

Mackenzie Valley Land
& Water Board

File

APR 22 2004

Application # N1L3-0053

Copied To PUT/AP/Reg

MVLWB Licence #: N1L4-0053

Application for Amendment to include Biotreatment Pad

Submitted to:



Mackenzie Valley Land and Water Board
7th Floor - 4910 50th Avenue
P.O. Box 2130
YELLOWKNIFE NT X1A 2P6
Phone (867) 669-0506
FAX (867) 873-6610

Submitted by:



Town of Hay River

73 Woodland Drive
Hay River, NT X0E 1G1
Phone: (867) 874-6533
FAX: (867) 874-3237

The Town of Hay River
73 Woodland Drive
Hay River, Northwest Territories
Canada X0E 1G1



Phone: (867) 874-6522
Fax: (867) 874-3237
email: townhall@hayriver.com
www.hayriver.com

April 16, 2004

Mackenzie Valley Land & Water Board
7th Floor – 4910 50th Avenue
P. O. Box 2130
Yellowknife NT X1A 2P6

Town of Hay River Water Licence N1L4-0053
Hay River Hydrocarbon Treatment Facility

Dear Ms. McLeod:

Please accept the attached application for amendment to our Municipal Water Licence N1L4-0053. This application is for an amendment to include under the above referenced water licence the operation of a Biotreatment Pad at our existing landfill site, or in more common terms the operation of an engineered landfarm.

The development of this facility was in response to several concerns the Town of Hay River has had to deal with in the past several years, uncontrolled landfarming within our town; and a source of cover for our landfill to allow us to keep utilizing the existing landfill site until such a time another site can be developed.

With respect to landfarming, the practice of landfarming has been used in this area as a effective method of treating contaminated soil and at present there are several active landfarms within Hay River. These sites are not engineered to collect run-off or leachate which eventually makes its way into the natural environment. With the increase tanker traffic and resource development this practice was expected to go on in this area at a much greater frequency. With the development of this pad and the amendment of the Zoning and Building Bylaw the Town of Hay River has prohibited this activity, except at the Town of Hay River Biotreatment Pad. This effectively eliminates the environmental risk associated with this activity with the Town of Hay River.

It is no secret that the Town of Hay River is struggling with a rapid growth rate and no accessible land to develop, this includes land required for the development of a New Municipal Waste Management Site. Until these issues are resolved we are forced to continue to use the existing site, and with no space left for below grade landfill cells we are forced to consider aboveground cells, a practice that will require significant amounts of cover material. This material will be available as treated material from the Biotreatment Pad.

The Town of Hay River proposes using the strictest controls for the operation of this pad. All material will be tested by a third party accredited laboratory, random grad samples will be taken for verification, and there is an allowable limit of zero with respect to PCBs. As part of our annual report the Town is proposing a summary of all material accepted along with analytical results detailing type and extent of contamination. It also should be noted that the Town of Hay River in the operation of this pad accepts no responsibility for the generation and transportation of this material, presumably the generators will be diligent and obtain the appropriate licence from the Board for the regulation of activities that generate this waste when required.

The Town recognizes that we are applying for this Licence after the fact as this facility has already been constructed. We acknowledge the misinterpretation of the relevant Acts that led to this situation. As outlined in previous correspondence, the Town of Hay River as in no way tried to mislead the board through this development and has always made every attempt to comply with the conditions of our water licence.

With respect to the evaluation of this application the Town of Hay River is asking the Board to take into consideration the following:

1. The activity being considered is already practiced throughout this area without the strict controls proposed for this facility and without the knowledge and approval of the board. By developing this facility we are seeking to limit this practice and this amendment will provide a means for the board be made aware of this waste to the extent that it is treated at the Town of Hay River facility.
2. In the essence of a quick resolution to this amendment process and given that this application and development meets all conditions of the Northwest Territories Waters Act, Section 21-1(b), the Town of Hay river is requesting that the Board consider forgoing the public hearing process as permitted under this section. As outlined in the application document there has already been an extensive public process with respect to this development.

I hope the attached is to your satisfaction, if you require any further information please feel free to contact me.

Regards,



Todd Pittman
Director of Public Works & Planning

DATE REFERENCE DESCRIPTION / VOUCHER NO.
27-Feb-04 FEB. 2004 WATER LICENSE APPLICATION

27-Feb-04

RECE020

508677
26993

42 30.00
TOTAL 30.00

Please Detach Before Cashing

CONTAINS A MICROLINE BORDER AND IS PRINTED ON SECURITY PAPER



THE TOWN OF HAY RIVER
73 Woodland Drive, Hay River
Northwest Territories
Canada X0E 1G1

CANADIAN IMPERIAL BANK OF COMMERCE
10A GAGNIER STREET
HAY RIVER, N.W.T.
X0E 1G1

508677

30 Dollars and 00 Cents.

27-Feb-04

26993

*****30.00

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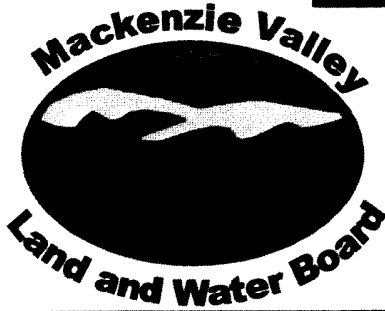
NT

MAYOR

TOWN OF HAY RIVER

SAO / DFA

⑈508677⑈ ⑆05999⑆010⑆ 89⑆04014⑆



Mackenzie Valley Land and Water Board
7th Floor - 4910 50th Avenue
P.O. Box 2130
YELLOWKNIFE NT X1A 2P6
Phone (867) 669-0506
FAX (867) 873-6610

APPLICATION FOR A NEW WATER LICENCE OR AMENDMENT OF EXISTING LICENCE.

Application/License No: N1L3-0053
(amendment)

<p>1. Name and Mailing Address of Applicant <u>Town of Hay River</u> <u>73 Woodland Drive</u> <u>Hay River, NT X0E 1G1</u> Telephone: <u>(867) 874-6522</u> Fax: <u>(867) 874-3237</u></p>	<p>2. Address of Head Office in Canada if Incorporate <u>Same as mailing address</u> Telephone: _____ Fax: _____</p>
--	--

3. Location of Undertaking (describe and attach a map, indicating watercourses and location of any proposed waste deposits).

Latitude 60° 45.553' Longitude 115° 10.110'

4. Description of Undertaking (describe and attach plans)

Construction of Bio-treatment Facility for the treatment of petroleum contaminated soil at the Hay River Municipal Landfill.

5. Type of Undertaking.

- | | | | |
|-----------------------|--------------|------------------|-------|
| 1. Industrial | <u> X </u> | 5. Agriculture | _____ |
| 2. Mining and Milling | _____ | 6. Conservation | _____ |
| 3. Municipal | _____ | 7. Recreation | _____ |
| 4. Power | _____ | 8. Miscellaneous | _____ |

6. Water Use

To obtain water	_____	Flood control	_____
To cross a watercourse	_____	To divert water	_____
To modify the bed or bank of a watercourse	_____	To alter the flow of, or store water	_____
Other (describe): <u>There is no water use associated with this development.</u>			

7. Quantity of water involved (litres per second, litres per day or cubic meter per year, including both quantity to be used and quality to be returned to source.

Not applicable as there is no water use.

8. Waste deposited (quantity, quality, treatment and disposal)

This facility will permit the treatment of up to 11,000 tonnes of hydrocarbon contaminated material at any one time. Given the short season it is not anticipated that this amount will be exceeded in any year.

9. Other persons or properties affected by this Undertaking (give name, mailing address and location. Attach a list if necessary.

This facility will not affect or impact any adjacent properties, a letter is attached from the GNWT that owns the closest property adjacent to the development outlining they have no objection to the development.

10. Predicted environmental impacts of Undertaking and proposed mitigation.

This development has been designed to have a no negative environmental impact:and it can be argued that is will have a net positive environmental impact. The pad is designed to collect all run-off to be removed for treatment. The pad is built at the existing dump site such that no de-forestation is required was required. In conjunction with this development the Town of Hay River has prohibited this same activity which had gone on within the community without proper control of potentially hazardous run-off impacting and the impact on adjacent watercourses

In addition, the material produced as a result of this operation will provide a source of daily cover that will limit wind blown debris associated with the municipal landfill as well as cut down on the nuisance vector activities (Bears, Ravens etc.) and the negative affects that feeding off landfills are shown to have on wildlife.

11. **Contractors and sub-contractors (names, addresses and functions). Attach a list if necessary.**

Wasteworks 201, 5720-4th Street, S. E., Calgary AB T2H 1K7

Contact: Brad Chapman/ Phone: 403-297-0456 Fax: 403-216-1671

12. **Studies undertaken to date. Attach a list if necessary.**

No studies were undertaken with respect to this development.

13. **Proposed time schedule.**

Start date: Upon Approval Completion date: _____

Name (print): Todd Pittman

Signature: _____

Title (print): Director of Public Works & Planning

Date: March 11, 2004

FOR OFFICE USE ONLY

Please make all cheques payable to "Receiver General of Canada"

Application Fee Amount: \$ _____ **Receipt No:** _____

Water Use Deposit Amount: \$ _____ **Receipt No:** _____

Chronology of Public Presentation of Development of Biopad.

January 30, 2003 – Committee of the Whole Meeting Agenda for February 3, 2003 posted for public notice.

February 3, 2003 – Committee of the Whole Meeting

February 6, 2003 – Regular Meeting of Council Agenda for February 10, 2003, posted for public notice.

February 10, 2003 – Regular Meeting of Council

February 5, 2003 – Article “Hazco offers waste plan that would take chicken manure and make cash”, The HUB.

February 19, 2003 – Letter to the editor, “Beware of landfill Co.”, The HUB.

April 3, 2003 – Committee of the Whole Meeting Agenda for April 7, 2003 posted for public notice.

April 7, 2003 – Committee of the Whole Meeting

April 10, 2003 –Regular Meeting of Council Agenda for April 14, 2003 posted for public notice.

April 14, 2003 – Meeting of Council

August 20, 2003 – Article “ Hazco project ready”, The HUB.

October 10, 2003 – Regular Meeting of Council for October 14, 2003 posted for public notice.

October 14, 2003 – Meeting of Council

www.hayriver.com – The Town of Hay River website has used to post and maintain an electronic archive of Town Council agenda, and minutes of Meeting of council. All the agendas and minutes for the meeting referenced above are posted on the website for public reference.

Channel 5 – Meetings of Council and Committee of the Whole are televised on the local channel. All the meetings referenced would have been televised live to the public.

AGENDA

1. **CALL TO ORDER**
2. **ANNOUNCEMENTS**
3. **ADOPTION OF AGENDA**
4. **DECLARATION OF INTEREST**
5. **DELEGATION
HAZCO**
6. Hazco – Discussion Item
7. Public Works Department Monthly Report
8. Public Works Department/Building & Development Report
9. Municipal Enforcement Reports
10. Recreation Department Monthly Reports
11. Traffic Committee Meeting Minutes
12. Land Sales Incentive Program
13. Information Listed
 - a) InfoFacts – Volume 5, Issue 2 – The Honorable Ethel-Blondin Andrew – Member of Parliament – National Non-Smoking Week, January 19-25, 2003
 - b) ConocoPhillips – Community Update – ConocoPhillips Sells The Steen River Gas Plant
14. **IN CAMERA**
15. **ADJOURNMENT**

and further

That the Committee report back to Council at its earliest convenience

Respectfully submitted

John D Pollard

TOWN OF HAY RIVER

REPORT TO COMMITTEE

SUBJECT: HAZCO – LETTER OF INTEREST

DATE: February 3, 2003

Background

Late last year the Town was approached by Hazco Environmental Services regarding waste treatment at the Hay River solid waste facility.

Shortly after, members of Council and Administration met informally with Mr. Brad Chapman from Hazco to discuss further Hazco's proposal.

Mr. Chapman was advised to send information to the Town outlining possible scenarios and revenue streams.

The attached correspondence outlines the progress made so far.

Comments

Inasmuch as there needs to be more investigation of this proposal, at first blush it seems to fit well with the Town's plans e.g.

We are running out of capacity at our existing landfill site

When we leave the existing site we will require fill to cover parts if not all of the existing site

We will be recommending that a new site recycle as much material as possible

We will be recommending that a new site also handle the composting of chicken manure

Hazco's proposal helps deal with a number of these issues not to mention the potential revenues, which would help, offset the cost of exiting our old site

RECOMMENDATIONS

It is recommended that a Committee of Council be struck to further investigate Hazco's proposal

and further

That the Committee and the Director of Public Works travel to a Hazco facility to see first hand how these facilities operate

AGENDA

- 1. CALL TO ORDER**
- 2. ANNOUNCEMENTS**
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HAZCO**
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1. **CALL TO ORDER**
2. **ANNOUNCEMENTS**
3. **ADOPTION OF AGENDA**
4. **DECLARATION OF INTEREST**
5. **PRESENTATION**
6. **MINUTES**
 - a) Minutes of the Regular Meeting of Council, January 20, 2003
 - b) Minutes of the Special Meeting of Council, January 23, 2003
7. **BUSINESS ARISING FROM THE MINUTES**
8. **LIST OF ACCOUNTS**
9. **COMMITTEE REPORTS**
 - a) Hazco – Letter of Interest
 - b) Public Works Department Monthly Report
 - c) Public Works Department/Building & Development Report
 - d) Municipal Enforcement Monthly Report
 - e) Recreation Department Monthly Reports
 - f) Traffic Committee Meeting Minutes
 - g) Land Sales Incentive Program
10. **BY-LAWS**
 - a) By-Law No. 1786B/UTIL/01 – Trucked Water Rate Increase – First and Second Reading
 - b) By-Law No. 1811/ADMIN/02 – General Plan – Third and Final Reading
 - c) By-Law No. 1812/ADMIN/02 – Zoning & Building – Third and Final Reading
 - d) By-Law No. 1828/BORR/03 – Borrowing for the Construction of a New Aquatic Facility – First and Second Reading
11. **NEW BUSINESS**
 - a) Excused Absence
 - b) Bingo Lottery Licensing

- 12. ITEMS LISTED FOR THE INFORMATION OF COUNCIL**
- a) Items Listed For The Information of Council from February 3, 2003 Committee Meeting
 - b) Letter – NWT Association of Communities – Re: Pre-budget Consultation with the Honorable John Manley, Deputy Prime Minister and Minister of Finance – January 24, 2003
 - c) Conference – The Conference Board of Canada – Re: Find out how taking a strategic approach to mining agreements can move your projects forward – January 2003
 - d) Letter – Municipal and Community Affairs – Re: NWT Outstanding Volunteer Awards Program Nomination Deadline March 15, 2003 – February 2003
- 13. ADJOURNMENT**

TOWN OF HAY RIVER

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MOVED BY: CLLR MIKE MAHER

SECONDED BY: CLLR EHMAN

It is recommended that a Committee of Council be struck to further investigate Hazco's proposal

CARRIED

**MOVED BY: CLLR MIKE MAHER
SECONDED BY: CLLR EHMAN**

That the Committee and the Director of Public Works travel to a Hazco facility to see first hand how these facilities operate

CARRIED

**MOVED BY: CLLR MIKE MAHER
SECONDED BY: CLLR EHMAN**

That the Committee report back to Council at its earliest convenience

CARRIED



THE HUB

Your Community Newspaper

New emergency #s ...Page 6
 Education newsPage 8
 TV ListingsPage 9
 Peewee profilesPage 15

30th Year No. 49 \$1.00 (93-451)

Hay River, Northwest Territories

Wednesday, February 5, 2003

Town split on lowering speed limit

By NEAN PERCY

Town Council is divided on whether to lower the speed limit on Hay River's main roads.

The Town's traffic committee, which includes representatives from the RCMP and the bylaw officer, recommended dropping the speed limit to 30 kilometres per hour from 40 km/h on the arterial roads (Woodland, Stewart and McEwen Drives).

The limit would be in place until sidewalks are installed, which could be as early as this year on Woodland.

The item was put forward by councillor Robert Houlihan and seconded by deputy mayor Denis McMeekin.

But councillor Tom Hamilton said he thinks 40 km/h is a reasonable speed. He wanted to know whether the complaints Town Hall has had are over people who are breaking the speed limit, or those who are going 40 km/h.

Hamilton said he would like to see information on the number of speeding tickets issued and the number of incidents on these roads.

Board chair said tolerance is an issue, since officers don't usually issue tickets for someone doing just a few clicks over the speed limit. The high pedestrian traffic and narrowness of the streets are also a concern, he said.

Councillors will vote on the motion to reduce the speed limit at Monday's meeting.

Hazco offers waste plan that would take chicken manure and make cash

A Calgary company says it may have an ideal solution to Hay River's waste woes.

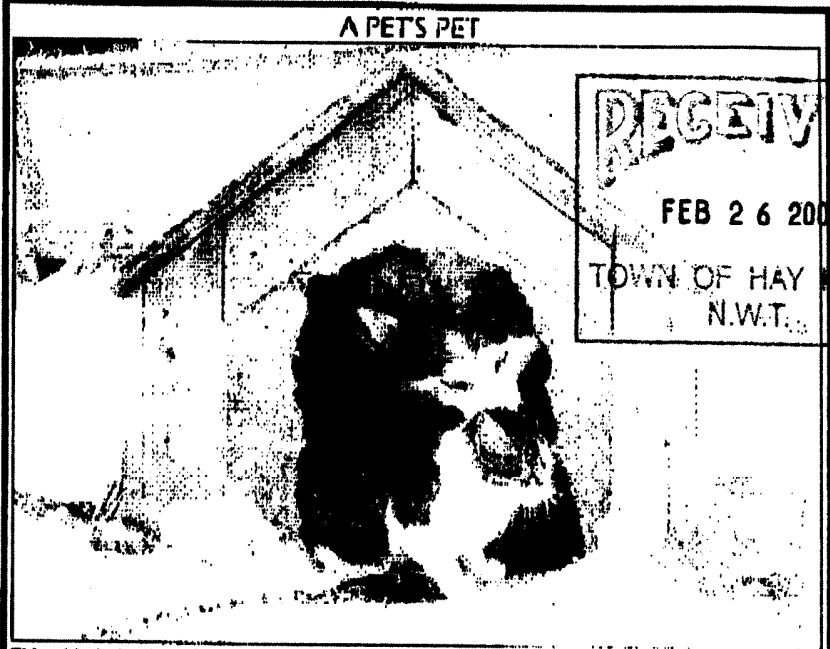
WasteWorks, a subsidiary of Hazco Environmental Services, wants to partner with the Town to operate a dirt farming operation, recycling concrete and landfill.

Project manager Brad Chapman says he's after the "commodity" soil that has a budget behind it, such as fuel, which is used in bulk plants, or soil taken from oil and gas drilling. Combining operations at an industrial waste landfill with a municipal solid waste program offers many cost savings, he says.

So far, the deal is getting a thumbs up from Town Hall, particularly since Chapman promises to take all the chicken manure the community can produce, and give back soil that Town can use to reclaim the existing landfill.

It could also give the Town upwards of \$100,000 a year in revenue.

Council voted Monday to continue looking into the deal and to visit a Hazco operation. Chapman said he hopes to sign an agreement within 40 days, and start work on soil farming at the Hay River landfill this summer.



This elderly husky adopted a tabby kitten during last week's cold snap. He fed the kitten and kept it warm. But the kitten can't stay outside. If you know where it belongs, or want to give it a new home, call the Lefebvre's at 874-9600.

Husky keeps kitten from the cold

Watch out, SPCA: a 13 year old Siberian husky named "Blue" is moving in on your territory.

Blue, who lives in a dog house outside his owner's 553 home, adopted a lost tabby kitten during the cold snap last week.

They're snuggling up, sharing food and heat. Since the tabby moved in on Jan. 26, it didn't leave the dog

house until Jan. 30. "Blue's been like this ever since he was small," said the dog's owner, Julian Lefebvre. "He leaves food out for the rovers. He just likes to see anything suffer."

Still, a mid-winter Hay River dog house is no place for a short-haired cat even in the care of the gentlest husky. Friday afternoon, the kitten

was wandering Lefebvre's yard, snowing in distress, and panicking. Blue

Lefebvre said the kitten was about a year old, because it is so well fed and comfortable with Blue.

"I think it's his people, and people have pets," said Lefebvre. "So Blue thought he should have a pet, too."

Jail's firewood program axed, restored

By NEAN PERCY

Convicts are again delivering firewood to seniors in the Hay River area.

And disabled people can also now benefit from the South Mackenzie Correctional Centre's woodcutting program.

The Department of Justice pulled the program when, in late December, it cancelled deliveries of wood.

So the seniors took their complaints to, among others, Hay River North MLA Paul Delaney.

"It's quite an issue. There have been numerous complaints," said Delaney.

How much SMCC should be involved in the woodcutting business has long been a bone of contention.

"It used to be that SMCC was involved in huge wood programs," said Delaney. "Then there were some plants a few years ago about them interfering in the market — market disruption, so it was scaled back."

It was a similar complaint, from someone in Enterprise, that prompted the program to be cancelled.

Department of Justice spokesperson Glen Rutland said the program was suspended while the complaint was investigated.

But SMCC is the only entity in the area with a commercial woodcutting permit, and seniors were finding it difficult to get wood from other sources.

So Delaney started lobbying the Minister of Justice, Roger Allen.

With no other commercial permits in the area, "I am at a loss to see how SMCC's woodcutting program can be interfering with private enterprise," Delaney wrote in a letter to Allen.

Last week Allen ordered that the

program be restored, with conditions. Wood will be sold at \$35 a cord, but only to seniors and the disabled.

Delaney said he was pleased the disabled were added, since they had previously not been eligible for the subsidized price on wood.

Deliveries began again Jan. 28.

While it's a relatively simple matter for a landholder to get a permit to cut their own firewood in the forests around Hay River, getting a permit to sell wood commercially is far more complicated.

An application filed with the Resources, Wildlife and Economic Development goes through a preliminary screening. Then it must go to aboriginal groups and communities for consultation. An environmental assessment may be required if, for example, the woodcutter wanted to build a road to get to the timber.

Delaney said it took SMCC two years to get its woodcutting permit.

While several applications for permits have been requested from the local RWED office, none have been completed or filed.

See also editorial Page 4.

Put your love in words!
 The Hub helps you say it this Valentine's Day with **Hub Love Lines**.
 See Page 24 for details.



though it's critical. That's because feedback on the news or how we portray it is a key part of any community newspaper.

But frankly, we're a little disappointed with the rest of you.

We know for a fact that, in coffee shops, restaurants and on the street that the story to which Duane refers was a hot topic. Everybody was talking about it. Unfortunately, no one else was writing about it.

Letters to the editor are a key part of any community newspaper. It's how your voice is heard. It's one of the many ways we're kept accountable to you, our readers. After all, how many business do you know that allow, even encourage, people to offer their criticisms, and then publish those publicly?

So if you feel we were tasteless and tactless in our coverage of that subject we need to hear it.

And, yes, if you think we did a good job of bringing to light a subject that many people are too shy to talk about, we'd like to hear that, too.

While your phone calls and comments on the street are important, your written comments not only force us to take note, but also show the entire community your viewpoint.

We recognize that our view is certainly not the be all and end all of Hay River opinion, thought, or viewpoint.

Yours counts even more.

nice

I hope I am not the first person to express dissatisfaction concerning the choice of news in the Feb. 12 issue of *The Hub*. I previously assumed (my fault for that) your paper was more tactful. Hay River is a hot market for spicy journalism (I am a therapist) and it has made the back page of *The Hub*.
Duane Mackle

Beware of landfill co.

To the editor:

I have just recently read in *The Hub* regarding Hazco (seeking to) operate a landfill in the Hay River area and turn chicken manure into cash.

I would just like to warn the community about this company and urge you to research into them before signing any deal. I have recently been to other communities where they have done this type of set up.

It is like the old saying if something is to

Hub Mailbag

good to be true. I am a resident of the Yukon but feel as if the NWT are my neighbors and caution them to research this Company and not just visit one of their set ups but to inquire about all of them.

Jackie Kane
Whitehorse, Yukon

You Said It!

What did you learn from your last science fair project?



I don't remember but I know from WHMIS mix some cleaning products makes ammonia gas.



Jeremy Gordon, 12: I made a volcano for a fair. The pressure pushes the lava out.



Drew Dalby: I did a project in Grade 4. The only thing I remember is letting the other guy do most of the work.



Dan Frank: I did a project on dinosaurs. I learned that in movies they tend to over-exaggerate everything about them.

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Fax (867) 874-6577

thehub@hubnews.com
www.hayriverhub.com

AGENDA

1. **CALL TO ORDER**
2. **ANNOUNCEMENTS**
 - a) Parks Canada – Price increases that Parks Canada are proposing to implement this year
3. **ADOPTION OF AGENDA**
4. **DECLARATION OF INTEREST**
5. **DELEGATION**
6. Excused Absence
7. Public Works Department/Building & Development Report
8. Municipal Enforcement Report
9. Recreation Department Monthly Report
10. Recreation Board Meeting Minutes
11. Lottery Licensing
12. HAZCO
13. Career Symposium Request
14. Information Listed
 - a) Information – Northwest Territories Housing Corporation – Re: Northwest Territories Housing Corporation's 2000/2001 Annual Report – March 6, 2003
 - b) Commentary – Northwest Territories Association of Communities – Re: Topics discussed at recent FCM Board of Directors meeting – March 18, 2003
 - c) News Release – Thcho Agreement Completed – March 19, 2003
 - d) Letter – Mackenzie Northern Railway – Re: Mackenzie Northern Railway – Infrastructure Upgrade Plans – March 22, 2003
 - e) Release – Canada Mortgage and Housing Corporation – Re: CHMC Develop Online Guide to Renting a Home – March 25, 2003
 - f) Newsletter – Ekati Diamond Mine – Issue 14 – March 2003

- g) Letter – Health Canada – Re: Legislation to Modernize Pesticide Legislation and Protect Canadians Receives Royal Assent – March 2003

15. ADJOURNMENT

TOWN OF HAY RIVER

REPORT TO COMMITTEE

SUBJECT: HAZCO REFERENCE CHECK

DATE: April 7, 2003

Attached is a report of the reference check on Hazco Environmental Services Ltd. conducted by Mr. Todd Pittman.

Administration is satisfied that Hazco is a reputable company with an excellent professional record.

Therefore it is recommended that;

The Council of the Town of Hay River instructs administration to negotiate an agreement with Hazco, its subsidiary or affiliate, for the construction, operation and marketing of a soil remediation pad and the profit sharing associated with the same. Such pad to be located at the present Hay River landfill site.

And further

That the agreement when reached be brought before the Hay River Town Council for deliberation.

Respectfully submitted

John D Pollard

AGENDA

1. **CALL TO ORDER**
2. **ANNOUNCEMENTS**
3. **ADOPTION OF AGENDA**
4. **DECLARATION OF INTEREST**
5. **PRESENTATION**
Certificate of Appreciation – John Milovac
6. **MINUTES**
 - a) Minutes of the Regular Meeting of Council, March 17, 2003
 - b) Minutes of the Special Meeting of Council, March 31, 2003
7. **BUSINESS ARISING FROM THE MINUTES**
8. **LIST OF ACCOUNTS**
9. **COMMITTEE REPORTS**
 - a) Excused Absence
 - b) Public Works Department/Building & Development Report
 - c) Municipal Enforcement Report
 - d) Recreation Department Monthly Report
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 - g) HAZCO
 - h) Career Symposium Request
10. **BY-LAWS**
 - a) By-Law No. 1831/LND/03 – Sale of Lot 1599, Plan 2218 to James M. and Nadine Leblanc – Third and Final Reading
 - b) By-law No. 1832/LND/03 – Sale of Lot 1600, Plan 2218 to Wayne And Arla M. Pringle – Third and Final Reading
 - c) By-Law No. 1834/LND/03 – Sale of Lot 1540, Plan 2112 to Wayne C. and Charlene F. Lafferty – First and Second Reading
 - d) By-Law No. 1835/LND/03 – Sale of Lot 1611, Plan 2218 to NWT Housing Corporation – First and Second Reading
 - e) By-Law No. 1836/LND/03 – Acquisition of Lot 6, Block XE, Plan 189, Hay River – First and Second Reading
11. **NEW BUSINESS**
 - a) Excused Absence
 - b) Break-Up Update

12. ITEMS LISTED FOR THE INFORMATION OF COUNCIL

- a) Information Listed from the Committee of the Whole Meeting, April 7, 2003
- b) Newsletter – Federation of Canadian Municipalities – Re: FC Urges Municipal Governments to Participate in National Antenna Tower Policy Review – April 4, 2003

13. ADJOURNMENT

TOWN OF HAY RIVER

REPORT TO COMMITTEE

SUBJECT: HAZCO REFERENCE CHECK

DATE: April 7, 2003

Attached is a report of the reference check on Hazco Environmental Services Ltd. conducted by Mr. Todd Pittman.

Administration is satisfied that Hazco is a reputable company with an excellent professional record.

MOVED BY: CLLR PETER MAHER
SECONDED BY: CLLR MIKE MAHER

That the Council of the Town of Hay River instructs administration to negotiate an agreement with Hazco, its subsidiary or affiliate, for the construction, operation and marketing of a soil remediation pad and the profit sharing associated with the same. Such pad to be located at the present Hay River landfill site.

And that the agreement when reached be brought before the Hay River Town Council for deliberation.

CARRIED

Health board manager proud of nurses' emergency skills

Although Kim Brooks, Manager of Combined Care, has only been with the Hay River Community Health Board for six months, it's been plenty of time for her to offer praise for the dedicated staff at the hospital.

"Unlike most hospitals in north-west Canada, our nursing staff work in all areas of the hospital - including emergency. Although they handle it all with great skill, I'm especially proud of their emergency skills."

Emergency room nurses need special training and in addition to the special training, one of their duties is to assess the seriousness of a patient's illness.

"Here at HH Williams, we have three beds we use for emergency cases, but at any given time, the beds could be full and we could have several people waiting. It is important for the nurses to assess each patient that comes through the door - also known as triage - to make sure the most urgent cases see the doctor first," says Brooks.

"There's no doubt about it, we want people to come into the hospital if they have sudden symptoms of an emergency nature, or if something serious happens, but many times people come in for blood pressure checks, or to have a WCB form signed, which should be done by appointment at the clinic," says Debbie Sutton, RN, who first joined the staff when she came to Hay River as a new grad in 1988.

So how do you know if your symptoms are severe enough to come into emergency? "One of the best things you can do is refer to the book each resident received in the mail earlier this year, called Do I need to See the Nurse/Doctor? It is a very good reference for typical medical problems people experience. Another thing people can do is call the emergency desk and talk to the nurse in charge. Many times we will tell people to come in, and certainly if the symptoms are sudden or severe, you should either come into emergency, or call for an ambulance," advises Kim Brooks.

In fact, hospital staff also answer the ambulance telephones. During the day, a receptionist will answer, but during the night shift, it is the nurse in charge that answers the telephone and dispatches the ambulance. "Although it is another thing to be responsible for, it helps give us the heads-up as to who's on board and what kind of concern they have," says Sutton. "We have a doctor on call, but not always on site in the emergency department, so if you aren't sure if you need to come in, call us first for advice, especially at night."

But perhaps Debbie Sutton sums it up the best when she says, "If emergency was just used for emergencies it would be so much better because non-emergencies have to be assessed as if they were emergencies. And if the emergency department is not used as intended, it could mean a longer wait for someone who does need it."



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MOVING...ACROSS TOWN OR OUT OF TOWN?
Our company helps you get your goods to their new home or office, safely.

56 Dean Drive, Hay River
867-874-9000 Fax: 867-874-9525
http://www.matco.ca



Hazco project manager Brad Chapman looks over a clay liner that will be the base of a soil farming operation at Hay River's municipal nuisance grounds.

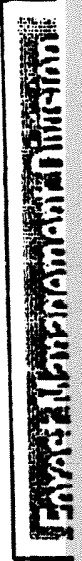
Hazco project ready

Hay River's garbage dump will soon be accepting contaminated soil.

The soil will be treated by Hazco, a company that specializes in dealing with hazardous waste.

The soil, mostly contaminated with gas or oil, will be "farmed" on a new clay bed, being completed this week.

Hopefully, by increasing the height of the landfill cells and covering them with the newly acquired dirt, the life of the current landfill site can be extended another decade.



AGENDA

1. **CALL TO ORDER**
2. **ANNOUNCEMENTS**
3. **ADOPTION OF AGENDA**
4. **DECLARATION OF INTEREST**
5. **PRESENTATION**
 - a) Certificate of Appreciation – Lori Uhlenberg
 - b) Mike Frasher – Frasher & Associates – Re: New Aquatic Centre
6. **MINUTES**
 - a) Minutes of the Regular Meeting of Council, September 8, 2003
 - b) Minutes of the Special Meeting of Council, September 15, 2003
 - c) Minutes of the Special Meeting of Council, September 22, 2003
7. **BUSINESS ARISING FROM THE MINUTES**
8. **LIST OF ACCOUNTS**
9. **COMMITTEE REPORTS**
 - a) Excused Absence
 - b) Municipal Enforcement Department Reports
 - c) Public Works Building/Development Reports
 - d) Recreation Department Reports
 - e) Request for Proposals for Financial Requirements and Services
 - f) Public Tender – 2003 Chipseal program
10. **BY-LAWS**
 - a) By-Law No. 1530B/TR/03 – Amend Traffic Control Device Register – First and Second Reading
 - b) By-Law No. 1811A/ADMIN/02 – General Plan Amendment – 553 – First Reading
 - c) By-Law No. 1811B/ADMIN/02 – General Plan Amendment – K'altodeeche First Nation – First Reading
 - d) By-law No. 1812A/ADMIN/02 – Zoning and Building Amendment – 553 – First Reading
 - e) By-Law No. 1812B/ADMIN/02 – Zoning and Building Amendment – Text Amendment – First Reading
 - f) By-Law No. 1853/LND/03 – Sale of Lot 1437, Plan 1466 to Scott D. Farrell – Third and Final Reading
 - g) By-Law No. 1854/RC/03 – Road Closure 553 – First and Second Reading

- h) By-Law No. 1855/LND/03 – Sale of Lot 1737, Plan 2701 to Champ Construction Ltd. – First and Second Reading
- i) By-Law No. 1856/LND/03 – Sale of Lot 1738, Plan 2701 to Champ Construction Ltd – First and Second Reading
- j) By-Law No. 1857/LND/03 – Sale of Lot 1743, Plan 2701 to Tom and Maria Tetrault – First and Second Reading

11. NEW BUSINESS

- a) Award of Architectural and Design Services - New Aquatic Center
- b) HAZCOM/WASTEWORCS Agreement
- c) Negotiator to Represent Hay River – Deh Cho Process & NWT Metis Nation Land Claims

12. ITEMS LISTED FOR THE INFORMATION OF COUNCIL

- a) Items Listed for the Information of Council from October 4, 2003 Committee of the Whole Meeting
- b) Newsletter – Status of Women’s Council – Re: Prevention and Awareness of HIV/Hep C – Fall 2003
- c) Letter – Edmonton Chamber of Commerce – Re: Thank you for participating in Meet the North Conference
- d) News Release – Office of the Premier and Executive Council – Re: Minister Appoints Public Administrator for Sahtu Health and Social Services Authority
- e) News Release – Office of the Premier and Executive Council – Re: “Northern Gold” The Sharon Anne Firth Story”
- f) News Release – Office of the Premier and Executive Council – Re: GNWT takes Action on Official Languages
- g) News Release – Office of the Premier and Executive Council – Re: Kakfwi Reports Progress with De Beers
- h) NWT Association of Communities – Re: FCM Conference Windsor Ontario, September 3-6, 2003
- i) News Release – Office of the Premier and Executive Council – Re: Kakfwi Wraps up Southern Tour
- j) News Release – Office of the Premier and Executive Council – Re: NWT Fire Service Merit Awards Announced
- k) PDAC Activities and Canadian Exploration News – Re: PDAC in Brief

13. ADJOURNMENT

TOWN OF HAY RIVER

REPORT TO COUNCIL

SUBJECT: HAZCO/WASTEWORCS AGREEMENT

DATE: October 14, 2003

Background

On April 14, 2003 Council passed the following motions:

1. It is recommended that a Committee of Council be struck to further investigate Hazco's proposal.
2. The Council of the Town of Hay Rive instructs administration to negotiate an agreement with Hazco, its subsidiary or affiliate, for the construction, operation and marketing of a soil remediation pad and the profit sharing associated with the same. Such pad to be located at the present Hay River landfill site.

And further

That the agreement when reached be brought before the Hay River Town Council for deliberation.

Comments

A Committee comprising Councilor Peter Maher (Chair), Councilor Ehman and Councilor Mike Maher has guided administration through the negotiation process.

Attached is the proposed agreement between the Town of Hay River and Wasteworks, a subsidiary of Hazco.

MOVED BY: CLLR PETER MAHER
SECONDED BY: ASST DEPUTY MAYOR TORDOFF

That the Council of the Town of Hay River authorize the signing of the proposed agreement.

CARRIED



Waste Approval and Characterization

Introduction

Generators interested in disposing of waste must complete the waste approval process and submit documentation and laboratory analysis representing their waste to the **WasteWorks Approvals Group**. The information must be reviewed and approved by WasteWorks and by the designated representative of the municipal partner before a waste approval code is issued and the generator is given permission to haul the material to the facility.

Approvals process

Outlined below is a description of the approvals process:

- Customer (generator) completes and signs a WasteWorks **Waste Approval Application** (sample attached) and submits the application along with required supporting information and analytical data. The information collected includes:
 - Generator Name / Location / Contact Personnel
 - Waste Type / Description / Volumes / Quantities
 - Physical Properties / Chemical Characteristics
 - Sample Certification / Laboratory Reports / Material Safety Data Sheets
 - Generator Certification.
- WasteWorks Approvals Group reviews the information and approves or rejects waste based on the information provided. If information is missing or more details or analysis are required to make an accurate assessment, the generator will be contacted to provide it.
- If the generator provides all of the information required to make a satisfactory determination that the waste offered for disposal or bioremediation is acceptable at the facility, WasteWorks approves the application and forwards the documentation to the designated representative of the partner municipality.
- Upon receiving final approval from the partner municipality, WasteWorks issues the customer a **Waste Approval Code** that is unique to the generator, the waste stream and the location.
- **WasteWorks Waste Manifests** are supplied to the customer. One manifest must accompany every load; the manifest must contain the Waste Approval Code and a description of the waste.
- The waste is received at the facility, and the location of the waste is recorded using a grid co-ordinate system.

Waste Approvals are issued for a period of one (1) year. Each load is subject to the **Waste Screening** program in place at the facility.



Waste Approval Application

The waste approval application (WAA) is a two-page form that must be completed by the generator or their designated representative prior to having waste approved for bioremediation or disposal. The application may be obtained from either the Sales Group at HAZCO, or the Landfill Approvals Group at WasteWorks.

WasteWorks
WASTE APPROVAL APPLICATION (W.A.A.) # W 0393

IMPORTANT: This form is to be completed by a representative of the waste generator. The entire form must be completed, then signed and dated. Please attach any additional information (analyses, MSDS, etc.) that describes the waste.

1. GENERATOR INFORMATION

Generator's Name: _____ EUB Operator Code (AB only) _____
 Site Location or I.D.D.: _____ Billing Address: _____

 Contact Name: _____ Telephone: () _____
 Title: _____ Facsimile: () _____

2. WASTE CHARACTERIZATION

a) Waste Description: _____ EUB Waste Code (AB only) _____
 b) Process Generating Waste: _____
 c) Quantity: _____ tonnes m³ d) Frequency: One time Monthly Weekly
 e) Recommended personal protective equipment and special handling procedures: _____
 f) Shipping mode: Bulk Bags Other (describe) _____
 g) Has a representative sample been submitted? Yes No

3. PHYSICAL PROPERTIES

a) Physical state: Dry Solid Damp Solid Sludge Powder/Dust Other (describe): _____
 b) Flash Point: < 61 °C > 61 °C
 c) Odor: Strong Slight None Describe: _____
 d) Detritus in Waste: No Yes Describe: _____
 e) pH: _____ EC: _____ SAR: _____ EOX: _____
 Total Petroleum Hydrocarbons: _____ Chlorides: _____ PCBs: _____ Density (g/cm³): _____
 f) Potential for liquid separation during transport? Yes No
 g) Are pesticides/herbicides expected to be present? Yes No
 h) Waste Composition: List all significant waste components followed by concentration level:

Component	Concentration	Component	Concentration

4. WASTE CLASSIFICATION

a) Hazardous under applicable provincial Waste Control Regulations? Yes No
 b) EUB's treatment residue of a waste which was previously a regulated waste? Yes No
 c) Regulated under Transportation of Dangerous Goods? Yes No

TDG information:
 Proper Shipping Name: _____ Class: _____ PIN: _____
 Has analytical ever been received indicating the presence of hazardous/dangerous components? Yes No

5. ATTACHMENTS

Analysis Leachate tests MSDS Memo Other _____
 Laboratory reference number: _____ Number of pages attached: _____

6. REPRESENTATIVE SAMPLE CERTIFICATION

This section to be completed by the person responsible for obtaining samples of the above described waste.
 I certify that the sample for which the analytical data was provided for the waste described above is representative of the waste and was collected and preserved in a manner consistent with accepted provincial standards.

Name: _____ Signature: _____
 Company: _____ Title: _____
 Telephone: () _____ Sample collection date: _____
 Check One: Single sample Composite sample(s) _____ (# of sample points: _____)

7. GENERATOR'S CERTIFICATION

THIS SECTION TO BE COMPLETED BY AN AUTHORIZED REPRESENTATIVE OF THE GENERATOR.
 The generator warrants that, to the best of their knowledge, the information provided on this Application is true.
 The generator acknowledges that, if the waste referred to in this Application is determined to be other than as represented in this Application, the generator, at their sole expense and risk, will attend at such place as the waste is located and remove the waste immediately upon instruction from WasteWorks to do so. Failure to so remove the waste will enable WasteWorks to deal with the waste in the manner they consider appropriate in the circumstances, at the sole expense and risk of the generator.

Generator's name: _____
 DOB: _____ authorized signatory _____ name _____ date _____

TO BE COMPLETED BY WASTEWORKS

Conditions for acceptance: W.A.A. # W 0393
 pH (not < 2, or > 12.5)
 Flash point (not < 61°C)
 STEX (not > 0.5 mg/L) Approval Date: _____
 Metals do not exceed specified limits
 Other contaminants removed: _____
 Special Handling / Operational Comments: _____
 Approval number: _____ Approved by: _____
 Suitable for: Cover Alternate daily cover Treatment pad Direct landfill
 Other: _____

Section 1: Generator information. The location from which the waste is being shipped, the generator of the waste, and the primary contact for billing information must be recorded in this section.

Section 2: Waste Characterization. The process generating the waste should refer to potential sources of contamination, or historic operations (e.g. "spill clean up from crude pipeline break", or "catalyst used in H₂S removal from natural gas").

Section 3: Physical Properties. Though the information from this section may also be contained in the laboratory report on the waste, the generator must still fill in the applicable answers to the best of their knowledge. The physical properties of the waste must represent the properties of the waste at room temperature (e.g. ice and snow should be recorded as "liquids"). The table in section 3 is used to identify the major components

WASTEWORKS

/ contaminants in the waste stream offered for disposal (e.g. Diesel: ~5 %, Sawdust: 10 %-15 %, Soil: 80 %-85 %).

Section 4: Waste Classification. If the waste offered for disposal is regulated under TDG or under another applicable provincial jurisdiction, the generator should record the information here.

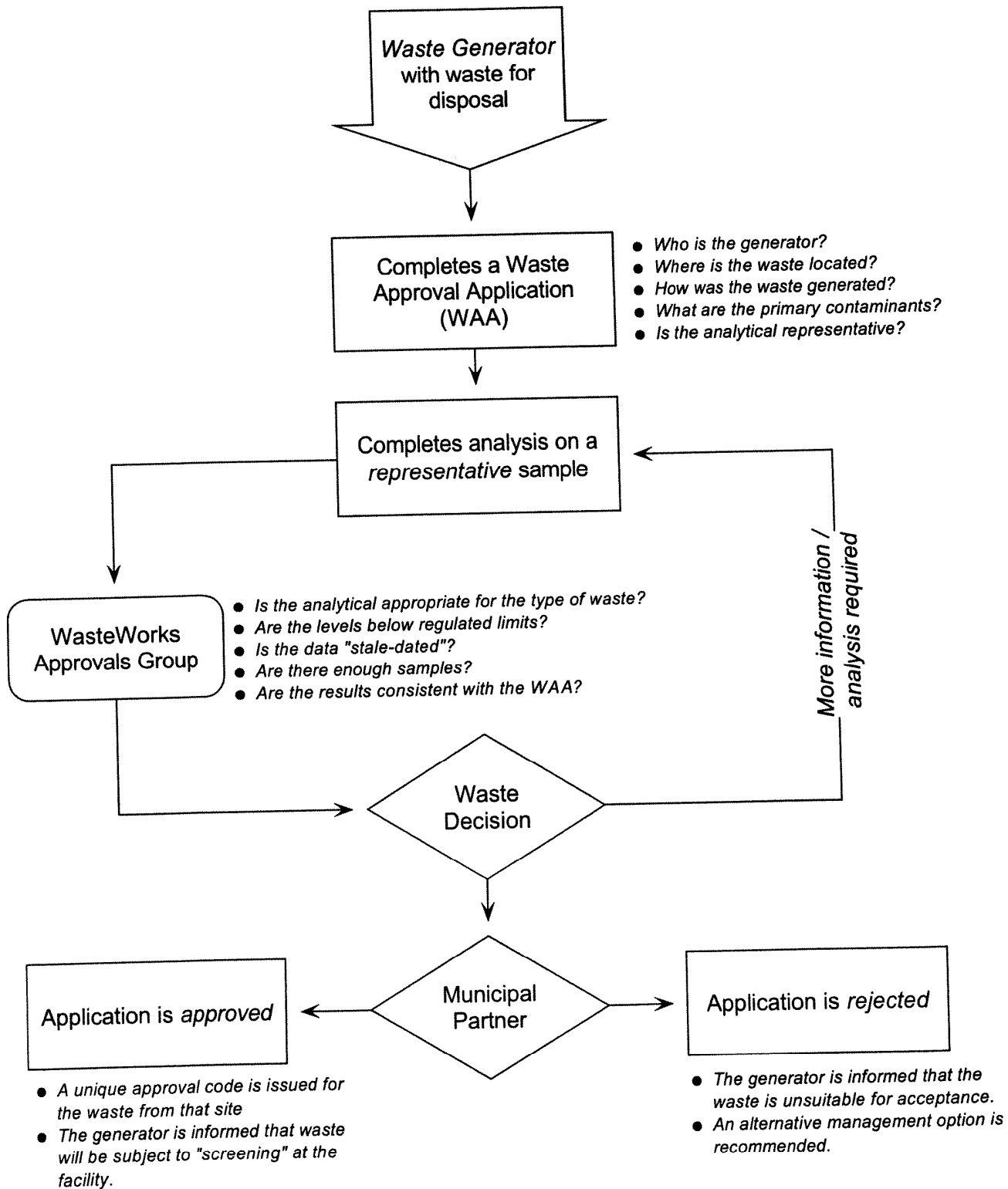
Section 5: Attachments. Please refer to all supporting documentation (lab reports, material safety data sheets, and / or process knowledge letters).

Section 6: Sample Certification. The representative responsible for sampling the waste stream (or their designate) must complete and sign this section. In addition, it provides an opportunity to identify the type of sample taken (grab, composite, etc...).

Section 7: Generator's Certification. The generator or their representative should review the entire application and ensure that it is complete and accurate. In the event that the information provided in the WAA does not resemble the waste that arrives at the landfill, the generator will be immediately contacted for clarification.

WASTEWORKS

Waste Acceptance and Approval Procedure





Hay River Horticultural Society
c/o 27 McBryan Drive
Hay River, NT. X0E 0R3
Feb. 10, 2003

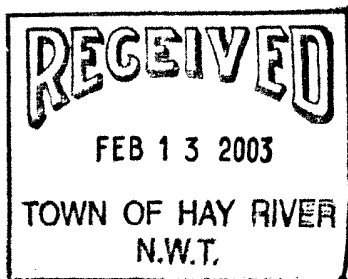
Town of Hay River
73 Woodland Drive
Hay River, NT. X0E 1G1

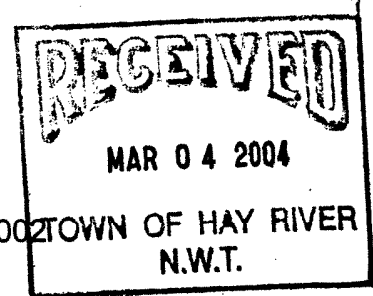
To Mayor and Council:

We wish to convey our appreciation for your involvement and interest in the environmental project written about in the February 5th edition of The Hub. We offer our support to any efforts of recycling and beneficial land use. At our February 9th meeting, we discussed our willingness to help if you might possibly require our services in implementing such programs to our town. Thank you for your commitment to "making our town a better place in which to live"!

Yours very sincerely,

Lynne Ashton, Secretary





76 Capital Drive, Suite 201
HAY RIVER, NT X0E 1G2

March 1, 2004

Mr. Todd Pittman
Director, Public Works
Town of Hay River
73 Woodland Drive
HAY RIVER, NT X0E 1G1

Dear Mr. Pittman:

Bio-Treatment Site

Recently, the Town of Hay River constructed a bio-treatment site for contaminated soils within the Town's land fill area along Hwy #5 and abutting the land we use for granular and road salt storage at kilometer 1.9, Hwy #5.

The creation of this new bio-treatment facility is a welcome development for the disposal and treatment of contaminated soils in the region and, as abutting land users, we are in agreement with its location.

As operators of the public transportation system, we also applaud the Town's initiative in developing this new facility to support and encourage treatment of contaminated soils that do occur occasionally within the public transportation system.

Yours truly,

Art Barnes
Regional Superintendent
South Slave Region
Department of Transportation

- c. George Childs, Assistant Director
Department of Transportation, Hwy Operations



The Town of Hay River
73 Woodland Drive
Hay River, Northwest Territories
Canada X0E 1G1



Phone: (867) 874-6522
Fax: (867) 874-3237
email: townhall@hayriver.com
www.hayriver.com

OFFICE OF THE MAYOR

April 16, 2004

Chief Karen Thomas-Felker
West Point First Nation
47031 Mackenzie Highway
Hay River, NT X0E 0R9

Re: Town of Hay River Municipal Landfill/Development of Bio-Treatment Facility

Dear Chief Thomas-Felker:

As part of the requirement for submission of the application of amendment to the Town of Hay River Water License # N1L4-0053, the Town of Hay River would like to advise the West Point First Nation of the above referenced development at the Municipal Landfill.

This development is in response to the increase in petroleum related activity within our community and the frequent spills that are associated with this activity. To date, contaminated soil associated with these spills have gone untreated and have been placed in land farms with no run-off collection or other measures to ensure this material does not cause additional damage to the environment. The Town of Hay River has now undertaken to develop a Bio-Treatment Pad (engineered land farm), that will allow contaminated material to be isolated from the surrounding environment during treatment by an impermeable liner and run-off to be collected for treatment to remove contaminants that would otherwise enter the environment. In addition the Town is proposing a comprehensive test program that will include testing as follows:

- Testing to characterized type and extent to contamination prior to acceptance.
- Testing to verify the type and nature of the material when it is received at the site.
- And periodic testing to assess progress of treatment.

The treated material will then be utilized as cover for landfill operations and will reduce the amount of windblown debris generated by the landfill into the surrounding environment.

In conjunction with this development the Council of the Town of Hay River has amended By-Law #1812, Zoning and Building By-Law to formally prohibit land farming of contaminated soil within the Town of Hay River boundaries other than at this facility.

With this development and the associated changes in legislation, the Council of the Town of Hay River has taken a proactive approach in ensuring the environment we share remains healthy amidst the continued development of northern resources.

If you have any questions related to the above, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Ehman", written in a cursive style.

Diana Ehman

The Town of Hay River
73 Woodland Drive
Hay River, Northwest Territories
Canada X0E 1G1



Phone: (867) 874-6522
Fax: (867) 874-3237
email: townhall@hayriver.com
www.hayriver.com

OFFICE OF THE MAYOR

April 16, 2004

Chief Roy Fabien
K'altodeeche First Nation
P.O. Box 3060
Hay River, NT X0E 1G3

Re: Town of Hay River Municipal Landfill/Development of Bio-Treatment Facility

Dear Chief Fabien:

As part of the requirement for submission of the application of amendment to the Town of Hay River Water License # N1L4-0053, the Town of Hay River would like to advise the West Point First Nation of the above referenced development at the Municipal Landfill.

This development is in response to the increase in petroleum related activity within our community and the frequent spills that are associated with this activity. To date, contaminated soil associated with these spills have gone untreated and have been placed in land farms with no run-off collection or other measures to ensure this material does not cause additional damage to the environment. The Town of Hay River has now undertaken to develop a Bio-Treatment Pad (engineered land farm), that will allow contaminated material to be isolated from the surrounding environment during treatment by an impermeable liner and run-off to be collected for treatment to remove contaminants that would otherwise enter the environment. In addition the Town is proposing a comprehensive test program that will include testing as follows:

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With this development and the associated changes in legislation, the Council of the Town of Hay River has taken a proactive approach in ensuring the environment we share remains healthy amidst the continued development of northern resources.

If you have any questions related to the above, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Ehman', with a long horizontal flourish extending to the right.

Diana Ehman

Geotechnical Evaluation of the Site:

In evaluating the suitability of the site chosen for the treatment pad. The following information was utilized:

1. Geotechnical information gathered with regard to soil type from the EBA Investigation carried out in 1999.
2. Historical information provided by the operator of the site.
3. Information gathered by M. M. Dillon in the report compiled in 1996. "Innovations to Maintain Existing landfill Site"
4. Test pits dug prior to the start of construction in July 2004.

Since the allowable bearing pressure of the natural silty clay in the Hay River and as exist at the site as determined in the 1999 EBA Report are generally in the area of 120kPa, in excess of this might result in deflections that may be detrimental to the integrity of the clay liner. Since the anticipated loading due to the operation of the pad is not expected to be in excess of 80kPa. Failure of the pad due to settlement of the natural sub-grade was not a concern.

The greater concern for the site would be the existence of buried material that may be prone to settlement. Historical data related to the final site chosen indicated that it had not been used for burial of waste associated with the municipal landfill operation. A test-pit program was carried out to that verified this information. This information is outlined on the site plan.

EBA Engineering Consultants Ltd.

Creating and Delivering Better Solutions

October 20, 2003

EBA File: 1780080

VIA FAX: (403) 253-3188 (11 Pages)
Hazco Environmental Services Ltd
200, 5720 - 4th Street S.E.,
Calgary, AB T2H 1K7

Attention: Mr. Brad Chapman, Project manager

Subject: Hay River Biopad for Soil Treatment Test Results

This letter outlines EBA Engineering Consultants Ltd.'s (EBA's) testing services carried out for the Hay River soil treatment biopad located at the nuisance grounds in Hay River, NT. Authorization to proceed with the project was provided by Mr. Brad Chapman, Project Manager of Hazco Environmental Services Ltd., (Hazco) to Mr. Ed Hoeve P.Eng., of EBA on July 28, 2003; P.O. No.: 11-1560.

EBA's scope of work was outlined in Sections 3.3 and 3.4 of the specifications supplied by Hazco titled *Biopad for Soil Treatment, 2003 Earthworks Construction, Hay River N.W.T., Detailed Specifications*. The scope of work included field and laboratory testing.

Density testing was initially conducted on July 31, 2003. At that time both the first and second lifts were tested, by varying the nuclear densometer probe depth between 0 mm (backscatter) and 150 mm. The measured densities were significantly higher than the reference density (Proctor value) that was provided to EBA. Therefore a sample was collected and a Standard Proctor test was completed in EBA's Yellowknife laboratory, the result is attached. The measured densities were compared to the new Proctor value. A total of 22 tests gave levels of compaction ranging from 87 to 102, with an average of 96 percent of Standard Proctor maximum dry density (SPD). The specified level of compaction was 92% of SPD (Section 3.2.3). Two of the measurements fell below this requirement.

Final density testing was conducted on September 8, 2003. At this time 32 tests of the top lift were taken giving results ranging from 97 to 100 and averaging 99 percent of SPD. The two areas that previously indicated insufficient compaction were retested and found to conform to the specified requirements.

During the site visits construction methods and progress were noted including the following:

- Clay material used for liner appeared clean, and free of deleterious materials;

2003-10-20

P.O. Box 2244, #201, 4916 - 49 Street, Yellowknife, NWT X1A 2P7
Tel: (867) 920-2287 - Fax: (867) 873-3324 Internet: yellowknife@eba.ca - Web Site: www.eba.ca



- Construction activities and procedures appeared consistent with industry accepted practices;
- Compaction methods used met industry accepted practices and were followed; and
- Lift thicknesses were investigated and were consistent with specification.

Work that was outside of EBA's scope of work and was not done included:

- Subgrade inspection;
- Subgrade, and final CCL surveys; and
- Pre-construction test data and determinations.

Laboratory testing included a constant head permeability test, eight moisture contents (oven dry method) and Atterberg Limits. A Shelby tube was used to collect the material for the permeability test. The in-place permeability of the clay pad as determined by the constant head permeability test was 9.59×10^{-9} cm/sec, less than the maximum 1×10^{-7} cm/sec required in Section 1.1.3 of the specifications. The Atterberg Limits of LL=49%, PL=21%, and PI=28% correspond to the medium to high plasticity required in Section 2.1.1 of the specifications.

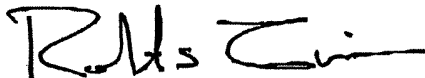
Based on our observations and subsequent review, EBA considers that the Compacted Clay Liner was installed in general accordance with acceptable construction practices and the intent of the design.

We trust that this letter and attached results will meet your requirements. Please contact either of the undersigned if you have any questions or comments.

Respectfully submitted,

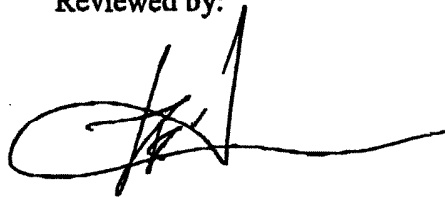
EBA ENGINEERING CONSULTANTS LTD.

Prepared by:



Robert S. Girvan, M.I.T.
Geotechnical Engineer
(Direct Line: (867) 766-3728 ext. 108)
(e-mail: rgirvan@eba.ca)

Reviewed by:



T.E. Hoeve, P. Eng.
Chief Engineer NT/NU
(Direct Line: (867)766-3728 ext.114)
(e-mail: ehoeve@eba.ca)

Attachments

b3hpmc1r1009



EBA Engineering Consultants Ltd.

MOISTURE-DENSITY RELATIONSHIP

Project: Treatment Pad QA Testing

Sample No.: 3317

Address: Hay River, NT

Date Sampled: 09-Aug-03

Sample Location: n/a

Project No.: 1780080

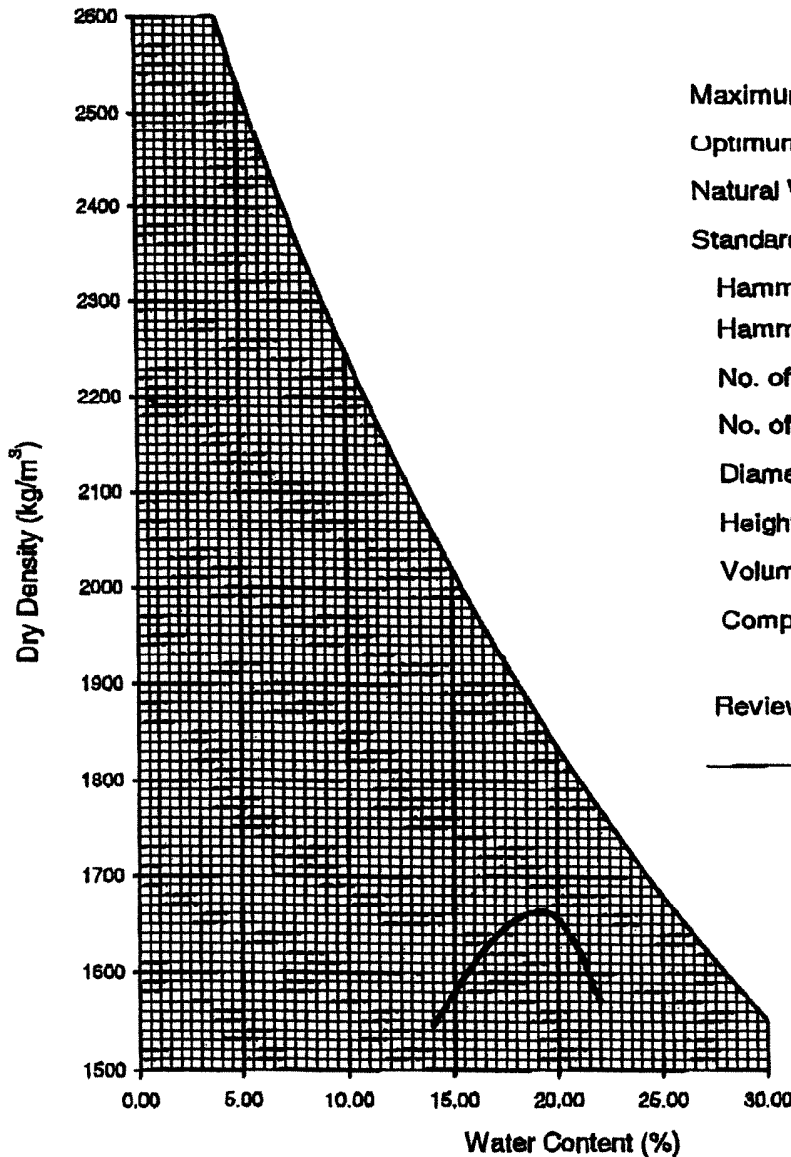
Date Tested: 14-Aug-03 By: MB

Sample Description: CLAY - trace silt, trace sand,
medium plastic, grey

Client: Hazco Environmental Services Ltd.

Atterberg Limits: LL=49%, PL=21%, PI=28%

Attention: Mr. Brad Chapman



Maximum Dry Density: 1660 kg/m³

Optimum Water Content: 19.0%

Natural Water Content: 21.5%

Standard Proctor (ASTM D 698) Part A

Hammer Weight: 2.5 kg

Hammer Drop: 305 mm

No. of Layers: 3

No. of Blows / Layer: 25

Diameter of Mould: 102 mm

Height of Mould: 116 mm

Volume Mould: 944 cm³

Compactive Effort: 600 kJ/m³

Reviewed By:

_____ P. Eng.

Data presented herein are for the sole use of the stipulated client. EBA is not responsible, nor can be held liable, for use made of this report by any other party, with or without the knowledge of EBA.

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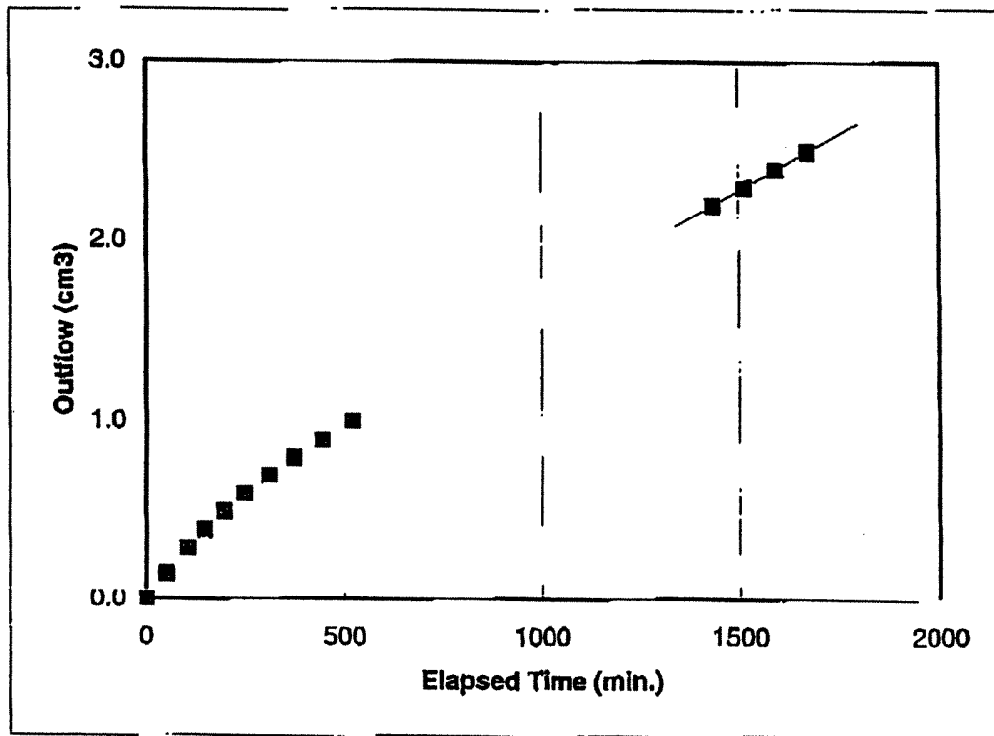
CONSTANT HEAD PERMEABILITY TREATMENT PAD QUALITY ASSURANCE

Job Number: 1780080

Date: 03-09-16

Sample No.: 3317 Test No.1 - North West Corn Test No: P-1

Time	Buret (cc)	Elap. (min)	Outflow (cc)	Diameter=	70.74 mm
7:25	17.0	0	0.0	Height=	25.25 mm
8:15	17.2	50	0.2	Volume=	99.24 cm ³
9:09	17.3	104	0.3	Head Diff.=	2 psi
9:52	17.4	147	0.4	Q=	2.10E-05 cm ³ /sec
10:41	17.5	196	0.5	i=	55.71
11:33	17.6	248	0.6	A=	39.30 cm ²
12:35	17.7	310	0.7	K= 9.59E-09 cm/sec	
13:38	17.8	373	0.8		
14:50	17.9	445	0.9		
16:05	18.0	520	1.0		
7:20	19.2	1435	2.2		
8:39	19.3	1514	2.3		
9:58	19.4	1593	2.4		
11:18	19.5	1673	2.5		



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DENSITY TEST RESULTS

ASTM Designation D2922 & D9317, or D1556

Project No.: <u>1780080</u>	Test Apparatus: <u>Nuclear</u>	Mach. No.: <u>24554</u>
Project: <u>Hay River Bio-Pad</u>	Soil Description: <u>clay, trace silt</u>	
<u>Quality Assurance Testing Services</u>		
Client: <u>Hazoo Environmental Services Ltd.</u>	Temperature Air: <u>17 °C</u>	Soil: <u>n/a</u> °C
<u>Attention: Mr. Brad Chapman</u>	Specified Compaction: <u>92%</u>	
	Compaction Standard: <u>Standard</u>	
	Minimum Dry Density: _____	
	Maximum Dry Density: <u>1660 kg/m³</u>	
	Optimum M.C.: <u>19.0%</u>	
	Date Tested: <u>July 31, 2003</u>	By: <u>RG</u>

Test No. / Probe Depth	Location	Elevation	% Moisture Content	Dry Density kg/m ³	% Compaction
1/150 mm	SW Corner	At Grade	19.8	1582	95%
2/150 mm	NW Corner	At Grade	14.8	1624	98%
3/150 mm	North side, midpoint	At Grade	15.5	1690	102%
4/150 mm	Centre of pad	At Grade	18.6	1598	96%
5/150 mm	South Side, midpoint	At Grade	18.1	1604	97%
6/150 mm	SE corner	At Grade	15.3	1698	102%
7/150 mm	SE corner of pond	At Grade	15.4	1688	102%
8/150 mm	West side of pond	At Grade	16.4	1552	93%
9/150 mm	North side of pond	At Grade	20.6	1585	94%
10/150 mm	East side, centre	At Grade	20.8	1815	97%

Remarks: Clay liner was approximately 35 cm above native soil at time of testing.

Reviewed By: _____ P.Eng. cc File _____

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EBA Engineering Consultants Ltd.

DENSITY TEST RESULTS

ASTM Designation D2922 & D3017, or D1556

Project No.: <u>1780080</u>	Test Apparatus: <u>Nuclear</u> Mach. No.: <u>24554</u>
Project: <u>Hay River Bio-Pad</u> <u>Quality Assurance Testing Services</u>	Soil Description: <u>clay, trace silt</u>
Client: <u>Hazco Environmental Services Ltd.</u>	Temperature Air: <u>17 °C</u> Soil: <u>n/a</u> °C
<u>Attention: Mr. Brad Chapman</u>	Specified Compaction: <u>92%</u>
	Compaction Standard: <u>Standard</u>
	Minimum Dry Density: _____
	Maximum Dry Density: <u>1660 kg/m³</u>
	Optimum M.C.: <u>19.0%</u>
	Date Tested: <u>July 31, 2003</u> By: <u>RG</u>

Test No. / Probe Depth	Location	Elevation	% Moisture Content	Dry Density kg/m ³	% Compaction
11/BS	5 m North of	At Grade	18.0	1609	97%
12/BS	Centre of pad	At Grade	20.7	1531	92%
13/BS	10 m east of centre of pad	At Grade	14.4	1610	92%
14/BS	25 m south of pond	At Grade	25.7	1451	87%
15/BS	SE portion of lot, 10 m east of edge	At Grade	20.1	1630	98%
16/BS	South side of pond	At Grade	18.8	1527	92%
17/BS	West side of pond	At Grade	19.4	1547	93%
18/BS	North side, Centre	At Grade	18.8	1588	98%
19/BS	35 m west of pond	At Grade	15.6	1634	98%
20/BS	NE portion of pad, 10 m east of edge	At Grade	23.9	1574	95%
21/BS	SW portion of lot, 10 m east of edge	At Grade	17.5	1460	88%
22/BS	SW of centre	At Grade	21.5	1587	96%

Remarks: Clay liner was approximately 35 cm above native soil at time of testing.

Reviewed By: _____ P.Eng. cc File _____

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DENSITY TEST RESULTS

ASTM Designation D2922 & D3017, or D1556

Project No.: 1780080
 Project: Hay River Bio-Pad
Quality Assurance Testing Services

Test Apparatus: Nuclear Mach. No.: 24554
 Soil Description: clay, trace silt

Client: Hazoo Environmental Services Ltd.
Attention: Mr. Brad Chapman

Temperature Air: 17 °C Soil: n/a °C
 Specified Compaction: 92%
 Compaction Standard: Standard
 Minimum Dry Density: _____
 Maximum Dry Density: 1660 kg/m³
 Optimum M.C.: 19.0%
 Date Tested: September 8, 2003 By: MB

Test No. / Probe Depth	Location	Elevation	Wet Density, kg/m ³	Dry Density kg/m ³	% Compaction
23/200 mm	0+007E, 0+007N	At Grade	1943	1611	97%
23/100 mm	0+007E, 0+007N	At Grade	1950	1617	97%
24/200 mm	0+020E, 0+007N	At Grade	1961	1626	98%
24/100 mm	0+020E, 0+007N	At Grade	1974	1637	98%
25/200 mm	0+036E, 0+007N	At Grade	1980	1650	99%
25/100 mm	0+036E, 0+007N	At Grade	1982	1643	99%
26/200 mm	0+050E, 0+007N	At Grade	1972	1635	99%
26/100 mm	0+050E, 0+007N	At Grade	1992	1602	97%
27/200 mm	0+065E, 0+007N	At Grade	1958	1622	98%
27/100 mm	0+065E, 0+007N	At Grade	1975	1638	99%
28/200 mm	0+080E, 0+007N	At Grade	1968	1630	98%
28/100 mm	0+080E, 0+007N	At Grade	1952	1619	98%

Remarks:

7 surface samples of soil were taken for moisture content test. Max moisture content is 22.4% and Min 18.3%.

The average moisture content is 20.6 %. This number can be considered as representative for determination of the dry density.

Test at the depth 200 mm should be considered as the test for the lift #3

Test at the depth 100 mm should be considered as the test for the lift #4

Reviewed By: _____ P.Eng. _____ cc... File _____

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EBA Engineering Consultants Ltd.

DENSITY TEST RESULTS

ASTM Designation D2922 & D3017, or D1556

Project No.: 1780080
 Project: Hay River Bio-Pad
Quality Assurance Testing Services

Test Apparatus: Nuclear Mach. No.: 24554
 Soil Description: clay, trace silt

Client: Hazco Environmental Services Ltd.
Attention: Mr. Brad Chapman

Temperature Air: 17 °C Soil: n/a °C
 Specified Compaction: 92%
 Compaction Standard: Standard
 Minimum Dry Density: _____
 Maximum Dry Density: 1660 kg/m³
 Optimum M.C.: 19.0%
 Date Tested: September 8, 2003 By: MB

Test No. / Probe Depth	Location	Elevation	Wet Density, kg/m ³	Dry Density kg/m ³	% Compaction
29/200 mm	0+080E, 0+015N	At Grade	1961	1643	99%
29/100 mm	0+080E, 0+015N	At Grade	1945	1619	97%
30/200 mm	0+065E, 0+015N	At Grade	1054	1620	98%
30/100 mm	0+065E, 0+015N	At Grade	1975	1638	99%
31/200 mm	0+040E, 0+015N	At Grade	1980	1642	99%
31/100 mm	0+040E, 0+015N	At Grade	1994	1653	100%
32/200 mm	0+025E, 0+015N	At Grade	1982	1652	100%
32/100 mm	0+025E, 0+015N	At Grade	1982	1643	99%
33/200 mm	0+010E, 0+015N	At Grade	1999	1658	100%
33/100 mm	0+010E, 0+015N	At Grade	1949	1616	97%

Remarks:

7 surface samples of soil were taken for moisture content test. Max moisture content is 22.4% and Min 18.3%.
 The average moisture content is 20.6 %. This number can be considered as representative for determination of the dry density.
 Test at the depth 200 mm should be considered as the test for the lift #3
 Test at the depth 100 mm should be considered as the test for the lift #4

Reviewed By: _____ P. Eng. cc File _____



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EBA Engineering Consultants Ltd.

DENSITY TEST RESULTS

ASTM Designation D2922 & D3017, or D1556

Project No.: 1780080 Test Apparatus: Nuclear Mach. No.: 24554
 Project: Hay River Bio-Pad Soil Description: clay, trace silt
Quality Assurance Testing Services
 Client: Hazco Environmental Services Ltd. Temperature Air: 17 °C Soil: n/a °C
Attention: Mr Brad Chapman Specified Compaction: 92%
 Compaction Standard: Standard
 Minimum Dry Density: _____
 Maximum Dry Density: 1660 kg/m³
 Optimum M.C.: 19.0%
 Date Tested: September 8, 2003 Dy: MB

Test No. / Probe Depth	Location	Elevation	Wet Density, kg/m ³	Dry Density kg/m ³	% Compaction
34/200 mm	0+006E, 0+025N	At Grade	1982	1627	98%
34/100 mm	0+005E, 0+025N	At Grade	1968	1632	98%
35/200 mm	0+020E, 0+025N	At Grade	1978	1638	99%
35/100 mm	0+020E, 0+025N	At Grade	1954	1620	98%
36/200 mm	0+035E, 0+025N	At Grade	1984	1629	98%
36/100 mm	0+035E, 0+025N	At Grade	1951	1618	97%
37/200 mm	0+050E, 0+025N	At Grade	1985	1629	98%
37/100 mm	0+050E, 0+025N	At Grade	1980	1642	99%
38/200 mm	0+065E, 0+025N	At Grade	1997	1656	100%
38/100 mm	0+065E, 0+025N	At Grade	2007	1664	100%

Remarks:
 7 surface samples of soil were taken for moisture content test. Max moisture content is 22.4% and Min 18.3%.
 The average moisture content is 20.8 %. This number can be considered as representative for determination of the dry density.

Test at the depth 200 mm should be considered as the test for the lift #3
 Test at the depth 100 mm should be considered as the test for the lift #4

Reviewed By: _____ P.Eng. oo File _____

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