SECOND FIVE-YEAR REVIEW REPORT FOR HITEMAN LEATHER SUPERFUND SITE HERKIMER COUNTY, NEW YORK

Prepared by

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LIST OF ABBREVIATIONS & ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
AWQS	Ambient Water Quality Standard
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
EEDCR	Environmental Easement and Declaration of Covenants and Restrictions
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FS	Feasibility Study
FYR	Five-Year Review
HHRA	Human Health Risk Assessment
ICs	Institutional Controls
IRIS	Integrated Risk Information System
mg/kg	Milligrams Per Kilogram
mg/L	Milligrams Per Liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
NYSDEC	New York State Department of Environmental Conservation
O&M	Operation and Maintenance
OU	Operable Unit
PRP	Potentially Responsible Party
RAO	Remedial Action Objectives
RI	Remedial Investigation
ROD	Record of Decision
RPM	Remedial Project Manager
SCO	Soil Cleanup Objective
SI	Site Investigation
SMP	Site Management Plan
TAGM	Technical and Administrative Guidance Memorandum
TBC	To Be Considered
UU/UE	Unlimited Use/Unrestricted Exposure

I. INTRODUCTION

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this FYR review pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (NCP)(40 CFR Section 300.430(f)(4)(ii)), and considering EPA policy.

This is the second FYR for the Hiteman Leather Superfund Site (Site). The triggering action for this statutory review is the completion date of the previous FYR on April 30, 2013. The FYR has been prepared because hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

The Site consists of one operable unit (OU1) which will be addressed in this FYR. OU1 addresses the remedy for contaminated soils and sediments at the Site.

The Site's FYR was led by Thomas Mongelli, EPA Remedial Project Manager (RPM). Participants included Rachel Griffiths (EPA hydrogeologist), Nicholas Mazziotta (EPA human health risk assessor), Mindy Pensak (EPA ecological risk assessor), Larisa Romanowski (EPA community involvement coordinator), and Kiera Thompson (New York State Department of Environmental Conservation [NYSDEC] project manager). The review began on November 20, 2017.

Site Background

The 12-acre Site is traversed by approximately 800 feet of the Unadilla River. Ten acres of the Site are located on the northern bank of the river and two acres are located on the southern bank. It was the location of a former tannery and leather manufacturing facility that operated from approximately 1820 until 1968 at 173 South Street (Route 51) just south of the intersection of Route 51 with State Route 20. The former tannery property, currently owned by the Village of West Winfield, is bordered to the north by commercial buildings and residences, to the east by South Street, to the south by a residential property, to the southwest by a landlocked, privately-owned two-acre parcel and to the west by the West Winfield Cemetery (see Figure 1).

Chromium-contaminated liquid waste was discharged from the tannery into a series of unlined lagoons on the property beginning in the early 1900's. The lagoons, in turn, reportedly discharged into the Unadilla River and to the wetland area to the northwest of the lagoons, which ultimately also drains to the river. Sludge from the bottom of the lagoons was periodically dredged and was reportedly deposited as berm material surrounding the lagoons. Discarded hides, hide scrapings and shavings and other tannery wastes were reportedly disposed of in the Village of West Winfield Dump, located approximately 1/3 mile to the southeast of the former tannery property. The former

dump, which is not part of the Site, was subsequently covered with soil and was operated as a trailer park known as Crumb's Trailer Park.[1]

In 1996, EPA conducted a site investigation (SI) that found elevated concentrations of chromium in the surface soil (up to 75,000 milligrams per kilogram [mg/kg]), subsurface soils (up to 72,000 mg/kg) and surface water (33 micrograms per liter [µg/l]; unfiltered). Several other contaminants were detected at low levels in soils, including metals, pesticides, semi-volatile organic compounds and volatile organic compounds. The SI also found asbestos-covered pipes throughout the main former tannery building and determined that the wood-frame sections of the building were structurally unsound.

The Site was listed on the Superfund National Priorities List (NPL) on January 19, 1999.

The Site is currently used as a park/recreational space. There are no known plans for development at this time. Any future development would need to comply with the Site's institutional controls (ICs), discussed later in this report.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Hiteman Leather		
EPA ID: NYD981560915		
Region: 2	**State:** NY	**City/County:** West Winfield/Herkimer County
SITE STATUS		
NPL Status: Deleted		
Multiple OUs? No	**Has the site achieved construction completion?** Yes	
REVIEW STATUS		
Lead agency: EPA ***[If "Other Federal Agency", enter Agency name]*:** N/A		
Author name (Federal or State Project Manager): Thomas Mongelli		
Author affiliation: EPA		

[1]An Action Memo to conduct a non-time-critical removal action at the Crumb Trailer Park site was signed on September 26, 2007. The removal action included moving all 15 trailers to another location, which was not impacted by disposal operations, on the 7 ½ acre property, the placement of a minimum of a one-foot soil cover over contaminated surface soils, ICs to prohibit residential use of the former trailer park location, and development of a site management plan. This action was conducted as a separate site and will not be reviewed in this document.

Review period: 12/13/2017 - 5/17/2018
Date of site inspection: 5/15/2018
Type of review: Statutory
Review number: 2
Triggering action date: 4/30/2013
Due date *(five years after triggering action date)*: 4/30/2018

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

EPA's contractor, CDM Federal Programs Corporation, conducted a remedial investigation and feasibility study (RI/FS) at the Site from 2001-2006. The results of the RI indicated that metals were the predominant contaminants in the soils in the northern 10 acres of the Site and in sediments in the wetland and in the Unadilla River. While carcinogenic risks were found to be within acceptable risk ranges, the results of the risk assessment indicated that former tannery property soil hot spots presented unacceptable increased noncancer hazards. Contaminated soils along the river on the former tannery property area and contaminated wetland and river sediments posed unacceptable ecological risks. In addition, inorganic groundwater concentrations in the semi-confining unit exceeded their respective Maximum Contaminant Levels, thereby posing a potential human health risk. Although a number of organic compounds were detected in the groundwater at the Site, they appeared to be incidental, were found only infrequently and at relatively low concentrations and could not be attributed to tannery operations. In addition, some of the organics appeared to be from an upgradient source. The contaminants of concern identified for the Site included antimony, arsenic, cadmium, chromium, lead, manganese, mercury and nickel for the sediments and soils. The contaminants of concern for the groundwater were arsenic, chromium, lead and nickel.

Response Actions

Based upon the SI, EPA conducted an asbestos removal pursuant to CERCLA and demolished the wood frame sections of the building, power house and chimney stack in 1996. In 1998, the remaining concrete and steel building (except for the concrete floor) was demolished by the estate of Mr. Erle Davis, who had taken ownership of the on-Site buildings and property in 1969, with the latter demolition leaving piles of loose brick and concrete debris, as well as other concrete remnants (*e.g.*, building pillars, concrete dye tanks, etc.) on-Site.[2]

Remedial Action Objectives

[2] Much of the loose debris was removed from the concrete floor by EPA in May 2001 to facilitate sampling under the floor.

The following remedial action objectives (RAOs) were established for the Site:

- Reduce or eliminate any direct contact, ingestion or inhalation threat to future recreational users or construction workers to contaminated soils and sediments;
- Minimize exposure of wildlife or fish to contaminated soils and sediments;
- Protect human health by preventing exposure of future users to contaminated groundwater; and
- Restore groundwater to levels which meet state and federal standards within a reasonable time frame.

Record of Decision

To accomplish the RAOs, a Record of Decision (ROD) was signed by EPA on September 28, 2006, calling for:

- Excavation of contaminated soil from the former tannery property;
- Excavation of contaminated riverbank soils;
- Excavation/dredging of contaminated wetland and river sediments located adjacent to the former tannery property;
- Continued monitoring of downstream river sediments annually for a minimum of five years followed by long-term monitoring, as necessary;
- Consolidation and stabilization of loose brick and concrete debris, as well as the excavated/dredged soils and sediments on the former tannery property;
- Placement of a soil cover and demarcation layer in areas where residual soil contamination exceeded the Technical and Administrative Guidance Memorandum No.94-HWR-4046 (TAGM) objective for chromium;
- Backfilling of the excavated areas with clean soil and restoration with grass or appropriate vegetation;
- Restoration of the disturbed remediated wetlands and river bed;
- Intermittent groundwater extraction and treatment;
- Collection of water generated from runoff and dewatering of excavated sediments;
- Imposition of institutional controls (ICs); and
- Development of a site managment plan (SMP).

The ROD concluded that the metals-contaminated soils and sediments at the Site constituted a principal threat waste.[3] Because there is an expectation that treatment will be used to address principal threat waste wherever practicable, the ROD called for its treatment. Based upon the results of additional testing at the Site during the design, it was determined, however, that Site soils and sediments are not principal threat waste. In addition, testing indicated that the Site soils and sediments are not hazardous waste. Therefore, it was determined that the excavated site soils and sediments did not require solidification prior to on-Site consolidation and containment as called for in the ROD.

[3] Principal threat wastes are defined as source materials that are considered to be highly toxic or highly mobile that generally cannot be reliably contained, or would present a significant risk to human health or the environment should exposure occur.

The ROD also called for the excavation of an estimated 800-foot long, 20-foot wide metals-contaminated strip to a depth of 2 feet along the top of the northern bank of the river to protect ecological resources. As part of plans to redevelop the Site, a walkway is to be placed along the top of the northern bank approximately five feet from the edge of the bank. Because the soils that would underlie the walkway would not be accessible to ecological receptors, the width of the area requiring excavation was changed to five feet from the edge of the riverbank. The remaining 15-foot area was to be covered with two feet of clean material.

The ROD identified the cleanup goal for manganese for the Site as background. Based upon the results of more representative soil sampling in the area, the average background concentration for manganese was found to be higher than originally determined. The cleanup goal for manganese was changed to the updated average background concentration.

The Site-specific soil and sediment cleanup goals specified in the design are summarized in Table 1, below.

Table 1: Site-Specific Soil and Sediment Cleanup Goals

Contaminant	Media	Cleanup Goal (mg/kg)	Source
Chromium	Soil	30,000	Grossly Contaminated Soils[4]
Chromium	Soil	18.8	TAGM
Manganese	Soil	1,600	Background Value
Antimony	Soil	31	Human Health Risk
Arsenic	Soil	10.2	TAGM
Cadmium	Soil	1	TAGM
Lead	Soil	13.2	TAGM
Nickel	Soil	25.4	TAGM
Chromium	Sediment	41	Ecological Risk
Mercury	Sediment	0.3	Ecological Risk

The above-noted changes to the remedy, which were documented in a June 2008 explanation of significant differences (ESD), were incorporated into the soil and sediment design. The soil and sediment design, which was prepared by Lockheed Martin, was approved by the EPA on August 26, 2008.

The ROD indicated that the need for the remediation of river sediments in areas downstream of the former tannery would be determined based upon post-remediation sediment chemical analyses, sediment toxicity testing and analysis of benthic macroinvertebrate communities. The results of these investigations, performed during the design, indicated no discernible downstream impacts to the Unadilla River ecosystem from the site, and that the downstream sediments did not need to be remediated. In order to measure the success that the remediation of site soils and sediments had on downstream ecological receptors, it was determined that downstream sediment (chemical analysis) and ecological monitoring should be conducted for up to five years.

[4] The ROD defined these areas as unsaturated zone hot spots. During excavation, these soils were observed to have a characteristic blue/green color. As a result, excavation activities were directed based upon color observations and cleanup effectiveness was verified by the collection of post-excavation soil samples.

The ROD called for the extraction and treatment of contaminated groundwater on an intermittent basis from the semi-confining unit. However, based upon the results of groundwater sampling and aquifer pump testing conducted during the design phase, it was concluded that the contamination present in the semi-confining unit is not related to disposal activities at the site (*i.e.*, the contamination is naturally occurring). Therefore, based upon these findings, EPA determined the contaminated groundwater did not require further action (*i.e.*, extraction and treatment).

The above-noted changes to the remedy were documented in a September 2008 ESD.

Status of Implementation

EPA's remedial action contractor, WRS Infrastructure and Environment, Inc., mobilized to the site on May 5, 2008. During the course of the five-month construction effort, 16,000 cubic yards (yd^3) of contaminated soil, 8,700 yd^3 of contaminated wetland sediments, and 200 yd^3 of contaminated riverbank sediments were excavated and consolidated on-Site beneath a geomembrane liner and a two-foot thick soil cover. In addition, in areas where residual soil contamination exceeded the TAGM objective for chromium (18.8 mg/kg), a demarcation layer and soil cover with a thickness of two feet was placed in areas with "active exposure" and one foot in areas with "passive exposure." The exposure potentials were based on a future use plan prepared by the Village of West Winfield.

During the excavation of the wetland sediments, it was determined that excavating along the western edge of the wetlands would likely undermine the stability of the West Winfield Cemetery. While the chromium concentrations in these sediments exceeded the cleanup objective, it was not believed that the levels posed a significant risk to ecological receptors. In addition, because the wetland is a depositional area, the removal of the upland sources would allow clean sediment to eventually cover the contaminated sediments along the western edge of the wetlands. Furthermore, because the groundwater which flows into the wetland exhibits high concentrations of naturally-occurring chromium, it will likely recontaminate the wetland sediments. For these reasons, this area was not excavated.

After the removal of the contaminated soil and its replacement with clean soil, a section of the northern bank of the Unadilla River was replanted with native shrubs (potted and live stakes) and seeded with a native seed mixture. Erosion control matting and coir logs were also added to minimize erosion during vegetation establishment.

An RA report was approved by the EPA on November 23, 2009. The RA report documented that the work was performed in accordance with the approved design, consistent with the decision documents and that appropriate construction standards and quality assurance and quality control procedures were used.

The Site was deleted from the NPL on February 13, 2012.

Institutional Controls Implementation

The ROD required the imposition of ICs to, at a minimum, restrict the future development/use of the Site where contaminated sediments and soils were consolidated, prohibit excavation below the soil cover unless the activities are in accordance with an SMP. An environmental easement and declaration of covenants and restrictions (EEDCR) effecting such restrictions was recorded with the Herkimer County Clerk on July 22, 2010. The EEDCR also prohibits residential use of the Site, use of groundwater, and bars intrusive activities in the wetlands.

IC Summary Table

Table 2: Summary of Implemented Institutional Controls

Media, engineered controls, and areas that do not support UU/UE based on current conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Soils/Sediments	Yes	Yes	Consolidation Area	Prohibit future development or use of the Site where consolidated material has been placed	Environmental Easement and Declaration of Covenants and Restrictions (EEDCR), July 2010
Soils	Yes	Yes	Site-wide	Prohibit excavation below the Site-wide soil cover unless in accordance with the SMP	EEDCR, July 2010
Groundwater[5]	No	Yes	Site-wide	Prohibit use of the groundwater from the semi-confining unit underlying the Site as a source of potable or process water until quality standards are met for the intended use	EEDCR, July 2010

[5] The September 2008 ESD found that groundwater contamination was consistent with background levels and further action related to the groundwater was determined to be unnecessary. Although not required by CERCLA, the institutional controls restrict the use of groundwater based on high levels of naturally occurring inorganics and organics that are not site-related.

Wetlands	Yes	No	Wetlands	Prohibit intrusive activities in the on-Site wetlands	EEDCR, July 2010
Site-wide	Yes	No	Site-wide	Prohibit residential use of the Site	EEDCR, July 2010

Systems Operations/Operation & Maintenance

Monitoring and maintenance at the Site is conducted by NYSDEC and the Village of West Winfield. Activities include annual groundwater monitoring and monthly mowing of grass to deter burrowing animals from disturbing underlying contaminated soils. Fence maintenance, removal of obstructions in the drainage swale, woody plant shoot removal, and soil replacement and reseeding occur on an as needed basis. During the last five years, Site inspection frequency was reduced from a quarterly to a semi-annual basis.

While chromium concentrations in wetland sediments exceeded background levels of 41 mg/kg (the maximum observed concentration is 340 mg/kg), it is not believed that these levels pose a significant risk to ecological receptors. It was determined in the August 2011 *Hiteman Leather – Site Vegetation and Unadilla River Monitoring Report* (Lockheed Martin, 2011) that the observed chromium concentrations in the wetland sediments could be due to localized mixing with the sediments which could not be removed. Additionally, groundwater in the vicinity of the site exhibits high naturally-occurring concentrations of chromium which may act as a source of chromium to the wetland sediments.

Potential Site impacts from climate change have been assessed, and the performance of the remedy is currently not at risk due to the expected effects of climate change in the region and near the Site.

III. PROGRESS SINCE THE LAST REVIEW

The protectiveness determinations from the last FYR are summarized in Table 3, below.

Table 3: Protectiveness Determinations/Statements from the 2013 FYR

OU	Protectiveness Determination	Protectiveness Statement
1	Protective	The implemented remedy is functioning as intended by the decision documents and is protective of human health and the environment.

Sitewide	Protective	The implemented remedy is functioning as intended by the decision documents and is protective of human health and the environment.

No issues or recommendations were identified in the previous FYR report. Since the last FYR, general operation, maintenance, and monitoring activities continue to be conducted in accordance with the SMP.

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement & Site Interviews

On October 2, 2017, EPA Region 2 posted a notice on its website indicating that it would be reviewing Site cleanups and remedies at 31 Superfund sites in New York and New Jersey, including the Site. The announcement can be found at the following web address: https://wcms.epa.gov/sites/production/files/2017-10/documents/five_year_reviews_fy2018_final.pdf.

In addition to this notification, a notice of the commencement of the FYR was sent to local public officials. The notice was provided to the Village of West Winfield by email on February 21, 2018 with a request that the notice be posted in the municipal offices and on the Village of West Winfield webpage. The purpose of the public notice was to inform the community that the EPA would be conducting a FYR to ensure that the remedy implemented at the site remains protective of public health and is functioning as designed. In addition, the notice included contact information, including addresses and telephone numbers, for questions related to the FYR process or the site.

Once the FYR is completed, the results will be made available on EPA's Hiteman Leather site webpage (www.epa.gov/superfund/hiteman-leather) and at the site repositories, which are the West Winfield Library, 179 South Street, West Winfield, NY 13491; and the USEPA Region 2, Superfund Records Center, 290 Broadway, 18th Floor, New York, NY 10007.

Data Review

Although it was concluded that the groundwater contamination is naturally occurring and not Site-related, monitoring of the groundwater in the vicinity of the Consolidation Area is being performed by NYSDEC. Six monitoring wells, one of which is upgradient of the Consolidation Area, are sampled annually and analyzed for both dissolved metals and total metals. The monitoring well network monitors constituents in the shallow glaciolacustrine aquifer, and groundwater flow in this unit is to the southwest.

Since 2013, sodium and manganese have consistently exceeded their respective NYSDEC Ambient Water Quality Standards (AWQS) of 20 milligrams per liter (mg/L) and 0.3 mg/L in both the total and dissolved metals analyses. Sodium concentrations have remained relatively stable, ranging, in the dissolved analyses, between 12 to 83 mg/L in the downgradient wells and between 180 to 250 mg/L in the upgradient well. Dissolved manganese was observed at a maximum concentration of 4.9 mg/L during the December 2013 monitoring event and has ranged from 0.9

mg/L to 2.1 mg/L over the past two years. Dissolved manganese has not been observed in the upgradient well since 2013 (during the review period), when a concentration of 1.7 mg/L was recorded.

Dissolved iron has been observed sporadically above its AWQS of 0.3 mg/L over the past five years including two instances in 2013, one in 2014, and four in 2016 with maximum concentrations of 12 mg/L, 2.8 mg/L, and 8.9 mg/L, respectively.

Dissolved concentrations of arsenic and lead marginally exceeded their AWQS (each 0.025 mg/L) in two instances during the review period. In 2013, dissolved arsenic was detected at 0.027 mg/L in a downgradient monitoring well. In 2015, dissolved lead was detected at 0.027 mg/L in a downgradient monitoring well.

Total iron, manganese, and sodium concentrations have also consistently exceeded their AWQS over the past five years. Total arsenic and chromium exceeded their respective AWQS in at least one well in 2013, 2014, and 2016, while total magnesium concentrations have not exceeded its AWQS since 2013.

Site Inspection

The inspection of the Site was conducted on May 15, 2018. In attendance were Thomas Mongelli of EPA and Kiera Thompson of NYSDEC. The purpose of the inspection was to assess the protectiveness of the remedy.

The site inspection showed no issues that would impact the effectiveness of the remedy. No areas of erosion were observed on the Consolidation Area, the wetland appears to be well established, and grass cover over the entire site is well maintained and was observed to have been recently mown at the time of the inspection. Two small areas of Japanese Knotweed, an invasive species were observed near the northern fence line and will be treated by NYSDEC's contractor in the near future. The administrative record in the site repository was found to be readily available and up-to-date.

V. TECHNICAL ASSESSMENT

QUESTION A: *Is the remedy functioning as intended by the decision documents?*

The ROD, as modified by the ESDs, called for, among other things, excavation of contaminated soil from the former tannery property, excavation of contaminated riverbank soils, excavation/dredging of contaminated wetland and river sediments located adjacent to the former tannery property, consolidation of the excavated/dredged soils and sediments on the former tannery property, and placement of a soil cover.

The soil cover is in good condition and remains effective in preventing contact with areas of soil with residual contamination and consolidated soils and sediments.

As was noted in the "Status of Implementation" section above, during the excavation of the wetland sediments, it was determined that excavation along the western edge of the wetlands would likely undermine the stability of the West Winfield Cemetery. Therefore, these sediments were not excavated. Additionally, groundwater in the vicinity of the Site exhibits high naturally-occurring concentrations of chromium which may act as a source of chromium to the wetland sediments. Post remediation sampling of the Unadilla River and wetland sediments demonstrated the remediation activities successfully addressed contamination of this media and no further sampling was determined to be necessary.

ICs required in the ROD, limiting uses of the property, have been in place since 2010.

QUESTION B: *Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?*

There have been no changes in the physical conditions of the Site over the past five years that would change the protectiveness of the remedy. The human health risk assessment (HHRA) evaluated ingestion, dermal contact and inhalation exposures to groundwater, surface and subsurface soils, surface water and sediment for current and future trespassers, recreational/commercial use and residential use. Consumption of fish from the Unadilla River was also evaluated. The exposure assumptions, pathways, and receptors that were used to estimate the potential risks and hazards to human health followed the Risk Assessment Guidance for Superfund used by the Agency and remain valid. Although specific parameters may have changed since the time the risk assessment was completed, the process that was used also remains valid.

The HHRA concluded that future exposure to groundwater by residents, wetland sediments by recreational users, and on-Site soils by trespassers, recreational users, and construction workers would result in cancer risk and/or noncancer hazard exceeding EPA threshold criteria. The primary risk drivers included antimony, arsenic, and manganese in soils and sediments, as well as arsenic in groundwater. Although elevated levels of chromium were also identified, chromium speciation in soil and groundwater revealed that chromium exists primarily in the trivalent state rather than the more toxic hexavalent state.

The RAOs presented in the ROD and modified by the September 2008 ESD, as discussed in Section II, above, remain valid and the selected remedy is protective of human health. Exposures to contaminated soils and sediments at the Site have been interrupted through their removal and consolidation under a soil cover. Exposure to residually-contaminated soils have also been interrupted by the placement of a soil cover. Although groundwater does not require remediation, environmental easements prohibit the use of groundwater underlying the Site for any potable purposes. Additionally, ICs and engineering controls further prohibit the intrusion into wetland sediments and ensure that no activities conducted on-Site will compromise the integrity of the soil cover in place. Since the contaminants of concern are metals, vapor intrusion is not an issue at this Site. Land use at the Site is not expected to change over the next five years.

Changes in Toxicity Characteristics

Some of the toxicity values that were used in the HHRA have changed; however, the changes would not impact the remedial decision that was made for the Site. EPA is currently evaluating arsenic and hexavalent chromium toxicity through the Integrated Risk Information System (IRIS) process that provides EPA's consensus toxicity values. Any toxicity value updates for these chemicals will need to be addressed in a subsequent five-year review if the IRIS values are finalized.

The exposure assumptions, pathways, and receptors that were used to estimate the potential risks and to ecological receptors followed the Ecoloigcal Risk Gudielines for Superfund used by the Agency and remain valid. Although specific parameters and toxicity reference values may have changed since the time the risk assessment was completed, the process that was used also remains valid. These changes would not impact the remedial decision that was made for the Site as contaminated media (sediment and soil) have been appropriately addressed.

Changes in Standards and TBCs

The cleanup goals for the Site-related COCs are presented in Tables 1 through 5 of the ROD. The soil values selected were based on the New York State TAGM objectives, risk-based calculations, and Site-specific background levels. The TAGM objectives have since been succeeded by the NYSDEC 6 NYCRR Part 375 (2006) and CP-51 (2010) soil cleanup objectives (SCOs). The TAGM objectives identified in the ROD, however, are still protective since they are less than the corresponding SCOs. The cleanup value for manganese, as documented by the June 2008 ESD, is based on Site background data and the NYSDEC protection of ecological resources SCO, each of which remains appropriate. Furthermore, in the absence of a corresponding TAGM objective, a human health risk-based cleanup goal was selected for antimony (31 mg/kg). As displayed in the most recent (November 2017) EPA Regional Screening Levels table for residential soil, this value has not changed and remains valid. Antimony was also not detected in soil samples collected during the design phase and locations with historical detections were situated within, or very close to, the areas which were excavated during Remedial Action.

The "lowest effects levels" displayed in the NYSDEC 1999 Technical Guidance for Screening Contaminated Sediments were used for sediment cleanup criteria based on the protection of ecological receptors. Although these values have been superseded by those exhibited in NYSDEC's 2014 Screening and Assessment of Contaminated Sediments guidance, the "lowest effects levels" for the Site-related COCs are still within range of the most stringent values presented in the 2014 guidance (Class A sediments). Therefore, the sediment cleanup goals selected in the ROD are still valid. As mentioned previously, a technical memorandum evaluating the protectiveness of chromium levels in the wetland and river sediments was developed by the EPA Environmental Response Team and the Site's ecological risk assessor. Data obtained from the RI/FS Baseline Ecological Risk Assessment, 1997 Site Investigation Report and post-construction sampling were used in this evaluation. The memorandum concluded that a sediment chromium concentration of 5,000 mg/kg would be protective from an ecological risk perspective, which is well above the maximum observed sediment concentration of 340 mg/kg. It was determined, therefore, that additional wetland and river sediment monitoring was unnecessary.

A groundwater remedy was not selected for the site. However, groundwater continues to be sampled annually and contaminant concentrions are compared to State and Federal MCLs for metals.

QUESTION C: *Has any other information come to light that could call into question the protectiveness of the remedy?*

No information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Table 4: Issues and Recommendations

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the Five-Year Review:
OU 01

VII. PROTECTIVENESS STATEMENT

Table 5: Protectiveness Statements

Protectiveness Statement(s)		
Operable Unit: 1	*Protectiveness Determination:* Protective	*Planned Addendum Completion Date:* N/A
Protectiveness Statement: The implemented remedy is protective of human health and the environment.		
Sitewide Protectiveness Statement		
Protectiveness Determination: Protective		*Planned Addendum Completion Date:* N/A
Protectiveness Statement: The implemented remedy is protective of human health and the environment.		

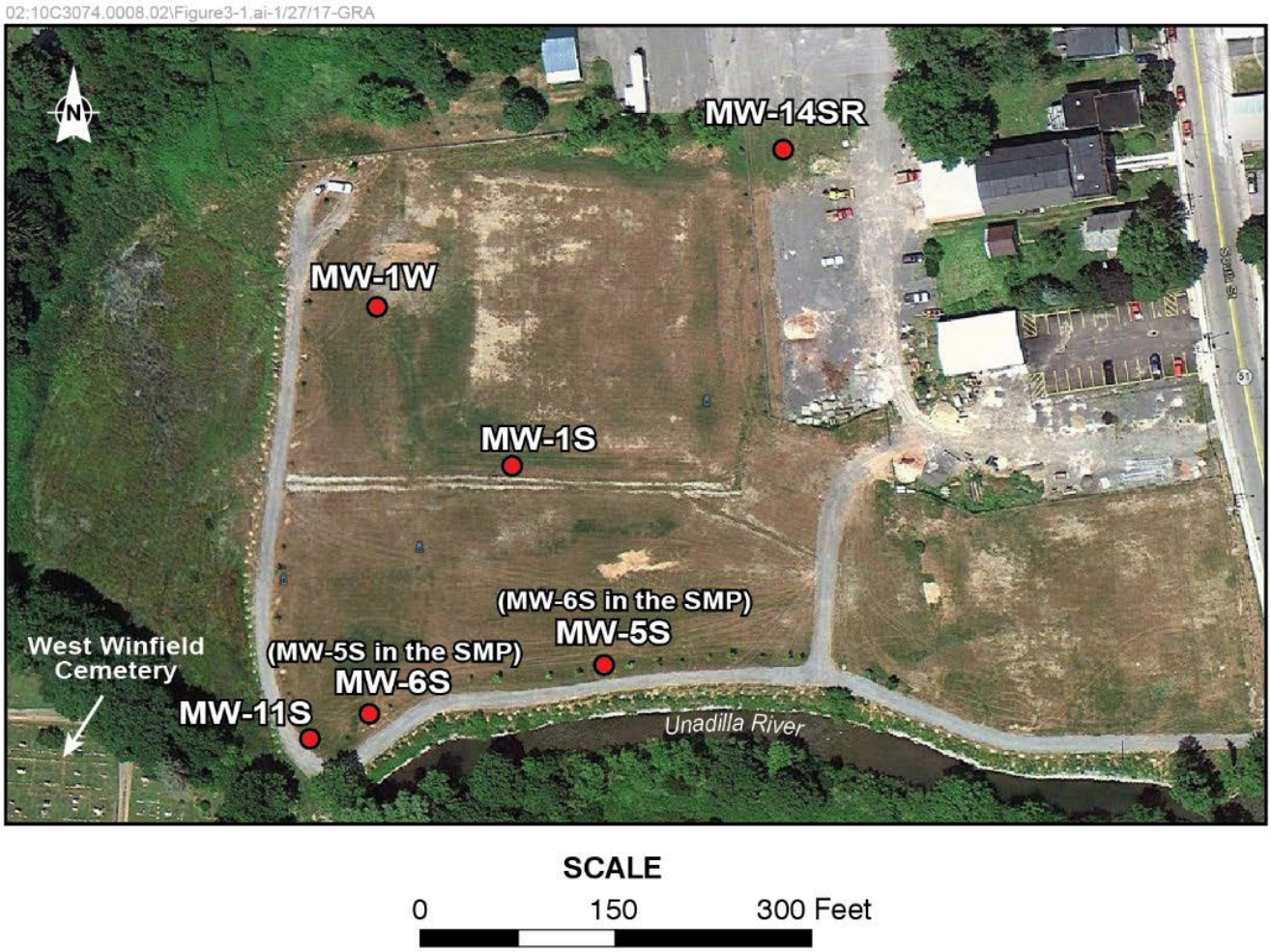
VIII. NEXT REVIEW

The next FYR report for the Site is required five years from the completion date of this review.

APPENDIX A – REFERENCE LIST

- *Record of Decision, Hiteman Leather Superfund Site,* EPA, September 2006
- *Explanation of Significant Differences, Hiteman Leather Superfund Site,* EPA, June 2008
- *Explanation of Significant Differences, Hiteman Leather Superfund Site,* EPA, September 2008
- *Environmental Easement and Declaration of Covenants and Restrictions,* NYSDEC, July 2010
- *2013 Periodic Review Report,* NYSDEC, June 2013
- *2014 Periodic Review Report,* NYSDEC, March 2014
- *Periodic Review Report February 2014 to December 2016,* NYSDEC, April 2017

APPENDIX B – SITE MAP



APPENDIX C – CHRONOLOGY OF SITE EVENTS

Event	Date(s)
Operation of Tannery	1820-1968
First and Second Lagoon Construction	1931
Third Lagoon Construction	1959
Buildings Sold and Used for Storage	1969-1982
Buildings Abandoned	1982
Site added to NYSDEC Registry of Inactive Waste Sites	1985
NYSDEC Conducts Environmental Investigations	1988-1992
EPA Conducts Site Investigation	1996
Site Placed on National Priorities List	1999
Remedial Investigation/Feasibility Study	2001-2006
EPA Awards $100,000 Grant to West Winfield to develop a Reuse Assessment and Redevelopment Plan	2003
Record of Decision	2006
Remedial Design	2006-2008
Remedial Action	2008
Explanation of Significant Differences – Manganese Background Concentration Modification	2008
Explanation of Significant Differences – Downstream Sediment and Groundwater Remediation Determined to be Unnecessary	2008
Preliminary Site Close-Out Report	2008
Remedial Action Report	2009
Environmental Easement Issued	2010
Site Management Plan Approved by NYSDEC	2010
Site-Wide Ready for Anticipated Use	2011
Transfer Agreement Signed by NYSDEC	2011
Final Close-Out Report	2011
Notice of Intent to Delete	2011
Notice of Deletion	2011
Site Deleted from NPL	2011