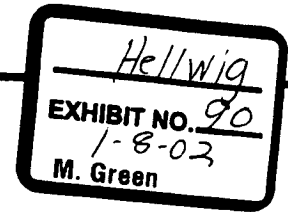


Hellwig, Raymond



From: Marchioro, Joan (ATG) [JoanM2@ATG.WA.GOV]
Sent: Wednesday, November 22, 2000 9:57 AM
To: Hellwig, Raymond
Subject: FW: New Method A Soil Cleanup Levels

this is not to be produced as deliberative but needs to be identified in the list to ACC and any other public disclosure requesters.

—Original Message—

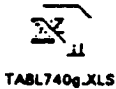
From: Yee, Chung K.
Sent: Monday, September 11, 2000 4:10 PM
To: Marchioro, Joan (ATG)
Subject: FW: New Method A Soil Cleanup Levels

A large, stylized handwritten signature, possibly "M. Green", written in black ink.

—Original Message—

From: Kmet, Peter
Sent: Monday, September 11, 2000 3:44 PM
To: Yee, Chung K.
Cc: Fitzpatrick, Kevin
Subject: New Method A Soil Cleanup Levels

Here are a series of tables showing the calculations for the new Method A soil cleanup levels and providing a comparison to the current Method A values.



As I noted in our phone conversation, one point I didn't include in my earlier comments was ground water monitoring. I still think it would make sense to require that given the magnitude of the fill.

You asked whether I thought the Method A values could be used as a basis for defining clean fill. I understand there are some concerns about whether this can be done legally. Putting aside that issue for the moment, as I look at the Method A cleanup values in light of this use, several thoughts come to mind:

We believe the current standards are not protective for several chemicals. That is why we are proposing new values. You should require them to use the new standards (assuming we end up adopting them).

One exception is arsenic. I think you need to look carefully at that value as the calculations indicate the current Method A arsenic soil cleanup level may not always be protective. We plan to revisit that value in a future rule-making. In the interim, you may want to use a background value instead of Method A. The statewide study we had the USGS do found background in uncontaminated areas at 7 PPM.

As I re-look at this attachment in the context of defining clean fill, the other values that jump out are those for diesel, heavy oil and mineral oil. The proposed values may be protective but they by no means define clean fill. You may want to go with the current Method A value of 200 PPM for those.

Also, all of these values are based on human health exposure pathways and do not take into account

ecological concerns. I assume that will be an issue at this site since it will take several years for the fill to be completed and the soil will be exposed during that time and, even after completion, some soil could be exposed. For those reasons, you may want to use the values cited for terrestrial ecological protection in table 2 in the attachment (I would use the ecological indicator concentrations).

As for the legal question, you would need to ask an AG for an opinion on that. My own feeling is that, regardless of the legal answer, you need to have a basis for the standards. If they happen to coincide with the MTCA standards, so be it.

AR 017787

Table 1: Quick Summary – Basis for Method A, Table 740-1, Unrestricted Land Use Soil Values

Hazardous Substance	CAS Number	Current Method A Cleanup Level mg/kg	Proposed Method A Cleanup Level mg/kg	Basis for Standard
Arsenic	7440-38-2	20.0	20	Soil ingestion using equation 740-2, and leaching using 3-phase model, adjusted for natural background (1).
Benzene	71-43-2	0.5	0.03	Protection of drinking water – based on both 3 and 4 phase models
Benzofluoranthene	50-32-8	none	0.1	Soil ingestion using equation 740-2. This can also be used as the total toxic equivalents for all cPAHs. See WAC 173-340-700(0)
Cadmium	7440-43-9	2	2	Protection of drinking water, adjusted for PQL.
Chromium (total)	7440-47-3	100.0	none	Replaced by values for Cr III and Cr VI.
Chromium VI	16540-28-9		19	Protection of drinking water-3 phase model.
Chromium III	16065-83-1		2000	Protection of drinking water-3 phase model.
DDT	50-29-3	1	3	Soil ingestion using equation 740-2.
Ethylbenzene	100-41-4	20.0	6	Protection of drinking water-3 phase model.
Ethylene dibromide (EDB)	106-93-4	0.001	0.005	Protection of drinking water-3 phase model, adjusted for PQL.
Lead	7439-92-1	250.0	250	Soil ingestion. See 1991 responsiveness summary for explanation of calculation. (1)
Lindane	58-89-9	1	0.01	Protection of drinking water-3 phase model, adjusted for PQL.
Methylene chloride	75-09-2	0.5	0.02	Protection of drinking water-3 phase model.
Mercury (inorganic)	7439-97-6	1	2	Protection of drinking water-3 phase model.
MTBE	1634-04-4	none	0.1	Protection of drinking water-3 phase model.
Naphthalenes	91-20-3	none	5	Protection of drinking water-3 phase model. Total of all naphthalene, 1-methyl naphthalene and 2-methyl naphthalene.
PAHs (carcinogenic)		1.0	none	Replaced by Benzo(a)Pyrene, above.
PCB Mixtures	1336-36-3	1	1	ARAR. This is a total value for all PCBs in the soil sample.
Tetrachloroethylene	127-18-4	0.5	0.05	Protection of drinking water-3 phase model.
Toluene	108-88-3	40.0	7	Protection of drinking water-3 phase model.
1,1,1 Trichloroethane	71-55-6	20	2	Protection of drinking water-3 phase model.
Trichloroethylene	79-01-5	0.5	0.03	Protection of drinking water-3 phase model.
Xylenes	1330-20-7	20.0	9	Protection of drinking water-3 phase model. Total of all m, o & p xylene.
TPH (total)	14280-30-9			
Gasoline range organics	6842-59-6		30	Protection of drinking water-4 phase model, assuming weathered gasoline composition.
GRO with benzene		100	100 (3)	Protection of drinking water-4 phase model, assuming highly weathered gasoline composition.
GRO w/o benzene		100	2000	Protection of drinking water-residual saturation
Diesel Range Organics		200	2000	Protection of drinking water-residual saturation for diesel.
Heavy Oils		200	4000	Protection of drinking water-residual saturation
Electrical Insulating Mineral Oil		200 (2)		

(1) Ecology decision not to change at this time. Ecology intends to review and, if appropriate, update these values in a future rulemaking.

(2) Ecology has also issued a fact sheet (#95-157-TCF) allowing the use of 2000 mg/kg at electrical substations and switchyards.

(3) To use this value no benzene must be present in the soil and the aromatic EC 8 to EC 16 fractions must be less than 20% of the gasoline mixture.