



## EXAMINATION GUIDE FOR EXAM CANDIDATES

### ROSTER OF APPROVED PROFESSIONALS EXAMINATION REGULATORY PART

#### Roster Qualifications and Functions

The Roster of Approved Professionals (the Roster) is a roster of individuals who have proven, through examination and experience, their expert knowledge in contaminated site assessment, management, and remediation.

Members of the Roster are authorized, under section 49(1) of the Contaminated Sites Regulation (CSR), to recommend to the British Columbia Ministry of Environment (MOE) issuance of Approvals in Principle, Certificates of Compliance, Determinations that a site is or is not contaminated, Contaminated Soil Relocation Agreements and approval of background release exemptions (based on Table 1 of Protocol 4) for low to moderate risk sites.

There are two categories of Approved Professionals: Standards Assessment Specialists, whose recommendations are based on application of the numerical standards of the CSR; and Risk Assessment Specialists, whose recommendations are based on application of the risk based standards of the CSR.

The qualifying examination is offered in three parts: Technical – Standards Assessment, Technical – Risk Assessment, and Regulatory. To be appointed to the Roster, candidates must achieve a pass in both the regulatory part and the technical part associated with the category in which they seek appointment. Candidates must satisfy all minimum requirements in the year of appointment.

More information on the Roster is available at [www.csapsociety.bc.ca](http://www.csapsociety.bc.ca).

#### Examination Format

**The examination is offered in a computer-based format and is held in a computer lab.** The Regulatory part of the examination consists of approximately **70 multiple-choice questions** worth 1 point each. Candidates will be given **4 hours** to complete the Regulatory part of the examination. A basic, non-programmable calculator (Texas Instruments TI-30Xa Solar), a #2 mechanical pencil, an eraser, writing papers and a package of page markers (eg *Post-it Brand* flags) will be provided to, and retrieved from, candidates with their examination paper. Candidates will not be permitted to use their own calculator or writing instruments.

A reference binder will **NOT** be supplied for the examination. Candidates will be provided with a list of reference materials (*see Attachment 2*) to help prepare for the examination. Candidates are expected to prepare their own reference materials which can be brought into and used during the examination. The examination is not limited to testing knowledge of only those materials in the reference list.

## **Objectives of the Regulatory Part of the Examination**

The objectives of the Regulatory part of the Examination include testing of the understanding and application of the statutes, regulations, guidance documents, protocols, policies and procedures governing the identification and remediation of contaminated sites. Successful candidates will also have a detailed understanding of how the identification, investigation and remediation of contaminated sites is regulated not only by the province but also by the federal government and will be able to understand and apply all conventions, provincial or federal, that pertain to contaminated sites practice in BC.

## **Examination Content and Guide to Preparation**

This Guide to Examination Candidates is intended to give candidates guidance in their preparation for the exam. The information contained in this document and its attachments is to assist only and is subject to change. Areas and materials not specifically mentioned may also be examined.

Information useful in preparing for the exam is included in the following attachments:

1. Syllabus
2. List of Reference Materials

*Revised September 2009*

## ATTACHMENT 1 – SYLLABUS

Candidates should read the Guide to Examination Candidates – Roster of Approved Professionals Examination – Regulatory before reading this syllabus. The percentage in brackets indicates the approximate percentage of the examination that will cover each major content area. **Any statute, regulation, guidance document, protocol, policy, procedure or other applicable convention pertaining to contaminated sites practice in BC is examinable.** However, particularly important areas of knowledge include:

- I. Site identification (10%)**
  - a. Site trigger
    - i. Offsite contamination
    - ii. Land transaction
  - b. Site Profile
  
- II. Site investigation (30%)**
  - a. Applicable legislation (federal and provincial)
  - b. Identification of potential contamination
  - c. Confirmation of contamination
    - i. Applicable numerical standards
    - ii. Background
    - iii. Exemptions
    - iv. Statistical
    - v. Definition of a contaminated site
  - d. Delineate contamination
  
- III. Notifications (5%)**
  - a. Offsite contamination
  - b. Independent remediation
  
- IV. Remediation (20%)**
  - a. Remediation standards
  - b. Regulatory remediation processes
  - c. Remediation plans
  - d. Confirm remediation
  
- V. Regulatory instruments (25%)**
  - a. Administrative forms
  - b. Determinations
  - c. Approval in principal
  - d. Certificate of compliance
  - e. Contaminated soil relocation agreements
  - f. Ministry only instruments (e.g. Orders and VRAs)
  - g. Federal Authorizations
  
- VI. Review process (10%)**
  - a. Ministry process
  - b. CSAP process
  - c. Performance Assessment

## ATTACHMENT 2 – LIST OF REFERENCE MATERIALS

Candidates should read the Guide to Examination Candidates–Roster of Approved Professionals Examination–Regulatory before reading this attachment. While many questions will be drawn from the following list of reference materials, questions may be drawn from any statute, regulation, guidance document, protocol, policy, procedure or other applicable convention pertaining to contaminated sites practice in BC.

### 1) LEGISLATION, REGULATIONS AND FEDERAL GUIDANCE

- a) Provincial <http://www.env.gov.bc.ca/epd/remediation/index.htm>
  - i) *Environmental Management Act*
  - ii) Contaminated Sites Regulation (January 1, 2009)
  - iii) Groundwater Protection Regulation
  - iv) Hazardous Waste Regulation (April 1, 2009)
  - v) *Islands Trust Act*
  - vi) *Land Title Act* (only section 85)
  - vii) *Water Act (Part 5)*
  - viii) *Local Government Act* (only section 946)
  
- b) Federal <http://www.canada.gc.ca/home.html>
  - i) *Fisheries Act* (only definitions and sections 34, 35 and 36)
  - ii) Transportation of Dangerous Goods Regulation (only part 2)
  
- c) CSAP <http://www.csapsociety.bc.ca>
  - i) CSAP Bylaws (May 15, 2008)
  - ii) CSAP Rules (March 2009)

### 2) PROCEDURES, PROTOCOLS, and POLICIES

- a) Procedures [http://www.env.gov.bc.ca/epd/remediation/policy\\_procedure\\_protocol/index.htm#2](http://www.env.gov.bc.ca/epd/remediation/policy_procedure_protocol/index.htm#2)
  - i) Use of Status Codes in SITE and the Site Registry
  - ii) Protocol for Assessment of Residues from Treatment or Incineration of Hydrocarbon Contaminated Special Wastes
  - iii) Procedures for Managing the Site Registry
  - iv) Procedures for the Roster of Approved Professionals
  - v) Procedure Regarding Exercise of Powers to Require Additional Remediation
  - vi) Management of Residues from Treatment of Hydrocarbon Contaminated Special Waste Drill Cuttings Treated by Using an Approved Biological Treatment Process
  - vii) Time and Expense Tracking
  - viii) Establishing the Boundaries of a Site (Draft)
  - ix) Procedures for Processing Site Profiles (Draft)
  
- b) Protocols [http://www.env.gov.bc.ca/epd/remediation/policy\\_procedure\\_protocol/index.htm#1](http://www.env.gov.bc.ca/epd/remediation/policy_procedure_protocol/index.htm#1)
  - i) Protocol 1: Guidance and Checklist for Tier 1 Ecological Risk Assessment of Contaminated Sites in British Columbia
  - ii) Protocol 2: Site-Specific Numerical Soil Standards
  - iii) Protocol 3: Blending, Mixing, or Dilution as a Remediation Approach
  - iv) Protocol 4: Determining Background Soil Quality
  - v) Protocol 6: Eligibility of Applications for Review by Approved Professionals
  - vi) Protocol 7: Regulation of Petroleum Hydrocarbons in Water under the Contaminated Sites and Special Waste Regulations
  - vii) Protocol 8: Security for Contaminated Sites
  - viii) Protocol 9: Determining Background Groundwater Quality
  - ix) Protocol 10: Hardness Dependent Site-Specific Freshwater Water Quality Standard for

Cadmium and Zinc

- x) Protocol 12: Site Risk Classification System
  - xi) Protocol 13: Screening Level Risk Assessment
  - xii) Protocol 14: Requirements for Determining Barite Sites
- c) Policies [http://www.env.gov.bc.ca/epd/remediation/policy\\_procedure\\_protocol/index.htm#3](http://www.env.gov.bc.ca/epd/remediation/policy_procedure_protocol/index.htm#3)
- i) Overview of CSST Procedures for the Derivation of Soil Quality Matrix Standards for Contaminated Sites
  - ii) Contaminated Sites Soil Task Group Workshop on the Development and Implementation of Soil Quality Standards for Contaminated Sites
  - iii) CSST Record of Response to Major Results and Recommendations Forthcoming From Eco-Workshop
  - iv) BC Environment Responses to Expert Panel Recommendations
  - v) Local Government Liability issues presented by the Waste Management Amendment Act, 1993, (Bill 26) and the Contaminated Sites Regulation, second draft, August 30, 1994
  - vi) Contaminated Sites Standards Review Workshop Report March 20-22, 1996 (M.M. Dillon Limited)
  - vii) New Directions for Regulating Contaminated Sites: A Discussion Paper
  - viii) External Review of Remediation Liability Provisions: The Waste Management Amendment Act, 1993
  - ix) Tier 1 Ecological Risk Assessment Policy Decision Summary
- d) Standards Policies & Criteria  
[http://www.env.gov.bc.ca/epd/remediation/standards\\_criteria/index.htm](http://www.env.gov.bc.ca/epd/remediation/standards_criteria/index.htm)
- i) Overview of CSST Procedures for the Derivation of Soil Quality Matrix Standards for Contaminated Sites
  - ii) CSST Policy Decision Summary
  - iii) Tier 1 Ecological Risk Assessment Policy Decision Summary
  - iv) Criteria for Managing Contaminated Sediment in British Columbia - Technical Appendix
  - v) Development and Applications of Sediment Quality Criteria for Managing Contaminated Sediment in British Columbia

### 3) GUIDANCE

- a) Technical Guidance <http://www.env.gov.bc.ca/epd/remediation/guidance/index.htm#1>
- i) TG1: Site Characterization and confirmation Testing
  - ii) TG2: Statistical Criteria for Characterizing a Volume of Contaminated Material
  - iii) TG3: Environmental Quality Standards
  - iv) TG4: Vapour Investigation and Remediation (Draft, July 2009)
  - v) TG5: Sampling and Determining Soil pH at Soil Relocation Receiving Sites
  - vi) TG6: Applying Water Quality Standards to Groundwater and Surface Water
  - vii) TG7: Supplemental Guidance for Risk Assessments
  - viii) TG9: Chlorophenol Aquatic Life Water Quality Standards
  - ix) TG10: Checklist for Reviewing a PSI: Preliminary Site Investigation
  - x) TG11: Checklist for Reviewing a DSI: Detailed Site Investigation
  - xi) TG12: Statistics for Contaminated Sites
  - xii) TG 13: Groundwater Model - (Version 2009 - Updated June 2009)
  - xiii) TG16: Soil Sampling Guide for Local Background Reference Sites
  - xiv) TG17: Background Soil Quality Database
  - xv) TG 18: Standards for Substance in Schedule 10 of the Contaminated Sites Regulation (Updated January 2009)
  - xvi) TG19: Technical Guidance on Contaminated Sediments:
    - (a) Volume I – An Ecosystem-Based Framework for Assessing and Managing Contaminated Sediments

- (b) Volume II – Design and Implementation of Sediment Quality Investigations in Freshwater Ecosystems
  - (c) Volume III – Interpretation of the Results of Sediment Quality Investigations
  - (d) Volume IV – Supplemental Guidance on the Design and Implementation of Detailed Site Investigations in Marine and Estuarine Ecosystems
- xvii) TG33: Applicability of Sodium (Na+) and Chloride (Cl-) Soil Relocation Standards to Marine and Estuarine Dredge Materials
- b) Administrative Guidance <http://www.env.gov.bc.ca/epd/remediation/guidance/index.htm#2>
- i) AG1: Completing and Submitting Site Profiles
  - ii) AG2: Site Profile Processing Requirements for Municipalities and Approving Officers
  - iii) AG3: Applying for Contaminated Sites Services
  - iv) AG4: The Site Information Request Process
  - v) AG5: Approved Professional Recommendations Relating to Low to Moderate Risk Sites
  - vi) AG6: Independent Remediation Where Local Government Approvals are Required
  - vii) AG7: Completing and Submitting and Application for a Soil Relocation Agreement
  - viii) AG8: Contaminated Soil Relocation Agreement Processing Requirements for Approved Professionals
- c) Ancillary Guidance
- i) BC Approved Water Quality Guidelines (2006 Edition)  
[http://www.env.gov.bc.ca/wat/wq/BCguidelines/approv\\_wq\\_guide/approved.html](http://www.env.gov.bc.ca/wat/wq/BCguidelines/approv_wq_guide/approved.html)
- d) Fact Sheets [http://www.env.gov.bc.ca/epd/remediation/fact\\_sheets/index.htm](http://www.env.gov.bc.ca/epd/remediation/fact_sheets/index.htm)
- i) FS1: Introduction to Contaminated Sites in BC
  - ii) FS11: Highlights for Realtors, Property Vendors and Purchasers
  - iii) FS23: The Use of Site Registry Status Codes
  - iv) FS34: Requirements for Responding to Offsite Contaminant Migration
  - v) FS35: Requirements for the Environmental Cleanup of Illegal Drug Manufacturing Sites
  - vi) FS41: Relocation of Soils from Contaminated Sites
- e) External Guidance <http://www.env.gov.bc.ca/epd/remediation/guidance/index.htm#4>
- i) Site Registry User's Guide
  - ii) Quantitative Human Health Risk Assessment - Phase 1 Review of Methods and Framework Recommendation. Prepared by Golder Associates Limited
- f) Forms <http://www.env.gov.bc.ca/epd/remediation/forms/index.htm>
- i) Site Profile
  - ii) Contaminated Sites Services
  - iii) Site Information Request
  - iv) File Contents Retrieval
  - v) Notification of Independent Remediation
  - vi) Contaminated Soil Relocation Agreement
  - vii) Summary of Site Condition Form
  - viii) Notification of Offsite Migration
- 4) **ANALYTICAL METHOD** [http://www.env.gov.bc.ca/epd/remediation/analytical\\_methods/index.htm](http://www.env.gov.bc.ca/epd/remediation/analytical_methods/index.htm)
- i) Analytical Method 7 - Aliphatic / Aromatic Separation of Extractable Petroleum Hydrocarbons in Solids or Water by Silica Gel Column Fractionation
  - ii) Analytical Method 9 - Soluble Barium by Calcium Chloride Extraction

**5) ROSTER OF APPROVED PROFESSIONALS FORM PACK**

<http://www.csapsociety.bc.ca/roster-of-approved-professionals/applicant-information/roster-of-approved-professionals-form-pack.html>

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