RPIC Federal Contaminated Sites National Workshop

Guidance and Orientation for the Selection of Treatment technologies (GOST) for the rehabilitation of contaminated sites

Presented by Sebastien Yelle B.Sc., M.Sc.

Gouvernement du Canada | Government of Canada

Guide d'orientation pour la sélection de technologies
GOST

Guidance and Orientation for the Selection of Technologies
GOST

Français | English

Avis importants | Important Notices

Canada

Home

This site is under development

Welcome to the **Guidance and Orientation for the Selection of Technologies (GOST)** website for the rehabilitation of contaminated sites. This will also address the innovative technologies that are proven or are in the demonstration stage.

In response to Public Works and Government Services Canada's (**PWGSC**) request, the Biological Research Institute (**NRC-BRI**) and the Montreal Centre of Excellence in Brownfields Rehabilitation (**MCEBR**) have produced a site for the selection of rehabilitation technologies for contaminated sites, designed for project managers from varying departments and agencies with responsibilities related to the monitoring of federal contaminated sites. This site was created in order to help project managers in their efforts to restore sites that present potential risks to human health and the environment and are endorsed by the Federal Contaminated Sites Action Plan (**FCSAP**). This site provides a list of tests that should be performed during Phase III site assessments, once it has determined the applicability of the selected technologies with the help of a questionnaire.

In order to have access to this site you must be subscribed as a member. This can be achieved by filling in the required information in the Registration section of this website.

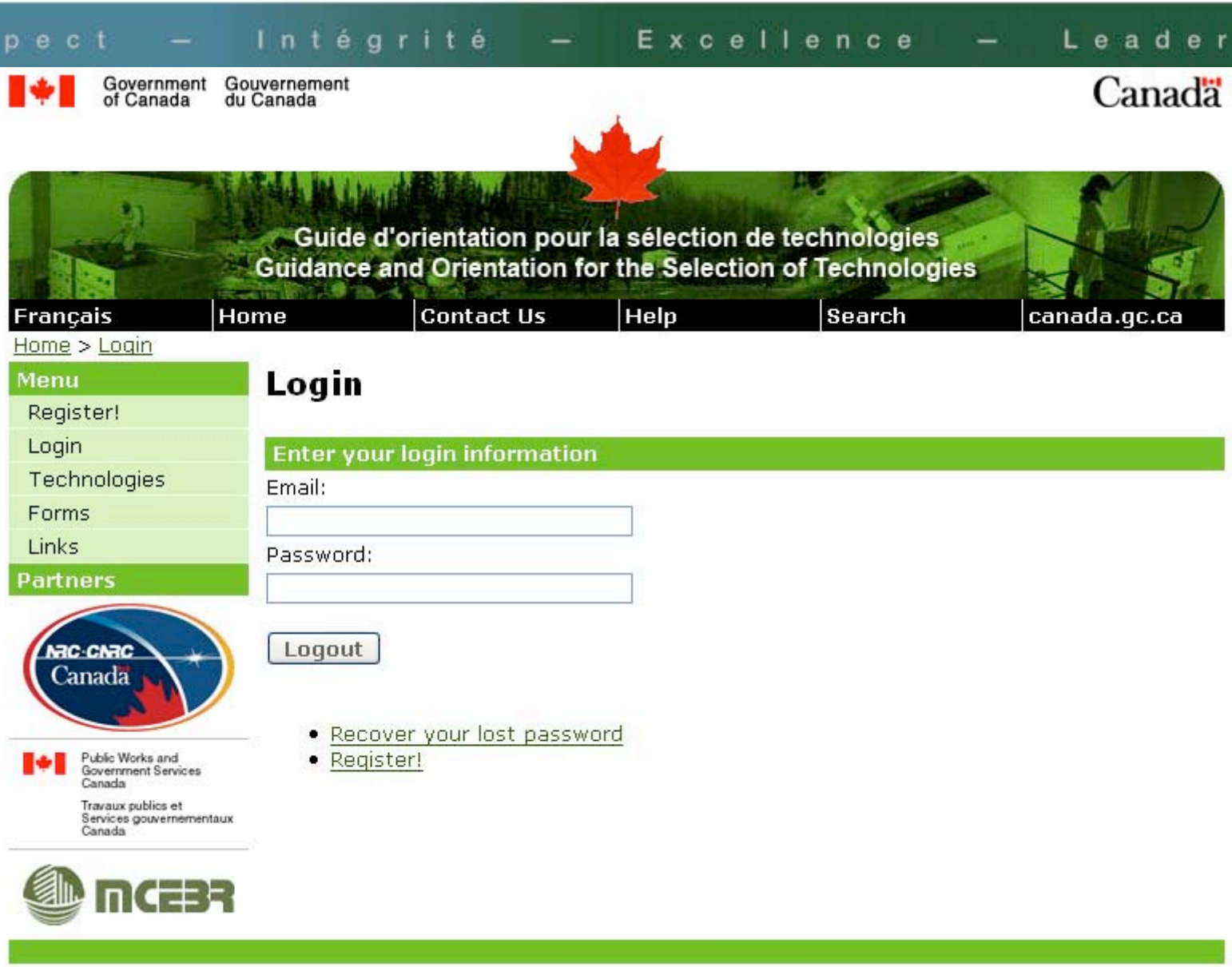
Upon selecting an applicable technology from the list provided for a particular site, project managers must complete a questionnaire that is located in the Links section of this site, which can be submitted electronically.

GOST can also retrieve past searches performed by project managers. Responses will be saved once the questionnaire has been completed and submitted.

Project managers are also welcome to provide any amendments to the listed technologies. Project managers can fill in the form in the Amendment Form section of this website. The form must be submitted online.

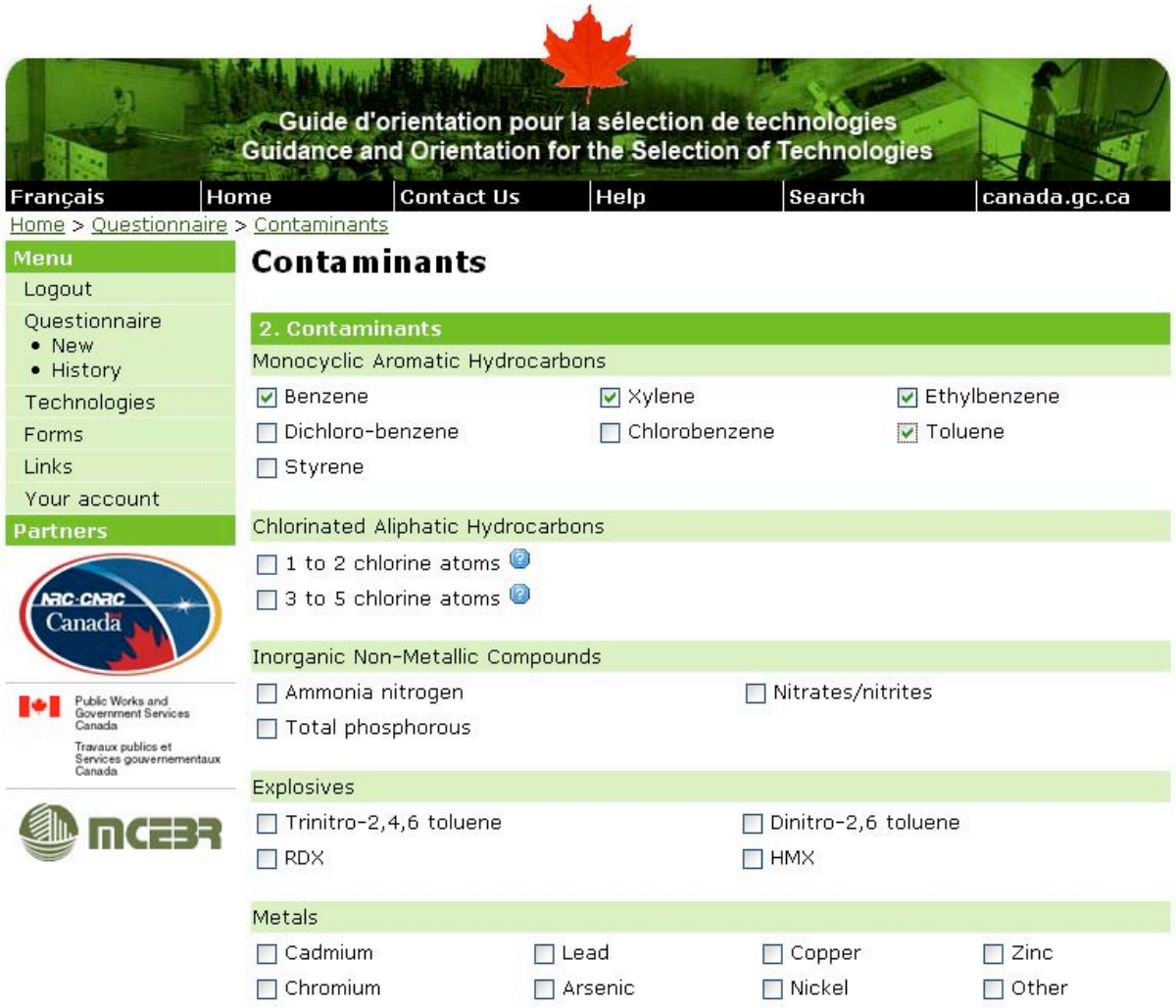
We would like to thank all of the people who have contributed to the creation and implementation of this site, including: Sébastien Yelle of Public Works and Government Services Canada (PWGSC); Charles Greer, Serge Delisle, Martin Désilets, Paul-Olivier Trudeau, Magalie Turgeon, Josée Sirois, Olivia Wojciechowicz, Nancy Lee Fortin and Sébastien Johnson from the Biotechnology Research Institute of the National Research Council; also, Mélanie Bathalon and Mahaut Rigaut from the Montreal Centre of Excellence in Brownfield Rehabilitation (MCEBR).


Government of Canada
Gouvernement du Canada
Canada
Guide d'orientation pour la sélection de technologies
Guidance and Orientation for the Selection of Technologies
Français
Home
Contact Us
Help
Search
canada.gc.ca
Home > Registration
Menu
Register!
Login
Technologies
Forms
Links
Partners
NRC·CNRC Canada
Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
MCEBR
Registration
** All fields are mandatory **
Login information
Email:
Password:
(Minimum length : 5)
Personnal information
Lastname:
Firstname:
Organism:
Title:
Coordinates
Address:
City:
Province:
Country:
Canada
Postal Code:
(Format: A9A 9A9)
Phone:
(Format: 999-999-9999)
Fax:
(Format: 999-999-9999)
Register


Government of Canada
Gouvernement du Canada
Canada
Guide d'orientation pour la sélection de technologies
Guidance and Orientation for the Selection of Technologies
Français
Home
Contact Us
Help
Search
canada.gc.ca
Home > Login
Menu
Register!
Login
Technologies
Forms
Links
Partners
Login
Enter your login information
Email:
Password:
Logout
Recover your lost password
Register!
Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
MCEBR

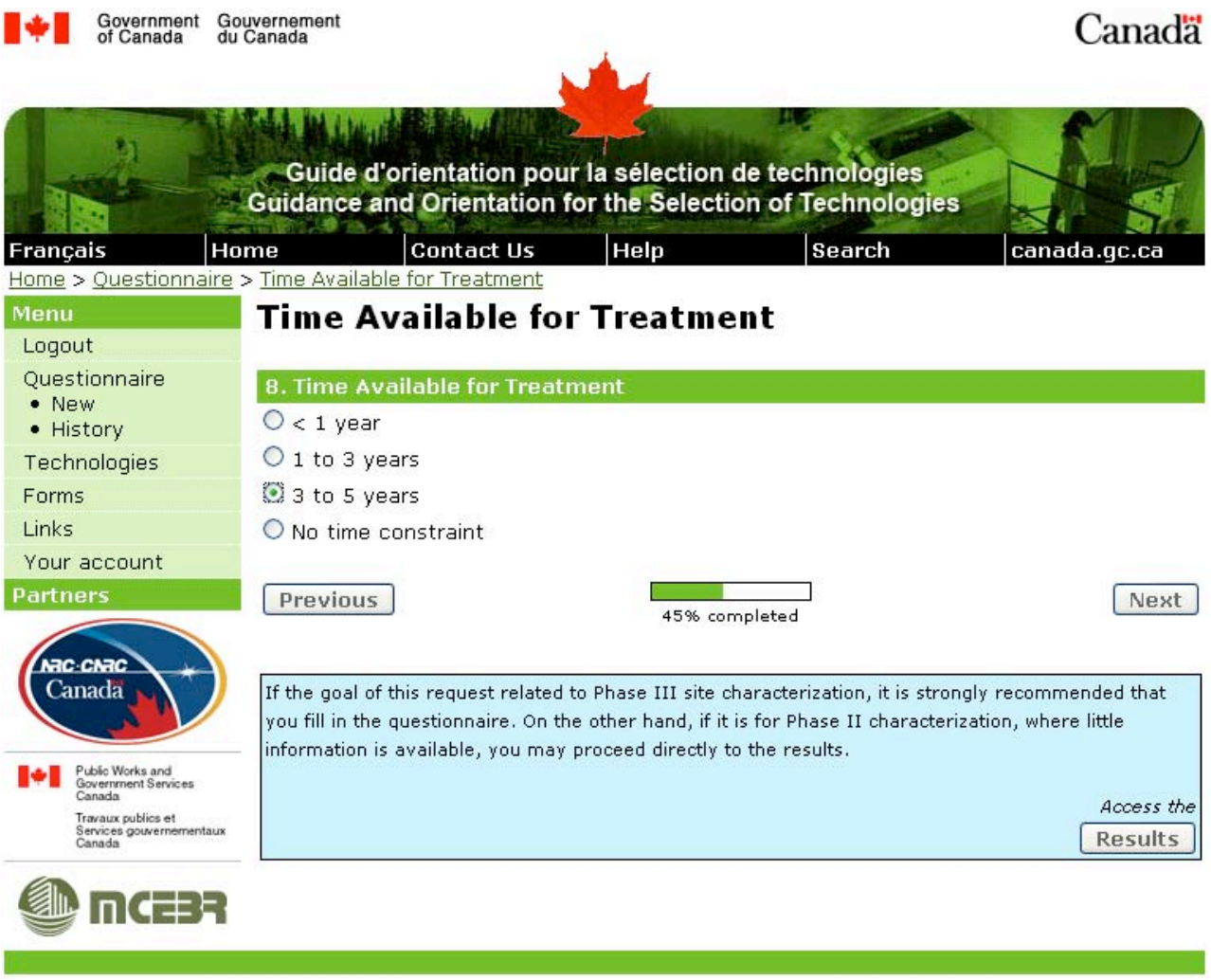

Gouvernement du Canada
Government of Canada
Canada
Guide d'orientation pour la sélection de technologies
Guidance and Orientation for the Selection of Technologies
English
Accueil
Contactez-nous
Aide
Recherche
canada.gc.ca
Accueil > Technologies
Menu
Déconnexion
Questionnaire
• Nouveau
• Historique
Technologies
Formulaires
Liens utiles
Remerciements
Votre compte
Partenaires
CNRC·NRC Canada
Travaux publics et Services gouvernementaux Canada
Public Works and Government Services Canada
CEMRS
Technologies
Ensemble des technologies disponibles
Biologique (17)
Chimique (12)
Physique (15)
Thermique (12)
Récupération LPNA (4)
In situ (12)
Atténuation aturelle
Bioaugmentation in situ
Biobarbottage
Biodégradation des solvents chlorés en conditions méthanotrophe
Biostimulation aérobie
Biostimulation anaerobie
Bioventilation
Brassage in situ des sols/processus biologique
Champignons de la pouriture blanche
Déchlorination réductive
Phytoremédiation des composés inorganiques
Phytoremédiation des composés organiques
Ex situ (5)
Biopile aérobie
Bioréacteur
Compostage aérobie
Épandage controlés
Marais artificiel
Les fiches des technologies sont en format PDF.

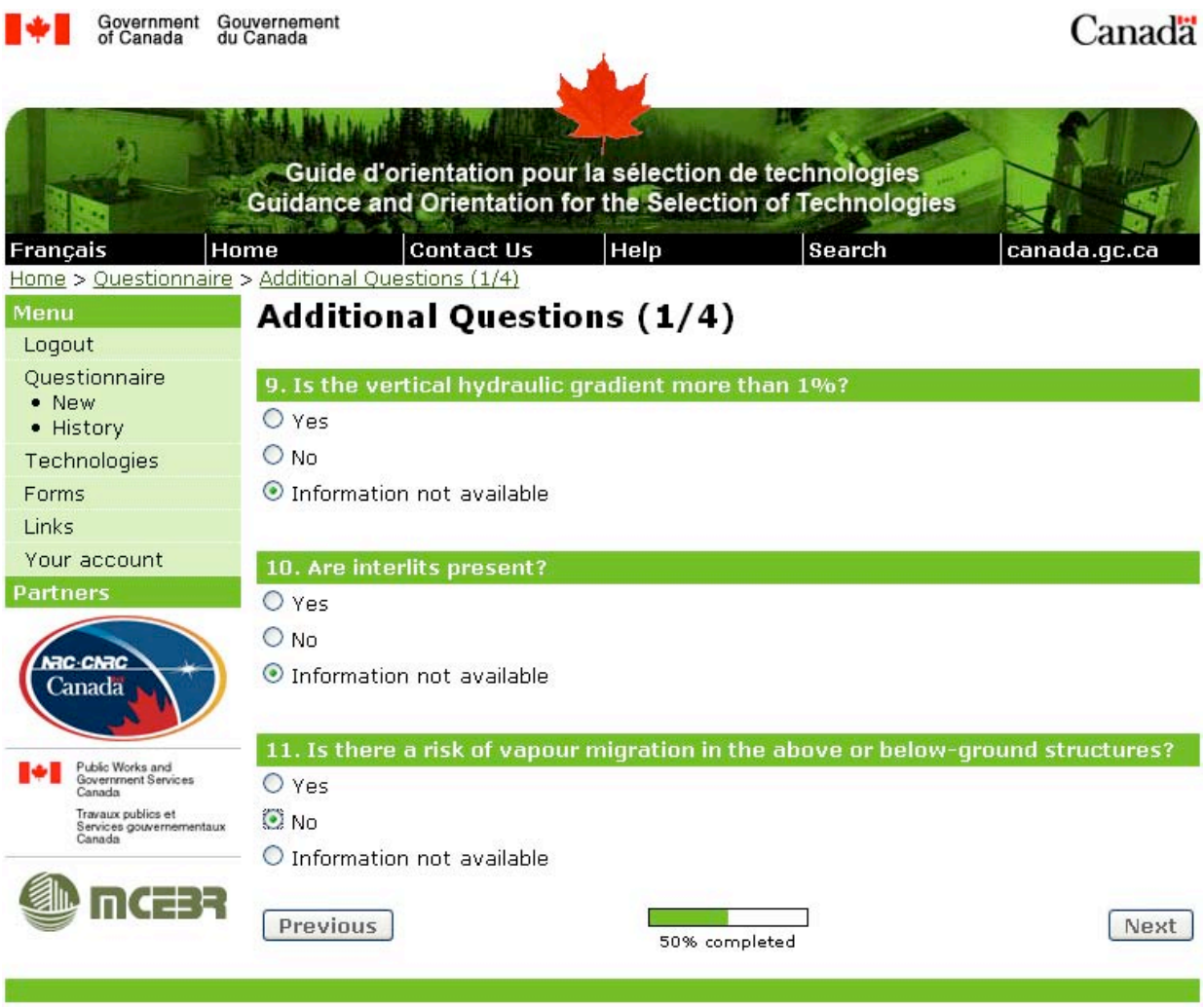

Government of Canada Gouvernement du Canada
Canada
Guide d'orientation pour la sélection de technologies
Guidance and Orientation for the Selection of Technologies
Français | Home | Contact Us | Help | Search | canada.gc.ca
Home > Questionnaire > Treatment Type
Menu
Logout
Questionnaire
• New
• History
Technologies
Forms
Links
Your account
Partners
NRC·CNRC Canada
Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
MCEBR
Treatment Type
1. Treatment Type
In Situ Treatment
Ex Situ Treatment
0% completed
Next


Guide d'orientation pour la sélection de technologies
Guidance and Orientation for the Selection of Technologies
Français
Home
Contact Us
Help
Search
canada.gc.ca
Home > Questionnaire > Contaminants
Menu
Logout
Questionnaire
• New
• History
Technologies
Forms
Links
Your account
Partners
NRC·CNRC Canada
Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
MCEBR
Contaminants
2. Contaminants
Monocyclic Aromatic Hydrocarbons
Benzene
Xylene
Ethylbenzene
Dichloro-benzene
Chlorobenzene
Toluene
Styrene
Chlorinated Aliphatic Hydrocarbons
1 to 2 chlorine atoms
3 to 5 chlorine atoms
Inorganic Non-Metallic Compounds
Ammonia nitrogen
Nitrates/nitrites
Total phosphorous
Explosives
Trinitro-2,4,6 toluene
Dinitro-2,6 toluene
RDX
HMX
Metals
Cadmium
Lead
Copper
Zinc
Chromium
Arsenic
Nickel
Other

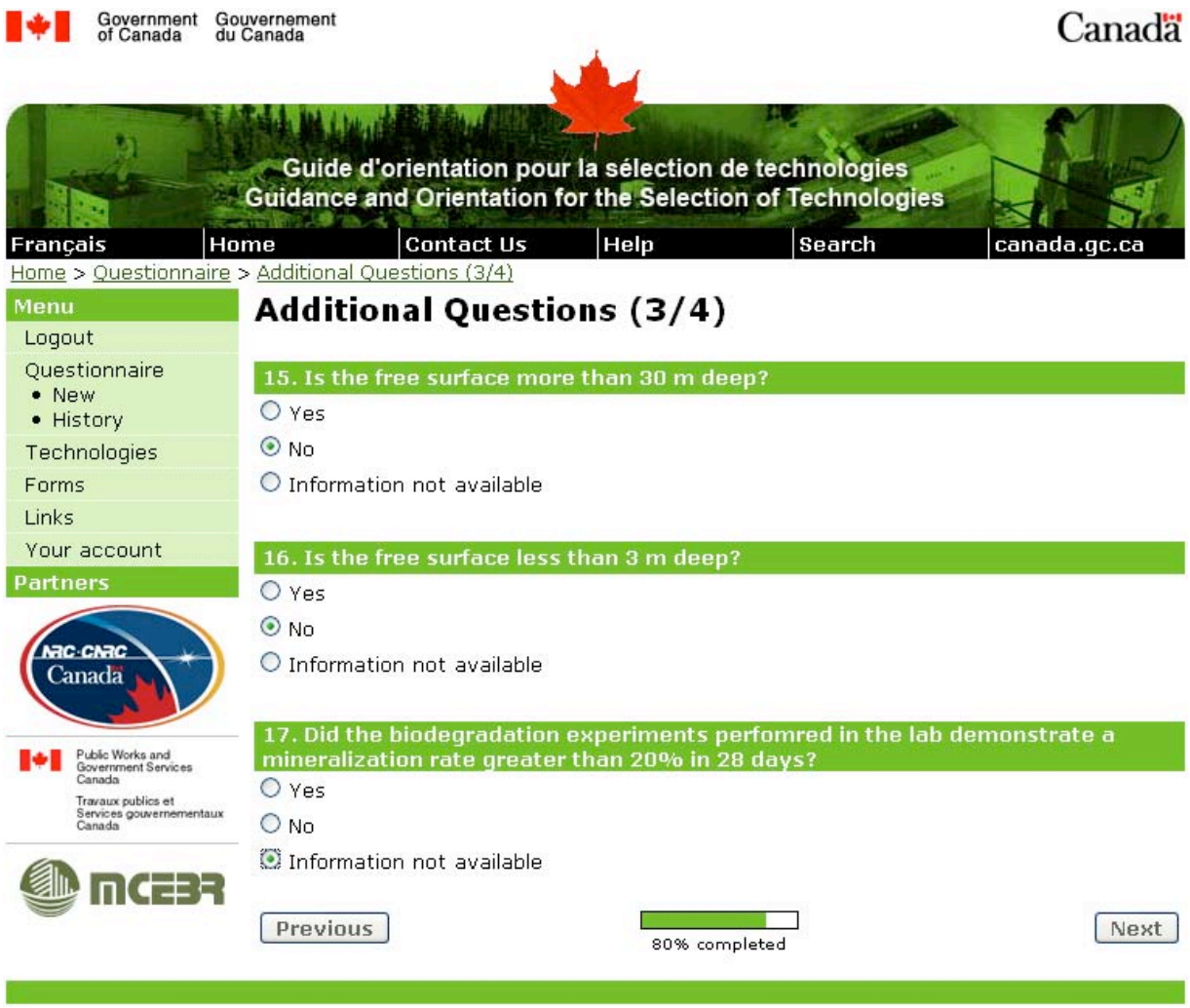

Government of Canada
Gouvernement du Canada
Canada
Guide d'orientation pour la sélection de technologies
Guidance and Orientation for the Selection of Technologies
Français
Home
Contact Us
Help
Search
canada.gc.ca
Home > Questionnaire > Type of Contamination
Menu
Logout
Questionnaire
• New
• History
Technologies
Forms
Links
Your account
Partners
ARC-CARC Canada
Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
MCEBR
Type of Contamination
3. Residual Contamination (depth in relation to the surface of the soil)
Unsaturated Zone
0-3 m
>3 m
Saturated Zone
0-3 m
>3 m
4. Dissolved Contaminants (depth in relation to the surface of the soil)
0-3 m
3-1 0m
>10 m
5. Non Aquous Phase Liquid (light and dense NAPL)
Light NAPL
Dense LPNA
Previous
20% completed
Next

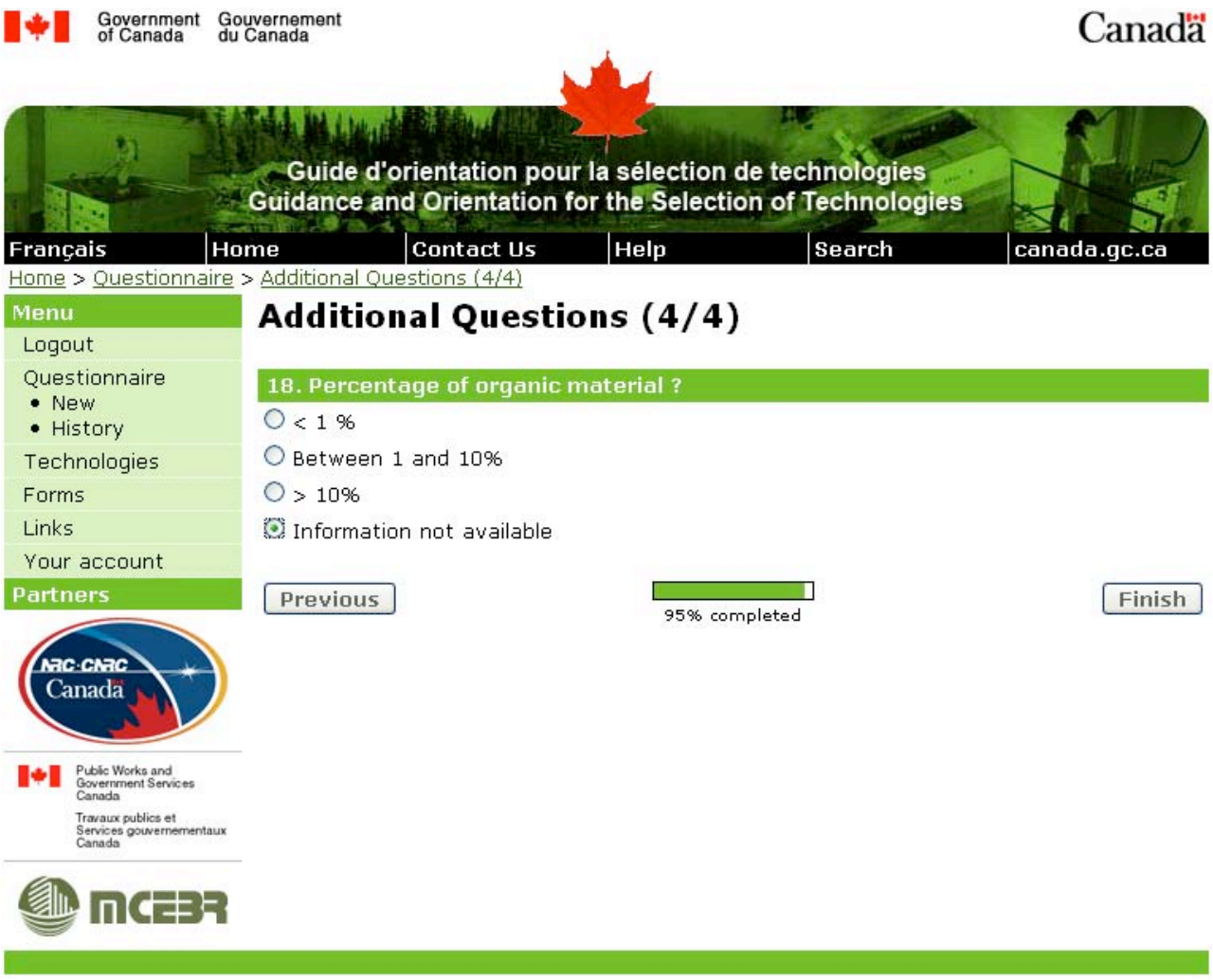

Government of Canada
Gouvernement du Canada
Canada
Guide d'orientation pour la sélection de technologies
Guidance and Orientation for the Selection of Technologies
Français
Home
Contact Us
Help
Search
canada.gc.ca
Home > Questionnaire > Matrix
Menu
Logout
Questionnaire
• New
• History
Technologies
Forms
Links
Your account
Partners
Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
Matrix
Unweathred Marin Clay
Glacial Till
Silt
Silt Sand
Sand
Gravel
k (cm /5)
10-11 10-10 10-9 10-8 10-7 10-6 10-5 10-4 10-3 10-2 10-1 1 101 102
6. Overburden
Hydraulic conductivity greater than 10-2 cm/s
Hydraulic conductivity between 10-4 and 10-2 cm/s
Hydraulic conductivity between 10-6 and 10-4 cm/s
Hydraulic conductivity less than 10-6 cm/s
7. RQD / Bedrock
RQD <50 (fractured) to highly fractured)
RQD between 50 and 75 (fairly fractured)
RQD >75 (good to excellent)
Previous
35% completed
Next


Government of Canada Gouvernement du Canada
Canada
Guide d'orientation pour la sélection de technologies
Guidance and Orientation for the Selection of Technologies
Français | Home | Contact Us | Help | Search | canada.gc.ca
Home > Questionnaire > Time Available for Treatment
Menu
Logout
Questionnaire
• New
• History
Technologies
Forms
Links
Your account
Partners
NRC·CNRC Canada
Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
MCEER
Time Available for Treatment
8. Time Available for Treatment
< 1 year
1 to 3 years
3 to 5 years
No time constraint
Previous
45% completed
Next
If the goal of this request related to Phase III site characterization, it is strongly recommended that you fill in the questionnaire. On the other hand, if it is for Phase II characterization, where little information is available, you may proceed directly to the results.
Access the
Results


Government of Canada
Gouvernement du Canada
Canada
Guide d'orientation pour la sélection de technologies
Guidance and Orientation for the Selection of Technologies
Français
Home
Contact Us
Help
Search
canada.gc.ca
Home > Questionnaire > Additional Questions (1/4)
Menu
Logout
Questionnaire
• New
• History
Technologies
Forms
Links
Your account
Partners
NRC·CNRC Canada
Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
NCEBR
Additional Questions (1/4)
9. Is the vertical hydraulic gradient more than 1%?
Yes
No
Information not available
10. Are interlits present?
Yes
No
Information not available
11. Is there a risk of vapour migration in the above or below-ground structures?
Yes
No
Information not available
Previous
50% completed
Next


Government of Canada Gouvernement du Canada
Canada
Guide d'orientation pour la sélection de technologies
Guidance and Orientation for the Selection of Technologies
Français
Home
Contact Us
Help
Search
canada.gc.ca
Home > Questionnaire > Additional Questions (2/4)
Menu
Logout
Questionnaire
• New
• History
Technologies
Forms
Links
Your account
Partners
NRC·CNRC Canada
Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
MCEBR
Additional Questions (2/4)
12. Are there any potential receptors?
Yes
No
Information not available
13. If NAPL is present, is it more than 5 cm thick?
Yes
No
Information not available
14. Is the contamination localized in a confined layer or semi-confined?
Yes
No
Information not available
Previous
65% completed
Next


Government of Canada
Gouvernement du Canada
Canada
Guide d'orientation pour la sélection de technologies
Guidance and Orientation for the Selection of Technologies
Français
Home
Contact Us
Help
Search
canada.gc.ca
Home > Questionnaire > Additional Questions (3/4)
Menu
Logout
Questionnaire
• New
• History
Technologies
Forms
Links
Your account
Partners
NRC·CNRC Canada
Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
MCEBR
Additional Questions (3/4)
15. Is the free surface more than 30 m deep?
Yes
No
Information not available
16. Is the free surface less than 3 m deep?
Yes
No
Information not available
17. Did the biodegradation experiments perfomred in the lab demonstrate a mineralization rate greater than 20% in 28 days?
Yes
No
Information not available
Previous
80% completed
Next


Government of Canada Gouvernement du Canada
Canada
Guide d'orientation pour la sélection de technologies
Guidance and Orientation for the Selection of Technologies
Français
Home
Contact Us
Help
Search
canada.gc.ca
Home > Questionnaire > Additional Questions (4/4)
Menu
Logout
Questionnaire
• New
• History
Technologies
Forms
Links
Your account
Partners
NRC-CNRC Canada
Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada
MCEBR
Additional Questions (4/4)
18. Percentage of organic material ?
< 1 %
Between 1 and 10%
> 10%
Information not available
Previous
95% completed
Finish


Gouvernement du Canada
Government of Canada
Canada
Guide d'orientation pour la sélection de technologies
Guidance and Orientation for the Selection of Technologies
English
Accueil
Contactez-nous
Aide
Recherche
canada.gc.ca
Accueil > Questionnaire > Historique
Menu
Déconnexion
Questionnaire
• Nouveau
• Historique
Technologies
Formulaires
Liens utiles
Remerciements
Votre compte
Partenaires
CANMET-MTEC
Canada
Travaux publics et Services gouvernementaux Canada
Public Works and Government Services Canada
CETMS
Details d'un questionnaire
Date: 2008-04-25 (13:02)
Descripteur:
Page 1
Page 2
Page 3
Page 4
Page 5
Page 6
Page 7
Page 8
Page 9
1. Type de traitement
Traitement in situ
Technologies correspondantes aux réponses :
Biologique (4)
Chimique (4)
Physique (6)
Thermique (2)
Récupération LPNA (1)
In situ (4)
Bioaugmentation in situ
Biobarbottage
Biostimulation aérobie
Biostimulation anaerobie
Ex situ (0)
Aucune technologie
Les fiches des technologies sont en format PDF.
Convertir ces résultats et technologies en PDF

Links

- Government of Canada
  - Environment Canada
    - Groundwater
    - Environmental Technology Centre
    - Contaminated Sites Remediation Technologies
    - BioBasics
  - Public Works and Government Services Canada
  - Canadian Council of Ministers of the Environment
- Provincial Governments
  - Quebec
    - Ministère du Développement durable, Environnement et Parcs
      - Centre d'expertise en analyse environnementale
      - Soil Protection and Rehabilitation of Contaminated Sites
      - Quebec's Water: A Resource to be Protected
  - Ontario
    - Ministry of the Environment
  - British Columbia
    - Ministry of Environment
      - Land Remediation
      - Contaminated Sites
- Canadian Paragovernmental Organizations
  - Montreal Centre for Excellence in Brownfield Rehabilitation
- Other
  - Foreign Governments
    - United States of America
      - Environmental Protection Agency

Questions ?