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Kansas Department of Health and Environment

Third Five-Year Review Report

Landfill Subsite of the Obee Road Superfund Site Hutchinson, Reno County Kansas

September 2010

Bureau of Environmental Remediation

Five-Year Review Report

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Landfill Subsite of the Obee Road Superfund Site
Hutchinson, Reno County, Kansas

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Date:

9/29/10

List of Acronyms

ARARs	Applicable or Relevant and Appropriate Requirements
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
FFS	Focused Feasibility Study
KDHE	Kansas Department of Health and Environment
MCLs	Maximum Contaminant Levels
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
PCB	Polychlorinated Biphenyl
PRP	Potentially Responsible Party
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RWD	Rural Water District
SARA	Superfund Amendments and Reauthorization Act
VOC	Volatile Organic Compound
mg/kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
μg/kg	Micrograms per Kilogram
μg/L	Micrograms per Liter

Executive Summary

The third five-year review of the Landfill Subsite of the Obee Road Superfund Site in Hutchinson, Kansas was completed in August 2010. The results of the third five-year review indicate that the remedy is protective of human health and the environment. The remedy consists of institutional controls, access controls, and groundwater monitoring.

Institutional controls and access controls which were implemented to prevent exposure to contaminants, have been effective.

The groundwater monitoring program was discontinued as recommended in the second five-year review; however, one groundwater sampling event was conducted in April 2010 for the third five-year review to confirm that contaminants of concern are not migrating off site. Analytical results for groundwater samples collected at the site in April 2010 indicate that volatile organic compounds (VOCs) are not present at concentrations that exceed the maximum contaminant levels (MCLs). KDHE conducted a search to determine if any new domestic use water wells were installed since the second five-year review. Several new water wells were identified in areas farther east from the landfill but not immediately adjacent to the landfill. Since groundwater monitoring results indicated contaminants of concern were not migrating off site, and previous testing of nearby private wells indicated no contaminants were present, KDHE determined it was not necessary to sample active domestic wells near the site for the third five-year review. The results for on-site monitoring wells confirm that the remedy is protective of human health and environment.

Recommendations for the Landfill Subsite include: 1) conducting one monitoring well sampling event once before the next five year review; 2) plugging monitoring wells MW-1 and MW-15S; 3) continuation of annual inspections of the fence around the site; and 4) annual review and evaluation of the effectiveness of deed restrictions.

The results of the five-year review indicate that the remedy for the Landfill Subsite is protective of human health. Exposure pathways that could result in unacceptable risks are being controlled. Analytical results for groundwater samples from on-site monitoring wells indicate that contaminants are not present at concentrations exceeding the MCLs. The security fence and soil and vegetation cover on the landfill are preventing direct contact with contaminants. Institutional controls at the landfill are in place and remain effective in preventing access to the Obee Road Landfill and exposure to contaminants.

Five-Year Review Summary Form

SITE IDENTIFICATION

Site Name (from WasteLAN): Obee Road Superfund Site

EPA ID (from WasteLAN): KSD980631766

Region: 7	**State:** Kansas	**City/County:** Hutchinson, Reno County

SITE STATUS

NPL Status: ✖ Final ☐ Deleted ☐ Other (specify)

Remediation Status (choose all that apply): ☐ Under Construction ✖ Operating ☐ Complete

Multiple OUs? ✖YES ☐ NO	**Construction Completion Date:** Not Complete - Site has two operable units

Has site been put into reuse? ☐ YES ✖ NO

REVIEW STATUS

Reviewing Agency: ☐ EPA ✖ State ☐ Tribe ☐ Other Federal Agency

Author Name: Mary Daily

Author Title: Professional Geologist	**Author Affiliation:** Kansas Department of Health and Environment

Review Period: June 2005 to July 2010

Date(s) of Site Inspection: June 8, 2010

Type of Review: ✖ Statutory
☐ Policy (☐ Post-SARA ☐ Pre-SARA ☐ NPL-Removal only
☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead
☐ Regional Discretion)

Review Number: ☐ 1 (first) ☐ 2 (second) ✖ 3 (third) ☐ Other (specify)

Triggering Action:
☐ Actual RA Onsite Construction at OU# _____ ☐ Actual RA Start at OU# 01
☐ Construction Completion ✖ Previous Five-Year Review Report
☐ Other (specify)

Triggering Action Date (from WasteLAN): September 21, 2005 signature date of last review

Due Date (five years after triggering action date): September 2010

Five-Year Review Summary Form
Deficiencies: No deficiencies were identified during this five-year review.
Recommendations and Follow-up Actions: The annual groundwater monitoring program was discontinued as recommended in the second five-year review. Contaminants of concern were not detected at concentrations above maximum contaminant levels (MCLs) during the April 2010 sampling event. KDHE may request that the City of Hutchinson sample site monitoring wells once before the next five year review is conducted. Monitoring wells MW-1 and MW-15S should be plugged and abandoned. Actions needed to ensure protectiveness is maintained in the future include continuing the annual inspections of the fence and annual evaluations of the effectiveness of deed restrictions at the site.
Protectiveness Statement(s): The remedy at the Landfill Subsite is protective of human health. Exposure pathways that could result in unacceptable risks are being controlled. The security fence and soil and vegetation cover on the landfill are preventing direct contact with contaminants. Institutional controls on the landfill are in place and remain effective in preventing exposure to contaminants. Analytical results for groundwater samples from on-site monitoring wells indicate that contaminants are not present at concentrations exceeding the MCLs and are not migrating off site.
Other Comments:

TABLE OF CONTENTS

TABLES

FIGURES

ATTACHMENTS

1.0 INTRODUCTION

The Kansas Department of Health and Environment (KDHE) conducted the third five-year review for the remedial actions implemented at the Landfill Subsite of the Obee Road Superfund Site in Hutchinson, Kansas. This review covers the period of time from May 2005 to July 2010. This report documents the results of the review.

The purpose of the five-year review is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of the reviews are documented in five-year review reports. In addition, five-year review reports identify deficiencies found during the review, if any, and recommendations to address them.

This five-year review is required by statute. The Environmental Protection Agency (EPA) must implement five-year reviews consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA §121(c), as amended, states:

> If the President selects a remedial action that results in any hazardous substances, pollutants or contaminants remaining at the site, the President shall review such remedial action no less often than every five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.

The NCP §300.430(f)(4)(ii) of the Code of Federal Regulations (CFR) states:

> If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

This is the third five-year review for the Landfill Subsite of the Obee Road Superfund Site. The triggering action for this statutory review is the signature date of the previous Five-Year Review report (September 21, 2005). The signature date of the previous Five-Year Review report was selected as the trigger for the third five-year review in accordance with current EPA guidance. The Landfill Subsite of the Obee Road Superfund Site meets the requirements for a statutory five-year review because hazardous substances, pollutants and contaminants have been left onsite above levels that allow for unlimited use and unrestricted exposure.

The Obee Road Superfund Site in Hutchinson, Kansas, consists of two subsites: 1) the Landfill Subsite; and 2) the Airport Road Subsite. The Kansas Department of Health and Environment is the lead agency for both subsites. Provision for conducting five-year reviews for the Landfill Subsite is included in the ROD that was executed on June 30, 1994. Separate five-year reviews will be conducted for the Airport Road Subsite. The Airport Road Subsite is currently in the Remedial Action stage.

2.0 SITE CHRONOLOGY

The chronology of events for the Landfill Subsite of the Obee Road Superfund Site is provided in Table 1.

3.0 SITE BACKGROUND

3.1 Physical Characteristics

The Obee Road Superfund Site, located east of Hutchinson, Kansas, consists of the Landfill Subsite and the Airport Road Subsite. The Landfill Subsite of the Obee Road Superfund Site encompasses the area of the former City of Hutchinson Landfill (also known as the Obee Road Landfill). The approximate boundaries of the Landfill Subsite are defined as the eastern one-half of Section 10, Township 23 South, Range 5 West, Reno County, Kansas and those areas south of the eastern one-half of Section 10 up to 100 feet south of 4th Avenue (See Figure 1). The landfill area is currently covered with vegetation and encompasses approximately 80 acres. The spatial relationship of the Landfill Subsite to the Obee Road Superfund Site is also shown on Figure 1.

The Obee Road Superfund Site is located in the Great Bend Lowland within the Great Bend physiographic province. The Site lies on a low terrace approximately 5 miles north of the Arkansas River. The topography of the Site does not vary greatly. The Site lies on the southern edge of a northwest to southeast trending belt of sand dunes. This boundary marks the edge of the Arkansas River Valley.

Groundwater in the area comes from unconsolidated alluvial deposits of Quaternary age. These deposits overlay bedrock of Permian age. Bedrock in the area consists of shale deposits. The depth of the alluvium in the area of the Site ranges from 28 to 66 feet. The average depth to groundwater is 17 feet below ground surface. The predominant direction of groundwater flow in the area of the Site is from the northwest to southeast. There is a significant variation in flow direction at the northeast portion of the Site due to the slope of the bedrock surface (Figures 2 and 3). Flow in the northeast part of the Site is from the northeast to the southwest. Flow eventually turns to the southeast.

3.2 Land and Resource Use

Land use at the Obee Road Superfund Site consists of industrial, agricultural and residential. The Landfill Subsite is bounded by the Hutchinson Municipal Airport along the north and west. The Hutchinson Municipal Airport Authority controls access to the Obee Road Landfill. A security fence is in place to prevent unauthorized entry to the Obee Road Landfill or the airport property. The Landfill Subsite is bounded to the east and south by residential areas. Land used for agricultural purposes is also located south of the Landfill Subsite. The Obee School, an elementary school, is located immediately south of the Obee Road Landfill. Figure 4 illustrates the land use for the area.

Groundwater from the shallow alluvial aquifer is the only source of drinking water in the Hutchinson area. The City of Hutchinson obtains its water supply from this resource. Prior to

site discovery, all of the residences in the area of the Site obtained their water supplies from domestic wells. In 1984, following discovery of the groundwater contamination, a rural water district supply system was constructed to provide a safe drinking water supply to homes in the area of the Site. The Reno County Rural Water District (RWD) #4 supply lines provide water to residences along 4th Avenue, Obee Road and the Country Village subdivision. The water district line extends to the east to Mourn Lane, which is located 0.25 miles east of the Landfill Subsite (Figure 1). Many homes in the area were connected to the rural water district supply line following formation of the RWD #4. In 1997, the KDHE conducted a water well survey to update information on the use of domestic wells in the area of the Site. Results of the survey indicate that two residences along Obee Road, east of the Landfill Subsite are using domestic wells for their water supply. At least seven residences on Mourn Lane are using domestic wells for drinking water.

3.3 History of Contamination

The City of Hutchinson Landfill was operated from 1953 to 1968. The landfill was the only public disposal site in the Hutchinson area during that time period. During operation, the landfill received domestic wastes and unknown quantities and types of industrial wastes. Disposal practices at the landfill reportedly consisted of placement of liquid and solid wastes into trenches that were excavated to a depth of 14 to 15 feet below ground surface (Burns & McDonnell 1993). No documents or records have been located that document the construction, operation, or closure of the landfill.

In 1983, KDHE received complaints from a citizen regarding unpleasant odors and taste in water from a domestic well near the landfill. Following receipt of this complaint, KDHE initiated a program of sampling and analysis of domestic wells in the area. The analytical results indicated the presence of volatile organic compounds (VOCs) in the groundwater including: benzene; carbon tetrachloride; chlorobenzene; chloroform; dibromomethane; 1,2-dichloroethene (1,2-DCE); methylene chloride; 1,1,2,2-tetrachloroethene; 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE); toluene; and vinyl chloride. Private wells that were screened in the alluvial aquifer represented the only water supply in the area of concern at the time. Subsequent investigations conducted by KDHE included: an expanded sampling program for domestic wells; installation, sampling and analysis of monitoring wells; and a soil gas survey. Results of these investigations indicated two possible sources of contaminants in the groundwater: 1) the Obee Road Landfill; and 2) an industrial area near the intersection of 4th Avenue and Airport Road.

3.4 Initial Response

As a result of investigations conducted by KDHE, the Obee Road Site was proposed for inclusion on the National Priorities List (NPL) in August 1985. The Obee Road Site was placed on the NPL on July 22, 1987. A Consent Agreement between KDHE and the Obee Road Potentially Responsible Party (PRP) Group was executed on March 27, 1990. The Consent Agreement required the Obee Road PRP Group to perform a Remedial Investigation/Feasibility Study (RI/FS) at the Obee Road Superfund Site. The preliminary results of the RI indicated the Obee Road Landfill was not a significant source of contamination. A significant source of contamination was located at the former Cessna Aircraft Company facility at the intersection of

4th Avenue and Airport Road. The Consent Agreement with the Obee Road PRP Group was subsequently amended in March 1993 to focus on the landfill. The Obee Road Superfund Site was divided into two subsites at that time. KDHE and the EPA pursued other PRPs to address contamination at the Airport Road Subsite.

3.5 Contaminants

Samples of soil and groundwater were collected from the Site during the Remedial Investigation. Field investigations were conducted at the Site in two phases (Phase II and Phase III).

Tetrachloroethene (PCE) was detected in all of the soil samples collected at the Landfill Subsite at concentrations ranging from 13 to 54 micrograms per kilogram (μg/kg). Levels of metals detected in the landfill cover material are within established ranges of metals in uncontaminated soils. No pesticides were detected in any of the shallow soil samples. One polychlorinated biphenyl (PCB), Arochlor-1254, was detected in a sample from Boring LB-1 at a level of 1200 μg/kg. RI results indicate that the detection of PCB in the soil cover of the landfill is isolated. A specific source or hot spot of contamination in the soil was not identified during the RI (Burns & McDonnell 1993).

Groundwater samples collected from thirteen monitoring wells were analyzed for VOCs, semivolatile organic compounds (SVOCs), pesticides, PCBs and metals during Phase II of the RI. Groundwater samples from six borings to the water table were collected and analyzed for VOCs.

Analytical results for groundwater samples collected from the Landfill Subsite during the RI indicated the presence of low levels of methylene chloride and acetone in several of the wells. These two compounds are common laboratory contaminants. Benzene was detected in samples collected from monitoring wells MW-3 (3 micrograms per liter [μg/L]) and MW-4 (1 μg/L). Chlorobenzene was detected in MW-3 at 4 μg/L. Vinyl chloride was detected in the upgradient monitoring wells MW-9S at 2 μg/L. No other VOCs were detected in any of the groundwater samples collected during the RI.

Only one SVOC, bis (2-ethylhexyl) phthalate, a common laboratory contaminant, was detected during the RI at low levels in groundwater samples. Pesticides and PCBs were not detected in the groundwater samples collected during Phase II of the RI. SVOCs and pesticides were eliminated from the parameter list after Phase II of the RI. Parameters for Phase III of the RI consisted of VOCs and PCBs. PCBs were not detected in the groundwater samples collected during Phase III of the RI.

Some of the metals found in the unfiltered groundwater samples collected during Phase II of the RI were at levels that exceed the maximum contaminant levels (MCLs) for drinking water. However, since similar levels were present in samples from upgradient and downgradient wells, it appears that the Landfill Subsite does not significantly contribute to the metals results found in the unfiltered groundwater samples. Laboratory results for filtered samples were all below the MCLs, indicating that particulates in the unfiltered samples contributed significantly to the findings (Burns & McDonnell 1993).

4.0 REMEDIAL ACTIONS

4.1 Remedy Selection

The ROD for the Landfill Subsite of the Obee Road Superfund Site was issued on June 30, 1994 by the EPA. The remedial action objectives are to:

- monitor so as to detect future groundwater contamination, if it occurs, before it migrates off the Landfill Subsite. If contamination is detected, a remedial response action will be implemented to contain and treat the groundwater contamination.

- minimize public access and prevent future development of the Landfill Subsite, thereby minimizing disturbance of both the surface soils and landfilled materials.

The remedial action at the Landfill Subsite consists of institutional controls, access controls, and annual groundwater monitoring for VOCs (EPA 1994). Modifications to the existing soil cover were not required as part of the selected remedy. Deed restrictions were to be put in place to prevent the following actions: excavation at the landfill without proper notification to KDHE and implementation of proper safety controls; rezoning of the landfill property; and consumptive use of groundwater at the Site. Access to the Landfill Subsite is controlled by the presence of a security fence. A contingency for further action would be implemented if groundwater contamination increases in the future and is found to be migrating off site at concentrations above the MCLs established under the Safe Drinking Water Act. The contingency could include the evaluation of the appropriate responses for the containment and treatment of groundwater to meet the applicable or relevant and appropriate requirements (ARARs).

4.2 Remedy Implementation

A Consent Order between KDHE and the City of Hutchinson for the Remedial Design/Remedial Action was executed on November 7, 1996. The Remedial Design/Remedial Action Work Plan was approved on February 6, 1997. The deed restriction for the institutional control was recorded with the Clerk of Reno County on March 27, 1997. Staff from the City of Hutchinson conducted the first groundwater monitoring event in May 1995, prior to execution of the Consent Order. KDHE agreed to accept the May 1995 monitoring event as the first of five annual monitoring events. Subsequent groundwater monitoring events were conducted by the City's contractor, Burns & McDonnell, in February 1997, October 1997, August 1998, July 1999, July 2000, August 2001, July 2002, August 2003, and July 2004. Inspections of the security fence and evaluation of the effectiveness of deed restrictions were conducted annually.

4.3 Systems Operations/Operation and Maintenance

Installation of an active remedial system was not required at the Landfill Subsite. Modifications to the existing soil cover on the landfill were not required as part of the remedy. Operations and maintenance at the Landfill Subsite consists of groundwater monitoring, and maintenance and upkeep of the closed landfill, monitoring wells, and security fence. The City of Hutchinson has not reported any significant problems with the operations and maintenance phase of the project.

In 1997, minor repairs were required for the fence located between the landfill and Obee School. Also, one piezometer, PZ-2, was found to be obstructed and was subsequently plugged. Concrete pads on monitoring wells MW-3 and MW-6 were replaced because the old pads were cracked or loose.

Operations and maintenance costs consist of the cost of the groundwater monitoring and maintenance of the property, including the security fence, monitoring wells, mowing of grass along the roads on the landfill, road maintenance, and tree removal. City of Hutchinson staff reported the City has spent a total of $78,400 on the operations and maintenance since 1995. Since the second Five-Year Review was completed in 2005, the City has spent $20,000 on the operations and maintenance. The City did not provide annual cost estimates.

5.0 PROGRESS SINCE LAST REVIEW

5.1 Protectiveness Statements from Last Review

During the first and second five year reviews the remedy for the Landfill Subsite was found to be protective of human health. The soil cover on the landfill was preventing direct contact with contaminants. Institutional and access controls at the landfill, which consist of a security fence and deed restrictions to prevent exposure to contaminants, were in place and remained effective. Analysis of groundwater samples from monitoring wells on-site indicated that contaminants were not present at concentrations exceeding the MCLs. Analysis of groundwater samples from active domestic wells did not indicate the presence of VOCs at levels above the laboratory reporting limits. The domestic wells had not been impacted by the presence of contaminants at the Landfill Subsite (KDHE 2000, KDHE 2005).

5.2 Status of Recommendations and Follow-Up Actions from Last Review

The recommendation from the second five-year review was to discontinue the annual groundwater monitoring but to conduct one monitoring event as part of the third five-year review. Inspections of the fence and evaluation of the effectiveness of deed restrictions were to be conducted annually. The results of implemented actions are discussed in detail in Section 6.1.

6.0 FIVE-YEAR REVIEW PROCESS

The KDHE Project Manager, Mary Daily, conducted the five-year review for the Landfill Subsite.

Community involvement activities included placement of a notice of the five-year review in the Hutchinson News. When the five-year review report is finalized, a copy of the document will be made available at the Hutchinson Public Library. KDHE will place a notice of the availability of the document in the Hutchinson News.

KDHE completed the following tasks during the five-year review for the Landfill Subsite of the Obee Road Superfund Site:

- reviewed site documents such as the Remedial Investigation Report, the Focused Feasibility Study Report, the ROD, the Consent Agreement, the Remedial Design/Remedial Action Work Plan, and monitoring reports (Attachment 1);
- requested the City of Hutchinson sample groundwater from four monitoring wells located at the Landfill Subsite for analysis of VOCs;
- reviewed ARARs;
- conducted a site inspection (Attachment 2) and interviews of appropriate persons;
- conducted a search for new water wells;
- identified land use zoning in the area of the Site to determine if changes in land use had occurred;
- developed recommendations for the Site; and
- prepared a report.

6.1 Five Year Review Findings

6.1.1 Interviews

Mike Lueck, the City of Hutchinson Director of Parks and Facility Services and Peter Miller, the maintenance supervisor at the Hutchinson Municipal Airport were interviewed on June 8, 2010 and July 27, 2010, respectively. Mr. Lueck and Mr. Miller are responsible for the Obee Road Landfill property including site access, maintenance of the security fence and roads, and mowing of grass. Mr. Lueck indicated that the City removed some trees from the landfill in 2009 at the request of the Federal Aviation Administration (FAA) to remove habitat for wildlife that could interfere with airport operations. Additional tree removal will be considered as funding becomes available. Mr. Miller stated during the interview that no construction or excavation activities that may have resulted in exposure to contaminants have taken place at the Obee Road Landfill in the last five years. Groundwater use restrictions are still in effect at the Obee Road Landfill and no new wells have been installed on the property.

Five other persons were contacted for information during the five-year review. Reg Jones, the Hutchinson Director of Public Works, and Don Koci, Superintendent of Water Treatment Facilities, were contacted to obtain costs for the operations and maintenance at the Landfill Subsite and discuss their concerns regarding the Site. Mike Lueck also provided cost information. Savannah Benedick of the Hutchinson Planning Department and Mark Vonachen of the Reno County Planning Department, were contacted to determine if land use at the Landfill Subsite or adjacent properties had changed since 2005. Joyce Christians of the Reno County Rural Water District #4 (RWD #4) was contacted to determine if changes to the water supply and number of connections had occurred since 2005.

6.1.2 Groundwater Monitoring and Site Inspection

On April 27, 2010, staff from the City of Hutchinson collected samples from select monitoring wells at the Site. Samples were analyzed by Continental Analytical Services, Inc. for VOCs by SW-846 Method 8260. The results of the sampling event were reported in a letter from the City of Hutchinson dated May 21, 2010. The analytical results for the well samples are presented in Section 6.1.5.

KDHE staff conducted a site inspection at the Obee Road Landfill on June 8 and 9, 2010. The results of the site inspection are discussed below. The KDHE Project Manager Mary Daily conducted the site inspection. The site inspection consisted of an inspection of the fence, access gates, monitoring wells, and landfill soil cover.

During operation of the landfill, waste was reportedly placed by the trench and fill method. A new engineered soil cover was not required as part of the remedy. Man-made disturbance of the existing soil cover on the landfill was not evident during the site inspection. Some settlement has occurred and the surface of the landfill is hummocky. In some areas of the site there are large pieces of metal sitting on the surface. Portions of the Site were observed to be heavily vegetated with trees, brush and grass. The City has removed some trees to reduce the habitat for wildlife that could interfere with airport operations. No problems with the fence were noted. The gates at the Site were secured by padlocks to prevent unauthorized entry. Photos showing the condition of the Site are provided in Attachment 3.

Inspection of the monitoring wells at the Site indicated problems with the security and integrity of a few of the monitoring wells. Monitoring well locations are shown on Figure 3. Wells PZ-1, MW-1, MW-4, MW-5S, MW-5D, MW-6, MW-7, MW10S, MW-10D, MW-14S, MW-14D, MW-15S were located during the site inspection. Wells PZ-1, MW-4, MW-5S, MW-5D, MW-6, MW10S, MW-10D, MW-14S, and MW-14D were found to be in satisfactory condition. These wells were secured by padlocks. The cap on the protective cover for MW-1 is broken and the well is currently unsecured. Well MW-7 was not locked and no padlock was found near the well. Soil around the concrete base for MW-15S has eroded away. MW-3 and MW-9S were not located during the inspection due to heavy vegetation. The City staff sampled MW-3 during the April 2010 sampling event and reported the well is in satisfactory condition and secured with a new lock.

6.1.3 Changes in Standards and To Be Considereds

The following standards were identified as ARARs in the ROD (EPA 1994):

- Safe Drinking Water Act
- Clean Water Act

The Safe Drinking Water Act was reviewed for changes that could affect the protectiveness of the remedy. Newly promulgated standards for the contaminants of concern were not discovered during the five-year review. MCLs for the contaminants of concern have not become more stringent since the signing of the ROD in 1994.

The Clean Water Act was not reviewed for changes because the current remedy does not include discharges to surface water bodies.

KDHE has developed risk-based standards for soil and groundwater for sites being addressed by KDHE programs. The KDHE risk-based standards, known as Tier 2 Levels, have not been promulgated by the State of Kansas and therefore fall in the category of To Be Considered. The

document titled Risk-Based Standards for Kansas (RSK Manual), dated June 2010 was reviewed to identify changes to the standards for the contaminants of concern. The Tier 2 Levels for the contaminants detected in groundwater are not more stringent than the MCLs. Revisions to the Tier 2 Levels for soil and groundwater that have occurred since the second five-year review are shown on Tables 2 and 3. A comparison of the Tier 2 Levels for contaminants detected in the groundwater at the Landfill Subsite is provided in Table 4.

During the second five-year review, KDHE identified a 2003 Kansas law that established the use of environmental use controls (EUCs) for property with environmental contamination above unrestricted use standards. EUCs are more commonly known as institutional controls, which are legal controls, intended to restrict or prohibit human activities and property use in such a way as to prevent or reduce exposures to contamination. The law governing EUCs (Kansas Statute Annotated 65-1221 through 65-1235) was passed nine years after the Record of Decision for the Landfill Subsite. The deed restriction for the institutional control on the Landfill Subsite was recorded with the Clerk of Reno County in March 1997. The law on EUCs was passed after the ROD and recording of the deed restriction for the Landfill Subsite; therefore, future site inspections and evaluation of the effectiveness of the deed restriction will be conducted under the existing consent order with KDHE (Case No. 96-E-0253) rather than an EUC agreement.

6.1.4 Changes in Exposure Pathways, Toxicity and Other Contaminant Characteristics

Standards for the contaminants of concern in groundwater are set at the MCLs. Site-specific risk-based standards were not developed for the Landfill Subsite.

Information on land use was obtained from the City of Hutchinson and Reno County Planning Departments and displayed on Figure 4. The use of the property at the Landfill Subsite has not changed since the ROD was executed. The use of the property adjacent to the Landfill Subsite has not changed substantially. Access restrictions and deed restrictions are in effect on the Landfill Subsite.

Changes to exposure pathways were evaluated during the five-year review. To complete this task, the Risk Assessment (Burns & McDonnell 1993) was reviewed to identify the exposure pathways evaluated for the Site. The exposure pathways that were fully evaluated for the Risk Assessment were as follows: 1) on-site trespasser, inhalation of volatiles from soil; and 2) off-site residents, inhalation of volatiles from soil. These two exposure pathways are still applicable to the Site.

For the Risk Assessment, the pathway of ingestion of groundwater by off-site residents (current scenario) was not considered because a public water supply had been provided to residents. A future scenario for ingestion of groundwater was not considered because contaminant transport modeling results indicated that no significant concentrations of organic compounds would leave the Site.

During the first five-year review, KDHE determined that some residents east of the Landfill Subsite are using domestic wells for their drinking water supply (two residences on Obee Road and seven residences on Mourn Lane). An evaluation of the domestic wells conducted during

the first and second five-year reviews indicated the domestic wells were not being impacted by the contaminants of concern from the Landfill Subsite (KDHE 2000, KDHE 2005). No new water wells were identified in the immediate vicinity of the Landfill Subsite during a search of available water well records. Several new domestic wells were identified at residences located farther east of the Landfill Subsite, east of Mourn Lane. Because these new wells are located farther to the east than domestic wells that were evaluated in the first and second five-year reviews, it is not expected that they would be impacted by the contaminants of concern from the Landfill Subsite. KDHE also contacted Joyce Christians of the Reno County RWD #4 to determine if any changes had occurred to the number of connections. Ms. Christrians reported they had not had a change in the number of connections to the RWD #4 in the last five years.

6.1.5 Data Review

Review of the analytical data for soils collected at the Site during the Remedial Investigation indicates that none of the contaminants of concern detected were at levels which exceed the revised KDHE Tier 2 Levels for soils (Table 2). The Tier 2 Levels for the residential scenario were used as a conservative approach for the comparison.

Groundwater monitoring data for the Landfill Subsite were reviewed for the contaminants and maximum concentrations during each phase of the project (i.e., Pre-Remedial, Remedial Investigation and Operations and Maintenance). A summary of the data is provided in Table 4. The data show that contaminant concentrations in groundwater at the Site have decreased since the Pre-Remedial phase. Analytical data for the Landfill Subsite that have been collected since 2005 are shown in Table 5. The results from the April 2010 monitoring well sampling event indicate VOCs were not detected above the laboratory reporting limits. At present, none of the contaminants are at levels that exceed the MCLs or KDHE Tier 2 Levels (i.e., comparison of standards for the residential scenario against site data).

Because the monitoring well samples collected in April 2010 indicated contaminants are not migrating off site, and previous evaluations during the first and second five-year reviews indicated domestic wells were not being impacted, KDHE determined it was not necessary to sample domestic wells during the third five-year review.

7.0 TECHNICAL ASSESSMENT

The following conclusions support the finding that the remedy at the Landfill Subsite is protective of human health and the environment.

Question A: Is the remedy functioning as intended by the decision document?

- **Health and Safety Plan (HASP)/Contingency Plan:** The HASP is in place and has been properly implemented.

- **Implementation of Institutional Controls:** Institutional controls for the Site included a deed restriction. Deed restrictions to prevent exposure to Site contaminants have been

effective. There are no plans to change the existing land use at the Landfill Subsite that would change the effectiveness of the institutional controls.

- **Remedial Action Performance:** A groundwater sampling event was conducted in April 2010 as recommended in the second five-year review. Monitoring results indicate that VOCs in the groundwater are not present at levels above the MCLs. Contaminants in the groundwater are not migrating off site at levels above the MCLs. This information indicates that the remedial action is effective.

- **System Operations/O&M:** Monitoring and site maintenance have been performed in accordance with the work plan.

- **Cost of System Operations/O&M:** Costs for the remedial action have not exceeded the anticipated amount significantly.

- **Opportunities for Optimization:** The data from the monitoring wells show that concentrations of VOCs continue to be undetectable and are below the MCLs. Results of the groundwater monitoring conducted in April 2010 confirm that the decision to cease the groundwater monitoring program as recommended in the second five-year review was acceptable.

- **Early Indicators of Potential Remedy Failure:** A potential concern at the Site in the past was the detection of vinyl chloride in the groundwater. Existing data do not indicate the presence of vinyl chloride or other VOCs in groundwater.

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

- **Changes in Standards and To Be Considereds:** The MCLs for the contaminants of concern have not changed during the last five years. Kansas has not promulgated its risk-based standards, therefore, these standards fall under the category of To Be Considered. The standards developed by Kansas for Site contaminants in groundwater are not more stringent than existing federal standards for the contaminants of concern.

- **Changes in Exposure Pathways:** Land use in the area of the Site has not changed during the last five years. No future plans to change the land use at the Landfill Subsite have been identified. No new/different contaminants or sources have been identified at the Site during the five-year review. Nine residences located east of and adjacent to the Landfill Subsite are still using private wells for their drinking water supply. Since monitoring well data from April 2010 indicate contaminants of concern are not migrating off site, it is not expected that domestic wells would be impacted. New domestic wells located east of Mourn Lane are not expected to be impacted by the Landfill Subsite.

- **Changes in Toxicity and Other Contaminant Characteristics:** Information on toxicity of contaminants of concern has changed for benzene, chloroform, 1,4-dichlorobenzene, 1,1-dichloroethane, vinyl chloride, PCE, and toluene; however, the MCLs for

contaminants of concern have not changed. VOCs were not detected in groundwater during the April 2010 sampling event. Contaminant concentrations detected in soil are below the revised KDHE Tier 2 Levels. Considering the above facts, the protectiveness of the remedy has not changed.

- **Changes in Risk Assessment Methodologies:** Changes in risk assessment methodologies since the time of the ROD do not call into question the protectiveness of the remedy.

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

No additional information that affects the protectiveness of the remedy has been identified.

8.0 ISSUES

No significant deficiencies were identified during the five-year review.

9.0 RECOMMENDATIONS AND FOLLOW-UP ACTIONS

Analytical results for monitoring well samples collected in April 2010 indicate VOCs are not present at detectable concentrations and are not migrating off site. KDHE may request that the City of Hutchinson conduct a groundwater sampling event prior to the next five year review. Inspections of the fence and evaluation of the effectiveness of deed restrictions should continue to be conducted on an annual basis. Inspection of monitoring wells indicated problems with two of the wells, MW-1 and MW-15S. Due to their location relative to the landfill and their poor condition, these two wells should be plugged and abandoned. Recommendations for the Site are summarized on Table 6.

10.0 PROTECTIVENESS STATEMENT

The remedy at the Landfill Subsite is protective of human health. Exposure pathways that could result in unacceptable risks are being controlled. The security fence at the Site and soil cover on the landfill are preventing direct contact with contaminants. A deed restriction on the landfill property is in place and remains effective in preventing exposure to contaminants. Analytical results for groundwater samples from monitoring wells on-site indicate that contaminants are not present at concentrations exceeding the MCLs and are not migrating off site.

11.0 NEXT REVIEW

This is a statutory site that requires ongoing five-year reviews. The next review will be conducted five years from the signature date of third Five-Year Review report.

TABLES

Table 1
Chronology of Site Events

Event	Date
Landfill Operation	1953 to 1968
Initial Site Discovery	1983
Preliminary Assessment	February 1, 1984
NPL Listing	July 22, 1987
Consent Agreement for RI/FS executed	March 27, 1990
Amendment to Consent Agreement for RI/FS to focus on the Landfill Subsite	March 4, 1993
RI/FS Completed	February 10, 1994
Record of Decision Signature	June 30, 1994
Consent Agreement for RD/RA executed	November 7, 1996
Remedial Action Start (Date of ROD Signature)	June 30, 1994
Remedial Action Completion (Effective Date of Institutional Controls)	March 25, 1997
First Five Year Review	June 19, 2000
Second Five Year Review	September 21, 2005

Table 2
Changes in Chemical-Specific Standards for Soil

Compounds/Analytes Detected above the Laboratory Reporting Limits	KDHE Tier 2 Level for Soil Pathway Residential Scenario^ (mg/kg)	KDHE Tier 2 Level Migration to Groundwater Pathway Residential Scenario^ (mg/kg)	ARAR Type*	Highest Concentration Detected in Site Soil (mg/kg)
bis(2-ethylhexyl)phthalate	569	144	TBC	0.110 J
Tetrachloroethene	7.54	0.121	TBC	0.054
Toluene	4320	51.2	TBC	0.0007 J
Arsenic	11	Rescinded	TBC	4.1
Barium	15300	Not Established	TBC	134
Cadmium	2.7	Not Established	TBC	0.44
Arochlor 1254	Rescinded	Rescinded	TBC	1.2

Note:
mg/kg – milligram per kilogram.
* - Source is the KDHE RSK Manual, dated June 2010, as amended.
^ - KDHE Tier 2 Levels for the residential scenario were selected for a conservative comparison to site data.
TBC - To Be Considered.

Table 3
Changes in Chemical-Specific Standards for Groundwater

Compounds Detected above the Laboratory Reporting Limits	KDHE Tier 2 Level for Groundwater Pathway Residential Scenario^ (µg/L)	ARAR Type*	Highest Concentration Detected in Groundwater (µg/L)
Carbon disulfide	716	TBC	9
1,1-Dichloroethane	25	TBC	1.5

Note:
µg/L – microgram per liter.
* - Source is the KDHE RSK Manual, dated June 2010, as amended.
^ - KDHE Tier 2 Levels for the residential scenario were selected for a conservative comparison to site data.

TBC - To Be Considered.

Table 4
Comparison of Initial to Current Detections in Groundwater Samples

Contaminant	KDHE Tier 2 Level or MCL (μg/L)	Highest Detect During Pre-Remedial (μg/L)	Well	Highest Detect During RI (μg/L)	Well	Current Highest Detect (μg/L)	Well
Benzene	5	4.1	MW-5	3 J	MW-3	< 5	All Sampled*
Bis(2-ethylhexyl) phthalate	6	NA	---	20 B	MW-5S	NA	All Sampled*
Bromodichloromethane	80	1.4	MW-3	< 5	ND	< 5	All Sampled*
Bromoform	80	2.8	MW-3	< 5	ND	< 5	All Sampled*
Carbon Disulfide	716@	9.0	MW-6	< 5	ND	NA	All Sampled*
Chlorobenzene	100	4.7	MW-6	4 J	MW-3	< 5	All Sampled*
Chloroform	80	1.2	MW-3	< 5	ND	< 5	All Sampled*
Dibromochloromethane	80	3.0	MW-3	< 5	ND	< 5	All Sampled*
1,2-Dichlorobenzene	600	3.0	MW-6	NA	NA	< 5	All Sampled*
1,4-Dichloroebenzene	75	3.0	MW-6	NA	NA	< 5	All Sampled*
1,1-Dichloroethane	25@	1.5	MW-5	< 5	ND	< 5	All Sampled*
1,2-Dichloroethene	70	2.5	MW-4	< 5	ND	< 5	All Sampled*
Methylene Chloride	5	2.0	MW-6	31 B	MW-10S	< 5	All Sampled*
Toluene	1,000	0.8	MW-5	< 5	ND	< 5	All Sampled*
Vinyl Chloride	2	98.8	MW-5	2 J	MW-9S	< 2	All Sampled*

μg/L – microgram per liter.
NA – Not analyzed.
ND- None of the wells had detections above the laboratory reporting limit.
B - Compound was also detected in an associated blank.
J - Concentration is an estimated value.
@ - MCL has not been established. Value shown is the KDHE Tier 2 Level for the residential scenario.
* – MW-3, MW-10S, MW-10D were sampled in April 2010. No VOCs were detected above the laboratory reporting limits.

Table 5
Analytical Results for Monitoring Well Samples Collected in 2010
Obee Road Landfill, Hutchinson, Kansas

Well Identification Sample Date Chemical Name	MW-3 4/27/10 ug/L	MW-10S 4/27/10 ug/L	MW-10D 4/27/10 ug/L	Duplicate of MW-10D 4/27/10 ug/L
1,1,1-Trichloroethane	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	< 5	< 5	< 5	< 5
1,1-Dichloroethane	< 5	< 5	< 5	< 5
1,1-Dichloroethene	< 5	< 5	< 5	< 5
1,2-Dichlorobenzene	< 5	< 5	< 5	< 5
1,2-Dichloroethane	< 5	< 5	< 5	< 5
1,2-Dichloropropane	< 5	< 5	< 5	< 5
1,3-Dichlorobenzene	< 5	< 5	< 5	< 5
1,4-Dichlorobenzene	< 5	< 5	< 5	< 5
2-Chloroethylvinyl Ether	< 5	< 5	< 5	< 5
Acrolein	< 25	< 25	< 25	< 25
Acrylonitrile	< 25	< 25	< 25	< 25
Benzene	< 5	< 5	< 5	< 5
Bromodichloromethane	< 5	< 5	< 5	< 5
Bromoform	< 5	< 5	< 5	< 5
Bromomethane	< 5	< 5	< 5	< 5
Carbon tetrachloride	< 5	< 5	< 5	< 5
Chlorobenzene	< 5	< 5	< 5	< 5
Chloroethane	< 5	< 5	< 5	< 5
Chloroform	< 5	< 5	< 5	< 5
Chloromethane	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	< 5	< 5	< 5	< 5
Dibromochloromethane	< 5	< 5	< 5	< 5
Ethylbenzene	< 5	< 5	< 5	< 5
Methylene Chloride	< 5	< 5	< 5	< 5
Tetrachloroethene (PCE)	< 5	< 5	< 5	< 5
Toluene	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	< 5	< 5	< 5	< 5
trans-1,3-Dichloropropene	< 5	< 5	< 5	< 5
Trichloroethene	< 5	< 5	< 5	< 5
Vinyl Chloride	< 2	< 2	< 2	< 2

ug/L - microgram per liter.
< - Compound was not detected at a concentration greater than the laboratory reporting limit.

Table 6
Recommendations and Follow-up Actions

Item	Recommendations/ Follow-up Action	Responsible Party	Oversight Agency	Milestone Date	Follow-up Actions: Affects Protectiveness (Yes/No)
Monitoring Program	Sample monitoring wells once before the next five year review.	City of Hutchinson	KDHE	August 2010	No
Monitoring Program	Plug and abandon damaged monitoring wells MW-1 and MW-15S.	City of Hutchinson	KDHE	August 2010	No
Monitoring Program	Continue inspections of the fence and evaluation of the effectiveness of deed restrictions on an annual basis.	City of Hutchinson	KDHE	August 2010	Yes

FIGURES

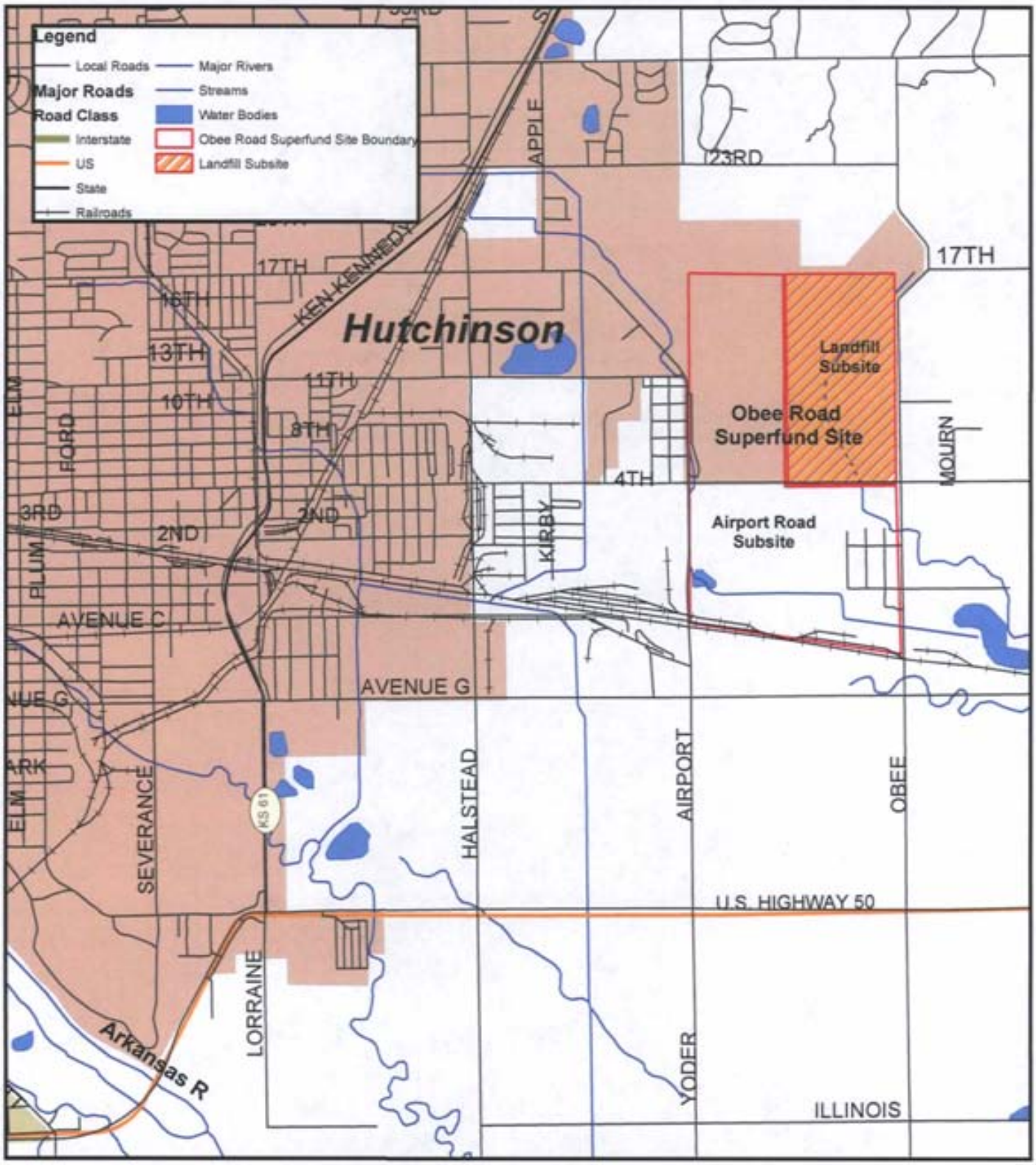


Figure 1

Site Location
Obee Road Superfund Site
Hutchinson, Kansas

Source: Burns & McDonnell, 1993, Remedial Investigation Report, Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Kansas, November 9, 1993.

Obee Road Superfund Site Boundary

Obee Road Landfill Subsite

Airport Road Subsite

East 4th Street Facility

Approximate Location of Closed City of Hutchinson Landfill

HUTCHINSON MUNICIPAL AIRPORT

East 4th Avenue

Airport Road

Obee Road

Drive-in Theater

Sandpit

Mine

BM 1523

MW-8S 1526.09

MW-7 1526.02

PZ-1 1520.45

PZ-2 1501.06

MW-3 1501.53

MW-4 1501.20

MW-10S 1500.27

MW-9S 1501.93

MW-10D 1500.19

MW-6 1499.86

MW-5 1500.12

MW-5S 1500.13

KPL #12

KPL #13 1502.15

KPL #11 1503.53

MW-11S 1503.23

MW-12S 1503.80

MW-1D

MW-14S

MW-14D

MW-15S

CE-13S

CE-1S 1504.46

CE-5 1503.05

CE-23S 1502.13

CE-26I

MW-17S 1498.28

MW-13S 1499.14

MW-13D 1499.11

MW-2B 1501.25

MW-2A 1501.16

MW-16D 1498.69

MW-16S 1498.6

1495.78

1501.00

1501.02

1502.81

1505

1503

1502

1501

1500

1499

1498

1497

1530

1525

1520

1515

1510

1550

1569

1536

1605

1520

1515

1513

1509

1514

1507

10

15

14

1

LEGEND

- OBEE ROAD MONITORING WELLS
- KDHE MONITORING WELLS
- EAST 4th. STREET MONITORING WELLS
- KPL WATER SUPPLY WELLS
- OBEE ROAD PIEZOMETERS

1505.26 WATER-TABLE ELEVATION IN FEET ABOVE MEAN SEA LEVEL

WATER-TABLE SURFACE CONTOUR LINE

GROUNDWATER FLOW DIRECTION

(CONTOUR INTERVAL = 1 FOOT EXCEPT WHERE INDICATED)

1000 0 1000 2000

SCALE IN FEET

NORTH

Burns & McDonnell

Figure 2

WATER-TABLE SURFACE MAP ROUND 5-MAY 28, 1992

Source: Burns & McDonnell, 2004, Annual Groundwater Monitoring Report, Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Kansas, October 15, 2004.

MW-7
OBEE ROAD
HUTCHINSON
PZ-1 (1523.03)
1520
1515
1510
1505
1504.5
1504
1503.5
1503
1502.5
1502
1501.5
1501
1500.5
MW-3 (1504.22)
MW-4 (1504.45)
MW-9S (1505.05)
MW-10S (1502.74)
MW-10D (1502.64)
MW-6 (1502.21)
MW-5 (1502.31)
MW-5S (1502.57)
KPL-12
MW-14D (1503.75)
MW-14S (1503.72)
MW-17S (1500.26)
"Obeville"
EAST 4TH AVENUE
PAL AIRPORT

LEGEND

- MONITORING WELLS
- PIEZOMETERS
- SUPPLY WELL
- GENERALIZED GROUNDWATER FLOW DIRECTION
- (1501.32) GROUNDWATER ELEVATION (FEET ABOVE MSL)
- GROUNDWATER ELEVATION CONTOURS

N

500' 0' 500' 1000'

SCALE IN FEET

Burns & McDonnell SINCE 1898

Figure 3

POTENTIOMETRIC SURFACE
JULY 27, 2004

Figure 4

Land Use Near the Obee Road Superfund Site Hutchinson, Kansas

N

0 750 1,500 Feet

Note: Information on zoning was obtained from the City of Hutchinson and Reno County Planning Departments.

Legend

Streams

Site Boundaries
- Landfill Subsite
- Airport Road Subsite

Hutchinson Zoning
- Heavy Industrial District
- Light Industrial District
- Residential
- Public, Recreation, and Institutional District

Reno County Zoning
- Rural Development District
- Light Industrial District
- Heavy Industrial District
- Residential

KANSAS DEPARTMENT OF HEALTH & ENVIRONMENT

ATTACHMENT 1

DOCUMENTS REVIEWED

Documents Reviewed

Burns & McDonnell, 1993, Remedial Investigation Report, Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Kansas, November 9, 1993.

Burns & McDonnell, 1994, Focused Feasibility Study, Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Kansas, February 4, 1994.

Burns & McDonnell, 1996, Remedial Design/Remedial Action Work Plan, Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Kansas, December 20, 1996.

Burns & McDonnell, 1997, Remedial Action and Annual Groundwater Monitoring Report, Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Kansas, June 25, 1997.

Burns & McDonnell, 1998, Annual Groundwater Monitoring Report, Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Kansas, January 16, 1998.

Burns & McDonnell, 1998, Annual Groundwater Monitoring Report, Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Kansas, October 13, 1998

Burns & McDonnell, 1999, Annual Groundwater Monitoring Report, Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Kansas, October 27, 1999.

Burns & McDonnell, 2000, Annual Groundwater Monitoring Report, Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Kansas, October 30, 2000.

Burns & McDonnell, 2001, Annual Groundwater Monitoring Report, Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Kansas, November 1, 2001.

Burns & McDonnell, 2002, Annual Groundwater Monitoring Report, Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Kansas, October 15, 2002.

Burns & McDonnell, 2003, Annual Groundwater Monitoring Report, Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Kansas, December 11, 2003.

Burns & McDonnell, 2004, Annual Groundwater Monitoring Report, Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Kansas, October 15, 2004.

City of Hutchinson, Letters of Correspondence with Mary Daily dated September 30, 2005, September 28, 2006, November 19, 2007, October 15, 2008, October 22, 2009, and May 21, 2010.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U. S. C. § 9601 et seq.

Environmental Protection Agency Region VII, 1994, Record of Decision Obee Road Landfill Subsite, Hutchinson, Kansas, June 30, 1994.

Kansas Department of Health and Environment, 1990, Consent Agreement between the Kansas Department of Health and Environment and the Obee Road PRP Group, March 27, 1990.

Kansas Department of Health and Environment, 1993, Amendment No. 1 to the Consent Agreement between the Kansas Department of Health and Environment, and the Obee Road PRP Group, March 4, 1993.

Kansas Department of Health and Environment, 1996, Consent Order for Remedial Design/Remedial Action between Kansas Department of Health and Environment and City of Hutchinson, Kansas, November 7, 1996.

Kansas Department of Health and Environment, 2000, First Five-Year Review Report for the Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Reno County, Kansas.

Kansas Department of Health and Environment, 2005, Second Five-Year Review Report for the Landfill Subsite of the Obee Road Superfund Site, Hutchinson, Reno County, Kansas.

Kansas Department of Health and Environment, Risk-Based Standards for Kansas RSK Manual – 4th Version, June 2010, as amended.

National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300.

ATTACHMENT 2

SITE INSPECTION CHECKLIST

Five-Year Review Site Inspection Checklist

I. SITE INFORMATION

Site Name: Landfill Subsite of the Obee Road Superfund Site	**Date of Inspection:** 6/8/10 to 6/9/2010
Location and Region: Hutchinson, Reno County, Kansas	**EPA ID:** KSD980631766
Agency, office, or company leading the five-year review: Kansas Dept. of Health and Environment	**Weather/Temperature:** Clear and hot

Remedy Includes: (Check all that apply)

✖ Landfill Cover/Containment
✖ Access Controls
✖ Institutional Controls
□ Groundwater Pump and Treatment
□ Surface Water Collection and Treatment
✖ Other Groundwater Monitoring

Attachments: □ Inspection Team Roster Attached □ Site Map Attached

II. INTERVIEWS (Check all that apply)

1. Site Manager Reg Jones (Name) Hutchinson Director of Public Works (Title) 7/28/10 (Date)
   Interviewed □ at site □ at office ✖ by phone Phone no. (620) 694-1913
   Problems, suggestions; □ Report attached

2. O&M Staff Peter Miller (Name) Hutchinson Airport Maintenance Supervisor (Title) 7/27/10 (Date)
   Interviewed □ at site □ at office ✖ by phone Phone no. (620) 694-2692
   Problems, suggestions; □ Report attached

3. Local regulatory authorities and response agencies (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.
   Agency City of Hutchinson
   Contact Don Koci (Name) Superintendent of Water Treatment Systems (Title) 7/27/10 (Date) (620) 694-1765 (Phone no.)

4. Other Interviews (optional) □ Report attached

Mike Lueck, Hutchinson, Director of Parks and Facility Services, Phone no. (620) 694-1912. Interview conducted on June 8, 2010.
Joyce Christians, Rural Water District #4, Phone no. (620) 662-8775. Interviewed on July 27, 2010.
Savannah Benedick, Hutchinson Planning Department, Phone no. (620) 694-2667
Mark Vonachen , Reno County Planning Department, Phone no. (620) 694-2978
Interviews with Ms. Benedick and Mr. Vonachen were conducted on July 26, 2010.

III. ONSITE DOCUMENTS & RECORDS VERIFIED

1. **O&M Documents**

✖ O&M Manual	✖ Readily Available	□ Up to Date	□ N/A
□ As-Built Drawings	□ Readily Available	□ Up to Date	✖ N/A
□ Maintenance Logs	□ Readily Available	□ Up to Date	✖ N/A

Remarks Site remedy consists of institutional controls and groundwater monitoring.

2. **Site-Specific Health and Safety Plan** ✖ Readily Available ☐ Up to Date ☐ N/A
☐ Contingency Plan/Emergency Response Plan ☐ Readily Available ☐ Up to Date ☐ N/A
Remarks:

3. **O&M and OSHA Training Records** ✖ Readily Available ☐ Up to Date ☐ N/A
Remarks:

4. **Permits and Service Agreements**

☐ Air Discharge Permit	☐ Readily Available	☐ Up to Date	✖ N/A
☐ Effluent Discharge	☐ Readily Available	☐ Up to Date	✖ N/A
☐ Waste Disposal, POTW	☐ Readily Available	☐ Up to Date	✖ N/A
☐ Other Permits _____	☐ Readily Available	☐ Up to Date	✖ N/A

Remarks Site remedy consists of institutional controls and groundwater monitoring

5. **Gas Generation Records** ☐ Readily Available ☐ Up to Date ✖ N/A
Remarks:

6. **Settlement Monument Records** ☐ Readily Available ☐ Up to Date ✖ N/A
Remarks:

7. **Groundwater Monitoring Records** ☐ Readily Available ☐ Up to Date ✖ N/A
Remarks The landfill is not an active facility. These types of records are not kept on-site.

8. **Leachate Extraction Records** ☐ Readily Available ☐ Up to Date ✖ N/A
Remarks:

9. **Discharge Compliance Records**

☐ Air	☐ Readily Available	☐ Up to Date	✖ N/A
☐ Water (Effluent)	☐ Readily Available	☐ Up to Date	✖ N/A

Remarks:

10. **Daily Access/Security Logs** ✖ Readily Available ☐ Up to Date ☐ N/A
Remarks:

IV. O&M COSTS

1. **O&M Organization**
☐ State In-House ☐ Contractor for State
✖ PRP In-House ☐ Contractor for PRP
☐ Other

2. **O&M Cost Records**
✖ Readily Available ☐ Up to Date
☐ Funding Mechanism/Agreement in Place
Original O&M Cost Estimate Not Provided ☐ Breakdown Attached
Total Cost for Review Period $20,000
Remarks: The City of Hutchinson did not provide an annual breakdown of the cost for Operations and Maintenance

3. **Unanticipated or Unusually High O&M Costs During Review Period**
Describe Costs and Reasons: Not Applicable. O&M Costs were not unusually high.

V. ACCESS AND INSTITUTIONAL CONTROLS ✖ Applicable ☐ N/A

A. Fencing

1. ☐ Fencing Damaged ☐ Location Shown on Site Map ✖ Gates Secured ☐ N/A
Remarks: Fencing was found to be in good condition

B. Other Access Restrictions

1. Signs and Other Security Measures ☐ Location Shown on Site Map ✖ N/A
Remarks:

C. Institutional Controls

1. **Implementation and Enforcement**
Site Conditions Imply ICs Not Properly Implemented ☐ Yes ✖ No ☐ N/A
Site Conditions Imply ICs Not Being Fully Enforced ☐ Yes ✖ No ☐ N/A

Type of Monitoring (e.g., self-reporting, drive by) The Hutchinson Municipal Airport Authority maintains control of access to the Obee Road Landfill. Site inspections are performed annually by City personnel.
Frequency Annual or more frequently as required
Responsible Party/Agency City of Hutchinson

Contact Peter Miller (Name) Hutchinson Airport Maintenance Supervisor (Title) (620) 694-2688 (Phone No.)

Contact Reg Jones (Name) City of Hutchinson Director of Public Works (Title) (620) 694-1913 (Phone No.)

Reporting is Up-to-Date ✖ Yes ☐ No ☐ N/A
Reports are Verified by the Lead Agency ✖ Yes ☐ No ☐ N/A

Specific Requirements in Deed or Decision Documents Have Been Met ✖ Yes ☐ No ☐ N/A
Violations Have Been Reported ☐ Yes ✖ No ☐ N/A
Other Problems or Suggestions: ☐ Report Attached

2. **Adequacy** ✖ ICs are Adequate ☐ ICs are Inadequate ☐ N/A
Remarks:

D. General

1. **Vandalism/Trespassing** ☐ Location Shown on Site Map ✖ No Vandalism Evident

2. **Land Use Changes Onsite** ✖ N/A
Remarks: Savannah Benedick, City of Hutchinson Planning Dept., reports that no zoning or land use changes have been implemented during the last five years.

3. **Land Use Changes Offsite** ✖ N/A
Remarks Reno County Planner, Mark Vonachen reports that no zoning or land use changes have been implemented during the last five years.

VI. GENERAL SITE CONDITIONS

A. Roads

1. **Roads Damaged** □ Location Shown on Site Map ✖ Roads Adequate □ N/A
Remarks: Roads around the eastern and southern perimeter of the landfill have been improved by placing aggregate material.

B. Other Site Conditions

Remarks:

VII. LANDFILL COVERS

A. Landfill Surface While the landfill was active, wastes were reportedly placed by a trench and fill method. The remedy for the Landfill Subsite did not require modifications to the existing soil cover. The landfill cover is not an engineered/designed soil cover.

1. **Settlement (Low Spots)** ✖ Some Settlement is Evident □ Settlement Not Evident
Areal Extent Northern area of the landfill Depth Not measured
Remarks: Settlement has occurred in some areas at the landfill. The surface of the landfill is hummocky. The trees and brush at the landfill make it difficult to see settled areas. Soil and vegetative cover is still in place.

2. **Cracks** □ Location Shown on Site Map ✖ Cracking Not Evident
Lengths _____ Widths _____ Depths _____
Remarks:

3. **Erosion** □ Location Shown on Site Map ✖ Erosion Not Evident
Areal Extent _____ Depth _____
Remarks:

4. **Holes** □ Location Shown on Site Map ✖ Holes Not Evident
Areal Extent _____ Depth _____
Remarks:

5. **Vegetative Cover** ✖ Grass □ Cover Properly Established ✖ No Signs of Stress
✖ Trees/Shrubs
Remarks Trees and shrubs are plentiful across the site. Signs of stress were not evident. The City has removed some trees at the request of the Federal Aviation Administration to reduce the amount of habitat for wildlife. Additional tree removal is being considered and will be implemented as City funds become available.

6. **Alternative Cover (armored rock, concrete, etc.)** ✖ N/A
Remarks:

7. **Bulges** □ Location Shown on Site Map ✖ Bulges Not Evident
Areal Extent _____ Height _____
Remarks:

8. **Wet Areas/Water Damage** ✖ Wet Areas/Water Damage Not Evident

□ Wet Areas	□ Location Shown on Site Map	Areal Extent _____
□ Ponding	□ Location Shown on Site Map	Areal Extent _____
□ Seeps	□ Location Shown on Site Map	Areal Extent _____
□ Soft Subgrade	□ Location Shown on Site Map	Areal Extent _____

Remarks

9. **Slope Instability** □ Slides □ Shown on Site Map ✖ No Evidence of Slope Instability
Areal Extent _____
Remarks:

B. Benches ☐ Applicable ✖ N/A

(Horizontally constructed mounds of earth placed across a steep landfill slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

1. **Flows Bybass Bench** ☐ Location Shown on Site Map ✖ N/A or Okay
Remarks:

2. **Bench Breached** ☐ Location Shown on Site Map ✖ N/A or Okay
Remarks:

3. **Bench Overtopped** ☐ Location Shown on Site Map ✖ N/A or Okay
Remarks:

C. Letdown Channels ☐ Applicable ✖ N/A

(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off the landfill cover without creating erosion gullies.)

1. **Settlement** ☐ Location Shown on Site Map ✖ No Evidence of Settlement
Areal Extent _____ Depth _____
Remarks:

2. **Material Degradation** ☐ Location Shown on Site Map ✖ No Evidence of Degradation
Material Type _____ Areal Extent _____
Remarks:

3. **Erosion** ☐ Location Shown on Site Map ✖ No Evidence of Erosion
Areal Extent _____ Depth _____
Remarks:

4. **Undercutting** ☐ Location Shown on Site Map ✖ No Evidence of Undercutting
Areal Extent _____ Depth _____
Remarks:

5. **Obstructions** Type _____ ✖ No Obstructions
☐ Location Shown on Site Map Areal Extent _____
Size _____ Remarks:

6. **Excessive Vegetative Growth** Type
☐ No Evidence of Excessive Growth
☐ Vegetation in Channel Does Not Obstruct Flow
☐ Location Shown on Site Map Areal Extent _____
Remarks:

D. Cover Penetrations ☐ Applicable ✖ N/A

1. **Gas Vents** ☐ Active ☐ Passive
☐ Properly Secured/Locked ☐ Functioning ☐ Routinely Sampled ☐ Good Condition
☐ Evidence of Leakage at Penetration ☐ Needs O&M ✖ N/A
Remarks:

2. **Gas Monitoring Probes**
☐ Properly Secured/Locked ☐ Functioning ☐ Routinely Sampled ☐ Good Condition
☐ Evidence of Leakage at Penetration ☐ Needs O&M ✖ N/A
Remarks:

3. **Monitoring Wells (within Surface Area of Landfill)**
☐ Properly Secured/Locked ☐ Functioning ☐ Routinely Sampled ☐ Good Condition
☐ Evidence of Leakage at Penetration ☐ Needs O&M ✖ N/A
Remarks:

4. **Leachate Extraction Wells**
☐ Properly Secured/Locked ☐ Functioning ☐ Routinely Sampled ☐ Good Condition
☐ Evidence of Leakage at Penetration ☐ Needs O&M ✖ N/A
Remarks:

5. **Settlement Monuments** ☐ Located ☐ Routinely Surveyed ✖ N/A
Remarks:

E. Gas Collection and Treatment ☐ Applicable ✖ N/A

1. **Gas Treatment Facilities**
☐ Flaring ☐ Thermal Destruction ☐ Collection for Reuse
☐ Good Condition ☐ Needs O&M
Remarks:

2. **Gas Collection Wells, Manifolds and Piping**
☐ Good Condition ☐ Needs O&M
Remarks:

3. **Gas Monitoring Facilities (e.g., gas monitoring of adjacent homes or buildings)**
☐ Good Condition ☐ Needs O&M ✖ N/A
Remarks:

F. Cover Drainage Layer ☐ Applicable ✖ N/A

1. **Outlet Pipes Inspected** ☐ Functioning ✖ N/A
Remarks:

2. **Outlet Rock Inspected** ☐ Functioning ✖ N/A
Remarks:

G. Detention Sedimentation Ponds ☐ Applicable ✖ N/A

1. **Siltation** Areal Extent _____ Depth _____ ✖ N/A
☐ Siltation Not Evident
Remarks:

2. **Erosion** Areal Extent _____ Depth _____ ✖ N/A
☐ Erosion Not Evident
Remarks:

3. **Outlet Works** ☐ Functioning ✖ N/A
Remarks:

4. **Dam** ☐ Functioning ✖ N/A
Remarks:

H. Retaining Walls ✖ N/A

1. **Deformations** ☐ Location Shown on Site Map ☐ Deformation Not Evident
Horizontal Displacement _____ Vertical Displacement _____
Rotational Displacement _____
Remarks:

2. **Degradation** ☐ Location Shown on Site Map ☐ Degradation Not Evident
Remarks:

I. Perimeter Ditches/Off-Site Discharge

1. **Siltation** ☐ Location Shown on Site Map ✖ Siltation Not Evident
Areal Extent _____ Depth _____
Remarks:

2. **Vegetation Growth** ☐ Location Shown on Site Map ☐ N/A
✖ Vegetation Does Not Impede Flow
Areal Extent _____ Type _____
Remarks:

3. **Erosion** ☐ Location Shown on Site Map ✖ Erosion Not Evident
Areal Extent _____ Depth _____
Remarks:

4. **Discharge Structure** ✖ Functioning ☐ N/A
Remarks:

VIII. VERTICAL BARRIER WALLS ☐ Applicable ✖ N/A

1. **Settlement** ☐ Location Shown on Site Map ☐ Settlement Not Evident
Areal Extent _____ Depth _____
Remarks:

2. **Performance Monitoring** Type of Monitoring _____
☐ Performance Not Monitored
Frequency _____ ☐ Evidence of Breaching
Head Differential _____
Remarks:

IX. GROUNDWATER/SURFACE WATER REMEDIES ✖ Applicable ☐ N/A

A. Groundwater Extraction Wells, Pumps, and Pipelines ☐ Applicable ✖ N/A

1. **Pumps, Wellhead Plumbing, and Electrical**
☐ Good Condition ☐ All Required Wells Located ☐ Needs O&M ✖ N/A
Remarks:

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
☐ Good Condition ☐ Needs O&M
Remarks:

3. **Spare Parts and Equipment**
☐ Readily Available ☐ Good Condition ☐ Requires Upgrade ☐ Needs to be Provided
Remarks:

B. Surface Water Collection Structures, Pumps, and Pipelines ☐ Applicable ✖ N/A

1. **Collection Structures, Pumps and Electrical**
☐ Good Condition ☐ Needs O&M
Remarks:

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
☐ Good Condition ☐ Needs O&M
Remarks:

3. **Spare Parts and Equipment**
☐ Readily Available ☐ Good Condition ☐ Requires Upgrade ☐ Needs to be Provided
Remarks:

C. Treatment System ☐ Applicable ✖ N/A

1. **Treatment Train** (Check Components that Apply)
☐ Metals Removal ☐ Oil/Water Separation ☐ Bioremediation
☐ Air Stripping ☐ Carbon Adsorbers
☐ Filters
☐ Additive (e.g., Chelation Agent, Flocculent)
☐ Others
☐ Good Condition ☐ Needs O&M
☐ Sampling Ports Properly Marked and Functional
☐ Sampling/Maintenance Log Displayed and Up to Date
☐ Equipment Properly Identified
☐ Quantity of Groundwater Treated Annually
☐ Quantity of Surface Water Treated Annually
Remarks:

2. **Electrical Enclosures and Panels (Properly Rated and Functional)**
✖ N/A ☐ Good Condition ☐ Needs O&M
Remarks:

3. **Tanks, Vaults, Storage Vessels**
✖ N/A ☐ Good Condition ☐ Proper Secondary Containment ☐ Needs O&M
Remarks:

4. **Discharge Structure and Appurtenances**
✖ N/A ☐ Good Condition ☐ Needs O&M
Remarks:

5. **Treatment Building(s)**
✖ N/A ☐ Good Condition (Especially Roof and Doorways) ☐ Needs Repair
Remarks:

6. **Monitoring Wells (Pump and Treat Remedy)**
☐ Properly Secured/Locked ☐ Functioning ☐ Routinely Sampled ☐ Good Condition
☐ All Required Wells Located ☐ Needs O&M ✖ N/A
Remarks:

D. Monitored Natural Attenuation

1. **Monitoring Wells (Natural Attenuation Remedy)**
☐ Properly Secured/Locked ☐ Functioning ☐ Routinely Sampled ☐ Good Condition
✖ All Required Wells Located ✖ Needs O&M ☐ N/A

Remarks: Wells PZ-1, MW-1, MW-4, MW-5S, MW-5D, MW-6, MW-7, MW10S, MW-10D, MW-14S, MW-14D, MW-15S were located and inspected. Wells PZ-1, MW-4, MW-5S, MW-5D, MW-6, MW10S, MW-10D, MW-14S, and MW-14D were found to be in satisfactory condition. These wells were secured by padlocks. The cap on the protective cover for MW-1 is broken and the well is currently unsecured. Well MW-7 was not locked. Dirt around the base of the concrete pad for MW-15S has eroded away. KDHE recommends MW-1 and MW-15S be plugged and abandoned. Well MW-7 needs to be secured by a lock.

MW-3 and MW-9S were not located during the inspection due to heavy vegetation. The City staff sampled MW-3 in April 2010 and reported it is in satisfactory condition and secured with a new padlock.

ATTACHMENT 3

SITE PHOTOGRAPHS

ATTACHMENT 3 – SITE PHOTOGRAPHS
LANDFILL SUBSITE OF THE OBEE ROAD SUPERFUND SITE
HUTCHINSON, KANSAS

Date: June 9, 2010

Direction: South

Photographer: M. Daily

Subject: Northeast side of the Obee Road Landfill looking to the south.

Date: June 9, 2010

Direction: South-southwest

Photographer: M. Daily

Subject: View of the north part of the landfill from the airport runway.

Date: June 9, 2010 **Direction:** West-southwest **Photographer:** M. Daily **Subject:** View of the north part of the landfill.	

Date: June 9, 2010 **Direction:** West-southwest **Photographer:** M. Daily **Subject:** View of the north part of the landfill.	

Date: June 9, 2010

Direction: North

Photographer: M. Daily

Subject: East central part of the landfill showing heavy vegetation. Pile of tree limbs is leftover from tree removal activities.

Date: June 9, 2010

Direction: West-southwest

Photographer: M. Daily

Subject: View of the east side of the site. Shows heavy vegetation in central part of the site. Pile of tree limbs is leftover from tree removal activities.

Date: June 9, 2010

Direction: East

Photographer: M. Daily

Subject: View of locked access gate on the east side of the site.

Date: June 9, 2010

Direction: West

Photographer: M. Daily

Subject: View of the site opposite of the locked access gate.

Date: June 9, 2010

Direction: South

Photographer: M. Daily

Subject: View of the southeast part of the site. The Obee School property is in the background. Monitoring well MW-10D is in the foreground. Heavy vegetation is present In this part of the site. Piles of tree limbs is leftover from tree removal activities.

Date: June 9, 2010

Direction: West

Photographer: M. Daily

Subject: Southeast corner of the site. Security fence is located to the south. Several turkeys are perched on a pile of tree limbs. The Federal Aviation Administration has been encouraging the City of Hutchinson to remove trees from the site to reduce habitat for wildlife that could interfere with airport operations.

Date: June 9, 2010 **Direction:** South **Photographer:** M. Daily **Subject:** View of fence along the south side of the site with the Obee School on the other side.	

Date: June 9, 2010 **Direction:** East **Photographer:** M. Daily **Subject:** View of fence along the south side of the site.	

Date: June 9, 2010

Direction: North

Photographer: M. Daily

Subject: Southwest corner of the site looking to north along the west edge of the Landfill Subsite. Ponded water in a ditch from a recent rain in the foreground.

Date: June 9, 2010

Direction: East

Photographer: M. Daily

Subject: Central part of the site. Picture taken from the west side of the airport looking to the east.

Date: June 9, 2010

Direction: West

Photographer: M. Daily

Subject: Monitoring wells MW-14S and MW-14D.

Date: June 9, 2010

Direction: North

Photographer: M. Daily

Subject: Monitoring well MW-15S. Soil around the concrete base has eroded away.

Date: 2005

Direction: Unknown

Photographer: B. Baalman

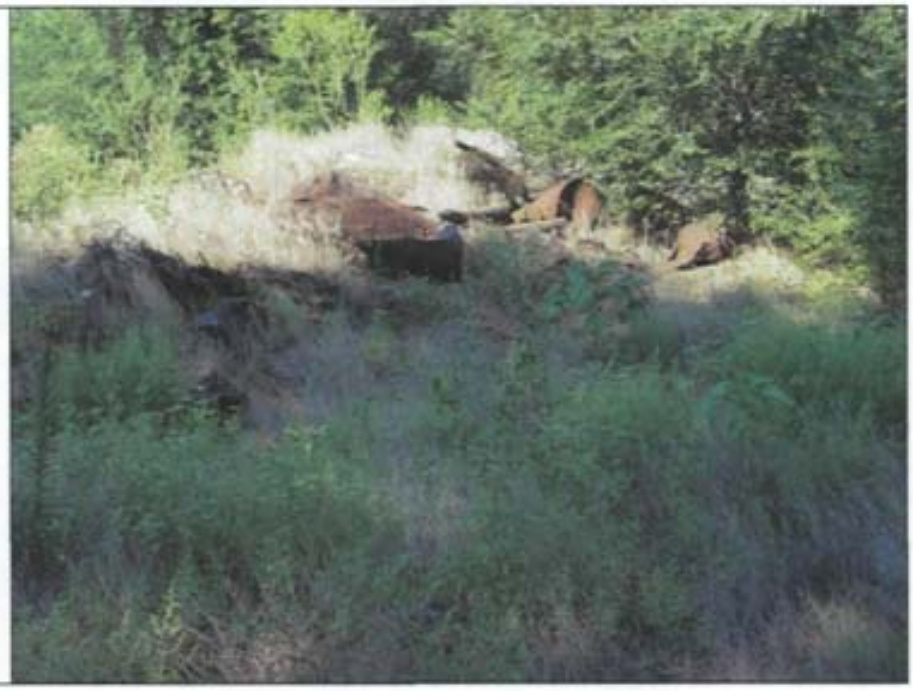
Subject: View of pieces of metal debris sitting on the surface of the landfill.

Date: 2005

Direction: Unknown

Photographer: B. Baalman

Subject: Metal debris sitting on the surface of the landfill.



Date: 2005 **Direction:** Unknown **Photographer:** B. Baalman **Subject:** View of pieces of metal debris sitting on the surface of the landfill.	
Date: June 9, 2010 **Direction:** Not noted **Photographer:** M. Daily **Subject:** Metal debris at the surface of the landfill.