Proposed Cleanup Criteria Rules Informational Session

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Michigan Department of Environmental Quality
Remediation and Redevelopment Division

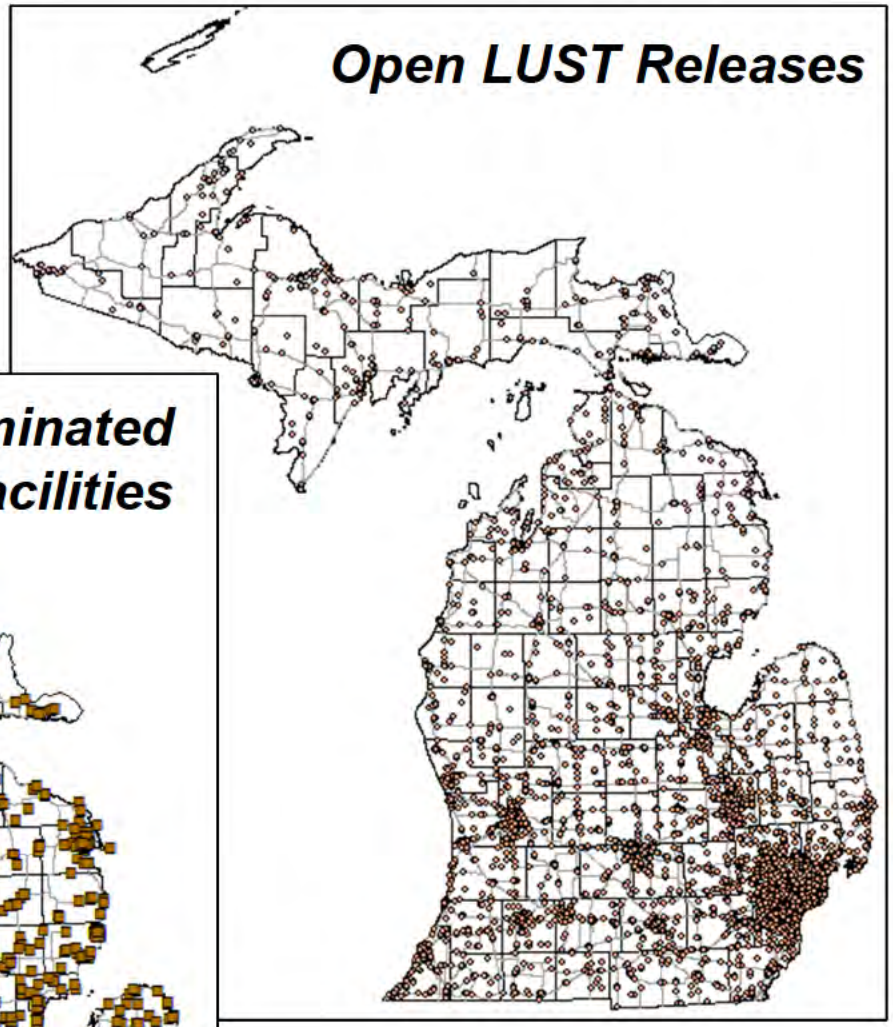
Leaking UST Releases

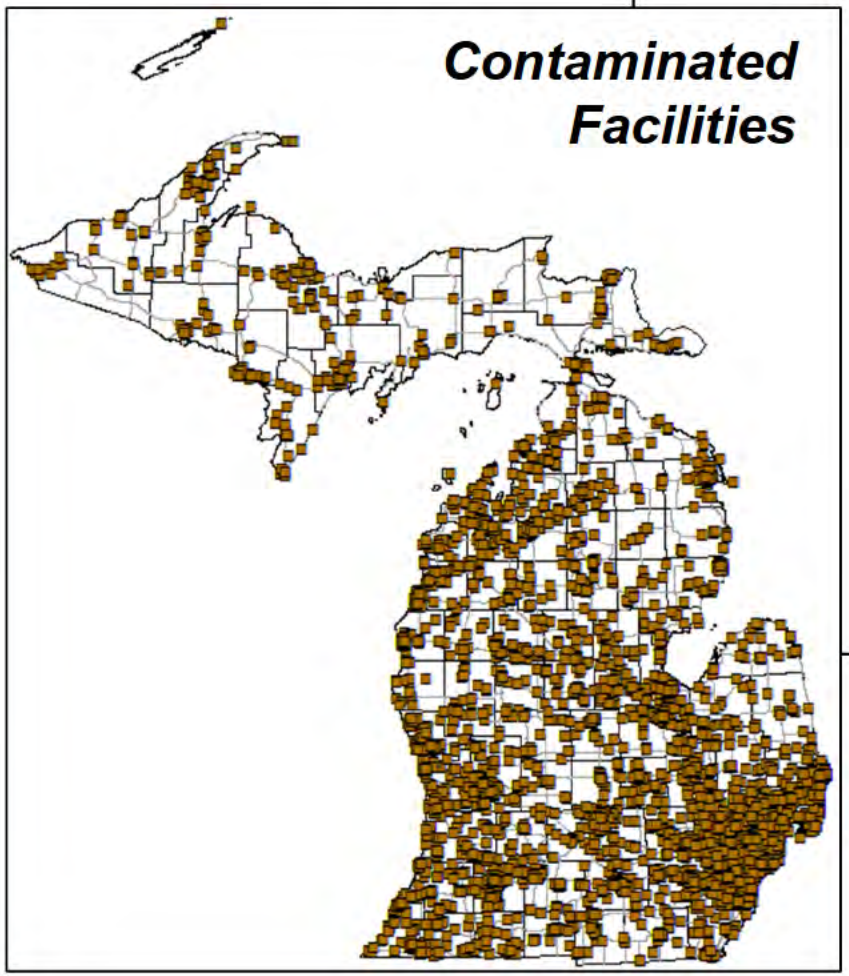
Contaminated Facilities

Brownfield Grants & Loans

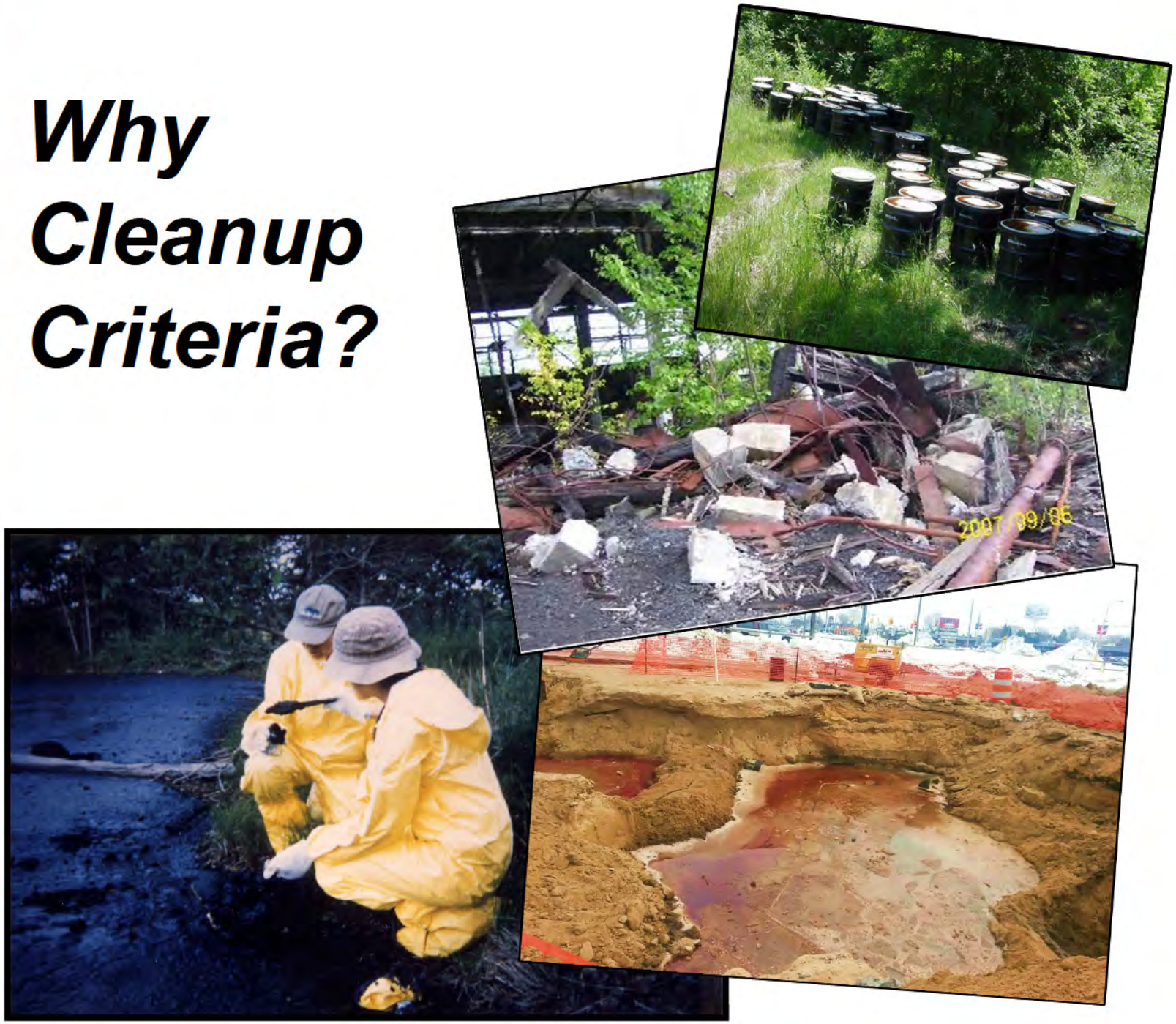
Superfund

Hazardous Substances Released to the Environment



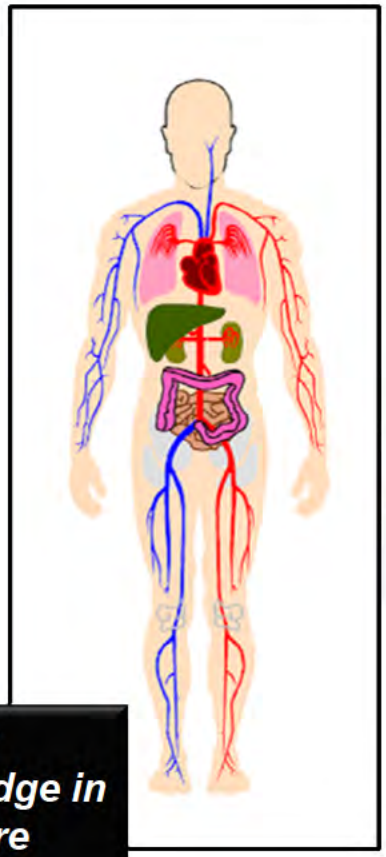


Why Cleanup Criteria?



Create a future for Michigan where the risks posed by contaminated properties are reliably managed, properties are productively redeveloped, and our environment is protected.

Why update the Generic Cleanup Criteria?



Greater Knowledge in Exposure Effects

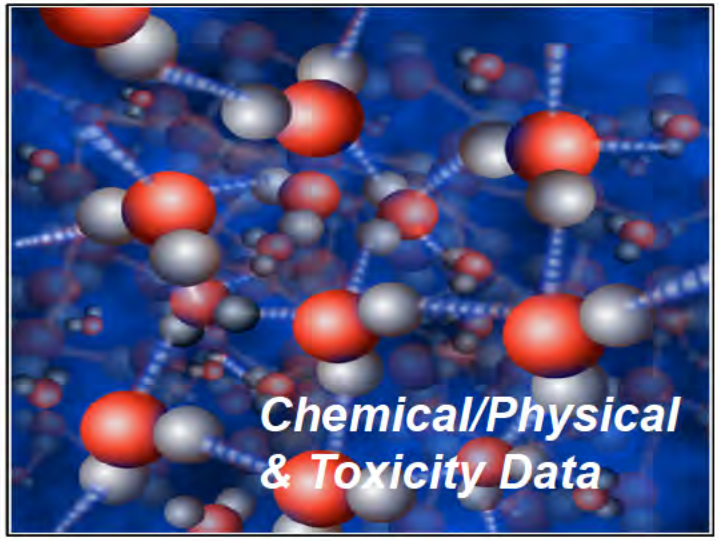
Advances in Chemical Knowledge

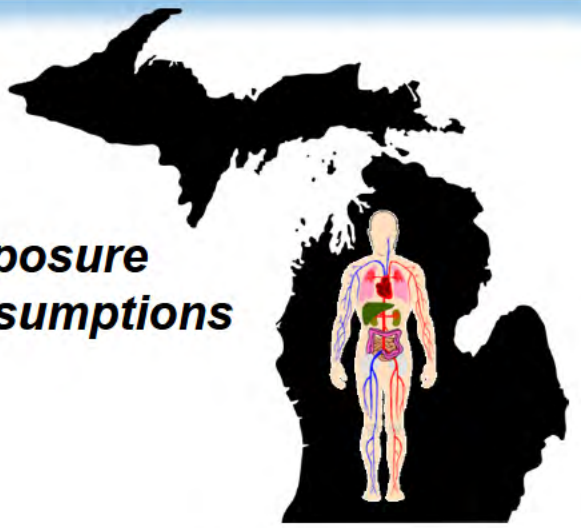
Last Update: 2002

Legislative Mandate

What are the updates to the Generic Cleanup Criteria?

How are the Generic Cleanup Criteria updated?

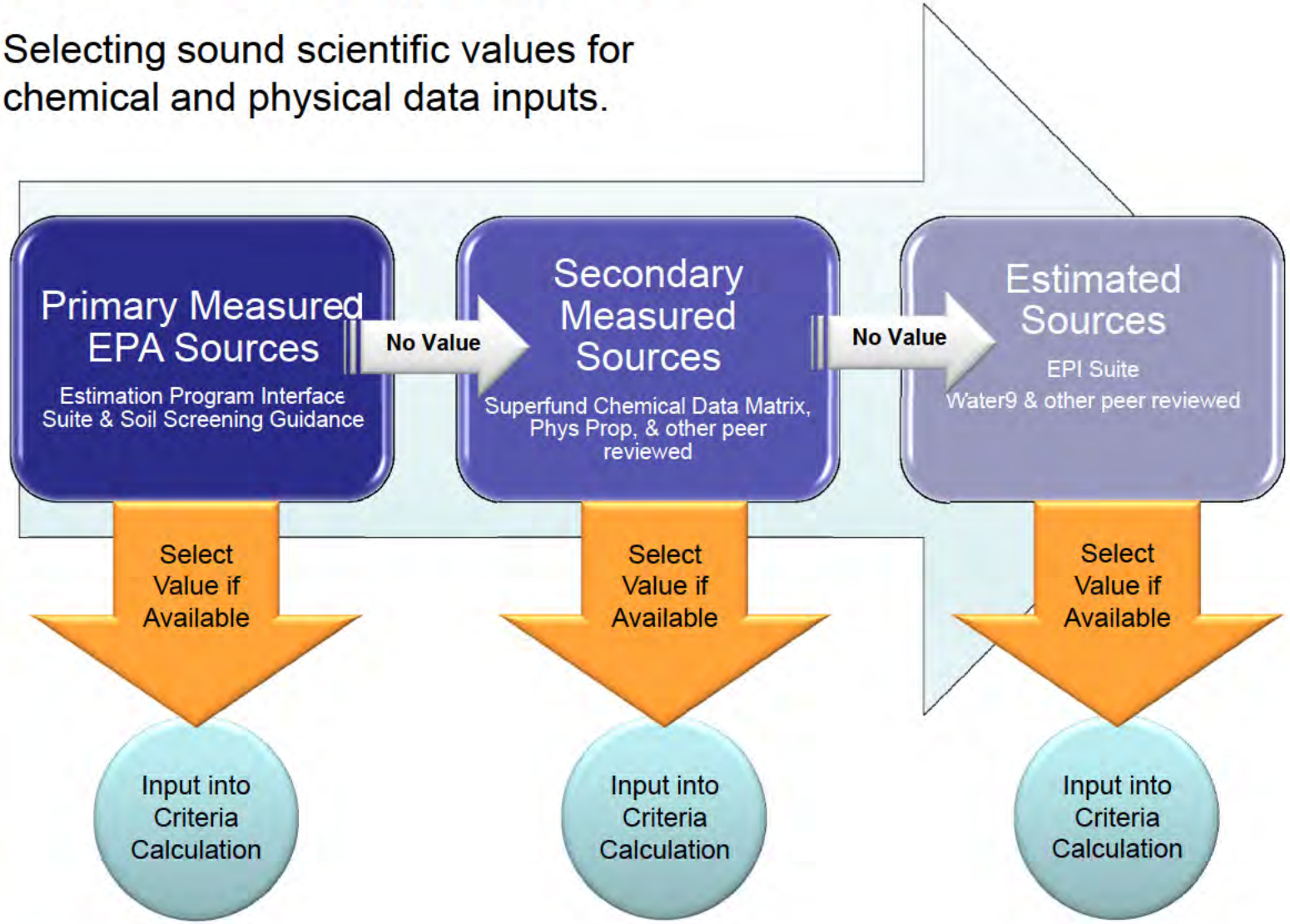




Criteria Stakeholders Advisory Group Guiding Principles

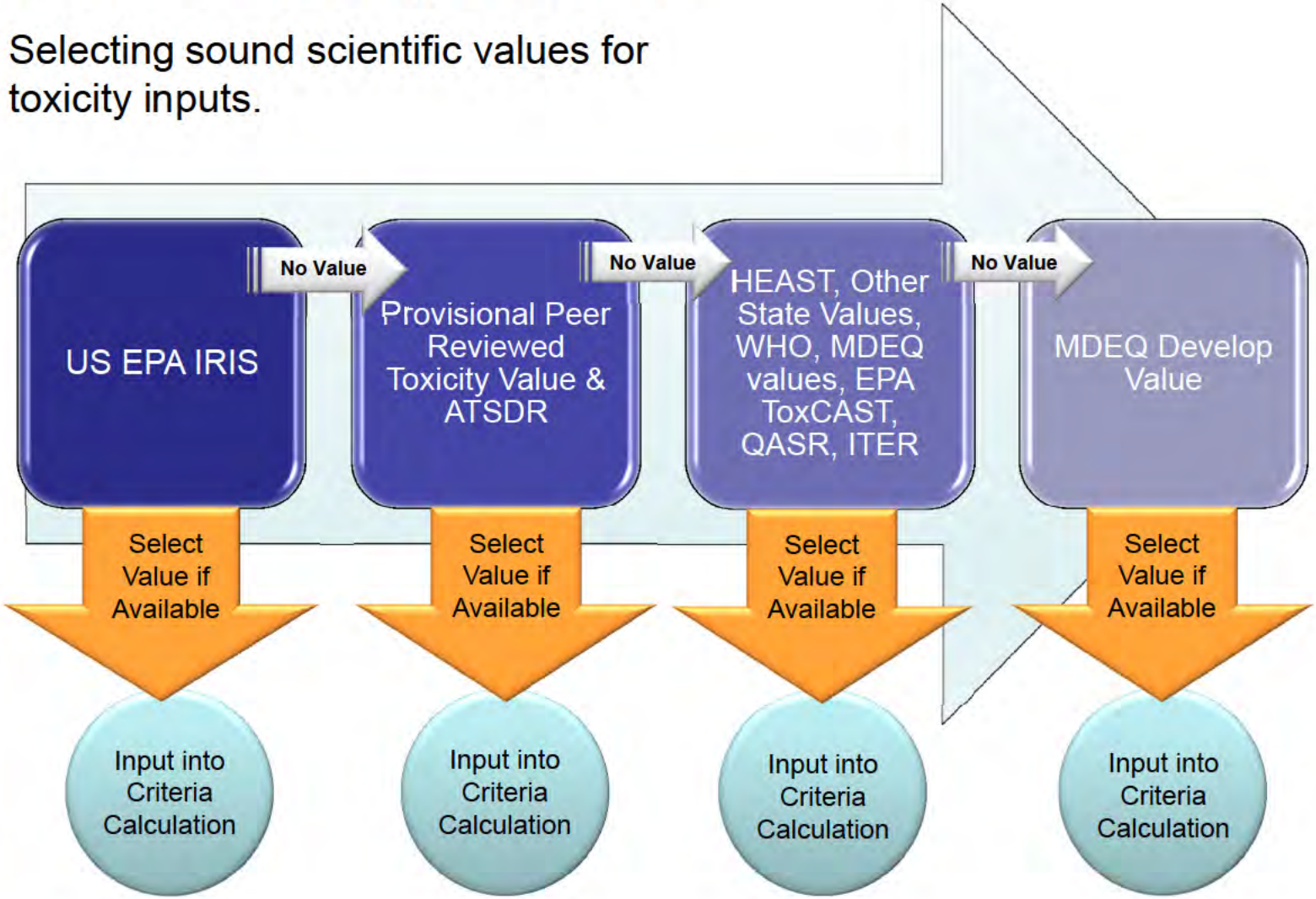
What is the Process for Updating the Generic Cleanup Criteria?

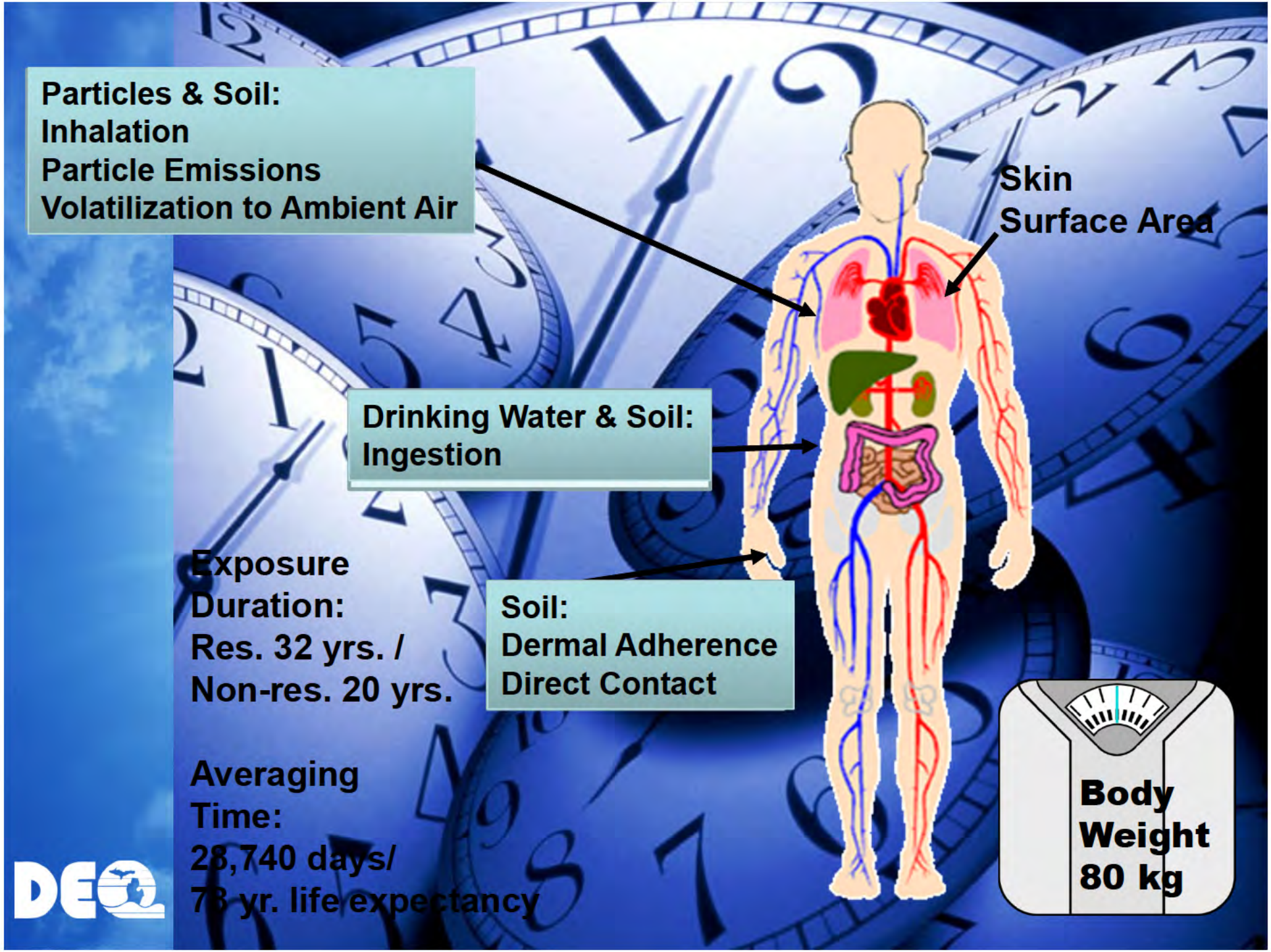
Selecting sound scientific values for chemical and physical data inputs.

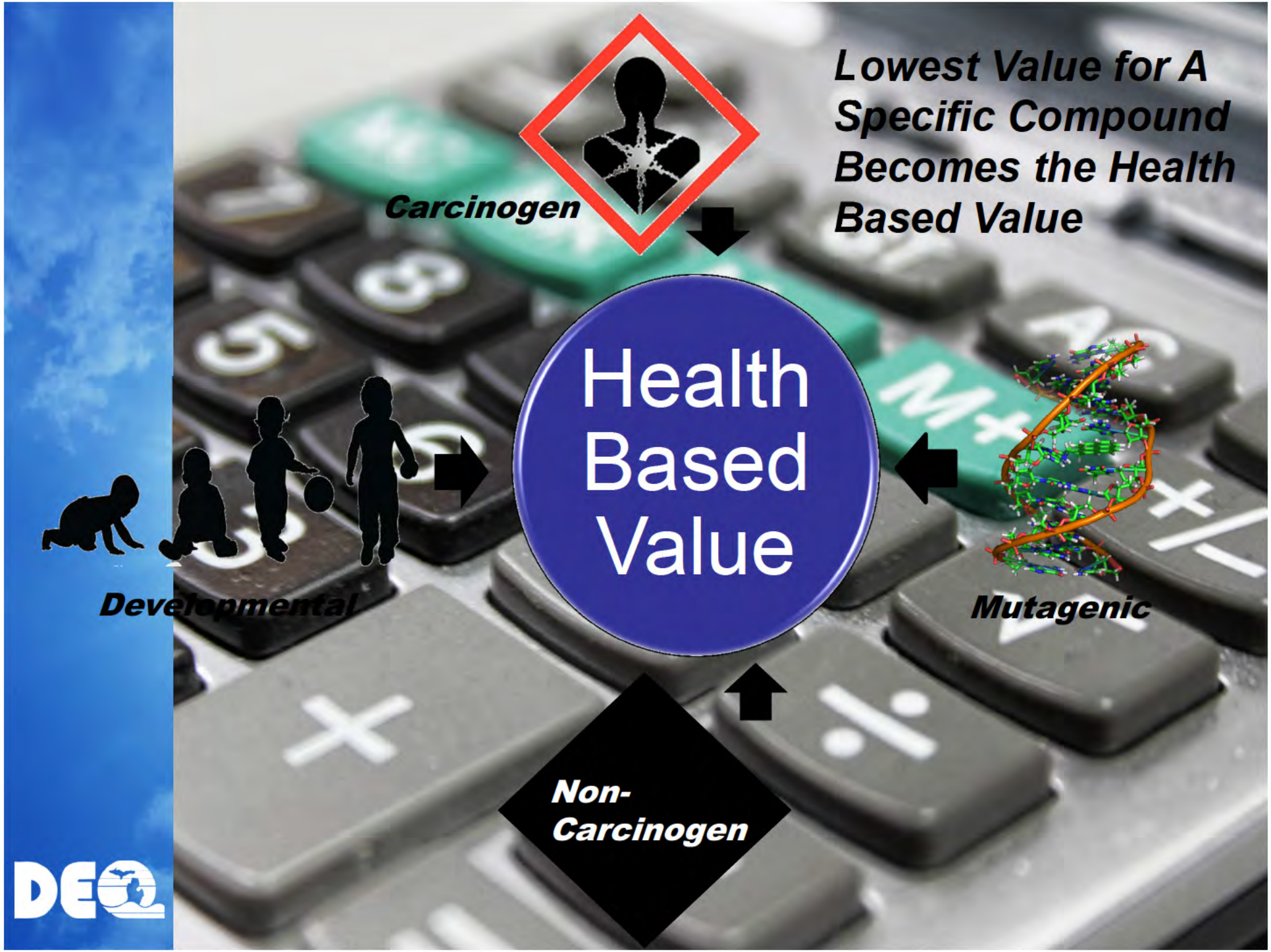


What is the Process for Updating the Generic Cleanup Criteria?

Selecting sound scientific values for toxicity inputs.




Particles & Soil:
Inhalation
Particle Emissions
Volatilization to Ambient Air
Skin
Surface Area
Drinking Water & Soil:
Ingestion
Exposure
Duration:
Res. 32 yrs. /
Non-res. 20 yrs.
Soil:
Dermal Adherence
Direct Contact
Averaging
Time:
28,740 days/
78 yr. life expectancy
Body
Weight
80 kg

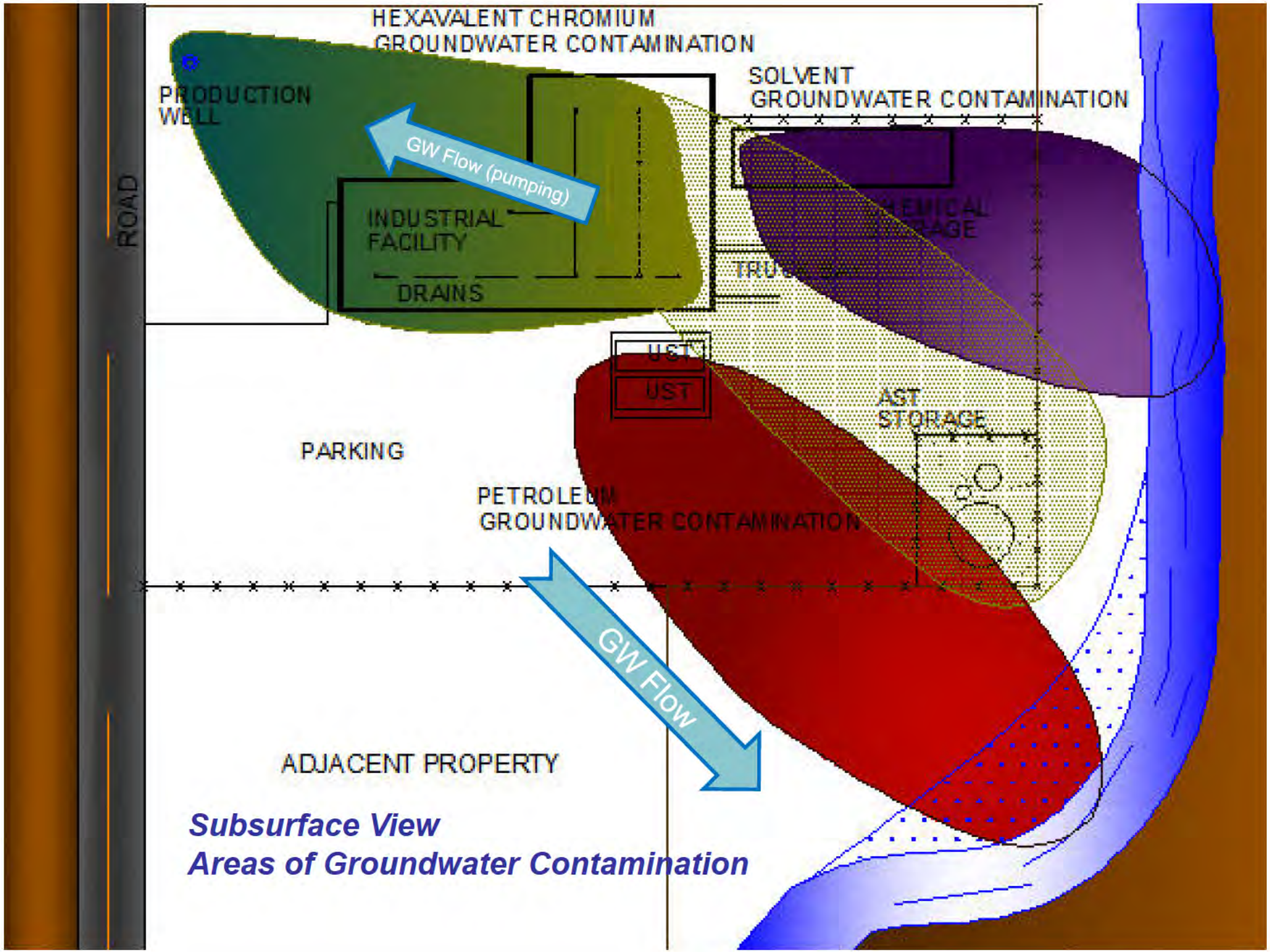

Lowest Value for A Specific Compound Becomes the Health Based Value
Carcinogen
Health Based Value
Developmental
Mutagenic
Non-Carcinogen

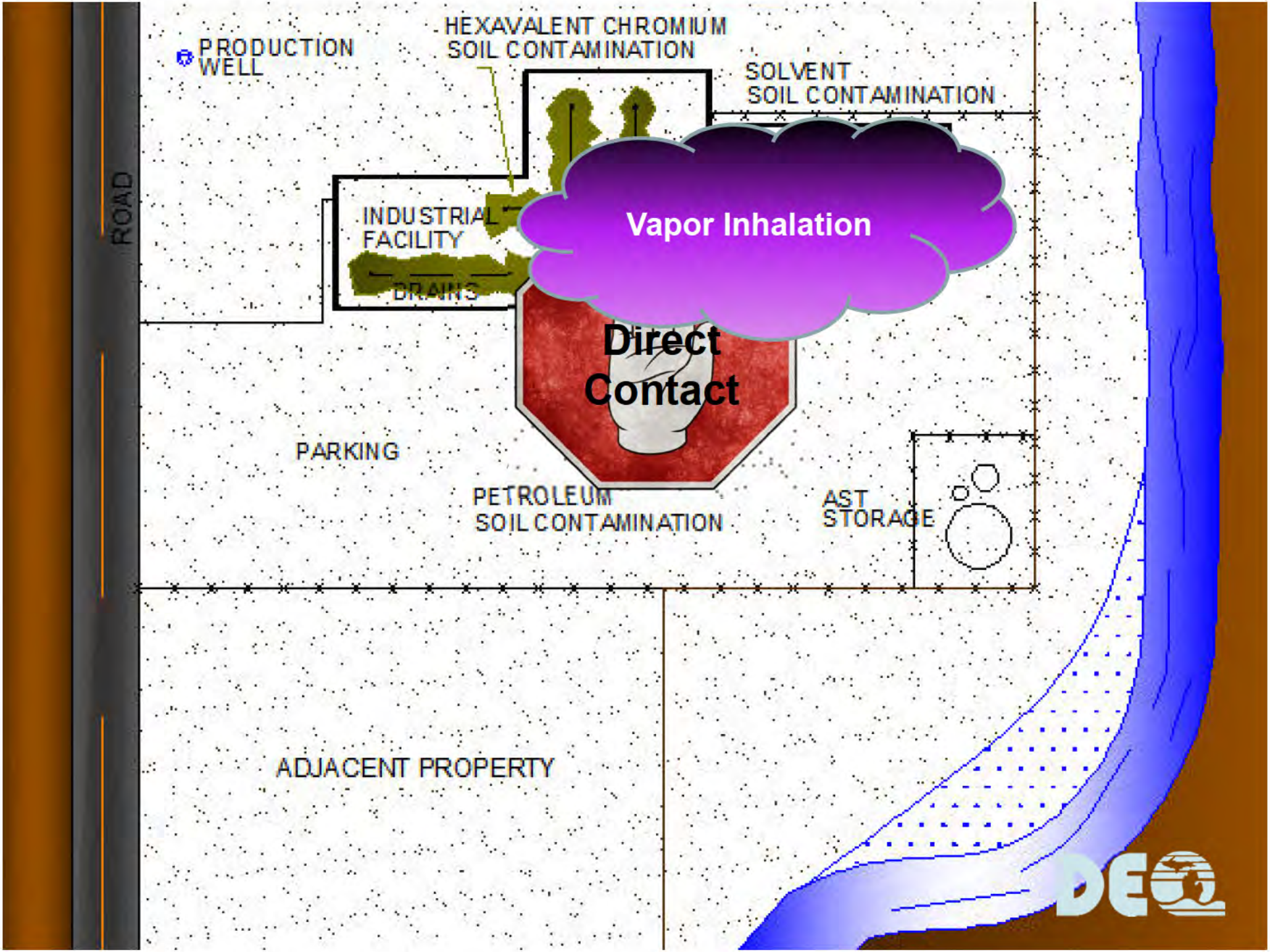
Comparisons of applicable values & laboratory reporting limits for a specific compound are made to select the final criteria.

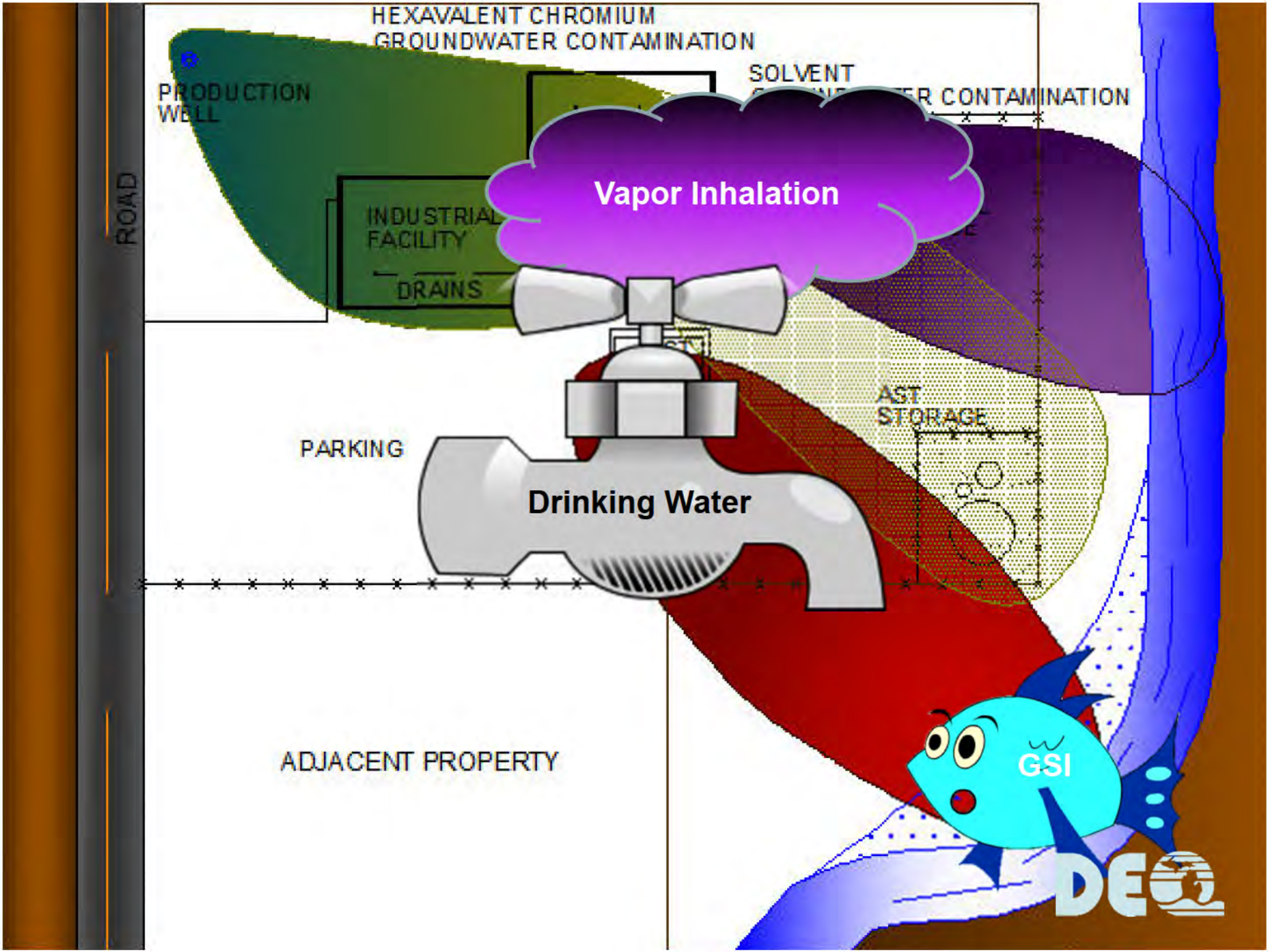
Quick Reference for Source Data in the Tables

Hazardous Substance	Chemical Abstract Service Number	Density	Dens Basis	Dens Source	Vapor Pressure	VP Basis	VP Source	Critical Temperature	T_c Basis	T_c Source	Enthalpy of Vaporization	ΔH Basis	ΔH Source
		Dens			VP			T_c			ΔH		
		g/cm³			(mmHg)			K			cal/mol		
n-Hexane	110543	0.6606	EXP	CRC	1.51E+02	EXP	EPI	508.00	EXP	EPA4	6.90E+03	EXP	EPA4
2-Hexanone	591786	0.8113	EXP	CRC	1.16E+01	EXP	EPI	586.7	EXP	CRC	8.69E+03	EXP	CRC
In[illegible] (O,MM)	193[illegible]	[illegible]	[illegible]	NA	1.25E-10	EST	[illegible]	[illegible]	EXP	EPA1	[illegible]	EST	EPA1
Iron (B	7439[illegible]	NR	[illegible]	[illegible]	[illegible]	[illegible]	N[illegible]	NR	[illegible]	[illegible]	NR	[illegible]	NA
Isobut[illegible]cohol ([illegible]	[illegible]	[illegible]	[illegible]	C	05[illegible]01	[illegible]	[illegible]	[illegible]	[illegible]	E[illegible]4	1.09E+04	EX[illegible]	EPA4
Isopho[illegible]e (DD)	[illegible]	0.925[illegible]	[illegible]	CRC	[illegible]	[illegible]	[illegible]	15.00	[illegible]	[illegible]1	1.03E+04	EXP	EPA1
Isopro[illegible]alcohol[illegible]DD,OO	67[illegible]	[illegible]	[illegible]	CR[illegible]	4.54E+[illegible]	[illegible]	E[illegible]	[illegible]	[illegible]	[illegible]C	[illegible]	EXP	CRC
Isopropyl benzene	98828	0.864	EXP	CRC	4.50E+00	EXP	EPI	631.10	EXP	EPA4	1.03E+04	EXP	EPA4
Lead (B,L,DD,KK)	7439921	NR	NA	NA	NR	NA	NA	NR	NA	NA	NR	NA	NA
Lindane (KK)	58899	1.87	EXP	PC	4.20E-05	EXP	EPI	839.36	EXP	EPA1	1.50E+04	EST	EPA1
Lithium (B,DD)	7439932	NR	NA	NA	NR	NA	NA	NR	NA	NA	NR	NA	NA
Magnesium	7439954	NR	NA	NA	NR	NA	NA	NR	NA	NA	NR	NA	NA
Manganese (B)	7439965	NR	NA	NA	NR	NA	NA	NR	NA	NA	NR	NA	NA
Mercury (Total) (Z,DD,KK)	Varies												

TRANSPARENCY


HEXAVALENT CHROMIUM
GROUNDWATER CONTAMINATION
PRODUCTION
WELL
SOLVENT
GROUNDWATER CONTAMINATION
GW Flow (pumping)
ROAD
INDUSTRIAL
FACILITY
DRAINS
UST
UST
AST
STORAGE
PARKING
PETROLEUM
GROUNDWATER CONTAMINATION
GW Flow
ADJACENT PROPERTY
Subsurface View
Areas of Groundwater Contamination

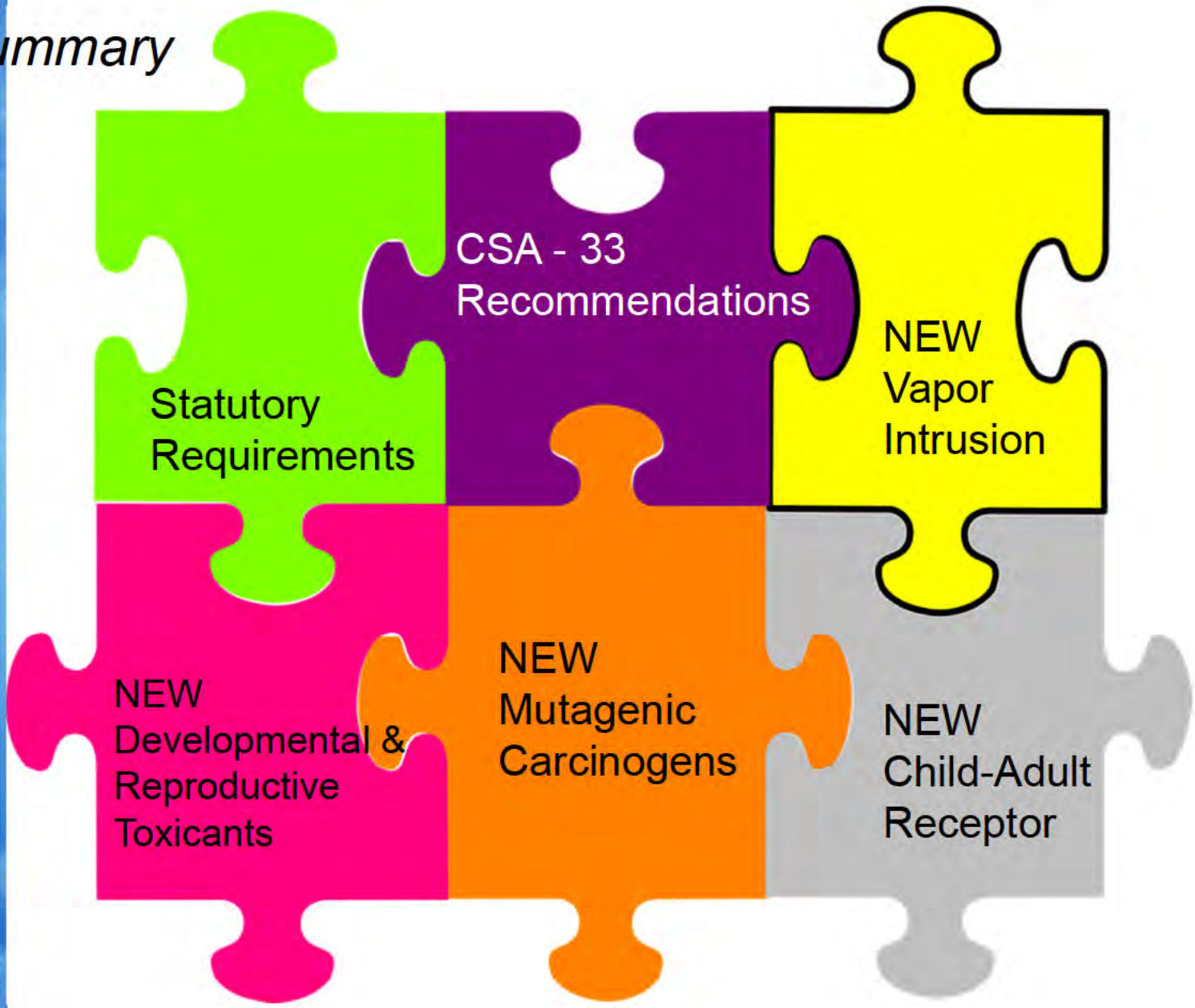

PRODUCTION WELL
HEXAVALENT CHROMIUM SOIL CONTAMINATION
SOLVENT SOIL CONTAMINATION
ROAD
INDUSTRIAL FACILITY
DRAINS
Vapor Inhalation
Direct Contact
PARKING
PETROLEUM SOIL CONTAMINATION
AST STORAGE
ADJACENT PROPERTY


HEXAVALENT CHROMIUM
GROUNDWATER CONTAMINATION
SOLVENT
PRODUCTION
WELL
ROAD
INDUSTRIAL
FACILITY
DRAINS
Vapor Inhalation
AST
STORAGE
PARKING
Drinking Water
ADJACENT PROPERTY
GSI
DEQ

Next Steps

- Public Information Meetings
- Public Hearing Process
- Final Draft Rules submitted to JCAR
- Promulgate Rules

In Summary


Statutory Requirements
CSA - 33 Recommendations
NEW Vapor Intrusion
NEW Developmental & Reproductive Toxicants
NEW Mutagenic Carcinogens
NEW Child-Adult Receptor

Michigan Department of Environmental Quality

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