

**APPLICATION OF THE CCME CANADA-WIDE STANDARD FOR
PETROLEUM HYDROCARBONS IN SOIL: MANAGEMENT LIMITS**

1.0 Introduction

The purpose of this Information Bulletin is to provide guidance for the application of the management limits as described in the Canadian Council of Ministers of the Environment (CCME) Canada-Wide Standard for Petroleum Hydrocarbons in Soil (CWS-PHC). Manitoba Sustainable Development (the Department) has adopted the CCME CWS-PHC as the acceptable methodology when deriving remediation criteria for Petroleum Hydrocarbon (PHC) Fractions F1, F2, F3 and F4.

2.0 Discussion

The CCME CWS-PHC provides Tier 1 values for various applicable pathways, land uses, soil depths, and soil textures. Using the known characteristics of a site, the pathways that apply to a site are selected and those that do not apply are eliminated. The selected applicable pathway now becomes the appropriate Tier 1 remediation criteria for that site.

Management limits are one of the pathways established in the CCME Tier 1 CWS-PHC and are meant to account for effects of PHC contamination that are not accounted for in other pathways including:

- free phase formation;
- exposure of workers in trenches to PHC vapours;
- fire and explosive hazards;
- effects on buried infrastructure; and
- aesthetic considerations.

The CCME CWS-PHC framework incorporates successive tiers:

- (1) the application of generic (national) Tier 1 levels that are protective of human health and the environment,
- (2) site-specific adjustments to the Tier 1 levels to calculate Tier 2 levels that accommodate unique site characteristics, and

- (3) Tier 3 levels that are developed from a site specific ecological and/or human health risk assessment, when assumptions inherent in the Tier 1 values are not appropriate for a site.

It is important to note that management limits are considered to apply at all soil depths, are applicable to all sites, and cannot be eliminated as a pathway in Tier 1 or Tier 2 assessments. Under the CCME CWS-PHC framework, management limits cannot be adjusted at the Tier 2 level.

Where the Tier 2 pathway adjustments result in values greater than the management limit, the management limit is adopted as the remediation criteria. Where the value of any other pathway is lower than the management limit, that value for the applicable pathway is used as the remediation criteria.

3.0 Guidance Summary

As the authority having jurisdiction, the Department gives the following guidance on the use of management limits when using CCME CWS-PHC Tier 1 values to derive remediation criteria for sites in Manitoba:

1. The management limits cannot be eliminated as a pathway when deriving remediation criteria from the values shown in the Tier 1 CWS-PHC.
2. Management limits for PHC fractions F1, F2, F3 and F4 are considered to apply at all soil depths.
3. Management limits cannot be adjusted at the Tier 2 level.

4.0 For more information contact:

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References

Canadian Council of Ministers of the Environment (CCME), 2008a Canada-Wide Standard (CWS) for Petroleum Hydrocarbons (PHC) in Soil

CCME 2008b Canada-wide Standard for Petroleum Hydrocarbons in Soil: Technical Supplement

CCME 2008c Canada-wide Standard for Petroleum Hydrocarbons in Soil: Scientific Rationale, Publication Number 1399

CCME 2008d Canada-wide Standard for Petroleum Hydrocarbons in Soil: User Guidance, PDF Publication Number 1398