EPA/ROD/R02-89/077
1989

EPA Superfund
Record of Decision:

CLOTHIER DISPOSAL
EPA ID: NYD000511576
OU 01
TOWN OF GRANBY, NY
12/28/1988

- LOCATION 24E (RECEIVES DRAINAGE FROM THE DRUM PILE NO. 1 AREA): TOTAL SEMI-VOLATILE ORGANIC CONCENTRATIONS RANGED FROM 7,]60 TO 19,049 UG/KG. CPAH CONCENTRATIONS WERE BELOW DETECTION LIMITS. PCB CONCENTRATIONS RANGED FROM 400 TO 2,500 UG/KG.

- LOCATIONS 14 AND 15 (AT THE MOUTH OF THE SWALE THAT DRAINS MUCH OF THE CENTRAL PORTION OF THE SITE): MAXIMUM TOTAL SEMI-VOLATILE CONCENTRATIONS RANGE FROM 1,288 TO 1,780 UG/KG. CPAH CONCENTRATIONS WERE 880 UG/KG IN THE 0-2 FEET SAMPLE AT LOCATION 15, BELOW DETECTION LIMITS IN OTHER SAMPLES. PCBS WERE ALSO BELOW DETECTION LIMITS. THE HIGHEST CONCENTRATIONS OF BARIUM (342 MG/KG) AND CHROMIUM (35 MG/KG) WERE DETECTED IN 3-5 FEET AT LOCATION 14.

GROUNDWATER

GROUNDWATER QUALITY SAMPLES WERE COLLECTED IN JANUARY 1988 FROM THE 10 MONITOR WELLS INSTALLED ON OR ADJACENT TO THE SITE, AND WERE SUBJECTED TO COMPLETE TCL ANALYSES. THE FOLLOWING CONCLUSIONS WERE DRAWN FROM THESE DATA:

- VOLATILE ORGANICS WERE THE MOST PREVALENT CONTAMINANT AND WERE DETECTED IN 9 OF 10 WELLS; SEMI-VOLATILES WERE DETECTED IN 3 WELLS. THE MOST COMMON ORGANIC CONTAMINANTS WERE METHYLENE CHLORIDE AND BIS(2-ETHYLHEXYL)PHTHALATE. BOTH OF THESE CONTAMINANTS ARE COMMON LABORATORY CONTAMINANTS.

- VOLATILE ORGANIC CHEMICALS OF CONCERN WERE IDENTIFIED AS TCE AND PCE; ORGANIC CONTAMINATION WAS RESTRICTED LARGELY TO THE SHALLOW WELLS COMPLETED IN THE FINE SAND AND SILT UNIT. WILLS IN THE VICINITY OF DRUM PILES NOS. 1 AND 2 AND AT THE MOUTH OF THE SWALE DISPLAYED THE MAXIMUM CONCENTRATIONS AND/OR THE HIGHEST NUMBER OF CONTAMINANTS DETECTED IN THE WELLS. TCE CONCENTRATIONS WERE 1.2 UG/L (CBW-3), 1.5 UG/L (CBW-8) AND 18 UG/L(CBW-4S). PCE WAS DETECTED IN ONLY TWO WELLS, CBW-3 AND CBW-8, AT CONCENTRATIONS OF 2.3 AND 24 UG/L, RESPECTIVELY.

- INORGANIC CONTAMINATION IN SITE MONITORING WELLS INCLUDED CADMIUM, CHROMIUM, AND MANGANESE AT CONCENTRATIONS ABOVE THOSE DETECTED IN THE OFF-SITE WELLS CBW-1S AND CBW-1D. THESE WELLS ARE COMPLETED IN THE SAND AND GRAVEL UNIT AND MAY NOT ACTUALLY REPRESENT TRUE BACKGROUND AT THE SITE. ALSO, IT IS BELIEVED THAT THE PRESENCE OF TURBIDITY IN THE GROUNDWATER SAMPLES MAY HAVE ARTIFICIALLY INFLATED THE LEVEL OF CONTAMINATION PRESENT. A SECOND ROUND OF GROUNDWATER SAMPLES WERE COLLECTED IN DECEMBER 1988 TO CONFIRM THE RESULTS OF THE FIRST ROUND.

SURFACE WATER AND SEDIMENT

SAMPLING WAS CONDUCTED BY THE USFWS TO DETERMINE WHETHER HAZARDOUS SUBSTANCES FROM THE SITE HAD CONTAMINATED OX CREEK. WATER, SEDIMENT, FISH, SMALL MAMMALS, AND VEGETATION WERE COLLECTED AND SUBMITTED FOR RESIDUE ANALYSIS TO ASSESS THE IMPACT OF CONTAMINATION IN THE OX CREEK ECOSYSTEM. THE STUDY FOUND NO EVIDENCE OF EITHER CURRENT ENVIRONMENTAL DAMAGE IN THE AREA AROUND THE SITE OR CONTAMINATION OF OX CREEK AT LEVELS LIKELY TO BE ASSOCIATED WITH RISKS TO WILDLIFE.

THE USFWS' STUDY DID NOT INCLUDE AN 11-ACRE WETLAND LOCATED ADJACENT TO THE SITE. THIS AREA WAS SAMPLED BY EBASCO IN DECEMBER 1988.

#SSR
SUMMARY OF SITE RISKS

FOR THE PURPOSE OF RISK ASSESSMENT, SOIL SAMPLES AT THE CLOTHIER DISPOSAL SITE WERE ARRANGED INTO THREE GROUPS. THE SURFACE SOIL GROUP INCLUDES ALL SAMPLES AT A DEPTH FROM 0-2 FEET AS WELL

AS THE SIX COMPOSITE SAMPLES COLLECTED. A SECOND GROUPING INCLUDES UNSATURATED SOIL SAMPLES, (I.E., ALL SOIL SAMPLES ABOVE THE WATER TABLE ON THE SITE). THE THIRD GROUP, THE SATURATED SOIL SAMPLES GROUP, CONSISTS OF SOIL SAMPLES FROM BELOW THE WATER TABLE.

CHEMICALS WERE DETERMINED TO BE SITE-RELATED IF THEY WERE PRESENT IN ENVIRONMENTAL MEDIA AT ABOVE-BACKGROUND CONCENTRATIONS AND/OR COULD BE RELATED TO PAST OPERATIONS AT THE SITE. CHEMICALS WHICH WERE DETECTED IN LESS THAN 5 PERCENT OF THE SAMPLES COLLECTED FOR A SPECIFIC MEDIUM WERE NOT CONSIDERED TO BE SITE-RELATED CHEMICALS OF CONCERN UNLESS THEY WERE KNOWN TO BE PRESENT IN THE ORIGINAL WASTE BASED ON HISTORICAL SITE INFORMATION.

TO ESTIMATE BACKGROUND AT THE SITE, THE CONCENTRATION OF INORGANIC CHEMICALS IN SITE-RELATED SAMPLES WERE COMPARED TO RANGES OF CONCENTRATIONS FROM BOTH UPSTATE NEW YORK AND FROM THE EASTERN UNITED STATES B HORIZON SOIL RANGES. CONTAMINANT CONCENTRATIONS PRESENT WITHIN EITHER OF THESE BACKGROUND RANGES, AND USUALLY BOTH RANGES, WERE CONSIDERED TO BE PRESENT AT NATURALLY-OCCURRING LEVELS.

SURFACE SOILS

NUMEROUS ORGANIC CHEMICALS WERE DETECTED IN THE 28 SURFACE SOIL SAMPLES COLLECTED FROM THE SITE. SEVEN CHEMICALS WERE DETECTED IN LESS THAN 5 PERCENT OF THE SAMPLES. ONE OF THESE INFREQUENTLY DETECTED CHEMICALS, ACENAPHTHENE WAS EVALUATED AS COMPONENTS OF THE NON-CARCINOGENIC PAH GROUP. TETRACHLOROETHENE AND TOLUENE WERE, LIKEWISE, DETECTED ONLY ONCE. NEVERTHELESS, THESE TWO VOLATILE ORGANIC COMPOUNDS WERE FOUND IN GROUNDWATER SAMPLES, INDICATING SITE-RELATEDNESS AND WERE, THEREFORE, INCLUDED IN THE EVALUATION.

INORGANIC CHEMICALS OF CONCERN ARE SILVER, CADMIUM, SELENIUM, AND THALLIUM.

UNSATURATED SOILS

OF THE ORGANIC CHEMICALS FOUND IN THE UNSATURATED SOIL SAMPLES, 17 CHEMICALS WERE DETECTED IN LESS THAN FIVE PERCENT OF THE NONCARCINOGENIC PAHS. ALTHOUGH ANTHRACENE WAS DETECTED IN ONLY ONE OF THE 60 SAMPLES, IT WILL BE CONSIDERED FURTHER AS A COMPONENT OF THE NONCARCINOGENIC PAHS. TETRACHLOROETHENE, TRANS 1,2-DICHLOROETHANE, AND 1,1,1-TRICHLOROETHANE WERE LIKEWISE DETECTED IN LESS THAN FIVE PERCENT OF THE SAMPLES. THESE CHEMICALS, HOWEVER, WERE DETECTED IN GROUNDWATER SAMPLES, INDICATING SITE-RELATEDNESS AND, THEREFORE, WERE INCLUDED IN THE EVALUATION.

IDENTICAL INORGANIC CHEMICALS OF CONCERN, NAMELY, SILVER, CADMIUM, SELENIUM, AND THALLIUM WERE FOUND IN THE UNSATURATED SOILS AS IN THE SURFACE SOILS.

SATURATED SOILS

BECAUSE NO DIRECT EXPOSURE SCENARIOS WITH THESE SATURATED SOILS EXIST, NO CHEMICAL OF CONCERN WAS SELECTED FOR QUANTIFICATION OF RISK.

GROUNDWATER

THERE ARE 10 MONITORING WELLS AT THE CLOTHIER DISPOSAL SITE. GROUNDWATER STANDARDS WERE REVIEWED TO ENSURE THAT CHEMICALS THAT EXCEED THESE STANDARDS WERE NOT BEING ELIMINATED FROM FURTHER CONSIDERATION IN THE RISK ASSESSMENT BASED ON BACKGROUND CONSIDERATIONS.

ALL ORGANIC CHEMICALS DETECTED IN GROUNDWATER SAMPLES, EXCEPT METHYLENE CHLORIDE, WERE EVALUATED IN THIS ASSESSMENT. METHYLENE CHLORIDE WAS FOUND IN LOW CONCENTRATIONS AND IT IS FREQUENTLY A LABORATORY CONTAMINANT.

SITE-RELATED INORGANIC CHEMICALS OF CONCERN ARE CADMIUM, CHROMIUM AND MANGANESE.

ALL CHEMICALS OF CONCERN ARE SUMMARIZED BY AREA AND MEDIUM IN TABLE 1.

AIR

SURFACE SOILS AT THE SITE ARE NOT COMPLETELY COVERED BY VEGETATION. WIND ENTRAINMENT OF DUST PARTICLES IS A POTENTIAL PATHWAY FOR INHALATION.

EXPOSURE ASSESSMENT SUMMARY

EXPOSURE SCENARIOS ARE DEVELOPED FOR BOTH CURRENT-USE CONDITIONS AND POTENTIAL FUTURE-USE CONDITIONS. THE FUTURE-USE SCENARIO ADDRESSES PLAUSIBLE DEVELOPMENT USES OF THE LAND AND CONSIDERS WHAT RISK MAY BE ASSOCIATED WITH THAT USE OF THE LAND ASSUMING NO CLEANUP OF SITE CONTAMINATION.

FOR EACH EXPOSURE SCENARIO, TWO EXPOSURE CASES, AN AVERAGE AND A MAXIMUM CASE, WERE DEVELOPED.

EXPOSURE UNDER CURRENT LAND-USE SCENARIOS

SOIL EXPOSURE

CURRENTLY, THE CLOTHIER DISPOSAL SITE IS USED FOR DISPOSAL OF DEBRIS, NAMELY, ABANDONED VEHICLES. THE SITE IS SURROUNDED BY FARMLAND AND THE NEAREST RESIDENCES ARE APPROXIMATELY 3/4 TO ONE MILE AWAY. APPROXIMATELY 160 PEOPLE ARE REPORTED TO LIVE WITHIN ONE MILE RADIUS.

HOWEVER, THE SITE IS NOT ADEQUATELY FENCED AND PROVIDES NO BARRIER TO EITHER THE PRESENT OWNER OR TO TRESPASSERS. THEREFORE, EXPOSURE TO THE CURRENT OWNER OR TO TRESPASSERS IS POSSIBLE, AND WAS CONSIDERED IN THIS ASSESSMENT.

AIR EXPOSURE

SURFACE SOILS AT THE SITE ARE NOT COMPLETELY COVERED BY VEGETATION. THEREFORE, WIND ENTRAINMENT OF DUST PARTICLES IS A POTENTIAL PATHWAY FOR INHALATION OF CONTAMINANTS.

GROUNDWATER EXPOSURE

THE SHALLOW AQUIFER IS NOT CURRENTLY USED IN THE AREA AS A SOURCE OF WATER FOR ANY TYPE OF USE. NEARBY RESIDENTS TO THE SOUTH, EAST, AND WEST OF THE SITE ARE REPORTED TO USE PRIVATE GROUNDWATER WELLS AS A SOURCE OF DRINKING WATER, BUT THESE WELLS ARE IN AN AQUIFER OTHER THAN THE AQUIFER WHERE CONTAMINATION WAS FOUND AT THE SITE. GROUNDWATER FROM THE SITE FLOWS TO THE WEST, TOWARDS OX CREEK. BASED ON THE DIRECTION OF GROUNDWATER FLOW, WELLS TO THE EAST AND SOUTH ARE UPGRADIENT. FURTHERMORE, DISCHARGE TO THE CREEK IS LIKELY TO INTERCEPT CONTAMINATION BEFORE IT CAN REACH WELLS WEST OF THE CREEK. THIS WILL BE CONFIRMED BY LONG-TERM MONITORING.

CONSEQUENTLY, NO GROUNDWATER EXPOSURE PATHWAYS ARE BELIEVED TO EXIST UNDER THE CURRENT-USE SCENARIO.

SURFACE WATER EXPOSURES

SURFACE WATER MAY BE CONTAMINATED BY DISCHARGE OF CONTAMINATED GROUNDWATER FROM THE SITE AND/OR OVERLAND FLOW OF CONTAMINANTS FROM THE SITE. THESE CONTAMINANTS CAN MIGRATE INTO THE WETLAND AND INTO OX CREEK, WHICH IS USED FOR FISHING. THE OSWEGO RIVER, WHICH THE CREEK JOINS ABOUT 2.5 MILES DOWNSTREAM OF THE SITE, IS THE SOURCE OF DRINKING WATER FOR THE TOWN OF FULTON. THE USFWS

STUDIED THE EFFECTS OF CONTAMINATION AT THE CLOTHIER DISPOSAL SITE ON THE NATURAL RESOURCES OF THE AREA. THE USFWS STUDY INCLUDED THE SAMPLING OF SURFACE WATER IN OX CREEK AND DETERMINED THAT CONTAMINANT LEVELS WERE NOT ABOVE BACKGROUND IN OX CREEK. THE 11-ACRE WETLAND LOCATED ADJACENT TO THE SITE WAS NOT INVESTIGATED BY THE USFWS. THIS AREA WAS SAMPLED BY USEPA IN DECEMBER 1988.

THE PRIMARY EFFECTS OF STREAM CONTAMINATION, IF IT OCCURS, ARE LIKELY TO BE ENVIRONMENTAL, NOT HUMAN HEALTH. THIS IS BECAUSE THE STREAM IS NOT USED AS A DRINKING WATER SOURCE, AND BECAUSE DILUTION BY SEVERAL ORDERS OF MAGNITUDE OCCURS BETWEEN THE CREEK AND THE OSWEGO RIVER, WHICH FEEDS WELLS USED BY THE TOWN OF FULTON FOR WATER SUPPLY. THEREFORE, SURFACE WATER EXPOSURES WILL BE CONSIDERED IN THE ENVIRONMENTAL ASSESSMENT ONLY.

EXPOSURE UNDER FUTURE-USE SCENARIO

BECAUSE THE SITE IS IN A RURAL AGRICULTURAL AREA, THE MOST LIKELY FUTURE-USE SCENARIO THAT MIGHT BE ASSOCIATED WITH SIGNIFICANT HEALTH RISK IS CONTINUED USE BY THE CURRENT OWNER FOR THE DISPOSAL OF DEBRIS, INCLUDING ABANDONED VEHICLES, OR THE BUILDING OF HOMES ON THE SITE.

SOIL EXPOSURE

TO ESTIMATE RISKS THAT MIGHT BE ASSOCIATED WITH DIRECT CONTACT WITH SOIL, CURRENT CONCENTRATIONS OF CHEMICALS OF CONCERN IN SOIL WERE ASSUMED TO REMAIN IN THE FUTURE.

AIR EXPOSURE

SIMILAR TO THOSE CONSIDERED IN THE CURRENT LAND-USE SCENARIO ARE POSSIBLE IF THE LAND IS USED FOR RESIDENCES. IN ADDITION, LONG-TERM EXPOSURE TO VAPORS ACCUMULATING IN THE BASEMENT IS POSSIBLE IF RESIDENCES ARE BUILT ON THE SITE.

GROUNDWATER EXPOSURES

THE CONTAMINATED GROUNDWATER AQUIFER HAS POOR FLOW CHARACTERISTICS RELATIVE TO OTHER AQUIFERS IN THE AREA, MAKING IT UNLIKELY THAT IT WOULD BE USED AS A DRINKING WATER SOURCE. HOWEVER, SINCE IT IS CONCEIVABLE THAT IT COULD BE USED AS A WATER SUPPLY, THE POSSIBLE FUTURE USE OF THE CONTAMINATED GROUNDWATER IS CONSIDERED.

TABLE 2 LISTS ARARS FOR THE CHEMICALS OF CONCERN IN GROUNDWATER AT THE CLOTHIER DISPOSAL SITE, AND THE GEOMETRIC MEAN AND MAXIMUM CONCENTRATION VALUES CURRENTLY DETECTED IN THE SITE'S GROUNDWATER. GEOMETRIC MEAN CONCENTRATION VALUES NEVER EXCEED FEDERAL ARARS FOR THOSE CHEMICALS WITH ARARS.

SUMMARY OR RISK CHARACTERIZATION

CURRENT-USE SCENARIOS FOR THE PLAUSIBLE MAXIMUM CASE WERE NOT ASSOCIATED WITH ANY EXCESS CANCER RISKS GREATER THAN THE 2X10E-6 FOR DIRECT CONTACT TO ADULT TRESPASSERS. FUTURE LIFETIME RESIDENTIAL USE OF THE SITE FOR THE PLAUSIBLE MAXIMUM CASE IS ASSOCIATED WITH A 3X10E-5 CANCER RISK FROM DIRECT LIFETIME CONTACT WITH SOILS AT THE SITE. THESE EXCESS CANCER RISKS ARE PRIMARILY DUE TO AROCLOR 1242 AND CARCINOGENIC PAHS.

WHILE SOME OF THE MAXIMUM CONCENTRATIONS OF THE CONTAMINANTS MARGINALLY EXCEED ARARS, THE GEOMETRIC MEAN VALUES NEVER EXCEED ARARS. EXCESS CANCER RISK ASSOCIATED WITH LIFETIME USE OF GROUNDWATER AT A SOURCE OF DRINKING WATER IS 7X10E-6 FOR THE AVERAGE AND 5X10E-5 FOR THE PLAUSIBLE MAXIMUM CASE, DUE PRIMARILY TO TETRACHLOROETHENE AND TRICHLOROETHENE. THIS DRINKING WATER SCENARIO IS ALSO ASSOCIATED WITH A TOTAL HAZARD INDEX OF 5 FOR THE AVERAGE EXPOSURE CASE

AND 10 FOR THE PLAUSIBLE MAXIMUM CASE, DUE PRIMARILY TO CADMIUM.

CLEANUP LEVELS TO REDUCE RISKS

IN EVALUATING REMEDIAL ALTERNATIVES, THE ISSUE OF THE EXTENT TO WHICH SOIL WOULD NEED TO BE EXCAVATED AND DISPOSED OF OR TREATED TO REDUCE RISKS TO SPECIFIC TARGET LEVELS IS CRUCIAL.

TABLE 3 SUMMARIZES THE SOIL CLEANUP LEVELS REQUIRED TO ACHIEVE THE VARIOUS LIFETIME CANCER RISK LEVELS; CURRENT-USE SCENARIO.

TABLE 4 SUMMARIZES THE SOIL CLEANUP LEVELS REQUIRED TO ACHIEVE THE VARIOUS LIFETIME CANCER RISK LEVELS; FUTURE-USE SCENARIO.

DETERMINATION OF CONTAMINATION AREA AND VOLUMES

THERE ARE NO DIRECTLY APPLICABLE CLEANUP REGULATIONS PERTAINING TO THE LEVELS OF PCBS AND CPAHS FOUND IN SOIL. A HEALTH-BASED RISK ASSESSMENT MUST BE UTILIZED TO DETERMINE THE CLEANUP LEVELS.

TABLES 3 AND 4 INCLUDE THE HEALTH-BASED CLEANUP LEVELS FOR CPAHS. HOWEVER, A COMPARISON TO BACKGROUND LEVELS SHOULD BE MADE FOR CPAHS. THE HEALTH-BASED CLEANUP LEVELS ARE IN SOME CASES MUCH LOWER THAN BACKGROUND. AS A RESULT, IT WOULD BE REALISTIC TO SET THE SOIL CLEANUP LEVELS FOR THESE COMPOUNDS AT BACKGROUND. FOR THE CLOTHIER DISPOSAL SITE, BACKGROUND WOULD BE BETWEEN 20 PPB TO 260 PPB.

IT SHOULD BE NOTED THAT FOR THE CPAHS, THE CONTRACT-REQUIRED DETECTION LIMITS (CRDLS) REQUIRED UNDER THE REGULAR ANALYTICAL SERVICES OF THE USEPA CONTACT LABORATORY PROGRAM FOR THE ANALYSIS OF SAMPLES FROM SUPERFUND SITES ARE 330 PPB FOR EACH CPAH. AT THIS LEVEL, THE PLAUSIBLE WORST-CASE RISK WOULD BE ABOUT 2X10E-7 FOR THE CURRENT USE SCENARIO (DIRECT CONTACT) OR 3X10E-6 FOR THE FUTURE-USE SCENARIO. THESE RISK LEVELS COULD BE CONSIDERED PROTECTIVE OF HUMAN HEALTH AND THE ENVIRONMENT. THEREFORE, THE CLEAN-UP LEVEL OF CPAHS COULD BE SET AT 330 PPB. BY COMPARING THIS CLEANUP LEVEL WITH CPAH-CONTAMINATED SAMPLE POINTS, FIVE AREAS HAVE BEEN IDENTIFIED AS CONTAMINATED ABOVE THIS LEVEL. THESE AREAS, AS DEPICTED IN FIGURE 5, WILL BE CONSIDERED FOR REMEDIATION.

THE TOXIC SUBSTANCES CONTROL ACT (TSCA) PCB SPILL CLEANUP POLICY (40 CFR, PART 761, SUBPART G) SHOULD BE CONSIDERED IN THE CLEANUP OF PCBS IN SOIL. THIS POLICY SETS A PCB CLEANUP LEVEL OF 10 PPM. THE PLACEMENT OF A ONE FOOT SOIL COVER OVER THE PCB-CONTAMINATED SOIL WOULD BE CONSISTENT WITH THE TSCA PCB SPILL CLEANUP POLICY.

AS DEPICTED IN FIGURE 5, THE HIGHEST PCB CONTAMINATION ON-SITE THAT POSES A POTENTIAL RISK DUE TO DIRECT CONTACT IS 2.5 PPM AT SURFACE SAMPLE POINT 24E. ACCORDINGLY, THERE WOULD BE NO REQUIREMENT FOR REMEDIATION IF THE TSCA PCB SPILL CLEANUP STANDARD OF 10 PPM IS ADOPTED. THE CORRESPONDING PLAUSIBLE WORST-CASE LIFETIME CANCER RISKS, BASED ON THE HEALTH-BASED RISK ASSESSMENT, FOR DIRECT CONTACT AND INCIDENTAL INGESTION OF ON-SITE PCB CONTAMINATED SOIL ARE 1X10E-5 FOR ADULTS TRESPASSING AND 2X10E-5 FOR ADULTS RESIDING ON THE SITE.

SINCE REMEDIATION WOULD NOT BE REQUIRED BASED UPON TSCA, A PCB "CLEANUP LEVEL" OF 1 PPM HAS BEEN ASSUMED. CLEANING PCBS IN SOIL DOWN TO 1 PPM REPRESENTS A PLAUSIBLE WORST-CASE RISK FROM DIRECT CONTACT OF 7X10E-6 FOR THE FUTURE-USE SCENARIO AND BELOW 4XLOE-7 FOR THE CURRENT-USE SCENARIO.

BY COMPARING THIS 1 PPM PCB CLEANUP LEVEL TO THE RI RESULTS, TWO AREAS, SAMPLE POINTS 16E AND 24E, WITH PCB CONCENTRATIONS ABOVE THIS "CLEANUP LEVEL" ARE IDENTIFIED. ONE AREA (SAMPLE POINT 16E) CONTAINS 2.7 PPM OF PCBS AT 13-15 FEET BELOW THE SURFACE. IT IS UNLIKELY THAT CONTAMINANTS AT SUCH DEPTH WOULD POSE SIGNIFICANT DIRECT CONTACT RISK TO ANY UNINTENTIONAL INTRUDER.

THE REMAINING AREA HAS PCBS AT THE 0-5 FEET LEVEL. THEREFORE, CLEANUP DOWN TO 5 FEET BELOW THE SURFACE OF SOIL IS CONSIDERED RESPONSIVE TO THE REMEDIAL ACTION OBJECTIVES AND PROTECTIVE OF HUMAN HEALTH AND THE ENVIRONMENT. THE FIVE CONTAMINATED AREAS IDENTIFIED ABOVE FOR BOTH PCBS AND CPAHS, ARE LISTED BELOW:

AREA	PCBS PPM	CPAHS PPM
24E	2.5	0
11	0	0.5
15	0	0.9
16	0	0.6
17	0.2	0.6

IN ORDER TO DERIVE A REASONABLE VOLUME OF SOIL FOR EVALUATING VARIOUS REMEDIAL ALTERNATIVES, A CIRCLE OF 60 FEET IN DIAMETER ENCIRCLING EACH SAMPLE POINT THAT RESIDUAL CONTAMINATION WAS DETECTED IS CONSIDERED LARGE ENOUGH TO ADEQUATELY COVER THE POTENTIALLY CONTAMINATED AREA.

BASED ON THE CRITERIA DISCUSSED ABOVE, A VOLUME OF APPROXIMATELY 2500 CUBIC YARDS OF SOIL IS CALCULATED. THIS VOLUME WILL BE USED TO FORMULATE AND PREPARE COST ESTIMATES FOR THE ALTERNATIVES.

DOCUMENTATION OF SIGNIFICANT CHANGES

THERE ARE NO SIGNIFICANT CHANGES FROM THE PREFERRED ALTERNATIVE PRESENTED IN THE PRAP.

#DA
DESCRIPTION OF ALTERNATIVES

APPROXIMATELY 2,200 DRUMS AND APPROXIMATELY 300 CUBIC YARDS OF HIGHLY CONTAMINATED SURFICIAL SOIL HAVE BEEN REMOVED FROM THE SITE. THE LEVELS OF SOIL CONTAMINATION ON-SITE PRESENT RISK LEVELS WHICH ARE IN AN ACCEPTABLE RANGE. THE ALTERNATIVES EVALUATED BELOW ADDRESS THE RESIDUAL SOIL CONTAMINATION CURRENTLY ON-SITE.

A TOTAL OF TEN ALTERNATIVES WERE CONSIDERED FOR REMEDIATING THE SITE. THEY ARE AS FOLLOWS:

1. NO ACTION
2. LIMITED ACTION
3. EXCAVATION AND OFF-SITE DISPOSAL OF RESIDUAL CONTAMINATION
4. INSTALLATION OF A SOIL CAP
5. ON-SITE THERMAL OXIDATION OF RESIDUAL CONTAMINATION
6. ON-SITE SOLIDIFICATION AND STABILIZATION OF RESIDUAL
7. INSTALLATION OF A RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) CAP AND LEACHATE COLLECTION WITH OFF-SITE LEACHATE TREATMENT
8. INSTALLATION OF A RCRA CAP AND LEACHATE COLLECTION WITH ON-SITE LEACHATE TREATMENT
9. BIORECLAMATION
10. VITRIFICATION

ALTERNATIVE 7, THE INSTALLATION OF A RCRA CAP AND LEACHATE COLLECTION WITH OFF-SITE LEACHATE TREATMENT, AND ALTERNATIVE 8, THE SAME AS ALTERNATIVE 7 BUT WITH ON-SITE LEACHATE TREATMENT, WERE ELIMINATED IN THE INITIAL SCREENING. THIS WAS BECAUSE THE ROD DOES NOT ADDRESS THE GROUNDWATER, AND BECAUSE LEACHATE COLLECTION IS INAPPROPRIATE FOR THE SITE DUE TO THE LOW HYDRAULIC CONDUCTIVITY OF THE CLAYEY SILT SOIL.

THE POOR HYDRAULIC CONDUCTIVITY OF THE CLAYEY SILT SOIL PRESENT ON-SITE WILL NOT ALLOW WATER,

MICROORGANISMS, NUTRIENTS, OXYGEN, OR MOBILIZED CONTAMINANTS TO BE MOVED WITH EASE. THEREFORE, ALTERNATIVE 9, BIORECLAMATION, WAS ELIMINATED FROM FURTHER CONSIDERATION.

ALTERNATIVE 10, VITRIFICATION, WAS ALSO ELIMINATED DURING THE INITIAL SCREENING, SINCE THE MOISTURE CONTENT OF THE ON-SITE SOIL IS REPORTED TO CONTAIN FROM 23-28% WATER. THE VITRIFICATION PROCESS IS REPORTED TO BE APPLICABLE TO SOILS WITH A MAXIMUM MOISTURE CONTENT OF ONLY 10%.

OF THE TEN REMEDIAL ALTERNATIVES, SIX WERE RETAINED FOR DETAILED ANALYSIS.

ALTERNATIVE 1 - NO ACTION

THIS ALTERNATIVE IS INCLUDED TO SERVE AS A "BASELINE" CASE AGAINST WHICH THE OTHER ALTERNATIVES ARE EVALUATED. UNDER THIS ALTERNATIVE, NO REMEDIAL ACTION WOULD BE TAKEN.

AS REQUIRED BY SARA, A PROGRAM OF PERIODIC MONITORING WOULD BE IMPLEMENTED FOR 30 YEARS TO EVALUATE CHANGES IN SITE CONDITIONS WITH TIME. MONITORING WOULD CONSIST OF SEMI-ANNUAL SAMPLING OF THE TEN EXISTING MONITORING WELLS. IN ADDITION, FOUR SURFACE SOIL SAMPLES WOULD BE COLLECTED. TWO OF THE SOIL SAMPLES WOULD BE COLLECTED FROM THE WETLANDS. WATER SAMPLES WOULD BE ANALYZED FOR TCL OF CHEMICALS WHILE THE SOIL SAMPLES WOULD BE ANALYZED FOR PCBS AND CPAHS. AIR MONITORING WOULD ALSO BE PERFORMED. AT LEAST ANNUAL MONITORING WOULD BE CONDUCTED FOR THE FIRST 5 YEARS. THE LONG-TERM MONITORING PROGRAM WOULD CONSIDER THE INSTALLATION OF ADDITIONAL WELLS, INCLUDING BEDROCK WELLS. BASED UPON THE RESULTS OF THE MONITORING PROGRAM SAMPLING OF THE RESIDENTIAL WELLS AND THE DEEPER AQUIFER WOULD BE PERFORMED, IF WARRANTED.

ALTERNATIVE 2 - LIMITED ACTION

UNDER THIS ALTERNATIVE, ACTIONS WOULD BE LIMITED TO REGRADING THE SITE BY PLACING APPROXIMATELY ONE FOOT OF CLEAN FILL, BROUGHT TO THE SITE FROM AN OFF-SITE SOURCE, OVER CONTAMINATED AREAS, SUPPLEMENTAL SOIL SAMPLING TO DEFINE THE AREAS OF CONTAMINATION, REGRADING AND REVEGETATING PORTIONS OF THE SITE TO LIMIT SURFACE RUNOFF TOWARDS OX CREEK AND NEIGHBORING PROPERTIES, AND INSTALLING RIP-RAP, AS NEEDED, ON THE EMBANKMENT SLOPING TOWARD OX CREEK AND ITS WETLAND TO LIMIT SURFACE SOIL EROSION. TO THE EXTENT POSSIBLE, INSTITUTIONAL CONTROLS WOULD BE IMPLEMENTED TO PREVENT THE UTILIZATION OF THE UNDERLYING GROUNDWATER, THE FUTURE DEVELOPMENT OF THE SITE FOR RESIDENTIAL USE, OR ANY USE INVOLVING EXCAVATION OF THE SITE OR SIGNIFICANT DISTURBANCE OF THE SOIL COVER. ANY INSTITUTIONAL CONTROLS, INCLUDING, WITHOUT LIMITATION, DEED RESTRICTIONS OR EASEMENTS, WOULD BE CONSISTENT WITH NEW YORK STATE LAW.

A PROGRAM OF LONG-TERM MONITORING (30 YEARS) WOULD BE UNDERTAKEN TO EVALUATE CHANGES IN THE GROUNDWATER, SOIL, AND AIR WITH TIME. IN ADDITION, SEDIMENT AND SURFACE WATER SAMPLES WOULD BE COLLECTED FROM THE ADJACENT WETLAND TO MONITOR ITS CONDITION. AT LEAST ANNUAL MONITORING WOULD BE CONDUCTED FOR THE FIRST YEARS. THE LONG-TERM MONITORING PROGRAM WOULD CONSIDER THE INSTALLATION OF ADDITIONAL WELLS, INCLUDING BEDROCK WELLS. BASED UPON THE RESULTS OF THE MONITORING PROGRAM, SAMPLING OF THE RESIDENTIAL WELLS IN AREAS NEIGHBORING THE SITE, AND THE AQUIFER WOULD BE PERFORMED, IF WARRANTED. CONSTRUCTION AND POST-CONSTRUCTION AIR MONITORING WOULD BE PERFORMED. THIS WOULD INCLUDE, BUT NOT BE LIMITED TO, PRE-CONSTRUCTION AIR MONITORING AND/OR ANALYSES TO FURTHER DELINEATE AREAS OF THE SITE REQUIRING COVERING.

ALTERNATIVE 3 - EXCAVATION AND OFF-SITE DISPOSAL

THIS ALTERNATIVE INVOLVES EXCAVATING 2500 CUBIC YARDS OF RESIDUAL CONTAMINATED SOIL, PLACING THE EXCAVATED MATERIAL IN TRUCKS AND HAULING THE MATERIAL OFF-SITE TO A RCRA HAZARDOUS WASTE LANDFILL.

UPON COMPLETION OF THE EXCAVATION, CLEAN SOIL WOULD BE BACKFILLED AND THE SITE WOULD BE REGRADED TO PROMOTE DRAINAGE. THE SITE WOULD BE REVEGETATED TO PREVENT SOIL EROSION.

LONG-TERM MONITORING WOULD NOT BE INCLUDED WITH THIS ALTERNATIVE. A CONFIRMATORY MONITORING PROGRAM, HOWEVER, WOULD BE UNDERTAKEN TO EVALUATE THE EFFECTIVENESS OF THE REMEDY.

ALTERNATIVE 4 - INSTALLATION OF SOIL CAP

THE MAJOR COMPONENT OF THIS ALTERNATIVE CONSISTS OF CONSOLIDATING RESIDUAL CONTAMINATED SOIL INTO A SOIL PILE. THEN AN APPROXIMATELY ONE-ACRE SOIL CAP WOULD BE CONSTRUCTED OF TWO FEET OF TOP SOIL OVERLYING ONE FOOT OF SAND (FOR DRAINAGE). THE CAP WOULD BE GRADED VEGETATED, AND RIP-RAP WOULD BE INSTALLED, AS NEEDED, ALONG THE EMBANKMENT TO MINIMIZE EROSION.

LONG-TERM MONITORING WOULD BE INCLUDED WITH THIS ALTERNATIVE.

ALTERNATIVE 5 - ON-SITE THERMAL OXIDATION

THIS ALTERNATIVE CONSISTS OF EXCAVATING 2500 CUBIC YARDS OF RESIDUAL CONTAMINATED SOIL, PREPROCESSING THE SOIL TO MEET THE THERMAL OXIDATION FEED REQUIREMENTS, AND THEN FEEDING THE SOIL TO A MOBILE THERMAL TREATMENT UNIT BROUGHT TO THE SITE. THE TREATMENT UNIT WOULD BE EQUIPPED WITH AN AFTERBURNER TO DESTROY ORGANICS VAPORIZED FROM THE SOIL, AND A SCRUBBER TO WASH AND COOL THE COMBUSTION AIR BEFORE BEING DISCHARGED TO THE ATMOSPHERE. THE BOTTOM ASH AND FLY ASH FROM THE INCINERATOR WOULD BE TESTED TO ASSURE THAT THEY MEET THE APPROPRIATE LEACHING STANDARD AND, FINALLY, WHEN JUDGED ACCEPTABLE, USED AS BACKFILL IN THE EXCAVATED AREAS.

LONG-TERM MONITORING WOULD NOT BE INCLUDED WITH THIS ALTERNATIVE. A CONFIRMATORY MONITORING PROGRAM, HOWEVER, WOULD BE UNDERTAKEN TO EVALUATE THE EFFECTIVENESS OF THE REMEDY.

ALTERNATIVE 6 - ON-SITE SOLIDIFICATION AND STABILIZATION

THIS ALTERNATIVE CONSISTS OF EXCAVATING 2500 CUBIC YARDS OF RESIDUAL CONTAMINATED SOIL, MIXING THE SOIL WITH CHEMICAL REACTIVE ADDITIVES AND A CEMENTITIOUS GROUT COMPOUND, AND PERMITTING THE MIXTURE TO SOLIDIFY. THIS WOULD EFFECTIVELY SEAL THE WASTE IN A HARD MONOLITHIC MATRIX. THE SOLIDIFIED MATRIX WOULD BE DISPOSED OF ON-SITE BELOW THE FREEZE-THAW LINE, AND WOULD BE COVERED WITH CLEAN SOIL TO AVOID DIRECT CONTACT.

THE BLENDING AND MIXING OF THE SOIL WITH THE ADDITIVES AND GROUTING MATERIALS WOULD BE PERFORMED IN AN ON-SITE MOBILE PROCESSING UNIT.

LONG-TERM MONITORING WOULD BE INCLUDED WITH THIS ALTERNATIVE.

#SCAA
SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES

THE REMEDIAL ACTION ALTERNATIVES DESCRIBED ABOVE WERE EVALUATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NCP AND CERCLA. NINE CRITERIA RELATING DIRECTLY TO THE FACTORS MANDATED IN SECTION 121 OF CERCLA INCLUDING SUBSECTION 121 (B)(1)(A-G) AND USEPA'S INTERIM GUIDANCE ON SELECTION OF REMEDY (DECEMBER 24, 1986 AND JULY 24, 1987) WERE UTILIZED FOR THIS EVALUATION, AND ARE AS FOLLOWS:

- SHORT-TERM EFFECTIVENESS
- LONG-TERM EFFECTIVENESS AND PERMANENCE
- REDUCTION OF TOXICITY, MOBILITY, OR VOLUME

- IMPLEMENTABILITY
- COST
- COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS)
- PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT
- STATE ACCEPTANCE
- COMMUNITY ACCEPTANCE

SHORT-TERM EFFECTIVENESS

WITH THE COMPLETION OF THE REMOVAL ACTIONS, WHICH RESULTED IN THE REMOVAL OF ALL THE DRUMS AND THE MAJORITY OF THE VISIBLY-CONTAMINATED SURFACE SOILS, THE ON-SITE RISKS HAVE BEEN REDUCED TO A RANGE GENERALLY CONSIDERED PROTECTIVE OF HUMAN HEALTH. SINCE THERE ARE NC RESIDENTS ON-SITE, CURRENT RISKS ARE RELATED TO TRESPASSERS AND THE CURRENT OWNER.

THE RISK ASSESSMENT INDICATED THAT DIRECT CONTACT WITH THE RESIDUALLY CONTAMINATES SOIL ON-SITE IS THE MOST IMPORTANT ROUTE OF HUMAN EXPOSURE. THE PLAUSIBLE MAXIMUM LIFETIME CANCER RISK ESTIMATES FOR DIRECT CONTACT AND INGESTION OF ON-SITE SOILS BY ADULTS TRESPASSING ON THE SITE WAS 2X10E-6. WITH THIS IN MIND, ALL SIX ALTERNATIVES WOULD BE AN EFFECTIVE METHOD OF RISK CONTROL. ALTERNATIVE 1, NO ACTION, WOULD OFFER THE LEAST DEGREE OF EFFECTIVENESS, BUT WOULD STILL ACHIEVE PROTECTION OF PUBLIC HEALTH AND THE ENVIRONMENT.

RELATIVE RISK TO ON-SITE WORKERS IS DEPENDENT ON THE VOLUME OF MATERIAL HANDLED. SINCE ALTERNATIVE 2 INVOLVES LIMITED ON-SITE REMEDIAL ACTION, THIS CONCERN WOULD BE MINIMAL. FOR ALTERNATIVES 3 AND 4, WHICH REQUIRE EXCAVATION, THE POTENTIAL RISKS ARE THOSE ASSOCIATED WITH DERMAL CONTACT WITH THE CONTAMINATION MEDIA. ALTERNATIVES 5 AND 6 INVOLVE TREATMENT IN ADDITION TO EXCAVATION. THE RISK ASSOCIATED WITH THESE ALTERNATIVES WOULD BE POTENTIALLY GREATER THAN THE PREVIOUS ALTERNATIVES OF THE ADDITIONAL HANDLING OF THE MATERIALS. THE RISK ASSOCIATED WITH THESE ALTERNATIVES WOULD BE SIGNIFICANTLY REDUCED, THOUGH, THROUGH THE USE OF PROPER PERSONNEL PROTECTION EQUIPMENT.

THE TIME REQUIRED TO IMPLEMENT EACH ALTERNATIVE IS BETWEEN ONE AND TWO YEARS. EXCEPT FOR ALTERNATIVE L, THE ALTERNATIVE REQUIRING THE LEAST AMOUNT OF TIME TO IMPLEMENT WOULD BE ALTERNATIVE 2.

THE DRUM AND CONTAMINATED SOIL REMOVAL ACTIONS DESCRIBED ABOVE OFFER A HIGH DEGREE OF PERMANENCE UNDER CURRENT CONDITIONS.

THE ONE-FOOT SOIL COVER OF ALTERNATIVE 2 WOULD MITIGATE AGAINST DIRECT CONTACT OR INGESTION OF THE RESIDUALLY CONTAMINATED MEDIA. ALTHOUGH THIS ALTERNATIVE IS LESS PERMANENT THAN THE OTHER ALTERNATIVES, SINCE THE RESIDUAL CONTAMINATION THAT IS PRESENT ON-SITE IS BELOW HEALTH-BASED LEVELS, ALTERNATIVE 2 STILL AFFORDS A HIGH DEGREE OF EFFECTIVENESS AND PERMANENCE.

ALTERNATIVES 3 AND 5 WOULD PERMANENTLY REMOVE THE CONTAMINATED MEDIA FROM THE SITE.

ALTERNATIVE 4, THE INSTALLATION OF A SOIL CAP, ALTHOUGH LESS PERMANENT THAN OTHER ALTERNATIVES, EFFECTIVELY MITIGATES THE RISK ASSOCIATED BY DIRECT CONTACT WITH THE CONTAMINATED MEDIA. THE LONG-TERM EFFECTIVENESS IS DEPENDENT ON MAINTENANCE OF THE COVER AND THE ADHERENCE TO IMPOSED LAND-USE RESTRICTIONS. THE ADDITIONAL COST ASSOCIATED WITH THIS ALTERNATIVE AS COMPARED TO LIMITED ACTION PROVIDES SOMEWHAT GREATER PERMANENCE DUE TO GREATER STABILITY OF A THICKER COVERING OF SOIL. RISK LEVELS OF THE TWO ALTERNATIVES ARE THE SAME.

ALTERNATIVE 6, WHICH IE A HIGHLY EFFECTIVE ALTERNATIVE, OFFERS APERMANENT SOLUTION TO THE CONTAMINANT PROBLEM BY IMMOBILIZING THE CONTAMINANTS IN THE SOIL MATRIX. BECAUSE THE MATRIX WOULD BE REDEPOSITED ON-SITE UNDER THIS ALTERNATIVE, LONG-TERM EFFECTIVENESS IS DEPENDENT ON

INSPECTION OF THE SITE AND ANNUAL MONITORING OF THE AFFECTED MEDIA.

REDUCTION IN TOXICITY, MOBILITY OR VOLUME (TMV)

ALTERNATIVES 1 AND 2 PROVIDE NO REDUCTION IN THE CURRENT RESIDUAL CONTAMINANT TOXICITY, OR VOLUME. ALTERNATIVE 2 WOULD REDUCE THE RESIDUAL CONTAMINANT MOBILITY. THE CURRENT RISK ASSOCIATED WITH THIS SITE IS WITHIN THE RANGE RECOMMENDED BY USEPA.

ALTERNATIVE 3, EXCAVATION AND OFF-SITE DISPOSAL, WOULD EFFECTIVELY REDUCE THE CONTAMINANT TMV FROM CURRENT LEVELS ON-SITE. ALTERNATIVE 3, HOWEVER, ACHIEVES THIS GOAL BY MOVING THE CONTAMINATED MEDIA TO ANOTHER LOCATION (OFF-SITE LANDFILL) WHERE ITS MOBILITY IS REDUCED BUT ITS TOXICITY AND VOLUME ARE RETAINED.

ALTERNATIVE 5, ON-SITE THERMAL TREATMENT, WOULD EFFECTIVELY REDUCE ON-SITE CONTAMINATION TMV.

ALTERNATIVE 4 WOULD REDUCE THE CONTAMINANT MOBILITY SOMEWHAT THROUGH THE USE OF A SOIL COVER, BUT TOXICITY AND VOLUME WOULD REMAIN THE SAME.

ALTERNATIVE 6 WOULD SIGNIFICANTLY REDUCE THE CONTAMINANT TOXICITY AND MOBILITY. THE SOLIDIFIED SOIL VOLUME WOULD PROBABLY INCREASE.

IMPLEMENTABILITY

ALL COMPONENTS OF ALTERNATIVES L, 2, AND 3, AND MOST COMPONENTS OF ALTERNATIVES 4 AND 5, UTILIZE RELATIVELY COMMON CONSTRUCTION EQUIPMENT AND MATERIALS. LITTLE CONSTRUCTION DIFFICULTY SHOULD OCCUR WITH ANY OF THE ALTERNATIVES.

ALL OF THE TECHNOLOGIES UNDER CONSIDERATION ARE PROVEN AND DEMONSTRATED RELIABLE IN ACHIEVING THE SPECIFIED PROCESS EFFICIENCIES AND PERFORMANCE GOALS. UNDER ALTERNATIVE 3, FINDING AN OFF-SITE DISPOSAL FACILITY THAT IS IN COMPLIANCE WITH RCRA MAY BE DIFFICULT. SOLIDIFICATION, WHILE NOT FULLY DEMONSTRATED, HAS UNDERGONE EXTENSIVE PILOT TESTING, AND WOULD LIKELY ACHIEVE THE SPECIFIED PROCESS EFFICIENCY.

COST

THE LIMITED ACTION ALTERNATIVE IS THE LEAST COSTLY ALTERNATIVE AFTER THE NO-ACTION ALTERNATIVE, WITH A TOTAL PRESENT WORTH OF $500,000. THE PRESENT WORTH COSTS OF ALL ALTERNATIVES ARE SHOWN IN TABLE 5.

ALTERNATIVE 3, EXCAVATION AND OFF-SITE DISPOSAL OF CONTAMINATED SOIL, HAS A PRESENT WORTH OF $1,633,000. THE ADDITIONAL COST OF THIS ALTERNATIVE TO THAT OF THE LIMITED ACTION ALTERNATIVE REDUCES THE ALREADY ACCEPTABLE LEVEL OF ON-SITE RISK AND INCREASES THE SHORT-TERM RISK DUE TO EXCAVATION AND TRANSPORTATION ACTIVITIES.

ALTERNATIVE 4, THE INSTALLATION OF A SOIL CAP, HAS A PRESENT WORTH OF $666,000.

ALTERNATIVE 5, ON-SITE THERMAL INCINERATION, IS THE MOST COSTLY ALTERNATIVE WITH A PRESENT WORTH VALUE OF $3,062,000.

ALTERNATIVE 6, ON-SITE SOLIDIFICATION, HAS A PRESENT WORTH OF $1,691,000, ABOUT THE SAME AS THE COST OF ALTERNATIVE 3, EXCAVATION AND OFF-SITE DISPOSAL. HOWEVER, PRESENT RISK LEVELS ARE ALREADY CONSIDERED TO BE IN AN ACCEPTABLE RANGE SO THAT THE ADDITIONAL COST FOR TREATMENT DOES NOT BRING ANY SUBSTANTIAL LOWERING OF THE RISK LEVEL.

COMPLIANCE WITH ARARS

ALL TECHNOLOGIES PROPOSED FOR USE IN ALTERNATIVES 2 THROUGH 6 CAN BE DESIGNED AND IMPLEMENTED TO SATISFY ALL ACTION- AND LOCATION-SPECIFIC ARARS. CHEMICAL-SPECIFIC ARARS WERE USED TO DEFINE CLEANUP OR REMEDIATION LEVELS.

THERE ARE NO FEDERAL OR NEW YORK STATE ARARS FOR SOIL. FEDERAL AND NEW YORK STATE ARARS FOR GROUNDWATER ARE MARGINALLY EXCEEDED. HOWEVER, CONSIDERING THAT THERE ARE NO RESIDENTS OR WELLS CURRENTLY ON-SITE AND THAT THE SHALLOW AQUIFER IS A LOW YIELDING AQUIFER AND THUS IS UNLIKELY TO BE USED AS A WATER SUPPLY. INSTITUTIONAL CONTROLS WOULD BE EMPLOYED FOR THE ALTERNATIVES WHICH ALLOW RESIDUAL CONTAMINATION TO REMAIN ON-SITE, TO PREVENT THE UTILIZATION OF THE UNDERLYING AQUIFER (E.G., THROUGH THE DRILLING OF WELLS IN THE SHALLOW AQUIFER). AS NOTED PREVIOUSLY, THIS ROD DOES NOT ADDRESS GROUNDWATER CONTAMINATION.

THE IMPLEMENTATION OF THE LIMITED ACTION ALTERNATIVE WOULD REQUIRE COMPLIANCE WITH ACTION AND LOCATION-SPECIFIC ARARS, I.E., OCCUPATIONAL, SAFETY AND HEALTH REGULATIONS, AND ATTENTION TO FLOODPLAIN AND WETLAND REGULATIONS, SINCE THE SITE IS INCLUDED IN A FLOODPLAIN AND IS ADJACENT TO A DESIGNATED WETLAND.

OVERALL PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT

ALTERNATIVE 1, NO ACTION, PROVIDES NO REDUCTION IN RISK TO HUMANS AND THE ENVIRONMENT. HOWEVER, PRESENT RISK LEVELS ARE CONSIDERED TO BE IN AN ACCEPTABLE RANGE.

ALTERNATIVE 2, LIMITED ACTION, PROVIDES ADDITIONAL PROTECTION OVER NO ACTION BY COVERING THE EXISTING AREAS OF LOW-LEVEL CONTAMINATION WITH A 1-FOOT COVERING AND RESTRICTING FUTURE DEVELOPMENT OF THE SITE.

ALL ALTERNATIVES ARE PROTECTIVE OF HUMAN HEALTH AND THE ENVIRONMENT. ALTERNATIVES 3, 4, 5, AND 6 ALL ACHIEVE THE SAME DEGREE OF HEALTH-BASED RISK LEVEL. HOWEVER, ALTERNATIVES 5 AND 6 HAVE A HIGHER OF CONFIDENCE BECAUSE TREATMENT PROCESSES ARE CONSIDERED IRREVERSIBLE.

STATE ACCEPTANCE

NYSDEC CONCURS WITH EPA'S SELECTION OF ALTERNATIVE 2-LIMITED ACTION

COMMUNITY ACCEPTANCE

THE COMMUNITY HAS EXPRESSED CONCERN OVER THE USE OF INCINERATION, WHICH WAS IDENTIFIED AS THE PREFERRED REMEDY PREVIOUSLY (BUT NOT IN THE PRAP). HOWEVER, THE ANALYTICAL DATA UPON WHICH THE REMEDY SELECTION WAS BASED WAS LATER DETERMINED TO BE INVALID. INCINERATION IS NO LONGER CONSIDERED APPROPRIATE FOR THIS SITE. THE COMMUNITY ALSO EXPRESSED A PREFERENCE FOR BIORECLAMATION IN 1987. THIS ALTERNATIVE HAS BEEN RULED AS BEING TECHNICALLY INFEASIBLE FOR THIS SITE.

THE COMMUNITY HAS EXPRESSED TWO PRINCIPAL CONCERNS, NAMELY:

1) DELAYING THE SIGNING OF THE ROD UNTIL THE FULTON SAFE DRINKING WATER ACTION COMMITTEE FOR ENVIRONMENTAL CONCERNS, INC. (FSDWAC), RECEIVES A TECHNICAL ASSISTANCE GRANT (TAG) FROM USEPA AND HAS THE OPPORTUNITY TO HAVE A TECHNICAL ASSISTANT REVIEW AND COMMENT ON THE RI/FS DOCUMENTS; AND

2) INVESTIGATING THE ADJACENT 11 ACRE AREA OF THE OX CREEK WETLAND, WHICH WAS ONLY RECENTLY SAMPLED, BEFORE SIGNING A ROD FOR THE SOURCE CONTROL REMEDY.

THESE CONCERNS ARE ADDRESSED AS FOLLOWS:

1) IN RESPONSE TO A REQUEST FROM REPRESENTATIVES OF FSDWAC, THE RI/FS COMMENT PERIOD WAS EXTENDED FROM TWENTY-ONE DAYS TO SIXTY DAYS TO ALLOW SUFFICIENT TIME TO PERFORM A TECHNICAL REVIEW OF THE RI/FS AND THE PRAP.

DURING THE PUBLIC COMMENT PERIOD, A PUBLIC MEETING WAS HELD TO EXPLAIN THE RESULTS OF THE STUDY, TO DISCUSS THE PREFERRED REMEDY, AND TO SOLICIT PUBLIC COMMENTS AND CONCERNS.

DURING THE COURSE OF THE PROJECT, USEPA AND NYSDEC HAVE CONDUCTED A SIGNIFICANT PUBLIC OUTREACH PROGRAM. AS PART OF THIS PROGRAM, A NUMBER OF MEETINGS AND INFORMAL DISCUSSIONS WITH THE PUBLIC AND FSDWAC HAVE BEEN CONDUCTED TO DISCUSS TECHNICAL ISSUES ASSOCIATED WITH THE CLOTHIER DISPOSAL SITE.

USEPA IS COMMITTED TO CITIZEN INVOLVEMENT IN THE SUPERFUND PROCESS. USEPA IS EQUALLY COMMITTED TO REMEDIATING SITES AS EXPEDITIOUSLY AS POSSIBLE. TO DELAY THE SELECTION OF THE REMEDY FOR THE SITE UNTIL AFTER A TAG HAS BEEN AWARDED, A TECHNICAL ADVISOR HAS BEEN SELECTED, AND A TECHNICAL REVIEW OF THE DOCUMENTATION BY THE TECHNICAL ADVISOR HAS BEEN COMPLETED WOULD SERIOUSLY DELAY REMEDIATING THE RESIDUAL CONTAMINATION AT THIS SITE. INSTEAD, USEPA PLANS TO REVIEW FSDWAC'S APPLICATION AND AWARD A TAG SO THAT TECHNICAL ASSISTANCE MAY BE AVAILABLE TO FSDWAC DURING THE DESIGN AND CONSTRUCTION OF THE REMEDY THAT EPA SELECTS.

2) THE PROPOSED REMEDY WILL ADDRESS RESIDUAL ON-SITE CONTAMINATION, AND WILL VIRTUALLY ELIMINATE THE POTENTIAL FOR ANY MIGRATION OF RESIDUAL CONTAMINANTS FROM THE CLOTHIER DISPOSAL SITE TO THE ADJACENT WETLAND. THEREFORE, USEPA DOES NOT BELIEVE THAT EVEN IF THE SAMPLES FROM THE WETLAND SHOW CONTAMINATION, IT WILL BE NECESSARY TO MODIFY THE REMEDY PROPOSED FOR THE SITE. HOWEVER, IF THE SAMPLE RESULTS SHOW THAT CONTAMINATION IS PRESENT IN CONCENTRATIONS THAT WILL MAKE REMEDIATION OF THE WETLAND NECESSARY, THIS AREA WILL BE ADDRESSED SEPARATELY.

#SR
THE SELECTED REMEDY

THE REMOVAL ACTIONS UNDERTAKEN BY THE PRPS AND USEPA HAVE LEAD TO THE REMOVAL OF APPROXIMATELY 2000 DRUMS AND THE ASSOCIATED VISIBLY CONTAMINATED SOIL. AS A RESULT, ONLY RESIDUAL SOIL CONTAMINATION REMAINS ON-SITE. THE RESULTS OF A RISK ASSESSMENT PERFORMED FOR THE SITE LEAD TO THE CONCLUSION THAT THE RESIDUAL SOIL CONTAMINATION CURRENTLY ON-SITE POSES AN ACCEPTABLE RISK TO HUMAN HEALTH.

THE SELECTED REMEDY FOR THE SITE IS ALTERNATIVE 2, LIMITED ACTION.

THIS REMEDY ADDRESSES THE PRINCIPAL THREAT AT THE SITE, NAMELY DIRECT CONTACT AND INGESTION OF LOW LEVEL CONTAMINATES SOIL BY TRESPASSERS, BY COVERING THE CONTAMINATED AREAS WITH ONE FOOT OF CLEAN SOIL.

THE USFWS' STUDY FOUND NO EVIDENCE OF EITHER ENVIRONMENTAL DAMAGE IN THE AREA AROUND THE SITE AND OX CREEK AT LEVELS LIKELY TO BE ASSOCIATED WITH RISKS TO WILDLIFE. THE USFWS' STUDY DID NOT, HOWEVER, INCLUDE THE ADJACENT 11-ACRE WETLAND. THEREFORE, THIS SOURCE CONTROL DOES NOT ADDRESS THE ADJACENT 11 ACRE WETLAND. IF, BASED UPON THE RESULTS OF SURFACE WATER AND SEDIMENT SAMPLES COLLECTED IN DECEMBER 1988 IT IS DETERMINED THAT THERE IS A NEED TO REMEDIATE THE WETLAND, A SUBSEQUENT OPERABLE UNIT WILL BE UNDERTAKEN.

THE REMEDY ALSO DOES NOT ADDRESS THE GROUNDWATER. ALTHOUGH A NUMBER OF FEDERAL AND STATE ARARS WERE MARGINALLY EXCEEDED, IT IS BELIEVED THAT THE PRESENCE OF TURBIDITY IN THE GROUNDWATER SAMPLES MAY HAVE ARTIFICIALLY INFLATED THE LEVEL OF CONTAMINATION ACTUALLY PRESENT IN THE

GROUNDWATER. THE GROUNDWATER WAS RESAMPLED IN DECEMBER 1988. IF BASED UPON THE RESULTS OF THESE SAMPLES, IT IS DETERMINED THAT THERE IS A NEED TO REMEDIATE THE GROUNDWATER, A SUBSEQUENT OPERABLE UNIT WILL BE UNDERTAKEN.

THE MAJOR COMPONENTS OF THE SELECTED REMEDY ARE AS FOLLOWS:

- PLACEMENT OF A ONE-FOOT CLEAN SOIL COVER, BROUGHT FROM AN OFF-SITE SOURCE, OVER THE CONTAMINATION AREAS. SAMPLING WILL BE PERFORMED DURING THE DESIGN PHASE TO DETERMINE THE EXTENT OF THE AREAS OF RESIDUAL CONTAMINATION REQUIRING COVERING.

- REGRADING AND REVEGETATING THE SITE TO PREVENT SOIL EROSION AND MINIMIZE SURFACE WATER RUNOFF TOWARDS NEIGHBORING PROPERTIES, OX CREEK, AND THE ADJACENT WETLAND. THE REGRADING PLAN AND TYPES OF VEGETATION WILL BE DETERMINED DURING THE DESIGN PHASE, AND WILL BE COMPATIBLE WITH THE WILDLIFE HABITAT.

- INSTALLING RIP-RAP, AS NEEDED, ON THE EMBANKMENT SLOPING TOWARDS OX CREEK TO PREVENT SOIL EROSION. THE EXTENT OF THE RIP-RAP WILL BE DETERMINED DURING THE DESIGN PHASE, AND WILL CONSIDER THE IMPACT ON THE WILDLIFE HABITAT.

- PERFORMING LONG-TERM GROUNDWATER, SOIL AND OX CREEK SEDIMENT AND SURFACE WATER MONITORING TO EVALUATE ANY CHANGES SHOULD THEY OCCUR. THE LONG-TERM MONITORING PROGRAM WILL CONSIDER THE INSTALLATION OF ADDITIONAL WELLS INCLUDING BEDROCK WELLS. BASED UPON THE RESULTS OF THE MONITORING PROGRAM, SAMPLING OF THE RESIDENTIAL WELLS IN AREAS NEIGHBORING THE SITE, AND THE DEEPER AQUIFER WOULD BE PERFORMED, IF WARRANTED.

- PERFORMING CONSTRUCTION AND POST-CONSTRUCTION AIR MONITORING. THIS MAY ALSO INCLUDE, BUT IT IS NOT LIMITED TO, BASELINE PRE-CONSTRUCTION AIR MONITORING AND/OR ANALYSIS TO FURTHER DELINEATE AREAS OF THE SITE REQUIRING COVERING.

- APPLYING, TO THE EXTENT POSSIBLE, INSTITUTIONAL CONTROLS TO PREVENT THE UTILIZATION OF THE UNDERLYING GROUNDWATER (E.G., THROUGH THE DRILLING OF WELLS IN THE SHALLOW AQUIFER), THE FUTURE DEVELOPMENT OF THE SITE FOR RESIDENTIAL USE, OR ANY USE INVOLVING EXCAVATION AT THE SITE OR SIGNIFICANT DISTURBANCE OF THE SOIL COVER. ANY INSTITUTIONAL CONTROLS, INCLUDING, WITHOUT LIMITATION, DEED RESTRICTIONS OR EASEMENTS, SHALL BE CONSISTENT WITH NEW YORK STATE LAW.

#SD
STATUTORY DETERMINATIONS

SECTION 121 OF CERCLA MANDATES THAT USEPA SELECT A REMEDIAL ACTION THAT IS PROTECTIVE OF HUMAN HEALTH AND THE ENVIRONMENT, ATTAINS ARARS, IS COST-EFFECTIVE, AND UTILIZES PERMANENT SOLUTIONS AND ALTERNATIVE TREATMENT TECHNOLOGIES OR RESOURCE RECOVERY TECHNOLOGIES TO THE MAXIMUM EXTENT PRACTICABLE. REMEDIAL ACTIONS IN WHICH TREATMENT WHICH PERMANENTLY AND SIGNIFICANTLY REDUCES THE VOLUME, TOXICITY OR MOBILITY OF A HAZARDOUS SUBSTANCE AS A PRINCIPAL ELEMENT ARE TO BE PREFERRED OVER REMEDIAL ACTIONS NOT INVOLVING SUCH TREATMENT.

BASED UPON THE ANALYSES PRESENTED HEREIN THE FOLLOWING CONCLUSIONS ARE REACHED:

- OVERALL PROTECTION OF PUBLIC HEALTH AND THE ENVIRONMENT

WITH THE COMPLETION OF THE REMOVAL ACTIONS, ON-SITE RISKS TO TRESPASSERS AND THE CURRENT OWNER HAVE BEEN REDUCED TO A RANGE CONSIDERED PROTECTIVE OF HUMAN HEALTH. THE ADDITION OF A 1-FOOT COVERING OF CLEAN SOIL OVER THE CONTAMINATED AREAS WILL LOWER THE RISK FURTHER BY LIMITING

DIRECT DERMAL CONTACT AND INGESTION OF CONTAMINATED SOIL.

BY REGRADING AND REVEGETATING THE SITE, AND BY INSTALLING RIP-RAP, AS NEEDED, ON THE EMBANKMENT SLOPING TOWARDS OX CREEK AND ITS WETLAND, SOIL EROSION AND SURFACE WATER RUNOFF WILL BE LIMITED, THEREBY PROTECTING THE ENVIRONMENT.

- COMPLIANCE WITH ARARS

NO FEDERAL OR STATE REGULATION SPECIFIES SOIL CLEANUP LEVELS FOR PAHS. THE TSCA PCB SPILL POLICY GOVERNS THE CLEANUP STANDARDS FOR PCB SPILLS. THE POLICY ESTABLISHES REQUIREMENTS FOR PCB LEVELS AT 25 PPM FOR RESTRICTED ACCESS AREAS AND AT 10 PPM FOR UNRESTRICTED ACCESS AREAS. THE EFFECTIVE DATE OF THIS POLICY WAS MAY 4, 1987. SINCE THE OPERATIONS OF THE CLOTHIER DISPOSAL SITE CEASED IN 1986, THOSE REQUIREMENTS WOULD NOT BE APPLICABLE, BUT WOULD BE RELEVANT AND APPROPRIATE.

THE MAXIMUM CONCENTRATION IN SURFACE SOIL SAMPLES COLLECTED AT THE SITE WERE LESS THAN 2.5 PPM FOR PCBS. THEREFORE, THIS ALTERNATIVE WOULD MEET TSCA REQUIREMENTS.

GROUNDWATER ARARS WERE MARGINALLY EXCEEDED. HOWEVER, DUE TO THE PRESENCE OF TURBIDITY IN THE SAMPLES, THE SAMPLE VALUES MAY HAVE BEEN ARTIFICIALLY INFLATED. A CONFIRMATORY ROUND OF GROUNDWATER SAMPLES WERE COLLECTED IN DECEMBER 1988. SHOULD THESE RESULTS SHOW CONTAMINATION, GROUNDWATER REMEDIATION WILL BE ADDRESSED SEPARATELY IN A SUPPLEMENTAL RI/FS.

SINCE LIMITED REMEDIAL ACTIVITY WOULD OCCUR ON-SITE UNDER ALTERNATIVE 2, ACTION-SPECIFIC ARARS PERTAINING TO OSHA HEALTH AND SAFETY STANDARDS, AND FEDERAL MINIMUM TECHNICAL AID FACILITY REQUIREMENTS WOULD BE RELEVANT AND APPROPRIATE.

LOCATION-SPECIFIC ARARS CONCERNING PROTECTION OF WETLANDS AND FLOODPLAINS WOULD BE RELEVANT AND APPROPRIATE.

- UTILIZATION OF PERMANENT SOLUTIONS AND ALTERNATIVE TREATMENT TECHNOLOGIES TO THE MAXIMUM EXTENT PRACTICABLE

ALTERNATIVE 2 IS CONSIDERED TO BE A PERMANENT REMEDIAL ACTION SINCE THE CONCENTRATIONS OF CONTAMINANTS REMAINING ON-SITE ARE WITHIN RANGES WHICH HAVE ACCEPTABLE RISK LEVELS.

FURTHER, CONTAMINANT CONCENTRATIONS AND RELATED RISKS WILL DECREASE OVER TIME DUE TO NATURAL ATTENUATION OF THE CONTAMINANTS. ALTHOUGH THIS REMEDY IS NOT A TREATMENT TECHNOLOGY, IT IS AS EFFECTIVE.

WHILE TREATMENT TECHNOLOGIES (ALTERNATIVES 5 AND 6) HAVE A GREATER DEGREE OF PERMANENCE RELATIVE TO THE LIMITED ACTION ALTERNATIVE, THEY ARE NOT CONSIDERED NECESSARY SINCE EXISTING RISK LEVELS ARE ALREADY ACCEPTABLE. THERE ARE ALSO INCREASED SHORT-TERM RISKS ASSOCIATED WITH IMPLEMENTING THESE TECHNOLOGIES. NEW YORK STATE HAS CONCURRED THAT TREATMENT IS NOT NECESSARY FOR THIS SITE.

DURING THE REMEDIAL DESIGN PHASE OF THE PROJECT, INFORMAL CONSULTATIONS WOULD BE CONDUCTED WITH THE USFWS TO COMPLY WITH THE ENDANGERED SPECIES ACT.

CARS WOULD BE TAKEN DURING THE REMEDIAL DESIGN PHASE TO COMPLY WITH EXECUTIVE ORDERS 11988 (FLOODPLAINS) AND 11990 (WETLANDS).

- PREFERENCE FOR TREATMENT AS A PRINCIPAL ELEMENT

ALTERNATIVE 2, LIMITED ACTION, DOES NOT TREAT THE RESIDUAL ON-SITE SOIL CONTAMINATION. CONSIDERING THE LEVEL OF RESIDUAL CONTAMINANTS PRESENT ON-SITE, AND THE FACT THAT THE RESULTING

RISK TO HUMAN HEALTH IS IN A RANGE CONSIDERED TO BE ACCEPTABLE, THE APPLICATION OF TREATMENT TECHNOLOGY TO FURTHER LOWER THE LEVEL OF CONTAMINATION AND RELATED RISKS DOES NOT APPEAR APPROPRIATE.

- COST-EFFECTIVENESS

THE LIMITED ACTION ALTERNATIVE IS THE LEAST COSTLY OF THE ALTERNATIVES, OTHER THAN THE NO-ACTION ALTERNATIVE, YET PROVIDES ACCEPTABLE PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT.

SUMMARY

IN SUMMARY, ALTERNATIVE 2 IS THE SELECTED ALTERNATIVE. IT IS PROTECTIVE OF PUBLIC HEALTH AND THE ENVIRONMENT, ATTAINS ARARS, AND IS COST EFFECTIVE. BECAUSE TREATMENT OF THE PRINCIPAL THREATS OF THE SITE WAS FOUND TO BE UNNECESSARY, THIS REMEDY DOES NOT SATISFY THE STATUTORY PREFERENCE FOR TREATMENT AS A PRINCIPAL ELEMENT OF THE REMEDY.

THE ESTIMATED PRESENT WORTH COST FOR IMPLEMENTING ALTERNATIVE 2 IS $500,000.

ALTERNATIVE 2 PROVIDES THE BEST BALANCE OF TRADE-OFFS AMONG THE ALTERNATIVES, EXAMINED IN DETAIL, WITH RESPECT TO THE NINE EVALUATING CRITERIA.

#TAB

TABLE 1

CHEMICALS SELECTED AS CHEMICALS OF CONCERN AT THE CLOTHIER SITE

SURFACE SOILS	UNSATURATED SOILS
ACETONE	ACETONE
BIS(2-ETHYLHEXYL) PHTHALATE	BIS(2-ETHYLHEXYL) PHTHALATE
2-BUTANONE	2-BUTANONE
CARCINOGENIC PAHS	CARCINOGENIC PAHS
4-CHLORO-3-METHYLPHENOL	1,2-DICHLOROETHENE (TRANS)
2,4-DIMETHYLPHENOL	2,4-DIMETHYLPHENOL
DI-N-BUTYLPHTHALATE	DI-N-BUTYLPHTHALATE
DI-N-OCTYLPHTHALATE	DI-N-OCTYLPHTHALATE
METHYLPHENOLS	METHYLENE CHLORIDE
N-NITROSODIPHENYLAMINE	METHYLPHENOLS
NON-CARCINOGENIC PAHS	N-NITROSODIPHENYLAMINE
PCB AROCLOR 1242	NON-CARCINOGENIC PAHS
PHENOL	PCB AROCLOR 1242
TETRACHLOROETHENE	PHENOL
TOLUENE	1,1,1-TRICHLOROETHANE
XYLENES	TETRACHLOROETHENE
CADMIUM	TOLOUENE
SELENIUM	XYLENES
SILVER	CADMIUM
THALLIUM	SELENIUM
	SILVER
	THALLIUM

SURFACE SOILS	GROUNDWATER
ACETONE	BIS(2-ETHYLHEXYL) PHTHALATE
BIS(2-ETHYLHEXYL) PHTHALATE	1,2-DICHLOROETHENE (TRANS)
2-BUTANONE	1,1,1-TRICHLOROETHANE
CARCINOGENIC PAHS	TRICHLOROETHENE
4-CHLORO-3-METHYLPHENOL	TETRACHLOROETHENE
2,4-DIMETHYLPHENOL	XYLENES
DI-N-BUTYLPHTHALATE	CADMIUM
DI-N-OCTYLPHTHALATE	CHROMIUM
METHYLPHENOLS	MANGANESE
N-NITROSODIPHENYLAMINE	
NON-CARCINOGENIC PAHS	
PCB AROCLOR 1242	
PHENOL	
TETRACHLOROETHENE	
TOLUENE	
XYLENES	
CADMIUM	
SELENIUM	
SILVER	
THALLIUM	

TABLE 2
COMPARISON OF CONCENTRATION VALUES WITH FEDERAL AND NEW YORK STATE GROUNDWATER ARARS FOR CHEMICALS OF CONCERN AT THE CLOTHIER SITE

(ALL CONCENTRATIONS ARE IN UG/LITER)

	GROUNDWATER CONCENTRATION		FEDERAL ARARS			NEW YORK STATE
CHEMICAL	GEOMETRIC MEAN	MAXIMUM	MCL	PROPOSED MCLG	STANDARD	GUIDELINES
ORGANICS						
BIS(2-ETHYLHEXYL) PHTHALATE	4.5	6.6	--	--	4,200	50
1,2-DICHLOROETHENE (TRANS)	NR	1 6	--	70	--	50
1,1,1-TRICHLOROETHANE	NR	1.9	200	200	--	50
TRICHLOROETHENE	2.7	18	5	0	10	50
TETRACHLOROETHENE	3.3	24	--	0	--	0.7
XYLENES	NR	2.3	---	---	--	50
INORGANICS						
CADIUM	4.5	6.9	10	5	10	--
CHROMIUM	36.5	58.7	50	120	50	--
MANGANESE	2,541	23,800	--	--	300	--
LEAD {A}	ND	63.5	50	20	25	--

MCL = MAXIMUM CONTAMINANT LEVEL
MCLG = MAXIMUM CONTAMINANT LEVEL GOAL
MR = NOT REPORTED. CHEMICAL WAS DETECTED INFREQUENTLY, AND THE USE OF ONE-HALF OF THE DETECTION LIMIT IN CALCULATING A MEAN CONCENTRATION THAT EXCEEDS THE MAXIMUM REPORTED VALUE. THEREFORE, A MEAN WILL BE USED.
ND = NOT DETERMINED
{A} LEAD WAS NOT CHOSEN AS AN INDICATOR CHEMICAL BECAUSE ITS PRESENCE MAY NOT BE SITE RELATED. COMPARISON IS PROVIDED AS A POINT OF INFORMATION.

TABLE 3

SOIL CLEANUP LEVELS FOR PCBS AND CPAHS (1)
DIRECT CONTACT/INGESTION ROUTES
(CURRENT LAND-USE SCENARIO)

CLOTHIER DISPOSAL SITE
GRANBY, NEW YORK

LIFETIME CARCINOGENIC RISK LEVEL		SOIL CLEANUP LEVEL (UG/KG) WORST CASE	AVERAGE CASE
10 -4	PCBS	*	*
	CPAHS	*	*
10 -5	PCBS	*	*
	CPAHS	*	*
10 -6	PCBS	1,566	*
	CPAHS	463	*
10 -7	PCBS	157	*
	CPAHS	46	*

(1) CPAH = CARCINOGENIC POLYNUCLEAR AROMATIC HYDROCARBONS)TOTAL)

* = NO CLEANUP REQUIRED - CLEANUP LEVELS EXCEED HIGHEST MEASURED CONCENTRATIONS IN ON-SITE SOILS

TABLE 4

HEALTH-BASED SOIL CLEANUP LEVELS FOR PCB AND CPAHS (1)
DIRECT CONTACT/INGESTION ROUTES
(FUTURE LAND-USE SCENARIO)

CLOTHIER DISPOSAL SITE
GRANBY, NEW YORK

LIFETIME CARCINOGENIC RISK LEVEL		SOIL CLEANUP LEVEL (UG/KG) WORST CASE	AVERAGE CASE
10 -4	PCBS	*	*
	CPAHS(1)	*	*
10 -5	PCBS	956	*
	CPAHS	283	*
10 -6	PCBS	96	640
	CPAHS	28	230
10 -7	PCBS	10	64
	CPAHS	3	23

(1) CPAH = CARCINOGENIC POLYNUCLEAR AROMATIC HYDROCARBONS (TOTAL)

* = NO CLEANUP REQUIRED - CLEANUP LEVELS EXCEED HIGHEST MEASURED CONCENTRATIONS IN ON-SITE SOLIDS

TABLE 5
ALTERNATIVE COMPARISON FOR COST

ALTERNATIVE	CAPITAL COST ($X1000)	ANNUAL O/M* ($/YR)	TOTAL PRESENT WORTH ($X1000)
ALT. NO. 1 NO ACTION	0	27,000	443
ALT. NO. 2 - LIMITED ACTION	60	27,000	500
ALT. NO. 3 - EXCAVATION/ OFF-SITE SOIL DISPOSAL	1,633	27,000**	1,633
ALT. NO. 4 - INSTALLATION OF SOIL CAP	223	27,000	666
ALT. NO. 5 - ON-SITE THERMAL OXIDATION	3,062	27,000**	3,062
ALT. NO. 6 - ON-SITE SOLIDIFICATION	1,418	35,000	1,691

* O/M OPERATION/MAINTENANCE AND MONITORING

** CONFIRMATORY SAMPLING (ESTIMATED ONE-TIME OCCURRENCE)

#RS

CLOTHIER DRUM SITE
GRANBY, NEW YORK
RESPONSIVENESS SUMMARY

A. OVERVIEW

THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA) AND THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) HELD A PUBLIC PARTICIPATION MEETING ON OCTOBER 5, 1988 IN THE GRANBY TOWN HALL, GRANBY, NEW YORK TO DISCUSS THE PROPOSED REMEDIAL ACTION PLAN (PRAP) FOR THE CLOTHIER DRUM DISPOSAL SITE AND THE REMEDIAL INVESTIGATIONS/FEASIBILITY STUDIES (RI/FS) PERFORMED BY URS CO., INC. AND EBASCO SERVICES, INC., UNDER CONTRACT TO THE NYSDEC AND USEPA, RESPECTIVELY. THE SELECTED REMEDY OUTLINED IN THE PRAP WAS BASED ON THE REMEDIAL INVESTIGATION/FEASIBILITY STUDY CLOTHIER, TOWN OF GRANBY OSWEGO COUNTY, NEW YORK PREPARED BY URS COMPANY, INC., AUGUST 1988 AND FINAL SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT AND FINAL FEASIBILITY STUDY, CLOTHIER DISPOSAL SITE, GRANBY, NEW YORK. PREPARED BY EBASCO SERVICES INC, JULY 1988. THE SELECTED REMEDY CALLED FOR:

- PLACEMENT OF A 1 FOOT CLEAN SOIL COVER, BROUGHT FROM AN OUTSIDE SOURCE, OVER THE CONTAMINATED AREAS
- REGRADING AND REVEGETATING THE SITE TO LIMIT SOIL EROSION AND SURFACE WATER RUN-OFF TOWARDS OX CREEK AND ITS WETLAND
- INSTALLING RIP-RAP ON THE EMBANKMENT SLOPING TOWARDS OX CREEK TO PREVENT SOIL EROSION AND SURFACE WATER RUN-OFF
- A LONG TERM GROUNDWATER, SOIL, AND OX CREEK SEDIMENT AND SURFACE WATER MONITORING PROGRAM TO EVALUATE ANY CHANGES, SHOULD THEY OCCUR.

MODIFICATIONS OF THIS REMEDY OCCURRED AS A RESULT OF COMMENTS AND THE FINAL REMEDY IS PRESENTED IN THE RECORD OF DECISION (ROD), DECEMBER, 1988.

BOTH RI/FS REPORTS AND THE PRAP WERE MADE AVAILABLE FOR PUBLIC REVIEW ON SEPTEMBER 6, 1988 AT THE GRANBY TOWN HALL, CITY OF FULTON PUBLIC LIBRARY, VIRGINIA GARY RESIDENCE AND THE NYSDEC CENTRAL OFFICE, WITH THE PUBLIC COMMENT PERIOD ENDING NOVEMBER 4, 1988.

THE SELECTED REMEDY DISCUSSED AT THE OCTOBER 5, 1988 MEETING WAS A RADICAL CHANGE FROM THE SELECTED REMEDY OF THERMAL DESTRUCTION OF WASTES AND HIGHLY CONTAMINATED SOILS PRESENTED AT A JULY 1987 PUBLIC MEETING. WHILE THIS CHANGE IS A RESULT OF THE DETERMINATION THAT ADDITIONAL SOIL SAMPLING AND SURFACE WATER DATA WERE NEEDED AND FAULTY LABORATORY QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC), IT DOES RAISE PUBLIC CONCERN ON THE ADEQUACY OF THE SELECTED REMEDY.

THE COMMUNITY, IN GENERAL, EXPRESSED CONCERN ABOUT THE PROPOSED REMEDY FOR THE REMAINING RESIDUAL SOIL CONTAMINATION BECAUSE IT WAS NOT A PERMANENT REMEDY; AN 11-ACRE WETLAND ADJACENT FROM THE SITE WAS NOT ADEQUATELY INVESTIGATED, AND THAT THEY DESIRED TO OBTAIN A TECHNICAL ASSISTANCE GRANT (TAG) TO RETAIN A TECHNICAL ADVISOR TO REVIEW THE INFORMATION AND PROPOSED REMEDIAL ACTION PRIOR TO THE ISSUANCE OF A ROD. IT WAS EXPLAINED TO THE PEOPLE ATTENDING THE MEETING, THAT THE PROPOSED REMEDY WAS TO SUPPLEMENT THE REMOVAL ACTIONS ALREADY TAKEN AT THE SITE BY USEPA AND THE RESPONSIBLE PARTIES DURING WHICH APPROXIMATELY 2000 DRUMS OF WASTE AND 200 CUBIC YARDS OF HIGHLY CONTAMINATED SOIL WERE REMOVED FROM THE SITE. FURTHER, IT WAS EXPLAINED THAT THE PROPOSED REMEDY WAS TO ADDRESS THE RESIDUAL LOW LEVEL SOIL CONTAMINATION WHICH, BASED ON HEALTH RISK ASSESSMENT, DID NOT REPRESENT A SIGNIFICANT THREAT TO PUBLIC HEALTH. IT WAS ALSO EXPLAINED THAT THIS WAS A SOURCE CONTROL REMEDY AND THAT IF SUPPLEMENTAL INVESTIGATION OF THE

GROUNDWATER AND 11-ACRE WETLAND SITE DETECTED SIGNIFICANT CONTAMINATION, THEY WOULD BE ADDRESSED AS A SEPARATE OPERABLE UNIT(S). CORRESPONDENCE FROM THE STEERING COMMITTEE OF RESPONSIBLE PARTIES SUPPORTS THE LIMITED ACTION REMEDY.

B. BACKGROUND ON COMMUNITY INVOLVEMENT

COMMUNITY INTEREST IN THE CLOTHIER DRUM SITE HAS BEEN EXTREMELY HIGH THROUGHOUT THE RI/FS PROCESS AND REMOVAL ACTIONS. LOCALLY, COMMUNITY OFFICIALS AND PRIVATE CITIZENS HAVE BEEN ACTIVE AT PUBLIC MEETINGS AND HAVE ROUTINELY CORRESPONDED WITH THE NYSDEC AND USEPA. ORGANIZED GROUPS INCLUDE: GRANBY TOWN ENVIRONMENTAL BOARD, NEIGHBORS ORGANIZED TO MEND OUR RURAL ENVIRONMENT (NOMORE), FULTON SAFE DRINKING WATER ACTION COMMITTEE (FSDWAC), AND THE CENTRAL NEW YORK TOXICS COALITION. MAJOR CONCERNS OF THESE GROUPS AND HOW USEPA AND NYSDEC ADDRESSED THEM ARE:

1. CITIZEN GROUPS ALL OPPOSED THE THERMAL DESTRUCTION PROCESS PROPOSED DURING THE JULY 1987 PUBLIC MEETING AND COMMENT PERIOD BECAUSE OF CONCERNS ABOUT AN INSUFFICIENT DATA BASE AND PUBLIC SAFETY AND HEALTH CONCERNS REGARDING POTENTIAL EMISSIONS FROM THE THERMAL DESTRUCTION PROCESS.

RESPONSE: REVIEW OF THE DATA DETERMINED QA/QC PROBLEMS AND THE NEED TO CONDUCT FURTHER INVESTIGATIONS PRIOR TO SELECTING A REMEDY. ADDITIONAL SOIL SAMPLING, A WETLAND STUDY BY U.S. FISH AND WILDLIFE SERVICE, AND RESAMPLING OF GROUNDWATER RESULTED IN THE REVISED AUGUST 1988 RI/FS REPORT PREPARED BY URS INC. IN ADDITION, USEPA'S CONSULTANT (EBASCO SERVICES) PREPARED A SUPPLEMENTAL RI/FS DATED JULY 1988. THERMAL DESTRUCTION IS NO LONGER RECOMMENDED.

2. CITIZENS QUESTIONED THE ADEQUACY OF THE SEPTEMBER 1988 PROPOSED REMEDIAL ACTION AS IT DOES NOT PROVIDE A PERMANENT REMEDY.

RESPONSE: THE PROPOSED ACTION SUPPLEMENTS THE REMOVAL OF OVER 2000 DRUMS OF WASTE AND OVER 200 CUBIC YARDS OF HIGHLY CONTAMINATED SOIL SCRAPED FROM THE SITE. WHILE FEDERAL REGULATIONS REQUIRE THAT PREFERENCE BE GIVEN TO PERMANENT REMEDIES, THE PUBLIC HEALTH RISKS ASSOCIATED WITH THE RESIDUAL LOW LEVEL SOIL CONTAMINATION WERE DETERMINED TO BE "NOT SIGNIFICANT" AND THE PROPOSED ACTION IS CONSIDERED ADEQUATE TO PROTECT PUBLIC HEALTH. THE AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR) SUPPORTED THIS CONCLUSION AT THE PUBLIC MEETING.

3. CITIZENS POINTED OUT THAT THE U.S. FISH AND WILDLIFE STUDY (USFWS) DID NOT ADDRESS THE 11-ACRE WETLAND ADJACENT TO THE SITE.

RESPONSE: THE 11-ACRE WETLAND WAS STUDIED IN DECEMBER 1988. RESULTS WILL BE MADE AVAILABLE TO THE PUBLIC. DELAY OF THE ROD IS NOT NECESSARY AS THE PROPOSED REMEDY IS A SOURCE CONTROL OPERABLE UNIT. IF THE SAMPLING CONDUCTED IN DECEMBER 1988 INDICATES THE NEED FOR ADDITIONAL REMEDIAL ACTIONS FOR THE WETLAND OR GROUNDWATER, REMEDIATION WILL BE CONDUCTED AS A SEPARATE OPERABLE UNIT(S).

4. CITIZENS REQUESTED THAT ISSUANCE OF THE ROD BE DELAYED UNTIL A LOCAL ENVIRONMENTAL ORGANIZATION OBTAINED A TECHNICAL ASSISTANCE GRANT (TAG).

RESPONSE: THE USEPA DOES NOT AGREE THAT THE ISSUANCE OF THE ROD SHOULD BA DELAYED UNTIL A TAG IS AWARDED. WHILE A "LETTER OF INTENT" TO APPLY FOR A TAG WAS SUBMITTED ON MAY 19, 1988, A TAG APPLICATION WAS NOT SUBMITTED UNTIL OCTOBER 27, 1988. TO DELAY ISSUANCE OF A SELECTED REMEDY UNTIL A TAG IS OBTAINED AND A TECHNICAL ADVISOR IS HIRED, WOULD SERIOUSLY DELAY REMEDIATION OF THE RESIDUAL SOIL CONTAMINATION AT THE SITE.

5. SEVERAL NEIGHBORING PROPERTY OWNERS EXPRESSED CONCERN THAT REMEDIAL ALTERNATIVES MIGHT IMPACT THEIR PROPERTIES. DURING THE JULY 1987 PUBLIC MEETING, AIR EMISSIONS FROM A THERMAL DESTRUCTION UNIT OR EXCAVATION WAS OF CONCERN. DURING THE OCTOBER 1988 PUBLIC MEETING, CONCERN

WAS EXPRESSED THAT ANY REGRADING OF THE SITE MIGHT DIVERT RUN-OFF ONTO NEIGHBORING PROPERTIES.

RESPONSE: THERMAL DESTRUCTION IS NO LONGER A SELECTED REMEDY. A CONSTRUCTION AND POST CONSTRUCTION AIR MONITORING PROGRAM HAS BEEN INCORPORATED INTO THE SELECTED REMEDY. DESIGN OF THE SELECTED REMEDY WILL MINIMIZE RUN-OFF FROM THE SITE AND AVOID DIVERTING ADDITIONAL WATER ONTO NEIGHBORING PROPERTIES.

6. NEIGHBORING RESIDENCES AND THE STATE HEALTH DEPARTMENT EXPRESSED CONCERN THAT ADDITIONAL SAMPLING OF PRIVATE WELLS WAS NOT ADDRESSED.

RESPONSE: THE SELECTED REMEDY HAS BEEN REVISED TO PROVIDE FOR ADDITIONAL SAMPLING OF PRIVATE WELLS NEIGHBORING THE SITE AS PART OF THE LONG TERM MONITORING PROGRAM, AS WARRANTED. DETAILS OF THE LONG TERM MONITORING PLAN WILL BE DEVELOPED AFTER THE INFORMATION FROM THE DECEMBER 1988 WETLAND AND GROUNDWATER SAMPLING IS EVALUATED, BUT MAY INCLUDE ADDITIONAL MONITORING WELLS BETWEEN THE SITE AND POTENTIALLY DOWNGRADIENT RESIDENCES.

C. SUMMARY OF COMMENTS RECEIVED DURING PUBLIC COMMENT PERIOD

COMMENTS RAISED DURING THE PUBLIC COMMENT PERIOD AND AT THE OCTOBER 5, 1988 MEETING FOR THE SEPTEMBER 1988 PRAP, THE JULY 1988 SUPPLEMENTAL RI/FS REPORT PREPARED BY EBASCO SERVICES AND THE AUGUST 1988 RI/FS REPORT PREPARED BY URS INC., ARE SUMMARIZED BRIEFLY BELOW BY RELEVANT TOPIC. A SUMMARY OF COMMENTS RECEIVED FOR THE JULY 1987 PUBLIC MEETING AND EARLIER DRAFT RI/FS REPORTS WHICH RECOMMENDED THERMAL TREATMENT ARE APPENDED TO THIS DOCUMENT FOR REFERENCE.

REMEDIAL ALTERNATIVE PREFERENCE

1. THE PROPOSED REMEDIAL ACTION IS NOT A REMEDY WHICH WILL PERMANENTLY REMOVE THE HAZARDOUS WASTES FROM THE SITE. WHY WASN'T A PERMANENT REMEDY CHOSEN?

RESPONSE: FEDERAL REGULATIONS REGARDING THE CLEAN-UP OF HAZARDOUS WASTE SITES REQUIRE THAT THE NYSDEC AND USEPA SHOW A PREFERENCE FOR PERMANENT REMEDIES. GIVEN THE FACT THAT THE LEVELS OF CONTAMINANTS FOUND ON THE CLOTHIER SITE WERE SO LOW AS TO NOT POSE A SIGNIFICANT PUBLIC HEALTH RISK, THE PROPOSED ACTIONS ARE FELT TO BE APPROPRIATE. IN ADDITION, MORE THAN 2000 DRUMS OF WASTE AND OVER 200 CUBIC YARDS OF HIGHLY CONTAMINATED SOIL HAVE BEEN REMOVED FROM THE SITE. THE REMOVAL OF THESE WASTES CONSTITUTE A PERMANENT REMEDY FOR THESE WASTES RELATIVE TO THIS SITE.

2. THERE IS AN AREA OF WETLAND, APPROXIMATELY 10-11 ACRES IN SIZE, WHICH HAS NOT BEEN SAMPLED. HOW CAN A REMEDY BE SELECTED WHICH DOES NOT ADDRESS THIS WETLAND OR THE DOCUMENTED LOW LEVEL GROUNDWATER CONTAMINATION?

RESPONSE: THE NYSDEC/USEPA AGREE THAT THIS AREA OF THE WETLAND NEEDS TO BE STUDIED. THE USFWS STUDY OF THE WETLAND, AS WELL AS VISUAL INSPECTIONS OF THIS AREA, DO NOT INDICATE THAT DRUMS OF HAZARDOUS WASTE WERE EVER DISPOSED IN THIS AREA. THE USEPA COLLECTED SAMPLES OF WATER AND SEDIMENT FROM THE WETLAND AND ADDITIONAL GROUNDWATER SAMPLES IN DECEMBER 1988. IF THIS ADDITIONAL SAMPLING OF THE WETLAND AND GROUNDWATER SHOWS THE PRESENCE OF SIGNIFICANT LEVELS OF CONTAMINATION, APPROPRIATE MEASURES WILL BE TAKEN TO REMEDIATE THE PROBLEMS AS A SEPARATE OPERABLE UNIT. THE PROPOSED REMEDIAL ACTION AT THE SITE WILL NOT INTERFERE WITH ANY POTENTIAL FUTURE REMEDIAL ACTIONS FOR THE WETLAND OR GROUNDWATER.

TECHNICAL QUESTIONS/CONCERNS REMEDIAL ALTERNATIVES

1. WHERE DID THE DATA FOR THE OX CREEK WETLAND IMPACT ASSESSMENT COME FROM?

RESPONSE: THE USFWS STUDY.

2. DID THE LOCATIONS OF SOIL CONTAMINATION CORRESPOND TO THE LOCATIONS WHERE DRUMS WERE STORED?

RESPONSE: YES.

3. WHAT AREAS OF SOIL CONTAMINATION DOES THE EBASCO RI/FS IDENTIFY AS THE 2,500 CUBIC YARDS NEEDING REMEDIATION?

RESPONSE: GENERALLY THE AREAS WHERE DRUMS WERE ONCE STORED, DOWN TO A DEPTH OF APPROXIMATELY 5 FEET.

4. WILL THE PROPOSED REMEDIAL ACTIONS PREVENT RUNOFF FROM THE SITE TO ADJACENT PROPERTIES?

RESPONSE: YES, THE PROPOSED REMEDIAL ACTIONS INCLUDE MEASURES TO REGRADE, REVEGETATE AND CONSTRUCT OTHER DRAINAGE CONTROL STRUCTURES TO PREVENT CONTAMINATED SOIL FROM MIGRATING OFF SITE TO ADJACENT PROPERTIES.

5. WAS ANY SAMPLING DONE FOR THE PRESENCE OF RADIOACTIVE WASTES?

RESPONSE: DURING THE INITIAL WASTE CHARACTERIZATION DONE FOR THE RI IN 1985, TWO DRUMS WERE FOUND TO CONTAIN LOW LEVEL RADIOACTIVE WASTES. THE LEVEL OF RADIOACTIVITY WAS ONLY SLIGHTLY ABOVE BACKGROUND LEVELS. THESE DRUMS WERE REMOVED AND THE AREA WAS SURVEYED FOR RESIDUAL RADIATION, NONE WAS DETECTED.

6. WHAT GUARANTEE IS THERE, THAT LONG-TERM MONITORING WILL BE PERFORMED?

RESPONSE: THE NYSDEC IS BOUND BY AN AGREEMENT WITH THE USEPA TO INSURE THAT A LONG-TERM MONITORING PROGRAM IS DEVELOPED AND IMPLEMENTED FOR A PERIOD EQUAL TO THE DESIGN LIFE OF THE REMEDIAL ACTION OR 30 YEARS, WHICHEVER IS LESS.

PUBLIC PARTICIPATION PROCESS

1. THERE WERE SEVERAL COMPLAINTS THAT NOT ENOUGH TIME WAS ALLOWED FOR PUBLIC COMMENTS &OR THE SEPTEMBER 1988 PRAP AND PUBLIC MEETING.

RESPONSE: THE PUBLIC PARTICIPATION MEETING WAS RESCHEDULED TO A LATER DATE, OCTOBER 5, 1988, THAN ORIGINALLY PROPOSED AND THE COMMENT PERIOD EXTENDED TO NOVEMBER 4, 1988. THE TOTAL PUBLIC COMMENT PERIOD WAS APPROXIMATELY 60 DAYS.

2. THE TOWN OF GRANBY AND SEVERAL CITIZENS REQUESTED THAT THE ISSUANCE OF A ROD BE DELAYED UNTIL A TECHNICAL ASSISTANCE GRANT WAS OBTAINED TO HIRE A TECHNICAL ADVISOR.

RESPONSE: NO APPLICATION HAD BEEN RECEIVED AS OF THE DATE OF THE PUBLIC MEETING. AN APPLICATION FOR A TAG WAS RECEIVED ON OCTOBER 27, 1988. DELAYING THE ISSUANCE OF A ROD UNTIL THE GRANT IS AWARDED AND A TECHNICAL ADVISOR IS HIRED WILL SERIOUSLY DELAY REMEDIATION OF THE SITE.

COST AND FUNDING ISSUES

1. HAVE THE POSSIBLE ECONOMIC IMPACTS ON ADJACENT PROPERTY VALUES BEEN CONSIDERED IN THE SELECTION OF A REMEDY?

RESPONSE: THE ASSESSMENT OF ECONOMIC IMPACTS ON THE SURROUNDING AREA ARE NOT CONSIDERED IN THE SELECTION OF THE REMEDY. WHILE IT IS DESIRABLE TO PROTECT NEIGHBORING PROPERTY VALUES, THE USEPA CANNOT GUARANTEE THAT THE REMEDIES CHOSEN W|11 RESTORE ANY POTENTIAL ECONOMIC LOSS SUSTAINED BY NEIGHBORING PROPERTIES. THE TOP PRIORITY IN SELECTING A REMEDY IS ALWAYS THE PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT. THE NYSDEC AND USEPA FEEL THE PROPOSED ACTIONS WILL BE ADEQUATELY PROTECTIVE OF HUMAN HEALTH AND THE ENVIRONMENT.

2. WHAT DO THE COSTS PRESENTED IN THE PRAP REPRESENT

RESPONSE: THE PRAP GIVES CAPITAL COSTS AS WELL AS PRESENT WORTH COSTS WHICH ARE A SUMMATION OF THE CAPITAL COSTS PLUS ANNUAL OPERATION AND MAINTENANCE COSTS FOR 30 YEARS, ADJUSTED TO PRESENT WORTH OR 1988 VALUE.

ENFORCEMENT

1. WILL MR. CLOTHIER HAVE TO PAY FOR THE RI/FS AND REMEDIATION OF THE SITE? WHO WILL PAY FOR THESE REMEDIAL ACTIONS?

RESPONSE: REMEDIATION OF THE SITE CAN BE FUNDED BY THE FEDERAL SUPERFUND OR RESPONSIBLE PARTIES. MR. CLOTHIER IS A RESPONSIBLE PARTY AND IS SUBJECT TO COST RECOVERY ALONG WITH THE GENERATORS OF THE WASTE MATERIAL THAT WENT TO THE POLLUTION ABATEMENT SERVICES SITE. THIS WOULD HAVE TO BE ADDRESSED IN FUTURE LITIGATION.

2. WHAT RESTRICTIONS CAN BE PLACED ON MR. CLOTHIER TO PREVENT FUTURE CONTAMINATION OF THE SITE AND REMOVE THE JUNK CARS FROM THE SITE? HOW CAN FUTURE MISUSE OF THE SITE BE PREVENTED?

RESPONSE: RESTRICTIONS OF LAND USE WOULD HAVE TO BE OBTAINED THROUGH TAKING EASEMENTS OR OTHER LITIGATION CONSISTENT WITH NEW YORK STATE REAL PROPERTY LAW. THE JUNK CARS AT THE SITE DO NOT FALL UNDER STATE JURISDICTION BUT ARE SUBJECT TO LOCAL ORDINANCES. PERIODIC INSPECTIONS WILL BE MADE TO ASSURE THAT HAZARDOUS WASTES ARE NOT DISPOSED OF AT THE PROPERTY.

D. REMAINING CONCERNS

1. WHAT AREAS OF THE SITE WILL BE COVERED WITH THE ONE FOOT SOIL COVER? THE URS REPORT AND EBASCO REPORT INDICATE DIFFERENT AREAS OF THE SITE AS BEING SIGNIFICANT.

RESPONSE: THIS WILL BE DETERMINED DURING THE DESIGN PHASE BY ADDITIONAL SOIL SAMPLING AND POSSIBLE PRE-CONSTRUCTION AIR SURVEYS.

2. W|11 RUN-OFF FROM THE SIT\E BE DIVERTED INTO NEIGHBORING FARMLANDS?

RESPONSE: ADDITIONAL RUN-OFF WILL NOT BE DIVERTED ONTO NEIGHBORING FARMLANDS. THE DESIGN WILL MINIMIZE RUN-OFF FROM THE SITE.

SUMMARY OF QUESTIONS
CLOTHIER DISPOSAL SITE
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
JULY 30, 1987 PUBLIC MEETING
TOWN OF GRANBY, OSWEGO COUNTY, NEW YORK

THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) HELD A PUBLIC INFORMATIONAL MEETING ON JULY 30, 1987 AT THE GRANBY TOWN COMMUNITY CENTER TO DISCUSS THE CLOTHIER SITE REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS) PERFORMED BY URS COMPANY, INC., UNDER CONTRACT TO THE NYSDEC. PRESENT AT THE MEETING WERE REPRESENTATIVES FROM: NYSDEC, URS, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA), UNITED STATES FISH AND WILDLIFE SERVICE (USFWS), NEW YORK STATE DEPARTMENT OF HEALTH (NYSDOH), OSWEGO COUNTY HEALTH DEPARTMENT, AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR), CONCERNED CITIZENS GROUPS, CONCERNED INDIVIDUALS, LOCAL GOVERNMENT OFFICIALS AND THE NEWS MEDIA.

THE RI/FS WAS MADE AVAILABLE FOR PUBLIC REVIEW ON JULY 7, 1987 AT THE GRANBY TOWN HALL, CITY OF FULTON PUBLIC LIBRARY, THE NYSDEC REGION 7 OFFICE AND THE NYSDEC CENTRAL OFFICE. THE FOLLOWING IS A SUMMARY OF QUESTIONS AND COMMENTS RECEIVED DURING THE COMMENT PERIOD.

QUESTION: WILL THE PROPOSED THERMAL TREATMENT PROCESS REMOVE METALS CONTAMINATION FROM THE SOIL? WOULD THE BIORECLAMATION PROCESS RESULT IN THO REMOVAL OF THE ORGANIC CONTAMINATION?

ANSWER: THERMAL TREATMENT WILL REMOVE ONLY ORGANIC CONTAMINANTS BUT NOT INORGANIC CONTAMINANTS SUCH AS METALS. WE DO NOT BELIEVE THE CONCENTRATION OF METALS TO BE HIGH ENOUGH TO POSE A PROBLEM BUT FURTHER TESTING WOULD HAVE TO BE DONE TO DETERMINE IF THE METALS ARE LEACHABLE.

THE BIORECLAMATION PROCESS WOULD REMOVE THE ORGANIC CONTAMINANTS BUT NOT THE INORGANIC CONTAMINANTS. IT IS ALSO POSSIBLE THAT THE INORGANIC CONTAMINANTS SUCH AS THE METALS COULD BE TOXIC TO MICROORGANISMS NECESSARY FOR THE BIOLOGICAL DEGRADATION OF THE CONTAMINANTS.

QUESTION: WAS URS TOLD BY THE NYSDEC AND USEPA TO CHOOSE THE THERMAL TREATMENT ALTERNATIVE BECAUSE OF POLICY?

ANSWER: URS WAS HIRED TO PROVIDE THEIR PROFESSIONAL JUDGEMENT AND RECOMMENDATIONS. THEY ARE NOT AND WERE NOT TOLD WHICH REMEDIAL ALTERNATIVE TO RECOMMEND.

QUESTION: WAS URS THE ONLY CONSULTANT USED? DID THE NYSDEC EDIT THE URS REPORT?

ANSWER: URS WAS HIRED BY THE NYSDEC AS THE PRIME ENGINEERING CONSULTANT. URS SUBCONTRACTED PORTIONS OF THE WORK TO OTHER FIRMS WHO PROVIDED SERVICES SUCH AS: WALL DRILLING, SAMPLE ANALYSES AND HYDROGEOLOGY. THE NYSDEC AND USEPA REVIEW AND COMMENT ON PRELIMINARY VERSIONS OF THE RI/FS REPORTS, BUT DO NOT EDIT OR IN ANY WAY TRY TO INFLUENCE THE PROFESSIONAL JUDGEMENT OF THE CONSULTANT.

QUESTION: WHY DOESN'T THERMAL TREATMENT REMOVE HEAVY METALS?

ANSWER: THERMAL TREATMENT, BY DEFINITION USES HEAT TO COMBUST OR DESTROY ORGANIC (CARBON CONTAINING) COMPOUNDS. HEAVY METALS DO NOT CONTAIN CARBON. SOME HEAVY METALS MAY BE VOLATILIZED BY THE HEAT, BUY THEY WILL NOT BE SUBSTANTIALLY ALTERED.

QUESTION: DOES EPA WITHHOLD MONEY IF THE REMEDIAL ALTERNATIVE THEY FAVOR IS NOT CHOSEN?

ANSWER: AS A SITE ON THE NATIONAL PRIORITY LIST OF INACTIVE HAZARDOUS WASTE SITES (NPL), THE FINAL DECISION ON THE SELECTION OF A REMEDIAL ACTION IS MADE BY USEPA, WHO WILL THEN PROVIDE 90 PERCENT OF THE CONSTRUCTION FUNDING.

QUESTION: WOULD THE THERMAL TREATMENT RESULT IN A REDUCTION IN SOIL VOLUME AND A CORRESPONDING INCREASE IN HEAVY METAL CONCENTRATION?

ANSWER: GIVEN THE RELATIVELY LOW CONCENTRATIONS OF HAZARDOUS WASTES IN THE SOIL, THERE WILL NOT BA A SIGNIFICANT DECREASE IN VOLUME OF THE TREATED SOIL. IN ADDITION, THE TREATMENT WILL FLUFF THE SOIL SLIGHTLY.

QUESTION: WHAT HAPPENED TO THE JUNK CARS AND DEBRIS ON THE SITE?

ANSWER: THEY HAVE BEEN MOVED TO THE EASTERN EDGE OF THE SITE, OUT OF THE WAY OF THE REMOVAL ACTIVITIES.

QUESTION: HAS THE REMEDIAL ALTERNATIVE BEEN SELECTED OR IS THERE STILL THE POTENTIAL FOR A CHANGE? WHAT LEGAL AGREEMENTS HAVE BEEN MADE OR WILL BE MADE WITH THE POTENTIALLY RESPONSIBLE PARTIES (PRP) REGARDING THEIR INPUT ON THE CHOSEN REMEDIAL ALTERNATIVE?

ANSWER: THE PURPOSE OF THIS PUBLIC MEETING IS TO PROVIDE THE DEC AND EPA RECOMMENDATION FOR A REMEDIAL ACTION, TO THE PUBLIC. YOUR COMMENTS AND CONCERNS WILL BE RECORDED AND PRESENTED TO THE EPA REGIONAL ADMINISTRATOR WHO WILL MAKE THE FINAL DECISION. THE PRP'S ARE GIVEN THE OPPORTUNITY TO REVIEW AND COMMENT ON THE RI/FS, JUST AS THE PUBLIC IS. FOLLOWING THE ISSUANCE OF A RECORD OF DECISION (ROD), THE PRP S ARE GIVEN 60 DAYS TO ACCEPT RESPONSIBILITY FOR FURTHER REMEDIAL MEASURES. AFTER THAT TIME, UNDERTAKINGS DO NOT ACCEPT RESPONSIBILITY, THE DEC AND IF THE PRP EPA WILL GO FORWARD WITH THE ACTION USING SUPERFUND MONEY AND THEN TAKE LEGAL ACTION AGAINST THE PRPS TO RECOVER ALL GOVERNMENT COSTS INCURRED.

QUESTION: WILL IT BE THE RESPONSIBILITY OF EPA, DEC OR THE PRP TO OBTAIN INSURANCE TO COVER DAMAGE TO THE PUBLIC OR THE ENVIRONMENT?

ANSWER: THE CONTRACTOR HIRED TO UNDERTAKE THE REMEDIAL ACTION WILL HAVE INSURANCE TO COVER DAMAGES RESULTING FROM HIS NEGLIGENCE. THE FEDERAL GOVERNMENT WILL COVER DAMAGES RESULTING FROM INCIDENTS OTHER THAN CONTRACTOR NEGLIGENCE.

QUESTION: HAVE ENVIRONMENTAL IMPACT STUDIES BEEN DONE ON THE THERMAL TREATMENT PROCESS?

ANSWER: THERMAL TREATMENT HAS BEEN USED FOR MANY YEARS FOR THE DESTRUCTION OF HAZARDOUS WASTE AT COMMERCIAL FACILITIES THROUGHOUT THE WORLD, WITH LITTLE IF ANY, ADVERSE ENVIRONMENTAL IMPACTS. THE THERMAL TREATMENT UNITS USED ARE VERY EFFICIENT IN DESTROYING THE WASTES AND IN REMOVING CONTAMINANTS FROM THE AIR EMISSIONS. THE SPECIFICATIONS FOR THE OPERATION OF THE TREATMENT UNIT AT THE CLOTHIER SITE WILL BE SET DURING THE REMEDIAL DESIGN PROCESS AND WILL BE DEFINED IN ACCORDANCE WITH STATE AND FEDERAL STANDARDS.

QUESTION: WHAT LEVEL OF PUBLIC IMPACT IS NEEDED TO HAVE AN IMPACT ON THE EPA DECISION?

ANSWER: IT IS UP TO THE DISCRETION OF THE EPA REGIONAL ADMINISTRATOR. ALL PUBLIC COMMENTS WILL BE RECORDED AND REVIEWED BY THE REGIONAL ADMINISTRATOR AND WILL HAVE AN IMPACT ON HIS DECISION.

QUESTION: WHAT HAPPENS IF YOU DISCOVER BURIED DRUMS WHILE EXCAVATING THE CONTAMINATED SOIL?

ANSWER: IF THE DRUMS CONTAIN HAZARDOUS WASTE, THEY WILL BE EITHER TREATED ON-SITE IN THE

THERMAL TREATMENT UNIT, OR REMOVED FROM THE SITE FOR TREATMENT AT A COMMERCIAL HAZARDOUS WASTE FACILITY.

QUESTION: WHAT DOES A THERMAL TREATMENT UNIT LOOK LIKE?

ANSWER: THEY VARY DEPENDING ON THE SPECIFIC UNIT, BUT THEY ALL CONTAIN A COMBUSTION CHAMBER FOLLOWED BY NUMEROUS SYSTEMS FOR CLEANSING AND COOLING EXHAUST GASES.

QUESTION: WILL THERE BE A WARNING OR BAN ON FISHING IN THE OX CREEK AFTER THE WETLAND STUDY IS COMPLETED?

ANSWER: THAT WILL DEPEND ON THE RESULTS OF THE STUDY.

QUESTION: WILL THE DEC AND EPA WAIT FOR THE FISH AND WILDLIFE STUDY TO BE COMPLETED BEFORE MAKING A FINAL DECISION OF THE REMEDY?

ANSWER: NO. THE FINDINGS OF THE WETLAND STUDY WILL NOT AFFECT THE PLANS FOR REMEDIATION OF THE CONTAMINATION ON-SITE. IF THE WETLANDS STUDY SHOWS CONTAMINATION IN THAT AREA THE APPROPRIATE ACTIONS WILL BE TAKEN TO DEAL WITH THAT CONTAMINATION.

QUESTION: ARE THERE AIR EMISSION STANDARDS FOR SPECIFIC CONTAMINANTS THAT ARE TO BE THERMALLY TREATED?

ANSWER: NYSDEC PUBLICATION ENTITLED, AIR-GUIDE 1 DEFINES EMISSIONS STANDARDS FOR THE SIGNIFICANT CONTAMINANTS.

QUESTION: HAVE TWO RI/FS'S BEEN DONE? WHAT WAS THE CHOSEN REMEDY IN THE FIRST RI/FS? WHY WAS THAT REMEDY NOT SELECTED?

ANSWER: THERE IS ONLY ONE RI/FS, BUT THE PRELIMINARY DRAFT REPORT PREPARED BY URS RECOMMENDED BIORECLAMATION. A FORM OF BIOLOGICAL TREATMENT. THIS REPORT WAS NOT RELEASED TO THE PUBLIC BECAUSE THE DEC FELT URS SHOULD INVESTIGATE OTHER TREATMENT TECHNOLOGIES.

QUESTION: WHY IS THERMAL TREATMENT BEING ENCOURAGED SO MUCH?

ANSWER: THERMAL TREATMENT IS A RELIABLE AND EFFECTIVE MEANS OF PERMANENTLY DESTROYING HAZARDOUS WASTES. BECAUSE THE TECHNOLOGY HAS EXISTED FOR SEVERAL YEARS, IT IS PROVEN AND THEREFORE FAVORED OVER EXPERIMENTAL PROCESSES.

QUESTION: WILL THE CHEMICAL CONTAMINANTS IN THE SOIL CAUSE AN EXPLOSION DURING THE THERMAL TREATMENT PROCESS?

ANSWER: THE LEVELS OF CONTAMINATION IN THIS SOIL IS NOT HIGH ENOUGH TO CAUSE AN EXPLOSION. IF IT WERE, THE TEMPERATURE AND RATS AT WHICH THE WASTE IS FAD INTO THE TREATMENT UNIT IS CONTROLLED TO GUARD AGAINST EXPLOSION.

QUESTION: HOW DEEP WILL THE SOIL BE EXCAVATED?

ANSWER: OUR PRELIMINARY ESTIMATES ARE APPROXIMATELY 10 FOOT, OR TO THE WATER TABLE. FURTHER SAMPLING WILL BE DONE TO BETTER DEFINE THE AREA} AND VERTICAL EXTANT OF CONTAMINATION.

QUESTION: WHO OWNS THE SITE AND WHO IS PAYING THE TAXES?

ANSWER: RICHARD CLOTHIER

QUESTION: WILL THERE BE MORE SAMPLING OF HOMEOWNER WELLS IN THE VICINITY OF THE SITE?

ANSWER: THE SAMPLES TAKEN HAVE NOT SHOWN THE PRESENCE OF CONTAMINATION WHICH COULD BE ATTRIBUTED TO THE SITE. NO FURTHER SAMPLING IS PLANNED.

QUESTION: HAS CONSIDERATION BEEN GIVEN TO USING MORE THAN ONE TREATMENT PROCESS TO REMOVE THE HAZARDOUS WASTES?

ANSWER: YES. IT MAY BE NECESSARY TO TREAT THE SOIL BEYOND THE THERMAL TREATMENT, IN ORDER TO REMOVE AN INORGANIC CONTAMINANT NOT REMOVED BY THE THERMAL TREATMENT.

QUESTION: HOW MUCH OF THE CONTAMINATION DO YOU FEEL HAS LEFT THE SITE AND MIGRATED TO THE OSWEGO RIVER AND TO THE FULTON MUNICIPAL WELLFIELDS?

ANSWER: SURFACE WATER AND SEDIMENT SAMPLES COLLECTED FROM THE OX CREEK AREA, THE AREA INTO WHICH THE SITE DRAINS, DID NOT SHOW THE PRESENCE OF CONTAMINATION. IN ADDITION, GROUNDWATER SAMPLES DID NOT SHOW THE PRESENCE OF CONTAMINATION EXCEEDING NYSDEC GROUNDWATER QUALITY STANDARDS. VISUAL INSPECTION OF THE OX CREEK WETLAND DID NOT INDICATE THE PRESENCE OF HAZARDOUS WAS?E. BASED ON THIS, THERE IS NO EVIDENCE TO INDICATE THAT ANY CONTAMINATION HAS MIGRATED OFF THE CLOTHIER SITE.

QUESTION: AFTER THERMAL TREATMENT, WHAT CAN THE SOIL BE USED FOR?

ANSWER: THE TREATED SOIL WILL BE DECONTAMINATED AND WILL BE AVAILABLE FOR ANY NORMAL USE.

ATTACHMENT 2
COMMUNITY RELATIONS ACTIVITIES
CLOTHIER DRUM DISPOSAL SITE
GRANBY, OSWEGO COUNTY, NEW YORK

COMMUNITY RELATIONS ACTIVITIES CONDUCTED AT THE CLOTHIER DRUM DISPOSAL SITE TO DATE INCLUDE:

- NYSDEC/USEPA CONDUCTED A PUBLIC INFORMATION MEETING TO DISCUSS THE CLOTHIER SITE AND DISCUSS THE ONGOING REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS) (MAY 1986)

- USEPA CONDUCTED COMMUNITY INTERVIEWS WITH LOCAL OFFICIALS AND INTERESTED RESIDENTS (JULY 1986)

- NYSDEC/USEPA CONDUCTED A PUBLIC INFORMATION MEETING TO DISCUSS THE PRELIMINARY RESULTS OF THE RI/FS (NOVEMBER 1986)

- NYSDEC/USEPA CONDUCTED A PUBLIC MEETING TO DISCUSS THE FINAL DRAFT RI/FS PREPARED BY URS, INC., WHICH RECOMMENDED THERMAL DESTRUCTION (JULY 1987)

- NYSDEC/USEPA CONDUCTED A PUBLIC MEETING TO DISCUSS THE REVISED RI/FS PREPARED BY URS (AUGUST 1988) AND SUPPLEMENTAL RI/FS PREPARED BY EBASCO SERVICES INC., (JULY 1988) AND THE SEPTEMBER 6, 1988 PROPOSED REMEDIAL ACTION PLAN (OCTOBER 1988)

- NYSDEC/USEPA ROUTINELY CORRESPONDED WITH LOCAL CITIZENS, LOCAL ENVIRONMENTAL GROUPS, AND LOCAL OFFICIALS THROUGHOUT THE RI/FS.