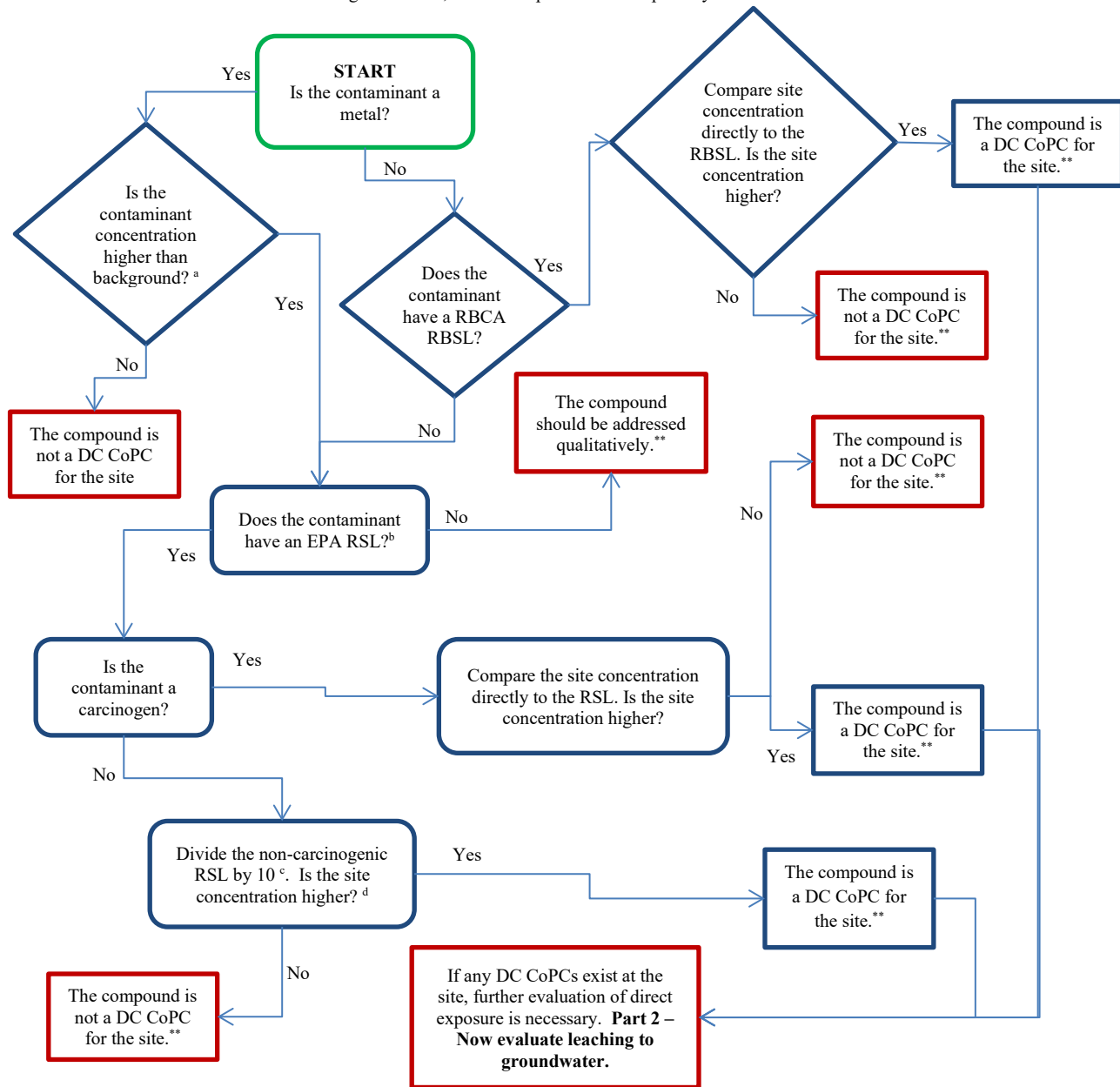


Surface and Subsurface Soil Screening Flowchart

Part 1 – Direct Exposure

Note: For volatile contaminants in soil or groundwater, evaluate vapor intrusion separately.

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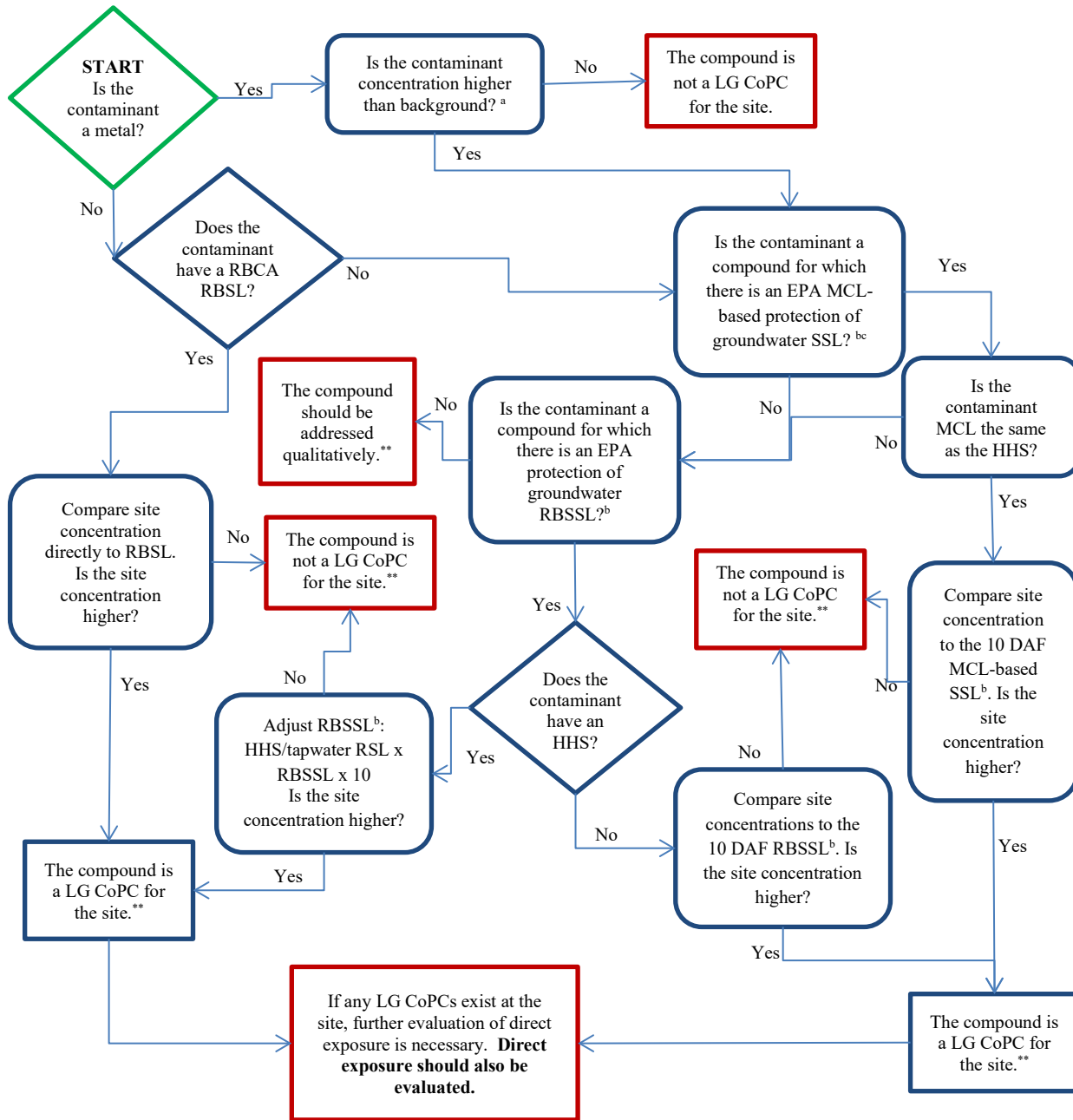
****Now Evaluate Leaching to Groundwater (Part 2) for complete screening**

- a = 2013 MT DEQ Inorganic Background Study Background Threshold Values (BTVs) Table 4-4 applies to both surface and subsurface soil
 - b = Use residential EPA RSLs for screening of both surface and subsurface soils (where RBSLs do not exist) to ensure adequate protection of construction workers (commercial/industrial numbers are not adequately protective in many cases due to soil ingestion assumptions).
 - c = Assumes use of the HQ=1 version of the RSL Summary table and should be performed for all non-carcinogenic compounds except for lead (see footnote d). Pay attention to the "***" footnote in the RSL table, as it requires you to also look at the HQ=0.1 table; use the RSL that is the lesser value of the two tables. If using the HQ=0.1 RSL table for initial screening, do not divide non-carcinogenic compounds by 10.
 - d = For lead do not use the RSL: DEQ uses a 5 µg/dL blood lead level endpoint for the IEUBK model. For residential soil use 200 mg/kg, and for commercial/industrial and construction scenarios use 696 mg/kg.
- CoPC = contaminant of potential concern
 DC = Direct contact (i.e., ingestion, inhalation, and dermal exposure)
 EPA = Environmental Protection Agency
 RBCA = Montana Risk-Based Corrective Action Guidance for Petroleum Releases
 RBSL = Most current risk-based screening level from Table 2 (All Soil RBSLs Table)
 RSL = Most current EPA regional screening level for residential soil

References:

- https://deq.mt.gov/Files/Land/StateSuperFund/Documents/FAQ/Table_4-4.pdf
- <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>
- https://deq.mt.gov/files/Land/StateSuperFund/Documents/rbca/Update/Final%20RBCA%202024%20Update_Compiled%20PDF.pdf
- <https://deq.mt.gov/Files/Land/StateSuperFund/Documents/2021LeadScreeningMemo.pdf>

**Surface and Subsurface Soil Screening Flowchart
Part 2 – Leaching to Groundwater**



Note: For volatile contaminants in soil or groundwater, evaluate vapor intrusion separately.

****Direct exposure (Part 1) should also be evaluated for complete screening**

a = 2013 MT DEQ Inorganic Background Study Background Threshold Values (BTVs) Table 4-4 applies to both surface and subsurface soil

b = Assumes use of the HQ=1 version of the RSL Summary table; use of HQ=0.1 RSL table will result in incorrect leaching values for non-carcinogenic compounds.

c = For PCBs the total concentration of PCBs for each sample is compared to the most current 10 DAF MCL-based SSL.

CoPC = contaminant of potential concern

DAF = dilution attenuation factor

EPA = Environmental Protection Agency

HHS = Most current DEQ-7 human health standard for groundwater

LG = leaching to groundwater

MCL – EPA maximum contaminant level

RBCA = Montana Risk-Based Corrective Action Guidance for Petroleum Releases

RBSL = Most current risk-based screening level from Table 2 (All Soil RBSLs Table)

RBSSL = Most current EPA risk-based soil screening level (HQ=1 RSL table)

RSL = Most current EPA regional screening level (HQ=1 RSL table)

SSL = Most current EPA soil screening level (HQ=1 RSL table)

References:

https://deq.mt.gov/Files/Land/StateSuperFund/Documents/FAQ/Table_4-4.pdf

<https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>

https://deq.mt.gov/files/Land/StateSuperFund/Documents/rbca/Update_Final%20RBCA%202024%20Update_Compiled%20PDF.pdf

https://deq.mt.gov/Files/Land/StateSuperFund/Documents/DEQ-7_June2019_Final.pdf?ver=2019-07-16-085110-630

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