

Day, Kristin ENV:EX

From: Wagner, Rick S ENV:EX
Sent: Thursday, August 5, 2010 10:15 AM
To: XT:HLTH Volk,Gundie
Cc: Michael, Bill ENV:EX
Subject: FW: MaxJob#: B065663, Att: Rick Wagner, File: B065663-R2010-08-05_06-35-30_R006.pdf; B065663-R2010-08-05_06-35-30_N001.xls; attached ...
Attachments: B065663-R2010-08-05_06-35-30_R006.pdf; B065663-R2010-08-05_06-35-30_N001.xls
Importance: High

Here is the first set of data.

To identify the samples.

The Reg/1 was taken at 2010-08-01 at 15:40. It was a sample of the runoff which was exiting the storm water system before it entered Mill Creek. This sample should represent the high concentration of the runoff before mixing in the creek.

The Reg/2 was taken 2010-08-01 at 15:55. It was a sample of the Mill Creek runoff after it entered Okanagan Lake and was taken shortly after the leading edge of the plume entered the lake. The specific location was the shoreline on south side of the Hwy 97 bridge before to passed Hot water beach.

The Reg/3 was taken 2010-08-02 at 09:20. It was a sample of Mill Creek flow just prior to it entering the Lake. By this point the flow was clear again..

I will be receiving more results for these samples. Still remaining are the pesticide and herbicide results.

Cheers.

From: morgan.melnychuk@maxxamanalytics.com [mailto:morgan.melnychuk@maxxamanalytics.com]
Sent: Thu 05/08/2010 6:36 AM
To: Wagner, Rick S ENV:EX
Subject: MaxJob#: B065663, Att: Rick Wagner, File: B065663-R2010-08-05_06-35-30_R006.pdf; B065663-R2010-08-05_06-35-30_N001.xls; attached ...

Greetings!

Maxxam Analytics thanks you for your submission. Attached you will find your Certificate of Analysis. Should you have any questions or concerns, please contact your Project Manager. We welcome any feedback you would care to share with us. To do so, please contact us at comments@maxxamanalytics.com

Your result File B065663-R2010-08-05_06-35-30_R006.pdf; B065663-R2010-08-05_06-35-30_N001.xls; is attached.

Maxxam Analytics
4606 Canada Way
Burnaby, British Columbia V5G 1K5
<http://www.maxxamanalytics.com>

Requisition Form # 50171102
Client Code s.17
Your C.O.C. #: 50171102

Attention: Rick Wagner
MINISTRY OF ENVIRONMENT
Waste-Thompson-Nicola (cf)
1259 DALHOUSIE DRIVE
KAMLOOPS, BC
Canada V2C 5Z5

Report Date: 2010/08/06

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B065663
Received: 2010/08/03, 08:30

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Temperature at Arrival	3	N/A	2010/08/04		
PAH in Water by GC/MS (Extended)	3	2010/08/03	2010/08/04	BRN SOP-00331 R6.0	Based on EPA 8270D
Diagnostic Pesticide Scan in Water	3	2010/08/04	2010/08/05	BRN SOP-00336 R5.0	BCMOE/ EPA 8270D
Sampling Range	3	N/A	2010/08/04		
Glyphosate Water Subcontract ☐	3	2010/08/06	2010/08/06		

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

(1) This test was performed by Maxxam Ontario (From Burnaby)

Encryption Key



Morgan Melnychuk

08 Aug 2010 12:21:39 -07:00

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

MORGAN MELNYCHUK, BBY Customer Service
Email: morgan.melnchuk@maxxamanalytics.com
Phone# (604) 638-8034

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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.

Total cover pages: 1

Maxxam Job #: B065663
Report Date: 2010/08/06

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V90739	V90740	V90741		
Sampling Date		2010/08/01 15:40	2010/08/01 15:55	2010/08/02 09:20		
COC Number		50171102	50171102	50171102		
	Units	REG/1	REG/2	REG/3	RDL	QC Batch

Field Parameters						
Sample End Date	N/A	20100801	20100801	20100801	0	4151027
Sample End Time	N/A	15:30	15:55	9:20	0	4151027
Sample Start Date	N/A	20100801	20100801	20100801	0	4151027
Sample Start Time	N/A	15:30	15:55	9:20	0	4151027
Temperature at Arrival	C	5	5	5	1	4151015
Parameter						
Subcontract Parameter	N/A	ATTACHED	ATTACHED	ATTACHED	N/A	4160638

RDL = Reportable Detection Limit

Maxxam Job #: B065663

Report Date: 2010/08/06

SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		V90739		V90740		V90741		
Sampling Date		2010/08/01 15:40		2010/08/01 15:55		2010/08/02 09:20		
COC Number		50171102		50171102		50171102		
	Units	REG/1	RDL	REG/2	RDL	REG/3	RDL	QC Batch
Base Neutrals								
Diphenylamine	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Pentachloronitrobenzene	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Pronamide	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Chlorobenzenes								
Hexachlorobenzene	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
FOOD GROUP PARAMETERS								
Bromophos	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Chlorothalonil (Daconil)	ug/L	<10 (1)	10	<1	1	<1	1	4151665
Dichlobenil	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Dicofol	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Malaaxon	ug/L	<10 (1)	10	<1	1	<1	1	4151665
Phosalone	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Parameter								
4,4'-DDE	ug/L	<0.1 (1)	0.1	<0.01	0.01	<0.01	0.01	4151665
4,4'-DDT	ug/L	<0.1 (1)	0.1	<0.01	0.01	<0.01	0.01	4151665
4,4'-methoxychlor	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
α-Chlordane	ug/L	<0.6 (1)	0.6	<0.06	0.06	<0.06	0.06	4151665
Azinophos methyl (Guthion)	ug/L	<10 (1)	10	<1	1	<1	1	4151665
Bromacil	ug/L	4 (1)	1	0.6	0.1	0.2	0.1	4151665
Chlorpyrifos	ug/L	102 (1)	0.1	0.15	0.01	9.84	0.01	4151665
Disulfoton (Di-Syston)	ug/L	<10 (1)	10	<1	1	<1	1	4151665
Endosulfan I	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Endosulfan II	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
γ-Chlordane	ug/L	<0.6 (1)	0.6	<0.06	0.06	<0.06	0.06	4151665
Mevinphos (Phosdrin)	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Parathion methyl	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Phorate (Thimet)	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Stirophos	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Organophosphorus Pest.								
Alachlor	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Atrazine	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Butylate	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
RDL = Reportable Detection Limit (1) RDL raised due to sample dilution.								

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SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		V90739		V90740		V90741		
Sampling Date		2010/08/01 15:40		2010/08/01 15:55		2010/08/02 09:20		
COC Number		50171102		50171102		50171102		
	Units	REG/1	RDL	REG/2	RDL	REG/3	RDL	QC Batch
Captan	ug/L	<10 (1)	10	<1	1	<1	1	4151665
Chlorpropham	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Cyanazine (Bladex)	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Desethyl-atrazine	ug/L	<3 (1)	3	<0.3	0.3	<0.3	0.3	4151665
Diazinon	ug/L	1660 (1)	4	82.4 (1)	0.2	70.7	0.02	4151665
Dichloran	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Dimethoate	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Ethion	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Fenitrothion	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Fenthion	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Folpet	ug/L	<10 (1)	10	<1	1	<1	1	4151665
Fonofos	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Malathion	ug/L	186 (1)	100	1.4	0.5	4.0	0.5	4151665
Methidathion	ug/L	<3 (1)	3	<0.3	0.3	<0.3	0.3	4151665
Metolachlor	ug/L	324 (1)	40	20 (1)	2	11.8	0.2	4151665
Metribuzin (Sencor)	ug/L	<3 (1)	3	<0.3	0.3	<0.3	0.3	4151665
Parathion	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Phosmet	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Phosphamidon	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Prometryn	ug/L	45 (1)	2	3.5	0.2	2.0	0.2	4151665
Propazine	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Simazine	ug/L	117 (1)	5	6.9	0.5	5.1	0.5	4151665
Terbufos	ug/L	<3 (1)	3	<0.3	0.3	<0.3	0.3	4151665
Trifluralin	ug/L	64 (1)	2	1.3	0.2	7.3	0.2	4151665
Vinclozolin	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Organochlorine Pesticides								
2,4'-DDT + 4,4'-DDD	ug/L	<0.1 (1)	0.1	<0.01	0.01	<0.01	0.01	4151665
a-BHC	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Aldrin	ug/L	<0.2 (1)	0.2	<0.02	0.02	<0.02	0.02	4151665
Aspon	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Azinphos ethyl	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
b-BHC	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Benfluralin	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
RDL = Reportable Detection Limit (1) RDL raised due to sample dilution.								

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SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		V90739		V90740		V90741		
Sampling Date		2010/08/01 15:40		2010/08/01 15:55		2010/08/02 09:20		
COC Number		50171102		50171102		50171102		
	Units	REG/1	RDL	REG/2	RDL	REG/3	RDL	QC Batch
Bromophos-ethyl	ug/L	<3 (1)	3	<0.3	0.3	<0.3	0.3	4151665
Carbophenothion	ug/L	<3 (1)	3	<0.3	0.3	<0.3	0.3	4151665
Chlorbenside	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Chlorfenson(ovex)	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Chlorfenvinphos(e/z)	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Chlormephos	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Chlorpyrifos-methyl	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Chlorthiophos	ug/L	<3 (1)	3	<0.3	0.3	<0.3	0.3	4151665
Cyanophos	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Dacthal	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
d-BHC	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Demeton	ug/L	<10 (1)	10	<1	1	<1	1	4151665
Desmetyrn	ug/L	<3 (1)	3	<0.3	0.3	<0.3	0.3	4151665
Diallate(e/z)	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Dichlofenthion	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Dichlofluanid	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Dichlorvos + Naled	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Dicrotophos	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Dieldrin	ug/L	<0.3 (1)	0.3	<0.03	0.03	<0.03	0.03	4151665
Dioxathion	ug/L	<10 (1)	10	<1	1	<1	1	4151665
Endosulfan Sulfate	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Endrin	ug/L	<0.2 (1)	0.2	<0.02	0.02	<0.02	0.02	4151665
Endrin Aldehyde	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Endrin ketone	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
EPN	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Eptam	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Ethalfurallin	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Fensulfothion	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Heptachlor	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Heptachlor epoxide	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Hexazinone	ug/L	142 (1)	1	8.4	0.1	5.1	0.1	4151665
Iodofenphos	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Isofenphos	ug/L	<3 (1)	3	<0.3	0.3	<0.3	0.3	4151665
RDL = Reportable Detection Limit (1) RDL raised due to sample dilution.								

Maxxam Job #: B065663
Report Date: 2010/08/06

SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		V90739		V90740		V90741		
Sampling Date		2010/08/01 15:40		2010/08/01 15:55		2010/08/02 09:20		
COC Number		50171102		50171102		50171102		
	Units	REG/1	RDL	REG/2	RDL	REG/3	RDL	QC Batch
Lindane (BHC), gamma-	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Metalaxyl	ug/L	829 (1)	60	15.4	0.3	25.8	0.3	4151665
Mirex	ug/L	<3 (1)	3	<0.3	0.3	<0.3	0.3	4151665
Nitrofen	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
o,p'-DDD	ug/L	<0.1 (1)	0.1	<0.01	0.01	<0.01	0.01	4151665
o,p'-DDE	ug/L	<0.1 (1)	0.1	<0.01	0.01	<0.01	0.01	4151665
Omethoate	ug/L	<10 (1)	10	<1	1	<1	1	4151665
Permethrin	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Pirimicarb	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Pirimiphos-ethyl	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Pirimiphos-methyl	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Procymidone	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Profenophos	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Profluralin	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Pyrazophos	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Quinalophos	ug/L	<3 (1)	3	<0.3	0.3	<0.3	0.3	4151665
Ronnel	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Sulfotepp	ug/L	<1 (1)	1	<0.1	0.1	<0.1	0.1	4151665
Tecnazene	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Terbuthylazine	ug/L	3 (1)	1	0.1	0.1	0.1	0.1	4151665
Terbutryne	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Tetradifon	ug/L	<2 (1)	2	<0.2	0.2	<0.2	0.2	4151665
Tolylfluanid	ug/L	<5 (1)	5	<0.5	0.5	<0.5	0.5	4151665
Triadimefon	ug/L	<3 (1)	3	<0.3	0.3	<0.3	0.3	4151665
Triallate	ug/L	<3 (1)	3	<0.3	0.3	<0.3	0.3	4151665
PESTICIDE RESIDUE								
Iprodione	ug/L	29 (1)	10	<1	1	<1	1	4151665
Propiconazole	ug/L	10 (1)	5	0.6	0.5	0.5	0.5	4151665
Polycyclic Aromatics								
Naphthalene	ug/L	29	0.01	0.67	0.01	1.0	0.01	4151041
Quinoline	ug/L	2.0	0.05	0.19	0.05	0.09	0.05	4151041
2-Methylnaphthalene	ug/L	63 (1)	0.05	1.2	0.01	2.9	0.01	4151041
Acenaphthylene	ug/L	0.92	0.01	0.04	0.01	0.06	0.01	4151041
RDL = Reportable Detection Limit (1) RDL raised due to sample dilution.								

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Report Date: 2010/08/06

SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		V90739		V90740		V90741		
Sampling Date		2010/08/01 15:40		2010/08/01 15:55		2010/08/02 09:20		
COC Number		50171102		50171102		50171102		
	Units	REG/1	RDL	REG/2	RDL	REG/3	RDL	QC Batch
Acenaphthene	ug/L	0.43	0.01	0.01	0.01	0.04	0.01	4151041
Fluorene	ug/L	1.6	0.01	0.04	0.01	0.19	0.01	4151041
Phenanthrene	ug/L	<1 (1)	1	<0.2 (1)	0.2	<0.2 (1)	0.2	4151041
Anthracene	ug/L	<1 (1)	1	<0.01	0.01	<0.02 (1)	0.02	4151041
Acridine	ug/L	<0.7 (1)	0.7	<0.05	0.05	<0.05	0.05	4151041
Fluoranthene	ug/L	0.11	0.01	<0.01	0.01	0.02	0.01	4151041
Pyrene	ug/L	<0.1 (1)	0.1	<0.01	0.01	0.02	0.01	4151041
Benzo(c)phenanthrene	ug/L	<0.02	0.02	<0.02	0.02	<0.02	0.02	4151041
Benzo(a)anthracene	ug/L	<0.03 (1)	0.03	<0.01	0.01	<0.01	0.01	4151041
Chrysene	ug/L	0.02	0.01	<0.01	0.01	<0.01	0.01	4151041
Benzo(b&j)fluoranthene	ug/L	<0.01	0.01	<0.01	0.01	<0.01	0.01	4151041
7,12-Dimethylbenz(a)anthracene	ug/L	<0.1	0.1	<0.1	0.1	<0.1	0.1	4151041
Benzo(k)fluoranthene	ug/L	<0.01	0.01	<0.01	0.01	<0.01	0.01	4151041
Benzo(a)pyrene	ug/L	<0.02 (1)	0.02	<0.01	0.01	<0.01	0.01	4151041
3-Methylcholanthrene	ug/L	<0.02 (1)	0.02	<0.02 (1)	0.02	<0.02 (1)	0.02	4151041
Indeno(1,2,3-cd)pyrene	ug/L	<0.02	0.02	<0.02	0.02	<0.02	0.02	4151041
Dibenz(a,h)anthracene	ug/L	<0.02	0.02	<0.02	0.02	<0.02	0.02	4151041
Benzo(g,h,i)perylene	ug/L	<0.02	0.02	<0.02	0.02	<0.02	0.02	4151041
Dibenzo(a,h)pyrene	ug/L	<0.1	0.1	<0.1	0.1	<0.1	0.1	4151041
Dibenzo(a,i)pyrene	ug/L	<0.1	0.1	<0.1	0.1	<0.1	0.1	4151041
Dibenzo(a,l)pyrene	ug/L	<0.1	0.1	<0.1	0.1	<0.1	0.1	4151041
Surrogate Recovery (%)								
D10-ANTHRACENE (sur.)	%	55 (2)		75		65		4151041
D12-BENZO(A)PYRENE (sur.)	%	21 (2)		60		45 (2)		4151041
D8-ACENAPHTHYLENE (sur.)	%	59		79		64		4151041
D8-NAPHTHALENE (sur.)	%	56		79		63		4151041
TERPHENYL-D14 (sur.)	%	24 (2)		67		50 (2)		4151041
2-FLUOROBIPHENYL (sur.)	%	90		95		89		4151665
D5-NITROBENZENE (sur.)	%	90		99		92		4151665
p,p'-DDE13C12 (sur.)	%	80		88		83		4151665
TERPHENYL-D14 (sur.)	%	90		93		90		4151665
Triphenyl phosphate (sur.)	%	90		97		91		4151665

RDL = Reportable Detection Limit

(1) RDL raised due to sample matrix interference.

(2) Surrogate recovery below control limit.

Maxxam Job #: B065663
Report Date: 2010/08/06

MINISTRY OF ENVIRONMENT

General Comments

Results relate only to the items tested.

MINISTRY OF ENVIRONMENT

Attention: Rick Wagner

Client Project #:

P.O. #:

Site Reference:

Quality Assurance Report

Maxxam Job Number: VB065663

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
4151041 RW4	Spiked Blank	D10-ANTHRACENE (sur.)	2010/08/04		71	%	60 - 130
		D12-BENZO(A)PYRENE (sur.)	2010/08/04		74	%	60 - 130
		D8-ACENAPHTHYLENE (sur.)	2010/08/04		64	%	50 - 130
		D8-NAPHTHALENE (sur.)	2010/08/04		61	%	50 - 130
		TERPHENYL-D14 (sur.)	2010/08/04		74	%	60 - 130
		Naphthalene	2010/08/04		59	%	50 - 130
		Quinoline	2010/08/04		97	%	50 - 130
		2-Methylnaphthalene	2010/08/04		60	%	50 - 130
		Acenaphthylene	2010/08/04		63	%	50 - 130
		Acenaphthene	2010/08/04		66	%	50 - 130
		Fluorene	2010/08/04		69	%	50 - 130
		Phenanthrene	2010/08/04		70	%	60 - 130
		Anthracene	2010/08/04		72	%	60 - 130
		Acridine	2010/08/04		66	%	50 - 130
		Fluoranthene	2010/08/04		75	%	60 - 130
		Pyrene	2010/08/04		79	%	60 - 130
		Benzo(c)phenanthrene	2010/08/04		72	%	60 - 130
		Benzo(a)anthracene	2010/08/04		69	%	60 - 130
		Chrysene	2010/08/04		73	%	60 - 130
		Benzo(b&j)fluoranthene	2010/08/04		74	%	60 - 130
		7,12-Dimethylbenz(a)anthracene	2010/08/04		76	%	60 - 130
		Benzo(k)fluoranthene	2010/08/04		70	%	60 - 130
		Benzo(a)pyrene	2010/08/04		77	%	60 - 130
		3-Methylcholanthrene	2010/08/04		67	%	60 - 130
		Indeno(1,2,3-cd)pyrene	2010/08/04		76	%	60 - 130
		Dibenz(a,h)anthracene	2010/08/04		70	%	60 - 130
		Benzo(g,h,i)perylene	2010/08/04		76	%	60 - 130
	Method Blank	D10-ANTHRACENE (sur.)	2010/08/04		71	%	60 - 130
		D12-BENZO(A)PYRENE (sur.)	2010/08/04		73	%	60 - 130
		D8-ACENAPHTHYLENE (sur.)	2010/08/04		68	%	50 - 130
		D8-NAPHTHALENE (sur.)	2010/08/04		66	%	50 - 130
		TERPHENYL-D14 (sur.)	2010/08/04		77	%	60 - 130
		Naphthalene	2010/08/04	0.01, RDL=0.01		ug/L	
		Quinoline	2010/08/04	<0.05		ug/L	
		2-Methylnaphthalene	2010/08/04	<0.01		ug/L	
		Acenaphthylene	2010/08/04	<0.01		ug/L	
		Acenaphthene	2010/08/04	<0.01		ug/L	
		Fluorene	2010/08/04	<0.01		ug/L	
		Phenanthrene	2010/08/04	<0.01		ug/L	
		Anthracene	2010/08/04	<0.01		ug/L	
		Acridine	2010/08/04	<0.05		ug/L	
		Fluoranthene	2010/08/04	<0.01		ug/L	
		Pyrene	2010/08/04	<0.01		ug/L	
		Benzo(c)phenanthrene	2010/08/04	<0.02		ug/L	
		Benzo(a)anthracene	2010/08/04	<0.01		ug/L	
		Chrysene	2010/08/04	<0.01		ug/L	
		Benzo(b&j)fluoranthene	2010/08/04	<0.01		ug/L	
		7,12-Dimethylbenz(a)anthracene	2010/08/04	<0.1		ug/L	
		Benzo(k)fluoranthene	2010/08/04	<0.01		ug/L	
		Benzo(a)pyrene	2010/08/04	<0.01		ug/L	
		3-Methylcholanthrene	2010/08/04	<0.01		ug/L	
		Indeno(1,2,3-cd)pyrene	2010/08/04	<0.02		ug/L	
		Dibenz(a,h)anthracene	2010/08/04	<0.02		ug/L	
		Benzo(g,h,i)perylene	2010/08/04	<0.02		ug/L	
		Dibenzo(a,h)pyrene	2010/08/04	<0.1		ug/L	

MINISTRY OF ENVIRONMENT

Attention: Rick Wagner

Client Project #:

P.O. #:

Site Reference:

Quality Assurance Report (Continued)

Maxxam Job Number: VB065663

QA/QC Batch			Date Analyzed				
Num Init	QC Type	Parameter	yyyy/mm/dd	Value	Recovery	Units	QC Limits
4151041 RW4	Method Blank	Dibenzo(a,i)pyrene	2010/08/04	<0.1		ug/L	
		Dibenzo(a,i)pyrene	2010/08/04	<0.1		ug/L	
4151665 RW4	Spiked Blank	2-FLUOROBIPHENYL (sur.)	2010/08/04		84	%	43 - 116
		TERPHENYL-D14 (sur.)	2010/08/04		88	%	33 - 141
		Triphenyl phosphate (sur.)	2010/08/04		88	%	50 - 130
		D5-NITROBENZENE (sur.)	2010/08/04		94	%	35 - 114
		Hexachlorobenzene	2010/08/04		88	%	50 - 130
		4,4'-methoxychlor	2010/08/04		83	%	50 - 130
		Bromacil	2010/08/04		94	%	50 - 130
		Alachlor	2010/08/04		99	%	50 - 130
		Atrazine	2010/08/04		99	%	50 - 130
		Cyanazine (Bladex)	2010/08/04		96	%	50 - 130
		Metolachlor	2010/08/04		97	%	50 - 130
		Trifluralin	2010/08/04		91	%	50 - 130
		Endrin	2010/08/04		87	%	50 - 130
		Endrin Aldehyde	2010/08/04		95	%	50 - 130
		Endrin ketone	2010/08/04		93	%	50 - 130
		Heptachlor	2010/08/04		84	%	50 - 130
		Heptachlor epoxide	2010/08/04		95	%	50 - 130
		Lindane (BHC), gamma-	2010/08/04		89	%	50 - 130
		p,p'-DDE13C12 (sur.)	2010/08/04		91	%	40 - 130
	Method Blank	2-FLUOROBIPHENYL (sur.)	2010/08/04		93	%	43 - 116
		TERPHENYL-D14 (sur.)	2010/08/04		90	%	33 - 141
		Triphenyl phosphate (sur.)	2010/08/04		92	%	50 - 130
		D5-NITROBENZENE (sur.)	2010/08/04		100	%	35 - 114
		Diphenylamine	2010/08/04	<0.1		ug/L	
		Pentachloronitrobenzene	2010/08/04	<0.5		ug/L	
		Pronamide	2010/08/04	<0.2		ug/L	
		Hexachlorobenzene	2010/08/04	<0.2		ug/L	
		Bromophos	2010/08/04	<0.1		ug/L	
		Chlorothalonil (Daconil)	2010/08/04	<1		ug/L	
		Dichlobenil	2010/08/04	<0.2		ug/L	
		Dicofol	2010/08/04	<0.2		ug/L	
		Malaoxon	2010/08/04	<1		ug/L	
		Phosalone	2010/08/04	<0.2		ug/L	
		4,4'-DDE	2010/08/04	<0.01		ug/L	
		4,4'-DDT	2010/08/04	<0.01		ug/L	
		4,4'-methoxychlor	2010/08/04	<0.1		ug/L	
		a-Chlordane	2010/08/04	<0.06		ug/L	
		Azinphos methyl (Guthion)	2010/08/04	<1		ug/L	
		Bromacil	2010/08/04	<0.1		ug/L	
		Chlorpyrifos	2010/08/04	<0.01		ug/L	
		Disulfoton (DI-Syston)	2010/08/04	<1		ug/L	
		Endosulfan I	2010/08/04	<0.2		ug/L	
		Endosulfan II	2010/08/04	<0.2		ug/L	
		g-Chlordane	2010/08/04	<0.06		ug/L	
		Mevinphos (Phosdrin)	2010/08/04	<0.1		ug/L	
		Parathion methyl	2010/08/04	<0.5		ug/L	
		Phorate (Thimet)	2010/08/04	<0.5		ug/L	
		Stirophos	2010/08/04	<0.2		ug/L	
		Alachlor	2010/08/04	<0.5		ug/L	
		Atrazine	2010/08/04	<0.2		ug/L	
		Butylate	2010/08/04	<0.5		ug/L	
		Captan	2010/08/04	<1		ug/L	
		Chlorpropham	2010/08/04	<0.2		ug/L	

MINISTRY OF ENVIRONMENT
Attention: Rick Wagner
Client Project #:
P.O. #:
Site Reference:

Quality Assurance Report (Continued)

Maxxam Job Number: VB065663

QA/QC Batch			Date Analyzed				
Num Init	QC Type	Parameter	yyyy/mm/dd	Value	Recovery	Units	QC Limits
4151665 RW4	Method Blank	Cyanazine (Bladex)	2010/08/04	<0.5		ug/L	
		Desethyl-atrazine	2010/08/04	<0.3		ug/L	
		Diazinon	2010/08/04	<0.02		ug/L	
		Dichloran	2010/08/04	<0.5		ug/L	
		Dimethoate	2010/08/04	<0.5		ug/L	
		Ethion	2010/08/04	<0.2		ug/L	
		Fenitrothion	2010/08/04	<0.5		ug/L	
		Fenthion	2010/08/04	<0.1		ug/L	
		Folpet	2010/08/04	<1		ug/L	
		Fonofos	2010/08/04	<0.1		ug/L	
		Malathion	2010/08/04	<0.5		ug/L	
		Methidathion	2010/08/04	<0.3		ug/L	
		Metolachlor	2010/08/04	<0.2		ug/L	
		Metribuzin (Sencor)	2010/08/04	<0.3		ug/L	
		Parathion	2010/08/04	<0.5		ug/L	
		Phosmet	2010/08/04	<0.2		ug/L	
		Phosphamidon	2010/08/04	<0.2		ug/L	
		Prometryn	2010/08/04	<0.2		ug/L	
		Propazine	2010/08/04	<0.1		ug/L	
		Simazine	2010/08/04	<0.5		ug/L	
		Terbufos	2010/08/04	<0.3		ug/L	
		Trifluralin	2010/08/04	<0.2		ug/L	
		Vinclozolin	2010/08/04	<0.5		ug/L	
		2,4'-DDT + 4,4'-DDD	2010/08/04	<0.01		ug/L	
		a-BHC	2010/08/04	<0.1		ug/L	
		Aldrin	2010/08/04	<0.02		ug/L	
		Aspon	2010/08/04	<0.2		ug/L	
		Azinphos ethyl	2010/08/04	<0.5		ug/L	
		b-BHC	2010/08/04	<0.1		ug/L	
		Benfluralin	2010/08/04	<0.1		ug/L	
		Bromophos-ethyl	2010/08/04	<0.3		ug/L	
		Carbophenothion	2010/08/04	<0.3		ug/L	
		Chlorbenside	2010/08/04	<0.1		ug/L	
		Chlorfenson(ovex)	2010/08/04	<0.2		ug/L	
		Chlorfenvinphos(e/z)	2010/08/04	<0.1		ug/L	
		Chlormephos	2010/08/04	<0.5		ug/L	
		Chlorpyrifos-methyl	2010/08/04	<0.1		ug/L	
		Chlorthiophos	2010/08/04	<0.3		ug/L	
		Cyanophos	2010/08/04	<0.2		ug/L	
		Dacthal	2010/08/04	<0.1		ug/L	
		d-BHC	2010/08/04	<0.1		ug/L	
		Demeton	2010/08/04	<1		ug/L	
		Desmetryn	2010/08/04	<0.3		ug/L	
		Diallate(e/z)	2010/08/04	<0.5		ug/L	
		Dichlofenthion	2010/08/04	<0.2		ug/L	
		Dichlofluanid	2010/08/04	<0.5		ug/L	
		Dichlorvos + Naled	2010/08/04	<0.1		ug/L	
		Dicrotophos	2010/08/04	<0.5		ug/L	
		Dieldrin	2010/08/04	<0.03		ug/L	
		Dioxathion	2010/08/04	<1		ug/L	
		Endosulfan Sulfate	2010/08/04	<0.2		ug/L	
		Endrin	2010/08/04	<0.02		ug/L	
		Endrin Aldehyde	2010/08/04	<0.5		ug/L	
		Endrin ketone	2010/08/04	<0.5		ug/L	
		EPN	2010/08/04	<0.5		ug/L	

MINISTRY OF ENVIRONMENT

Attention: Rick Wagner

Client Project #:

P.O. #:

Site Reference:

Quality Assurance Report (Continued)

Maxxam Job Number: VB065663

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
4151665 RW4	Method Blank	Eptam	2010/08/04	<0.5		ug/L	
		Ethalfuralin	2010/08/04	<0.5		ug/L	
		Fensulfothion	2010/08/04	<0.1		ug/L	
		Heptachlor	2010/08/04	<0.1		ug/L	
		Heptachlor epoxide	2010/08/04	<0.1		ug/L	
		Hexazinone	2010/08/04	<0.1		ug/L	
		Iodofenphos	2010/08/04	<0.1		ug/L	
		Isofenphos	2010/08/04	<0.3		ug/L	
		Lindane (BHC), gamma-	2010/08/04	<0.1		ug/L	
		Metaxyl	2010/08/04	<0.3		ug/L	
		Mirex	2010/08/04	<0.3		ug/L	
		Nitrofen	2010/08/04	<0.2		ug/L	
		o,p'-DDD	2010/08/04	<0.01		ug/L	
		o,p'-DDE	2010/08/04	<0.01		ug/L	
		Omethoate	2010/08/04	<1		ug/L	
		Permethrin	2010/08/04	<0.5		ug/L	
		Pirimicarb	2010/08/04	<0.5		ug/L	
		Pirimiphos-ethyl	2010/08/04	<0.5		ug/L	
		Pirimiphos-methyl	2010/08/04	<0.2		ug/L	
		Procymidone	2010/08/04	<0.2		ug/L	
		Profenophos	2010/08/04	<0.5		ug/L	
		Profluralin	2010/08/04	<0.5		ug/L	
		Pyrazophos	2010/08/04	<0.1		ug/L	
		Quinalophos	2010/08/04	<0.3		ug/L	
		Ronnel	2010/08/04	<0.1		ug/L	
		Sulfotepp	2010/08/04	<0.1		ug/L	
		Tecnazene	2010/08/04	<0.5		ug/L	
		Terbutylazine	2010/08/04	<0.1		ug/L	
		Terbutryne	2010/08/04	<0.2		ug/L	
		Tetradifon	2010/08/04	<0.2		ug/L	
		Tolylfluanid	2010/08/04	<0.5		ug/L	
		Triadimefon	2010/08/04	<0.3		ug/L	
		Triallate	2010/08/04	<0.3		ug/L	
		Iprodione	2010/08/04	<1		ug/L	
		p,p'-DDE13C12 (sur.)	2010/08/04		89	%	40 - 130
		Propiconazole	2010/08/04	<0.5		ug/L	

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.

Validation Signature Page

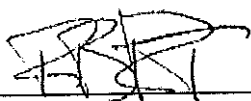
Maxxam Job #: B065663

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

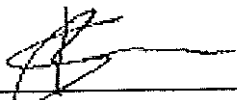


David Huang, BBY Scientific Specialist

MORGAN MELNYCHUK, BBY Customer Service



ROB REINERT, Data Validation Coordinator



TOM SHUM, BBY Scientific Specialist

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 #: B065663
Your C.O.C. #: na

Attention: Cyndy Wilkinson
Maxxam Analytics
4606 Canada Way
Burnaby, BC
V5G 1K5

Report Date: 2010/08/06

This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0A4110
Received: 2010/08/04, 10:40

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Glyphosate	3	2010/08/05	2010/08/06	CAM SOP-00305	HPLC/FLD

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
* Results relate only to the items tested.

Encryption Key

Antonella Brasil

Antonella Brasil

06 Aug 2010 12:58:34 -04:00

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

=====

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Total cover pages: 1

Page 1 of 5

Maxxam Job #: B0A4110
Report Date: 2010/08/06

Maxxam Analytics
Client Project #: B065663

PESTICIDES & HERBICIDES BY HPLC (WATER)

Maxxam ID		GS3473		GS3474	GS3475		
Sampling Date		2010/08/01		2010/08/01	2010/08/02		
	Units	REG/1	RDL	REG/2	REG/3	RDL	QC Batch
Pesticides & Herbicides							
Glyphosate	ug/L	67000	10000	4800	2400	1000	2226471

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0A4110
Report Date: 2010/08/06

Maxxam Analytics
Client Project #: B065663

GENERAL COMMENTS

Revised report: Sample ID revised as per client request.

PESTICIDES & HERBICIDES BY HPLC (WATER)

Glyphosate: Due to high concentrations of the target analytes, sample required dilution. Detection limits were adjusted accordingly.

Maxxam Job #: B0A4110
Report Date: 2010/08/06

Maxxam Analytics
Client Project #: B065663

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
2226471	Glyphosate	2010/08/05	94	50 - 130	106	50 - 130	<10	ug/L	NC	40

N/A = Not Applicable

RPD = Relative Percent Difference

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.

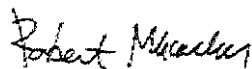
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (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 #: B0A4110

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



ROBERT MACAULAY, Senior Analyst

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Background			ERO Samples			Environmental Quality Guidelines						
Active Ingredient	Use	ENV CAN	Reg 1 (storm water system)	Reg 2 (ok lake shoreline S of Bridge)	Reg 3 (Mill Cr outlet)	Water solubility	Solubility comments	Water partition coefficient (logKow)	Drinking water standards			Comments
Bromacil			4 ug/l (4000 ng/l)	0.6 ug/l (600 ng/l)	0.2 ug/l (200 ng/l)		high			Irrigation water 0.2 ug/L (200 ng/l) (CEQG)	Livestock water 1 100 ug/L (1 100 000 ng/L) (CEQG)	Old product
Chlorpyrifos	Soil Insecticide	0.068ng/l	102 ug/l (102 000 ng/l)	0.15 ug/l (150 ng/l)	9.84 ug/l (9840 ng/l)	0.0014 g/l (NPIC)	Medium	4.7 (NPIC)	90 ug/l (90 000 ng/l) (CDWG)	For Freshwater Aquatic Life Long term 0.002 ug/L (2 ng/l) (CEQG)	For Freshwater Aquatic Life Short term 0.02 ug/L (20 ng/L) (CEQG)	
Diazinon	Insecticide	11.6 ng/l	1660 ug/l (1 660 000 ng/l)	82.4 ug/l (82 400 ng/l)	70.7 ug/l (70 700ng/l)		High		20 ug/l (20 000 ng/l)(CDWG)	80-100 ng/l		
Hexazinone	Herbicide (forestry)	n.d.	142 ug/l (142 000 ng/l)	8.4 ug/l (8 400 ng/l)	5.1 ug/l (5 100ng/l)	33000 ppm (EPA)	high	15 Kow (EPA)				
Iprodione	Fungicide (roval)	not sampled	29 ug/l (29 000 ng/l)	n.d.	n.d.	13 mg/l @20 deg C	low					Golf course/tree fruit fungicide
Malathion	Insecticide	n.d.	186 ug/l (186 000 ng/l)	1.4 ug/l (1 400 ng/l)	40 ug/l (40 000 ng/l)	145 mg/l (EPA)	High		190 ug/l (190 000 ng/l) (CDWG)	Very high to moderately toxic to aquatic life Invertebrate and fish (EPA)		
Metalaxyl	Fungicide	not sampled	829 ug/l (829 000 ng/l)	15.4 ug/l (15 400ng/l)	25.8 ug/l (25 000 ng/l)	8.4g/l (PMRA)	high	1.75 (PMRA)				
Metalaxyl-M	Fungicide	not sampled				26 g/l (PMRA)	high	1.71 (PMRA)				
Metolachlor	Nursery Herbicide	n.d.	324 ug/l (324 000 ng/l)	20 ug/l (20 000 ng/l)	11.8 ug/l (11 800 ng/l)	(530 ng/l)	Medium		50 ug/l (50 000 ng/l) (CDWG)	Irrigation water 28 ug/L (28 000 ng/l) (CEQG)	Livestock water 50 ug/L (50 000 ng/L) (CEQG)	
Prometryn	Selective Herbicide	n.d.	45 ug/l (45 000 ng/l)	3.5 ug/l (3 500 ng/l)	2.0 ug/l (2 000 ng/l)	33 ppm (EPA)	slightly	2140 Kow (EPA)				
Propiconazole	fungicide	not sampled	10 ug/l (10 000 ng/l)	0.6 ug/l (600 ng/l)	0.5 ug/l (500 ng/l)		Medium					Univar had Topas (triconazole) fungicide on soft fruit. Rapid
Simazine	Herbicide (Ag/Industrial)	2370 ng/l	117 ug/l (117 000 ng/l)	6.9 ug/l (6 900 ng/l)	5.1 ug/l (5 100ng/l)	6.2 mg/l (PMRA)	Increased solubility with temp.	2.1 (PMRA)	0.01 mg/l (10 000 ng/l) (CDWG)	Irrigation water 0.5 ug/L (500 ng/l) (CEQG)	Livestock water 10 ug/L (10 000 ng/L) (CEQG) 10 000 ng/L (BCMOE)	
Trifluralin	Herbicide	n.d.	64 ug/l (64 000 ng/l)	1.3 ug/l (1 300 ng/l)	7.3 ug/l (7 300 ng/l)	<1ppm (EPA)	slightly	4.83 Kow (EPA)	0.045 mg/l (45 000 ng/l) (CDWG)	Freshwater aquatic life 0.2 ug/L (200 ng/l) (CEQG)		
Terbuthylazine	Selective Herbicide	not sampled	3 ug/l (3000 ng/l)	0.1 ug/l (100 ng/l)	0.1 ug/l (100 ng/l)							Primato! (old product?)

References

- 1 Canadian Environmental Quality Guidelines (CEQG)
- 2 PMRA Decision (PMRA)
- 3 Health Canada Drinking Water Guidelines (CDWG)
- 4 EPA Decision (EPA)
- 5 US National Pesticide Information Centre (NPIC)

