

# ERRATA SHEET

Project No.: 110207-009-04

July 10, 2020

**To:** Andy Kallus, Washington State Department of Ecology

**cc:** Mike Brose and Bryan Lust, Kimberly-Clark

**From:**



**Steve Germiot, LHG**  
Principal Hydrogeologist  
sgermiot@aspectconsulting.com

**Re: Correction to Table 2 (Soil Cleanup Levels)  
in Work Plan for Second Interim Action  
Kimberly-Clark Worldwide Site Upland Area, Everett, Washington**

---

This errata sheet provides a correction to interim action soil cleanup levels presented in Table 2 of the “Work Plan for Second Interim Action for the Kimberly-Clark Worldwide Site Upland Area,” dated December 13, 2019 (Aspect, 2019).

Specifically, the soil cleanup levels for total polychlorinated biphenyls (PCBs) in unsaturated soil and saturated soil have been corrected to include concentrations protective of leachability to groundwater, which were erroneously omitted from the original Table 2. The corrected cleanup levels for total PCBs are 0.12 milligrams per kilogram (mg/kg) for saturated soil and 2.4 mg/kg for unsaturated soil. The attached Table 2 includes those corrected soil cleanup levels. There are no additional changes to the soil cleanup levels.

## Reference

Aspect Consulting, LLC (Aspect), 2019, Work Plan for Second Interim Action, Kimberly-Clark Worldwide Site Upland Area, Everett, Washington, December 13, 2019.

## Attachment

Table 2 – Soil Cleanup Levels for Interim Action

V:\110207 KC Everett Mill\Deliverables\Work Plan - Second IA\FINAL IA WP\Errata Sheet\_Work Plan for 2nd IA Table 2.docx

**Table 2 - Soil Cleanup Levels for Interim Action**

Project No. 110207, K-C Worldwide Site Upland Area, Everett, Washington

ANALYTE (BY GROUP)	Groundwater Preliminary Cleanup Level (ug/L)	APPLICABLE SOIL CRITERIA										Most Stringent Soil Preliminary Cleanup Level (mg/kg)	
		Soil Protective of Groundwater					Groundwater Exceedances Confirmed Empirically for Analyte? <sup>d</sup> (Y = yes; blank = no)	Soil, Method A, Industrial Land Use, Table Value (mg/kg) <sup>e</sup> (mA)	Soil Protective of Human Direct Contact	Natural Background Concentration (mg/kg) <sup>f</sup> (back)	Practical Quantitation Level (PQL) (mg/kg) <sup>g</sup> (pql)		
		Constants and Coefficients <sup>a</sup>			Calculated Values								
		Koc (Soil Organic Carbon-Water Partitioning Coefficient for organics) (L/kg)	K <sub>d</sub> (Distribution Coefficient for metals) (L/kg)	Henry's Law Constant (Hcc; unitless)	Unsaturated Soil Concentration Protective of Leachability to Groundwater for Industrial Land Use (mg/kg) <sup>b</sup> (gwL-u)	Saturated Soil Concentration Protective of Leachability to Groundwater for Industrial Land Use (mg/kg) <sup>c</sup> (gwL-s)						Soil, Method C, Most-Restrictive Standard Formula Value, Direct Contact, Industrial Land Use (mg/kg) <sup>a</sup> (mC)	Unsaturated Soil
<b>Total Petroleum Hydrocarbons<sup>j</sup></b>													
Gasoline Range Hydrocarbons	1000						Y	100			5	100 (mA)	100 (mA)
Diesel Range Hydrocarbons	500						Y	2000			25	2000 (mA)	2000 (mA)
Oil Range Hydrocarbons	500						Y	2000			100	2000 (mA)	2000 (mA)
<b>Metals</b>													
Arsenic	5		29	0.00E+00	2.9	0.15	Y		88	20	1	20 (back)	20 (back)
Copper	3.1		22	0.00E+00	1.4	0.069	Y		140,000	36	1	36 (back)	36 (back)
Lead	8.1		10000	0.00E+00	1600	81	Y	1000		24	1	1000 (mA)	81 (gwL-s)
Mercury	0.025		52	4.70E-01	0.026	0.0013	Y		1,050	0.07	0.1	0.1 (pql)	0.1 (pql)
Nickel	8.2		65	0.00E+00	11	0.54	Y		70,000	48	1	48 (back)	48 (back)
Zinc	81		62	0.00E+00	100	5	Y		1,100,000	85	1	100 (gwL-u)	85 (back)
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>													
Acenaphthene	30	4,900		6.4E-03	23	1.2	Y		210,000		0.03	23 (gwL-u)	1.2 (gwL-s)
Acenaphthylene	30	4,900			23	1.2			210,000		0.03	210,000 (mC)	210,000 (mC)
Anthracene	100	23,493		2.7E-03	370	18			1,100,000		0.03	1,100,000 (mC)	1,100,000 (mC)
Benzo(g,h,i)perylene	8								110,000		0.03	110,000 (mC)	110,000 (mC)
Fluoranthene	6	49,096		6.6E-04	46	2.3			140,000		0.03	140,000 (mC)	140,000 (mC)
Fluorene	10	7,707		2.6E-03	12	0.61			140,000		0.03	140,000 (mC)	140,000 (mC)
Phenanthrene	100								1,100,000		0.03	1,100,000 (mC)	1,100,000 (mC)
Pyrene	8	67,992		4.5E-04	85	4.3			110,000		0.03	110,000 (mC)	110,000 (mC)
1-Methylnaphthalene	1.5	2,528		2.1E-02	0.6	0.03			4,500		0.03	4,500 (mC)	4,500 (mC)
2-Methylnaphthalene	32	2,478		2.1E-02	13	0.63	Y		14,000		0.03	13 (gwL-u)	0.63 (gwL-s)
Naphthalene	89	1,191		2.0E-02	17	0.86	Y		70,000		0.03	17 (gwL-u)	0.86 (gwL-s)
Total cPAHs TEQ	0.015	1,350,000		1.3E-03	3.2	0.16	Y		131		0.015	3.2 (gwL-u)	0.16 (gwL-s)
<b>Polychlorinated Biphenyls (PCBs)</b>													
Total PCBs (sum of aroclors)	0.05	309,000		7.8E-03	2.4	0.12	Y	10	66		0.10	2.4 (gwL-u)	0.12 (gwL-s)

**Notes:**

- a Values obtained from Ecology's CLARC database, July 2015 update.
- b Calculated values from three-phase model, per MTCA Equation 747-1, with groundwater value (Cw) as most stringent land-use-specific groundwater cleanup level, site-specific f<sub>oc</sub> = 0.0078, and MTCA-default dilution factor = 20. WAC 173-340-747 provides multiple additional means to evaluate soil concentrations protective of groundwater.
- c Calculated values from three-phase model, per MTCA Equation 747-1, with groundwater value (Cw) as most stringent land-use-specific groundwater cleanup level, site-specific f<sub>oc</sub> = 0.0078, and MTCA-default dilution factor = 1. WAC 173-340-747 provides multiple additional means to evaluate soil concentrations protective of groundwater.
- d If the existing empirical groundwater data demonstrate no groundwater exceedances for a compound, the soil-leachability-to-groundwater pathway is considered incomplete for that compound across the site, and the calculated soil-protective-of-groundwater criteria are not included for establishing that compound's PCLs for the site.
- e Because Upland Area groundwater is not a practicable source of drinking water, many Method A soil cleanup levels are not applicable. Method A soil cleanup levels are used for TPH, lead, and arsenic (natural background).
- f Natural background values for metals from Natural Background Soil Metals Concentrations in Washington State (Ecology, 1994), except arsenic which is from MTCA (WAC 173-340-900, Table 720-1).
- g Analytical method reporting limits. PQLs for total cPAH (TEQ) are adjusted for TEFs.