

RISKS FOR ADULTS ASSOCIATED WITH DERMAL CONTACT WITH SOIL OUTSIDE THE DISPOSAL AREA CONTAINING CONTAMINANTS OF CONCERN AT THE MEAN AND MAXIMUM CONCENTRATIONS WERE ESTIMATED AT  $2.7 \times 10^{-7}$  AND  $4.9 \times 10^{-7}$ , RESPECTIVELY. HOWEVER, RESULTS OF A LIMITED NUMBER OF SOIL SAMPLING WITHIN THE GOLF COURSE WERE USED IN THE CALCULATIONS OF THESE RISKS. EPA HAS DETERMINED THAT ADDITIONAL SOIL SAMPLING IS NEEDED IN AREAS IMMEDIATELY NORTH AND EAST OF THE SITE'S DISPOSAL AREA.

THEREFORE, A SOIL CLEANUP LEVEL FOR SOILS OUTSIDE THE DISPOSAL AREA HAS BEEN ESTABLISHED BECAUSE THE ADDITIONAL SAMPLING MAY SHOW GREATER CONTAMINANT LEVELS THAN LEVELS INDICATED IN THE RIS AND BECAUSE CORRESPONDING ESTIMATED RISK VALUES MAY BE GREATER THAN A  $10^{-5}$  RISK.

UNSATURATED SOILS IN AREAS OUTSIDE THE 12-ACRE DISPOSAL AREA WITH PCB CONCENTRATIONS EQUAL TO OR GREATER THAN 10 PPM WILL BE EXCAVATED, TRANSPORTED TO AND DISPOSED OF WITHIN THE SITE'S DISPOSAL AREA. UNSATURATED SOILS WITH PCB CONCENTRATIONS EQUAL TO OR GREATER THAN 50 PPM WILL BE SOLIDIFIED PRIOR TO DISPOSAL WITHIN THE SITE'S LANDFILL AREA, CONSISTENT WITH THE CLEANUP LEVEL FOR SOILS WITHIN THE SITE'S RESTRICTED DISPOSAL AREA, AS DESCRIBED IN THE PRECEDING SECTION.

THE SOIL CLEANUP LEVEL OF 10 PPM OF PCBs FOR SOILS OUTSIDE THE SITE'S DISPOSAL AREA IS BASED ON A  $10^{-5}$  INCREMENTAL CANCER RISK ASSOCIATED WITH DIRECT CONTACT WITH CONTAMINATED SOIL. THE CLEANUP LEVEL OF 10 PPM IS MORE STRINGENT THAN THE SOIL CLEANUP LEVEL OF 50 PPM FOR SOILS WITHIN THE 12-ACRE DISPOSAL AREA BECAUSE SOILS OUTSIDE THE DISPOSAL AREA ARE LOCATED IN NONRESTRICTED AREAS RESULTING IN GREATER FREQUENCY OF EXPOSURE WITH THESE CONTAMINATED SOILS. IN ADDITION, SOILS OUTSIDE THE DISPOSAL AREA WILL NOT BE COVERED WITH AN IMPERMEABLE CAP WHICH WILL COVER THE MAJORITY OF THE SITE'S DISPOSAL AREA THUS FURTHER MINIMIZING EXPOSURE TO THE SOILS UNDERLYING THE CAP.

EXCAVATED OFF-SITE AREAS WILL BE BACKFILLED WITH CLEAN FILL.

## 2. SEDIMENT TARGET LEVELS

THE SEDIMENT TARGET LEVEL FOR THE UNNAMED STREAM, ITS TRIBUTARIES AND THE GOLF COURSE WATER HAZARDS IS THE INTERIM MEAN SEDIMENT QUALITY CRITERIA (SQC) VALUE OF 20 MICROGRAMS OF PCBs PER GRAM OF CARBON (UG/GC). THIS VALUE FOR PCBs HAS BEEN DERIVED BY THE EPA CRITERIA AND STANDARDS DIVISION TO PROTECT USES OF AQUATIC LIFE, SPECIFICALLY THE CONSUMPTION OF AQUATIC LIFE BY WILDLIFE. THE MEAN SEDIMENT QUALITY CRITERIA (20 UG PCBs/GC) WAS CHOSEN AS THE CLEANUP LEVEL BECAUSE;

- A. FOR TOTAL ORGANIC CARBON (TOC) OF 10 GC/KG SEDIMENT, TYPICALLY FOUND IN STREAM SEDIMENTS, IT REPRESENTS THE DETECTION LIMIT FOR ANALYZING PCBs IN SEDIMENTS.
- B. AFTER REMEDIATION, THE RESULTING PCB CONCENTRATIONS IN STREAM SEDIMENTS REPRESENT LEVELS WHICH, WITH APPROXIMATELY 50% CERTAINTY, WILL RESULT IN INTERSTITIAL WATER CONCENTRATIONS EQUAL TO OR LOWER THAN THE PCB AMBIENT WATER QUALITY CRITERION (FINAL RESIDUE VALUE OF 0.014 UG/l).
- C. BASED ON TOC SEDIMENT VALUES BETWEEN 10 GC/KG SEDIMENT AND 20 GC/KG SEDIMENT, CALCULATED SQCS FROM BETWEEN 0.2 PPM PCBs AND 0.4 PPM PCBs, RESPECTIVELY, COMPARE FAVORABLY WITH THE TOXICOLOGICAL LITERATURE WHICH DOCUMENTS EXAMPLES OF SUBLETHAL TOXIC EFFECTS IN AQUATIC ORGANISMS AT PCB TISSUE LEVELS AND HENCE SEDIMENT CONCENTRATIONS OF LESS THAN 1 PPM AND AS LOW AS 0.1 PPM PCBs.

THE FOLLOWING TABLE LISTS PROJECTED MEAN SQCS IN PPM OF PCBs.

TOC (GC/KG SEDIMENT)	MEAN SQC LEVELS IN PPM OF PCBs
2 GC/KG SEDIMENT	0.04 PPM PCBs
5 GC/KG SEDIMENT	0.1 PPM PCBs
8 GC/KG SEDIMENT	0.16 PPM PCBs
10 GC/KG SEDIMENT	0.2 PPM PCBs
15 GC/KG SEDIMENT	0.3 PPM PCBs
20 GC/KG SEDIMENT	0.4 PPM PCBs

EPA CONSIDERED TWO ADDITIONAL FACTORS: THE DETECTION LIMIT FOR ANALYZING PCBs IN SEDIMENTS AND BACKGROUND LEVELS. THE CONTRACT LAB PROTOCOL (CLP) DETECTION LIMIT FOR THE ANALYSIS OF PCBs IN SEDIMENTS IS 0.16 PPM. THE BACKGROUND PCB LEVEL AT THIS SITE HAS BEEN ESTIMATED AT APPROXIMATELY 0.14 PPM. THEREFORE, EPA HAS DETERMINED THAT THE SEDIMENT TARGET LEVELS IN PPM OF PCBs FOR SEDIMENTS WITH TOC VALUES LESS THAN OR EQUAL TO 10 GC/KG SEDIMENT WILL BE 0.2 PPM OF PCBs. WHERE TOC VALUES ARE GREATER THAN 10GC/KG SEDIMENT, THE CALCULATED MEAN SQC WILL BE THE TARGET LEVEL. THEREFORE, TARGET LEVELS ARE AS FOLLOWS;

**EPA Superfund  
Record of Decision:**

**SULLIVAN'S LEDGE  
EPA ID: MAD980731343  
OU 01  
NEW BEDFORD, MA  
06/29/1989**