79		
2,2',3,4,4',5',6-HpBDE	183		NDR	4.79	1.15	0.29	1.000
2,3,3',4,4',5,6-HpBDE	190		ND		3.08		
2,2',3,4,4',5,5',6-OcBDE	203		ND		4.68		
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	37.8	5.74	0.60	1.114
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	69.6	7.87	0.70	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	47.6	8.72	1.55	1.092
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			315	65.2	0.77	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 19-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 07-Sep-2010 Time: 21:16:26
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No.: 09185
Lab Sample I.D.: L15215-5
Sample Size: 1.09 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_199A S: 10
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_199A S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1360	67.9	0.52	0.665
13C12-2,4,4'-TriBDE	28L			2000	1770	88.5	1.05	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1560	78.1	1.59	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1850	92.7	1.57	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1350	68.3	1.05	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1420	70.9	0.98	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1620	81.2	1.05	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1180	59.0	1.40	0.881
13C12-2,2',4,4',5,6'-HxBDE	154L			2000	1390	69.3	1.28	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1440	72.2	1.06	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1460	73.0	0.81	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	7640	38.2	1.26	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1540	76.9	1.32	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15215-6

Matrix: AQUEOUS

Sample Size: 1.08 L

Sample Receipt Date: 19-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010 Time: 22:14:47

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_199A S: 11

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_199A S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.923		
2,4'-DiBDE	8	8 + 11	C ND		0.923		
2,6-DiBDE	10		ND		0.923		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.923		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.923		
2,2',4-TriBDE	17	17 + 25	C ND		0.923		
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C ND		0.923		
2,4,6-TriBDE	30		ND		0.923		
2,4',6-TriBDE	32		ND		0.923		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.923		
3,4,4'-TriBDE	37		ND		0.923		
2,2',4,4'-TeBDE	47		NDR	32.0	0.923	0.94	1.001
2,2',4,5'-TeBDE	49		ND		0.923		
2,2',4,6'-TeBDE	51		ND		0.923		
2,3',4,4'-TeBDE	66		ND		1.25		
2,3',4',6-TeBDE	71		ND		0.923		
2,4,4',6-TeBDE	75		ND		0.923		
3,3',4,4'-TeBDE	77		ND		0.923		
3,3',4,5'-TeBDE	79		ND		0.923		
2,2',3,4,4'-PeBDE	85		ND		0.923		
2,2',4,4',5-PeBDE	99		NDR	18.2	0.923	1.54	1.001
2,2',4,4',6-PeBDE	100		NDR	5.46	0.923	1.47	1.001
2,3,3',4,4'-PeBDE	105		ND		1.15		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		1.47		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		0.941		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.923		
2,2',3,3',4,4'-HxBDE	128		ND		1.67		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND		2.02		
2,2',3,4,4',6'-HxBDE	140		ND		1.28		
2,2',4,4',5,5'-HxBDE	153		NDR	2.39	1.65	0.43	1.000
2,2',4,4',5,6'-HxBDE	154		NDR	1.68	0.923	1.07	1.001
2,2',4,4',6,6'-HxBDE	155		ND		0.923		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.97		
2,2',3,4,4',5',6-HpBDE	183		NDR	1.95	1.27	3.19	1.001
2,3,3',4,4',5,6-HpBDE	190		ND		3.39		
2,2',3,4,4',5,5',6-OcBDE	203		ND		5.88		
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	72.6	6.08	0.58	1.115
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	156	8.34	0.81	1.098
2,2',3,3',4,5,5',6,6'-NoBDE	208			72.4	9.23	0.97	1.091
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			934	80.4	0.97	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 19-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 07-Sep-2010 Time: 22:14:47
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15215-6
Sample Size: 1.08 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_199A S: 11
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_199A S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1600	80.2	0.51	0.665
13C12-2,4,4'-TriBDE	28L			2000	2050	103	1.02	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1550	77.5	1.61	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1950	97.3	1.62	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1450	73.1	1.01	1.132
13C12-2,2',4,4',6-PeBDE	100L			2000	1520	75.8	1.04	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1620	81.2	0.97	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1010	50.6	1.31	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L			2000	1230	61.5	1.52	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1420	70.8	1.01	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1340	67.1	0.88	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	7200	36.0	1.29	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1360	67.8	1.33	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No.

N/A

Lab Sample I.D.:

WG33687-101

Matrix: AQUEOUS

Sample Size:

1.00 L

Sample Receipt Date: N/A

Initial Calibration Date:

14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID:

HR GC/MS

Analysis Date: 07-Sep-2010 Time: 16:25:04

GC Column ID:

DB5HT

Extract Volume (uL): 50

Sample Data Filename:

BE01_199A S: 5

Injection Volume (uL): 1.0

Blank Data Filename:

BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename:

BE01_199A S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7			3.29	1.38	0.46	0.928
2,4'-DiBDE	8	8 + 11	C NDR	1.88	1.06	0.81	0.959
2,6-DiBDE	10		ND		1.30		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		1.00		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15			4.95	1.00	0.51	1.001
2,2',4-TriBDE	17	17 + 25	C	81.2	1.01	1.17	0.974
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C	249	1.00	1.05	1.001
2,4,6-TriBDE	30		ND		1.00		
2,4',6-TriBDE	32		ND		1.00		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		NDR	3.53	1.00	0.56	1.018
3,4,4'-TriBDE	37		ND		1.00		
2,2',4,4'-TeBDE	47			2800	1.00	0.71	1.001
2,2',4,5'-TeBDE	49			213	1.09	0.70	0.975
2,2',4,6'-TeBDE	51		NDR	8.72	1.00	0.83	0.967
2,3',4,4'-TeBDE	66			6.39	1.50	0.74	1.024
2,3',4',6-TeBDE	71			2.69	1.08	0.76	0.981
2,4,4',6-TeBDE	75		NDR	1.37	1.00	0.18	0.962
3,3',4,4'-TeBDE	77		ND		1.00		
3,3',4,5'-TeBDE	79		NDR	13.8	1.00	0.92	1.010
2,2',3,4,4'-PeBDE	85		NDR	1.51	1.00	0.79	0.992
2,2',4,4',5-PeBDE	99			21.8	1.00	1.04	1.001
2,2',4,4',6-PeBDE	100			107	1.00	1.04	1.001
2,3,3',4,4'-PeBDE	105		ND		1.22		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		1.57		
2,3',4,4',6-PeBDE	119	119 + 120	C NDR	3.22	1.00	1.65	1.011
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		1.00		
2,2',3,3',4,4'-HxBDE	128		ND		2.05		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C NDR	2.79	2.56	0.03	1.043
2,2',3,4,4',6'-HxBDE	140		ND		1.62		
2,2',4,4',5,5'-HxBDE	153			5.30	1.95	0.79	1.000
2,2',4,4',5,6'-HxBDE	154			11.7	1.10	0.82	1.000
2,2',4,4',6,6'-HxBDE	155		NDR	4.63	1.02	1.41	0.981
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		2.54		
2,2',3,4,4',5',6-HpBDE	183		ND		3.44		
2,3,3',4,4',5,6-HpBDE	190		ND		4.36		
2,2',3,4,4',5,5',6-OcBDE	203		ND		3.54		
2,2',3,3',4,4',5,5',6-NoBDE	206			23.6	6.27	1.17	1.114
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	39.9	8.58	1.92	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	39.0	9.51	1.24	1.092
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	228	20.1	0.70	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: N/A
Extraction Date: 20-Aug-2010
Analysis Date: 07-Sep-2010 Time: 16:25:04
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No.: N/A
Lab Sample I.D.: WG33687-101
Sample Size: 1.00 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_199A S: 5
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_199A S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1300	64.8	0.53	0.665
13C12-2,4,4'-TriBDE	28L			2000	2130	107	1.05	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1690	84.6	1.49	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1930	96.4	1.54	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1550	78.1	1.05	1.132
13C12-2,2',4,4',6-PeBDE	100L			2000	1710	85.6	1.01	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1790	89.5	1.06	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1070	53.4	1.24	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L			2000	1170	58.6	1.49	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1430	71.4	1.08	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1500	74.9	0.82	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	8130	40.7	1.18	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1360	68.0	1.35	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2520	Lab Sample I.D.:	WG33687-102
Matrix:	AQUEOUS	Initial Calibration Date:	14-Jul-2010
Extraction Date:	20-Aug-2010	Instrument ID:	HR GC/MS
Analysis Date:	07-Sep-2010 Time: 13:30:13	GC Column ID:	DB5HT
Extract Volume (uL):	50	OPR Data Filename:	BE01_199A S: 2
Injection Volume (uL):	1.0	Blank Data Filename:	BE01_199A S: 5
Dilution Factor:	N/A	Cal. Ver. Data Filename:	BE01_199A S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS ² (ng/mL)	% RECOVERY
2,4,4'-TriBDE	28	28 + 33	C	1.02	97.4	92.8	48.7 - 146	95.3
2',3,4-TriBDE	33	28 + 33	C28					
2,2',4,4'-TeBDE	47			0.69	50.0	52.3	25.0 - 75.0	105
2,2',4,4',5-PeBDE	99			1.05	50.0	47.0	25.0 - 75.0	94.1
2,2',4,4',6-PeBDE	100			1.12	50.0	46.7	25.0 - 75.0	93.3
2,2',4,4',5,5'-HxBDE	153			0.79	50.0	47.2	25.0 - 75.0	94.3
2,2',4,4',5,6'-HxBDE	154			0.77	50.0	45.2	25.0 - 75.0	90.3
2,2',3,4,4',5',6'-HpBDE	183			1.05	50.0	43.8	25.0 - 75.0	87.6
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			0.89	500	476	200 - 1000	95.2

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
 (2) Contract-required limits for OPR as specified in Table 6, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Alina Tarnauceanu _____

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BROMINATED DIPHENYLETHER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2520	Lab Sample I.D.:	WG33687-102
Matrix:	AQUEOUS	Initial Calibration Date:	14-Jul-2010
Extraction Date:	20-Aug-2010	Instrument ID:	HR GC/MS
Analysis Date:	07-Sep-2010 Time: 13:30:13	GC Column ID:	DB5HT
Extract Volume (uL):	50	OPR Data Filename:	BE01_199A S: 2
Injection Volume (uL):	1.0	Blank Data Filename:	BE01_199A S: 5
Dilution Factor:	N/A	Cal. Ver. Data Filename:	BE01_199A S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS ³ (ng/mL)	% RECOVERY
13C12-2,4,4'-TriBDE	28L			1.06	100	89.0	30.0 - 140	89.0
13C12-2,2',4,4'-TeBDE	47L			1.51	100	77.6	30.0 - 140	77.6
13C12-2,2',4,4',5-PeBDE	99L			1.03	99.0	80.0	29.7 - 139	80.8
13C12-2,2',4,4',6-PeBDE	100L			1.03	100	85.6	30.0 - 140	85.6
13C12-2,2',4,4',5,5'-HxBDE	153L			1.38	100	58.1	30.0 - 140	58.1
13C12-2,2',4,4',5,6'-HxBDE	154L			1.29	100	68.6	30.0 - 140	68.6
13C12-2,2',3,4,4',5,6'-HpBDE	183L			0.97	100	79.1	30.0 - 140	79.1
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			1.24	1000	423	200 - 2000	42.3

CLEANUP STANDARD

13C12-2,2',3,4,4',6-HxBDE	139L			1.34	100	78.4	40.0 - 125	78.4
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- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) Contract-required limits for OPR as specified in Table 6, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Alina Tarnauceanu _____

For AxyS Internal Use Only [XSL Template: Form16688B.xsl; Created: 20-Sep-2010 10:20:22; Application: XMLTransformer-1.10.26; Report Filename: 1614_PBDPE_1614LS_WG33687-102_Form8B_SJ1191384.html; Workgroup: WG33687; Design ID: 1303]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



BROMINATED DIPHENYLETHER CALIBRATION VERIFICATION

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_199A S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 12:31:57

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	MZ's FORMING RATIO ²	ION ABUND. RATIO	QC LIMITS ³	CONC. FOUND (ng/mL)	CONC. RANGE ⁴ (ng/mL)
2,4,4'-TriBDE	28	28 + 33	C	M+2/M+4	1.03	0.88-1.18	95.4	68.2 - 127
2',3,4-TriBDE	33	28 + 33	C28					
2,2',4,4'-TeBDE	47			M+2/M+4	0.71	0.60-0.81	52.6	35.0 - 65.0
2,2',4,4',5-PeBDE	99			M+4/M+6	1.05	0.88-1.18	46.7	35.0 - 65.0
2,2',4,4',6-PeBDE	100			M+4/M+6	1.07	0.88-1.18	48.2	35.0 - 65.0
2,2',4,4',5,5'-HxBDE	153			M+4/M+6	0.77	0.65-0.89	50.9	35.0 - 65.0
2,2',4,4',5,6'-HxBDE	154			M+4/M+6	0.78	0.65-0.89	50.2	35.0 - 65.0
2,2',3,4,4',5',6-HpBDE	183			M+6/M+8	1.06	0.88-1.18	49.0	35.0 - 65.0
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			M+8/M+10	0.85	0.73-0.99	474	250 - 1000

- (1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (2) See Table 8, Method 1614, for m/z specifications.
- (3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.
- (4) Contract-required concentration range as specified in Table 6, Method 1614, under VER.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____

For Axys Internal Use Only [XSL Template: Form16684A.xsl; Created: 20-Sep-2010 10:20:22; Application: XMLTransformer-1.10.26; Report Filename: 1614_PBDPE_BE01_199AS1_Form4A_SJ1191382.html; Workgroup: WG33687; Design ID: 1303]



BROMINATED DIPHENYLETHER CALIBRATION VERIFICATION

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_199A S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 12:31:57

LABELED COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	MZ's FORMING RATIO ³	ION ABUND. RATIO	QC LIMITS ⁴	CONC. FOUND (ng/mL)	CONC. RANGE ⁵ (ng/mL)
13C12-2,4,4'-TriBDE	28L			M+2/M+4	1.05	0.88-1.18	118	50.0 - 150
13C12-2,2',4,4'-TeBDE	47L			M+4/M+6	1.53	1.31-1.77	90.5	50.0 - 150
13C12-2,2',4,4',5-PeBDE	99L			M+4/M+6	1.00	0.88-1.18	84.5	49.5 - 149
13C12-2,2',4,4',6-PeBDE	100L			M+4/M+6	1.03	0.88-1.18	85.6	50.0 - 150
13C12-2,2',4,4',5,5'-HxBDE	153L			M+6/M+8	1.36	1.16-1.58	66.2	50.0 - 150
13C12-2,2',4,4',5,6'-HxBDE	154L			M+6/M+8	1.43	1.16-1.58	75.0	50.0 - 150
13C12-2,2',3,4,4',5',6-HpBDE	183L			M+6/M+8	1.05	0.88-1.18	88.0	50.0 - 150

CLEAN-UP STANDARD

13C12-2,2',3,4,4',6-HxBDE	139L			M+6/M+8	1.37	1.16-1.58	89.4	60.0 - 130
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- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (3) See Table 8, Method 1614, for m/z specifications.
- (4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.
- (5) Contract-required concentration range as specified in Table 6, Method 1614, under VER.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BROMINATED DIPHENYLETHER RELATIVE RETENTION TIMES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_199A S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 12:31:57

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	RETENTION TIME REFERENCE	IUPAC NO. ²	RRT	RRT QC LIMITS ³
2,4,4'-TriBDE	28	28 + 33	C	13C12-2,4,4'-TriBDE	28L	1.0007	0.9985-1.0022
2',3,4'-TriBDE	33	28 + 33	C28				
2,2',4,4'-TeBDE	47			13C12-2,2',4,4'-TeBDE	47L	1.0006	0.9988-1.0019
2,2',4,4',5-PeBDE	99			13C12-2,2',4,4',5-PeBDE	99L	1.0005	0.9989-1.0016
2,2',4,4',6-PeBDE	100			13C12-2,2',4,4',6-PeBDE	100L	1.0006	0.9989-1.0017
2,2',4,4',5,5'-HxBDE	153			13C12-2,2',4,4',5,5'-HxBDE	153L	1.0000	0.9990-1.0014
2,2',4,4',5,6'-HxBDE	154			13C12-2,2',4,4',5,6'-HxBDE	154L	1.0005	0.9990-1.0015
2,2',3,4,4',5',6-HpBDE	183			13C12-2,2',3,4,4',5',6-HpBDE	183L	1.0004	0.9991-1.0013
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L	1.0003	0.9993-1.0010

- (1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (2) Suffix "L" indicates labeled compound
- (3) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BROMINATED DIPHENYLETHER RELATIVE RETENTION TIMES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_199A S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 12:31:57

LABELLED COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	RETENTION TIME REFERENCE	IUPAC NO. ¹	RRT	RRT QC LIMITS ³
13C12-2,4,4'-TriBDE	28L			13C12-3,3',4,5'-TeBDE	79L	0.8315	0.8223-0.8407
13C12-2,2',4,4'-TeBDE	47L			13C12-3,3',4,5'-TeBDE	79L	0.9878	0.9817-0.9939
13C12-2,2',4,4',5-PeBDE	99L			13C12-3,3',4,5'-TeBDE	79L	1.1331	1.1239-1.1422
13C12-2,2',4,4',6-PeBDE	100L			13C12-3,3',4,5'-TeBDE	79L	1.1007	1.0916-1.1099
13C12-2,2',4,4',5,5'-HxBDE	153L			13C12-2,2',3,4,4',5,5'-HpBDE	180L	0.8809	0.8745-0.8873
13C12-2,2',4,4',5,6'-HxBDE	154L			13C12-2,2',3,4,4',5,5'-HpBDE	180L	0.8507	0.8443-0.8571
13C12-2,2',3,4,4',5,6'-HpBDE	183L			13C12-2,2',3,4,4',5,5'-HpBDE	180L	0.9660	0.9617-0.9702

CLEANUP STANDARD

13C12-2,2',3,4,4',6-HxBDE	139L			13C12-2,2',4,4',5,5'-HxBDE	153L	1.0126	1.0077-1.0174
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- (1) Suffix "L" indicates labeled compound
- (2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (3) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BROMINATED DIPHENYLETHER INITIAL CALIBRATION RELATIVE RESPONSES,
ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010

CAL Data Filename: BE01_199A S: 1

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010

GC Column ID: DB5HT

Analysis Time: 12:31:57

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	RRF	MZ's FORMING RATIO ²	ION ABUND. RATIO	RATIO QC LIMITS ³	RRT	RRT QC LIMITS
2,4-DiBDE	7			0.60	M/M+2	0.52	0.43-0.59	0.928	0.915 - 0.942
2,4'-DiBDE	8	8 + 11	C	0.79	M/M+2	0.51	0.43-0.59	0.958	0.949 - 0.967
2,6-DiBDE	10			0.64	M/M+2	0.51	0.43-0.59	0.863	0.845 - 0.882
3,3'-DiBDE	11	8 + 11	C8						
3,4-DiBDE	12	12 + 13	C	0.86	M/M+2	0.51	0.43-0.59	0.977	0.968 - 0.986
3,4'-DiBDE	13	12 + 13	C12						
4,4'-DiBDE	15			1.02	M/M+2	0.52	0.43-0.59	1.001	0.998 - 1.003
2,2',4-TriBDE	17	17 + 25	C	0.88	M+2/M+4	1.03	0.88-1.18	0.974	0.967 - 0.982
2,3',4-TriBDE	25	17 + 25	C17						
2,4,6-TriBDE	30			0.95	M+2/M+4	1.04	0.88-1.18	0.894	0.880 - 0.909
2,4',6-TriBDE	32			1.11	M+2/M+4	1.05	0.88-1.18	0.953	0.946 - 0.960
3,3',4-TriBDE	35			1.09	M+2/M+4	1.05	0.88-1.18	1.018	1.010 - 1.025
3,4,4'-TriBDE	37			1.17	M+2/M+4	1.04	0.88-1.18	1.038	1.031 - 1.046
2,2',4,5'-TeBDE	49			1.03	M+2/M+4	0.74	0.60-0.81	0.976	0.970 - 0.982
2,2',4,6'-TeBDE	51			1.71	M+2/M+4	0.68	0.60-0.81	0.967	0.961 - 0.973
2,3',4,4'-TeBDE	66			0.75	M+2/M+4	0.70	0.60-0.81	1.022	1.015 - 1.028
2,3',4',6-TeBDE	71			1.04	M+2/M+4	0.67	0.60-0.81	0.980	0.974 - 0.986
2,4,4',6-TeBDE	75			1.25	M+2/M+4	0.72	0.60-0.81	0.962	0.956 - 0.968
3,3',4,4'-TeBDE	77			1.36	M+2/M+4	0.71	0.60-0.81	1.001	0.999 - 1.002
3,3',4,5'-TeBDE	79			1.18	M+2/M+4	0.69	0.60-0.81	1.013	1.007 - 1.019
2,2',3,4,4'-PeBDE	85			0.65	M+4/M+6	1.07	0.88-1.18	0.992	0.987 - 0.997
2,3,3',4,4'-PeBDE	105			0.47	M+4/M+6	1.06	0.88-1.18	1.009	1.004 - 1.014
2,3,4,5,6-PeBDE	116			0.37	M+4/M+6	1.05	0.88-1.18	1.009	1.004 - 1.015
2,3',4,4',6-PeBDE	119	119 + 120	C	0.58	M+4/M+6	1.13	0.88-1.18	1.011	1.005 - 1.016
2,3',4,5,5'-PeBDE	120	119 + 120	C119						
3,3',4,4',5-PeBDE	126			1.17	M+4/M+6	1.09	0.88-1.18	1.001	0.999 - 1.002
2,2',3,3',4,4'-HxBDE	128			0.66	M+4/M+6	0.79	0.65-0.89	1.089	1.082 - 1.097
2,2',3,4,4',5'-HxBDE	138	138 + 166	C	0.68	M+4/M+6	0.76	0.65-0.89	1.045	1.040 - 1.050
2,2',3,4,4',6'-HxBDE	140			1.08	M+4/M+6	0.79	0.65-0.89	1.021	1.016 - 1.026
2,2',4,4',6,6'-HxBDE	155			1.71	M+4/M+6	0.76	0.65-0.89	0.982	0.977 - 0.987
2,3,4,4',5,6-HxBDE	166	138 + 166	C138						
2,2',3,4,4',5,6-HpBDE	181			0.72	M+6/M+8	1.10	0.88-1.18	1.045	1.041 - 1.050
2,3,3',4,4',5,6-HpBDE	190			0.42	M+6/M+8	1.01	0.88-1.18	1.052	1.048 - 1.056
2,2',3,3',4,4',6,6'-OcBDE	197	197 + 204	C	0.94	M+6/M+8	0.84	0.70-0.94	0.999	0.997 - 1.001
2,2',3,4,4',5,5',6-OcBDE	203			0.75	M+6/M+8	0.80	0.70-0.94	1.012	1.008 - 1.016
2,2',3,4,4',5,6,6'-OcBDE	204	197 + 204	C197						
2,3,3',4,4',5,5',6-OcBDE	205			0.47	M+6/M+8	0.83	0.70-0.94	1.032	1.028 - 1.036
2,2',3,3',4,4',5,5',6-NoBDE	206			0.32	M+8/M+10	1.01	0.88-1.18	1.115	1.109 - 1.121
2,2',3,3',4,4',5,6,6'-NoBDE	207			0.23	M+8/M+10	0.97	0.88-1.18	1.099	1.093 - 1.105
2,2',3,3',4,5,5',6,6'-NoBDE	208			0.21	M+8/M+10	1.00	0.88-1.18	1.091	1.085 - 1.097

(1) Where applicable, custom lab flags have been used on this report.

(2) See Table 8, Method 1614, for m/z specifications.

(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



**BROMINATED DIPHENYLETHER INITIAL CALIBRATION RELATIVE RESPONSES,
ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES**

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Jul-2010	CAL Data Filename:	BE01_199A S: 1
Instrument ID:	HR GC/MS	Analysis Date:	07-Sep-2010
GC Column ID:	DB5HT	Analysis Time:	12:31:57

LABELLED COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	RRF	MZ's FORMING RATIO ³	ION ABUND. RATIO	RATIO QC LIMITS ⁴	RRT	RRT QC LIMITS
13C12-4,4'-DiBDE	15L			6.73	M/M+2	0.52	0.43-0.59	0.665	0.653 - 0.678
13C12-2,4,4'-TriBDE	28L			2.87	M+2/M+4	1.05	0.88-1.18	0.832	0.822 - 0.841
13C12-2,2',4,4'-TeBDE	47L			0.97	M+4/M+6	1.53	1.31-1.77	0.988	0.982 - 0.994
13C12-3,3',4,4'-TeBDE	77L			0.83	M+4/M+6	1.57	1.31-1.77	1.042	1.036 - 1.048
13C12-2,2',4,4',5-PeBDE	99L			1.06	M+4/M+6	1.00	0.88-1.18	1.133	1.124 - 1.142
13C12-2,2',4,4',6-PeBDE	100L			1.52	M+4/M+6	1.03	0.88-1.18	1.101	1.092 - 1.110
13C12-3,3',4,4',5-PeBDE	126L			1.14	M+4/M+6	1.04	0.88-1.18	1.198	1.189 - 1.208
13C12-2,2',4,4',5,5'-HxBDE	153L			1.68	M+6/M+8	1.36	1.16-1.58	0.881	0.875 - 0.887
13C12-2,2',4,4',5,6'-HxBDE	154L			2.52	M+6/M+8	1.43	1.16-1.58	0.851	0.844 - 0.857
13C12-2,2',3,4,4',5,6'-HpBDE	183L			1.60	M+6/M+8	1.05	0.88-1.18	0.966	0.962 - 0.970
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			1.33	M+6/M+8	0.83	0.70-0.94	1.063	1.057 - 1.070
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			0.75	M+10/M+12	1.24	1.05-1.41	1.082	1.076 - 1.087

ADDITIONAL STANDARD

13C12-2,2',3,4,4',5'-HxBDE	138L			0.64	M+6/M+8	1.42	1.16-1.58	1.043	1.039 - 1.048
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- (1) Suffix "L" indicates labeled compound
- (2) Where applicable, custom lab flags have been used on this report.
- (3) See Table 8, Method 1614, for m/z specifications.
- (4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BROMINATED DIPHENYLETHER CALIBRATION VERIFICATION

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_200 S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 23:19:21

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	MZ's FORMING RATIO ²	ION ABUND. RATIO	QC LIMITS ³	CONC. FOUND (ng/mL)	CONC. RANGE ⁴ (ng/mL)
2,4,4'-TriBDE	28	28 + 33	C	M+2/M+4	1.02	0.88-1.18	94.5	68.2 - 127
2',3,4-TriBDE	33	28 + 33	C28					
2,2',4,4'-TeBDE	47			M+2/M+4	0.69	0.60-0.81	53.6	35.0 - 65.0
2,2',4,4',5-PeBDE	99			M+4/M+6	1.08	0.88-1.18	49.6	35.0 - 65.0
2,2',4,4',6-PeBDE	100			M+4/M+6	1.03	0.88-1.18	48.8	35.0 - 65.0
2,2',4,4',5,5'-HxBDE	153			M+4/M+6	0.79	0.65-0.89	49.7	35.0 - 65.0
2,2',4,4',5,6'-HxBDE	154			M+4/M+6	0.76	0.65-0.89	48.9	35.0 - 65.0
2,2',3,4,4',5',6-HpBDE	183			M+6/M+8	1.01	0.88-1.18	48.4	35.0 - 65.0
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			M+8/M+10	0.85	0.73-0.99	474	250 - 1000

- (1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (2) See Table 8, Method 1614, for m/z specifications.
- (3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.
- (4) Contract-required concentration range as specified in Table 6, Method 1614, under VER.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BROMINATED DIPHENYLETHER CALIBRATION VERIFICATION

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_200 S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 23:19:21

LABELED COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	MZ's FORMING RATIO ³	ION ABUND. RATIO	QC LIMITS ⁴	CONC. FOUND (ng/mL)	CONC. RANGE ⁵ (ng/mL)
13C12-2,4,4'-TriBDE	28L			M+2/M+4	1.05	0.88-1.18	132	50.0 - 150
13C12-2,2',4,4'-TeBDE	47L			M+4/M+6	1.58	1.31-1.77	91.4	50.0 - 150
13C12-2,2',4,4',5-PeBDE	99L			M+4/M+6	1.06	0.88-1.18	83.8	49.5 - 149
13C12-2,2',4,4',6-PeBDE	100L			M+4/M+6	1.04	0.88-1.18	92.2	50.0 - 150
13C12-2,2',4,4',5,5'-HxBDE	153L			M+6/M+8	1.37	1.16-1.58	70.9	50.0 - 150
13C12-2,2',4,4',5,6'-HxBDE	154L			M+6/M+8	1.38	1.16-1.58	78.2	50.0 - 150
13C12-2,2',3,4,4',5,6-HpBDE	183L			M+6/M+8	1.06	0.88-1.18	85.4	50.0 - 150

CLEAN-UP STANDARD

13C12-2,2',3,4,4',6-HxBDE	139L			M+6/M+8	1.40	1.16-1.58	92.2	60.0 - 130
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- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (3) See Table 8, Method 1614, for m/z specifications.
- (4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.
- (5) Contract-required concentration range as specified in Table 6, Method 1614, under VER.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BROMINATED DIPHENYLETHER RELATIVE RETENTION TIMES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_200 S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 23:19:21

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	RETENTION TIME REFERENCE	IUPAC NO. ²	RRT	RRT QC LIMITS ³
2,4,4'-TriBDE	28	28 + 33	C	13C12-2,4,4'-TriBDE	28L	1.0000	0.9985-1.0022
2',3,4'-TriBDE	33	28 + 33	C28				
2,2',4,4'-TeBDE	47			13C12-2,2',4,4'-TeBDE	47L	1.0006	0.9988-1.0019
2,2',4,4',5-PeBDE	99			13C12-2,2',4,4',5-PeBDE	99L	1.0005	0.9989-1.0016
2,2',4,4',6-PeBDE	100			13C12-2,2',4,4',6-PeBDE	100L	1.0006	0.9989-1.0017
2,2',4,4',5,5'-HxBDE	153			13C12-2,2',4,4',5,5'-HxBDE	153L	1.0005	0.9990-1.0014
2,2',4,4',5,6'-HxBDE	154			13C12-2,2',4,4',5,6'-HxBDE	154L	1.0005	0.9990-1.0015
2,2',3,4,4',5',6-HpBDE	183			13C12-2,2',3,4,4',5',6-HpBDE	183L	1.0004	0.9991-1.0013
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L	1.0003	0.9993-1.0010

- (1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (2) Suffix "L" indicates labeled compound
- (3) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BROMINATED DIPHENYLETHER RELATIVE RETENTION TIMES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_200 S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 23:19:21

LABELED COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	RETENTION TIME REFERENCE	IUPAC NO. ¹	RRT	RRT QC LIMITS ³
13C12-2,4,4'-TriBDE	28L			13C12-3,3',4,5'-TeBDE	79L	0.8320	0.8228-0.8412
13C12-2,2',4,4'-TeBDE	47L			13C12-3,3',4,5'-TeBDE	79L	0.9878	0.9817-0.9939
13C12-2,2',4,4',5-PeBDE	99L			13C12-3,3',4,5'-TeBDE	79L	1.1332	1.1240-1.1423
13C12-2,2',4,4',6-PeBDE	100L			13C12-3,3',4,5'-TeBDE	79L	1.1008	1.0916-1.1100
13C12-2,2',4,4',5,5'-HxBDE	153L			13C12-2,2',3,4,4',5,5'-HpBDE	180L	0.8809	0.8745-0.8872
13C12-2,2',4,4',5,6'-HxBDE	154L			13C12-2,2',3,4,4',5,5'-HpBDE	180L	0.8506	0.8443-0.8570
13C12-2,2',3,4,4',5,6'-HpBDE	183L			13C12-2,2',3,4,4',5,5'-HpBDE	180L	0.9660	0.9617-0.9702

CLEANUP STANDARD

13C12-2,2',3,4,4',6-HxBDE	139L			13C12-2,2',4,4',5,5'-HxBDE	153L	1.0121	1.0072-1.0169
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- (1) Suffix "L" indicates labeled compound
- (2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (3) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



**BROMINATED DIPHENYLETHER INITIAL CALIBRATION RELATIVE RESPONSES,
ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES**

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010

CAL Data Filename: BE01_200 S: 1

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010

GC Column ID: DB5HT

Analysis Time: 23:19:21

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	RRF	MZ's FORMING RATIO ²	ION ABUND. RATIO	RATIO QC LIMITS ³	RRT	RRT QC LIMITS
2,4-DiBDE	7			0.57	M/M+2	0.52	0.43-0.59	0.928	0.915 - 0.942
2,4'-DiBDE	8	8 + 11	C	0.77	M/M+2	0.52	0.43-0.59	0.958	0.949 - 0.967
2,6-DiBDE	10			0.60	M/M+2	0.51	0.43-0.59	0.863	0.845 - 0.882
3,3'-DiBDE	11	8 + 11	C8						
3,4-DiBDE	12	12 + 13	C	0.87	M/M+2	0.52	0.43-0.59	0.977	0.968 - 0.986
3,4'-DiBDE	13	12 + 13	C12						
4,4'-DiBDE	15			1.02	M/M+2	0.52	0.43-0.59	1.001	0.998 - 1.003
2,2',4-TriBDE	17	17 + 25	C	0.85	M+2/M+4	1.03	0.88-1.18	0.974	0.967 - 0.982
2,3',4-TriBDE	25	17 + 25	C17						
2,4,6-TriBDE	30			0.87	M+2/M+4	1.02	0.88-1.18	0.894	0.880 - 0.909
2,4',6-TriBDE	32			1.12	M+2/M+4	1.02	0.88-1.18	0.952	0.945 - 0.960
3,3',4-TriBDE	35			1.16	M+2/M+4	1.05	0.88-1.18	1.017	1.010 - 1.024
3,4,4'-TriBDE	37			1.02	M+2/M+4	1.01	0.88-1.18	1.038	1.031 - 1.046
2,2',4,5'-TeBDE	49			1.07	M+2/M+4	0.69	0.60-0.81	0.976	0.970 - 0.982
2,2',4,6'-TeBDE	51			1.66	M+2/M+4	0.69	0.60-0.81	0.968	0.962 - 0.974
2,3',4,4'-TeBDE	66			0.73	M+2/M+4	0.69	0.60-0.81	1.022	1.015 - 1.028
2,3',4',6-TeBDE	71			1.06	M+2/M+4	0.67	0.60-0.81	0.980	0.974 - 0.986
2,4,4',6-TeBDE	75			1.17	M+2/M+4	0.70	0.60-0.81	0.962	0.956 - 0.968
3,3',4,4'-TeBDE	77			1.43	M+2/M+4	0.70	0.60-0.81	1.001	0.999 - 1.002
3,3',4,5'-TeBDE	79			1.19	M+2/M+4	0.69	0.60-0.81	1.013	1.007 - 1.019
2,2',3,4,4'-PeBDE	85			0.63	M+4/M+6	1.06	0.88-1.18	0.992	0.987 - 0.997
2,3,3',4,4'-PeBDE	105			0.48	M+4/M+6	1.04	0.88-1.18	1.009	1.004 - 1.014
2,3,4,5,6-PeBDE	116			0.37	M+4/M+6	1.01	0.88-1.18	1.009	1.003 - 1.014
2,3',4,4',6-PeBDE	119	119 + 120	C	0.63	M+4/M+6	1.03	0.88-1.18	1.011	1.005 - 1.016
2,3',4,5,5'-PeBDE	120	119 + 120	C119						
3,3',4,4',5-PeBDE	126			1.27	M+4/M+6	1.07	0.88-1.18	1.001	0.999 - 1.002
2,2',3,3',4,4'-HxBDE	128			0.61	M+4/M+6	0.77	0.65-0.89	1.090	1.083 - 1.097
2,2',3,4,4',5'-HxBDE	138	138 + 166	C	0.65	M+4/M+6	0.77	0.65-0.89	1.044	1.040 - 1.049
2,2',3,4,4',6'-HxBDE	140			1.03	M+4/M+6	0.78	0.65-0.89	1.021	1.016 - 1.026
2,2',4,4',6,6'-HxBDE	155			1.70	M+4/M+6	0.76	0.65-0.89	0.982	0.977 - 0.987
2,3,4,4',5,6-HxBDE	166	138 + 166	C138						
2,2',3,4,4',5,6-HpBDE	181			0.76	M+6/M+8	1.08	0.88-1.18	1.045	1.041 - 1.050
2,3,3',4,4',5,6-HpBDE	190			0.45	M+6/M+8	1.00	0.88-1.18	1.052	1.048 - 1.056
2,2',3,3',4,4',6,6'-OcBDE	197	197 + 204	C	0.96	M+6/M+8	0.81	0.70-0.94	0.999	0.997 - 1.001
2,2',3,4,4',5,5',6-OcBDE	203			0.76	M+6/M+8	0.82	0.70-0.94	1.012	1.008 - 1.016
2,2',3,4,4',5,6,6'-OcBDE	204	197 + 204	C197						
2,3,3',4,4',5,5',6-OcBDE	205			0.51	M+6/M+8	0.78	0.70-0.94	1.032	1.028 - 1.036
2,2',3,3',4,4',5,5',6-NoBDE	206			0.35	M+8/M+10	1.04	0.88-1.18	1.114	1.108 - 1.120
2,2',3,3',4,4',5,6,6'-NoBDE	207			0.28	M+8/M+10	0.99	0.88-1.18	1.098	1.092 - 1.104
2,2',3,3',4,5,5',6,6'-NoBDE	208			0.24	M+8/M+10	1.03	0.88-1.18	1.091	1.085 - 1.097

(1) Where applicable, custom lab flags have been used on this report.
 (2) See Table 8, Method 1614, for m/z specifications.
 (3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



**BROMINATED DIPHENYLETHER INITIAL CALIBRATION RELATIVE RESPONSES,
ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES**

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010

CAL Data Filename: BE01_200 S: 1

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010

GC Column ID: DB5HT

Analysis Time: 23:19:21

LABELLED COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	RRF	MZ's FORMING RATIO ³	ION ABUND. RATIO	RATIO QC LIMITS ⁴	RRT	RRT QC LIMITS
13C12-4,4'-DiBDE	15L			7.46	M/M+2	0.52	0.43-0.59	0.665	0.653 - 0.677
13C12-2,4,4'-TriBDE	28L			3.20	M+2/M+4	1.05	0.88-1.18	0.832	0.823 - 0.841
13C12-2,2',4,4'-TeBDE	47L			0.98	M+4/M+6	1.58	1.31-1.77	0.988	0.982 - 0.994
13C12-3,3',4,4'-TeBDE	77L			0.84	M+4/M+6	1.57	1.31-1.77	1.042	1.036 - 1.048
13C12-2,2',4,4',5-PeBDE	99L			1.05	M+4/M+6	1.06	0.88-1.18	1.133	1.124 - 1.142
13C12-2,2',4,4',6-PeBDE	100L			1.64	M+4/M+6	1.04	0.88-1.18	1.101	1.092 - 1.110
13C12-3,3',4,4',5-PeBDE	126L			1.06	M+4/M+6	1.03	0.88-1.18	1.199	1.190 - 1.208
13C12-2,2',4,4',5,5'-HxBDE	153L			1.80	M+6/M+8	1.37	1.16-1.58	0.881	0.874 - 0.887
13C12-2,2',4,4',5,6'-HxBDE	154L			2.62	M+6/M+8	1.38	1.16-1.58	0.851	0.844 - 0.857
13C12-2,2',3,4,4',5,6'-HpBDE	183L			1.55	M+6/M+8	1.06	0.88-1.18	0.966	0.962 - 0.970
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			1.25	M+6/M+8	0.82	0.70-0.94	1.063	1.057 - 1.070
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			0.73	M+10/M+12	1.27	1.05-1.41	1.082	1.076 - 1.087

ADDITIONAL STANDARD

13C12-2,2',3,4,4',5'-HxBDE	138L			0.63	M+6/M+8	1.43	1.16-1.58	1.043	1.039 - 1.048
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- (1) Suffix "L" indicates labeled compound
- (2) Where applicable, custom lab flags have been used on this report.
- (3) See Table 8, Method 1614, for m/z specifications.
- (4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BATCH SUMMARY

Batch ID: WG33687	Date: 20-Sep-2010
Analysis Type: Polybrominated Diphenylether	Matrix Type: Aqueous
BATCH MAKEUP	
Contract: 2520 Samples: L15145-1 V93321-06R L15145-2 V93252-10R L15145-3 V93255-10R L15145-4 V93322-06R L15145-6 V93324-06R L15145-7 V93325-06R L15145-8 V93326-06R L15215-1 W29570-08R L15215-2 W29468-08R L15215-3 W29471-07R L15215-4 W29563-07R L15215-5 W29566-08R L15215-6 W29573-08R	Blank: WG33687-101 Reference or Spike: WG33687-102 Duplicate:
Comments: <ol style="list-style-type: none"> Data are not blank corrected. Elevated target concentrations above the method control limits were observed in the Lab Blank (Axys ID: WG33687-101). Reported concentrations in the samples should be interpreted as maximum values as they are lower or at similar level to that of the Lab Blank. As noted above, sample analyte concentrations are not blank corrected and blank levels should be considered during sample data review. The recovery of ¹³C-labelled DPE-154 and ¹³C-labelled DPE-139 in W29468-08R (AXYS ID: L15215-2) did not meet the method criteria; these compounds are flagged with a 'V'. As the isotope dilution method of quantification produces data that are recovery corrected, the slight variances from the method acceptance criteria are deemed not to significantly affect the quantification of these analytes. Percent surrogate recoveries are used as general method performance indicator only. A disturbance of the mass ion used to monitor instrument performance (lock-mass) was observed at retention time corresponding to DPE154 and DPE138/166 in V93321-06R, V93255-10R, V93322-06R, V93324-06R, V93325-06R and V93326-06R (Axys IDs: L15145-1, -3, -4, -6, -7 and -8, respectively) which are known to be due to alkanes. The variation in the lock mass is deemed not to significantly affect the data and these compounds have been flagged with a 'G'. 	



Form 3A

BROMINATED DIPHENYLETHER INITIAL CALIBRATION RELATIVE RESPONSES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010

Instrument ID: HR GC/MS

GC Column ID: DB5HT

CS0 Data Filename: N/A
 CS1 Data Filename: BE01_164W S: 2
 CS2 Data Filename: BE01_164X S: 2
 CS3 Data Filename: BE01_164X S: 3
 CS4 Data Filename: BE01_164X S: 5
 CS5 Data Filename: BE01_164X S: 4
 CS6 Data Filename: N/A

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	RELATIVE RESPONSE (RR)						MEAN RR	CV ² (%RSD)
				CS0	CS1	CS2	CS3	CS4	CS5			CS6
2,4,4'-TriBDE	28	28 + 33	C	0.99	0.91	0.95	0.94	0.91	0.94	3.71	
2',3,4-TriBDE	33	28 + 33	C28								
2,2',4,4'-TeBDE	47			1.13	1.13	1.20	1.18	1.19	1.16	2.80	
2,2',4,4',5-PeBDE	99			1.20	1.16	1.13	1.19	1.11	1.16	3.37	
2,2',4,4',6-PeBDE	100			1.23	1.20	1.20	1.19	1.19	1.20	1.29	
2,2',4,4',5,5'-HxBDE	153			1.11	1.07	1.13	1.10	1.10	1.10	2.01	
2,2',4,4',5,6'-HxBDE	154			1.45	1.29	1.29	1.35	1.30	1.33	5.08	
2,2',3,4,4',5',6-HpBDE	183			1.26	1.10	1.08	1.08	1.09	1.12	6.76	
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			1.12	1.15	1.23	1.20	1.19	1.18	3.78	

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
 (2) For contract CV specifications, see Section 10.4.4, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Kirsten Anderson_____



Form 3B

BROMINATED DIPHENYLETHER INITIAL CALIBRATION RELATIVE RESPONSES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010

Instrument ID: HR GC/MS

GC Column ID: DB5HT

CS0 Data Filename: N/A
 CS1 Data Filename: BE01_164W S: 2
 CS2 Data Filename: BE01_164X S: 2
 CS3 Data Filename: BE01_164X S: 3
 CS4 Data Filename: BE01_164X S: 5
 CS5 Data Filename: BE01_164X S: 4
 CS6 Data Filename: N/A

COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	RELATIVE RESPONSE (RR)						MEAN RR	CV ³ (%RSD)	
				CS0	CS1	CS2	CS3	CS4	CS5			CS6
13C12-2,4,4'-TriBDE	28L				2.29	2.03	2.25	2.40	3.20		2.43	18.5
13C12-2,2',4,4'-TeBDE	47L				0.92	0.90	0.92	1.13	1.51		1.08	24.1
13C12-2,2',4,4',5-PeBDE	99L				1.07	1.00	1.11	1.25	1.79		1.24	25.4
13C12-2,2',4,4',6-PeBDE	100L				1.52	1.48	1.60	1.86	2.41		1.77	21.5
13C12-2,2',4,4',5,5'-HxBDE	153L				1.99	2.05	2.06	2.64	3.97		2.54	33.2
13C12-2,2',4,4',5,6'-HxBDE	154L				2.78	2.74	2.87	3.34	5.06		3.36	29.2
13C12-2,2',3,4,4',5,6-HpBDE	183L				1.52	1.62	1.60	1.85	2.51		1.82	22.1
CLEAN-UP STANDARD												
13C12-2,2',3,4,4',6-HxBDE	139L				2.28	2.27	2.27	2.39	2.62		2.36	6.32

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (3) For contract CV specifications, see Section 10.5.6, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Kirsten Anderson_____



BROMINATED DIPHENYLETHER INITIAL CALIBRATION ION ABUNDANCE RATIOS

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010

Instrument ID: HR GC/MS

GC Column ID: DB5HT

CS0 Data Filename: N/A
 CS1 Data Filename: BE01_164W S: 2
 CS2 Data Filename: BE01_164X S: 2
 CS3 Data Filename: BE01_164X S: 3
 CS4 Data Filename: BE01_164X S: 5
 CS5 Data Filename: BE01_164X S: 4
 CS6 Data Filename: N/A

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	M/Z's FORMING RATIO ²	ION ABUNDANCE RATIO						QC LIMITS ²
					CS0	CS1	CS2	CS3	CS4	CS5		CS6
2,4,4'-TriBDE	28	28 + 33	C	M+2/M+4	0.98	1.07	1.08	1.05	1.05		0.88-1.18
2',3,4-TriBDE	33	28 + 33	C28								
2,2',4,4'-TeBDE	47			M+2/M+4	0.67	0.72	0.71	0.67	0.69		0.60-0.81
2,2',4,4',5-PeBDE	99			M+4/M+6	0.94	1.09	1.07	1.07	1.05		0.88-1.18
2,2',4,4',6-PeBDE	100			M+4/M+6	0.95	1.07	1.05	1.05	1.06		0.88-1.18
2,2',4,4',5,5'-HxBDE	153			M+4/M+6	0.66	0.78	0.79	0.76	0.77		0.65-0.89
2,2',4,4',5,6'-HxBDE	154			M+4/M+6	0.88	0.76	0.78	0.77	0.77		0.65-0.89
2,2',3,4,4',5,6'-HpBDE	183			M+6/M+8	1.07	1.00	1.04	1.02	1.02		0.88-1.18
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			M+8/M+10	0.80	0.88	0.83	0.85	0.85		0.73-0.99

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(2) See Table 8 Method 1614 for m/z specifications and ion abundance ratio control limits; QC Limits apply to CS2 to CS5 only.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Kirsten Anderson _____



BROMINATED DIPHENYLETHER INITIAL CALIBRATION ION ABUNDANCE RATIOS

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010

Instrument ID: HR GC/MS

GC Column ID: DB5HT

CS0 Data Filename: N/A
 CS1 Data Filename: BE01_164W S: 2
 CS2 Data Filename: BE01_164X S: 2
 CS3 Data Filename: BE01_164X S: 3
 CS4 Data Filename: BE01_164X S: 5
 CS5 Data Filename: BE01_164X S: 4
 CS6 Data Filename: N/A

LABELED COMPOUND	IUPAC NO. ¹	CO- ELUTIONS	LAB FLAG ²	M/Z's FORMING RATIO ³	ION ABUNDANCE RATIO						QC LIMITS ³	
					CS0	CS1	CS2	CS3	CS4	CS5		CS6
13C12-2,4,4'-TriBDE	28L			M+2/M+4		1.03	1.03	1.05	1.03	1.05		0.88-1.18
13C12-2,2',4,4'-TeBDE	47L			M+4/M+6		1.51	1.53	1.61	1.53	1.56		1.31-1.77
13C12-2,2',4,4',5-PeBDE	99L			M+4/M+6		1.02	1.03	1.03	1.06	1.05		0.88-1.18
13C12-2,2',4,4',6-PeBDE	100L			M+4/M+6		1.07	1.03	1.04	1.02	1.06		0.88-1.18
13C12-2,2',4,4',5,5'-HxBDE	153L			M+6/M+8		1.37	1.33	1.35	1.39	1.40		1.16-1.58
13C12-2,2',4,4',5,6'-HxBDE	154L			M+6/M+8		1.38	1.39	1.38	1.41	1.40		1.16-1.58
13C12-2,2',3,4,4',5',6-HpBDE	183L			M+6/M+8		1.03	1.01	1.05	1.01	1.07		0.88-1.18
CLEAN-UP STANDARD												
13C12-2,2',3,4,4',6-HxBDE	139L			M+6/M+8		1.42	1.37	1.41	1.35	1.37		1.16-1.58

(1) Suffix "L" indicates labeled compound.

(2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.

(3) See Table 8 Method 1614 for m/z specifications and ion abundance ratio control limits.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Kirsten Anderson_____



BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185
Lab Sample I.D.: L15145-1 R

Matrix: AQUEOUS

Sample Size: 1.05 L

Sample Receipt Date: 05-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Sep-2010 Time: 02:14:10

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_200 S: 4

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_200 S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		1.15		
2,4'-DiBDE	8	8 + 11	C ND		0.952		
2,6-DiBDE	10		ND		1.10		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.952		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.952		
2,2',4-TriBDE	17	17 + 25	C NDR	3.73	0.952	0.80	0.973
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	3.50	0.952	0.68	1.000
2,4,6-TriBDE	30		ND		1.28		
2,4',6-TriBDE	32		ND		0.952		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.952		
3,4,4'-TriBDE	37		ND		0.952		
2,2',4,4'-TeBDE	47			67.1	0.952	0.71	1.001
2,2',4,5'-TeBDE	49		ND		0.952		
2,2',4,6'-TeBDE	51		ND		0.952		
2,3',4,4'-TeBDE	66		ND		1.83		
2,3',4',6-TeBDE	71		ND		1.30		
2,4,4',6-TeBDE	75		ND		0.952		
3,3',4,4'-TeBDE	77		ND		0.952		
3,3',4,5'-TeBDE	79		ND		0.952		
2,2',3,4,4'-PeBDE	85			3.06	0.952	0.93	0.992
2,2',4,4',5-PeBDE	99			50.9	0.952	1.17	1.001
2,2',4,4',6-PeBDE	100			11.8	0.952	1.00	1.001
2,3,3',4,4'-PeBDE	105		ND		0.952		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		0.952		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		0.952		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.952		
2,2',3,3',4,4'-HxBDE	128		ND		1.31		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C NDR G	4.25	1.23	0.44	1.045
2,2',3,4,4',6'-HxBDE	140		ND		0.952		
2,2',4,4',5,5'-HxBDE	153		NDR	7.53	0.956	1.43	1.000
2,2',4,4',5,6'-HxBDE	154		G	3.86	0.952	0.85	1.000
2,2',4,4',6,6'-HxBDE	155		NDR	1.12	0.952	0.29	0.981
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.14		
2,2',3,4,4',5',6-HpBDE	183			7.33	0.952	1.12	1.001
2,3,3',4,4',5,6-HpBDE	190		ND		2.44		
2,2',3,4,4',5,5',6-OcBDE	203			9.72	1.98	0.75	1.011
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	23.1	4.24	0.34	1.114
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	63.8	5.31	1.20	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208			39.6	6.18	0.92	1.091
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	525	23.7	1.08	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

For Axy's Internal Use Only [XSL Template: Form16141A.xsl; Created: 20-Sep-2010 10:20:22; Application: XMLTransformer-1.10.26; Report Filename: 1614_PBDPE_1614LS_L15145-1_Form1A_BE01_200S4_SJ1191464.html; Workgroup: WG33687; Design ID: 1303]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 05-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 08-Sep-2010 Time: 02:14:10
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15145-1 R
Sample Size: 1.05 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_200 S: 4
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_200 S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	808	40.4	0.51	0.665
13C12-2,4,4'-TriBDE	28L			2000	1390	69.3	1.05	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1450	72.6	1.55	0.987
13C12-3,3',4,4'-TeBDE	77L			2000	1820	90.9	1.49	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1650	83.5	1.09	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1800	90.1	1.00	1.101
13C12-3,3',4,4',5-PeBDE	126L			2000	1890	94.5	1.05	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1070	53.3	1.49	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L		G	2000	2260	113	1.42	0.850
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1480	74.2	1.08	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1100	55.2	0.85	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	4460	22.3	1.30	1.081
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	2200	110	1.48	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185
Lab Sample I.D.: L15145-2 R

Matrix: AQUEOUS

Sample Size: 1.08 L

Sample Receipt Date: 05-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Sep-2010 Time: 03:12:26

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_200 S: 5

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_200 S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		1.09		
2,4'-DiBDE	8	8 + 11	C NDR	2.33	0.928	0.43	0.959
2,6-DiBDE	10		ND		1.10		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C NDR	1.06	0.928	0.86	0.977
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15			1.64	0.928	0.52	1.000
2,2',4-TriBDE	17	17 + 25	C NDR	2.71	0.928	0.73	0.974
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C	2.36	0.928	0.97	1.000
2,4,6-TriBDE	30		ND		0.928		
2,4',6-TriBDE	32		ND		0.928		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.928		
3,4,4'-TriBDE	37		ND		0.928		
2,2',4,4'-TeBDE	47		NDR	27.6	0.928	0.43	1.000
2,2',4,5'-TeBDE	49		NDR	2.51	0.928	2.88	0.977
2,2',4,6'-TeBDE	51		ND		0.928		
2,3',4,4'-TeBDE	66		NDR	3.97	1.24	1.36	1.022
2,3',4',6-TeBDE	71		ND		0.928		
2,4,4',6-TeBDE	75		ND		0.928		
3,3',4,4'-TeBDE	77		ND		0.928		
3,3',4,5'-TeBDE	79		ND		0.928		
2,2',3,4,4'-PeBDE	85		ND		0.973		
2,2',4,4',5-PeBDE	99			21.6	0.928	0.91	1.001
2,2',4,4',6-PeBDE	100			4.10	0.928	0.95	1.001
2,3,3',4,4'-PeBDE	105		ND		1.29		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		1.65		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		1.62		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.928		
2,2',3,3',4,4'-HxBDE	128		ND		2.41		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND		2.43		
2,2',3,4,4',6'-HxBDE	140		ND		1.55		
2,2',4,4',5,5'-HxBDE	153		NDR	2.57	1.84	0.34	1.000
2,2',4,4',5,6'-HxBDE	154			4.24	0.982	0.86	1.000
2,2',4,4',6,6'-HxBDE	155		ND		0.939		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		2.46		
2,2',3,4,4',5',6-HpBDE	183		ND		1.68		
2,3,3',4,4',5,6-HpBDE	190		ND		4.19		
2,2',3,4,4',5,5',6-OcBDE	203		ND		3.07		
2,2',3,3',4,4',5,5',6-NoBDE	206		ND		5.95		
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	57.3	7.45	2.27	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	12.8	8.68	6.71	1.091
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	204	22.8	1.21	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 05-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 08-Sep-2010 Time: 03:12:26
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No.: 09185
Lab Sample I.D.: L15145-2 R
Sample Size: 1.08 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_200 S: 5
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_200 S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1020	51.2	0.51	0.665
13C12-2,4,4'-TriBDE	28L			2000	1600	80.0	1.00	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1370	68.5	1.53	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1490	74.3	1.53	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1200	60.5	1.05	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1330	66.6	1.00	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1440	72.2	0.96	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1150	57.6	1.37	0.881
13C12-2,2',4,4',5,6'-HxBDE	154L			2000	1360	67.8	1.23	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1470	73.6	1.05	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1490	74.3	0.89	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	6280	31.4	1.24	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1530	76.6	1.43	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15145-3 R

Matrix: AQUEOUS

Sample Size: 1.08 L

Sample Receipt Date: 05-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Sep-2010 Time: 04:10:42

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_200 S: 6

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_200 S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.927		
2,4'-DiBDE	8	8 + 11	C ND		0.927		
2,6-DiBDE	10		ND		0.927		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.927		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.927		
2,2',4-TriBDE	17	17 + 25	C NDR	2.23	0.927	1.92	0.974
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	1.86	0.927	0.41	1.000
2,4,6-TriBDE	30		ND		1.24		
2,4',6-TriBDE	32		ND		0.963		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.927		
3,4,4'-TriBDE	37		ND		0.927		
2,2',4,4'-TeBDE	47		NDR	130	0.927	0.52	1.000
2,2',4,5'-TeBDE	49		NDR	4.95	0.927	0.29	0.975
2,2',4,6'-TeBDE	51		ND		1.18		
2,3',4,4'-TeBDE	66		ND		1.05		
2,3',4',6'-TeBDE	71		ND		1.51		
2,4,4',6'-TeBDE	75		ND		0.927		
3,3',4,4'-TeBDE	77		ND		0.927		
3,3',4,5'-TeBDE	79		ND		0.927		
2,2',3,4,4'-PeBDE	85			18.2	0.927	1.01	0.992
2,2',4,4',5'-PeBDE	99			204	0.927	0.95	1.001
2,2',4,4',6'-PeBDE	100			41.3	0.927	1.01	1.001
2,3,3',4,4'-PeBDE	105		ND		0.927		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		NDR	2.59	1.14	0.35	1.010
2,3',4,4',6-PeBDE	119	119 + 120	C ND		0.927		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.927		
2,2',3,3',4,4'-HxBDE	128		ND		1.38		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C NDR G	5.86	1.48	0.41	1.044
2,2',3,4,4',6'-HxBDE	140		ND		0.940		
2,2',4,4',5,5'-HxBDE	153			23.2	1.16	0.67	1.000
2,2',4,4',5,6'-HxBDE	154		G	18.1	0.927	0.66	1.000
2,2',4,4',6,6'-HxBDE	155		NDR	1.87	0.927	0.20	0.982
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.55		
2,2',3,4,4',5',6-HpBDE	183			5.70	1.06	1.12	1.000
2,3,3',4,4',5,6-HpBDE	190		ND		2.64		
2,2',3,4,4',5,5',6-OcBDE	203		NDR	4.15	2.05	0.02	1.012
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	13.0	3.76	1.90	1.115
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	14.6	4.71	0.19	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	10.5	5.49	0.06	1.091
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			115	33.4	0.73	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 05-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 08-Sep-2010 Time: 04:10:42
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15145-3 R
Sample Size: 1.08 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_200 S: 6
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_200 S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1170	58.6	0.51	0.665
13C12-2,4,4'-TriBDE	28L			2000	1740	86.8	1.04	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1440	71.9	1.62	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1780	89.1	1.65	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1530	77.4	0.98	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1650	82.4	1.02	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1840	92.1	1.07	1.199
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	986	49.3	1.37	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L		G	2000	1200	60.1	1.38	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1320	66.0	1.06	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1450	72.7	0.82	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	7560	37.8	1.32	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1410	70.3	1.47	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185
Lab Sample I.D.: L15145-4 R

Matrix: AQUEOUS

Sample Size: 1.08 L

Sample Receipt Date: 05-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Sep-2010 Time: 05:09:03

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_200 S: 7

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_200 S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.926		
2,4'-DiBDE	8	8 + 11	C ND		0.926		
2,6-DiBDE	10		ND		0.926		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.926		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.926		
2,2',4-TriBDE	17	17 + 25	C NDR	1.29	0.926	0.58	0.974
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	1.93	0.926	1.69	1.001
2,4,6-TriBDE	30		ND		0.926		
2,4',6-TriBDE	32		ND		0.926		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.926		
3,4,4'-TriBDE	37		ND		0.926		
2,2',4,4'-TeBDE	47			65.0	0.926	0.78	1.001
2,2',4,5'-TeBDE	49		ND		1.25		
2,2',4,6'-TeBDE	51		ND		0.926		
2,3',4,4'-TeBDE	66		ND		1.06		
2,3',4',6'-TeBDE	71		ND		0.926		
2,4,4',6'-TeBDE	75		ND		0.926		
3,3',4,4'-TeBDE	77		ND		0.926		
3,3',4,5'-TeBDE	79		ND		0.926		
2,2',3,4,4'-PeBDE	85			1.32	0.926	1.01	0.992
2,2',4,4',5'-PeBDE	99			42.7	0.926	1.07	1.001
2,2',4,4',6'-PeBDE	100		NDR	8.97	0.926	0.74	1.000
2,3,3',4,4'-PeBDE	105		ND		0.926		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		0.926		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		0.926		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.926		
2,2',3,3',4,4'-HxBDE	128		ND		0.926		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C NDR G	1.55	0.926	0.48	1.044
2,2',3,4,4',6'-HxBDE	140		ND		0.926		
2,2',4,4',5,5'-HxBDE	153		NDR	6.06	0.926	0.46	1.000
2,2',4,4',5,6'-HxBDE	154		G	3.65	0.926	0.77	1.000
2,2',4,4',6,6'-HxBDE	155		ND		0.926		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		0.926		
2,2',3,4,4',5',6-HpBDE	183		NDR	1.31	0.926	0.30	1.000
2,3,3',4,4',5,6-HpBDE	190		ND		1.29		
2,2',3,4,4',5,5',6-OcBDE	203		NDR	6.92	1.13	0.36	1.012
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	13.7	2.12	1.33	1.114
2,2',3,3',4,4',5,6,6'-NoBDE	207			29.4	2.65	0.96	1.098
2,2',3,3',4,5,5',6,6'-NoBDE	208			9.77	3.09	1.00	1.091
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	193	20.0	1.02	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 05-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 08-Sep-2010 **Time:** 05:09:03
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No.: 09185
Lab Sample I.D.: L15145-4 R
Sample Size: 1.08 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_200 S: 7
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_200 S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1050	52.7	0.51	0.665
13C12-2,4,4'-TriBDE	28L			2000	1790	89.4	1.09	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1520	76.1	1.52	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1700	85.2	1.63	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1560	78.6	1.07	1.132
13C12-2,2',4,4',6-PeBDE	100L			2000	1550	77.4	1.02	1.101
13C12-3,3',4,4',5-PeBDE	126L			2000	2100	105	1.09	1.199
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1000	50.2	1.42	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L		G	2000	1800	89.9	1.35	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1450	72.4	0.99	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1420	71.1	0.90	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	8060	40.3	1.23	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1500	75.0	1.38	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15145-6 R

Matrix: AQUEOUS

Sample Size: 1.06 L

Sample Receipt Date: 05-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Sep-2010 Time: 06:07:25

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_200 S: 8

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_200 S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.943		
2,4'-DiBDE	8	8 + 11	C ND		0.943		
2,6-DiBDE	10		ND		0.943		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.943		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		NDR	1.04	0.943	0.38	1.002
2,2',4-TriBDE	17	17 + 25	C ND		0.943		
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	2.72	0.943	1.62	1.000
2,4,6-TriBDE	30		ND		1.30		
2,4',6-TriBDE	32		ND		0.943		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.943		
3,4,4'-TriBDE	37		ND		0.943		
2,2',4,4'-TeBDE	47			64.4	1.01	0.72	1.001
2,2',4,5'-TeBDE	49		ND		1.21		
2,2',4,6'-TeBDE	51		ND		0.943		
2,3',4,4'-TeBDE	66		ND		1.77		
2,3',4',6'-TeBDE	71		ND		1.21		
2,4,4',6'-TeBDE	75		ND		1.11		
3,3',4,4'-TeBDE	77		ND		0.992		
3,3',4,5'-TeBDE	79		ND		1.09		
2,2',3,4,4'-PeBDE	85		NDR	3.01	1.30	0.56	0.992
2,2',4,4',5'-PeBDE	99			51.6	0.943	1.14	1.001
2,2',4,4',6'-PeBDE	100			10.1	0.943	1.14	1.001
2,3,3',4,4'-PeBDE	105		ND		1.73		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		2.22		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		1.31		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.943		
2,2',3,3',4,4'-HxBDE	128		ND		1.98		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C NDR G	2.73	2.04	0.48	1.043
2,2',3,4,4',6'-HxBDE	140		ND		1.30		
2,2',4,4',5,5'-HxBDE	153		NDR	5.17	1.72	0.42	1.000
2,2',4,4',5,6'-HxBDE	154		NDR G	4.99	0.943	0.41	1.000
2,2',4,4',6,6'-HxBDE	155		ND		0.943		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		2.37		
2,2',3,4,4',5',6-HpBDE	183		NDR	2.87	1.62	0.73	1.000
2,3,3',4,4',5,6-HpBDE	190		ND		4.04		
2,2',3,4,4',5,5',6-OcBDE	203		ND		2.90		
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	25.6	6.43	0.50	1.115
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	31.2	8.04	0.23	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	43.6	9.37	2.41	1.091
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	282	17.2	1.01	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 05-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 08-Sep-2010 Time: 06:07:25
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15145-6 R
Sample Size: 1.06 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_200 S: 8
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_200 S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1110	55.7	0.51	0.665
13C12-2,4,4'-TriBDE	28L			2000	1730	86.6	1.08	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1530	76.3	1.56	0.987
13C12-3,3',4,4'-TeBDE	77L			2000	1770	88.4	1.56	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1540	78.0	1.04	1.132
13C12-2,2',4,4',6-PeBDE	100L			2000	1630	81.7	1.04	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1990	99.5	1.04	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1050	52.6	1.42	0.881
13C12-2,2',4,4',5,6'-HxBDE	154L		G	2000	1440	72.0	1.42	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1450	72.5	0.97	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1510	75.6	0.89	1.064
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	7460	37.3	1.34	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1480	74.0	1.36	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185
Lab Sample I.D.: L15145-7 R

Matrix: AQUEOUS

Sample Size: 1.08 L

Sample Receipt Date: 05-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Sep-2010 Time: 07:05:41

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_200 S: 9

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_200 S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		1.04		
2,4'-DiBDE	8	8 + 11	C ND		0.925		
2,6-DiBDE	10		ND		0.991		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.925		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.925		
2,2',4-TriBDE	17	17 + 25	C ND		1.02		
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C ND		0.925		
2,4,6-TriBDE	30		ND		0.925		
2,4',6-TriBDE	32		ND		0.925		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.925		
3,4,4'-TriBDE	37		ND		0.925		
2,2',4,4'-TeBDE	47		NDR	49.7	0.925	0.86	1.000
2,2',4,5'-TeBDE	49		ND		1.38		
2,2',4,6'-TeBDE	51		ND		0.925		
2,3',4,4'-TeBDE	66		ND		1.41		
2,3',4',6'-TeBDE	71		ND		3.20		
2,4,4',6'-TeBDE	75		ND		0.925		
3,3',4,4'-TeBDE	77		ND		0.925		
3,3',4,5'-TeBDE	79		ND		0.925		
2,2',3,4,4'-PeBDE	85		NDR	1.88	1.50	1.76	0.992
2,2',4,4',5'-PeBDE	99		NDR	32.0	0.925	0.77	1.001
2,2',4,4',6'-PeBDE	100		NDR	7.17	0.925	1.75	1.001
2,3,3',4,4'-PeBDE	105		ND		2.00		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		2.56		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		1.51		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.925		
2,2',3,3',4,4'-HxBDE	128		ND		2.43		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND G		2.15		
2,2',3,4,4',6'-HxBDE	140		ND		1.37		
2,2',4,4',5,5'-HxBDE	153		NDR	8.23	1.77	0.49	1.000
2,2',4,4',5,6'-HxBDE	154		NDR G	2.68	0.925	2.35	1.001
2,2',4,4',6,6'-HxBDE	155		ND		0.925		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		2.81		
2,2',3,4,4',5',6-HpBDE	183		ND		1.91		
2,3,3',4,4',5,6-HpBDE	190		ND		4.78		
2,2',3,4,4',5,5',6-OcBDE	203		ND		3.27		
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	7.86	5.43	1.45	1.115
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	38.2	6.79	2.62	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208			19.7	7.91	1.08	1.090
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	142	17.6	1.57	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 05-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 08-Sep-2010 **Time:** 07:05:41
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15145-7 R
Sample Size: 1.08 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_200 S: 9
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_200 S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1170	58.3	0.51	0.665
13C12-2,4,4'-TriBDE	28L			2000	1800	89.8	1.05	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1600	80.2	1.44	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1920	95.9	1.64	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1760	88.9	0.98	1.132
13C12-2,2',4,4',6-PeBDE	100L			2000	1740	87.2	1.03	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	2190	109	1.06	1.199
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1020	51.2	1.42	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L		G	2000	1360	67.9	1.37	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1400	70.1	1.00	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1600	79.8	0.87	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	8320	41.6	1.25	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1500	74.9	1.28	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185
Lab Sample I.D.: L15145-8 R

Matrix: AQUEOUS

Sample Size: 1.08 L

Sample Receipt Date: 05-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 08-Sep-2010 Time: 08:04:03

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_200 S: 10

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_200 S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.928		
2,4'-DiBDE	8	8 + 11	C ND		0.928		
2,6-DiBDE	10		ND		0.928		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.928		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.928		
2,2',4-TriBDE	17	17 + 25	C	0.939	0.928	0.95	0.973
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	1.09	0.928	8.80	1.000
2,4,6-TriBDE	30		ND		0.928		
2,4',6-TriBDE	32		ND		0.928		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.928		
3,4,4'-TriBDE	37		ND		0.928		
2,2',4,4'-TeBDE	47			73.3	0.928	0.67	1.000
2,2',4,5'-TeBDE	49		NDR	1.17	0.928	2.61	0.975
2,2',4,6'-TeBDE	51		ND		0.928		
2,3',4,4'-TeBDE	66		ND		1.13		
2,3',4',6-TeBDE	71		ND		0.928		
2,4,4',6-TeBDE	75		ND		0.928		
3,3',4,4'-TeBDE	77		ND		0.928		
3,3',4,5'-TeBDE	79		ND		0.928		
2,2',3,4,4'-PeBDE	85		NDR	2.11	0.928	1.48	0.991
2,2',4,4',5-PeBDE	99			45.1	0.928	0.93	1.000
2,2',4,4',6-PeBDE	100		NDR	8.82	0.928	0.59	1.000
2,3,3',4,4'-PeBDE	105		ND		1.04		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		1.33		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		0.934		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.928		
2,2',3,3',4,4'-HxBDE	128		ND		1.58		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND G		1.38		
2,2',3,4,4',6'-HxBDE	140		ND		0.928		
2,2',4,4',5,5'-HxBDE	153		NDR	3.73	1.28	0.59	1.000
2,2',4,4',5,6'-HxBDE	154		NDR G	3.38	0.928	1.01	1.000
2,2',4,4',6,6'-HxBDE	155		ND		0.928		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.54		
2,2',3,4,4',5',6-HpBDE	183		NDR	5.34	1.05	1.23	1.000
2,3,3',4,4',5,6-HpBDE	190		ND		2.62		
2,2',3,4,4',5,5',6-OcBDE	203		NDR	2.06	1.90	2.87	1.012
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	34.2	4.19	1.55	1.114
2,2',3,3',4,4',5,6,6'-NoBDE	207			37.8	5.24	1.17	1.098
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	33.3	6.11	0.53	1.090
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	429	6.51	1.04	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; G = lock mass interference present; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 05-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 08-Sep-2010 Time: 08:04:03
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15145-8 R
Sample Size: 1.08 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_200 S: 10
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_200 S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	870	43.5	0.52	0.665
13C12-2,4,4'-TriBDE	28L			2000	1420	71.1	1.04	0.831
13C12-2,2',4,4'-TeBDE	47L			2000	1280	63.9	1.53	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1600	80.1	1.59	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1370	69.0	1.08	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1470	73.4	1.04	1.101
13C12-3,3',4,4',5-PeBDE	126L			2000	1800	90.1	1.02	1.199
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	809	40.5	1.39	0.881
13C12-2,2',4,4',5,6'-HxBDE	154L		G	2000	1270	63.6	1.44	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1170	58.6	1.12	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1230	61.3	0.79	1.064
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	6940	34.7	1.20	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1150	57.4	1.35	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; G = lock mass interference present.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15215-1

Matrix: AQUEOUS

Sample Size: 1.05 L

Sample Receipt Date: 19-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010 Time: 17:23:20

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_199A S: 6

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_199A S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		1.64		
2,4'-DiBDE	8	8 + 11	C ND		1.26		
2,6-DiBDE	10		ND		1.54		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		1.15		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.970		
2,2',4-TriBDE	17	17 + 25	C ND		0.989		
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	4.24	0.949	2.08	1.001
2,4,6-TriBDE	30		ND		0.949		
2,4',6-TriBDE	32		ND		0.949		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.949		
3,4,4'-TriBDE	37		ND		0.949		
2,2',4,4'-TeBDE	47			60.4	1.49	0.60	1.001
2,2',4,5'-TeBDE	49		ND		1.76		
2,2',4,6'-TeBDE	51		ND		1.07		
2,3',4,4'-TeBDE	66		ND		2.45		
2,3',4',6-TeBDE	71		ND		1.75		
2,4,4',6-TeBDE	75		ND		1.46		
3,3',4,4'-TeBDE	77		ND		1.41		
3,3',4,5'-TeBDE	79		ND		1.55		
2,2',3,4,4'-PeBDE	85		ND		2.41		
2,2',4,4',5-PeBDE	99		NDR	41.2	1.15	1.19	1.001
2,2',4,4',6-PeBDE	100			11.1	0.949	1.14	1.001
2,3,3',4,4'-PeBDE	105		ND		2.49		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		3.19		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		2.04		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		1.15		
2,2',3,3',4,4'-HxBDE	128		NDR	3.93	2.22	6.23	1.091
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND		3.06		
2,2',3,4,4',6'-HxBDE	140		ND		1.94		
2,2',4,4',5,5'-HxBDE	153		NDR	6.40	2.33	0.34	1.000
2,2',4,4',5,6'-HxBDE	154		NDR	2.37	1.30	0.97	1.001
2,2',4,4',6,6'-HxBDE	155		ND		1.64		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		2.46		
2,2',3,4,4',5',6-HpBDE	183		ND		1.58		
2,3,3',4,4',5,6-HpBDE	190		ND		4.23		
2,2',3,4,4',5,5',6-OcBDE	203		ND		4.91		
2,2',3,3',4,4',5,5',6-NoBDE	206			17.9	8.92	1.15	1.115
2,2',3,3',4,4',5,6,6'-NoBDE	207			36.0	12.2	0.91	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	23.2	13.5	0.66	1.091
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			316	43.1	0.83	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Alina Tarnauceanu _____

For AxyS Internal Use Only [XSL Template: Form16141A.xsl; Created: 20-Sep-2010 10:20:22; Application: XMLTransformer-1.10.26; Report Filename: 1614_PBDPE_1614LS_L15215-1_Form1A_BE01_199AS6_SJ1191394.html; Workgroup: WG33687; Design ID: 1303]

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 19-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 07-Sep-2010 Time: 17:23:20
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No.: 09185
Lab Sample I.D.: L15215-1
Sample Size: 1.05 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_199A S: 6
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_199A S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1020	50.8	0.53	0.665
13C12-2,4,4'-TriBDE	28L			2000	1410	70.3	0.99	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1010	50.7	1.68	0.987
13C12-3,3',4,4'-TeBDE	77L			2000	1240	62.0	1.57	1.041
13C12-2,2',4,4',5-PeBDE	99L			1980	1070	54.3	1.16	1.132
13C12-2,2',4,4',6-PeBDE	100L			2000	1060	53.0	1.00	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1260	63.2	1.00	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	730	36.5	1.41	0.881
13C12-2,2',4,4',5,6'-HxBDE	154L			2000	758	37.9	1.23	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	964	48.2	1.08	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	891	44.6	0.86	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	4470	22.4	1.25	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	959	48.0	1.25	1.012

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15215-2

Matrix: AQUEOUS

Sample Size: 1.09 L

Sample Receipt Date: 19-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010 Time: 18:21:37

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_199A S: 7

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_199A S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.920		
2,4'-DiBDE	8	8 + 11	C ND		0.920		
2,6-DiBDE	10		ND		0.920		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.920		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.920		
2,2',4-TriBDE	17	17 + 25	C NDR	2.59	0.920	1.38	0.974
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C	5.60	0.920	0.90	1.001
2,4,6-TriBDE	30		ND		0.920		
2,4',6-TriBDE	32		ND		0.920		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.920		
3,4,4'-TriBDE	37		ND		0.920		
2,2',4,4'-TeBDE	47			177	0.920	0.65	1.001
2,2',4,5'-TeBDE	49		NDR	5.90	0.920	1.23	0.975
2,2',4,6'-TeBDE	51		NDR	1.64	0.920	0.49	0.967
2,3',4,4'-TeBDE	66		NDR	4.19	0.920	0.39	1.022
2,3',4',6-TeBDE	71		NDR	1.77	0.920	1.44	0.980
2,4,4',6-TeBDE	75			1.90	0.920	0.69	0.962
3,3',4,4'-TeBDE	77		NDR	2.61	0.920	1.98	1.001
3,3',4,5'-TeBDE	79		NDR	2.44	0.920	1.37	1.012
2,2',3,4,4'-PeBDE	85			8.66	0.920	1.12	0.991
2,2',4,4',5-PeBDE	99			159	0.920	1.06	1.001
2,2',4,4',6-PeBDE	100			34.5	0.920	1.14	1.001
2,3,3',4,4'-PeBDE	105		NDR	1.52	0.920	0.12	1.009



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116			5.39	0.951	0.92	1.008
2,3',4,4',6-PeBDE	119	119 + 120	C NDR	3.63	0.920	1.40	1.010
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		NDR	1.91	0.920	2.65	1.000
2,2',3,3',4,4'-HxBDE	128		ND		1.89		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C NDR	3.99	1.09	1.01	1.044
2,2',3,4,4',6'-HxBDE	140			1.50	0.920	0.84	1.021
2,2',4,4',5,5'-HxBDE	153			12.8	1.11	0.76	1.000
2,2',4,4',5,6'-HxBDE	154			10.0	0.920	0.73	1.001
2,2',4,4',6,6'-HxBDE	155		NDR	1.71	0.920	1.03	0.981
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.35		
2,2',3,4,4',5',6-HpBDE	183		NDR	3.68	0.920	0.80	1.000
2,3,3',4,4',5,6-HpBDE	190		ND		2.33		
2,2',3,4,4',5,5',6-OcBDE	203		NDR	10.4	3.77	0.54	1.012
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	130	10.4	0.64	1.115
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	181	14.2	1.36	1.098
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	34.8	15.8	15.9	1.090
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			1930	159	0.84	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 19-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 07-Sep-2010 Time: 18:21:37
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15215-2
Sample Size: 1.09 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_199A S: 7
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_199A S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1020	50.8	0.52	0.666
13C12-2,4,4'-TriBDE	28L			2000	1630	81.4	1.00	0.831
13C12-2,2',4,4'-TeBDE	47L			2000	1620	80.9	1.58	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1880	94.1	1.52	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1250	63.0	1.04	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1440	71.8	1.05	1.101
13C12-3,3',4,4',5-PeBDE	126L			2000	1380	68.8	0.99	1.199
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	2390	120	1.40	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L		V	2000	3940	197	1.37	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	2260	113	0.98	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1150	57.4	0.83	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	6830	34.1	1.29	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L		V	2000	3070	153	1.35	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; V = surrogate recovery is not within method/contract control limits.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15215-3

Matrix: AQUEOUS

Sample Size: 1.09 L

Sample Receipt Date: 19-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010 Time: 19:19:53

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_199A S: 8

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_199A S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.929		
2,4'-DiBDE	8	8 + 11	C ND		0.916		
2,6-DiBDE	10		ND		0.916		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.916		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.916		
2,2',4-TriBDE	17	17 + 25	C	2.17	0.916	1.09	0.974
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C	2.36	0.916	1.15	1.001
2,4,6-TriBDE	30		ND		0.916		
2,4',6-TriBDE	32		ND		0.916		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		NDR	0.958	0.916	3.25	1.020
3,4,4'-TriBDE	37		ND		0.916		
2,2',4,4'-TeBDE	47			49.8	0.916	0.62	1.001
2,2',4,5'-TeBDE	49		NDR	2.64	0.916	1.03	0.976
2,2',4,6'-TeBDE	51		ND		0.916		
2,3',4,4'-TeBDE	66		ND		1.18		
2,3',4',6-TeBDE	71		ND		0.916		
2,4,4',6-TeBDE	75		ND		0.916		
3,3',4,4'-TeBDE	77		ND		0.916		
3,3',4,5'-TeBDE	79		ND		0.916		
2,2',3,4,4'-PeBDE	85		NDR	2.48	0.916	0.42	0.992
2,2',4,4',5-PeBDE	99			42.9	0.916	1.09	1.000
2,2',4,4',6-PeBDE	100		NDR	8.76	0.916	1.38	1.001
2,3,3',4,4'-PeBDE	105		ND		1.10		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		NDR	3.21	1.32	1.33	1.011
2,3',4,4',6-PeBDE	119	119 + 120	C ND		0.916		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.916		
2,2',3,3',4,4'-HxBDE	128		ND		2.07		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND		2.06		
2,2',3,4,4',6'-HxBDE	140		ND		1.30		
2,2',4,4',5,5'-HxBDE	153			5.59	1.57	0.76	1.000
2,2',4,4',5,6'-HxBDE	154		NDR	3.86	0.916	0.47	1.000
2,2',4,4',6,6'-HxBDE	155		ND		0.916		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.87		
2,2',3,4,4',5',6-HpBDE	183		ND		1.21		
2,3,3',4,4',5,6-HpBDE	190		ND		3.22		
2,2',3,4,4',5,5',6-OcBDE	203		ND		2.89		
2,2',3,3',4,4',5,5',6-NoBDE	206		ND		8.73		
2,2',3,3',4,4',5,6,6'-NoBDE	207			40.3	10.4	1.12	1.100
2,2',3,3',4,5,5',6,6'-NoBDE	208		ND		16.6		
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	168	70.9	1.20	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 19-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 07-Sep-2010 **Time:** 19:19:53
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No.: 09185
Lab Sample I.D.: L15215-3
Sample Size: 1.09 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_199A S: 8
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_199A S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1500	74.8	0.52	0.665
13C12-2,4,4'-TriBDE	28L			2000	2110	106	1.06	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1510	75.7	1.43	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1700	85.0	1.57	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1380	69.9	1.00	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1430	71.7	0.99	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1310	65.5	1.11	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1120	56.2	1.34	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L			2000	1210	60.6	1.45	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1480	73.9	1.01	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1390	69.4	0.83	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	6560	32.8	1.28	1.081
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1490	74.4	1.32	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15215-4

Matrix: AQUEOUS

Sample Size: 1.01 L

Sample Receipt Date: 19-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010 Time: 20:18:10

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_199A S: 9

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_199A S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.987		
2,4'-DiBDE	8	8 + 11	C ND		0.987		
2,6-DiBDE	10		ND		0.987		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.987		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.987		
2,2',4-TriBDE	17	17 + 25	C NDR	1.82	0.987	1.27	0.976
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	2.46	0.987	0.59	0.999
2,4,6-TriBDE	30		ND		0.987		
2,4',6-TriBDE	32		ND		0.987		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.987		
3,4,4'-TriBDE	37		ND		0.987		
2,2',4,4'-TeBDE	47			48.1	0.987	0.62	1.001
2,2',4,5'-TeBDE	49		NDR	1.21	0.987	1.56	0.976
2,2',4,6'-TeBDE	51		ND		0.987		
2,3',4,4'-TeBDE	66		ND		0.987		
2,3',4',6-TeBDE	71		ND		0.987		
2,4,4',6-TeBDE	75		ND		0.987		
3,3',4,4'-TeBDE	77		ND		0.987		
3,3',4,5'-TeBDE	79		ND		0.987		
2,2',3,4,4'-PeBDE	85			1.37	0.987	1.17	0.992
2,2',4,4',5-PeBDE	99			35.8	0.987	0.94	1.001
2,2',4,4',6-PeBDE	100		NDR	7.48	0.987	0.79	1.001
2,3,3',4,4'-PeBDE	105		ND		1.26		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		1.62		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		1.03		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.987		
2,2',3,3',4,4'-HxBDE	128		ND		0.987		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND		1.79		
2,2',3,4,4',6'-HxBDE	140		ND		1.13		
2,2',4,4',5,5'-HxBDE	153			6.84	1.65	0.68	1.000
2,2',4,4',5,6'-HxBDE	154			3.26	0.987	0.75	1.001
2,2',4,4',6,6'-HxBDE	155		ND		0.987		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.38		
2,2',3,4,4',5',6-HpBDE	183			2.15	0.987	0.91	1.000
2,3,3',4,4',5,6-HpBDE	190		ND		2.37		
2,2',3,4,4',5,5',6-OcBDE	203		NDR	12.7	1.42	0.49	1.011
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	13.0	4.23	1.52	1.114
2,2',3,3',4,4',5,6,6'-NoBDE	207			36.4	5.80	0.93	1.098
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	26.3	6.42	0.48	1.092
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			307	40.3	0.99	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 19-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 07-Sep-2010 Time: 20:18:10
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15215-4
Sample Size: 1.01 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_199A S: 9
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_199A S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1380	68.9	0.52	0.665
13C12-2,4,4'-TriBDE	28L			2000	1960	97.9	1.08	0.831
13C12-2,2',4,4'-TeBDE	47L			2000	1490	74.7	1.54	0.987
13C12-3,3',4,4'-TeBDE	77L			2000	1740	87.2	1.60	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1350	68.2	1.03	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1440	72.2	1.04	1.101
13C12-3,3',4,4',5-PeBDE	126L			2000	1620	80.9	1.03	1.199
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1040	51.9	1.37	0.881
13C12-2,2',4,4',5,6'-HxBDE	154L			2000	1560	78.2	1.37	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1450	72.5	1.02	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1360	68.2	0.84	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	7410	37.0	1.27	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1420	71.1	1.36	1.012

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15215-5

Matrix: AQUEOUS

Sample Size: 1.09 L

Sample Receipt Date: 19-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010 Time: 21:16:26

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_199A S: 10

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_199A S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.919		
2,4'-DiBDE	8	8 + 11	C ND		0.919		
2,6-DiBDE	10		ND		0.919		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.919		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.919		
2,2',4-TriBDE	17	17 + 25	C	4.06	0.919	1.04	0.975
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C NDR	5.94	0.919	0.58	1.001
2,4,6-TriBDE	30		ND		0.919		
2,4',6-TriBDE	32		ND		0.919		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.919		
3,4,4'-TriBDE	37		ND		0.919		
2,2',4,4'-TeBDE	47			190	0.919	0.73	1.001
2,2',4,5'-TeBDE	49		NDR	6.23	0.919	0.42	0.975
2,2',4,6'-TeBDE	51		ND		0.919		
2,3',4,4'-TeBDE	66		NDR	3.03	0.964	0.39	1.021
2,3',4',6'-TeBDE	71		ND		0.919		
2,4,4',6'-TeBDE	75		ND		0.919		
3,3',4,4'-TeBDE	77		ND		0.919		
3,3',4,5'-TeBDE	79		ND		1.72		
2,2',3,4,4'-PeBDE	85		NDR	8.20	0.958	1.39	0.991
2,2',4,4',5'-PeBDE	99			145	0.919	1.05	1.000
2,2',4,4',6'-PeBDE	100			34.2	0.919	1.07	1.001
2,3,3',4,4'-PeBDE	105		ND		1.32		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		NDR	2.70	1.70	0.75	1.007
2,3',4,4',6-PeBDE	119	119 + 120	C ND		1.08		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.919		
2,2',3,3',4,4'-HxBDE	128		ND		1.08		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND		2.13		
2,2',3,4,4',6'-HxBDE	140			1.86	1.35	0.71	1.021
2,2',4,4',5,5'-HxBDE	153		NDR	14.6	1.68	1.32	1.000
2,2',4,4',5,6'-HxBDE	154			10.8	0.919	0.87	1.001
2,2',4,4',6,6'-HxBDE	155		ND		0.919		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.79		
2,2',3,4,4',5',6-HpBDE	183		NDR	4.79	1.15	0.29	1.000
2,3,3',4,4',5,6-HpBDE	190		ND		3.08		
2,2',3,4,4',5,5',6-OcBDE	203		ND		4.68		
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	37.8	5.74	0.60	1.114
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	69.6	7.87	0.70	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	47.6	8.72	1.55	1.092
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			315	65.2	0.77	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 19-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 07-Sep-2010 Time: 21:16:26
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15215-5
Sample Size: 1.09 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_199A S: 10
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_199A S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1360	67.9	0.52	0.665
13C12-2,4,4'-TriBDE	28L			2000	1770	88.5	1.05	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1560	78.1	1.59	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1850	92.7	1.57	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1350	68.3	1.05	1.133
13C12-2,2',4,4',6-PeBDE	100L			2000	1420	70.9	0.98	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1620	81.2	1.05	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1180	59.0	1.40	0.881
13C12-2,2',4,4',5,6'-HxBDE	154L			2000	1390	69.3	1.28	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1440	72.2	1.06	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1460	73.0	0.81	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	7640	38.2	1.26	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1540	76.9	1.32	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No. 09185

Lab Sample I.D.: L15215-6

Matrix: AQUEOUS

Sample Size: 1.08 L

Sample Receipt Date: 19-Aug-2010

Initial Calibration Date: 14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010 Time: 22:14:47

GC Column ID: DB5HT

Extract Volume (uL): 50

Sample Data Filename: BE01_199A S: 11

Injection Volume (uL): 1.0

Blank Data Filename: BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename: BE01_199A S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7		ND		0.923		
2,4'-DiBDE	8	8 + 11	C ND		0.923		
2,6-DiBDE	10		ND		0.923		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		0.923		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15		ND		0.923		
2,2',4-TriBDE	17	17 + 25	C ND		0.923		
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C ND		0.923		
2,4,6-TriBDE	30		ND		0.923		
2,4',6-TriBDE	32		ND		0.923		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		ND		0.923		
3,4,4'-TriBDE	37		ND		0.923		
2,2',4,4'-TeBDE	47		NDR	32.0	0.923	0.94	1.001
2,2',4,5'-TeBDE	49		ND		0.923		
2,2',4,6'-TeBDE	51		ND		0.923		
2,3',4,4'-TeBDE	66		ND		1.25		
2,3',4',6-TeBDE	71		ND		0.923		
2,4,4',6-TeBDE	75		ND		0.923		
3,3',4,4'-TeBDE	77		ND		0.923		
3,3',4,5'-TeBDE	79		ND		0.923		
2,2',3,4,4'-PeBDE	85		ND		0.923		
2,2',4,4',5-PeBDE	99		NDR	18.2	0.923	1.54	1.001
2,2',4,4',6-PeBDE	100		NDR	5.46	0.923	1.47	1.001
2,3,3',4,4'-PeBDE	105		ND		1.15		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		1.47		
2,3',4,4',6-PeBDE	119	119 + 120	C ND		0.941		
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		0.923		
2,2',3,3',4,4'-HxBDE	128		ND		1.67		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C ND		2.02		
2,2',3,4,4',6'-HxBDE	140		ND		1.28		
2,2',4,4',5,5'-HxBDE	153		NDR	2.39	1.65	0.43	1.000
2,2',4,4',5,6'-HxBDE	154		NDR	1.68	0.923	1.07	1.001
2,2',4,4',6,6'-HxBDE	155		ND		0.923		
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		1.97		
2,2',3,4,4',5',6-HpBDE	183		NDR	1.95	1.27	3.19	1.001
2,3,3',4,4',5,6-HpBDE	190		ND		3.39		
2,2',3,4,4',5,5',6-OcBDE	203		ND		5.88		
2,2',3,3',4,4',5,5',6-NoBDE	206		NDR	72.6	6.08	0.58	1.115
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	156	8.34	0.81	1.098
2,2',3,3',4,5,5',6,6'-NoBDE	208			72.4	9.23	0.97	1.091
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			934	80.4	0.97	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 19-Aug-2010
Extraction Date: 20-Aug-2010
Analysis Date: 07-Sep-2010 Time: 22:14:47
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. 09185
Lab Sample I.D.: L15215-6
Sample Size: 1.08 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_199A S: 11
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_199A S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1600	80.2	0.51	0.665
13C12-2,4,4'-TriBDE	28L			2000	2050	103	1.02	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1550	77.5	1.61	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1950	97.3	1.62	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1450	73.1	1.01	1.132
13C12-2,2',4,4',6-PeBDE	100L			2000	1520	75.8	1.04	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1620	81.2	0.97	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1010	50.6	1.31	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L			2000	1230	61.5	1.52	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1420	70.8	1.01	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1340	67.1	0.88	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	7200	36.0	1.29	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1360	67.8	1.33	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



BROMINATED DIPHENYLETHER CONGENER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Project No.

N/A

Lab Sample I.D.:

WG33687-101

Matrix: AQUEOUS

Sample Size:

1.00 L

Sample Receipt Date: N/A

Initial Calibration Date:

14-Jul-2010

Extraction Date: 20-Aug-2010

Instrument ID:

HR GC/MS

Analysis Date: 07-Sep-2010 Time: 16:25:04

GC Column ID:

DB5HT

Extract Volume (uL): 50

Sample Data Filename:

BE01_199A S: 5

Injection Volume (uL): 1.0

Blank Data Filename:

BE01_199A S: 5

Dilution Factor: N/A

Cal. Ver. Data Filename:

BE01_199A S: 1

Concentration Units: pg/L

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,4-DiBDE	7			3.29	1.38	0.46	0.928
2,4'-DiBDE	8	8 + 11	C NDR	1.88	1.06	0.81	0.959
2,6-DiBDE	10		ND		1.30		
3,3'-DiBDE	11	8 + 11	C8				
3,4-DiBDE	12	12 + 13	C ND		1.00		
3,4'-DiBDE	13	12 + 13	C12				
4,4'-DiBDE	15			4.95	1.00	0.51	1.001
2,2',4-TriBDE	17	17 + 25	C	81.2	1.01	1.17	0.974
2,3',4-TriBDE	25	17 + 25	C17				
2,4,4'-TriBDE	28	28 + 33	C	249	1.00	1.05	1.001
2,4,6-TriBDE	30		ND		1.00		
2,4',6-TriBDE	32		ND		1.00		
2',3,4-TriBDE	33	28 + 33	C28				
3,3',4-TriBDE	35		NDR	3.53	1.00	0.56	1.018
3,4,4'-TriBDE	37		ND		1.00		
2,2',4,4'-TeBDE	47			2800	1.00	0.71	1.001
2,2',4,5'-TeBDE	49			213	1.09	0.70	0.975
2,2',4,6'-TeBDE	51		NDR	8.72	1.00	0.83	0.967
2,3',4,4'-TeBDE	66			6.39	1.50	0.74	1.024
2,3',4',6-TeBDE	71			2.69	1.08	0.76	0.981
2,4,4',6-TeBDE	75		NDR	1.37	1.00	0.18	0.962
3,3',4,4'-TeBDE	77		ND		1.00		
3,3',4,5'-TeBDE	79		NDR	13.8	1.00	0.92	1.010
2,2',3,4,4'-PeBDE	85		NDR	1.51	1.00	0.79	0.992
2,2',4,4',5-PeBDE	99			21.8	1.00	1.04	1.001
2,2',4,4',6-PeBDE	100			107	1.00	1.04	1.001
2,3,3',4,4'-PeBDE	105		ND		1.22		



COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	CONC. FOUND	REPORTING LIMIT	ION ABUND. RATIO	RRT
2,3,4,5,6-PeBDE	116		ND		1.57		
2,3',4,4',6-PeBDE	119	119 + 120	C NDR	3.22	1.00	1.65	1.011
2,3',4,5,5'-PeBDE	120	119 + 120	C119				
3,3',4,4',5-PeBDE	126		ND		1.00		
2,2',3,3',4,4'-HxBDE	128		ND		2.05		
2,2',3,4,4',5'-HxBDE	138	138 + 166	C NDR	2.79	2.56	0.03	1.043
2,2',3,4,4',6'-HxBDE	140		ND		1.62		
2,2',4,4',5,5'-HxBDE	153			5.30	1.95	0.79	1.000
2,2',4,4',5,6'-HxBDE	154			11.7	1.10	0.82	1.000
2,2',4,4',6,6'-HxBDE	155		NDR	4.63	1.02	1.41	0.981
2,3,4,4',5,6-HxBDE	166	138 + 166	C138				
2,2',3,4,4',5,6-HpBDE	181		ND		2.54		
2,2',3,4,4',5',6-HpBDE	183		ND		3.44		
2,3,3',4,4',5,6-HpBDE	190		ND		4.36		
2,2',3,4,4',5,5',6-OcBDE	203		ND		3.54		
2,2',3,3',4,4',5,5',6-NoBDE	206			23.6	6.27	1.17	1.114
2,2',3,3',4,4',5,6,6'-NoBDE	207		NDR	39.9	8.58	1.92	1.099
2,2',3,3',4,5,5',6,6'-NoBDE	208		NDR	39.0	9.51	1.24	1.092
2,2',3,3',4,4',5,5',6,6'-DeBDE	209		NDR	228	20.1	0.70	1.000

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration; C = co-eluting congener.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: N/A
Extraction Date: 20-Aug-2010
Analysis Date: 07-Sep-2010 Time: 16:25:04
Extract Volume (uL): 50
Injection Volume (uL): 1.0
Dilution Factor: N/A
Concentration Units: pg absolute

Project No. N/A
Lab Sample I.D.: WG33687-101
Sample Size: 1.00 L
Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT
Sample Data Filename: BE01_199A S: 5
Blank Data Filename: BE01_199A S: 5
Cal. Ver. Data Filename: BE01_199A S: 1

LABELLED COMPOUND	IUPAC NO. 1	CO-ELUTIONS	LAB FLAG 2	SPIKE CONC.	CONC. FOUND	R(%) 3	ION ABUND. RATIO	RRT
13C12-4,4'-DiBDE	15L			2000	1300	64.8	0.53	0.665
13C12-2,4,4'-TriBDE	28L			2000	2130	107	1.05	0.832
13C12-2,2',4,4'-TeBDE	47L			2000	1690	84.6	1.49	0.988
13C12-3,3',4,4'-TeBDE	77L			2000	1930	96.4	1.54	1.042
13C12-2,2',4,4',5-PeBDE	99L			1980	1550	78.1	1.05	1.132
13C12-2,2',4,4',6-PeBDE	100L			2000	1710	85.6	1.01	1.100
13C12-3,3',4,4',5-PeBDE	126L			2000	1790	89.5	1.06	1.198
13C12-2,2',4,4',5,5'-HxBDE	153L			2000	1070	53.4	1.24	0.880
13C12-2,2',4,4',5,6'-HxBDE	154L			2000	1170	58.6	1.49	0.851
13C12-2,2',3,4,4',5,6'-HpBDE	183L			2000	1430	71.4	1.08	0.966
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			2000	1500	74.9	0.82	1.063
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			20000	8130	40.7	1.18	1.082
CLEANUP STANDARD								
13C12-2,2',3,4,4',6-HxBDE	139L			2000	1360	68.0	1.35	1.013

- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) R% = percent recovery of labeled compounds.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Alina Tarnauceanu_____

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BROMINATED DIPHENYLETHER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2520	Lab Sample I.D.:	WG33687-102
Matrix:	AQUEOUS	Initial Calibration Date:	14-Jul-2010
Extraction Date:	20-Aug-2010	Instrument ID:	HR GC/MS
Analysis Date:	07-Sep-2010 Time: 13:30:13	GC Column ID:	DB5HT
Extract Volume (uL):	50	OPR Data Filename:	BE01_199A S: 2
Injection Volume (uL):	1.0	Blank Data Filename:	BE01_199A S: 5
Dilution Factor:	N/A	Cal. Ver. Data Filename:	BE01_199A S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS ² (ng/mL)	% RECOVERY
2,4,4'-TriBDE	28	28 + 33	C	1.02	97.4	92.8	48.7 - 146	95.3
2',3,4-TriBDE	33	28 + 33	C28					
2,2',4,4'-TeBDE	47			0.69	50.0	52.3	25.0 - 75.0	105
2,2',4,4',5-PeBDE	99			1.05	50.0	47.0	25.0 - 75.0	94.1
2,2',4,4',6-PeBDE	100			1.12	50.0	46.7	25.0 - 75.0	93.3
2,2',4,4',5,5'-HxBDE	153			0.79	50.0	47.2	25.0 - 75.0	94.3
2,2',4,4',5,6'-HxBDE	154			0.77	50.0	45.2	25.0 - 75.0	90.3
2,2',3,4,4',5',6'-HpBDE	183			1.05	50.0	43.8	25.0 - 75.0	87.6
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			0.89	500	476	200 - 1000	95.2

(1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
 (2) Contract-required limits for OPR as specified in Table 6, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Alina Tarnauceanu _____

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BROMINATED DIPHENYLETHER ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.:	2520	Lab Sample I.D.:	WG33687-102
Matrix:	AQUEOUS	Initial Calibration Date:	14-Jul-2010
Extraction Date:	20-Aug-2010	Instrument ID:	HR GC/MS
Analysis Date:	07-Sep-2010 Time: 13:30:13	GC Column ID:	DB5HT
Extract Volume (uL):	50	OPR Data Filename:	BE01_199A S: 2
Injection Volume (uL):	1.0	Blank Data Filename:	BE01_199A S: 5
Dilution Factor:	N/A	Cal. Ver. Data Filename:	BE01_199A S: 1

CONCENTRATIONS REPORTED ARE CONCENTRATIONS IN EXTRACT, BASED ON A 20 uL EXTRACT VOLUME.

LABELED COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS ³ (ng/mL)	% RECOVERY
13C12-2,4,4'-TriBDE	28L			1.06	100	89.0	30.0 - 140	89.0
13C12-2,2',4,4'-TeBDE	47L			1.51	100	77.6	30.0 - 140	77.6
13C12-2,2',4,4',5-PeBDE	99L			1.03	99.0	80.0	29.7 - 139	80.8
13C12-2,2',4,4',6-PeBDE	100L			1.03	100	85.6	30.0 - 140	85.6
13C12-2,2',4,4',5,5'-HxBDE	153L			1.38	100	58.1	30.0 - 140	58.1
13C12-2,2',4,4',5,6'-HxBDE	154L			1.29	100	68.6	30.0 - 140	68.6
13C12-2,2',3,4,4',5,6'-HpBDE	183L			0.97	100	79.1	30.0 - 140	79.1
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			1.24	1000	423	200 - 2000	42.3

CLEANUP STANDARD

13C12-2,2',3,4,4',6-HxBDE	139L			1.34	100	78.4	40.0 - 125	78.4
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- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report.
- (3) Contract-required limits for OPR as specified in Table 6, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Alina Tarnauceanu _____

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BROMINATED DIPHENYLETHER CALIBRATION VERIFICATION

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_199A S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 12:31:57

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	MZ's FORMING RATIO ²	ION ABUND. RATIO	QC LIMITS ³	CONC. FOUND (ng/mL)	CONC. RANGE ⁴ (ng/mL)
2,4,4'-TriBDE	28	28 + 33	C	M+2/M+4	1.03	0.88-1.18	95.4	68.2 - 127
2',3,4-TriBDE	33	28 + 33	C28					
2,2',4,4'-TeBDE	47			M+2/M+4	0.71	0.60-0.81	52.6	35.0 - 65.0
2,2',4,4',5-PeBDE	99			M+4/M+6	1.05	0.88-1.18	46.7	35.0 - 65.0
2,2',4,4',6-PeBDE	100			M+4/M+6	1.07	0.88-1.18	48.2	35.0 - 65.0
2,2',4,4',5,5'-HxBDE	153			M+4/M+6	0.77	0.65-0.89	50.9	35.0 - 65.0
2,2',4,4',5,6'-HxBDE	154			M+4/M+6	0.78	0.65-0.89	50.2	35.0 - 65.0
2,2',3,4,4',5',6-HpBDE	183			M+6/M+8	1.06	0.88-1.18	49.0	35.0 - 65.0
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			M+8/M+10	0.85	0.73-0.99	474	250 - 1000

- (1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (2) See Table 8, Method 1614, for m/z specifications.
- (3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.
- (4) Contract-required concentration range as specified in Table 6, Method 1614, under VER.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BROMINATED DIPHENYLETHER CALIBRATION VERIFICATION

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_199A S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 12:31:57

LABELED COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	MZ's FORMING RATIO ³	ION ABUND. RATIO	QC LIMITS ⁴	CONC. FOUND (ng/mL)	CONC. RANGE ⁵ (ng/mL)
13C12-2,4,4'-TriBDE	28L			M+2/M+4	1.05	0.88-1.18	118	50.0 - 150
13C12-2,2',4,4'-TeBDE	47L			M+4/M+6	1.53	1.31-1.77	90.5	50.0 - 150
13C12-2,2',4,4',5-PeBDE	99L			M+4/M+6	1.00	0.88-1.18	84.5	49.5 - 149
13C12-2,2',4,4',6-PeBDE	100L			M+4/M+6	1.03	0.88-1.18	85.6	50.0 - 150
13C12-2,2',4,4',5,5'-HxBDE	153L			M+6/M+8	1.36	1.16-1.58	66.2	50.0 - 150
13C12-2,2',4,4',5,6'-HxBDE	154L			M+6/M+8	1.43	1.16-1.58	75.0	50.0 - 150
13C12-2,2',3,4,4',5',6-HpBDE	183L			M+6/M+8	1.05	0.88-1.18	88.0	50.0 - 150

CLEAN-UP STANDARD

13C12-2,2',3,4,4',6-HxBDE	139L			M+6/M+8	1.37	1.16-1.58	89.4	60.0 - 130
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- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (3) See Table 8, Method 1614, for m/z specifications.
- (4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.
- (5) Contract-required concentration range as specified in Table 6, Method 1614, under VER.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BROMINATED DIPHENYLETHER RELATIVE RETENTION TIMES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_199A S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 12:31:57

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	RETENTION TIME REFERENCE	IUPAC NO. ²	RRT	RRT QC LIMITS ³
2,4,4'-TriBDE	28	28 + 33	C	13C12-2,4,4'-TriBDE	28L	1.0007	0.9985-1.0022
2',3,4'-TriBDE	33	28 + 33	C28				
2,2',4,4'-TeBDE	47			13C12-2,2',4,4'-TeBDE	47L	1.0006	0.9988-1.0019
2,2',4,4',5-PeBDE	99			13C12-2,2',4,4',5-PeBDE	99L	1.0005	0.9989-1.0016
2,2',4,4',6-PeBDE	100			13C12-2,2',4,4',6-PeBDE	100L	1.0006	0.9989-1.0017
2,2',4,4',5,5'-HxBDE	153			13C12-2,2',4,4',5,5'-HxBDE	153L	1.0000	0.9990-1.0014
2,2',4,4',5,6'-HxBDE	154			13C12-2,2',4,4',5,6'-HxBDE	154L	1.0005	0.9990-1.0015
2,2',3,4,4',5,6'-HpBDE	183			13C12-2,2',3,4,4',5,6'-HpBDE	183L	1.0004	0.9991-1.0013
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L	1.0003	0.9993-1.0010

- (1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (2) Suffix "L" indicates labeled compound
- (3) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____

For Axys Internal Use Only [XSL Template: Form16686A.xsl; Created: 20-Sep-2010 10:20:22; Application: XMLTransformer-1.10.26; Report Filename: 1614_PBDPE_BE01_199AS1__Form6A_SJ1191382.html; Workgroup: WG33687; Design ID: 1303]



BROMINATED DIPHENYLETHER RELATIVE RETENTION TIMES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_199A S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 12:31:57

LABELLED COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	RETENTION TIME REFERENCE	IUPAC NO. ¹	RRT	RRT QC LIMITS ³
13C12-2,4,4'-TriBDE	28L			13C12-3,3',4,5'-TeBDE	79L	0.8315	0.8223-0.8407
13C12-2,2',4,4'-TeBDE	47L			13C12-3,3',4,5'-TeBDE	79L	0.9878	0.9817-0.9939
13C12-2,2',4,4',5-PeBDE	99L			13C12-3,3',4,5'-TeBDE	79L	1.1331	1.1239-1.1422
13C12-2,2',4,4',6-PeBDE	100L			13C12-3,3',4,5'-TeBDE	79L	1.1007	1.0916-1.1099
13C12-2,2',4,4',5,5'-HxBDE	153L			13C12-2,2',3,4,4',5,5'-HpBDE	180L	0.8809	0.8745-0.8873
13C12-2,2',4,4',5,6'-HxBDE	154L			13C12-2,2',3,4,4',5,5'-HpBDE	180L	0.8507	0.8443-0.8571
13C12-2,2',3,4,4',5,6'-HpBDE	183L			13C12-2,2',3,4,4',5,5'-HpBDE	180L	0.9660	0.9617-0.9702

CLEANUP STANDARD

13C12-2,2',3,4,4',6-HxBDE	139L			13C12-2,2',4,4',5,5'-HxBDE	153L	1.0126	1.0077-1.0174
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- (1) Suffix "L" indicates labeled compound
- (2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (3) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



**BROMINATED DIPHENYLETHER INITIAL CALIBRATION RELATIVE RESPONSES,
ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES**

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010

CAL Data Filename: BE01_199A S: 1

Instrument ID: HR GC/MS

Analysis Date: 07-Sep-2010

GC Column ID: DB5HT

Analysis Time: 12:31:57

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	RRF	MZ's FORMING RATIO ²	ION ABUND. RATIO	RATIO QC LIMITS ³	RRT	RRT QC LIMITS
2,4-DiBDE	7			0.60	M/M+2	0.52	0.43-0.59	0.928	0.915 - 0.942
2,4'-DiBDE	8	8 + 11	C	0.79	M/M+2	0.51	0.43-0.59	0.958	0.949 - 0.967
2,6-DiBDE	10			0.64	M/M+2	0.51	0.43-0.59	0.863	0.845 - 0.882
3,3'-DiBDE	11	8 + 11	C8						
3,4-DiBDE	12	12 + 13	C	0.86	M/M+2	0.51	0.43-0.59	0.977	0.968 - 0.986
3,4'-DiBDE	13	12 + 13	C12						
4,4'-DiBDE	15			1.02	M/M+2	0.52	0.43-0.59	1.001	0.998 - 1.003
2,2',4-TriBDE	17	17 + 25	C	0.88	M+2/M+4	1.03	0.88-1.18	0.974	0.967 - 0.982
2,3',4-TriBDE	25	17 + 25	C17						
2,4,6-TriBDE	30			0.95	M+2/M+4	1.04	0.88-1.18	0.894	0.880 - 0.909
2,4',6-TriBDE	32			1.11	M+2/M+4	1.05	0.88-1.18	0.953	0.946 - 0.960
3,3',4-TriBDE	35			1.09	M+2/M+4	1.05	0.88-1.18	1.018	1.010 - 1.025
3,4,4'-TriBDE	37			1.17	M+2/M+4	1.04	0.88-1.18	1.038	1.031 - 1.046
2,2',4,5'-TeBDE	49			1.03	M+2/M+4	0.74	0.60-0.81	0.976	0.970 - 0.982
2,2',4,6'-TeBDE	51			1.71	M+2/M+4	0.68	0.60-0.81	0.967	0.961 - 0.973
2,3',4,4'-TeBDE	66			0.75	M+2/M+4	0.70	0.60-0.81	1.022	1.015 - 1.028
2,3',4',6-TeBDE	71			1.04	M+2/M+4	0.67	0.60-0.81	0.980	0.974 - 0.986
2,4,4',6-TeBDE	75			1.25	M+2/M+4	0.72	0.60-0.81	0.962	0.956 - 0.968
3,3',4,4'-TeBDE	77			1.36	M+2/M+4	0.71	0.60-0.81	1.001	0.999 - 1.002
3,3',4,5'-TeBDE	79			1.18	M+2/M+4	0.69	0.60-0.81	1.013	1.007 - 1.019
2,2',3,4,4'-PeBDE	85			0.65	M+4/M+6	1.07	0.88-1.18	0.992	0.987 - 0.997
2,3,3',4,4'-PeBDE	105			0.47	M+4/M+6	1.06	0.88-1.18	1.009	1.004 - 1.014
2,3,4,5,6-PeBDE	116			0.37	M+4/M+6	1.05	0.88-1.18	1.009	1.004 - 1.015
2,3',4,4',6-PeBDE	119	119 + 120	C	0.58	M+4/M+6	1.13	0.88-1.18	1.011	1.005 - 1.016
2,3',4,5,5'-PeBDE	120	119 + 120	C119						
3,3',4,4',5-PeBDE	126			1.17	M+4/M+6	1.09	0.88-1.18	1.001	0.999 - 1.002
2,2',3,3',4,4'-HxBDE	128			0.66	M+4/M+6	0.79	0.65-0.89	1.089	1.082 - 1.097
2,2',3,4,4',5'-HxBDE	138	138 + 166	C	0.68	M+4/M+6	0.76	0.65-0.89	1.045	1.040 - 1.050
2,2',3,4,4',6'-HxBDE	140			1.08	M+4/M+6	0.79	0.65-0.89	1.021	1.016 - 1.026
2,2',4,4',6,6'-HxBDE	155			1.71	M+4/M+6	0.76	0.65-0.89	0.982	0.977 - 0.987
2,3,4,4',5,6-HxBDE	166	138 + 166	C138						
2,2',3,4,4',5,6-HpBDE	181			0.72	M+6/M+8	1.10	0.88-1.18	1.045	1.041 - 1.050
2,3,3',4,4',5,6-HpBDE	190			0.42	M+6/M+8	1.01	0.88-1.18	1.052	1.048 - 1.056
2,2',3,3',4,4',6,6'-OcBDE	197	197 + 204	C	0.94	M+6/M+8	0.84	0.70-0.94	0.999	0.997 - 1.001
2,2',3,4,4',5,5',6-OcBDE	203			0.75	M+6/M+8	0.80	0.70-0.94	1.012	1.008 - 1.016
2,2',3,4,4',5,6,6'-OcBDE	204	197 + 204	C197						
2,3,3',4,4',5,5',6-OcBDE	205			0.47	M+6/M+8	0.83	0.70-0.94	1.032	1.028 - 1.036
2,2',3,3',4,4',5,5',6-NoBDE	206			0.32	M+8/M+10	1.01	0.88-1.18	1.115	1.109 - 1.121
2,2',3,3',4,4',5,6,6'-NoBDE	207			0.23	M+8/M+10	0.97	0.88-1.18	1.099	1.093 - 1.105
2,2',3,3',4,5,5',6,6'-NoBDE	208			0.21	M+8/M+10	1.00	0.88-1.18	1.091	1.085 - 1.097

(1) Where applicable, custom lab flags have been used on this report.

(2) See Table 8, Method 1614, for m/z specifications.

(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



**BROMINATED DIPHENYLETHER INITIAL CALIBRATION RELATIVE RESPONSES,
ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES**

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date:	14-Jul-2010	CAL Data Filename:	BE01_199A S: 1
Instrument ID:	HR GC/MS	Analysis Date:	07-Sep-2010
GC Column ID:	DB5HT	Analysis Time:	12:31:57

LABELLED COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	RRF	MZ's FORMING RATIO ³	ION ABUND. RATIO	RATIO QC LIMITS ⁴	RRT	RRT QC LIMITS
13C12-4,4'-DiBDE	15L			6.73	M/M+2	0.52	0.43-0.59	0.665	0.653 - 0.678
13C12-2,4,4'-TriBDE	28L			2.87	M+2/M+4	1.05	0.88-1.18	0.832	0.822 - 0.841
13C12-2,2',4,4'-TeBDE	47L			0.97	M+4/M+6	1.53	1.31-1.77	0.988	0.982 - 0.994
13C12-3,3',4,4'-TeBDE	77L			0.83	M+4/M+6	1.57	1.31-1.77	1.042	1.036 - 1.048
13C12-2,2',4,4',5-PeBDE	99L			1.06	M+4/M+6	1.00	0.88-1.18	1.133	1.124 - 1.142
13C12-2,2',4,4',6-PeBDE	100L			1.52	M+4/M+6	1.03	0.88-1.18	1.101	1.092 - 1.110
13C12-3,3',4,4',5-PeBDE	126L			1.14	M+4/M+6	1.04	0.88-1.18	1.198	1.189 - 1.208
13C12-2,2',4,4',5,5'-HxBDE	153L			1.68	M+6/M+8	1.36	1.16-1.58	0.881	0.875 - 0.887
13C12-2,2',4,4',5,6'-HxBDE	154L			2.52	M+6/M+8	1.43	1.16-1.58	0.851	0.844 - 0.857
13C12-2,2',3,4,4',5,6'-HpBDE	183L			1.60	M+6/M+8	1.05	0.88-1.18	0.966	0.962 - 0.970
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			1.33	M+6/M+8	0.83	0.70-0.94	1.063	1.057 - 1.070
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			0.75	M+10/M+12	1.24	1.05-1.41	1.082	1.076 - 1.087

ADDITIONAL STANDARD

13C12-2,2',3,4,4',5'-HxBDE	138L			0.64	M+6/M+8	1.42	1.16-1.58	1.043	1.039 - 1.048
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- (1) Suffix "L" indicates labeled compound
- (2) Where applicable, custom lab flags have been used on this report.
- (3) See Table 8, Method 1614, for m/z specifications.
- (4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BROMINATED DIPHENYLETHER CALIBRATION VERIFICATION

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_200 S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 23:19:21

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	MZ's FORMING RATIO ²	ION ABUND. RATIO	QC LIMITS ³	CONC. FOUND (ng/mL)	CONC. RANGE ⁴ (ng/mL)
2,4,4'-TriBDE	28	28 + 33	C	M+2/M+4	1.02	0.88-1.18	94.5	68.2 - 127
2',3,4-TriBDE	33	28 + 33	C28					
2,2',4,4'-TeBDE	47			M+2/M+4	0.69	0.60-0.81	53.6	35.0 - 65.0
2,2',4,4',5-PeBDE	99			M+4/M+6	1.08	0.88-1.18	49.6	35.0 - 65.0
2,2',4,4',6-PeBDE	100			M+4/M+6	1.03	0.88-1.18	48.8	35.0 - 65.0
2,2',4,4',5,5'-HxBDE	153			M+4/M+6	0.79	0.65-0.89	49.7	35.0 - 65.0
2,2',4,4',5,6'-HxBDE	154			M+4/M+6	0.76	0.65-0.89	48.9	35.0 - 65.0
2,2',3,4,4',5',6-HpBDE	183			M+6/M+8	1.01	0.88-1.18	48.4	35.0 - 65.0
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			M+8/M+10	0.85	0.73-0.99	474	250 - 1000

- (1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (2) See Table 8, Method 1614, for m/z specifications.
- (3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.
- (4) Contract-required concentration range as specified in Table 6, Method 1614, under VER.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BROMINATED DIPHENYLETHER CALIBRATION VERIFICATION

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_200 S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 23:19:21

LABELED COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	MZ's FORMING RATIO ³	ION ABUND. RATIO	QC LIMITS ⁴	CONC. FOUND (ng/mL)	CONC. RANGE ⁵ (ng/mL)
13C12-2,4,4'-TriBDE	28L			M+2/M+4	1.05	0.88-1.18	132	50.0 - 150
13C12-2,2',4,4'-TeBDE	47L			M+4/M+6	1.58	1.31-1.77	91.4	50.0 - 150
13C12-2,2',4,4',5-PeBDE	99L			M+4/M+6	1.06	0.88-1.18	83.8	49.5 - 149
13C12-2,2',4,4',6-PeBDE	100L			M+4/M+6	1.04	0.88-1.18	92.2	50.0 - 150
13C12-2,2',4,4',5,5'-HxBDE	153L			M+6/M+8	1.37	1.16-1.58	70.9	50.0 - 150
13C12-2,2',4,4',5,6'-HxBDE	154L			M+6/M+8	1.38	1.16-1.58	78.2	50.0 - 150
13C12-2,2',3,4,4',5,6-HpBDE	183L			M+6/M+8	1.06	0.88-1.18	85.4	50.0 - 150

CLEAN-UP STANDARD

13C12-2,2',3,4,4',6-HxBDE	139L			M+6/M+8	1.40	1.16-1.58	92.2	60.0 - 130
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- (1) Suffix "L" indicates labeled compound.
- (2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (3) See Table 8, Method 1614, for m/z specifications.
- (4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.
- (5) Contract-required concentration range as specified in Table 6, Method 1614, under VER.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BROMINATED DIPHENYLETHER RELATIVE RETENTION TIMES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_200 S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 23:19:21

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	RETENTION TIME REFERENCE	IUPAC NO. ²	RRT	RRT QC LIMITS ³
2,4,4'-TriBDE	28	28 + 33	C	13C12-2,4,4'-TriBDE	28L	1.0000	0.9985-1.0022
2',3,4'-TriBDE	33	28 + 33	C28				
2,2',4,4'-TeBDE	47			13C12-2,2',4,4'-TeBDE	47L	1.0006	0.9988-1.0019
2,2',4,4',5-PeBDE	99			13C12-2,2',4,4',5-PeBDE	99L	1.0005	0.9989-1.0016
2,2',4,4',6-PeBDE	100			13C12-2,2',4,4',6-PeBDE	100L	1.0006	0.9989-1.0017
2,2',4,4',5,5'-HxBDE	153			13C12-2,2',4,4',5,5'-HxBDE	153L	1.0005	0.9990-1.0014
2,2',4,4',5,6'-HxBDE	154			13C12-2,2',4,4',5,6'-HxBDE	154L	1.0005	0.9990-1.0015
2,2',3,4,4',5',6-HpBDE	183			13C12-2,2',3,4,4',5',6-HpBDE	183L	1.0004	0.9991-1.0013
2,2',3,3',4,4',5,5',6,6'-DeBDE	209			13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L	1.0003	0.9993-1.0010

- (1) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (2) Suffix "L" indicates labeled compound
- (3) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BROMINATED DIPHENYLETHER RELATIVE RETENTION TIMES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010 VER Data Filename: BE01_200 S: 1
 Instrument ID: HR GC/MS Analysis Date: 07-Sep-2010
 GC Column ID: DB5HT Analysis Time: 23:19:21

LABELED COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	RETENTION TIME REFERENCE	IUPAC NO. ¹	RRT	RRT QC LIMITS ³
13C12-2,4,4'-TriBDE	28L			13C12-3,3',4,5'-TeBDE	79L	0.8320	0.8228-0.8412
13C12-2,2',4,4'-TeBDE	47L			13C12-3,3',4,5'-TeBDE	79L	0.9878	0.9817-0.9939
13C12-2,2',4,4',5-PeBDE	99L			13C12-3,3',4,5'-TeBDE	79L	1.1332	1.1240-1.1423
13C12-2,2',4,4',6-PeBDE	100L			13C12-3,3',4,5'-TeBDE	79L	1.1008	1.0916-1.1100
13C12-2,2',4,4',5,5'-HxBDE	153L			13C12-2,2',3,4,4',5,5'-HpBDE	180L	0.8809	0.8745-0.8872
13C12-2,2',4,4',5,6'-HxBDE	154L			13C12-2,2',3,4,4',5,5'-HpBDE	180L	0.8506	0.8443-0.8570
13C12-2,2',3,4,4',5,6'-HpBDE	183L			13C12-2,2',3,4,4',5,5'-HpBDE	180L	0.9660	0.9617-0.9702

CLEANUP STANDARD

13C12-2,2',3,4,4',6-HxBDE	139L			13C12-2,2',4,4',5,5'-HxBDE	153L	1.0121	1.0072-1.0169
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- (1) Suffix "L" indicates labeled compound
- (2) Where applicable, custom lab flags have been used on this report; C = co-eluting congener.
- (3) Contract-required limits for Relative Retention Times (RRT) as specified in Table 2, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BROMINATED DIPHENYLETHER INITIAL CALIBRATION RELATIVE RESPONSES,
ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT

CAL Data Filename: BE01_200 S: 1
Analysis Date: 07-Sep-2010
Analysis Time: 23:19:21

COMPOUND	IUPAC NO.	CO-ELUTIONS	LAB FLAG ¹	RRF	MZ's FORMING RATIO ²	ION ABUND. RATIO	RATIO QC LIMITS ³	RRT	RRT QC LIMITS
2,4-DiBDE	7			0.57	M/M+2	0.52	0.43-0.59	0.928	0.915 - 0.942
2,4'-DiBDE	8	8 + 11	C	0.77	M/M+2	0.52	0.43-0.59	0.958	0.949 - 0.967
2,6-DiBDE	10			0.60	M/M+2	0.51	0.43-0.59	0.863	0.845 - 0.882
3,3'-DiBDE	11	8 + 11	C8						
3,4-DiBDE	12	12 + 13	C	0.87	M/M+2	0.52	0.43-0.59	0.977	0.968 - 0.986
3,4'-DiBDE	13	12 + 13	C12						
4,4'-DiBDE	15			1.02	M/M+2	0.52	0.43-0.59	1.001	0.998 - 1.003
2,2',4-TriBDE	17	17 + 25	C	0.85	M+2/M+4	1.03	0.88-1.18	0.974	0.967 - 0.982
2,3',4-TriBDE	25	17 + 25	C17						
2,4,6-TriBDE	30			0.87	M+2/M+4	1.02	0.88-1.18	0.894	0.880 - 0.909
2,4',6-TriBDE	32			1.12	M+2/M+4	1.02	0.88-1.18	0.952	0.945 - 0.960
3,3',4-TriBDE	35			1.16	M+2/M+4	1.05	0.88-1.18	1.017	1.010 - 1.024
3,4,4'-TriBDE	37			1.02	M+2/M+4	1.01	0.88-1.18	1.038	1.031 - 1.046
2,2',4,5'-TeBDE	49			1.07	M+2/M+4	0.69	0.60-0.81	0.976	0.970 - 0.982
2,2',4,6'-TeBDE	51			1.66	M+2/M+4	0.69	0.60-0.81	0.968	0.962 - 0.974
2,3',4,4'-TeBDE	66			0.73	M+2/M+4	0.69	0.60-0.81	1.022	1.015 - 1.028
2,3',4',6-TeBDE	71			1.06	M+2/M+4	0.67	0.60-0.81	0.980	0.974 - 0.986
2,4,4',6-TeBDE	75			1.17	M+2/M+4	0.70	0.60-0.81	0.962	0.956 - 0.968
3,3',4,4'-TeBDE	77			1.43	M+2/M+4	0.70	0.60-0.81	1.001	0.999 - 1.002
3,3',4,5'-TeBDE	79			1.19	M+2/M+4	0.69	0.60-0.81	1.013	1.007 - 1.019
2,2',3,4,4'-PeBDE	85			0.63	M+4/M+6	1.06	0.88-1.18	0.992	0.987 - 0.997
2,3,3',4,4'-PeBDE	105			0.48	M+4/M+6	1.04	0.88-1.18	1.009	1.004 - 1.014
2,3,4,5,6-PeBDE	116			0.37	M+4/M+6	1.01	0.88-1.18	1.009	1.003 - 1.014
2,3',4,4',6-PeBDE	119	119 + 120	C	0.63	M+4/M+6	1.03	0.88-1.18	1.011	1.005 - 1.016
2,3',4,5,5'-PeBDE	120	119 + 120	C119						
3,3',4,4',5-PeBDE	126			1.27	M+4/M+6	1.07	0.88-1.18	1.001	0.999 - 1.002
2,2',3,3',4,4'-HxBDE	128			0.61	M+4/M+6	0.77	0.65-0.89	1.090	1.083 - 1.097
2,2',3,4,4',5'-HxBDE	138	138 + 166	C	0.65	M+4/M+6	0.77	0.65-0.89	1.044	1.040 - 1.049
2,2',3,4,4',6'-HxBDE	140			1.03	M+4/M+6	0.78	0.65-0.89	1.021	1.016 - 1.026
2,2',4,4',6,6'-HxBDE	155			1.70	M+4/M+6	0.76	0.65-0.89	0.982	0.977 - 0.987
2,3,4,4',5,6-HxBDE	166	138 + 166	C138						
2,2',3,4,4',5,6-HpBDE	181			0.76	M+6/M+8	1.08	0.88-1.18	1.045	1.041 - 1.050
2,3,3',4,4',5,6-HpBDE	190			0.45	M+6/M+8	1.00	0.88-1.18	1.052	1.048 - 1.056
2,2',3,3',4,4',6,6'-OcBDE	197	197 + 204	C	0.96	M+6/M+8	0.81	0.70-0.94	0.999	0.997 - 1.001
2,2',3,4,4',5,5',6-OcBDE	203			0.76	M+6/M+8	0.82	0.70-0.94	1.012	1.008 - 1.016
2,2',3,4,4',5,6,6'-OcBDE	204	197 + 204	C197						
2,3,3',4,4',5,5',6-OcBDE	205			0.51	M+6/M+8	0.78	0.70-0.94	1.032	1.028 - 1.036
2,2',3,3',4,4',5,5',6-NoBDE	206			0.35	M+8/M+10	1.04	0.88-1.18	1.114	1.108 - 1.120
2,2',3,3',4,4',5,6,6'-NoBDE	207			0.28	M+8/M+10	0.99	0.88-1.18	1.098	1.092 - 1.104
2,2',3,3',4,5,5',6,6'-NoBDE	208			0.24	M+8/M+10	1.03	0.88-1.18	1.091	1.085 - 1.097

(1) Where applicable, custom lab flags have been used on this report.
(2) See Table 8, Method 1614, for m/z specifications.
(3) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



**BROMINATED DIPHENYLETHER INITIAL CALIBRATION RELATIVE RESPONSES,
ION ABUNDANCE RATIOS, AND RELATIVE RETENTION TIMES**

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: 14-Jul-2010
Instrument ID: HR GC/MS
GC Column ID: DB5HT

CAL Data Filename: BE01_200 S: 1
Analysis Date: 07-Sep-2010
Analysis Time: 23:19:21

LABELLED COMPOUND	IUPAC NO. ¹	CO-ELUTIONS	LAB FLAG ²	RRF	MZ's FORMING RATIO ³	ION ABUND. RATIO	RATIO QC LIMITS ⁴	RRT	RRT QC LIMITS
13C12-4,4'-DiBDE	15L			7.46	M/M+2	0.52	0.43-0.59	0.665	0.653 - 0.677
13C12-2,4,4'-TriBDE	28L			3.20	M+2/M+4	1.05	0.88-1.18	0.832	0.823 - 0.841
13C12-2,2',4,4'-TeBDE	47L			0.98	M+4/M+6	1.58	1.31-1.77	0.988	0.982 - 0.994
13C12-3,3',4,4'-TeBDE	77L			0.84	M+4/M+6	1.57	1.31-1.77	1.042	1.036 - 1.048
13C12-2,2',4,4',5-PeBDE	99L			1.05	M+4/M+6	1.06	0.88-1.18	1.133	1.124 - 1.142
13C12-2,2',4,4',6-PeBDE	100L			1.64	M+4/M+6	1.04	0.88-1.18	1.101	1.092 - 1.110
13C12-3,3',4,4',5-PeBDE	126L			1.06	M+4/M+6	1.03	0.88-1.18	1.199	1.190 - 1.208
13C12-2,2',4,4',5,5'-HxBDE	153L			1.80	M+6/M+8	1.37	1.16-1.58	0.881	0.874 - 0.887
13C12-2,2',4,4',5,6'-HxBDE	154L			2.62	M+6/M+8	1.38	1.16-1.58	0.851	0.844 - 0.857
13C12-2,2',3,4,4',5,6'-HpBDE	183L			1.55	M+6/M+8	1.06	0.88-1.18	0.966	0.962 - 0.970
13C12-2,2',3,3',4,4',6,6'-OcBDE	197L			1.25	M+6/M+8	0.82	0.70-0.94	1.063	1.057 - 1.070
13C12-2,2',3,3',4,4',5,5',6,6'-DeBDE	209L			0.73	M+10/M+12	1.27	1.05-1.41	1.082	1.076 - 1.087

ADDITIONAL STANDARD

13C12-2,2',3,4,4',5'-HxBDE	138L			0.63	M+6/M+8	1.43	1.16-1.58	1.043	1.039 - 1.048
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- (1) Suffix "L" indicates labeled compound
- (2) Where applicable, custom lab flags have been used on this report.
- (3) See Table 8, Method 1614, for m/z specifications.
- (4) Ion Abundance Ratio Control Limits as specified in Table 8, Method 1614.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Angela Schlak_____



BATCH SUMMARY

Batch ID: WG33569	Date: 23-Oct-2010
Analysis Type: Hormones/Sterols LoRes	Matrix Type: Aqueous
BATCH MAKEUP	
Contract: 2520 Samples: L15119-1 V78595-08R L15119-2 V78534-08R L15119-3 V78543-08R L15119-4 V78550-08R L15119-5 V78553-08R L15119-6 V78513-08R	Blank: WG33569-101 Reference or Spike: WG33569-102 Duplicate:
Comments: <div style="border: 1px solid black; padding: 10px;"><p>1. The results are not blank-corrected, and the sample data must be evaluated in comparison to the Lab Blank. The levels of Androstenedione and 17 alpha-Ethinyl-Estradiol in the Lab Blank (AXYS ID WG33569-101) slightly exceed the method control limits.</p></div>	

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BRACKETING CALIBRATION RELATIVE RESPONSES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS GC Column ID: RTX5
 OPENING CAL Data Filename: ST0A2735.D Analysis Date: 14-Sep-2010 Time: 22:26:00
 CLOSING CAL Data Filename: ST0A2748.D Analysis Date: 15-Sep-2010 Time: 07:48:00

COMPOUND	CAS NO.	LAB FLAG ¹	RELATIVE RESPONSE (RR)		MEAN RR	RPD ²
			OPENING CAL	CLOSING CAL		
Androsterone	53-41-8		0.155	0.167	0.161	7.45
Desogestrel	54024-22-5		0.106	0.116	0.111	9.01
17 alpha-Estradiol	57-91-0		1.16	1.20	1.18	3.23
Estrone	53-16-7		2.41	2.57	2.49	6.39
Equilin	474-86-2		1.59	1.71	1.65	7.26
Androstenedione	63-05-8		0.110	0.144	0.127	26.8
17 alpha-Dihydroequilin	651-55-8		2.97	3.03	3.00	2.10
17 beta-Estradiol	50-28-2		1.22	1.24	1.23	1.14
Testosterone	58-22-0		0.0700	0.0800	0.0750	13.3
Equilenin	517-09-9		2.45	2.70	2.58	9.82
Mestranol	72-33-3		1.57	1.60	1.58	1.70
Norethindrone	68-22-4		1.27	1.26	1.26	0.712
17 alpha-Ethinyl-Estradiol	57-63-6		1.11	1.10	1.11	1.08
Progesterone	57-83-0		1.48	1.47	1.48	0.474
Norgestrel	6533-00-2		1.22	1.20	1.21	1.08
Estriol	50-27-1		0.764	0.643	0.704	17.2
beta-Estradiol 3-benzoate	50-50-0		21.3	30.0	25.6	34.3

(1) Where applicable, custom lab flags have been used on this report.

(2) QC limits are < 40% RPD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Jeffrey Chong_____



Form 4D

BRACKETING CALIBRATION RELATIVE RESPONSES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS GC Column ID: RTX5

OPENING CAL Data Filename: ST0A2735.D Analysis Date: 14-Sep-2010 Time: 22:26:00

CLOSING CAL Data Filename: ST0A2748.D Analysis Date: 15-Sep-2010 Time: 07:48:00

COMPOUND	CAS NO.	LAB FLAG ¹	RELATIVE RESPONSE (RR)		MEAN RR	RPD ²
			OPENING CAL	CLOSING CAL		
D4-17 beta-Estradiol			0.281	0.301	0.291	6.87
D4-Mestranol			0.142	0.166	0.154	15.6
D6-Norethindrone			0.248	0.314	0.281	23.5
D4-17 alpha-Ethinyl-Estradiol			0.188	0.220	0.204	15.7
D9-Progesterone			0.0290	0.0430	0.0360	38.9
D6-Norgestrel			0.0920	0.121	0.107	27.2

(1) Where applicable, custom lab flags have been used on this report.

(2) QC limits are < 40% RPD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Jeffrey Chong _____

For Axys Internal Use Only [XSL Template: Pest4D.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27;
 Report Filename: GENERIC-SPECS_HM_LO_GS37871__Form4D_GS37871.html; Workgroup: WG33569; Design ID: 1302]



BRACKETING CALIBRATION RELATIVE RESPONSES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS GC Column ID: RTX5
 OPENING CAL Data Filename: ST0A2735.D Analysis Date: 14-Sep-2010 Time: 22:26:00
 CLOSING CAL Data Filename: ST0A2748.D Analysis Date: 15-Sep-2010 Time: 07:48:00

COMPOUND	CAS NO.	LAB FLAG ¹	RELATIVE RESPONSE (RR)		MEAN RR	RPD ²
			OPENING CAL	CLOSING CAL		
Coprostanol	360-68-9		2.40	2.28	2.34	5.22
Epicoprostanol	516-92-7		1.92	1.84	1.88	4.68
Cholesterol	57-88-5		1.07	1.06	1.06	0.471
Cholestanol	80-97-7		0.743	0.734	0.739	1.22
Desmosterol	313-04-2		0.991	1.01	0.999	1.50
Ergosterol	57-87-4		1.56	1.59	1.58	1.90
Campesterol	474-62-4		1.27	1.31	1.29	3.10
Stigmasterol	83-48-7		0.184	0.190	0.187	3.21
beta-Sitosterol	83-46-5		0.189	0.194	0.192	2.61
beta Stigmastanol	19466-47-8		0.170	0.182	0.176	6.82

(1) Where applicable, custom lab flags have been used on this report.

(2) QC limits are < 40% RPD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Jeffrey Chong_____



Form 4D
BRACKETING CALIBRATION RELATIVE RESPONSES

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Initial Calibration Date: BRACKETING CAL

Instrument ID:	LR GC/MS	GC Column ID:	RTX5
OPENING CAL Data Filename:	ST0A2735.D	Analysis Date:	14-Sep-2010 Time: 22:26:00
CLOSING CAL Data Filename:	ST0A2748.D	Analysis Date:	15-Sep-2010 Time: 07:48:00

COMPOUND	CAS NO.	LAB FLAG ¹	RELATIVE RESPONSE (RR)		MEAN RR	RPD ²
			OPENING CAL	CLOSING CAL		
D7-Cholesterol			0.124	0.156	0.140	22.9

(1) Where applicable, custom lab flags have been used on this report.
(2) QC limits are < 40% RPD.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Jeffrey Chong _____

For Axys Internal Use Only [XSL Template: Pest4D.xsl; Created: 23-Oct-2010 15:27:33; Application: XMLTransformer-1.10.27;
Report Filename: GENERIC-SPECS_ST_LO_GS37872_Form4D_GS37872.html; Workgroup: WG33569; Design ID: 1301]



Form 1A
ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 30-Jul-2010
Extraction Date: 10-Aug-2010
Analysis Date: 15-Sep-2010 Time: 02:12:00
Extract Volume (uL): 500
Injection Volume (uL): 2.0
Dilution Factor: N/A
Concentration Units: ng/L

Project No. 09185
Lab Sample I.D.: L15119-1 i
Sample Size: 0.982 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2740.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Androsterone	53-41-8	ND		1.27		
Desogestrel	54024-22-5	ND		4.43		
17 alpha-Estradiol	57-91-0	ND		1.42		
Estrone	53-16-7	ND		2.14		
Equilin	474-86-2	ND		1.71		
Androstenedione	63-05-8	ND		6.05		
17 alpha-Dihydroequilin	651-55-8	ND		1.40		
17 beta-Estradiol	50-28-2	ND		1.36		
Testosterone	58-22-0	ND		2.92		
Equilenin	517-09-9	ND		0.449		
Mestranol	72-33-3	ND		1.32		
Norethindrone	68-22-4	ND		3.86		
17 alpha-Ethinyl-Estradiol	57-63-6		5.60	1.76	0.46	1.001
Progesterone	57-83-0	ND		12.7		
Norgestrel	6533-00-2	ND		5.91		
Estriol	50-27-1	ND		1.67		
beta-Estradiol 3-benzoate	50-50-0	ND		0.499		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Teresa Rawsthorne _____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27; Report Filename: HM_HM_LO_HM_LO_L15119-1_Form1A_ST0A2740.D_SJ1203998.html; Workgroup: WG33569; Design ID: 1302]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2
ANALYSIS REPORT

CLIENT SAMPLE NO.
V78595-08R
Sample Collection:
28-Jul-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Matrix: AQUEOUS

Sample Receipt Date: 30-Jul-2010

Extraction Date: 10-Aug-2010

Analysis Date: 15-Sep-2010 Time: 02:12:00

Extract Volume (uL): 500

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: ng absolute

Project No. 09185

Lab Sample I.D.: L15119-1 i

Sample Size: 0.982 L

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS

GC Column ID: RTX5

Sample Data Filename: ST0A2740.D

Blank Data Filename: ST0A2739.D

Opening Cal. Data Filename: ST0A2735.D

Closing Cal. Data Filename: ST0A2748.D

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
D4-17 beta-Estradiol		108	68.0	62.9	0.37	1.265
D4-Mestranol		456	337	74.0	0.29	1.296
D6-Norethindrone		454	372	81.9	0.28	1.300
D4-17 alpha-Ethinyl-Estradiol		450	327	72.6	0.36	1.335
D9-Progesterone		495	414	83.7	0.23	1.357
D6-Norgestrel		453	398	87.8	0.33	1.373

(1) Where applicable, custom lab flags have been used on this report.

(2) R% = percent recovery.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Teresa Rawsthorne _____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27; Report Filename: HM_HM_LO_HM_LO_L15119-1_Form2_ST0A2740.D_SJ1203998.html; Workgroup: WG33569; Design ID: 1302]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
V78534-08R
Sample Collection:
28-Jul-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 30-Jul-2010
Extraction Date: 10-Aug-2010
Analysis Date: 15-Sep-2010 Time: 02:57:00
Extract Volume (uL): 500
Injection Volume (uL): 2.0
Dilution Factor: N/A
Concentration Units: ng/L

Project No. 09185
Lab Sample I.D.: L15119-2 i
Sample Size: 0.992 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2741.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Androsterone	53-41-8	ND		1.91		
Desogestrel	54024-22-5	ND		5.14		
17 alpha-Estradiol	57-91-0	ND		0.736		
Estrone	53-16-7	ND		2.65		
Equilin	474-86-2	ND		2.26		
Androstenedione	63-05-8	NDR	10.1	5.01	0.46	1.254
17 alpha-Dihydroequilin	651-55-8	ND		1.93		
17 beta-Estradiol	50-28-2	ND		1.06		
Testosterone	58-22-0	ND		3.07		
Equilenin	517-09-9	ND		0.824		
Mestranol	72-33-3	ND		1.82		
Norethindrone	68-22-4	ND		4.20		
17 alpha-Ethinyl-Estradiol	57-63-6	NDR	3.06	1.48	0.53	1.002
Progesterone	57-83-0	ND		20.6		
Norgestrel	6533-00-2	ND		11.0		
Estriol	50-27-1	ND		3.92		
beta-Estradiol 3-benzoate	50-50-0	ND		0.872		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27; Report Filename: HM_HM_LO_HM_LO_L15119-2_Form1A_ST0A2741.D_SJ1203999.html; Workgroup: WG33569; Design ID: 1302]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2
ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Matrix: AQUEOUS

Sample Receipt Date: 30-Jul-2010

Extraction Date: 10-Aug-2010

Analysis Date: 15-Sep-2010 Time: 02:57:00

Extract Volume (uL): 500

Injection Volume (uL): 2.0

Dilution Factor: N/A

Project No. 09185
Lab Sample I.D.: L15119-2 i
Sample Size: 0.992 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2741.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

Concentration Units: ng absolute

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
D4-17 beta-Estradiol		108	69.9	64.7	0.36	1.265
D4-Mestranol		456	302	66.1	0.29	1.297
D6-Norethindrone		454	292	64.5	0.28	1.301
D4-17 alpha-Ethinyl-Estradiol		450	280	62.3	0.37	1.335
D9-Progesterone		495	284	57.3	0.24	1.358
D6-Norgestrel		453	265	58.6	0.33	1.374

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27; Report Filename: HM_HM_LO_HM_LO_L15119-2_Form2_ST0A2741.D_SJ1203999.html; Workgroup: WG33569; Design ID: 1302]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
V78543-08R
Sample Collection:
28-Jul-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 30-Jul-2010
Extraction Date: 10-Aug-2010
Analysis Date: 15-Sep-2010 Time: 03:42:00
Extract Volume (uL): 500
Injection Volume (uL): 2.0
Dilution Factor: N/A
Concentration Units: ng/L

Project No. 09185
Lab Sample I.D.: L15119-3 i
Sample Size: 1.08 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2742.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Androsterone	53-41-8	ND		2.44		
Desogestrel	54024-22-5	ND		4.10		
17 alpha-Estradiol	57-91-0	ND		1.37		
Estrone	53-16-7	ND		1.31		
Equilin	474-86-2	ND		1.33		
Androstenedione	63-05-8	ND		5.71		
17 alpha-Dihydroequilin	651-55-8	ND		1.39		
17 beta-Estradiol	50-28-2	ND		1.17		
Testosterone	58-22-0	ND		6.38		
Equilenin	517-09-9	ND		0.624		
Mestranol	72-33-3	ND		3.24		
Norethindrone	68-22-4	ND		3.59		
17 alpha-Ethinyl-Estradiol	57-63-6		9.25	2.36	0.47	1.001
Progesterone	57-83-0	ND		16.0		
Norgestrel	6533-00-2	ND		8.62		
Estriol	50-27-1	ND		1.98		
beta-Estradiol 3-benzoate	50-50-0	ND		0.502		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Teresa Rawsthorne _____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27; Report Filename: HM_HM_LO_HM_LO_L15119-3_Form1A_ST0A2742.D_SJ1204000.html; Workgroup: WG33569; Design ID: 1302]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2
ANALYSIS REPORT

CLIENT SAMPLE NO.
V78543-08R
Sample Collection:
28-Jul-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Matrix: AQUEOUS

Sample Receipt Date: 30-Jul-2010

Extraction Date: 10-Aug-2010

Analysis Date: 15-Sep-2010 Time: 03:42:00

Extract Volume (uL): 500

Injection Volume (uL): 2.0

Dilution Factor: N/A

Project No. 09185
Lab Sample I.D.: L15119-3 i
Sample Size: 1.08 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2742.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

Concentration Units: ng absolute

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
D4-17 beta-Estradiol		108	71.8	66.5	0.37	1.265
D4-Mestranol		456	335	73.4	0.29	1.297
D6-Norethindrone		454	358	78.8	0.29	1.301
D4-17 alpha-Ethinyl-Estradiol		450	322	71.6	0.37	1.335
D9-Progesterone		495	382	77.2	0.21	1.357
D6-Norgestrel		453	367	81.0	0.34	1.373

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Teresa Rawsthorne _____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27; Report Filename: HM_HM_LO_HM_LO_L15119-3_Form2_ST0A2742.D_SJ1204000.html; Workgroup: WG33569; Design ID: 1302]

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Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
V78550-08R
Sample Collection:
28-Jul-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 30-Jul-2010
Extraction Date: 10-Aug-2010
Analysis Date: 15-Sep-2010 Time: 04:27:00
Extract Volume (uL): 500
Injection Volume (uL): 2.0
Dilution Factor: N/A
Concentration Units: ng/L

Project No. 09185
Lab Sample I.D.: L15119-4 i
Sample Size: 1.01 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2743.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Androsterone	53-41-8	ND		1.61		
Desogestrel	54024-22-5	ND		7.62		
17 alpha-Estradiol	57-91-0	ND		1.97		
Estrone	53-16-7	ND		2.29		
Equilin	474-86-2	ND		2.65		
Androstenedione	63-05-8	NDR	10.1	4.70	0.77	1.254
17 alpha-Dihydroequilin	651-55-8	ND		2.24		
17 beta-Estradiol	50-28-2	ND		1.29		
Testosterone	58-22-0	ND		3.08		
Equilenin	517-09-9	ND		1.17		
Mestranol	72-33-3	ND		1.33		
Norethindrone	68-22-4	ND		3.38		
17 alpha-Ethinyl-Estradiol	57-63-6	NDR	7.37	2.49	0.64	1.002
Progesterone	57-83-0	ND		26.7		
Norgestrel	6533-00-2	ND		9.66		
Estriol	50-27-1	ND		2.98		
beta-Estradiol 3-benzoate	50-50-0	ND		1.08		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Teresa Rawsthorne _____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27; Report Filename: HM_HM_LO_HM_LO_L15119-4_Form1A_ST0A2743.D_SJ1204001.html; Workgroup: WG33569; Design ID: 1302]

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Form 2
ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Matrix: AQUEOUS

Sample Receipt Date: 30-Jul-2010

Extraction Date: 10-Aug-2010

Analysis Date: 15-Sep-2010 Time: 04:27:00

Extract Volume (uL): 500

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: ng absolute

Project No. 09185

Lab Sample I.D.: L15119-4 i

Sample Size: 1.01 L

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS

GC Column ID: RTX5

Sample Data Filename: ST0A2743.D

Blank Data Filename: ST0A2739.D

Opening Cal. Data Filename: ST0A2735.D

Closing Cal. Data Filename: ST0A2748.D

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
D4-17 beta-Estradiol		108	70.7	65.4	0.37	1.265
D4-Mestranol		456	340	74.6	0.29	1.297
D6-Norethindrone		454	357	78.6	0.29	1.301
D4-17 alpha-Ethinyl-Estradiol		450	300	66.7	0.37	1.335
D9-Progesterone		495	392	79.3	0.21	1.358
D6-Norgestrel		453	328	72.4	0.32	1.373

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Teresa Rawsthorne _____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27; Report Filename: HM_HM_LO_HM_LO_L15119-4_Form2_ST0A2743.D_SJ1204001.html; Workgroup: WG33569; Design ID: 1302]

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Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
V78553-08R
Sample Collection:
28-Jul-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 30-Jul-2010
Extraction Date: 10-Aug-2010
Analysis Date: 15-Sep-2010 Time: 05:13:00
Extract Volume (uL): 500
Injection Volume (uL): 2.0
Dilution Factor: N/A
Concentration Units: ng/L

Project No. 09185
Lab Sample I.D.: L15119-5 i
Sample Size: 0.995 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2744.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Androsterone	53-41-8	ND		1.41		
Desogestrel	54024-22-5	ND		5.68		
17 alpha-Estradiol	57-91-0	ND		2.04		
Estrone	53-16-7	ND		1.00		
Equilin	474-86-2	ND		2.23		
Androstenedione	63-05-8	ND		2.90		
17 alpha-Dihydroequilin	651-55-8	ND		2.01		
17 beta-Estradiol	50-28-2	ND		1.74		
Testosterone	58-22-0	ND		4.58		
Equilenin	517-09-9	ND		0.868		
Mestranol	72-33-3	ND		3.37		
Norethindrone	68-22-4	ND		3.37		
17 alpha-Ethinyl-Estradiol	57-63-6		7.53	3.37	0.46	1.001
Progesterone	57-83-0	ND		23.0		
Norgestrel	6533-00-2	ND		9.39		
Estriol	50-27-1	ND		2.82		
beta-Estradiol 3-benzoate	50-50-0	ND		0.667		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Teresa Rawsthorne _____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27; Report Filename: HM_HM_LO_HM_LO_L15119-5_Form1A_ST0A2744.D_SJ1204002.html; Workgroup: WG33569; Design ID: 1302]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2
ANALYSIS REPORT

CLIENT SAMPLE NO.
V78553-08R
Sample Collection:
28-Jul-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Matrix: AQUEOUS

Sample Receipt Date: 30-Jul-2010

Extraction Date: 10-Aug-2010

Analysis Date: 15-Sep-2010 Time: 05:13:00

Extract Volume (uL): 500

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: ng absolute

Project No. 09185

Lab Sample I.D.: L15119-5 i

Sample Size: 0.995 L

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS

GC Column ID: RTX5

Sample Data Filename: ST0A2744.D

Blank Data Filename: ST0A2739.D

Opening Cal. Data Filename: ST0A2735.D

Closing Cal. Data Filename: ST0A2748.D

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
D4-17 beta-Estradiol		108	57.6	53.3	0.37	1.265
D4-Mestranol		456	254	55.8	0.29	1.297
D6-Norethindrone		454	256	56.5	0.28	1.301
D4-17 alpha-Ethinyl-Estradiol		450	204	45.3	0.36	1.335
D9-Progesterone		495	336	67.9	0.20	1.358
D6-Norgestrel		453	265	58.4	0.33	1.374

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27; Report Filename: HM_HM_LO_HM_LO_L15119-5_Form2_ST0A2744.D_SJ1204002.html; Workgroup: WG33569; Design ID: 1302]

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Form 1A
ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 30-Jul-2010
Extraction Date: 10-Aug-2010
Analysis Date: 15-Sep-2010 **Time:** 05:58:00
Extract Volume (uL): 500
Injection Volume (uL): 2.0
Dilution Factor: N/A
Concentration Units: ng/L

Project No. 09185
Lab Sample I.D.: L15119-6 i
Sample Size: 1.00 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2745.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Androsterone	53-41-8	ND		1.36		
Desogestrel	54024-22-5	ND		3.70		
17 alpha-Estradiol	57-91-0	ND		0.986		
Estrone	53-16-7	ND		2.09		
Equilin	474-86-2	ND		1.61		
Androstenedione	63-05-8	ND		4.23		
17 alpha-Dihydroequilin	651-55-8	ND		1.05		
17 beta-Estradiol	50-28-2	ND		1.00		
Testosterone	58-22-0	ND		3.07		
Equilenin	517-09-9	ND		0.479		
Mestranol	72-33-3	ND		2.31		
Norethindrone	68-22-4	ND		3.48		
17 alpha-Ethinyl-Estradiol	57-63-6		6.62	1.88	0.48	1.001
Progesterone	57-83-0	ND		12.8		
Norgestrel	6533-00-2	ND		9.69		
Estriol	50-27-1	ND		1.95		
beta-Estradiol 3-benzoate	50-50-0	ND		1.05		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Teresa Rawsthorne _____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27; Report Filename: HM_HM_LO_HM_LO_L15119-6_Form1A_ST0A2745.D_SJ1204003.html; Workgroup: WG33569; Design ID: 1302]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2
ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Matrix: AQUEOUS

Sample Receipt Date: 30-Jul-2010

Extraction Date: 10-Aug-2010

Analysis Date: 15-Sep-2010 Time: 05:58:00

Extract Volume (uL): 500

Injection Volume (uL): 2.0

Dilution Factor: N/A

Project No. 09185
Lab Sample I.D.: L15119-6 i
Sample Size: 1.00 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2745.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

Concentration Units: ng absolute

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
D4-17 beta-Estradiol		108	79.2	73.3	0.37	1.265
D4-Mestranol		456	352	77.2	0.29	1.297
D6-Norethindrone		454	363	79.9	0.29	1.301
D4-17 alpha-Ethinyl-Estradiol		450	345	76.6	0.37	1.335
D9-Progesterone		495	364	73.6	0.23	1.358
D6-Norgestrel		453	385	84.9	0.32	1.374

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27;
Report Filename: HM_HM_LO_HM_LO_L15119-6_Form2_ST0A2745.D_SJ1204003.html; Workgroup: WG33569; Design ID: 1302]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A
ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: N/A
Extraction Date: 10-Aug-2010
Analysis Date: 15-Sep-2010 **Time:** 01:26:00
Extract Volume (uL): 500
Injection Volume (uL): 2.0
Dilution Factor: N/A
Concentration Units: ng/L

Project No. N/A
Lab Sample I.D.: WG33569-101 i
Sample Size: 1.00 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2739.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Androsterone	53-41-8	ND		0.670		
Desogestrel	54024-22-5	ND		8.16		
17 alpha-Estradiol	57-91-0	ND		1.11		
Estrone	53-16-7	ND		1.98		
Equilin	474-86-2	ND		2.34		
Androstenedione	63-05-8	NDR	5.58	3.54	0.50	1.254
17 alpha-Dihydroequilin	651-55-8	ND		1.25		
17 beta-Estradiol	50-28-2	ND		0.982		
Testosterone	58-22-0	ND		2.50		
Equilenin	517-09-9	ND		0.768		
Mestranol	72-33-3	ND		1.10		
Norethindrone	68-22-4	ND		3.44		
17 alpha-Ethinyl-Estradiol	57-63-6	NDR	4.12	0.932	0.73	1.001
Progesterone	57-83-0	ND		14.2		
Norgestrel	6533-00-2	ND		5.95		
Estriol	50-27-1	ND		2.08		
beta-Estradiol 3-benzoate	50-50-0	ND		0.390		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27; Report Filename: HM_HM_LO_HM_LO_WG33569-101_Form1A_ST0A2739.D_SJ1203997.html; Workgroup: WG33569; Design ID: 1302]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2
ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Matrix: AQUEOUS

Sample Receipt Date: N/A

Extraction Date: 10-Aug-2010

Analysis Date: 15-Sep-2010 Time: 01:26:00

Extract Volume (uL): 500

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: ng absolute

Project No. N/A

Lab Sample I.D.: WG33569-101 i

Sample Size: 1.00 L

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS

GC Column ID: RTX5

Sample Data Filename: ST0A2739.D

Blank Data Filename: ST0A2739.D

Opening Cal. Data Filename: ST0A2735.D

Closing Cal. Data Filename: ST0A2748.D

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
D4-17 beta-Estradiol		108	62.7	58.1	0.36	1.265
D4-Mestranol		456	330	72.3	0.30	1.296
D6-Norethindrone		454	369	81.4	0.28	1.300
D4-17 alpha-Ethinyl-Estradiol		450	305	67.7	0.37	1.335
D9-Progesterone		495	447	90.3	0.22	1.357
D6-Norgestrel		453	395	87.3	0.34	1.373

(1) Where applicable, custom lab flags have been used on this report.
(2) R% = percent recovery.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27; Report Filename: HM_HM_LO_HM_LO_WG33569-101_Form2_ST0A2739.D_SJ1203997.html; Workgroup: WG33569; Design ID: 1302]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



**Form 8A
ONGOING PRECISION AND RECOVERY (OPR)**

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

OPR Data Filename: ST0A2736.D

Matrix: AQUEOUS

Lab Sample I.D.: WG33569-102 i

Extraction Date: 10-Aug-2010

Analysis Date: 14-Sep-2010 **Time:** 23:11:00

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

COMPOUND	CAS NO.	LAB FLAG ¹	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
Androsterone	53-41-8		0.28	5200	2770	2600 - 7800	53.3
Desogestrel	54024-22-5		0.33	5350	2620	1550 - 8030	49.0
17 alpha-Estradiol	57-91-0		0.36	4950	5100	2480 - 7430	103
Estrone	53-16-7		0.30	5800	5950	2900 - 8700	103
Equilin	474-86-2		0.27	4910	4450	2450 - 7360	90.6
Androstenedione	63-05-8		0.21	12900	6990	6430 - 24800	54.4
17 alpha-Dihydroequilin	651-55-8		0.27	5050	4650	2530 - 7580	92.1
17 beta-Estradiol	50-28-2		0.36	5100	5140	3570 - 6630	101
Testosterone	58-22-0		0.28	5350	2940	2680 - 8030	55.0
Equilenin	517-09-9		0.30	5200	4890	2600 - 7790	94.1
Mestranol	72-33-3		0.30	5100	5080	2550 - 7650	99.6
Norethindrone	68-22-4		0.28	5370	5470	3760 - 6980	102
17 alpha-Ethinyl-Estradiol	57-63-6		0.37	5350	5130	3750 - 6960	95.8
Progesterone	57-83-0		0.25	12800	12800	8960 - 16600	99.7
Norgestrel	6533-00-2		0.35	5100	5070	3570 - 6630	99.4
Estriol	50-27-1		0.47	4950	3230	297 - 8370	65.2
beta-Estradiol 3-benzoate	50-50-0		0.08	5400	4210	270 - 10200	77.9

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For Axys Internal Use Only [XSL Template: Pest8A.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27; Report Filename: HM_HM_LO_HM_LO_WG33569-102_Form8A_SJ1203996.html; Workgroup: WG33569; Design ID: 1302]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 8B
ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

OPR Data Filename: ST0A2736.D

Matrix: AQUEOUS

Lab Sample I.D.: WG33569-102 i

Extraction Date: 10-Aug-2010

Analysis Date: 14-Sep-2010 **Time:** 23:11:00

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

LABELLED COMPOUND	CAS NO.	LAB FLAG ¹	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
D4-17 beta-Estradiol			0.36	1080	497	324-1620	46.0
D4-Mestranol			0.30	4560	2290	1370-6840	50.1
D6-Norethindrone			0.28	4540	2450	1360-6800	54.0
D4-17 alpha-Ethinyl-Estradiol			0.36	4500	2210	1350-6750	49.1
D9-Progesterone			0.21	4950	2610	1490-9900	52.6
D6-Norgestrel			0.33	4530	2630	1360-6800	58.1

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Teresa Rawsthorne _____

For Axys Internal Use Only [XSL Template: Pest8B.xsl; Created: 23-Oct-2010 15:27:08; Application: XMLTransformer-1.10.27; Report Filename: HM_HM_LO_HM_LO_WG33569-102_Form8B_SJ1203996.html; Workgroup: WG33569; Design ID: 1302]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
V78595-08R
Sample Collection:
28-Jul-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 30-Jul-2010
Extraction Date: 10-Aug-2010
Analysis Date: 15-Sep-2010 Time: 02:12:00
Extract Volume (uL): 500
Injection Volume (uL): 2.0
Dilution Factor: N/A
Concentration Units: ng/L

Project No. 09185
Lab Sample I.D.: L15119-1 i
Sample Size: 0.982 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2740.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Coprostanol	360-68-9	ND		5.93		
Epicoprostanol	516-92-7	ND		7.37		
Cholesterol	57-88-5		142	9.50	0.31	1.004
Cholestanol	80-97-7	ND		9.91		
Desmosterol	313-04-2	ND		27.5		
Ergosterol	57-87-4	ND		3.02		
Campesterol	474-62-4		18.1	11.8	0.34	1.058
Stigmasterol	83-48-7		300	35.0	0.87	1.071
beta-Sitosterol	83-46-5		1280	25.8	1.15	1.094
beta Stigmastanol	19466-47-8	ND		14.6		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Teresa Rawsthorne _____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 23-Oct-2010 15:27:33; Application: XMLTransformer-1.10.27; Report Filename: ST_ST_LO_ST_LO_L15119-1_Form1A_ST0A2740.D_SJ1204012.html; Workgroup: WG33569; Design ID: 1301]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2
ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Matrix: AQUEOUS

Sample Receipt Date: 30-Jul-2010

Extraction Date: 10-Aug-2010

Analysis Date: 15-Sep-2010 Time: 02:12:00

Extract Volume (uL): 500

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: ng absolute

Project No. 09185

Lab Sample I.D.: L15119-1 i

Sample Size: 0.982 L

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS

GC Column ID: RTX5

Sample Data Filename: ST0A2740.D

Blank Data Filename: ST0A2739.D

Opening Cal. Data Filename: ST0A2735.D

Closing Cal. Data Filename: ST0A2748.D

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
D7-Cholesterol		538	289	53.7	0.34	1.630

(1) Where applicable, custom lab flags have been used on this report.

(2) R% = percent recovery.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For AxyS Internal Use Only [XSL Template: Pest2.xsl; Created: 23-Oct-2010 15:27:33; Application: XMLTransformer-1.10.27; Report Filename: ST_ST_LO_ST_LO_L15119-1_Form2_ST0A2740.D_SJ1204012.html; Workgroup: WG33569; Design ID: 1301]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
V78534-08R
Sample Collection:
28-Jul-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 30-Jul-2010
Extraction Date: 10-Aug-2010
Analysis Date: 15-Sep-2010 Time: 02:57:00
Extract Volume (uL): 500
Injection Volume (uL): 2.0
Dilution Factor: N/A
Concentration Units: ng/L

Project No. 09185
Lab Sample I.D.: L15119-2 i
Sample Size: 0.992 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2741.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Coprostanol	360-68-9		15.1	5.45	0.28	0.942
Epicoprostanol	516-92-7		19.6	6.78	0.26	0.948
Cholesterol	57-88-5		301	9.55	0.31	1.004
Cholestanol	80-97-7	ND		14.3		
Desmosterol	313-04-2	ND		22.1		
Ergosterol	57-87-4	ND		2.91		
Campesterol	474-62-4		42.5	5.09	0.34	1.058
Stigmasterol	83-48-7		362	33.0	0.85	1.072
beta-Sitosterol	83-46-5		1530	36.3	1.18	1.094
beta Stigmastanol	19466-47-8	NDR	740	14.7	0.28	1.094

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 23-Oct-2010 15:27:33; Application: XMLTransformer-1.10.27; Report Filename: ST_ST_LO_ST_LO_L15119-2_Form1A_ST0A2741.D_SJ1204013.html; Workgroup: WG33569; Design ID: 1301]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2
ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Matrix: AQUEOUS

Sample Receipt Date: 30-Jul-2010

Extraction Date: 10-Aug-2010

Analysis Date: 15-Sep-2010 Time: 02:57:00

Extract Volume (uL): 500

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: ng absolute

Project No. 09185

Lab Sample I.D.: L15119-2 i

Sample Size: 0.992 L

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS

GC Column ID: RTX5

Sample Data Filename: ST0A2741.D

Blank Data Filename: ST0A2739.D

Opening Cal. Data Filename: ST0A2735.D

Closing Cal. Data Filename: ST0A2748.D

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
D7-Cholesterol		538	276	51.2	0.33	1.631

(1) Where applicable, custom lab flags have been used on this report.

(2) R% = percent recovery.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For AxyS Internal Use Only [XSL Template: Pest2.xsl; Created: 23-Oct-2010 15:27:33; Application: XMLTransformer-1.10.27; Report Filename: ST_ST_LO_ST_LO_L15119-2_Form2_ST0A2741.D_SJ1204013.html; Workgroup: WG33569; Design ID: 1301]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
V78543-08R
Sample Collection:
28-Jul-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 30-Jul-2010
Extraction Date: 10-Aug-2010
Analysis Date: 15-Sep-2010 **Time:** 03:42:00
Extract Volume (uL): 500
Injection Volume (uL): 2.0
Dilution Factor: N/A
Concentration Units: ng/L

Project No. 09185
Lab Sample I.D.: L15119-3 i
Sample Size: 1.08 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2742.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Coprostanol	360-68-9	ND		5.86		
Epicoprostanol	516-92-7	ND		7.29		
Cholesterol	57-88-5		233	12.4	0.32	1.004
Cholestanol	80-97-7	ND		8.38		
Desmosterol	313-04-2	ND		20.3		
Ergosterol	57-87-4	ND		8.22		
Campesterol	474-62-4		22.4	8.87	0.39	1.058
Stigmasterol	83-48-7	ND		56.3		
beta-Sitosterol	83-46-5		191	47.0	1.17	1.093
beta Stigmastanol	19466-47-8	ND		36.2		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Teresa Rawsthorne _____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 23-Oct-2010 15:27:33; Application: XMLTransformer-1.10.27; Report Filename: ST_ST_LO_ST_LO_L15119-3_Form1A_ST0A2742.D_SJ1204014.html; Workgroup: WG33569; Design ID: 1301]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2
ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Matrix: AQUEOUS

Sample Receipt Date: 30-Jul-2010

Extraction Date: 10-Aug-2010

Analysis Date: 15-Sep-2010 Time: 03:42:00

Extract Volume (uL): 500

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: ng absolute

Project No. 09185

Lab Sample I.D.: L15119-3 i

Sample Size: 1.08 L

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS

GC Column ID: RTX5

Sample Data Filename: ST0A2742.D

Blank Data Filename: ST0A2739.D

Opening Cal. Data Filename: ST0A2735.D

Closing Cal. Data Filename: ST0A2748.D

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
D7-Cholesterol		538	302	56.1	0.33	1.630

(1) Where applicable, custom lab flags have been used on this report.

(2) R% = percent recovery.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For AxyS Internal Use Only [XSL Template: Pest2.xsl; Created: 23-Oct-2010 15:27:33; Application: XMLTransformer-1.10.27; Report Filename: ST_ST_LO_ST_LO_L15119-3_Form2_ST0A2742.D_SJ1204014.html; Workgroup: WG33569; Design ID: 1301]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
V78550-08R
Sample Collection:
28-Jul-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 30-Jul-2010
Extraction Date: 10-Aug-2010
Analysis Date: 15-Sep-2010 Time: 04:27:00
Extract Volume (uL): 500
Injection Volume (uL): 2.0
Dilution Factor: N/A

Project No. 09185
Lab Sample I.D.: L15119-4 i
Sample Size: 1.01 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2743.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

Concentration Units: ng/L

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Coprostanol	360-68-9	NDR	11.3	5.59	0.20	0.942
Epicoprostanol	516-92-7		13.4	6.95	0.34	0.948
Cholesterol	57-88-5		339	10.5	0.31	1.004
Cholestanol	80-97-7		14.5	11.4	0.45	1.010
Desmosterol	313-04-2		58.8	23.2	0.37	1.026
Ergosterol	57-87-4	ND		6.16		
Campesterol	474-62-4		49.6	10.6	0.24	1.058
Stigmasterol	83-48-7		281	38.4	0.90	1.071
beta-Sitosterol	83-46-5		1260	40.7	1.13	1.094
beta Stigmastanol	19466-47-8	ND		39.5		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected; NDR = peak detected but did not meet quantification criteria, result reported represents the estimated maximum possible concentration.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 23-Oct-2010 15:27:33; Application: XMLTransformer-1.10.27; Report Filename: ST_ST_LO_ST_LO_L15119-4_Form1A_ST0A2743.D_SJ1204015.html; Workgroup: WG33569; Design ID: 1301]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 2
ANALYSIS REPORT

CLIENT SAMPLE NO.
V78550-08R
Sample Collection:
28-Jul-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Matrix: AQUEOUS

Sample Receipt Date: 30-Jul-2010

Extraction Date: 10-Aug-2010

Analysis Date: 15-Sep-2010 Time: 04:27:00

Extract Volume (uL): 500

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: ng absolute

Project No. 09185

Lab Sample I.D.: L15119-4 i

Sample Size: 1.01 L

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS

GC Column ID: RTX5

Sample Data Filename: ST0A2743.D

Blank Data Filename: ST0A2739.D

Opening Cal. Data Filename: ST0A2735.D

Closing Cal. Data Filename: ST0A2748.D

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
D7-Cholesterol		538	297	55.2	0.34	1.631

(1) Where applicable, custom lab flags have been used on this report.

(2) R% = percent recovery.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For AxyS Internal Use Only [XSL Template: Pest2.xsl; Created: 23-Oct-2010 15:27:33; Application: XMLTransformer-1.10.27; Report Filename: ST_ST_LO_ST_LO_L15119-4_Form2_ST0A2743.D_SJ1204015.html; Workgroup: WG33569; Design ID: 1301]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
V78553-08R
Sample Collection:
28-Jul-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 30-Jul-2010
Extraction Date: 10-Aug-2010
Analysis Date: 15-Sep-2010 **Time:** 05:13:00
Extract Volume (uL): 500
Injection Volume (uL): 2.0
Dilution Factor: N/A
Concentration Units: ng/L

Project No. 09185
Lab Sample I.D.: L15119-5 i
Sample Size: 0.995 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2744.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Coprostanol	360-68-9	ND		9.47		
Epicoprostanol	516-92-7	ND		11.8		
Cholesterol	57-88-5		335	7.74	0.30	1.004
Cholestanol	80-97-7	ND		16.7		
Desmosterol	313-04-2		50.2	22.0	0.26	1.026
Ergosterol	57-87-4	ND		4.93		
Campesterol	474-62-4		24.9	8.14	0.30	1.058
Stigmasterol	83-48-7	ND		45.2		
beta-Sitosterol	83-46-5		130	38.1	0.97	1.094
beta Stigmastanol	19466-47-8	ND		46.7		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Teresa Rawsthorne _____

For Axys Internal Use Only [XSL Template: Pest1A.xsl; Created: 23-Oct-2010 15:27:33; Application: XMLTransformer-1.10.27; Report Filename: ST_ST_LO_ST_LO_L15119-5_Form1A_ST0A2744.D_SJ1204016.html; Workgroup: WG33569; Design ID: 1301]

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Form 2
ANALYSIS REPORT

CLIENT SAMPLE NO.
V78553-08R
Sample Collection:
28-Jul-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Matrix: AQUEOUS

Sample Receipt Date: 30-Jul-2010

Extraction Date: 10-Aug-2010

Analysis Date: 15-Sep-2010 Time: 05:13:00

Extract Volume (uL): 500

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: ng absolute

Project No. 09185

Lab Sample I.D.: L15119-5 i

Sample Size: 0.995 L

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS

GC Column ID: RTX5

Sample Data Filename: ST0A2744.D

Blank Data Filename: ST0A2739.D

Opening Cal. Data Filename: ST0A2735.D

Closing Cal. Data Filename: ST0A2748.D

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
D7-Cholesterol		538	280	52.0	0.33	1.631

(1) Where applicable, custom lab flags have been used on this report.

(2) R% = percent recovery.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 23-Oct-2010 15:27:33; Application: XMLTransformer-1.10.27; Report Filename: ST_ST_LO_ST_LO_L15119-5_Form2_ST0A2744.D_SJ1204016.html; Workgroup: WG33569; Design ID: 1301]

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Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
V78513-08R
Sample Collection:
28-Jul-2010

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: 30-Jul-2010
Extraction Date: 10-Aug-2010
Analysis Date: 15-Sep-2010 **Time:** 05:58:00
Extract Volume (uL): 500
Injection Volume (uL): 2.0
Dilution Factor: N/A
Concentration Units: ng/L

Project No. 09185
Lab Sample I.D.: L15119-6 i
Sample Size: 1.00 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2745.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Coprostanol	360-68-9		9.38	5.47	0.29	0.942
Epicoprostanol	516-92-7	ND		6.80		
Cholesterol	57-88-5		374	12.8	0.31	1.004
Cholestanol	80-97-7	ND		15.4		
Desmosterol	313-04-2		78.6	19.6	0.41	1.027
Ergosterol	57-87-4	ND		5.33		
Campesterol	474-62-4		25.1	8.97	0.37	1.058
Stigmasterol	83-48-7	ND		38.5		
beta-Sitosterol	83-46-5		120	45.8	1.03	1.094
beta Stigmastanol	19466-47-8	ND		34.0		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Teresa Rawsthorne _____

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Form 2
ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Matrix: AQUEOUS

Sample Receipt Date: 30-Jul-2010

Extraction Date: 10-Aug-2010

Analysis Date: 15-Sep-2010 Time: 05:58:00

Extract Volume (uL): 500

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: ng absolute

Project No. 09185

Lab Sample I.D.: L15119-6 i

Sample Size: 1.00 L

Initial Calibration Date: BRACKETING CAL

Instrument ID: LR GC/MS

GC Column ID: RTX5

Sample Data Filename: ST0A2745.D

Blank Data Filename: ST0A2739.D

Opening Cal. Data Filename: ST0A2735.D

Closing Cal. Data Filename: ST0A2748.D

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
D7-Cholesterol		538	310	57.7	0.35	1.631

(1) Where applicable, custom lab flags have been used on this report.

(2) R% = percent recovery.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

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Form 1A
ANALYSIS REPORT

CLIENT SAMPLE NO.
Lab Blank
Sample Collection:
N/A

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520
Matrix: AQUEOUS
Sample Receipt Date: N/A
Extraction Date: 10-Aug-2010
Analysis Date: 15-Sep-2010 **Time:** 01:26:00
Extract Volume (uL): 500
Injection Volume (uL): 2.0
Dilution Factor: N/A
Concentration Units: ng/L

Project No. N/A
Lab Sample I.D.: WG33569-101 i
Sample Size: 1.00 L
Initial Calibration Date: BRACKETING CAL
Instrument ID: LR GC/MS
GC Column ID: RTX5
Sample Data Filename: ST0A2739.D
Blank Data Filename: ST0A2739.D
Opening Cal. Data Filename: ST0A2735.D
Closing Cal. Data Filename: ST0A2748.D

COMPOUND	CAS NO.	LAB FLAG ¹	CONC. FOUND	DETECTION LIMIT	ION ABUND. RATIO	RRT
Coprostanol	360-68-9	ND		6.24		
Epicoprostanol	516-92-7	ND		6.16		
Cholesterol	57-88-5		136	16.3	0.36	1.004
Cholestanol	80-97-7	ND		10.6		
Desmosterol	313-04-2	ND		38.0		
Ergosterol	57-87-4	ND		6.07		
Campesterol	474-62-4	ND		7.79		
Stigmasterol	83-48-7	ND		28.3		
beta-Sitosterol	83-46-5	ND		51.2		
beta Stigmastanol	19466-47-8	ND		30.0		

(1) Where applicable, custom lab flags have been used on this report; ND = not detected.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____ Teresa Rawsthorne _____

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Form 2
ANALYSIS REPORT

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

Matrix: AQUEOUS

Sample Receipt Date: N/A

Extraction Date: 10-Aug-2010

Analysis Date: 15-Sep-2010 Time: 01:26:00

Extract Volume (uL): 500

Injection Volume (uL): 2.0

Dilution Factor: N/A

Concentration Units: ng absolute

Project No.

N/A

Lab Sample I.D.:

WG33569-101 i

Sample Size:

1.00 L

Initial Calibration Date:

BRACKETING CAL

Instrument ID:

LR GC/MS

GC Column ID:

RTX5

Sample Data Filename:

ST0A2739.D

Blank Data Filename:

ST0A2739.D

Opening Cal. Data Filename:

ST0A2735.D

Closing Cal. Data Filename:

ST0A2748.D

LABELED COMPOUND	LAB FLAG ¹	SPIKE CONC.	CONC. FOUND	R(%) ²	ION ABUND. RATIO	RRT
D7-Cholesterol		538	231	43.0	0.36	1.630

(1) Where applicable, custom lab flags have been used on this report.

(2) R% = percent recovery.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For Axys Internal Use Only [XSL Template: Pest2.xsl; Created: 23-Oct-2010 15:27:33; Application: XMLTransformer-1.10.27;
Report Filename: ST_ST_LO_ST_LO_WG33569-101_Form2_ST0A2739.D_SJ1204011.html; Workgroup: WG33569; Design ID: 1301]

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**Form 8A
ONGOING PRECISION AND RECOVERY (OPR)**

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

OPR Data Filename: ST0A2736.D

Matrix: AQUEOUS

Lab Sample I.D.: WG33569-102 i

Extraction Date: 10-Aug-2010

Analysis Date: 14-Sep-2010 **Time:** 23:11:00

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

COMPOUND	CAS NO.	LAB FLAG ¹	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
Coprostanol	360-68-9		0.31	12100	12400	6060 - 18200	102
Epicoprostanol	516-92-7		0.31	12000	11800	5990 - 18000	98.1
Cholesterol	57-88-5		0.30	11800	12500	5900 - 28000	106
Cholestanol	80-97-7		0.53	5000	4810	2500 - 7500	96.2
Desmosterol	313-04-2		0.32	7190	7050	3380 - 10800	98.1
Ergosterol	57-87-4		0.29	12000	6550	-	54.4
Campesterol	474-62-4		0.34	5000	4870	2500 - 7800	97.3
Stigmasterol	83-48-7		0.90	5060	5210	2330 - 7690	103
beta-Sitosterol	83-46-5		1.09	11800	12900	591 - 23600	110
beta Stigmastanol	19466-47-8		1.55	12100	10900	6050 - 18100	90.1

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For Axys Internal Use Only [XSL Template: Pest8A.xsl; Created: 23-Oct-2010 15:27:33; Application: XMLTransformer-1.10.27; Report Filename: ST_ST_LO_ST_LO_WG33569-102_Form8A_SJ1204010.html; Workgroup: WG33569; Design ID: 1301]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.



Form 8B
ONGOING PRECISION AND RECOVERY (OPR)

AXYS ANALYTICAL SERVICES

2045 MILLS RD., SIDNEY, B.C., CANADA
 V8L 5X2 TEL (250) 655-5800 FAX (250) 655-5811

Contract No.: 2520

OPR Data Filename: ST0A2736.D

Matrix: AQUEOUS

Lab Sample I.D.: WG33569-102 i

Extraction Date: 10-Aug-2010

Analysis Date: 14-Sep-2010 **Time:** 23:11:00

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT, BASED ON 100 uL EXTRACT.

LABELED COMPOUND	CAS NO.	LAB FLAG ¹	ION ABUND. RATIO	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (ng/mL)	% RECOVERY
D7-Cholesterol			0.35	5380	2060	699-8070	38.2

(1) Where applicable, custom lab flags have been used on this report.

These data are validated and reported as accurate, true and compliant with AXYS Analytical Services Ltd. quality assurance processes.

Signed: _____Teresa Rawsthorne_____

For Axys Internal Use Only [XSL Template: Pest8B.xsl; Created: 23-Oct-2010 15:27:33; Application: XMLTransformer-1.10.27; Report Filename: ST_ST_LO_ST_LO_WG33569-102_Form8B_SJ1204010.html; Workgroup: WG33569; Design ID: 1301]

These pages are part of a larger report that may contain information necessary for full data evaluation. Results reported relate only to the sample tested. Results are compliant with NELAP where specific accreditation is held.

