Remedial Investigation / Feasibility Study

Sauget Area 1
Sauget and Cahokia, Illinois

Volume I – Text and Tables

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Figure 5-41 Vinyl Chloride Isoconcentration Map – DHU
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Figure 6-21 Simulated Tetrachloroethene Plume – 2006 – MHU
Figure 6-22 Simulated Tetrachloroethene Plume – 2038 – MHU
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Figure 6-27 Simulated Trichloroethene Plume – 2006 – MHU
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APPENDICES

Appendix A Evaluation of Site I North

Appendix B Groundwater Analytical Data for Conceptual Point of Compliance Wells Located Along the Mississippi River North of the Barrier Wall

Appendix C Air Sparging and Pulsed Air Biosparging Evaluation

Appendix D Time to Clean Estimates for Chlorobenzene and 1,4-Dichlorobenzene

Appendix E Draft Preliminary Work Plan for Pulsed Air Biosparging Pilot Test

Appendix F Cost Estimates Calculations

Appendix G Evaluation of Monitored Natural Attenuation

Appendix H Evaluation of Hydraulic Containment Alternatives

Appendix I Calculation of Source Mass and Ranges of Source Mass Removal for Key COCs in Residual DNAPL Source Areas

ABRTF	American Bottoms Regional Treatment Facility
AOC	Area of Concern
ARAR	Applicable or Relevant and Appropriate Requirement
BERA	Baseline Ecological Risk Assessment
BGS	Below Ground Surface
BR	Bedrock
BS	Background Sample
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Constituent of Concern
COPC	Constituents of Potential Concern
CSM	Conceptual Site Model
DAS	Developed Area Sample (floodplain soil sampling)
DCB	Dichlorobenzene
DCE	Dichloroethene
DHU	Deep Hydrogeologic Unit
DNAPL	Dense Non Aqueous Phase Liquid
DUS/HPO	Dynamic Underground Stripping and Hydrous Pyrolysis Oxidation
EE/CA	Engineering Evaluation/ Cost Analysis
ENSR	An environmental consulting firm, now known as AECOM
ERA	Ecological Risk Assessment
FID	Flame Ionization Detector
FOD	Frequency of detection
FS	Feasibility Study
FSP	Field Sampling Plan
FSR	Field Sampling Report
GMCS	Groundwater Migration Control System
GP	Geoprobe
GPS	Global Positioning System
GRA	General Response Action
GWL	Groundwater Level Elevation
HDPE	High-Density Polyethylene
HELP	Hydrologic Evaluation of Landfill Performance
HHRA	Human Health Risk Assessment
HI	Hazard Index
HRS	Hazard Ranking System
IAC	Illinois Administrative Code
IAWC	Illinois American Water Company
IEPA	Illinois Environmental Protection Agency
LDPE	Low-Density Polyethylene
MCL	Maximum Contaminant Level
MESD	Metro East Sanitary District
MHU	Middle Hydrogeologic Unit
MLE	Most Likely Exposure
MNA	Monitored Natural Attenuation
MSL	Mean Sea Level
MS/ MSD	Matrix Spike/ Matrix Spike Duplicate

NAPL	Non Aqueous Phase Liquid
NCDC	National Climatic Data Center
ND	Not Detected
NE	No Exceedance
NGVD	National Geodetic Vertical Datum
NIVO	No Ignition of Vapor Over Sample
O&M	Operation and Maintenance
OBG	O'Brien and Gere Engineers
ORP	Oxidation reduction potential
PABS	Pulsed Air Biosparging
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated biphenyl
PID	Photo Ionization Detector
PM	Particulate matter
POTW	Publicly owned treatment works
PUF	Polyurethane Foam
QA/QC	Quality Assurance/ Quality Control
RAO	Remedial Action Objective
RBC	Risk Based Concentration
RCRA	Resource Conservation and Recovery Act
RGO	Remediation Goal Options
RI	Remedial Investigation
RI/FS	Remedial Investigation/ Feasibility Study
RME	Reasonable Maximum Exposure
RMS	Root Mean Squared
ROD	Record of Decision
SHU	Shallow Hydrogeologic Unit
SOW	Scope of Work
SSP	Support Sampling Plan
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compound
TACO	Tiered Approach to Corrective Action Objectives
TBC	To be Considered
TCLP	Toxic Characteristic Leaching Potential
TDS	Total Dissolved Solids
TEQ	Toxic equivalent
TPH	Total Petroleum Hydrocarbons
TSCA	Toxic Substances Control Act
TSD	Treatment, Storage, and Disposal
TSS	Total Suspended Solids
UAO	Unilateral Administrative Order
UAS	Undeveloped area sample (floodplain soil sampling)
UGGW	Up-gradient Groundwater
USEPA	United States Environmental Protection Agency
VI	Vapor Intrusion
VOC	Volatile Organic Compound