Bodycote ESSAIS DE MATÉRIAUX CANADA INC. www.na.bodycote-mt.com

121 BOUL. HYMUS, POINTE-CLAIRE, QUÉBEC CANADA H9R 1E6 • TÉL: (514) 697-3273 • FAX: (514) 697-2090

Certificat d'analyse

Numéro de demande: 05-216593

Client: **Bodycote Essais de Matériaux Canada inc., Ste-Fo**

Bon de commande	Votre Projet	Chargé de Projet
08380	06349-B/C:TP5454-001-601	MATHIEU MONGRAIN

Résultats du Contrôle de Qualité (CQ)

Paramètres (No.Séquence)	Unité	LDR	Blanc	Contrôle certifié	
				Valeur Obtenu	Écart acceptable
Argent (Ag)					
No Séquence: 85562					
Argent	mg/L	< 0.001	< 0.001	0.881	0.8 - 1.2
Aluminium (Al)					
No Séquence: 85562					
Aluminium	mg/L	< 0.01	< 0.01	1.09	0.8 - 1.2
Bore (B)					
No Séquence: 85562					
Bore	mg/L	< 0.02	< 0.02	1.01	0.8 - 1.2
Baryum (Ba)					
No Séquence: 85562					
Baryum	mg/L	< 0.01	< 0.01	0.97	0.8 - 1.2
Béryllium (Be)					
No Séquence: 85562					
Béryllium	mg/L	< 0.001	< 0.001	1.02	0.8 - 1.2
Bismuth (Bi)					
No Séquence: 85562					
Bismuth	mg/L	< 0.001	< 0.001	1.00	0.8 - 1.2
Calcium (Ca)					
No Séquence: 85562					
Calcium	mg/L	< 0.02	< 0.02	4.88	4 - 6
Cadmium (Cd)					
No Séquence: 85562					
Cadmium	mg/L	< 0.001	< 0.001	0.914	0.8 - 1.2
Cobalt (Co)					
No Séquence: 85562					
Cobalt	mg/L	< 0.001	< 0.001	1.06	0.8 - 1.2

Commentaires CQ

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08380	06349-B/C:TP5454-001-601	MATHIEU MONGRAIN

Résultats du Contrôle de Qualité (CQ)

Paramètres (No.Séquence)	Unité	LDR	Blanc	Contrôle certifié	
				Valeur Obtenu	Écart acceptable
Chrome (Cr)					
No Séquence: 85562					
Chrome	mg/L	< 0.001	< 0.001	1.07	0.8 - 1.2
Cuivre (Cu)					
No Séquence: 85562					
Cuivre	mg/L	< 0.001	< 0.001	1.05	0.8 - 1.2
Fer (Fe)					
No Séquence: 85562					
Fer	mg/L	< 0.01	< 0.01	1.04	0.8 - 1.2
Potassium (K)					
No Séquence: 85562					
Potassium	mg/L	< 0.5	< 0.5	5.1	4 - 6
Lithium (Li)					
No Séquence: 85562					
Lithium	mg/L	< 0.001	< 0.001	1.09	0.8 - 1.2
Magnésium (Mg)					
No Séquence: 85562					
Magnésium	mg/L	< 0.01	< 0.01	5.18	4 - 6
Manganèse (Mn)					
No Séquence: 85562					
Manganèse	mg/L	< 0.005	0.006	0.979	0.8 - 1.2
Molybdène (Mo)					
No Séquence: 85562					
Molybdène	mg/L	< 0.001	< 0.001	0.898	0.8 - 1.2
Sodium (Na)					
No Séquence: 85562					
Sodium	mg/L	< 0.5	< 0.5	5.7	4 - 6

Commentaires CQ

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Bon de commande	Votre Projet	Chargé de Projet
08380	06349-B/C:TP5454-001-601	MATHIEU MONGRAIN

Résultats du Contrôle de Qualité (CQ)

Paramètres (No.Séquence)	Unité	LDR	Blanc	Contrôle certifié	
				Valeur Obtenu	Écart acceptable
Nickel (Ni)					
No Séquence: 85562					
Nickel	mg/L	< 0.001	< 0.001	1.10	0.8 - 1.2
Plomb (Pb)					
No Séquence: 85562					
Plomb	mg/L	< 0.001	< 0.001	1.00	0.8 - 1.2
Antimoine (Sb)					
No Séquence: 85562					
Antimoine	mg/L	< 0.001	< 0.001	0.946	0.8 - 1.2
Étain (Sn)					
No Séquence: 85562					
Étain	mg/L	< 0.001	< 0.001	0.965	0.8 - 1.2
Titane (Ti)					
No Séquence: 85562					
Titane	mg/L	< 0.001	0.001	0.975	0.8 - 1.2
Vanadium (V)					
No Séquence: 85562					
Vanadium	mg/L	< 0.001	< 0.001	0.985	0.8 - 1.2
Zinc (Zn)					
No Séquence: 85562					
Zinc	mg/L	< 0.01	< 0.01	1.10	0.8 - 1.2

Commentaires CQ

APPENDIX C

Details on BioGreen Treatment Process

BioGreen

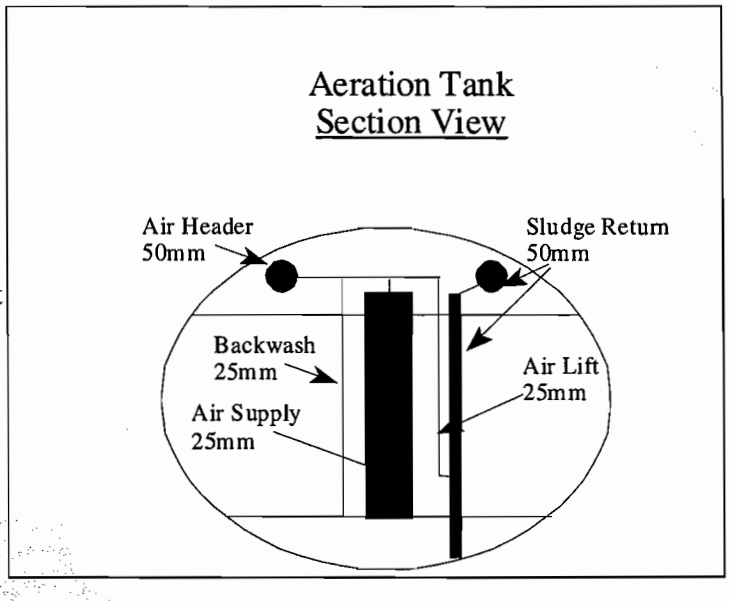
Wastewater Treatment Systems

Description of the Technology

The mobile BioGreen wastewater treatment system is an excellent option for remote construction camps and mining sites. This innovative system is completely enclosed requiring minimal maintenance allowing for little operator knowledge to provide effective treatment.

BioGreen is a fixed-film system that uses special media that provides an area for bacteria to grow at a high surface-to-volume ratio. This allows the BioGreen system to be very effective at providing treatment over a wide range of loading ranges.

The settling compartments remove sediment, debris and floating material from the influent. The first settling tank provides a buffer for controlling the impact load. This is often a serious problem in conventional systems but is easily dealt with in BioGreen. The water passes from the settling tanks to the fermentation tank where the wastewater is broken into smaller molecules that will be more readily consumed in the aerobic portion of the treatment system.



Aeration is the next stage of the treatment process. The aeration tanks contain an array of filters that provide a high surface-to-volume ratio allowing a high volume of bacteria to grow in a concentrated area and provide treatment. Critical flow rates to the aeration tanks are maintained by a control valve, which minimizes outside variables affecting the impact load. Air injected through draft tubes located centrally in the chambers creates ideal circulation and maintains adequate Dissolved Oxygen (DO) concentration. A DO gradient from zero to saturation is created, which allows for a much longer food chain for nutrient digestion. This minimizes sludge production as compared to existing methods.

The final step is the effluent holding tank which provides for the removal of suspended solids before final discharge. The result is a clear, odourless effluent.

The only mechanical part of the BioGreen system is a blower that provides the oxygen for the aeration chambers and also the method for sludge transport within the system. A backwash system used to remove excess growth is operated with the same blower that provides air to the aeration tank making very efficient use of the blower. The use of the one blower allows for trouble free maintenance and operation.

Disinfection

The BioGreen system utilizes ultraviolet (UV) light disinfection to provide final treatment of the effluent before discharge. The final effluent passes through the UV chamber where the UV light inactivates any bacteria that may still be in the effluent. The advantages of using UV disinfection include no use of chemicals, no harmful residuals, short reaction time, and effective at inactivating bacteria, cysts and viruses.

Performance

The BioGreen system is designed to meet 20mg/l discharge criteria for both Biochemical Oxygen Demand (BOD) and Suspended Solids (SS).

Contact:

For more information on the BioGreen Secondary Wastewater treatment system, please contact:

Tom Healey
BioGreen Ltd
48 Main Dam Road
Deer Lake, Newfoundland, A8A 1S2
Telephone: (709) 635-5170
Fax: (709) 635-3281
Email: biogreenwastewater@hotmail.com

EDM CONSULTANTS LIMITED

October 23, 2002

Torngait Services Inc.
Hanger 17, Building 161, Box 430, Station "B"
Happy Valley – Goose Bay, Labrador
A0P 1E0

Attention: Mr. Barry Gaulton, Operations Manager

RE: **Biogreen Mobile Unit – Saglek EDM Project No. 30220**

Dear Mr. Gaulton:

This is to confirm that EDM Consultants Limited has designed the Biogreen mobile tank for the above referenced project as indicated on drawing G-1, Plan – Tank Arrangement, Dated, Sept 12, 2002.

Biogreen is an accepted wastewater treatment technology within the Province of Newfoundland and Labrador, having proved its ability to meet and exceed the provincial guidelines for wastewater discharge values in numerous applications through the Province.

We hereby certify that the design of the Unit is in conformance with normally accepted design practices for a Bio-Green Wastewater Treatment Unit for an average flow of 8 m^3/day.

We also have inspected the Unit as manufactured and found it in conformance with the drawings and specifications. Please note that EDM did not design heat tracing and electrical.

It is noted that this Biogreen tank design constitutes only a component of a full waste water treatment system, other components being a proper site plan, indicating design and location and depth of influent, effluent piping and disposal technique, ie. disposal field, outfall, etc. To obtain environmental approval, site specific design of the effluent disposal system will be required.

...2

☑ P.O. Box 3802, Viking Trail, Deer Lake, NL Canada A8A 3M1 • Tel: (709) 635-8271 • Fax: (709) 635-5334
☐ P.O. Box 760, Main Highway, Bay Roberts, NL Canada A0A 1G0 • Tel: (709) 786-3967 • Fax: (709) 786-3731
☐ P.O. Box 118, Stn. C, 386 Hamilton River Rd., Happy Valley–Goose Bay, NL Canada A0P 1C0 • Tel: (709) 896-7025 • Fax: (709) 896-7028

We trust this meets with your present requirements and look forward to further working together in the near future to complete the design task for the remainder of the project. Once design is complete, we will be resubmitting the entire system to Government Service Centre for final approvals.

Should you have any questions or concerns, please contact the undersigned.

Yours truly,

EDM CONSULTANTS LIMITED

Brad Chaulk, P.Eng.
President

cc: Mr. Dave Healey, Biogreen Wastewater Systems

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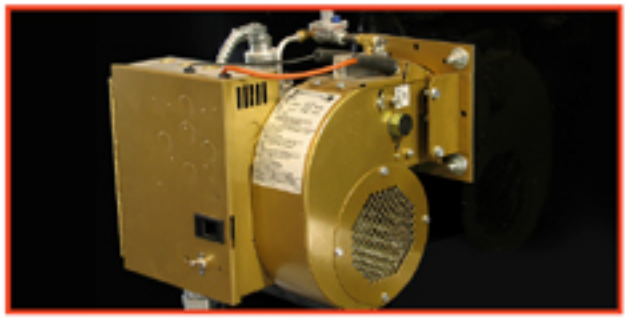
EDM CONSULTANTS LIMITED

APPENDIX D

Incinerator Details

Electric powered heavy-duty winch.



Industrial burner more efficient and durable than commercial burners.

Easy loading and automated functioning.

Inner walls made of high quality refractory cement resisting high temperature up to 1650°C.

ÉCO - 700

• Biosecurity first

- Destruction of the toxic gases in the secondary chamber.
- Complying with the environmental norms of Canada.
- Ashes represent only 3,6 %of the waste mass.
- -Prevent contamination risks from outside when carcasses-recovery trucks come on-site

• Easy to operate

- Loading without effort.
- Contains up to 700 kg (1549 lbs) of organic waste material.
- No stirring required.
- Model available for natural or propane gas.

• Time and energy saving

- Patented insulation technology of the structure for maximum energy efficiency.
- Limited handling and control panel easy to operate.

écoconcept

114, Grande Ligne, St-Alexis-de-Montcalm
(Québec) J0K 1T0
Tél.: (450) 839-3129 Téléc.: (450) 839-2578

ÉCO - 700

écoconcept

Incinerator on-farm, economical and easy to operate!

114, Grande Ligne, St-Alexis-de-Montcalm
Tél.: (450) 839-3129

Functioning

- Put the carcasses on the charge grid.
- Operate the powered winch to pull the carcasses inside.
- Close and lock the door.

- Enter settings for time and temperature

  An automatic controller will maintain constant temperature.

- Push the start button. Stop will be automatic.
- After ten hours clean out the ashes.
- Ashes represent only 3,6% of the total mass to burn.

Biosecurity and others advantages

Biosecurity is an important on-farm stake. Disposal of animal carcasses represents a risk factor for environment and your stockfarming.

Destruction of the toxic gases in the secondary chamber.

Complying with the environmental norms of Canada.

Combustion of gases in the upper secondary chamber allows heat recuperation
= Energy saving

Inner walls made of high quality refractory cement resisting high temperatures up to 1650°C

Installation

- Dimensions (without charge table and chimney): length 3m (10 ft) x height 1,5 m (5ft) X width 1,4 m (4,5 ft).
- Exterior installation.
- 120 v. electric supply
- Must be installed on a concrete slab at a minimum distance of 15m (50 ft) from farm buildings.

ÉCO-700

Industrial burners more efficient and durable

Industrial control panel heated for a good functioning even in cold conditions

Powered charge grid

Very resistant steel structure