

Final Work Plan for Targeted Investigation at Hilton, Kansas

Environmental Science Division



United States Department of Agriculture

Work sponsored by Commodity Credit Corporation,
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Final Work Plan for Targeted Investigation at Hilton, Kansas

by
Applied Geosciences and Environmental Management Section
Environmental Science Division, Argonne National Laboratory

June 2007



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Notation

AGEM	Applied Geosciences and Environmental Management
AMSL	above mean sea level
AOC	administrative order on consent
ASCS	Agricultural Stabilization and Conservation Service
BGL	below ground level
°C	degree(s) Celsius
CCC	Commodity Credit Corporation
CPT	cone penetrometer
EPA	U.S. Environmental Protection Agency
ft	foot (feet)
gal	gallon(s)
gpm	gallon(s) per minute
h	hour
I.D.	inner diameter
IDW	investigation-derived waste
in.	inch(es)
KDHE	Kansas Department of Health and Environment
KGS	Kansas Geological Survey
µg/kg	microgram(s) per kilogram
µg/L	microgram(s) per liter
mg/L	milligram(s) per liter
mi	mile(s)
NAIP	National Agricultural Imagery Program
pg/g	picogram(s) per gram
PVC	polyvinyl chloride
QA	quality assurance
QC	quality control
USDA	U.S. Department of Agriculture
VOC	volatile organic compound

Final Work Plan for Targeted Investigation at Hilton, Kansas

1 Introduction

This *Work Plan* outlines the scope of a targeted investigation to update the status of carbon tetrachloride contamination in groundwater associated with grain storage operations at Hilton, Kansas. The Commodity Credit Corporation (CCC), an agency of the U.S. Department of Agriculture (USDA), operated a grain storage facility in Hilton during the 1950s and 1960s. At the time of the CCC/USDA operation in Hilton, grain storage facilities (CCC/USDA and private) were located along the both sides of the former Union Pacific railroad tracks (Figure 1.1). The main grain storage structures were on or near the railroad right-of-way.

The proposed targeted investigation, to be conducted by Argonne National Laboratory on the behalf of CCC/USDA, will supplement Argonne's Phase I and Phase II investigations in 1996–1997. The earlier investigations erroneously focused on an area east of the railroad property where the CCC/USDA did not operate, specifically on a private grain storage facility. In addition, the investigation was limited in scope, because access to railroad property was denied (Argonne 1997a,b). The hydrogeologic system at Hilton is potentially complex.

In 2005, Argonne conducted a property records search on behalf of the CCC/USDA. The documents found indicate the following:

- The CCC/USDA leased only one strip of land, *on the west side of the former railroad tracks*, from 1954 to 1965, for use as a grain storage facility. The grain storage facilities on the east side of the railroad tracks were operated by various commercial entities.
- The property formerly owned by Union Pacific Railroad Company was conveyed to the Central Kansas Conservancy in 1997. The railroad tracks were abandoned, and the bed is now used as a walking and biking trail.

On the basis of the results of the 2005 property records search and Argonne's 1996–1997 Phase I and Phase II investigations, and in response to a request of the Kansas Department of Health and Environment (KDHE), the following specific technical objectives are proposed for this targeted investigation:

- Investigate for carbon tetrachloride contamination in shallower soil and the shallow aquifer unit on the former CCC/USDA property (*west* of the former railroad) to determine whether a soil source of carbon tetrachloride and a soil-to-groundwater migration pathway exist on the property.
- If contamination is found in shallower soil and/or the shallow aquifer unit on the former CCC/USDA property, extend the investigation for carbon tetrachloride contamination to the main aquifer unit, and determine the groundwater flow direction.
- If a significant contaminant source is found on the former CCC/USDA property, determine the lateral and vertical extent of the carbon tetrachloride plume emanating from the property.
- If the former CCC/USDA facility is identified as a contaminant source, establish a groundwater monitoring network.

The results of the proposed work will provide the basis for determining what further CCC/USDA activities are necessary at the Hilton site.

To ensure the involvement of the CCC/USDA and KDHE project managers in decision making during the Hilton investigation, a stepwise approach is proposed. The proposed investigation includes the following four segments, in chronological order:

- **Segment 1:** Investigate for carbon tetrachloride contamination in shallower soil and the shallow aquifer unit on the former CCC/USDA property (*west* of the former railroad) to determine whether a soil source of carbon tetrachloride and a soil-to-groundwater migration pathway exist on the property.
- **Activity 1:** At five proposed locations on the former CCC/USDA property, use the cone penetrometer (CPT) unit to collect subsurface soil samples in vertical profiles at intervals of 4 ft or at changes in lithology, to the depth of refusal. If the shallow aquifer unit is encountered (at a depth of approximately 80 ft BGL [below ground level]), collect groundwater samples, install temporary piezometers, and determine the groundwater

flow direction. Analyze the soil samples for volatile organic compounds (VOCs); analyze the groundwater samples for VOCs and 1,2-dibromoethane.

- **Segment 2:** If contamination is found in shallower soil and/or the shallow aquifer unit on the former CCC/USDA property, extend the investigation for carbon tetrachloride contamination downward to the main aquifer unit, and determine the groundwater flow direction.
 - **Activity 2a:** To determine whether the former CCC/USDA facility contributed to the contamination identified in the lower aquifer at well GW01, use the CPT (or a sonic drilling rig if necessary) to collect soil samples in vertical profiles at the locations investigated in Segment 1 at which carbon tetrachloride was found. When the main aquifer is encountered (at a depth of approximately 170 ft BGL), collect groundwater samples. Analyze the soil samples for volatile organic compounds (VOCs); analyze the groundwater samples for VOCs and 1,2-dibromoethane.
 - **Activity 2b:** For groundwater level measurements, install temporary piezometers (if CPT installations are possible) or permanent piezometers (if drilling is required) at appropriate locations on the former CCC/USDA property investigated in Activity 2a. Measure groundwater levels in the available wells and piezometers.
 - **Activity 2c:** Acquire detailed information, both in the field and from available records, regarding current and historical water usage and pumping rates from irrigation wells in the immediate vicinity of the Hilton site, to evaluate their potential to significantly affect the local hydrology.
- **Segment 3:** If a significant contaminant source is confirmed on the former CCC/USDA property, determine the lateral and vertical extent of the carbon tetrachloride plume emanating from the property.

- **Activity 3a:** Conduct groundwater sampling for VOCs and 1,2-dibromoethane analyses in existing monitoring wells and piezometers determined to be downgradient, as well as in selected upgradient wells.
- **Activity 3b:** Conduct additional groundwater sampling for VOCs and 1,2-dibromoethane analyses at selected new upgradient and downgradient locations, through use of the CPT if possible.
- **Segment 4:** If the former CCC/USDA facility is identified as a contaminant source, establish a groundwater monitoring network.
 - **Activity 4:** Install permanent piezometers or monitoring wells at selected locations, both upgradient and downgradient from the former CCC/USDA facility, to form a network for monitoring of contaminant migration and seasonal groundwater level fluctuations, as well as for determination of the potentially significant effects of pumping from nearby irrigation wells on the groundwater flow pattern and contaminant migration pathways. Locations available for the installations will depend on the success of access negotiations.

The CCC/USDA and KDHE project managers will be informed of all results and will jointly evaluate (1) the need to progress to the next segment of the investigation and (2) alterations to the existing *Work Plan* that are required as a consequence of the initial results.

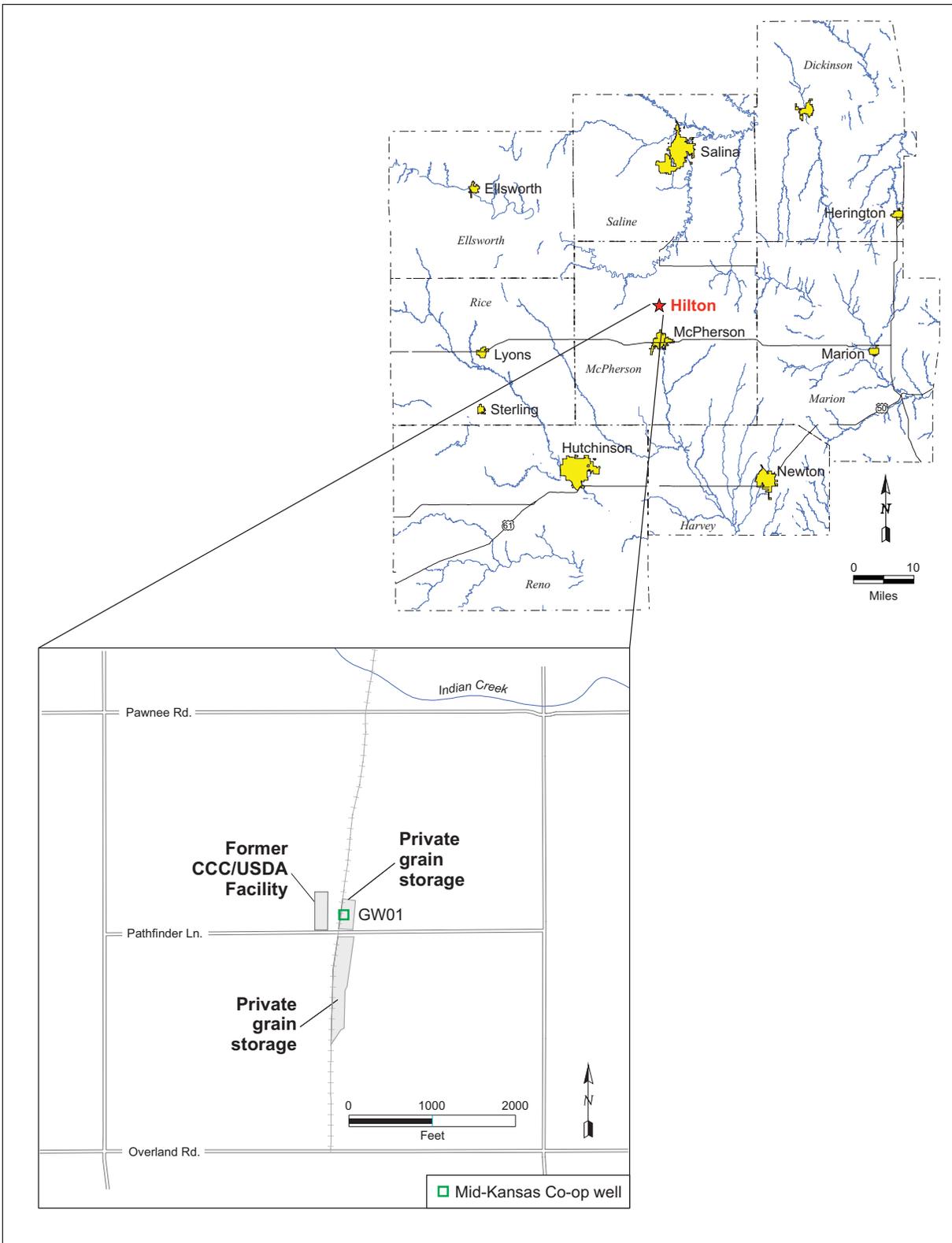


FIGURE 1.1 Locations of Hilton, Kansas, the former CCC/USDA and private grain storage facilities, and contaminated well GW01.

2 Background Information and Previous Studies

The Hilton site is located in central McPherson County, approximately 4 mi north of the city of McPherson (Figure 1.1). The area surrounding Hilton is relatively flat and sparsely populated and is used mainly for agriculture. On the basis of 1985 mapping and U.S. Census data, the KDHE estimated the population within a 1-mi radius of the Hilton site at approximately 20. No formal community or political infrastructure is in place at the site. The grain storage facilities (the main structures at the site) have been operated by various entities.

2.1 Background Information

Carbon tetrachloride contamination in groundwater at Hilton was first identified in association with the 1992 sale of the private grain storage facility by Wall-Rogalsky to the current owner, Mid-Kansas Cooperative Association. Sampling of groundwater from a well (GW01) at a former grain storage facilities *east* of the railroad tracks indicated an elevated carbon tetrachloride concentration of 910 µg/L. Groundwater contamination has continued to be found in well GW01 at this level or at higher levels. No contamination has been detected at any other groundwater sampling location, east or west of the former railroad tracks.

The contamination found in well GW01 (*east* of the former railroad tracks) has been linked to former grain storage activities at Hilton. The private grain storage facilities *east* of the former railroad tracks are the most likely source of the contamination because of their proximity to contaminated well GW01. Contaminants found in well GW01 include carbon tetrachloride (maximum of 1,630 µg/L in 1994), chloroform (46.8 µg/L), ethylene dibromide (7.2 µg/L), 1,2-dichloroethane (1.9 µg/L), 1,2-dichloropropane (1.4 µg/L), and tetrachloroethylene (3.6 µg/L).

In earlier investigations, carbon tetrachloride was detected in limited soil and vegetation sampling *east* of the former railroad tracks (Argonne 1997a,b). The CCC/USDA operated its grain storage facility *west* of the tracks in 1954–1965.

2.2 Previous Investigations

In response to the discovery of contamination in well GW01, the KDHE sampled six domestic and irrigation wells (including two wells at the Ledell residence) within approximately 1.25 mi northeast, west, and southwest of the former grain storage facilities. This sampling was part of a preliminary assessment in November 1992 (KDHE 1993). No carbon tetrachloride contamination was identified in groundwater in any of the sampled wells (Figure 2.1).

In August 1994, the KDHE returned to Hilton to collect a suite of shallow soil samples (at 8 ft and 17 ft BGL) within the former grain storage facilities along both sides of the railroad tracks. Carbon tetrachloride was found at trace concentrations (0.13–0.26 $\mu\text{g}/\text{kg}$) at three locations *east* of the tracks (KDHE 1994). A groundwater sample from GW01 contained carbon tetrachloride at 1,630 $\mu\text{g}/\text{L}$ and chloroform at 46.8 $\mu\text{g}/\text{L}$. Ethylene dibromide, 1,2-dichloroethane, 1,2-dichloropropane, and tetrachloroethylene were also detected in GW01. Complete analytical results for the Hilton site are in Appendix A, Table A.1. Locations of all previous sampling activities are shown in Figure 2.1.

At the request of the KDHE, Argonne conducted Phase I and Phase II investigations in 1996 and 1997 on behalf of the CCC/USDA. The purpose was to characterize the distribution of the carbon tetrachloride contamination, the stratigraphic units hosting contaminant migration, and local hydrogeology. The investigation involved five CPT pushes, three conventionally drilled soil borings (SB01, SB06, and SB07), a geophysical survey, and shallow soil and vegetation sampling. Three monitoring wells (SB01, SB06, and SB07) and two piezometers (SB04 and SB05) were installed (Argonne 1997a,b). Six private wells were sampled, including three of the wells sampled by the KDHE in 1992. Results of groundwater sampling from the Argonne-installed wells and piezometers, from GW01, and from domestic wells DW01–DW06 are shown in Figure 2.1. Detailed results are in Appendix A, Table A.1.

In August 2005, the KDHE sampled groundwater at seven residences near Hilton (Carey 2005). The results are displayed in Figure 2.1 and are included in Appendix A, Table A.1.

2.2.1 Geologic and Hydrogeologic Setting

The characteristics of the geologic and hydrogeologic setting at the Hilton site, as determined in Argonne's Phase I and Phase II investigations, are as follows (Argonne 1997a,b):

- The shallow geologic section at Hilton (Figure 2.2) consists of Middle Pleistocene age fluvial and overbank sediments of the McPherson Formation, deposited along the eastern flank of the McPherson paleochannel, overlying a Middle Permian shale of the Wellington Formation. The overbank deposits are mainly calcareous silty clays and clays that overlie the sands of the fluvial facies, which is characterized as the part of the Equus Beds aquifer (a part of the regional High Plains aquifer; Figures 2.3–2.5). Protection of this aquifer is a motivating force for investigation of the contamination found in well GW01.
- The sands in the basal portion of the McPherson Formation that form *the main Hilton aquifer* are part of Equus Beds. This main Hilton aquifer unit (Equus Beds) is present at SB01 and SB07 (in the vicinity of the former private grain storage facilities *east* of the railroad) but is absent at SB06 (about 1,200 ft *west* of the railroad). At SB06 the main Hilton aquifer unit is represented by a series of gray to gray-brown, very dense clays. Wells SB01 and SB07 and piezometers SB04 and SB05 are screened in the main Hilton aquifer unit (Equus Beds). These relationships are illustrated in Figures 2.3–2.5.
- An upward-fining sequence of coarse-grained sand to fine- to very fine-grained sand occurs in thin lenses, in a predominantly silty to sandy clay matrix. This sequence forms the *shallow aquifer unit* at the Hilton site. The sand unit is present in the upper portion of the McPherson Formation at SB06, but it pinches out eastward and southward and is absent at SB01 and SB07 (Figures 2.4 and 2.5). The well at location SB06 is screened in the shallow aquifer unit.
- The main Hilton aquifer unit (Equus Beds) may be locally confined or semiconfined in the vicinity of Hilton. The sands of this aquifer thin locally to slightly over 14 ft in thickness. The wells completed at or near Hilton in the less developed, thinner sands of the Equus Beds aquifer (at the edge of the McPherson paleochannel) are reported to produce significantly less water (2-15 gpm) than wells to the west and southwest, developed in the thicker sections of the McPherson paleochannel, where the sequence is dominated by coarse sand and gravel. Irrigation wells developed in this coarser-grained section are reported to produce water at rates in excess of 1,000 gpm.

- The mean potentiometric surface, based on January 1997 regional water level data (KGS 1997), declines from an elevation of 1,548 ft above mean sea level (AMSL) at the eastern edge of McPherson County to 1,400 ft AMSL in the McPherson paleochannel at the western edge of the county. However, the January 1997 water levels in the vicinity of Hilton were between 1,438 ft and 1,440 ft AMSL, with a groundwater flow bearing of S6°W (Figure 2.6). The average gradient in the observation well network in 1997 was 0.0004, with a range of 0.0003–0.0005 at that time. (The gradient is expressed as a unitless fraction or decimal number.)

2.2.2 Groundwater and Soil Contamination

The characteristics of the groundwater and soil contamination at the Hilton site are as follows (Argonne 1997a,b):

- Carbon tetrachloride and chloroform have been found persistently in well GW01. However, no contamination was found in monitoring wells and piezometers or in domestic wells sampled in the vicinity of the Hilton site (Figure 2.1).
- The results of vegetation and soil sampling — outside the railroad property and surrounding private land to which access was denied — indicated the presence of low concentrations of carbon tetrachloride in a defined area on the eastern edge of the former private grain storage facilities *east* of the railroad tracks and south of Pathfinder Lane (Figure 2.7).
- The source of the contamination in well GW01 cannot be determined without access to the property on which the well is located. In the absence of additional evidence regarding the contaminant distribution at Hilton, the contaminant source can most reasonably be assumed to be near well GW01. The exact nature and length of the gravel pack surrounding the well is unknown. However, the possibility remains that well GW01 provided a conduit through which contaminants located higher in the saturated silts and clays or in the vadose zone reached the aquifer sands in the screened interval.

In August 2005, the KDHE sampled groundwater at seven residences near Hilton, including four wells sampled in previous investigations (Carey 2005). The results confirmed the previously observed absence of carbon tetrachloride contamination in groundwater surrounding the former grain storage facilities at Hilton (Figure 2.1).

2.3 Identification of the Former Grain Storage Facilities

The results of Argonne's 2005 property records search are illustrated in Figure 2.8. The records found are in Appendix B. The results indicate that grain storage facilities formerly operated at Hilton in the following three areas:

- A *western facility*, west of the railroad tracks (location of the former CCC/USDA operation)
- A *northeastern facility*, east of the railroad tracks and north of Pathfinder Lane (location of private operations on the railroad right-of-way)
- A *southeastern facility*, east of the railroad tracks and south of Pathfinder Lane (location of private operations on the railroad right-of-way and on adjacent privately owned property)

Historical aerial photos taken in 1950, 1956, 1963, and 1970 indicate that the grain storage facilities reached their maximum size during the 1960s (ASCS 1950, 1956, 1963, 1970). At the largest operational scale, the following structures are evident in the 1963 aerial photo (Figure 2.9):

- *Western facility*: 30 grain storage bins (20 ft in diameter) — operated by the CCC/USDA in 1954–1965
- *Northeastern facility*: 1 grain elevator, 1 storage shed and shop, 2 bins (20 ft in diameter), 9 silos, and contaminated well GW01 (south of the storage shed and shop) — operated by private entities

- *Southeastern facility*: 1 elevator, 5 small bins (20 ft in diameter), 6 silos, and 39 large bins (25 ft in diameter) — operated by private entities

The preliminary assessment report (KDHE 1993) described former CCC/USDA grain storage operations on both sides of the tracks at Hilton. In January 1995, the KDHE issued a draft administrative order on consent (AOC) pertaining to Hilton site, identifying the CCC/USDA and Wall-Rogalsky Milling Company as respondents (KDHE 1995). The draft AOC indicated that the CCC/USDA had operated facilities at Hilton for an unidentified period prior to 1963. The draft AOC included the 1963 aerial photo (Figure 2.9), showing approximately 75 metal grain bins on both the west and east sides of the railroad tracks.

Argonne's 2005 records search, on behalf of the CCC/USDA, addressed Section 32, Township 18, Range 3 west, where the former Hilton grain storage facilities are located (Figure 2.9). The property documentation obtained from the McPherson County Register of Deeds office (Appendix B) includes all property transaction and ownership records related to the CCC/USDA operation, as well as additional documentation related to private grain storage operations at Hilton.

The 2005 review of property documents, in conjunction with analysis of aerial photos taken in 1950, 1956, 1963, and 1970, led to the following conclusions (Figure 2.8):

- Conclusions with regard to the former CCC/USDA grain storage facility (*western facility*):
 - The only property at Hilton historically leased to the CCC/USDA was on the *west* side of the railroad tracks. All of the lease documents identify the CCC/USDA leasehold as a strip of land 128 ft × 510 ft, west of the railroad right-of-way and north of Pathfinder Lane. This property was initially leased to the CCC/USDA by Keith Peterson in 1954 for five years. The lease was extended twice, for five years each time, for the periods 1959–1964 and 1964–1969. The second lease extension (1964–1969) was terminated early by a discharge of lease dated on April 30, 1965 (Appendix B). The current deed (Appendix B) shows that since October 6, 2003, the property has been owned by Foster Farms, a Kansas partnership.

- The historical aerial photographic record of grain storage activity on the Hilton *western facility* is consistent with the lease record, which places the CCC/USDA operation in the period 1954–1965. A 1950 aerial photo shows no bins on the former CCC/USDA facility. Consistently from 1956 through 1963, 30 metal bins (each 20 ft in diameter) are visible on the CCC/USDA facility. By 1970, all traces of structures on the former CCC/USDA facility had been removed.
- Conclusions with regard to private grain storage facilities on the former Union Pacific Railroad right-of-way (*northeastern facility and part of the southeastern facility*):
 - The former railroad right-of-way in the vicinity of Hilton was owned by the Union Pacific Railroad Company from the end of the 19th century to 1997.
 - In 1997, the former Union Pacific Railroad right-of-way was conveyed to the Central Kansas Conservancy (Appendix B), along with the entire 33.4-mi rail line in McPherson and Marion Counties (American Trails 2003). Included was the section of the former railroad between Linsborg and McPherson, which runs through the Hilton site. The conveyance was for “rail banking/interim trail use.” The land is now used as a walking and biking trail.
 - The 1997 conveyance of the railroad track and right-of-way to the Central Kansas Conservancy specifically excluded three tracts previously or currently occupied by part of the southeastern private grain storage facility. These three 100-ft-wide tracts lay on the former railroad right-of-way south of Pathfinder Lane (Appendix B, Table B.1). A fourth 100-ft-wide tract currently occupied by the northeastern private grain storage facility was not specified in the 1997 transaction. Both the northeastern and southeastern facilities are currently operated by the Mid-Kansas Co-op (Figure 2.8). No public documentation has been found regarding the current ownership of these properties. The ownership of an adjacent 33-ft by 660-ft tract is discussed below.

- The former private grain storage facilities on the east side of the railroad tracks lay mainly on the former railroad right-of-way. The 1950 and 1956 aerial photos show only a few silos and elevators on the east side of the tracks. In the 1963 photo (Figure 2.9), 46 grain storage bins are visible on the east side of tracks, 28 within the railroad right-of-way. By 1970, most of these bins had been removed.

- Railroad companies had no legal obligation to file leases with county governments. No leases for the grain storage facilities on the former Union Pacific Railroad right-of-way at Hilton were filed with the county prior to 1997 (when Argonne was completing its Phase II investigation). Nevertheless, the private operator of the grain storage facility on railroad property at Hilton can be inferred from the historically documented ownership of the facility's extension eastward from the railroad right-of-way (see below).

- Conclusions with regard to the southeastern private grain storage facility outside the railroad right-of-way:
 - The southeastern private grain storage facility expanded eastward from the railroad right-of-way to a strip of land, 33 ft by 660 ft, originally owned by Lila and Elmer Tector (Figure 2.8). The McPherson Grain Company purchased this strip of the land from the Tectors in 1959 and sold it to Wall-Rogalsky Milling Company in 1981. In 1992, the land was sold to the current owner, Mid-Kansas Cooperative Association (Appendix B). The Mid-Kansas Co-op currently operates facilities both on this strip of land and on properties within the former railroad right-of-way, as indicated above.

 - An expanded southeastern private grain storage facility on the strip of land next to the railroad right-of-way, including a row of 18 grain storage bins (each 25 ft in diameter), is first visible in the 1963 photo (Figure 2.9). This observation is consistent with the property transfer from the Tectors to the McPherson Grain Company in 1959. Though no conclusive evidence exists, a reasonable assumption is that the same company operated

facilities on the leased right-of-way and expanded eastward in or before 1963 to increase its storage space.

2.4 Access Issues

During Argonne's Phase I and Phase II investigations in 1996 and 1997, the CCC/USDA was unable to gain access to the railroad right-of-way and to adjacent privately owned lands. Argonne's investigations were therefore limited to the narrow strip of land owned by Mid-Kansas Co-op (Figure 2.8) and to the shoulders of township and county roads.

In a July 1998 letter, the USDA requested assistance from U.S. Environmental Protection Agency (EPA) Region VII in obtaining access to the railroad right-of-way (Gurwitz 1998). The EPA regional counsel responded that because no further response actions were planned at Hilton under Superfund and the KDHE was assuming leadership for the site, access issues would become the concern of the KDHE (Kahn 1998).

In view of the findings of the 2005 property records search, the access permits required in the targeted investigation proposed here will initially be limited to Foster Farms, the Ledell property west of the former railroad, and the Central Kansas Conservancy (Figure 2.8).

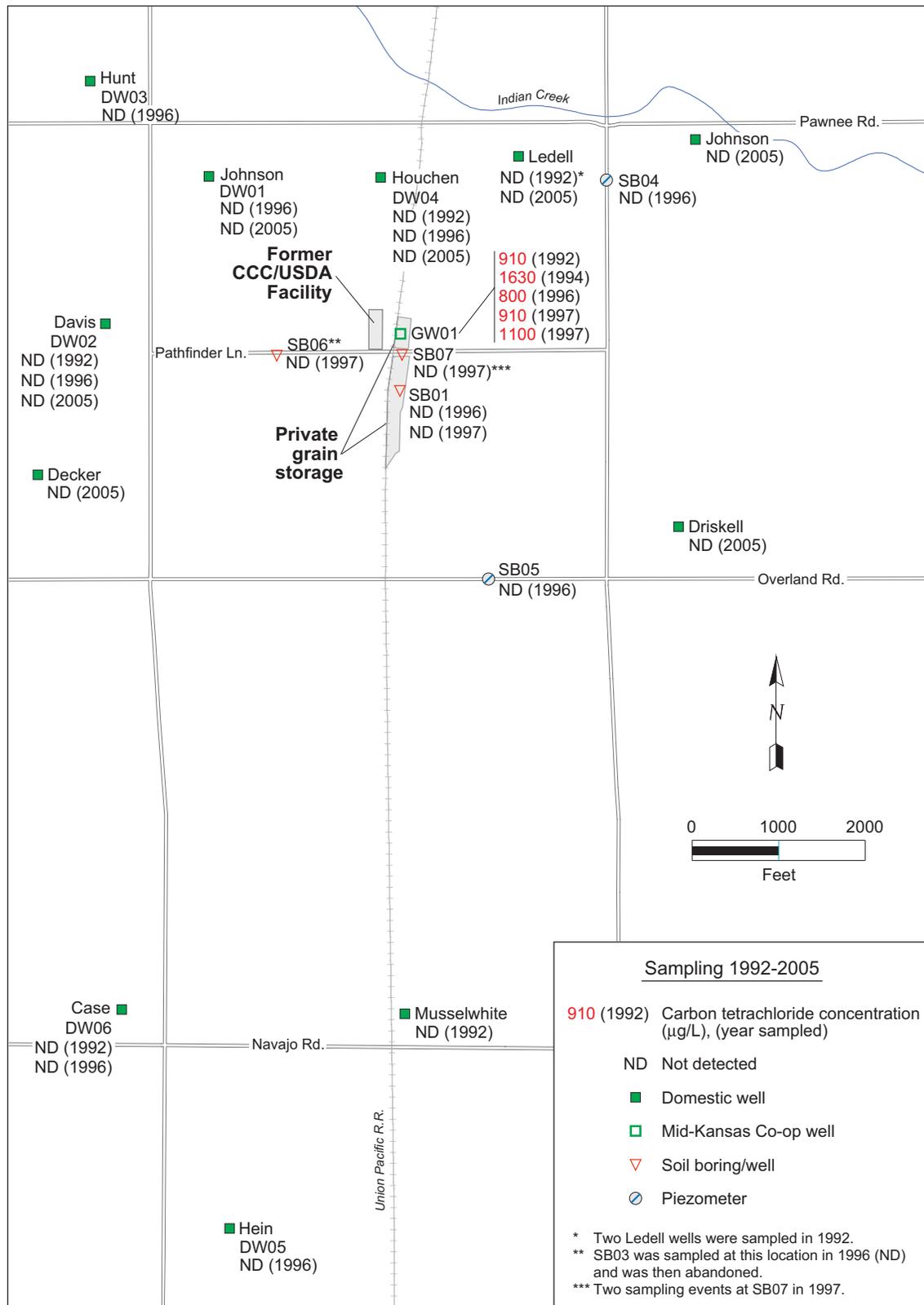


FIGURE 2.1 Historical results of carbon tetrachloride analyses on groundwater samples collected in the Hilton area.

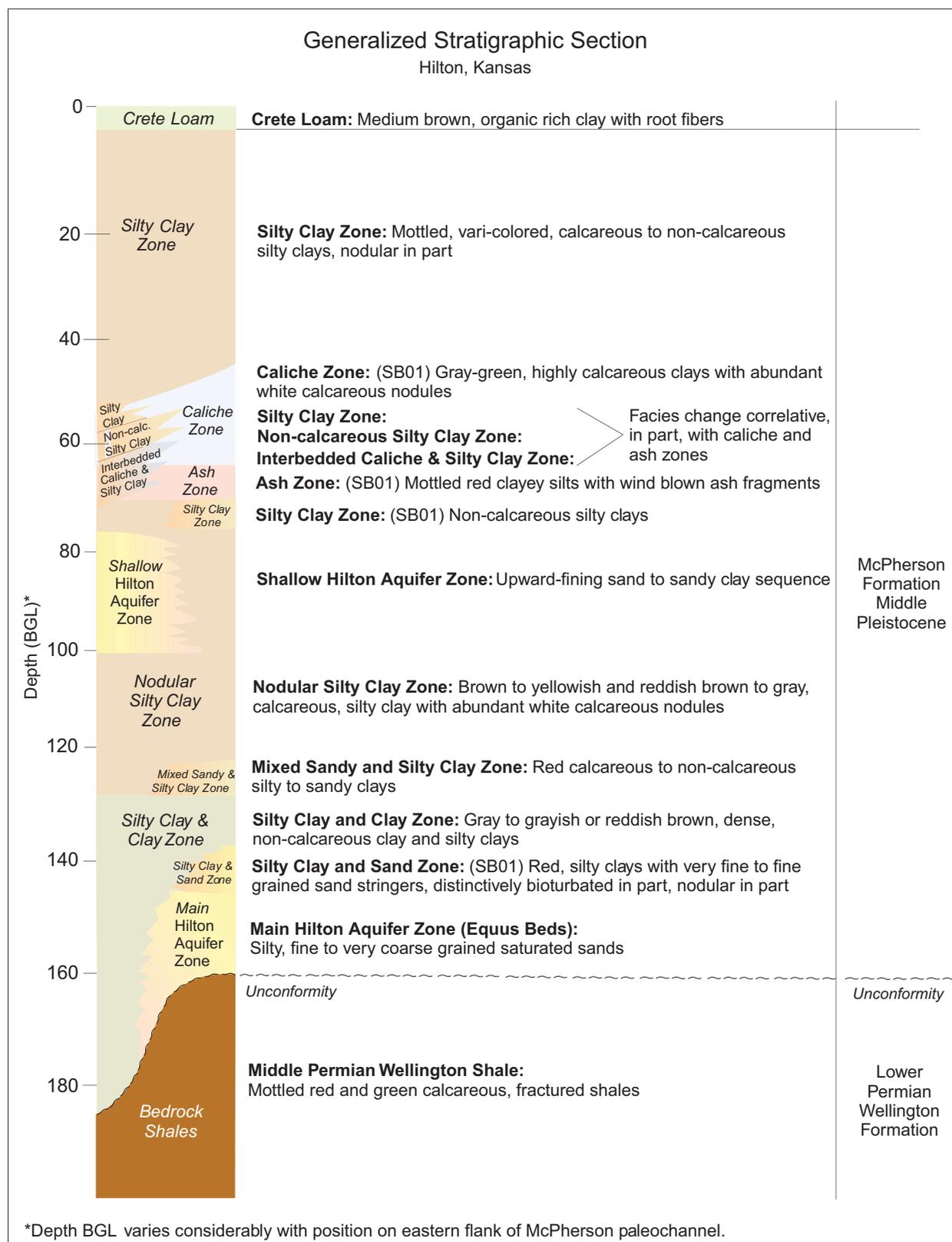


FIGURE 2.2 Simplified stratigraphic section derived from core descriptions for SB01, SB06, and SB07 at Hilton.

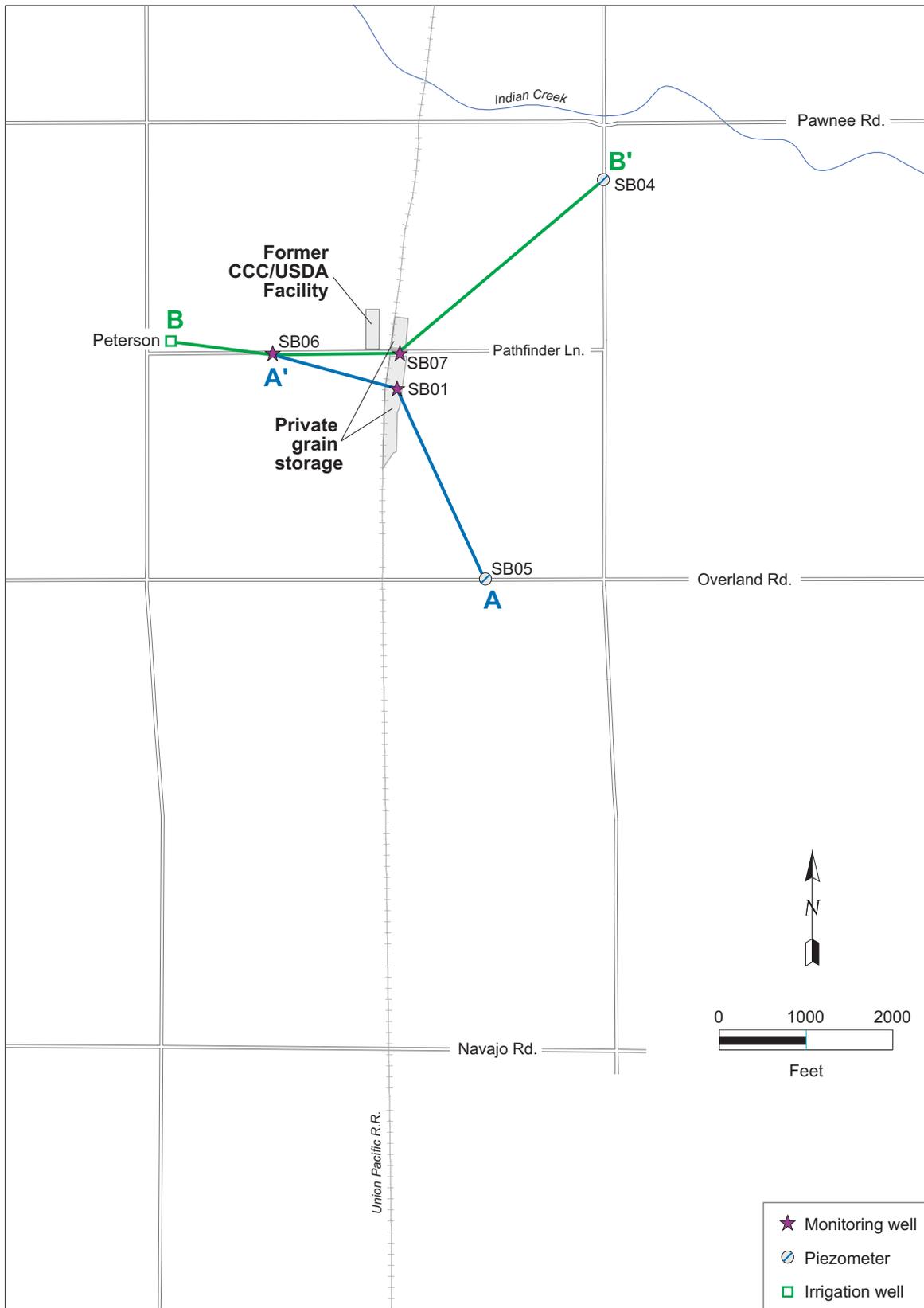


FIGURE 2.3 Locations of monitoring wells, piezometers, and geologic cross sections.

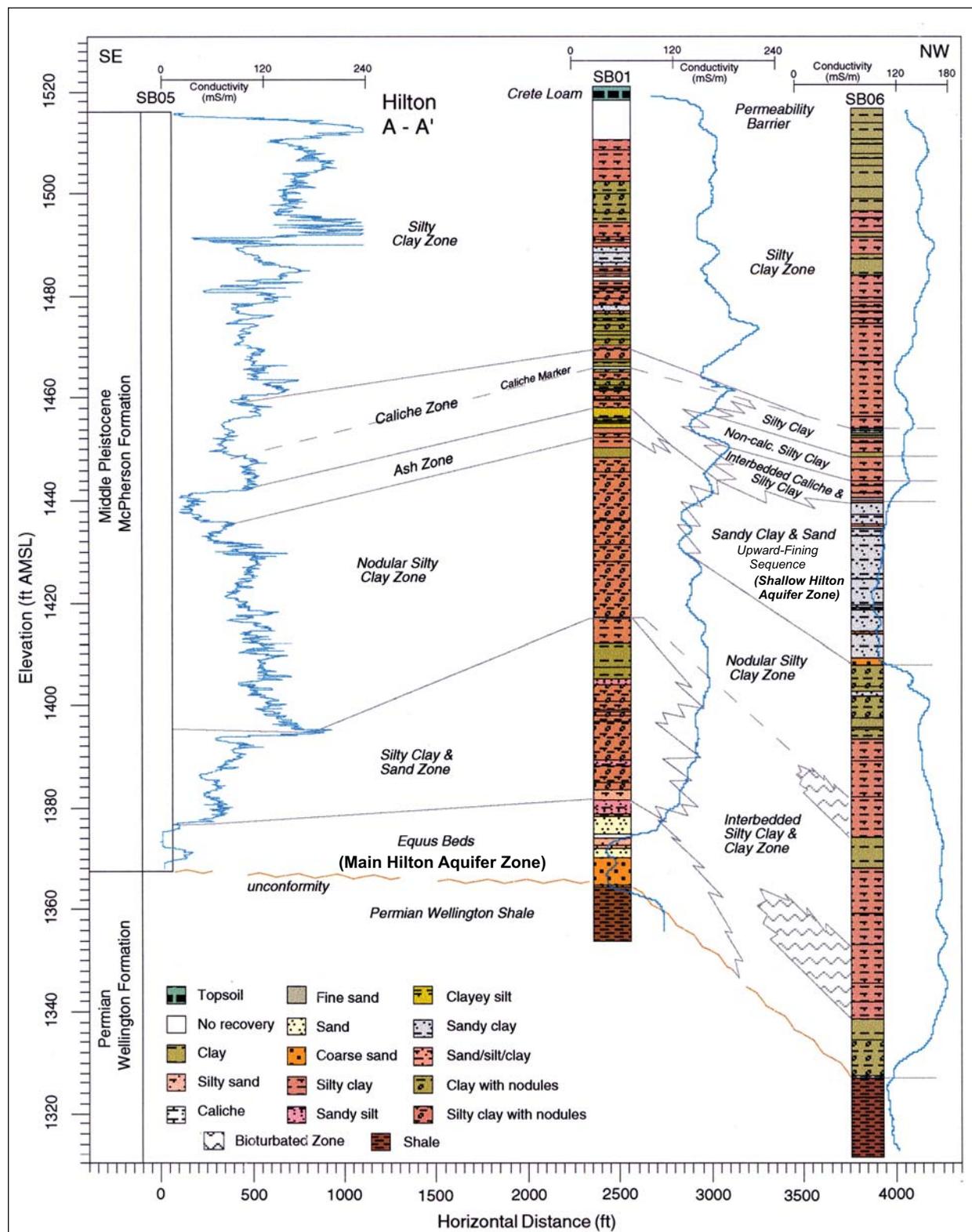


FIGURE 2.4 Southeast-to-northwest geologic cross section A-A' (vertically exaggerated), illustrating the stratigraphic relationships in the vicinity of the former CCC/USDA and private grain storage facilities at Hilton.

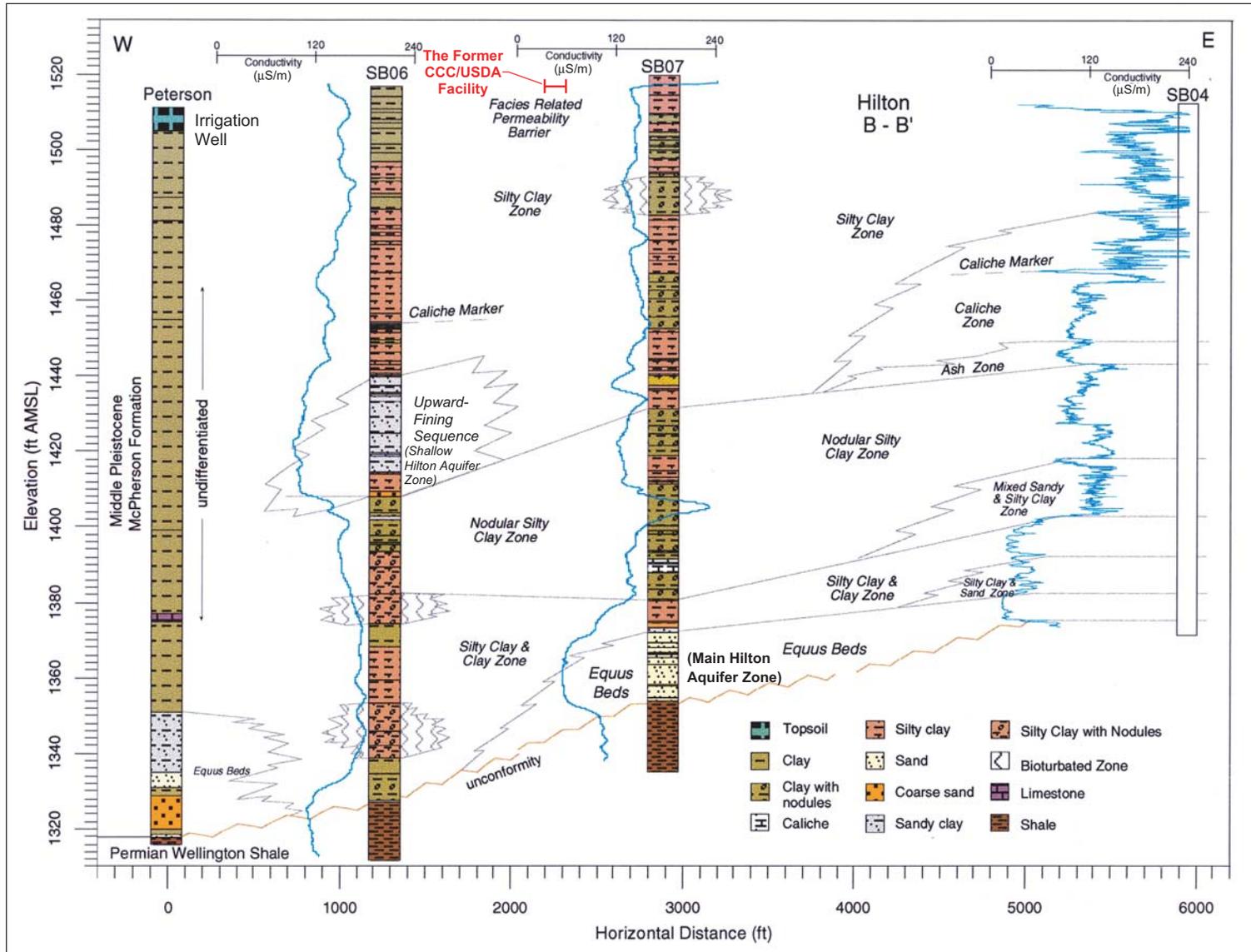


FIGURE 2.5 West-to-east geologic cross section B–B' (vertically exaggerated), illustrating the stratigraphic relationships in the vicinity of the former CCC/USDA and private grain storage facilities at Hilton.

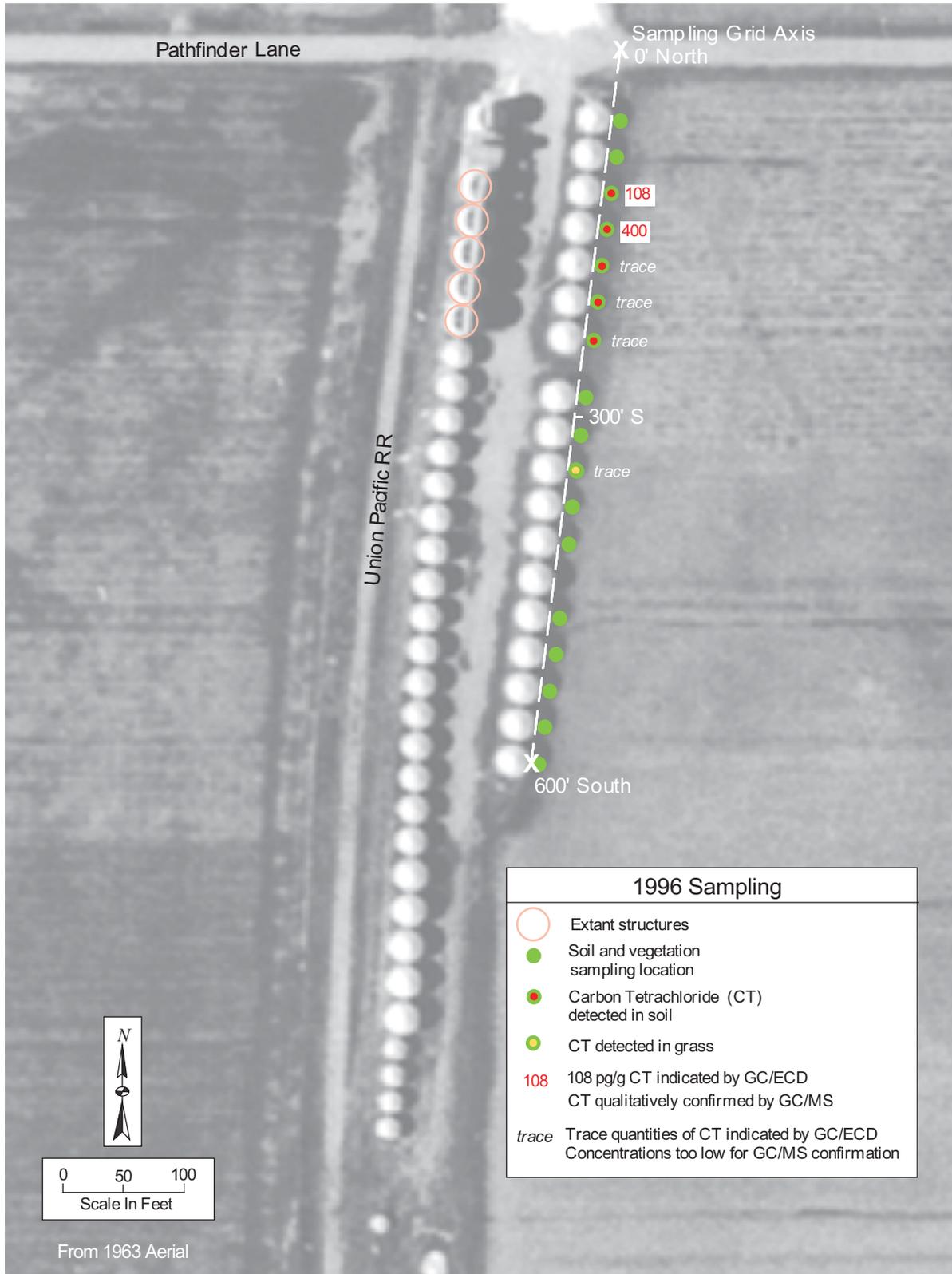


FIGURE 2.7 Soil and vegetation sampling locations (1996) and analytical results for carbon tetrachloride, shown on a 1963 aerial photograph. Source of photograph: ASCS (1963).

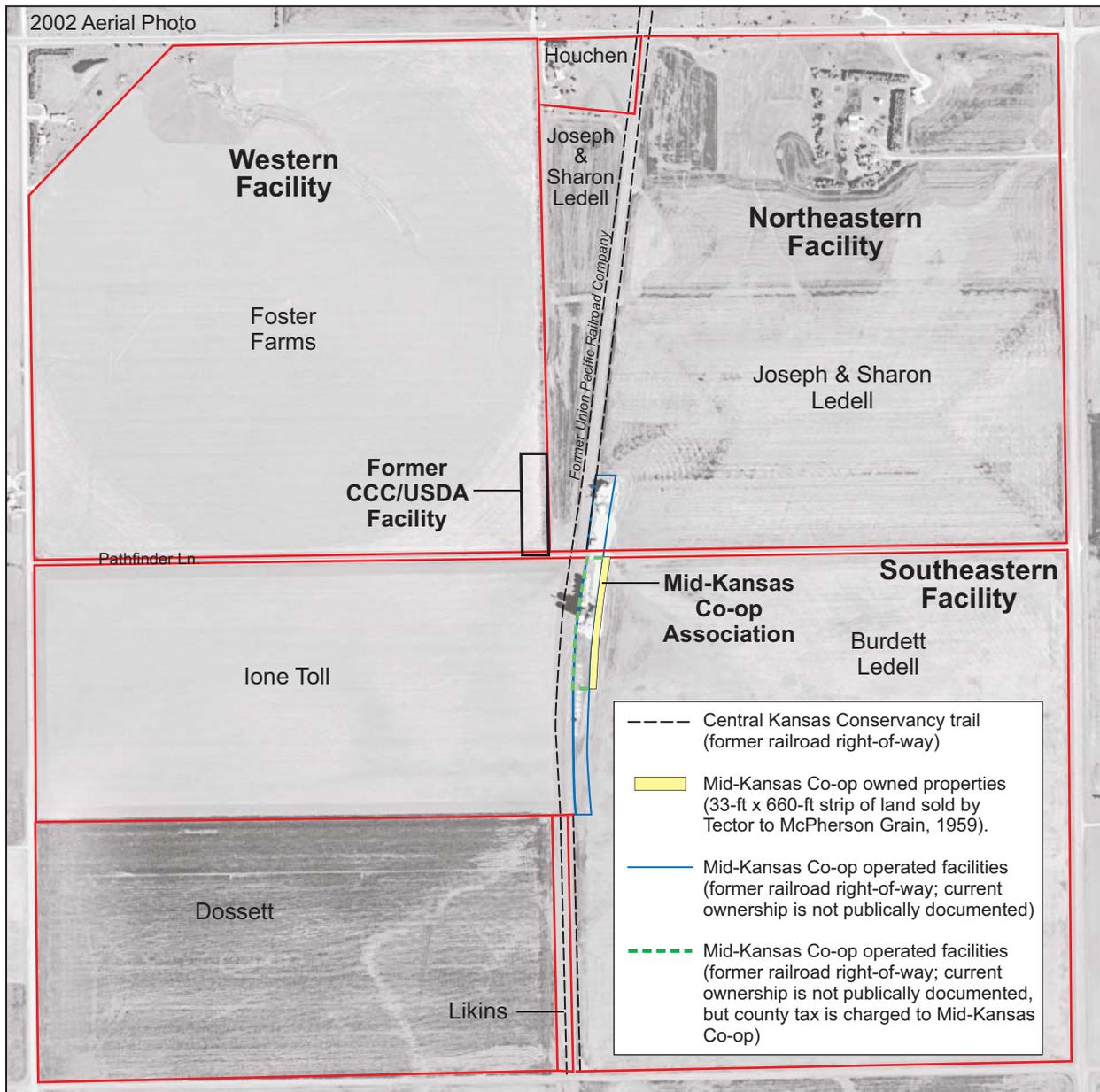


FIGURE 2.8 Locations of current property boundaries, the former CCC/USDA facility, the present Mid-Kansas Co-op, and the former Union Pacific Railroad Company property at Hilton. The former railroad property is now owned in part by the Central Kansas Conservancy and occupied in part by the Mid-Kansas Co-op facilities. Source of photograph: NAIP (2002).

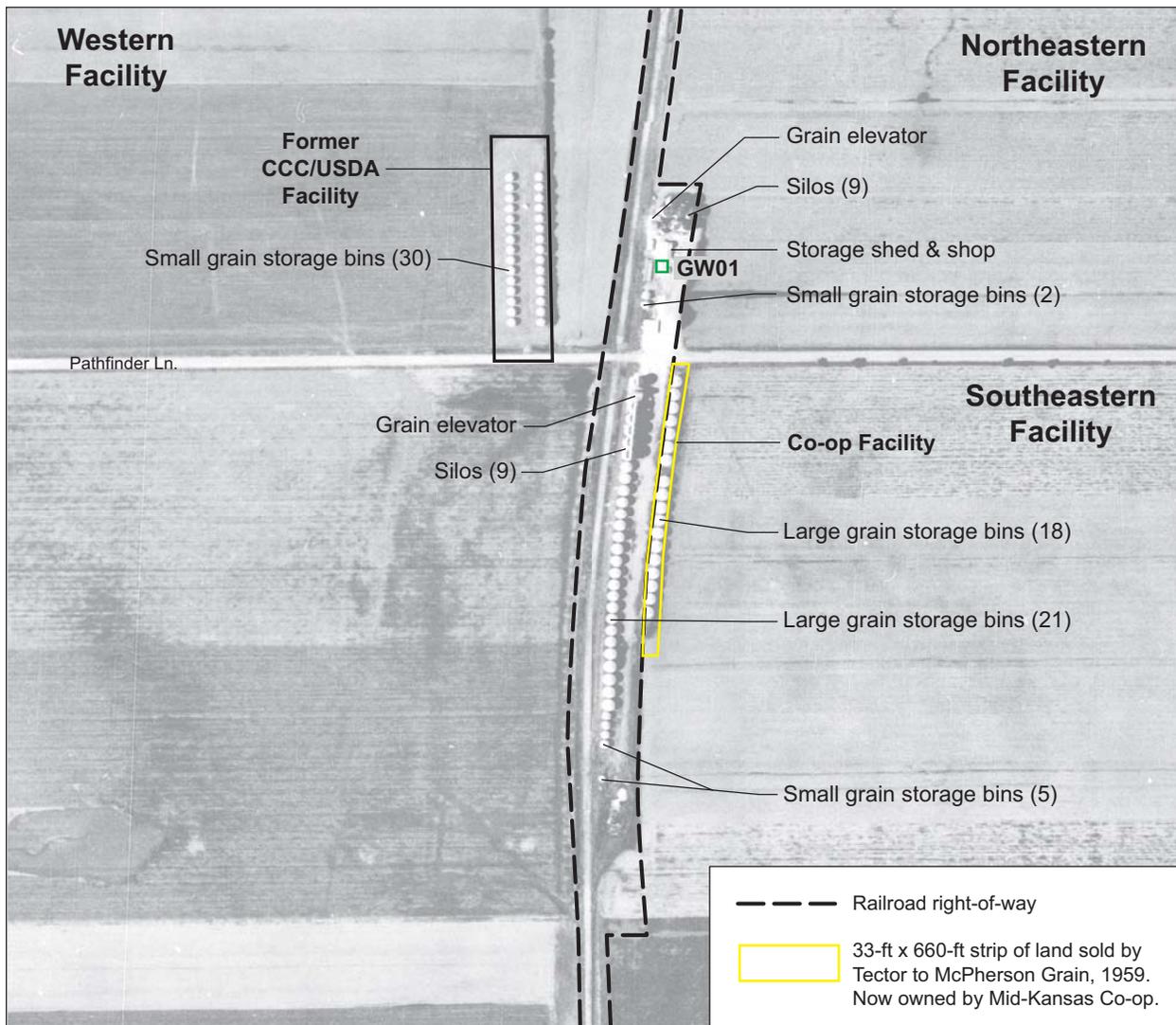


FIGURE 2.9 The maximum scale of grain storage facilities at Kansas, interpreted from a 1963 aerial photograph. Source of photograph: ASCS (1963).

3 Technical Program

The investigative program outlined here focuses on potential groundwater contamination related to the former CCC/USDA facility *west* of the former railroad tracks. A phased approach is proposed, with four segments of investigation to determine whether carbon tetrachloride is present in soil and groundwater at the former CCC/USDA facility, then define the extent of the potential contamination.

3.1 Project Objectives

The technical objectives of the proposed work are as follows:

- Investigate for carbon tetrachloride contamination in shallower soil and the shallow aquifer unit on the former CCC/USDA property (*west* of the former railroad) to determine whether a soil source of carbon tetrachloride and a soil-to-groundwater migration pathway exist on the property.
- If contamination is found in shallower soil and/or the shallow aquifer unit on the former CCC/USDA property, extend the investigation for carbon tetrachloride contamination downward to the main aquifer unit, and determine the groundwater flow direction.
- If a significant contaminant source is found on the former CCC/USDA property, determine the lateral and vertical extent of the carbon tetrachloride plume emanating from the property.
- If the former CCC/USDA facility is identified as a contaminant source, establish a groundwater monitoring network.

3.2 Scope of Work

The proposed work will be accomplished in four segments addressing the four technical objectives in Section 3.1. The results from each segment will be evaluated in the field to

determine whether the activities proposed for the next segment are appropriate and necessary. The CCC/USDA and KDHE project managers will be informed of the results of each segment of the investigation and will jointly determine whether the work is to progress to the next segment.

As new data are acquired during the field program, the recommended tasks for each segment may be revised to reflect an improved understanding of the site. Modifications could include the reduction or expansion of certain activities, as well as the elimination of elements of the program judged to be unnecessary to meet the stated technical objectives. Any changes to the *Work Plan* will be made in consultation with the CCC/USDA and KDHE project managers.

Detailed procedures for the individual activities recommended by Argonne are presented in the *Master Work Plan* (Argonne 2002) for environmental investigations in Kansas.

3.2.1 Segment 1: Investigate for Carbon Tetrachloride Contamination in Shallower Soil and the Shallow Aquifer Unit on the Former CCC/USDA Property

Investigation Segment 1 will address the former CCC/USDA property *west* of the former railroad. The planned activity in Segment 1 is as follows:

- **Activity 1:** At five proposed locations on the former CCC/USDA property, use the cone penetrometer (CPT) unit to collect subsurface soil samples in vertical profiles at intervals of 4 ft or at changes in lithology, to the depth of refusal. If the shallow aquifer unit is encountered (at a depth of approximately 80 ft BGL), collect groundwater samples, install temporary piezometers, and determine the groundwater flow direction. Analyze the soil samples for volatile organic compounds (VOCs); analyze the groundwater samples for VOCs and 1,2-dibromoethane.

Of the five proposed CPT investigation locations, the initial three are shown in Figure 3.1. The remaining CPT locations will be selected in consultation with the CCC/USDA and KDHE project managers as the investigation proceeds, to ensure optimal placement on the basis of the initial results.

At each of the five proposed locations, the CPT unit will be used to collect soil samples in vertical profiles at intervals of 4 ft or at changes in lithology, to the depth of refusal or to the shallow aquifer. All soil samples will be analyzed for VOCs to identify the presence and concentration of carbon tetrachloride and chloroform.

The hydrogeologic setting beneath the former CCC/USDA facility is expected to be similar to the section illustrated in Figure 3.2, interpreted from Argonne's Phase I and Phase II investigations (Argonne 1997a,b). Vertical-profile soil sampling will continue, if penetration is achieved, to the shallow aquifer unit. This unit is composed of an upward-fining sequence from coarse-grained sand to a fine- to very fine-grained sand occurring in thin lenses in a silty to sandy clay matrix at 78–108 ft BGL. The shallow aquifer unit is locally distributed and in previous investigations has been encountered only at SB06, 1,000 ft west of the former CCC/USDA facility. The shallow aquifer unit will be most vulnerable to contamination if it is present beneath the former CCC/USDA facility.

Groundwater samples for analyses for VOCs and 1,2-dibromoethane will be collected within the shallow aquifer unit below the former CCC facility. Analytical results for these groundwater samples will indicate whether groundwater directly under the former CCC/USDA facility is contaminated with VOCs potentially related to overlying sources.

Temporary 1-in.-diameter observation piezometers will be installed with the CPT at each of the investigated locations where the upper aquifer unit is encountered. Groundwater levels will be measured in these piezometers to determine the flow direction beneath the former CCC/USDA facility. Any temporary observation points will be abandoned in accordance with KDHE requirements upon completion of the field investigation. Alternately, the temporary observation points can later be converted to permanent installations at the discretion of the CCC/USDA and KDHE project managers, if access is granted (Segment 4).

Segment 1 of the investigation will end upon completion of the activities described above. The presence of contamination in shallower soil and/or the shallow aquifer unit beneath the former CCC/USDA facility will be evaluated as the main criterion for determining whether the activities in Segment 2 of the investigation are appropriate and necessary.

3.2.2 Segment 2: If Contamination Is Found in Shallower Soil and/or the Shallow Aquifer Unit on the Former CCC/USDA Property, Extend the Investigation for Carbon Tetrachloride Contamination Downward to the Main Aquifer Unit, and Determine the Groundwater Flow Direction

Investigation Segment 2, if warranted, will further address the former CCC/USDA property *west* of the former railroad. The planned activities in Segment 2 are as follows:

- **Activity 2a:** To determine whether the former CCC/USDA facility contributed to the contamination identified in the lower aquifer at well GW01, use the CPT (or a sonic drilling rig if necessary) to collect soil samples in vertical profiles at the locations investigated in Segment 1 at which carbon tetrachloride was found. When the main aquifer is encountered (at a depth of approximately 170 ft BGL), collect groundwater samples. Analyze the soil samples for VOCs; analyze the groundwater samples for VOCs and 1,2-dibromoethane.

In this activity, CPT pushes, or drilled boreholes as necessary, will be advanced through the entire McPherson Formation to the underlying red and green calcareous, fractured shales, at an approximate depth of 170 ft BGL. The main Hilton aquifer unit (Equus Beds), which consists of silty, fine to very coarse-grained sands, is expected at the basal portion of the McPherson Formation (about 150–170 ft BGL), with a thickness of less than 15 ft.

- **Activity 2b:** For groundwater level measurements, install temporary piezometers (if CPT installations are possible) or permanent piezometers (if drilling is required) in the main aquifer at appropriate locations on the former CCC/USDA property investigated in Activity 2a. Measure groundwater levels in the available wells and piezometers.

To determine the current groundwater flow direction, water level measurements will be made in the newly installed piezometers, in existing monitoring wells and piezometers SB01 and SB04–SB07, and in well GW01 (Figure 3.3). Information on the construction of existing wells and piezometers is in Table 3.1. Confirmation of the existence and condition of these wells and piezometers will be part of the field investigation.

- **Activity 2c:** Acquire detailed information, both in the field and from available records, regarding current and historical water usage and pumping rates from irrigation wells in the immediate vicinity of the Hilton site, to evaluate their potential to significantly affect the local hydrology.

The results of the vertical-profile sampling in Segments 1 and 2 will indicate whether a soil source of carbon tetrachloride and a soil-to groundwater migration pathway exist at the former CCC/USDA facility. Segment 3 of the investigation will be initiated if a significant contaminant source is confirmed at the former CCC/USDA facility.

TABLE 3.1 Construction information for existing wells and piezometers at Hilton, Kansas.^a

Well/Piezometer	Depth (ft BGL)	Diameter (in.)	Screen Interval (ft BGL)	Reference Elevation ^b (ft AMSL)
SB01	171.5	4	144–164	1520.90
SB04	135.7	1	130–135	1512.36
SB05	148	1	138–148	1516.12
SB06	205	4	99–109	1516.12
SB07	184	4	146.5–166.5	1518.80
GW01	166 ^c	Unknown	Unknown	1520.16

^a The present condition of the SB wells and piezometers will need to be evaluated in the field before sampling.

^b Elevation at the top of the well or piezometer casing.

^c Depth reported by the KDHE (1993).

3.2.3 Segment 3: If a Significant Contaminant Source Is Confirmed on the Former CCC/USDA Property, Determine the Lateral and Vertical Extent of the Carbon Tetrachloride Plume Emanating from the Property

Investigation Segment 3, if warranted, will address the wider area at Hilton. The planned activities in Segment 3 are as follows:

- **Activity 3a:** Conduct groundwater sampling for analyses for VOCs and 1,2-dibromoethane in existing monitoring wells and piezometers determined to be downgradient, as well as in selected upgradient well(s). Figure 3.3 shows the current existing monitoring wells and piezometers and also well GW01.
- **Activity 3b:** Conduct additional groundwater sampling for VOCs and 1,2-dibromoethane analyses at selected new upgradient and downgradient locations, through use of the CPT if possible.

Groundwater sampling at the locations hydraulically upgradient from the former CCC/USDA facility will help to define the sources contributing to groundwater contamination under the former CCC/USDA facility (if such contamination is found). The number and locations of sampling points will be determined in consultation with the CCC/USDA and KDHE project managers.

To delineate the groundwater plume originating from the former CCC/USDA facility, vertical-profile groundwater sampling through the aquifer units will be conducted at additional locations downgradient from the former CCC/USDA facility, along potential plume migration pathways. The additional number and locations of sampling points will be determined, in consultation with the CCC/USDA and KDHE project managers, on the basis of the local groundwater flow pattern and the contaminant distribution.

At each additional groundwater sampling location, electronic CPT logs will be acquired to identify the aquifer units, as described in Section 3.2.1, if penetration is achieved by the CPT unit.

The results of activities in Segment 3 will permit the mapping of carbon tetrachloride concentrations in groundwater throughout the investigation area. The CCC/USDA and KDHE project managers will determine jointly whether the activities proposed for the next segment are appropriate and necessary.

3.2.4 Segment 4: If the Former CCC/USDA Facility Is Identified as a Contaminant Source, Establish a Groundwater Monitoring Network

Investigation Segment 4, if warranted, will address the wider area at Hilton. The planned activity in Segment 4 is as follows:

- **Activity 4:** Install permanent piezometers or monitoring wells at selected locations, both upgradient and downgradient from the former CCC/USDA facility, to form a network for monitoring of contaminant migration and seasonal groundwater level fluctuations, as well as for determination of the potentially significant effects of pumping from nearby irrigation wells on the groundwater flow pattern and contaminant migration pathways.

Locations for the permanent monitoring points will be selected in consultation with the CCC/USDA and KDHE project managers. Locations available will depend on the success of access negotiations.

Analyses of data generated in the investigation will provide the basis for determining what further CCC/USDA activities are necessary at the Hilton site.

3.3 Investigation Methods

3.3.1 Methods for Sampling of Existing Wells

Water level measurement and sampling in existing wells will be conducted in accordance with the procedures described in the *Master Work Plan* (Argonne 2002), as follows:

1. The well number, the well owner's name, or both will be documented in the site field notebook.
2. If possible, the static groundwater level and then the total depth will be measured and documented for each well.
3. The groundwater from each well will be purged until field parameters of pH, temperature, and conductivity are stable. If possible, a minimum of three well volumes of water will be purged. The field parameters and volume purged will be documented. Each well will be purged before it is sampled.
4. The wells will be sampled after adequate recharge has occurred but no more than 24 h after purging.
5. Groundwater samples for analyses for VOCs (including carbon tetrachloride and chloroform) and 1,2-dibromoethane will be collected in laboratory-approved containers and immediately placed in a cooler at 4°C. These samples will be shipped for overnight delivery to the Applied Geosciences and Environmental Management (AGEM) Laboratory at Argonne for off-site analysis.
6. Any unavoidable deviations from these procedures will be documented in the field notebook.

3.3.2 Methods for Groundwater Sampling with the Cone Penetrometer

The groundwater samples collected with the CPT will be submitted to the AGEM Laboratory for rapid-turnaround (24-h) analyses, to facilitate review of the investigation results by Argonne and by the CCC/USDA and KDHE project managers during the field program.

At each location investigated with the CPT, logs of tip pressure, sleeve friction, and conductance will first be acquired to determine the basic lithostratigraphy and hydrostratigraphy of the site in the context of the local hydrogeologic setting. On the basis of these logs, selected

depth intervals (to be determined in the field) may be chosen for coring, to provide sediment samples for lithologic confirmation and correlation of the CPT log responses.

At each location investigated with the CPT, depth intervals will be chosen in the field for groundwater sampling on the basis of the site-specific lithologic and hydrostratigraphic information outlined above. The groundwater sampling will be performed in accordance with the procedures described in the *Master Work Plan* (Argonne 2002), by first using the CPT rods to push a sacrificial tip and 0.5-in.-I.D. polyvinyl chloride (PVC) filter screen and riser to the desired maximum sampling depth. The rods will then be partially withdrawn to the desired minimum sampling depth, to expose the screen to the formation waters. Samples will be collected from the PVC casing by using a bailer, without purging, for preservation and analysis as described in Section 3.3.1 and Section 3.5.

The screen and riser used for sampling at selected locations will be left in place temporarily, to permit the periodic measurement of static groundwater levels during the field program. These temporary observation points will be abandoned in accordance with KDHE requirements upon completion of the field investigation. At the discretion of the CCC/USDA and KDHE project managers — and if access is granted — permanent piezometers or monitoring wells can be installed at these locations in accordance with procedures described in the *Master Work Plan* (Argonne 2002).

3.3.3 Methods for Vertical-Profile Soil Sampling with the Cone Penetrometer

When possible, soil sampling will be performed by using the CPT to obtain core samples from 10 ft below ground surface to the top of the saturated zone. Soil samples will be taken at intervals of 10 ft or less and/or at changes in lithology. The soil samples recovered will be placed in jars, sealed, preserved on dry ice in the field, and shipped to the AGEM Laboratory for preparation and analysis, in accordance with the *Master Work Plan* (Argonne 2002). A corresponding groundwater sample will be collected from the saturated zone directly beneath each soil sampling location, by using the methods described in Section 3.3.2, to permit direct evaluation of any potential soil source influence.

3.3.4 Methods for Soil and Groundwater Sampling with the Sonic Drilling Rig

Groundwater samples collected with the drilling rig will be submitted to the AGEM Laboratory for rapid-turnaround (24-h) analyses. The rapid analyses will facilitate review of the results by Argonne and by the CCC/USDA and KDHE project managers during the field program and will support decision making that will drive the direction of the investigation.

At each location investigated, an inner drill string with core barrel will be advanced — without drilling fluid — 10 ft at a time. Next, an outer sonic casing will be advanced. Some potable water will be used for lubrication; the amount of water added for each interval will be monitored. The inner barrel will then be pulled, and the soil core will be extracted for lithologic confirmation. After this, the stainless steel screen will be installed and set at the bottom of the borehole with the lead rod and a K-packer or other device that forms a seal between the screen and casing. The outer casing will then be vibrated back 5 ft or another desired interval, exposing the screen to the formation. An inflatable packer will be installed to isolate the screened zone. After purging of the volume of water added during advancement of the outer casing, plus five times the volume of the isolated sampling zone, the groundwater sample will be collected by using a bailer. Samples will be preserved and analyzed as described in Section 3.3.1 and Section 3.3.6.

3.3.5 Methods for Installing Permanent Piezometers and Monitoring Wells

Permanent monitoring points will be installed in accordance with Kansas regulations. Installation of piezometers (well points) with the CPT unit will follow the procedures in the *Master Work Plan* (Argonne 2002, Section 6.4.6 and Appendix F). A sand filter pack will be placed around the screened interval, and the remainder of the annulus will be sealed with bentonite grout.

If the subsurface lithologic conditions inhibit penetration with the CPT unit, a drilling rig will be used. Monitoring wells will be installed according to the general procedures in Section 6.4.3 of the *Master Work Plan* (Argonne 2002). The boreholes will be drilled by using a hollow-stem auger rig. The wells will consist of 2-in. PVC casing installed in 8.25-in.-diameter boreholes. Screens will be 0.010-in. mill slot, PVC, 10 ft long. A 10/20 (or #20) filter pack is anticipated, on the basis of previous experience in the area. The filter pack will extend 5 ft below

and 2 ft above the screened interval. At the bottom of each well, a 5-ft section of blank casing capped on the bottom will serve as a silt trap.

All wells will be constructed in accordance with KDHE guidelines. Any variances required will be obtained from the appropriate agency prior to installation. All soil waste will be scarified on location. Development water will be discharged appropriately, as indicated by the results of confirmatory sampling and analysis for contaminants. Surface completions will consist of KDHE-approved flush mounts, as shown in the specifications for 2-in. casing in Figure F.4, Appendix F, of the *Master Work Plan* (Argonne 2002). After installation, each well will be pumped and developed for a minimum of 2 h.

3.3.6 Methods for Handling and Disposal of Investigation-Derived Waste

The approach to handling and disposal of soil and water investigation-derived waste (IDW) is discussed in detail in Appendix C. Briefly, the approach is as follows:

- Soil cores collected during sampling will be retained in core boxes for lithologic description and research. The cores will be transported to and stored at an Argonne facility for further reference.
- Soil IDW from drilling activities will be stored on-site in 55-gal drums or a roll-off container. A representative sample will be collected and analyzed by a KDHE-certified laboratory.
- A Solid Waste Disposal Authorization will be obtained from the KDHE for disposal of soil in a permitted landfill. If analytical data indicate that the soils cannot be disposed of in a permitted landfill, alternative disposal methods will be proposed to the KDHE for review.
- Water IDW will be stored on-site in 55-gal drums or polyurethane containers. If acceptable to the KDHE, the wastewater may be aerated prior to sampling. Then the wastewater will be analyzed for VOCs, nitrate, and 1,2-dibromoethane by a KDHE-approved laboratory. The analysis for 1,2-dibromoethane will use EPA Method 504.1 or EPA Method SW-846

8011, to achieve the low detection limit of 0.05 µg/L (the maximum contaminant level for 1,2-dibromoethane).

- The results of the wastewater analyses will be discussed with the KDHE project manager, and the appropriate disposal method will be determined.

3.4 Sampling and Reporting Schedule

The proposed investigation is scheduled for 2007, pending successful negotiation of access. The CCC/USDA and Argonne will notify the KDHE a minimum of two weeks before field activities related to the proposed sampling program begin.

A report will be completed and submitted to the KDHE within 120 days after Argonne completes its quality review of the data. The report will follow the guidelines in *Scope of Work (SOW) for a Comprehensive Investigation*, established by KDHE Policy BER-RS-018 (KDHE 2005). Accordingly, the report will include, at a minimum, the following:

- A narrative of work conducted
- Recommendations for further action(s) at this site, if warranted
- Maps depicting sample locations, groundwater flow, and contaminant levels
- Tables that include all analytical and field data
- Laboratory analytical data reports
- Field documentation
- Quality assurance and quality control data

3.5 Quality Assurance and Quality Control

Included in this section is a summary of methods that will be followed to meet quality assurance/quality control (QA/QC) standards. Descriptions of the QA/QC methods to monitor sampling and analysis are in Section 4.2 of the *Master Work Plan* (Argonne 2002). That document should be consulted for more a more detailed narrative of the QA/QC procedures.

The QA/QC requirements during field sampling are as follows:

- Ensure that samples collected are representative of current site conditions.
- Ensure that sufficient samples are collected to meet the investigational goals.
- Ensure that field instrument calibration procedures are followed and that the appropriate number of field blanks, rinsate samples, trip blanks, and field replicates are collected. For this project, a minimum of one field blank, one rinsate sample, one trip blank, and one or two field replicates will be collected.
- Record in a bound notebook with printed page numbers all details of the work conducted. Use permanent ink for this documentation.
- To the extent possible, use disposable sampling equipment at each sampling location.
- Between wells, thoroughly rinse RediFlo pumps and hoses. Triple-wash all other nondisposable sampling equipment with a nonionic detergent in water, then rinse with water.
- Collect soil and groundwater samples according to the procedures specified in Section 3.3.
- Label sample containers as instructed in Appendix D, Section D.1.4, of the *Master Work Plan* (Argonne 2002). At a minimum, include the following

information: sample identifier, date, time, preservative, and intended analysis.
Use preprinted sample labels for this task.

- Complete a preprinted chain-of-custody record as instructed in Appendix D, Section D.1.5, of the *Master Work Plan* (Argonne 2002).
- Appropriately pack and seal shipping containers to ensure that chain of custody is maintained.
- Use preprinted shipping labels for sample containers being sent to laboratories for off-site analyses.

Laboratory QA/QC procedures are designed to ensure that sample integrity is maintained and that sample analysis is reproducible. This will be accomplished, in part, by verifying that laboratory-related field documentation is complete and that procedures have been followed with regard to chain-of-custody records, sample storage, and sample holding times. In addition, laboratory procedures, equipment calibration, and performance standards (reproducibility, standards, spikes recoveries, etc.) will be reviewed and documented in the monitoring report discussed in Section 3.4.

Groundwater samples received at the AGEM Laboratory will be analyzed within the specified holding time for VOCs, including carbon tetrachloride and chloroform, according to a modification of EPA Method 524.2 (EPA 1995). Analysis for 1,2-dibromoethane will use EPA Method SW-846 8260B or EPA Method 524.2. To ensure reproducibility, duplicates of 10% of the samples (or a minimum of one sample) will be shipped directly from the field to a reference laboratory for analysis with the EPA's Contract Laboratory Program methods.

Soil samples received at the AGEM Laboratory will be subjected to purge-and-trap preparation, then analysis for carbon tetrachloride and chloroform using methanol extraction and a gas chromatograph-mass spectrometer system (EPA Methods 5030B and 8260B; EPA 1998), in accordance with the *Master Work Plan* (Argonne 2002). To ensure reproducibility, 10% of the samples will be selected for analysis by a second laboratory with the same analytical methodology.

Quality assurance records completed during the project will be maintained by the QA/QC coordinator and stored with the project files.

3.6 Health and Safety Information

The general health and safety plan for the Hilton site is in Section 3 of the *Master Work Plan* (Argonne 2002). The general plan addresses all anticipated safety issues for the investigation. Specific emergency information for use at the site is given below.

Hilton has emergency 911 service. All emergency calls, including police, fire, and ambulance calls, will be directed for an appropriate response from this number. Note that 911 calls from cell phones can be routed to various 911 centers, depending on which tower picks up the call. Ask whether you have **McPherson County Communications** before you describe your emergency. The call will be transferred if you have reached a different 911 center.

No emergency medical facilities exist at Hilton. The nearest hospital with emergency medical facilities is in **McPherson, Kansas**. Driving directions to the hospital and the map showing the route are in Figure 3.4. Additional emergency information is in Table 3.2.

3.7 Area Contacts

Susan R. Meng, McPherson County Clerk
117 North Maple Street
McPherson, KS 67460
620-241-3656
Hours: 8 a.m. to 5 p.m.

U.S. Post Office
115 East Kansas Avenue
McPherson, KS 67460
620-241-1532

3.8 Argonne Contacts

Lorraine M. LaFreniere, Ph.D.
Manager, Applied Geosciences and
Environmental Management Section
Environmental Science Division
9700 South Cass Avenue
Argonne, IL 60439-4843
630-252-7969
lafreniere@anl.gov

James Hansen
Community Relations Representative
Environmental Science Division
Argonne National Laboratory
955 L'Enfant Plaza SW, Suite 6000
Washington, DC 20024
202-488-2453
hansenj@anl.gov

Y. Eugene Yan, Ph.D.
Hilton Project Manager
Environmental Science Division
9700 South Cass Avenue
Argonne, IL 60439-4843
630-252-6322
eyan@anl.gov

TABLE 3.2 Emergency information for the Hilton, Kansas, investigation.^a

Resource	Telephone Number	Name
All Emergencies	911 ^b	McPherson County Communications
Medical Care	(620) 241-2250	Memorial Hospital ^c 1000 Hospital Drive McPherson, Kansas
Fire Protection (nonemergency)	(620) 245-2505	McPherson Fire Department 312 E. Kansas McPherson, Kansas
Police (nonemergency)	(620) 245-1225	McPherson County Sheriff
Industrial Hygiene Safety	630-252-3310 630-252-2885	Argonne — Industrial Hygiene EVS Division ^d Field Safety Coordinator (Monte Brandner)
Security	630-252-3924	EVS Division ^d Environment, Safety, and Health Coordinator (Dave Peterson)
	630-252-5737	Argonne — Operations Security (workdays)
	630-252-5731	Argonne — Operations Security (weekends and after hours)
Highway Conditions	800-585-ROAD or 800-585-7623	Kansas Road Condition Hotline
Poison Control	800-222-1222 or 913-588-6633	Mid-America Poison Control Center, University of Kansas Medical Center
Utilities Survey	800-344-7233 (800-DIG-SAFE)	Kansas One Call, Wichita, Kansas

^a Post this table in the field operations base.

^b 911 calls from cell phones can be picked up by various 911 centers, depending on call volumes. Ask whether you have the **McPherson County Communications** before you describe your emergency. The call will be transferred if you have reached a different 911 center.

^c The route from Hilton to the McPherson Memorial Hospital is shown in Figure 3.4.

^d Environmental Science Division at Argonne.

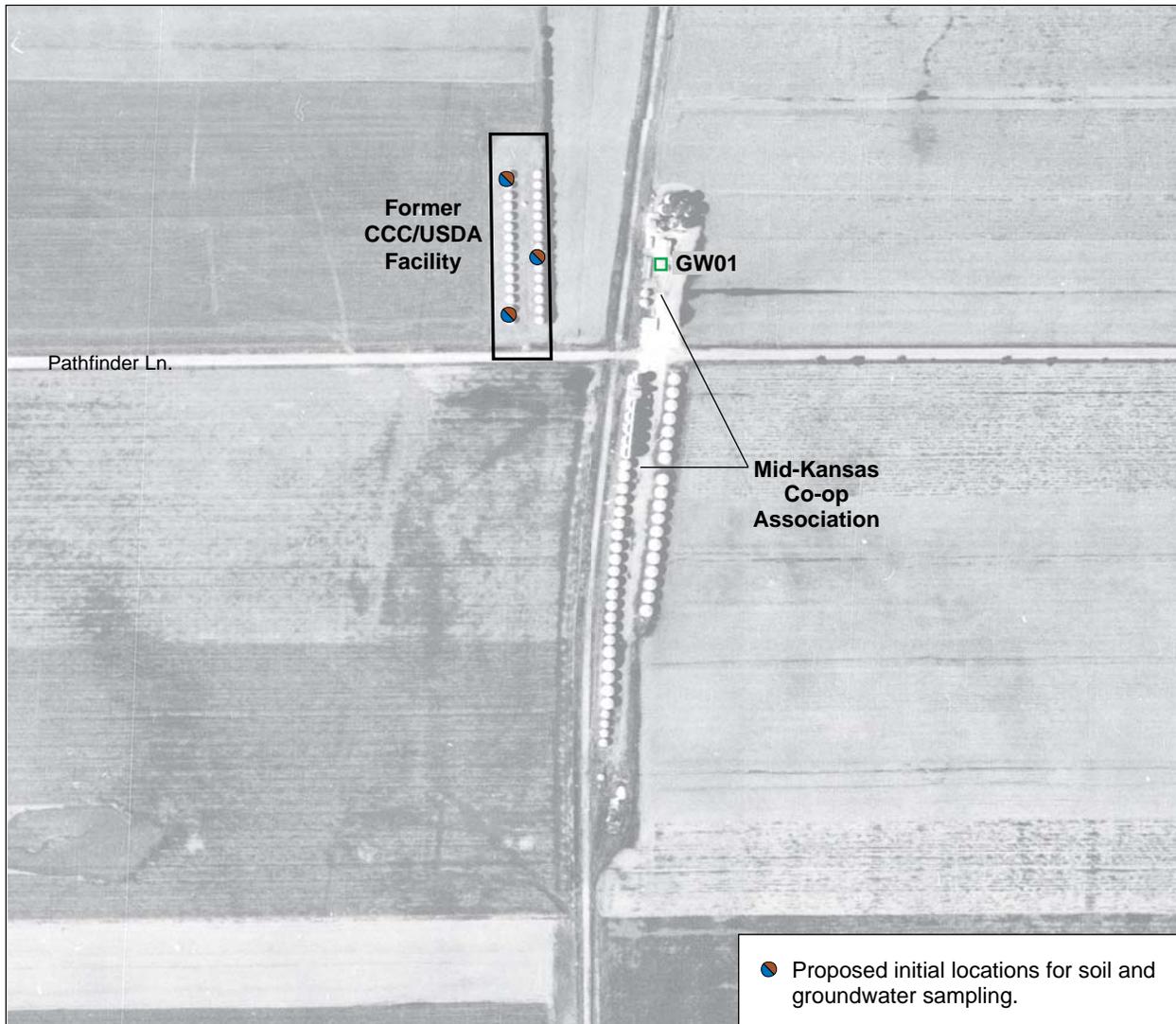


FIGURE 3.1 Proposed investigation locations on the former CCC/USDA property. Source of photograph: ASCS (1963).

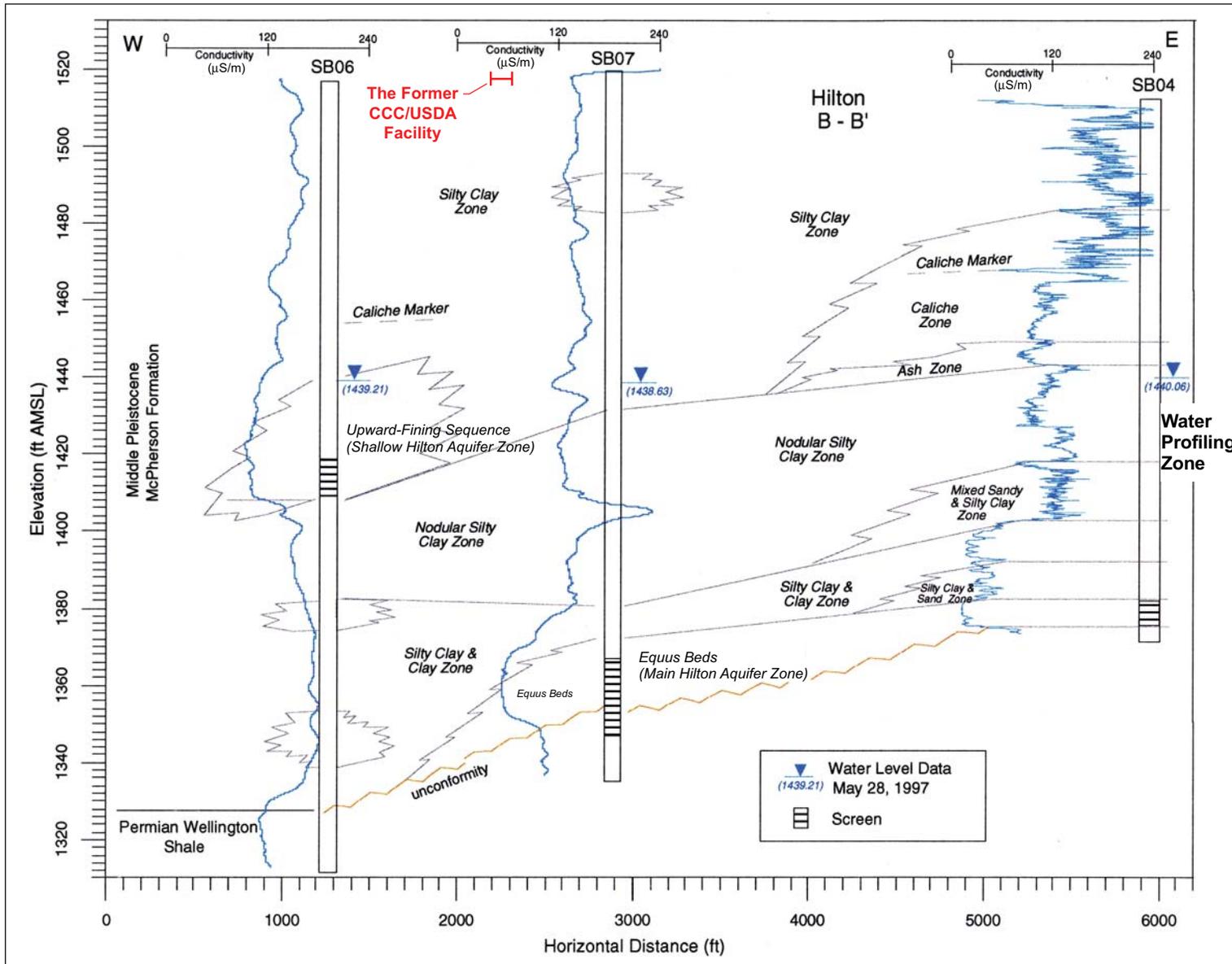


FIGURE 3.2 Interpreted hydrologic section B-B' (vertically exaggerated) through the former CCC/USDA grain storage facility.

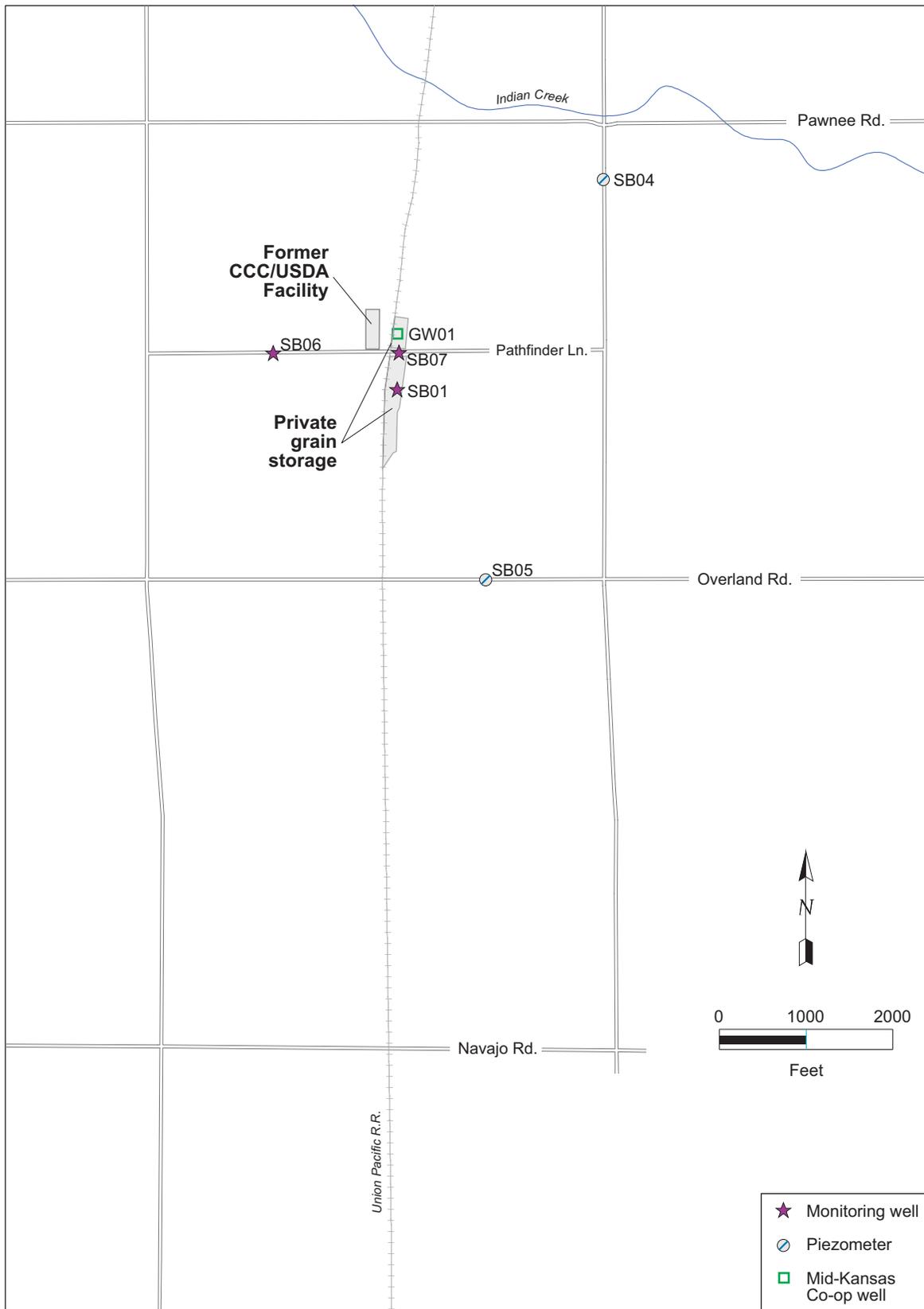


FIGURE 3.3 Location of existing monitoring wells, piezometers, and well GW01.

Directions from Hilton, Kansas, to Memorial Hospital, McPherson, Kansas (1000 Hospital Drive, McPherson, Kansas)

- Follow Pathfinder Lane east (0.45 mi) to 14th Street (CR 1961).
- Follow 14th Street south (2.7 mi), then bear left to North Main Street.
- Follow North Main Street south (1.6 mi) to 4th Street, then turn west (right).
- Follow 4th Street (west) for 3 blocks.
- Go left (south) just before Hospital Drive.
- Entrance to Emergency Room and Main Entrance (visitors) are next to each other and clearly marked.

Emergency Route To McPherson Memorial Hospital

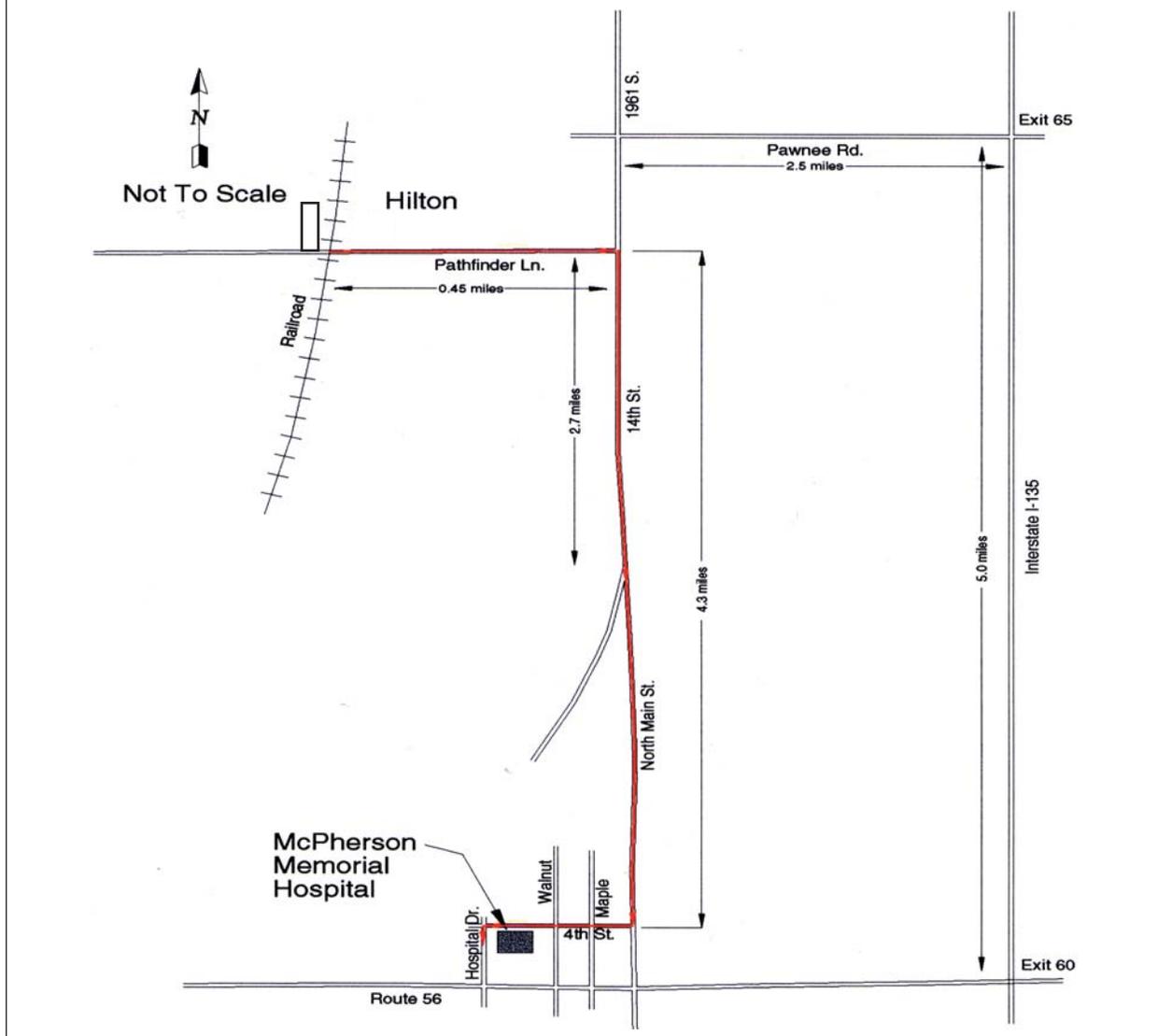


FIGURE 3.4 Emergency route from Hilton to Memorial Hospital, McPherson, Kansas.

4 References

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Appendix A

Comprehensive Historical Analytical Data for Hilton, Kansas

TABLE A.1 Analytical results for previous sampling at Hilton, Kansas.

Sample Location	Sample Date	Sample Medium ^a	Sample Depth (ft BGL)	Concentration (VOCs Units)										Nitrate (Off-site) (mg/L)
				Field Lab		Off-site Laboratory								
				Carbon Tetrachloride	Carbon Tetrachloride	Chloroform	Ethylene Dibromide	1,2-Dichloroethane	1,2-Dichloropropane	Tetrachloroethylene	Methylene Chloride	VOCs Units		
<i>1992 Groundwater Sampling (KDHE 1993)</i>														
Co-op (GW01)	5/12/92	GW	166 (TD) ^b	– ^c	910	NA ^d	2.9	NA	NA	NA	NA	NA	µg/L	88
Case (DW06)	11/30/92	GW	175 (TD)	–	ND ^e (2)	ND (2)	ND (2)	NA	NA	NA	NA	NA	µg/L	NA
Davis (DW02)	11/30/92	GW	Unknown	–	ND (2)	ND (2)	ND (2)	NA	NA	NA	NA	NA	µg/L	NA
Houchen (DW04)	11/30/92	GW	Unknown	–	ND (2)	ND (2)	ND (2)	NA	NA	NA	NA	NA	µg/L	NA
Ledell (shallow)	11/30/92	GW	Unknown	–	ND (2)	ND (2)	ND (2)	NA	NA	NA	NA	NA	µg/L	NA
Ledell (deep)	11/30/92	GW	Unknown	–	ND (2)	ND (2)	ND (2)	NA	NA	NA	NA	NA	µg/L	NA
Musselwhite	11/30/92	GW	Unknown	–	ND (2)	ND (2)	ND (2)	NA	NA	NA	NA	NA	µg/L	NA
<i>1994 Soil and Groundwater Sampling (KDHE 1994)</i>														
S-1	8/31/94	Soil	8	ND (0.1)	ND (700)	ND (500)	NA	ND (500)	ND (500)	ND (1100)	ND (900)	µg/L	NA	
S-2	8/31/94	Soil	8	ND (0.1)	–	–	–	–	–	–	–	µg/L	–	
S-3	8/31/94	Soil	8	ND (0.1)	–	–	–	–	–	–	–	µg/L	–	
S-4	8/31/94	Soil	8	ND (0.1)	–	–	–	–	–	–	–	µg/L	–	
S-5	8/31/94	Soil	8	0.16	ND (700)	ND (500)	NA	ND (500)	ND (500)	ND (1100)	ND (900)	µg/L	NA	
S-6	8/31/94	Soil	8	ND (0.1)	–	–	–	–	–	–	–	µg/L	–	
S-7	8/31/94	Soil	8	ND (0.1)	–	–	–	–	–	–	–	µg/L	–	
S-8	8/31/94	Soil	8	ND (0.1)	–	–	–	–	–	–	–	µg/L	–	
S-9	9/1/94	Soil	17	0.26	ND (700)	ND (500)	NA	ND (500)	ND (500)	ND (1100)	ND (900)	µg/L	NA	
S-10	9/1/94	Soil	17	0.13	ND (700)	ND (500)	NA	ND (500)	ND (500)	ND (1100)	ND (900)	µg/L	NA	
Co-op (GW01)	9/1/94	GW	166 (TD)	–	1630	46.8	7.2	1.9	1.4	3.6	ND (0.9)	µg/L	NA	
<i>1996 Groundwater, Soil, and Vegetation Sampling (Argonne 1997a)</i>														
Case (DW06)	8/28/96	GW	175 (TD)	–	ND (5)	ND (5)	NA	NA	NA	NA	NA	µg/L	< 0.1	
Davis (DW02)	8/27/96	GW	Unknown	–	ND (5)	ND (5)	NA	NA	NA	NA	NA	µg/L	0.5	
Hein (DW05)	8/27/96	GW	~190	–	ND (5)	ND (5)	NA	NA	NA	NA	NA	µg/L	0.2	
Houchen (DW04)	8/27/96	GW	~90	–	ND (5)	ND (5)	NA	NA	NA	NA	NA	µg/L	< 0.1	

TABLE A.1 (Cont.)

Sample Location	Sample Date	Sample Medium ^a	Sample Depth (ft BGL)	Concentration (VOCs Units)											
				Field Lab		Off-site Laboratory								VOCs Units	Nitrate (Off-site) (mg/L)
				Carbon Tetrachloride	Carbon Tetrachloride	Chloroform	Ethylene Dibromide	1,2-Dichloroethane	1,2-Dichloropropane	Tetrachloroethylene	Methylene Chloride				
<i>1996 Groundwater, Soil, and Vegetation Sampling (Argonne 1997a) (cont.)</i>															
Hunt (DW03)	8/27/96	GW	Unknown	–	ND (5)	ND (5)	NA	NA	NA	NA	NA	NA	µg/L	0.5	
Johnson (DW01)	8/27/96	GW	Unknown	–	ND (5)	ND (5)	NA	NA	NA	NA	NA	NA	µg/L	2.5	
Co-op (GW01)	8/28/96	GW	166 (TD)	–	800	42	NA	NA	NA	NA	NA	NA	µg/L	< 0.1	
SB01	9/3/96	GW	144–164	–	ND (5)	ND (5)	NA	NA	NA	NA	NA	NA	µg/L	0.9	
SB03	10/10/96	GW	159.7–162.7	–	ND (5)	ND (5)	NA	NA	NA	NA	NA	NA	µg/L	0.2	
SB04	9/4/96	GW	130–135	–	ND (5)	ND (5)	NA	NA	NA	NA	NA	NA	µg/L	0.3	
SB05	9/5/96	GW	138–148	–	ND (5)	ND (5)	NA	NA	NA	NA	NA	NA	µg/L	0.7	
056S/000E	9/5/96	Soil	0.8–0.9	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
087S/000E	9/5/96	Soil	0.8–0.9	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
119S/000E	9/5/96	Soil	0.8–0.9	–	108	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
150S/000E	9/5/96	Soil	0.8–0.9	–	400	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
180S/000E	9/5/96	Soil	0.8–0.9	–	< 30	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
210S/000E	9/5/96	Soil	0.8–0.9	–	68.5	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
242S/000E	9/5/96	Soil	0.8–0.9	–	< 30	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
292S/000E	9/5/96	Soil	1.0–1.1	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
323S/000E	9/5/96	Soil	0.8–0.9	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
355S/000E	9/5/96	Soil	0.8–0.9	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
394S/000E	9/5/96	Soil	0.8–0.9	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
415S/000E	9/5/96	Soil	0.8–0.9	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
475S/000E	9/5/96	Soil	0.8–0.9	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
508S/000E	9/5/96	Soil	0.8–0.9	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
538S/000E	9/5/96	Soil	0.8–0.9	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
570S/000E	9/5/96	Soil	0.8–0.9	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
600S/000E	9/5/96	Soil	0.8–0.9	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
056S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
087S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
119S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
150S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	

TABLE A.1 (Cont.)

Sample Location	Sample Date	Sample Medium ^a	Sample Depth (ft BGL)	Concentration (VOCs Units)											
				Field Lab		Off-site Laboratory								VOCs Units	Nitrate (Off-site) (mg/L)
				Carbon Tetrachloride	Carbon Tetrachloride	Chloroform	Ethylene Dibromide	1,2-Dichloroethane	1,2-Dichloropropane	Tetrachloroethylene	Methylene Chloride				
<i>1996 Groundwater, Soil, and Vegetation Sampling (Argonne 1997a) (cont.)</i>															
180S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
210S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
242S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
292S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
323S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
355S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
394S/000E	9/4/96	Veg	None	–	34.1	55	NA	NA	NA	NA	NA	NA	pg/g	NA	
415S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
475S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
508S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
538S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
570S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
600S/000E	9/4/96	Veg	None	–	ND (30)	ND (30)	NA	NA	NA	NA	NA	NA	pg/g	NA	
<i>April 1997 Groundwater Sampling (Argonne 1997b)</i>															
Co-op (GW01)	4/13/97	GW	166 (TD)	–	918	68	NA	NA	NA	NA	NA	NA	µg/L	NA	
Co-op (GW01)	4/13/97	GW	166 (TD)	–	887	60	NA	NA	NA	NA	NA	NA	µg/L	NA	
Co-op (GW01)	4/14/97	GW	166 (TD)	–	910	52	NA	NA	NA	NA	NA	NA	µg/L	NA	
SB01	4/14/97	GW	144–164	–	ND (5)	ND (5)	NA	NA	NA	NA	NA	NA	µg/L	NA	
SB06	4/24/97	GW	99–109	–	ND (5)	ND (5)	NA	NA	NA	NA	NA	NA	µg/L	1.2	
SB07	4/23/97	GW	146.5–166.5	–	ND (5)	ND (5)	NA	NA	NA	NA	NA	NA	µg/L	0.4	
<i>October 1997 Groundwater Sampling by Argonne</i>															
Co-op (GW01)	10/7/97	GW	166 (TD)	–	1100	48	NA	NA	NA	NA	NA	NA	µg/L	NA	
SB07	10/9/97	GW	146.5–166.5	–	ND (2)	ND (2)	NA	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	µg/L	NA	

TABLE A.1 (Cont.)

Sample Location	Sample Date	Sample Medium ^a	Sample Depth (ft BGL)	Concentration (VOCs Units)									
				Field Lab	Off-site Laboratory								
				Carbon Tetrachloride	Carbon Tetrachloride	Chloroform	Ethylene Dibromide	1,2-Dichloroethane	1,2-Dichloropropane	Tetrachloroethylene	Methylene Chloride	VOCs Units	Nitrate (Off-site) (mg/L)
<i>2005 Private Well Sampling by the KDHE (Carey 2005)</i>													
Davis (DW02)	8/3/05	GW	Unknown	–	ND (0.7)	ND (0.5)	ND (0.04)	ND (0.6)	ND (0.4)	ND (1.1)	ND (0.9)	µg/L	NA
Decker	8/3/05	GW	Unknown	–	ND (0.7)	ND (0.5)	ND (0.04)	ND (0.6)	ND (0.4)	ND (1.1)	ND (0.9)	µg/L	NA
Driskell	8/3/05	GW	Unknown	–	ND (0.7)	ND (0.5)	ND (0.04)	ND (0.6)	ND (0.4)	ND (1.1)	ND (0.9)	µg/L	NA
Houchen (DW04)	8/3/05	GW	~90	–	ND (0.7)	ND (0.5)	ND (0.04)	ND (0.6)	ND (0.4)	ND (1.1)	ND (0.9)	µg/L	NA
Johnson (DW01)	8/3/05	GW	Unknown	–	ND (0.7)	ND (0.5)	ND (0.04)	ND (0.6)	ND (0.4)	ND (1.1)	ND (0.9)	µg/L	NA
Johnson (Pawnee Rd.)	8/3/05	GW	Unknown	–	ND (0.7)	ND (0.5)	ND (0.04)	ND (0.6)	ND (0.4)	ND (1.1)	ND (0.9)	µg/L	NA
Ledell	8/3/05	GW	Unknown	–	ND (0.7)	ND (0.5)	ND (0.04)	ND (0.6)	ND (0.4)	ND (1.1)	ND (0.9)	µg/L	NA

^a Sample medium: GW, groundwater; Veg, vegetation.

^b TD, total depth.

^c Sample not submitted to the indicated field or off-site laboratory for analysis.

^d NA, not analyzed.

^e ND, not detected at the indicated quantitation limit.

Appendix B:

**Records of Property Transactions Affecting the
Grain Storage Facilities at Hilton, Kansas**

TABLE B.1 Timeline of Hilton property documentation on file at Argonne.^a

Date	Item	Property Description	Pages
<i>Property Transfer Records</i>			
6/17/1898	Sellberg to Olson	Deed record for the strip of land in the <i>Southeast Quarter</i> of Section 32, Township 18 South, Range 3 West, located west of the Union Pacific Railroad; approximately two acres no longer used as a public highway.	1
8/30/1899	Sellberg to railroad	A strip and tract of land in the <i>Southeast Quarter</i> of Section 32, T18S, R3W, located east of the railroad. The tract of land is described in detail with dimensions relative to the railroad centerline and the northern line of the quarter (Pathfinder Lane). Commencing at a point 33 ft east of the centerline of the main track of the Salina and Southwest Railway and 16.5 ft south of the north line of the quarter, then southwest 303.5 ft along the railroad right-of-way to the Hilton Stock Yards, then southeast 100 ft, then northeast 318.5 ft along a line that is 133 ft east of the centerline of the main track, then west 100 ft to the point of beginning. (This land is future co-op property south of Pathfinder Lane.)	1
11/29/1899	Blomberg to railroad	Tract of land in <i>Northeast Quarter</i> of Section 32, T18S, R3W, conveyed to railroad use. Commencing at a point 16 ft north of the south line of the northeast quarter (Pathfinder Lane) and east of the Salina and Southwestern Railway right-of-way, then east 100 ft, then north 379.5 ft along a line parallel to the right-of-way, then west 100 ft, then south 379.5 ft to the point of beginning. (This land is future co-op property north of Pathfinder Lane.)	1
6/3/1904	Sellberg to railroad	Additional land (1.92 acres) in the northwest quarter of the <i>Southeast Quarter</i> of Section 32, T18S, R3W, conveyed to railroad use. Position of this tract of land is said to be south of a tract of land deeded by Sellberg to the railroad on 12/19/1889 (document not on file at Argonne). Commencing at a point 470 ft south of the east-west centerline of Section 32 (Pathfinder Lane) and 33 ft east of the centerline of the main track of the Union Pacific Railroad, then east 100 ft along the southern boundary of the earlier deed parcel, then south a distance of 830 ft on a line 133 ft east of the centerline of the main track to intersect with the south line of the northwest quarter of the southeast quarter of Section 32, then west a distance of 100 ft on the south line of the northwest quarter of the southeast quarter of Section 32, then north 845 ft to the point of beginning. (This land is additional future co-op property south of Pathfinder Lane.)	1
12/22/1941	Blomberg to Howse	All of the Northeast Quarter of Section 32, T18S, R3W, except for two tracts of land: (1) the right-of-way of the Union Pacific Railroad, formerly the Salina and Southwestern Railway Co.; and (2) a parcel adjacent to the railway, 100 ft by 379.5 ft, described in the 11/29/1899 document.	1
12/27/1941	Sellberg to Sellberg	All of the Southeast Quarter of Section 32, T18S, R3W, lying east of the Union Pacific Railroad right-of-way.	1

TABLE B.1 (Cont.)

Date	Item	Property Description	Pages
<i>Property Transfer Records (cont.)</i>			
8/1/1942	Howse to Ledell	Northern half of the <i>Northeast Quarter</i> of Section 32, T18S, R3W, except the right-of-way of the Union Pacific Railroad Company, formerly the Salina and Southwestern Railway Company. (The 12/9/1997 document transfers the southern half of the Northeast Quarter of Section 32.)	1
5/1/1954	CCC/USDA lease from K. Peterson for 5/1/1954 to 5/1/1959	Beginning in the southeast corner of the <i>Northwest Quarter</i> of Section 32, T18S, R3W, from the center of the public highway (Pathfinder Lane), then 510 ft north, 128 ft west, 510 ft south, and 128 ft east to point of beginning (approximately 1.5 acres).	2
12/6/1954	Sellberg to Tector	The <i>Southeast Quarter</i> of Section 32, T18S, R3W, located east of the Union Pacific Railroad right-of-way (150 acres).	1
1/29/1959	Tector to McPherson Grain Co.	Property east of the railroad and south of the highway (Pathfinder Lane) deeded to the co-op. Commencing at the northwest corner of the <i>Southeast Quarter</i> in Section 32, T18S, R3W, then south 40 rods (or 660 ft) along the east margin of the Union Pacific right-of-way, then east 2 rods (or 33 ft), then north 40 rods (or 660 ft) to a point 2 rods (or 33 ft) east of the place of the beginning, then west 2 rods (or 33 ft) to the point of the beginning.	2
4/15/1959	CCC/USDA lease extension from K. Peterson for 5/1/1959 to 5/1/1964	Same as initial 1954 lease in the <i>Northwest Quarter</i> of Section 32, T18S, R3W.	1
6/20/1963	CCC/USDA lease extension from K. Peterson for 5/1/1964 to 4/30/1969	Same as initial 1954 lease in the <i>Northwest Quarter</i> of Section 32, T18S, R3W.	2
4/30/1965	Termination of CCC/USDA lease	Same as initial 1954 lease in the <i>Northwest Quarter</i> of Section 32, T18S, R3W.	1
2/5/1973	Ledell to Houchen	Joint tenancy warranty deed for 4.44 acres of land in the Northeast Quarter of Section 32 and west of the railroad. Beginning at the northwest corner of the Northeast Quarter of Section 32, then east 499.7 ft along the section line to the west line of the railroad right-of-way, then southwest 438 ft along the right-of-way, then northwest 441.6 ft, then north 387 ft to point of beginning.	1

TABLE B.1 (Cont.)

Date	Item	Property Description	Pages
<i>Property Transfer Records (cont.)</i>			
8/1/1980	Ledell to Ledell	Joint tenancy warranty deed for the northern half of the Northeast Quarter of Section 32, T18S, R3W, except for the land west of the railroad described in the 2/5/1973 document.	1
10/19/1981	McPherson Grain Co. to Wall-Rogalsky Milling Co.	Transfer of co-op property east of the railroad and south of the highway (Pathfinder Lane), as described in the 1/29/1959 document above. Commencing at the northwest corner of the <i>Southeast Quarter</i> in Section 32, T18S, R3W, east of the Union Pacific right-of-way, then south 40 rods (or 660 ft), then east 2 rods (or 33 ft), then north 40 rods (or 660 ft) to a point 2 rods (or 33 ft) east of the place of the beginning, then west 2 rods (or 33 ft) to the point of the beginning.	1
12/29/1981	Tector to Wall-Rogalsky Milling Co.	Quitclaim deed for property 40 rods by 2 rods in the <i>Southeast Quarter</i> of Section 32, T18S, R3W, described in the 1/29/1959 and 10/19/1981 documents.	1
6/10/1992	Wall-Rogalsky Milling Co. to Mid-Kansas Co-op	Warranty deed transferring five tracts of land in McPherson County. Tract 4 is part of the <i>Southeast Quarter</i> of Section 32, T18S, R3W, described in the 1/29/1959, 10/19/1981, and 12/29/1981 documents as property 40 rods by 2 rods, east of the railroad and south of the highway (Pathfinder Lane).	4
6/6/1997	Union Pacific Railroad to Central Kansas Conservancy (nonprofit corporation)	Quitclaim deed for Union Pacific Railroad right-of-way located in various sections and townships, including the <i>western half of the eastern half of Section 32</i> , T18S, R3W, except for three 100-ft-wide tracts of land in the northwest quarter of the <i>Southeast Quarter</i> of Section 32, which had been deeded to the railroad in earlier documents (and which were subsequently transferred by the railroad to the co-op). These include the 8/30/1899 document and the 6/3/1904 document listed above, as well as the deed dated 12/19/1899 (not on file) referred to in the 6/3/1904 document.	5
12/9/1997	Howse to Ledell	Joint tenancy warranty deed for southern half of the <i>Northeast Quarter</i> of Section 32, T18S, R3W, except for railroad right-of-way and the parcel (100 ft by 379.5 ft) described in 11/29/1899 document.	3
12/9/1997	Ledell to Ledell	Quit claim deed for the northern half of the Northeast Quarter of Section 32, T18S, R3W, except for the railroad right-of-way and the parcel (499.7 ft by 438 ft by 441.6 ft by 387 ft) described in 2/5/1973 document.	1
6/25/2002	Houchen to Rural Water District No. 6	Right-of-way easement for land in the Northeast Quarter of Section 32, T18S, R3W, located west of the railroad (about 4.44 acres), described in 2/5/1973 document.	2
9/30/2002	Union Pacific Railroad to AT&T Corporation	Perpetual easement deed for existing easement in the Northeast Quarter and Southeast Quarter of Section 32, T18S, R3W. (The deed transfers parcels in numerous sections and townships.)	2

TABLE B.1 (Cont.)

Date	Item	Property Description	Pages
<i>Property Transfer Records (cont.)</i>			
10/6/2003	Foster to Foster Farms, a Kansas partnership	General warranty deed conveying nine parcels of land in McPherson County. Parcel 4 is the <i>Northwest Quarter</i> of Section 32, T18S, R3W, except for a tract of land in the northwest corner of the northwest quarter described in detail. (The former CCC/USDA facility was within this property.)	4
<i>Additional Documentation</i>			
1884	Plat map	Plat map of Township 18 South, Range 3 West.	1
1903	Plat map	Plat map of Township 18 South, Range 3 West.	1
1921	Plat map	Plat map of Township 18 South, Range 3 West.	1
1969	Plat map	Plat map of Township 18 South, Range 3 West.	1
8/26/2005	Current ownership information	Current ownership information from the McPherson County Mapping Department, including parcel identification report for Section 32, Township 18 South, Range 3 West.	5

^a Reproduced documents follow table.

DEED RECORD.

J. G. Hagan, Printer and Binder, Topeka, Kansas

I HEREBY CERTIFY, That this instrument was filed for record the 12th day of December 1898, at 3²⁰ o'clock, P. M. M. J. Kyle Register of Deeds.
Deputy.

This Indenture, Made this Seventeenth day of June in the year of our Lord one thousand eight hundred and ninety eight, between Oscar Sellberg and Alfreda Sellberg man & wife of Lindsborg in the County of McPherson and State of Kansas parties of the first part, and John W. Olson & wife of McPherson in the County of McPherson and State of Kansas part and of the second part:

WITNESSETH, That the said parties of the first part in consideration of the sum of Thirty (30) DOLLARS to - duly paid, the receipt of which is acknowledged, have sold and by these presents do Grant, Bargain and Sell, Convey and Confrm, to the said parties of the second part, their heirs and assigns, all the tract or parcel of land situated in the County of McPherson, State of Kansas, described as follows, to-wit:

The whole strip of land which is situated West of the U. P. Railroad, belonging to the S E 1/4 of Section 32 Township 18, Range 3 West, being about 2 acres, more or less, it being no longer used as a public highway

with the appurtenances, and all the estate, title and interest of said part of the first part therein. and the said Oscar Sellberg & Alfreda Sellberg do hereby covenant and agree that at the delivery hereof they are the lawful owners of the premises above granted and seized of a good and indefeasible estate of inheritance therein, free and clear of all encumbrances except a mortgage of sixteen hundred dollars

and that they will WARRANT AND DEFEND the same in the quiet and peaceable possession of said parties of the second part, their heirs and assigns, forever, against all persons lawfully claiming the same.

IN WITNESS WHEREOF, the said parties of the first part have hereunto set their hands and seal - the day and year above written.

Signed, Sealed and delivered in presence of Oscar Sellberg [Seal] Alfreda Sellberg [Seal]

State of Kansas, McPherson County, SS.

BE IT REMEMBERED, That on this 8th day of December A. D., eighteen hundred and ninety eight before me, a Notary Public within and for said County and State personally came, Oscar Sellberg and Alfreda Sellberg his wife who are to me personally known to be the identical persons who executed the foregoing instrument and duly acknowledged the execution of the same.



IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my official seal, on the day and year last above written.

Allen W. Miller Notary Public. Commission Expires May 9th 1900

(U.S. Documentary) A. M. 12-8-98

DEED RECORD.

I HEREBY CERTIFY, That this instrument was filed for record the 28th day of March 1900 at 9 o'clock, A. M. Oren Carlsson Register of Deeds Deputy.

This Indenture, Made this Thirtieth day of August in the year of our Lord one thousand eight hundred and ninety nine, between Oscar Sellberg and Alfreda Sellberg, his wife of Lindsay in the County of McPherson and State of Kansas parties of the first part, and Union Pacific Railroad Company of in the County of and State of parties of the second part:

WITNESSETH, That the said parties of the first part in consideration of the sum of One Hundred and no/100 DOLLARS to them duly paid, the receipt of which is acknowledged, have sold and by these presents do Grant, Bargain and Sell, Convey and Confirm, to the said parties of the second part,

and assigns, all the tract or parcel of land situated in the County of McPherson, State of Kansas, described as follows, to-wit: A strip and tract of land in the South East quarter (S.E. 1/4) of Section Thirty-two (32) Township Eighteen (18) South, Range Three (3) West of the 6th T.M. McPherson Co. Kansas, described as follows, to-wit:

Commencing at the intersection of a line drawn parallel with, and thirty-three (33) feet distant Easterly from the center line of the main track of the Salina & Southwestern Railway when measured at right angles to said center line of main track, with a line drawn parallel with and 16 1/2 feet distant South from the North line of said quarter Section thence Southwesterly along a line drawn parallel with and thirty-three (33) feet distant Easterly from said center line of main track when measured at right angles thereto, thence three hundred and one-half (503 1/2) feet to the intersection of a parallel line with the Northern line of the tract of land known and described as the "Hilton Stock Yards," thence Southwesterly along a line measured at right angles from said center line of main track, One Hundred (100) feet thence Northwesterly along a line drawn parallel with and One Hundred thirty-three (133) feet distant Easterly from the center line of the main track of said Salina & Southwestern Railway when measured at right angles thereto, thence Southwesterly along a line drawn parallel with and thirty-three (33) feet distant Easterly from said center line of main track when measured at right angles thereto, thence Southwesterly along a line drawn parallel with and thirty-three (33) feet distant Easterly from said center line of main track when measured at right angles thereto, thence Southwesterly along a line drawn parallel with and thirty-three (33) feet distant Easterly from said center line of main track when measured at right angles thereto, to the intersection with a line as above with the appurtenances, and all the estate, title and interest of said parties of the first part therein.

And the said Oscar and Alfreda Sellberg do hereby covenant and agree that at the delivery hereof they are the lawful owners of the premises above granted and seized of a good and indefeasible estate of inheritance therein, free and clear of all encumbrance

and that they will WARRANT AND DEFEND the same in the quiet and peaceable possession of said parties of the second part, heirs and assigns, forever, against all persons lawfully claiming the same.

IN WITNESS WHEREOF, the said parties of the first part have hereunto set their hands and seals the day and year above written.

Signed, Sealed and delivered in presence of Oscar Sellberg [Seal] Alfreda Sellberg [Seal]

State of Kansas, McPherson County, ss. BE IT REMEMBERED, That on this 29th day of January A. D. 1900

hundred and ninety before me, a Notary Public within and for said County and State personally came, Oscar Sellberg and Alfreda Sellberg who are to me personally known to be the identical persons who executed the foregoing instrument and duly acknowledged the execution of the same.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my official seal, on the day and year last above written. Alex S. Hendry Notary Public.



parallel with and sixteen and one-half (16 1/2) feet distant South from the North line of said quarter section, thence East along said last mentioned parallel line one hundred (100) feet to the place of beginning.

DEED RECORD.

Vol 56 pg 42

I HEREBY CERTIFY, That this instrument was filed for record this 15th day of December 1899 at 8 o'clock A. M. W. J. Kuyli Register of Deeds.

This Indenture, Made this 29th day of November A. D. 1899, between L. J. Blomberg, a widower of McPherson County, in the State of Kansas, of the first part, and Union Pacific Railroad Company, a corporation of the second part;

WITNESSETH, That said party of the first part, in consideration of the sum of Thirty-five AND NO DOLLARS, the receipt whereof is hereby acknowledged, doeth by these presents GRANT, BARGAIN, SELL AND CONVEY, unto said party of the second part, its successors heirs and assigns, all the following described Real Estate, situated in the County of McPherson and State of Kansas to-wit:

Beginning on the East line of the Right of Way of the Salina and South Western Railway, sixteen and one-half (16 1/2) feet North of the South line of the North East quarter (NE 1/4) of Section Thirty-two (32) Township Eighteen (18) South Range Three (3) West; thence East One Hundred feet, thence in a Northerly direction parallel to Right of Way three hundred seventy-nine and one-half (379 1/2) feet thence West One Hundred (100) feet to Right of Way of said Salina and South Western Railway Company, thence South along said Right of Way, three hundred Seventy-nine and one-half (379 1/2) feet to place of beginning.

TO HAVE AND TO HOLD THE SAME. Together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining forever:

And said L. J. Blomberg for himself his heirs, executors or administrators, doeth hereby covenant, promise and agree, to and with said party of the second part, that at the delivery of these presents he is lawfully seized, in his own right, of an absolute and indefeasible estate of inheritance, in fee simple, of and in all and singular the above granted and described premises, with the appurtenances; that the same are free, clear, discharged and unincumbered of and from all former and other grants, titles, charges, estates, judgments, taxes, assessments and incumbrances, of what nature or kind soever;

and that he will Warrant and Forever Defend the same unto said party of the second part, its successors heirs and assigns, against said party of the first part, his heirs, and all and every person or persons whomsoever, lawfully claiming or to claim the same.

IN WITNESS WHEREOF, The said party of the first part, hereunto set his hand, the day and year first above written. L. J. Blomberg

State of Kansas, McPherson County, ss.



BE IT REMEMBERED, That on this 29th day of November A. D. 1899 before me, the undersigned, a Notary Public in and for the county and state aforesaid, came L. J. Blomberg, a widower who is personally known to me to be the same person who executed the within instrument of writing, and such person duly acknowledged the execution of the same.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year last above written. John D. Milliken

264/30

DEED RECORD.

FROM
Oscar Sellberg and wife
 TO
Union Pacific Railroad Company

I HEREBY CERTIFY, That this instrument was filed for record the 25 day of June 1904 at 9:50 o'clock A.M.
Eben Carlsson
 Register of Deeds.
 Deputy.

THIS INDENTURE, Made this 25 day of June in the year of our Lord one thousand nine hundred and four, between Oscar Sellberg and Alfreda Sellberg, husband and wife of McPherson in the County of McPherson and State of Kansas of the first part, and Union Pacific Railroad Company, a corporation organized and existing under the laws of the State of Utah of the second part:

WITNESSETH, That the said parties of the first part, in consideration of the sum of One hundred and Ten (110.00) DOLLARS, to them duly paid, the receipt of which is hereby acknowledged, have sold and by these presents do Grant and Convey unto the said party of the second part, its successors heirs and assigns, all that tract or parcel of land situated in the County of McPherson and State of Kansas, described as follows, to-wit:

Commencing at a point 470 feet Southly from the East and West center line of Section 32 in Town 18 South Range 3 West when measured along a line parallel with and 33 feet distant Eastly from the center line of the main track of the M.P.R. and 33 feet distant Eastly from the center line of the main track of the branch of said main track a distance of 100 feet (being along the South line of the tract of land divided by Oscar Sellberg to the Salina & Southwestern Railway Company by deed dated Dec. 17, 1889 and recorded in Book 40 at Page 49 Deed Records of McPherson (Kansas) thence Northly or a line parallel with and 133 feet distant Eastly from center line of said main track; a distance of 830 feet more or less to intersect with the South line of the M.P.R. of S.E. 1/4 of said Section 32; thence West on the South line of said S.E. 1/4 of said Section 32, a distance of 100 feet more or less to a point 33 feet distant Eastly from the center line of said main track when measured at right angles thereto; thence Northly or a line parallel with and 33 feet distant Eastly from the center line of said main track a distance of 845 feet more or less to the point of commencement said tract of land being a part of the M.P.R. of S.E. 1/4 of Section 32 Township 18, South Range 3 West of the 1st P.M., and containing an area of One & 9/100 acre, more or less.

with all the appurtenances, and all the estate, title and interest of the said parties of the first part therein. And the said Oscar Sellberg and Alfreda Sellberg do hereby covenant and agree that at the delivery hereof they are the lawful owners of the premises above granted and seized of a good and indefeasible estate of inheritance therein, free and clear of all incumbrances.

and that they will WARRANT AND DEFEND the same in the quiet and peaceable possession of the said party of the second part, its successors heirs and assigns, forever, against all persons lawfully claiming the same.

IN WITNESS WHEREOF, The said parties of the first part have hereunto set their hands and seal the day and year first above written.
Oscar Sellberg [SEAL.]
Alfreda Sellberg [SEAL.]
 Signed, Sealed and delivered in presence of J. M. Grattan [SEAL.]

STATE OF KANSAS, COUNTY OF McPHERSON, SS.
 BE IT REMEMBERED, That on this 25 day of June A. D. 1904, before me, J. M. Grattan a Notary Public, in and for said County and State personally came, Oscar Sellberg and Alfreda Sellberg husband and wife to me personally known to be the same person who executed the foregoing instrument and duly acknowledged the execution of the same.
 IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my official seal, on the day and year last above written.
J. M. Grattan Notary Public.
 My Commission expires Feb. March 1906



DEED RECORD NO. 109

STATE OF KANSAS, McPHERSON COUNTY, ss.

This instrument was filed for record on the 6th day of January, A. D. 1942, at 11⁰⁰ o'clock A. M. Lulu Hagedorn Register of Deeds.

Ernst Blomberg, a single man; Hilda Blomberg, a single woman; and Ida C. Blomberg, a single woman.
of
in the County of McPherson and State of Kansas, convey and warrant to Arthur W. House
of Wichita
in the County of Sedgewick and State of
the following described land in McPherson County, State of Kansas, to-wit: Kansas

The Northeast Quarter (716 1/4) of Section Sixty-two (62), Township Eighteen (18) South, Range Three (3) West of the Sixth Principal Meridian, except eight (8) feet of the Union Pacific Railroad Company, formerly the Helena and South Western Railway Company, and also except a tract of land described as follows: Beginning on the east line of right of way of Helena and South Western Railway 1 1/2 feet north of the southline of the Northeast Quarter (716 1/4) of Section Sixty-two (62), Township Eighteen (18) South, Range Three (3) West of the Sixth Principal Meridian thence east 100 feet, thence in a westerly direction parallel to right of way 379 1/2 feet, thence west 100 feet to right of way of said Helena and South Western Railway, thence south along and right of way 379 1/2 feet to place of beginning.

(U.S.I.R. Stamp \$12.00 R.B. 12-22-41)

for the sum of Three thousand and - - - - - 00 DOLLARS, and other valuable considerations.

WITNESS our hand at this 22nd day of December, 1941.
Ernst Blomberg
Ernst Blomberg
Hilda Blomberg
Hilda Blomberg
Ida C. Blomberg
Ida C. Blomberg

STATE OF KANSAS, McPHERSON COUNTY, ss.

BE IT REMEMBERED, That on this 22nd day of December, A. D. 1941, before me, C.H. Hebest a Notary Public in and for said County



and State aforesaid, came Ernst Blomberg, a single man; Hilda Blomberg, a single woman and Ida C. Blomberg, a single woman who are

personally known to be the same persons who executed the foregoing instrument, and duly acknowledged the execution of the same.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal, the day and year last above written.

Term expires May 13, 1945 C.H. Hebest Notary Public.

QUIT CLAIM DEED RECORD---110

I HEREBY CERTIFY, That this instrument was filed on the 24th day of October 1942 at 10:50 o'clock A.M.

Lynn H. Johnson, Register of Deeds,

THIS INDENTURE, Made this 27th day of December A. D. 1941, between N. O. Sellberg, Trustee, a widower of McPherson County, in the State of Kansas of the first part, and Oscar Sellberg of McPherson County, in the State of Kansas of the second part;

WITNESSETH, That said party of the first part, in consideration of the sum of One and no/100 DOLLARS, the receipt of which is hereby acknowledged, does by these presents REMISE, RELEASE and QUIT CLAIM unto said party of the second part, his heirs and assigns, all the following-described real estate, situated in the County of McPherson, and State of Kansas, to-wit:

All of the Southeast Quarter (SE 1/4) of Section Thirty-two (32) Township Eighteen (18), Range Three (3), West, lying East of the Union Pacific Right of Way.

This relinquishes all oil and gas Royalty Rights this Trust has owned on said above described premises to date.

TO HAVE AND TO HOLD THE SAME, Together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining forever.

IN WITNESS WHEREOF, The said party of the first part has hereunto set his hand, the day and year first above written. N. O. Sellberg, Trustee

Executed and delivered in the presence of

State of Kansas, McPherson County, ss.

BE IT REMEMBERED, That on this 27 day of December A. D. 1941, before me, the undersigned, a Notary Public in and for the County and State aforesaid, came N. O. Sellberg, Trustee, a widower



who is personally known to me to be the same person who executed the within instrument of writing and such person duly acknowledged the execution of the same.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my seal, the day and year last above written. J. C. Darrach Notary Public. Term expires 3/17/45

Deed Record No. 114
GENERAL WARRANTY

pg 128

RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS

I HEREBY CERTIFY, That this instrument was filed for record the 3rd day of August, 1942, at 10¹⁵ o'clock A.M. Lulu Hofford Register of Deeds.

THIS INDENTURE, Made this first day of August, A. D. 1942, between Ardis M. House and Halton House, her husband

of McPherson County, in the State of Kansas, of the first part, and Navy Liddell

of McPherson County, in the State of Kansas, of the second part:

WITNESSETH, That said party Ardis of the first part, in consideration of the sum of (\$6,500.00) six thousand five hundred and no DOLLARS, the receipt whereof is hereby acknowledged, do by these presents, Grant, Bargain, Sell and Convey unto said party Ardis of the second part, his heirs and assigns, all the following described Real Estate, situated in the County of McPherson, and State of Kansas, to-wit:

The north half (N¹/₂) of the Northeast Quarter (NE¹/₄) of Section Thirty-two (32), Township Eighteen (18) south, Range Three (3) west of the Sixth Principal Meridian, except the right-of-way of the Union Pacific Railroad Company, formerly the Galena and South Western Railway Company

(U. S. D. R. Stamp \$9.15 A. M. H., 3-1-42)

TO HAVE AND TO HOLD THE SAME, Together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining, forever.

And said grantee

for themselves, their heirs, executors or administrators, do hereby covenant, promise and agree to and with said party Ardis of the second part, that at the delivery of these presents they are lawfully seized in their own right, of an absolute and indefeasible estate of inheritance, in fee simple, of and in all and singular the above granted and described premises, with the appurtenances; that the same are free, clear, discharged and unincumbered of and from all former and other grants, titles, charges, estates, judgments, taxes, assessments and incumbrances, of what nature or kind soever; none.

and that they will WARRANT AND FOREVER DEFEND the same unto said party Ardis of the second part, his heirs and assigns, against said party Ardis of the first part, their heirs, and all and every person or persons whomsoever, lawfully claiming or to claim the same.

IN WITNESS WHEREOF, The said parties of the first part have hereunto set their hands, the day and year first above written.

Ardis M. House
Halton House

STATE OF KANSAS, McPHERSON COUNTY, ss.

BE IT REMEMBERED, That on this first day of August, A. D. 1942, before me, the undersigned, C. H. Niebert, a Notary Public in and for the County and State aforesaid, came Ardis M. House and Halton House, her husband,

who are personally known to me to be the same persons who executed the within instrument of writing, and such persons Ardis duly acknowledged the execution of the same.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial Seal, the day and year last above written.

C. H. Niebert

Notary Public.

(Term expires May 13, 1945)



11. No member of or Delegate to Congress or Resident Commissioner, shall be admitted to any share or part of this lease or purchase or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this lease or purchase if made with a corporation for its general benefit.

12. The Lessor warrants that he has not employed any person to solicit or secure this lease upon any agreement for a commission, percentage, brokerage, or contingent fee and that no such consideration or payment has been or will be made. Breach of this warranty shall give CGC the right to annul the lease, or, in its discretion, to deduct from the rental or purchase price the amount of such commission, percentage, brokerage or contingent fees. This warranty shall not apply to commissions payable by the Lessor if the lease is secured or made through a bona-fide agent maintained by the Lessor for the purpose of leasing or selling his property.

(SEAL) Frank E. Dyck LESSOR COMMODITY CREDIT CORPORATION, LESSEE

(SEAL) LESSOR BY Jacob A. Wedel

(SEAL) LESSOR Chairman, McPherson County
ASC Committee

(To be reproduced in ASC State Office)

STATE OF KANSAS, McPHERSON COUNTY,

A True Copy of Original as Filed on the 26
of May 1954 at 1:40 A.M.
Maudie Bush
Register of Deeds

CL Form - 58
(4-2-54)

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURE STABILIZATION AND CONSERVATION
COMMODITY CREDIT CORPORATION

LEASE OF PROPERTY

THIS LEASE, made and entered into this 1st day of May, 1954, by and between Keith Peterson, by Arvid L. Peterson, of McPherson, Kansas Lessor, and Commodity Credit Corporation, Lessee, Agent

WITNESSETH THAT:

1. The Lessor leases to the Lessee, and the Lessee hereby leases from the Lessor, upon the terms and conditions hereinafter stated, the following described real estate. (hereinafter called "property") situated in the County of McPherson and state of Kansas:

Beginning in the southeast corner of the SE $\frac{1}{4}$ of the NW $\frac{1}{4}$ 32-18-3, from the center of Public Highway 510 feet north; thence 128 feet west; thence 510 feet south; thence 128 feet east to the point of beginning, containing 1.5 acres, more or less.

2. The term of the lease shall be for a period of 5 years, commencing the 1st day of May, 1954, and ending the 1st day of May, 1959, with the right of the Lessee, during such term or any extension thereof, to terminate said lease, and liability for any further rent, on the 1st day of May of any year, by giving 30 days' previous notice in writing to the Lessor.

3. As rent for said property, the Lessee shall pay the Lessor Sixty Dollars (\$60.00) per year, such rent to be payable in advance, but to be apportionable in the event the lease is terminated as provided in paragraph 2 hereof:

4. The Lessor warrants that he is the owner of the property, has the right to give the Lessee possession under this lease, and will, so long as this lease remains in effect, warrant and defend the Lessee's possession against any and all persons whomsoever.

5. The Lessee shall have the right, during this lease, to erect storage structures, or facilities, make alterations, install scales, fences, or signs, in or upon the premises hereby leased and, at the expiration of said lease or any renewal or extension thereof or at any time this lease is in effect, may remove said storage structures, facilities, scales, fences, or signs or any part thereof whether or not such structures, facilities, scales, fences or signs have become legally a fixture.

6. The Lessee shall not assign this lease without the written consent of the Lessor. The Lessee, may however, sublet the structures on the premises leased hereunder, or any one or more of them for the term of the lease or any part thereof upon such terms and conditions as Lessee may wish to so sublet.

7. The Lessee, if required by the Lessor, shall upon the expiration of this lease, or renewal thereof, restore the premises to the same condition as that existing at the time of entering upon the same under this lease, reasonable and ordinary wear and tear and damages by the elements or by circumstances over which the Lessee has no control excepted: Provided, however, that if the Lessor requires such restoration, the Lessor shall give written notice thereof to the Lessee 60 days before the termination of the lease.

CL Form -58 (Reverse)
(4-2-54)

LEASE OF PROPERTY

9. As a consideration of this lease and for the further consideration of one dollar, the receipt of which is hereby acknowledged, the Lessor grants and gives the Lessee the option, at any time while this lease is in effect, to purchase said property from the Lessor, his heirs, executors, administrators, and assigns, for the sum of _____ Dollars (\$ _____). In the event the Lessee shall exercise this option to purchase said property, the Lessor agrees to furnish at his own expense a n abstract of title, certificate of title, or other evidence of title satisfactory to CGC and to execute a good and sufficient warranty deed conveying fee simple title to said property free and clear of all taxes, liens, or encumbrances except for the following, and no others.

10. In the event any increased tax assessment is made against the Lessor or the property by virtue of the erection of storage structures and facilities thereon by the Lessee, the Lessor agrees to cooperate fully in any contest of such increased assessment which the Lessee feels should be made. The Lessee agrees that the rental hereunder shall be adjusted upward by the amount of any such increased tax assessment which the Lessor and Lessee mutually agree to be proper or which is determined to be legally valid in court proceedings.

11. No member of or Delegate to Congress or Resident Commissioner, shall be admitted to any share or part of this lease or purchase or to any benefit that may arise therefrom, but this provision shall not be construed to prohibit the purchase if made with a corporation for its general benefit.

12. The Lessor warrants that he has not employed any person to solicit or secure this lease upon any agreement for a commission, percentage, brokerage, or contingent fee and that no such consideration or payment has been or will be made. Breach of this warranty shall give CCC the right to annul the lease, or, in its discretion, to deduct from the rental or purchase price the amount of such commission, percentage, brokerage or contingent fees. This warranty shall not apply to commissions payable by the Lessor if the lease is secured or made through a bona-fide agent maintained by the Lessor for the purpose of leasing or selling his property.

(SEAL) Keith Peterson, by Arvid L. Peterson Agt.	LESSOR	COMMODITY CREDIT CORPORATION, LESSEE
(SEAL)	LESSOR	BY Jacob A. Wedel
(SEAL)	LESSOR	Chairman McPherson County ASC Committee

(To be reproduced in ASC State Office)

STATE OF KANSAS, McPHERSON County

True Copy of Original as Filed on the 26 DAY

May 19 54 at 1:45 P.M.

Maudie Burr
Register

ASSIGNMENT

KNOW ALL MEN BY THESE PRESENTS:

That the undersigned, MUSGROVE PETROLEUM CORPORATION, INC., hereinafter called Assignor, for and in consideration of the sum of One Dollar (\$1.00) and other good and valuable considerations in hand paid, the receipt and sufficiency of which is hereby acknowledged, does hereby sell, assign, transfer and set over unto NATIONAL COOPERATIVE REFINERY ASSOCIATION, an undivided one-half (1/2) interest in and to each and all of the oil and gas mining leases insofar as said leases cover the following described lands in McPherson County, State of Kansas:

Oil and Gas Lease dated February 16, 1954, by and between J. A. Morine and Alma J. Morine, his wife, lessors, in favor of P. C. Musgrove, lessee, recorded in Book 96 Misc., Page 543 of the records of McPherson County, Kansas, described as

The East Half of the Northeast Quarter (E $\frac{1}{2}$ NE $\frac{1}{4}$) of Section 25, Township 17 South, Range 2 West, containing 80 acres, more or less,

Oil and Gas Lease dated February 13, 1954, by and between Esther H. Hedstrom, a single woman, lessor, in favor of P. C. Musgrove, lessee, recorded in Book 96 Misc., page 542 of the records of McPherson County, Kansas, described as

The Southwest Quarter (SW $\frac{1}{4}$) of Section 25, Township 17 South, Range 2 West, containing 160 acres, more or less,

Oil and Gas Lease dated February 13, 1954, by and between Allen L. Nelson, Selma Nelson, Hilma S. Nelson, all single, lessors, in favor of P. C. Musgrove, lessee, recorded in Book 96 Misc., page 541 of the records of McPherson County, Kansas, described as

The Southeast Quarter (SE $\frac{1}{4}$) of Section 25, Township 17 South, Range 2 West, containing 160 acres, more or less,

together with the rights incident thereto and the personal property thereon, appurtenant thereto, or used or obtained in connection therewith.

The leases herein assigned are subject to an overriding royalty interest of one-sixteenth or seven-eighths of all oil, gas and casinghead gas produced, saved and marketed from the above described land under the provisions of the aforesaid leases, or any extensions, or renewal thereof, as an overriding royalty, free and clear of any cost and expense of the development and operation thereof, excepting taxes applicable to said interest and the production therefrom. The interest herein assigned is subject to and shall bear its proportionate part of the aforementioned overriding royalty interest.

This assignment is made without warranty of title, either express or implied.

Executed, this 17th day of May, 1954.

55

THIS INDENTURE, made this 29th day of January, A. D., 1952, between
Lila A. Tector and Elmer Tector, wife and husband,

of McPherson County, in the State of Kansas, of the first part, and
McPherson Grain Co., Inc.

of McPherson County, in the State of Kansas, of the second part:

WITNESSETH, that said parties of the first part, in consideration of the sum of
One Dollar (\$1.00) and other valuable consideration, each DOLLARS
the receipt of which is hereby acknowledged, do by these presents Remise, Release and Quit-Claim unto said
party of the second part, his heirs and assigns, all
the following described Real Estate situated in the County of McPherson, and State of Kansas, to-wit:

Commencing at the Northwest Corner of the following
described tract of land, to-wit: The Southeast Quarter
(SE $\frac{1}{4}$) lying east of the Union Pacific Railroad Right of
Way in Section 32, Township 18 South, Range 3 West of
the 6th P.M., thence in a southerly direction along said
right of way a distance of 40 rods, thence east 2 rods,
thence north 40 rods to a point 2 rods east of the place
of beginning, thence west 2 rods to place of beginning.

The grantor, Lila A. Tector, for herself, her heirs, executors, and
assigns, reserves all oil, gas and mineral rights under said tract for a
term of 15 years from this date and as long thereafter as oil and/or gas
may be produced from said premises, including the exclusive right during
said period to lease said land for oil and/or gas purposes.

TO HAVE AND TO HOLD THE SAME, together with all and singular the tenements, hereditaments
and appurtenances thereunto belonging or in anywise appertaining forever:

IN WITNESS WHEREOF, the said parties of the first part have hereunto set their hands
the day and year first above written.

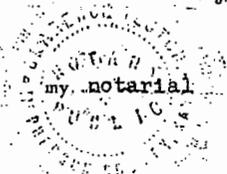
Executed and delivered by the parties of

Lila A. Tector
Lila A. Tector

Elmer Tector
Elmer Tector

..... McPherson County, as:

BERED, that on this 20 day of January A.D., 1959...
State before me, the undersigned, a Notary Public in and for
the county and state aforesaid, came Lila A. Tector and Elmer Tector,
wife and husband,
....., who are
personally known to me to be the same person s who executed the within instrument of writ-
ing, and such person s duly acknowledged the execution of the same.



IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed
my notarial seal the day and year last above written.

.....
Notary Public.
Clarence Tector

Term expires Dec 15 1961.

2626

QUIT CLAIM DEED

FROM

TO

Mad

State of Kansas, McPherson County, ss

This instrument was filed for record on the

3 day

of April 1961.

at 10 45 o'clock A. M. and duly

recorded in Book 151 on

Page 675

Fee \$ 1.35 + 20

Maudie Burk
Register of Deeds.

Emmie L. Spivey
Deputy.



extension of lease made and entered into by the parties on May 1, 1959, and between Keith Peterson, Lessor, and Commodity Credit Corporation, Lessee, as follows:

TENNESSEE

Whereas, the parties hereto have heretofore entered into a certain lease dated May 1, 1959, wherein the lessor leased to the lessee the following described property: Beginning in the southeast corner of the SE 1/4 of the NW 32-18-3; from the center of Public Highway 510 feet North; thence 128 feet West; thence 510 feet South; thence 128 feet East to the point of beginning.

For a term ending May 1, 1959, and

Whereas, it is desired by the parties hereto to extend the said lease for an additional term under the same terms and conditions;

Now therefore, it is mutually understood and agreed by and between the parties hereto as follows:

(1) The said lease is hereby extended for an additional term beginning May 1, 1959, and ending May 1, 1961.

(2) Lessors grant and give to the Lessee the option of further renewal of the lease for an additional period of five (5) years ending May 1, 1969, under the same terms and conditions of the lease as extended herein provided the Lessee gives the Lessors written notice to renew at least thirty (30) days prior to the time the lease, as extended, would otherwise expire.

In Witness Whereof, the parties hereto have executed this extension on the day first above written.

X Keith Peterson
Lessor

COMMODITY CREDIT CORPORATION

Y
Lessor's Spouse

By Jacob A. Wedel
Contracting Officer

Note: It is necessary to have the above agreement acknowledged and recorded.

ACKNOWLEDGEMENT

I, Keith Peterson and Jacob A. Wedel, do hereby certify that Jacob A. Wedel, to me known to be the person (or persons) who executed the foregoing instrument, personally appeared before me and acknowledged that he (she or they) executed the same as his (her or their) free act and deed and, in case said instrument was executed the same as his (her or their) free act and deed and, in case said instrument was executed on behalf of a corporation, that he (she or they) was Keith Peterson and Jacob A. Wedel, owner Chairman of County Committee (insert name of officer(s) and his (her or their) official title(s)). Jacob A. Wedel, SVSHV, was (were) duly authorized by the Board of Directors of (Name of Corporation)

said corporation to execute the said instrument on behalf of said corporation and to affix the corporate seal thereto.

Given under my hand and official seal this day of 15th April 1959, My

commission expires 05 Feb 60
James L. Smith
Notary Public

3177
Keith Peterson
This instrument was filed for recording on the 16 day of April 1959 at 10:05 o'clock AM and duly recorded in book 20150 at page 19
James L. Smith
Notary Public

U. S. DEPARTMENT OF AGRICULTURE
COMMODITY STABILIZATION SERVICE
COMMODITY CREDIT CORPORATION

LEASE OF PROPERTY

THIS LEASE, made and entered into this 20th day of June, 1963, by and between Keith Peterson of Rt 3, McPherson, Kansas (hereinafter called the "Lessor"), and Commodity Credit Corporation, (hereinafter called the "Lessee").

WITNESSETH THAT:

1. The Lessor leases to the Lessee, and the Lessee hereby leases from the Lessor, upon the terms and conditions hereinafter stated, the following described real estate (hereinafter called "property") situated in the County of McPherson and State of Kansas.
(Enter here a complete legal description of the site).

Beginning in the Southeast corner of the SE $\frac{1}{4}$ of the NW $\frac{1}{4}$ 32-18-3; from the Center of Public Highway 510 feet North; thence 128 feet West; thence 510 feet South; thence 128 feet East to the point of beginning.

containing 1.5 acres, more or less.

2. The term of the lease shall be for a period of 5 years, commencing the 1st day of May 1964 and ending the 30th day of April, 1969, with the right of the Lessee, during such term or any extension thereof, to terminate said lease, and liability for any further rent, on the 1st day of May of any year, by giving 30 days' previous notice in writing to the Lessor.

3. As rent for said property, the Lessee shall pay the Lessor Sixty Dollars (\$ 60.00) per year, such rent to be payable in advance, but to be apportionable in the event the lease is terminated as provided in paragraph 2 hereof.

4. The Lessor warrants that he is the owner of the property, has the right to give the Lessee possession under this lease, and will, so long as this lease remains in effect, warrant and defend the Lessee's possession against any and all persons whomsoever.

5. The Lessee shall have the right, during this lease, to erect storage structures or facilities, make alterations, install scales, fences, or signs, in or upon the premises hereby leased and, at the expiration of said lease or any renewal or extension thereof or at any time this lease is in effect, may remove said storage structures, facilities, scales, fences or signs or any part thereof, whether or not such structures, facilities, scales, fences or signs have become legally a fixture.

6. The Lessee shall not assign this lease without the written consent of the Lessor. The Lessee, may, however, sublet the structures on the premises leased hereunder, or any one or more of them for the term of the lease or any part thereof upon such terms and conditions as Lessee may wish to so sublet.

7. The Lessee, if required by the Lessor, shall upon the expiration of this lease, restore the premises to the same condition as that existing at the time of entering upon the same under this lease, reasonable and ordinary wear and tear and damages by the elements or by circumstances over which the Lessee has no control excepted: Provided, however, That if the Lessor requires such restoration, the Lessor shall give written notice thereof to the Lessee 30 days before the termination of the Lease.

8. The Lessor grants and gives the Lessee the option as a consideration of this lease and for the further consideration of one dollar, the receipt of which is hereby acknowledged, to renew said lease for a period of 5 years from the Lessor, his heirs, executors, administrators, and assigns, for the sum of Sixty Dollars (\$ 60.00) per year.

9. As a consideration of this lease and for the further consideration of one dollar, the receipt of which is hereby acknowledged, the Lessor grants and gives the Lessee the option, at any time while this lease is in effect, to purchase said property from the Lessor, his heirs, executors, administrators, and assigns, for the sum of Three Thousand Dollars (\$ 3,000). In the event the Lessee shall exercise this option to purchase said property, the Lessor agrees to furnish at his own expense an abstract of title, certificate of title, or other evidence of title satisfactory to CCC and to execute a good and sufficient warranty deed conveying fee simple title to said property free and clear of all taxes, liens, or encumbrances except for the following, and no others:

CCC Record copy of lease 105 page 511

10. In the event any increased tax assessment is made against the Lessor or the property by virtue of the erection of storage structures and facilities thereon by the Lessee, the Lessor agrees to cooperate fully in any contest of such increased assessment which the Lessee feels should be made. The Lessee agrees that the rental hereunder shall be adjusted upward by the amount of any such increased tax assessment which the Lessor and Lessee mutually agree to be proper or which is determined to be legally valid in court proceedings.

11. No member of or Delegate to Congress or Resident Commissioner, shall be admitted to any share or part of this lease or purchase or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this lease or purchase if made with a corporation for its general benefit.

12. The Lessor warrants that he has not employed any person to solicit or secure this lease upon any agreement for a commission, percentage, brokerage, or contingent fee and that no such consideration or payment has been or will be made. Breach of this warranty shall give CCC the right to annul the lease, or, in its discretion, to deduct from the rental or purchase price the amount of such commission, percentage, brokerage, or contingent fees. This warranty shall not apply to commissions payable by the Lessor if the lease is secured or made through a bona-fide agent maintained by the Lessor for the purpose of leasing or selling his property.

COMMODITY CREDIT CORPORATION, LESSEE

(Seal) Keith Peterson LESSOR
Keith Peterson

By Clyde L. Cline
Clyde L. Cline
Chairman, McPherson ASC County Committee
Contracting Officer

(Seal) _____, LESSOR
_____, WITNESS

ACKNOWLEDGMENT

I, Jacob A. Wedel, do hereby certify that Keith Peterson, to be known to be the person (or persons) who executed the foregoing instrument, personally appeared before me and acknowledged that he (she or they) executed the same as his (her or their) free act and deed and, in case said instrument was executed on behalf of a corporation, that he (she or they) as _____ (insert name of officer(s) and his (her or their) official

_____ was (were) duly authorized by the Board _____ (Name of Corporation) of Directors of said corporation to execute the said instrument on behalf of said corporation and to affix the corporate seal thereto. Given under my official hand and seal this day of June 20th, 1963. My commission expires _____

Jacob A. Wedel
Notary Public

CERTIFICATION OF TRUE COPY

The undersigned hereby certifies that the foregoing Lease of Property is true, correct and authentic copy of the original lease duly executed by the lessor as above set forth.

Recording Official or Notary Public

RECEIPT OF COUNTY RECORDING OFFICIAL

The above Lease of Property or a true copy thereof was recorded or filed for record on _____ in _____ Volume _____ (Chattel Mortgage or real estate records, or other) Page _____ (If filed) State of _____ County of _____

County Recording Official

5010

This instrument was filed for recording in the office of the Recorder of Deeds, McPherson Co., Kas., on this 20th day of June, 1963. JAW

B-1439

DISCHARGE OF LEASE OF PROPERTY

KNOW ALL MEN BY THESE PRESENTS:

That the Commodity Credit Corporation does hereby acknowledge and certify that the certain lease agreement referred to dated June 20, 1961 relating to the following described real estate situated in the County of McPherson, State of Kansas to wit:

Beginning in the Southeast corner of the SW 1/4 of the NW 1/4 32-18-3; from the Center of Public Highway 510 feet North; thence 128 feet West; thence 510 feet South; thence 128 feet East to the point of beginning.

Which lease agreement was recorded in the records of McPherson County, State of Kansas in Book W-169 of the Register of Deeds. Records at Page 95 has been cancelled and is no longer effective due to the fact that said lease agreement is hereby terminated and shall be of no further force or effect.

IN WITNESS WHEREOF, the Commodity Credit Corporation has caused these presents to be signed this 30th day of April, 1966, by the Chairman of the McPherson County ASC Committee, pursuant to authority delegated to Chairmen of County ASC Committees by the Commodity Credit Corporation, dated January 30, 1951, and published in 14 F.R. 7689.

State of Kansas, McPherson Co. 38

COMMODITY CREDIT CORPORATION

BY Clyde L. Oline, Chairman of McPherson County ASC Committee

This instrument was filed for record on the 14th day of Feb. 1967 at 11:14 a.m. and duly recorded in book W-169 on page 95. Maudel Bush, Register of Deeds

ACKNOWLEDGEMENT

STATE OF Kansas)
COUNTY OF McPherson) ss

On this 30th day of April, 1966, before me the undersigned Notary Public in and for said county, personally appeared the above named Clyde L. Oline, Chairman of the McPherson County ASC Committee, who is personally known to me and personally known to be such Chairman of McPherson County ASC Committee and the identical person whose name is affixed to the above instrument and he acknowledged that he executed the same as his voluntary act and deed and as the voluntary act and deed of the Commodity Credit Corporation, pursuant to authority duly conferred upon him.

WITNESS my hand and notarial seal the date last aforesaid.

Joseph C. Wedel, Notary Public

My commission expires on the 12th day of March, 1966.

JOINT TENANCY WARRANTY DEED (Following Kansas Statutory Warranty Form)

Harry Ledell and Mary Louise Ledell, husband and wife,

CONVEY AND WARRANT TO

Charles Houchen and Betty Jo Houchen, husband and wife,

JOINT TENANTS and not as tenants in common, with full rights of survivorship, the whole estate to vest in the survivor in the event of the death of either, all the following described REAL ESTATE in the County of McPherson of the State of Kansas, to-wit:

A tract of land in the Northeast Quarter (NE/4) of Section Thirty-two (32), Township Eighteen (18) South, Range Three (3) West, McPherson County, Kansas, described as follows: Beginning at the Northwest Corner of the NE/4 of said Section 32; thence East along the Section line 499.7 feet to the West line of the right-of-way of the Union Pacific Railroad; thence Southwesterly along the West line of said railroad right-of-way 438.0 feet; thence Northwesterly 441.6 feet to a point on the quarter section line dividing the NE/4 and the NW/4 of said Section 32, which point is 387.0 feet South of the place of beginning; thence North to the place of beginning, containing 4.44 acres, more or less.

for the sum of TEN and no/100 DOLLARS (\$10.00) and other valuable considerations

EXCEPT AND SUBJECT TO:

Dated February 5 1973

STATE OF KANSAS, MCPHERSON COUNTY, ss

BE IT REMEMBERED, That on this 5th day of February, A. D. 1973, before me, the undersigned, a Notary Public,

in and for the County and State aforesaid, came

Harry Ledell and Mary Louise Ledell, husband and wife,

Harry Ledell

Mary Louise Ledell

who ARE personally known to me to be the same person S who executed the within instrument of writing and such person S duly acknowledged the execution of the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal this 27th day of May 1976.

NOTARY PUBLIC seal for Juanita M. Flood, Notary Public, May 27 1976, McPherson Co., Kansas.

STATE OF Kansas } McPherson County, ss. This instrument was filed for record on the 26 day of July, A. D., 1974, at 1:15 o'clock P. M., and duly recorded in book 186 of Deeds at page 411. Rosalie Nelson, Register of Deeds, Deputy. Fees, \$ 3.00. Abstract

JOINT TENANCY WARRANTY DEED (Following Kansas Statutory Warranty Form)

Entered in Public Office this _____ day of _____ 19__

HARRY LEDELL and MARY LOUISE LEDELL, a/k/a Mary L. Ledell, husband and wife,

CONVEY AND WARRANT TO

JOSEPH H. LEDELL, JR. and SHARON K. LEDELL, husband and wife,

JOINT TENANTS and not as tenants in common, with full rights of survivorship, the whole estate to vest in the survivor in the event of the death of either, all the following described REAL ESTATE in the County of McPherson

and the State of Kansas, to-wit:

North Half of the Northeast Quarter (N 1/2 NE 1/4) of Section Thirty-two (32), Township Eighteen (18) South, Range Three (3) West of the Sixth Principal Meridian, subject to Railroad right-of-way, and except a tract of land described as follows:

Beginning at the Northwest corner of the NE 1/4 of said Section 32; thence East along the Section line 499.7 feet to the West line of the right-of-way of the Union Pacific Railroad; thence Southwesterly along the West line of said Railroad right-of-way 438.0 feet; thence Northwesterly 441.6 feet to a point on the Quarter Section line dividing the NE 1/4 and the NW 1/4 of said Section 32, which point is 387.0 feet South of the point of beginning; thence North to the point of beginning, McPherson County, Kansas.

Grantors reserve unto themselves a life estate in the above-described real estate.

Grantors also reserve unto themselves all oil, gas and other minerals lying in and under said real estate for a period of 10 years and so long thereafter as oil, gas or other minerals is produced.

for the sum of Ten Dollars (\$10.00) and other valuable consideration. Pursuant to K.S.A. 79-1437 a Real Estate Validation Questionnaire is not required due to exception No. 11

EXCEPT AND SUBJECT TO: Easements and restrictions of record

Dated August 1 1980

STATE OF KANSAS, McPHERSON COUNTY, ss BE IT REMEMBERED, That on this 1st day of August, A. D. 1980, before me, the undersigned, a notary public

in and for the County and State aforesaid, came a/k/a Mary L. Ledell HARRY LEDELL and MARY LOUISE LEDELL, husband and wife,

Harry Ledell
Mary L. Ledell
a/k/a Mary L. Ledell

who are personally known to me to be the same person who executed the within instrument of writing and such persons duly acknowledged the execution of the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal, the day and year last above written.

Carol Ann Baker
Carol Ann Baker Notary Public.

STATE NOTARY PUBLIC
Appt. Exp. 2-15-84
McPherson County, Kansas

STATE OF Kansas 6669 x
McPherson County, ss
This instrument was filed for record on the 11 day of Dec. A. D., 1980, at 9:05 o'clock A. M., and duly recorded in book 248 of Deeds at page 202.
Linda K. Paul Register of Deeds.
Debbie Baker Deputy.
Fees, \$ 6.00
alot



6144 X
State of Kansas, McPherson Co., SS:
This instrument was filed for record on the 1 day of Dec. A.D., 1981 at 1:45 o'clock P.M., and duly recorded in Book 106 on page 63
Rosalie Nelson
Register of Deeds

WARRANTY DEED

(Kansas Statutory Form)

For a valuable consideration, MCPHERSON GRAIN CO., INC., GRANTOR, CONVEYS AND WARRANTS TO THE WALL-ROGALSKY MILLING CO., GRANTEE, all the following described real estate in McPherson County, Kansas:

Commencing at the Northwest corner of the following described tract of land: The Southeast Quarter (SE/4) lying East of the Union Pacific Railroad right-of-way in Section Thirty-two (32), Township Eighteen (18) South, Range Three (3) West of the 6th P.M., thence in a Southerly direction along said right-of-way a distance of 40 rods, thence East 2 rods, thence North 40 rods to a point 2 rods East of the place of beginning, thence West 2 rods to place of beginning; EXCEPT AND SUBJECT TO rights-of-way and restrictions of record, and easements, whether or not of record.

DATED: 10/19, 1981.

MCPHERSON GRAIN CO., INC.

Maurice E. Waelidin
Maurice E. Waelidin, President

STATE OF KANSAS)
COUNTY OF Saline) SS.

The foregoing instrument was acknowledged before me this 12th day of October, 1981, by Maurice E. Waelidin, President of McPherson Grain Co., Inc., a Kansas corporation, on behalf of the corporation.

NOTARY PUBLIC
JAMES E. KOVANDA
Saline County, Kansas
My Appt. Exp. June 11, 1984

James E. Kovanda
Notary Public

* 500 Bremer v. Wise
Book 1143
McPherson, # 67460

Entered in Transfer Record in
 1981 (file this) 12/29 day
 of December 1981
 of McPherson County, Kansas
 Co. 01470
 A.D. 1981

6586 X
 State of Kansas, McPherson Co., SS.
 This instrument was filed for record
 on the 30 day of Dec. A.D. 1981
 at 5:00 o'clock P.M., and duly recorded
 in book 206 on page 67
 Rosalie Nelson
 Register of Deeds

QUIT CLAIM DEED

(Kansas Statutory Form)

For a valuable consideration, LILA A. TECTOR, single, GRANTOR, QUITCLAIMS TO THE WALL-ROGALSKY MILLING CO., GRANTEE, all the following described real estate in McPherson County, Kansas:

A part of the Southeast Quarter (SE/4) of Section Thirty-two (32), Township Eighteen (18) South, Range Three (3) West of the 6th P.M., described as follows: Commencing at the intersection of a line drawn parallel with and 133 feet Easterly from the center line of the main track of the Union Pacific Railroad Company, measured at right angles to said center line, with a line drawn parallel with and 16.5 feet South of the North line of said SE/4 Section 32, thence Southwesterly along a line drawn parallel with and 133 feet Easterly from said main track center line when measured at right angles 40 rods; thence Easterly at a right angle from said main track center line 2 rods; thence Northeasterly along a line parallel with and 166 feet Easterly from said main track center line when measured at right angles 40 rods, more or less, to a point 16.5 feet South of the North line of said SE/4 Section 32; thence West parallel with the North line of said SE/4 Section 32 2 rods, more or less, to the point of beginning.

DATED: December 29, 1981.

Lila A. Tector
 Lila A. Tector

STATE OF KANSAS)
) SS.
 COUNTY OF MCPHERSON)

The foregoing instrument was acknowledged before me this 29th day of December, 1981, by Lila A. Tector, single.

PAULA K. ENGEL
 McPherson County, Kansas
 My Appt. Exp. 6-23-82

Paula K. Engel
 Notary Public

5.00 Berman v. Wise 90 Joz.
 Bot 1143, McPherson

said Highway right-of-way to the point of beginning; said tract more particularly described as part of Lots Seven (7) and Eight (8), Block Five (5), and all of the alley abutting said lots as originally platted, lying between the East highway right-of-way line and the West Railroad right-of-way line;

AND

- ✓ That portion of the North Half (N 1/2) of Third Street as originally platted in Elyria, Kansas; which lies between US Highway 81 and the Missouri Pacific Railroad Company right-of-way and that portion of the South Half (S 1/2) of Third Street as originally platted in Elyria, Kansas which lies directly North of Lots Eleven (11) in Block Eight (8) between US Highway 81 and the Missouri Pacific Railroad Company right-of-way;

AND

- ✓ All of Lots Eleven (11) and Twelve (12), Block Eight (8) in Elyria, Kansas, excepting those portions of said lots which form a part of US Highway 81;

AND

- ✓ The North Half (N 1/2) of the alley in Block Eight (8) in Elyria, Kansas, lying between US Highway 81 and the East line of said Block 8 and the West Half (W 1/2) of Kennebec Street in Elyria, Kansas, which lies between the Missouri Pacific Railroad Company right-of-way and the center line of the alley located in Block 8 in Elyria, Kansas;

AND

- ✓ All of Lot Nine (9), Block Fifteen (15) in Elyria, Kansas, except land deeded for Highway purposes and except Railroad right-of-way, in McPherson County, Kansas.

✓ Tract 4.

A part of the Southeast Quarter (SE 1/4) of Section Thirty-two (32), Township Eighteen (18) South, Range Three (3) West of the Sixth Principal Meridian, described as follows:

Commencing at the intersection of a line drawn parallel with and 133 feet Easterly from the center line of the main track of the Union Pacific Railroad Company,

measured at right angles to said center line, with a line drawn parallel with and 16.5 feet South of the North line of said SE 1/4, Section 32, thence Southwesterly along a line drawn parallel with and 133 feet Easterly from said main track center line when measured at right angles 40 rods; thence Easterly at a right angle from said main track center line 2 rods; thence Northeasterly along a line parallel with and 166 feet Easterly from said main track center line when measured at right angles 40 rods, more or less, to a point 16.5 feet South of the North line of said SE 1/4, Section 32; thence West Parallel with the North line of said SE 1/4, Section 32, 2 rods, more or less, to the point of beginning, in McPherson County, Kansas.

✓ Tract 5.

Lots One (1), Two (2), Three (3), Seventeen (17) and Eighteen (18), Block Fourteen (14) ✓, Windom, McPherson County, Kansas, according to the recorded plat thereof;

AND

Lots One (1) and Two (2), Block Four (4) ✓, Windom, McPherson County, Kansas, according to the recorded plat thereof.

AND

✓ Lots One (1), Two (2), Fifteen (15), Sixteen (16), Seventeen (17) and Eighteen (18), Block Fifteen (15) ✓, Windom, McPherson County, Kansas, according to the recorded plat thereof.

except and subject to:

(a) Easements, licenses, rights-of-way, restrictions and reservations of record, including oil, gas and mineral reservations, if any, of record;

(b) The rights of the public or third parties in and to any roads, highways or rights-of-way across or adjacent to said real property;

(c) Presently existing and enforceable licenses, rights-of-way and easements, if any, for public utilities, whether or not of record;

(d) Defects of title to lands of third parties over which easements, if any, are to be conveyed by Seller as appurtenances to said real estate;

(e) Liens of public authorities, if any, for property taxes or assessments not yet due and payable; and

(f) All applicable zoning or land use statutes, ordinances, rules and regulations.

WALL-ROGALSKY MILLING COMPANY
BY *Brent Wall*
Brent Wall, President

STATE OF KANSAS)
MCPHERSON COUNTY) ss.

The foregoing instrument was acknowledged before me this 2nd day of June, 1992, by Brent Wall, President, Wall-Rogalsky Milling Company.

Lori A. McMurray
Notary Public

My appointment expires:



12.00
Mid-Ko. Cooperative Assoc
Box D
Moundridge, KS

ENTERED IN TRANSFER RECORD IN
MY OFFICE THIS 18th DAY
OF June A.D. 19 97
Susan R. Meyers
CO. CLERK

State of Kansas, McPherson Co., SS: 2777
This instrument was filed for record
on the 6 day of June A.D. 19 97
at 8:10 o'clock PM, and duly recorded
in book 247 on page 12-16
Linda Paul
Register of Deeds

Original

399-60

CORRECTION DONATIVE QUITCLAIM DEED

UNION PACIFIC RAILROAD COMPANY, a Utah corporation, Grantor, does hereby DONATE, REMISE, RELEASE and forever QUITCLAIM unto THE CENTRAL KANSAS CONSERVANCY, INC., a Kansas non-profit corporation, Grantee, and unto its successors and assigns forever, all of Grantor's right, title, interest, estate, claim and demand, both at law in equity, of, in, and to the real estate (the "Property") on that portion of Grantor's McPherson Branch from Grantor's Milepost 34.0 (formerly MPRR Milepost 518.0) near McPherson, Kansas, to Grantor's Milepost 21.4 (formerly MPRR Milepost 530.6) near Lindsborg, Kansas, as such Property is located in McPherson County, Kansas, and as more particularly described in Exhibit A, hereto attached and hereby made a part hereof, reserving unto Grantor, its employees, agents, successors or assigns the right to enter on the Property for the purpose of appraising the value of the Property for a period of ninety (90) days after conveyance of the Property to Grantee.

This deed is made SUBJECT TO :

1. All of the terms and conditions contained in that certain Line Donation Contract between Grantor and Grantee dated April 16, 1997.
2. The terms and conditions contained in the Decision and Notice of Interim Trail Use or Abandonment served by the Interstate Commerce Commission on September 28, 1995, in Docket No. AB-33 (Sub-No. 89X) which authorized the Grantor to discontinue operation over the line of railroad described above, and also the rail-bank interim trail use condition imposed by the ICC in said Decision pursuant to Section 8(d) of the National Trails System Act, 16 U.S.C. § 1247(d).
3. All other conditions, restrictions, covenants, reservations, easements, rights and encumbrances affecting the Property, whether recorded or unrecorded.

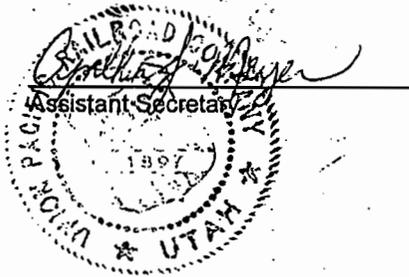
THIS QUITCLAIM DEED IS MADE ON AN "AS IS, WHERE IS" BASIS WITHOUT ANY WARRANTIES OR REPRESENTATIONS OF ANY KIND OR NATURE WHATSOEVER, EXPRESS OR IMPLIED, CONCERNING THE CONDITIONS OF THE PROPERTY, AND GRANTEE HEREBY SPECIFICALLY WAIVES ANY IMPLIED WARRANTIES PROVIDED FOR BY KANSAS LAW (IF ANY), INCLUDING ANY AND ALL WARRANTIES REGARDING FITNESS FOR ANY PARTICULAR USE OR PURPOSE WHATSOEVER.

This Deed is given in correction of and substitution for a certain Donative Quitclaim Deed dated April 16, 1997 given by Grantor to Grantee, and filed for record on April 18, 1997 in Book 246, Pages 617-657 in the Deed Records of McPherson County, Kansas. Any inconsistency between the terms of that deed, and the terms of this deed shall be resolved in accordance with the terms of this deed with the exception of the map which is recorded on Pages 622-657. This deed shall be deemed to be controlling and to supersede that deed.

IN WITNESS WHEREOF, the Grantor has caused this Deed to be duly executed as of the 30th day of May, 1997.

Attest:

UNION PACIFIC RAILROAD COMPANY



By: [Signature]
Title: Assistant Vice President
R. D. Uhrich

Approved as to form:
[Signature]
Assistant Vice President

UNION PACIFIC RAILROAD COMPANY
 UPRR MP 21.4 (MPRR MP 530.6) to UPRR MP 34.0 (MPRR MP 518.0)
 McPherson Branch
 McPherson County, Kansas

EXHIBIT "A"

All right, title, and interest in and to that portion of the right of way of the McPherson Branch of the Union Pacific Railroad Company as formerly constructed and operated, in, over, and across the following legal subdivisions:

<u>SUBDIVISION</u>	<u>SECTION</u>	<u>TOWNSHIP</u>	<u>RANGE</u>	<u>MERIDIAN</u>
E½	20	17S.	3W.	6TH ✓
E½, SE¼SW¼	29	17S.	3W.	6TH ✓
W½	32	17S.	3W.	6TH ✓
E¼SE¼	31	17S.	3W.	6TH ✓
W½W½	5	18S.	3W.	6TH ✓
NE¼NE¼	6	18S.	3W.	6TH ✓
W½, SW¼SE¼	8	18S.	3W.	6TH ✓
W½E½	17	18S.	3W.	6TH ✓
W½E½	20	18S.	3W.	6TH ✓
W½E½	29	18S.	3W.	6TH ✓
W½E½	32	18S.	3W.	6TH ✓
ALL	5	19S.	3W.	6TH ✓
E½W½	8	19S.	3W.	6TH ✓
ALL	17	19S.	3W.	6TH ✓

Also that portion of the SE¼ of Section 17, Township 17 South, Range 3 West of the Sixth Principal Meridian in McPherson County, Kansas, lying between the south line of said Section 17 and a line drawn at right angles through the centerline of the main track of said McPherson Branch, said line being 262.7 feet northerly, measured along said centerline of the main track, from said south line of Section 20.

Also that portion of the N½ of Section 20, Township 19 South, Range 3 West of the Sixth Principal Meridian in McPherson County, Kansas, lying between the north line of said Section 20 and a line drawn at right angles through the centerline of the main track of said McPherson Branch, said line being 1,247.3 feet southerly, measured along said centerline of the main track, from said north line of Section 20.

Excepting therefrom all of that certain 100 foot wide strip of land situate in NW¼SE¼ of Section 32, Township 18 South, Range 3 West of the Sixth Principal Meridian in McPherson County, Kansas, said strip being all of that certain strip of land conveyed by Warranty Deed dated December 19, 1889, from Oscar Sellberg to Salina & Northwestern Railway Company (predecessor to Union Pacific Railroad Company) recorded on February 3, 1890, in Book 40 at Page 49, McPherson County, Kansas.

Also excepting therefrom all of that certain 100 foot wide strip of land situate in the NW¼SE¼ of Section 32, Township 18 South, Range 3 West of the Sixth Principal Meridian in McPherson County, Kansas, said strip being all of that certain strip of land conveyed by Warranty Deed dated August 30, 1899, from Oscar Sellberg, et ux, to Union

Pacific Railroad Company recorded on March 28, 1900, in Book 48 at Page 390, McPherson County, Kansas.

Also excepting therefrom all of that certain 100 foot wide strip of land situate in the NW¼SE¼ of Section 32, Township 18 South, Range 3 West of the Sixth Principal Meridian in McPherson County, Kansas, said strip being all of that certain strip of land conveyed by Warranty Deed dated June 3, 1904, from Oscar Sellberg, et ux, to Union Pacific Railroad Company recorded on June 25, 1904, in Book 64 at Page 30, McPherson County, Kansas.

Office of Contracts & Real Estate
Omaha, Nebraska
March 8, 1996
Revised: April 29, 1997

Written by: LEF
MCPHERSN. LGL.
399-60

1400
Lynn Peters
Box 239
McPherson, KS

JOINT TENANCY WARRANTY DEED
(KANSAS STATUTORY WARRANTY FORM)

6

Richard L. Howse, A single Person

CONVEY(S) and WARRANT(S) TO

Joseph H. Ledell, Jr. and Sharon K. Ledell, husband and wife

ENTERED IN TRANSFER RECORD IN
MY OFFICE THIS 16 DAY
OF Dec A.D. 1997
D. M. P. M. M. M.
CO. CLERK

as JOINT TENANTS and not as tenants in common, with full rights of survivorship, the whole estate to vest in the survivor in the event of the death of either, all the following described REAL ESTATE in the County of McPherson and the State of Kansas, to-wit:

The South Half of the Northeast Quarter (S 1/2 NE 1/4) of Section Thirty-two (32), Township Eighteen (18) South, Range Three (3) West of the Sixth Principal Meridian, Subject to Railroad right-of-way, and except a tract of Land described as follows: Beginning on the East line of the right-of-way of Salina and South Western Railway Company 16 1/2 feet North of the South line of the NE 1/4 of said Section 32, Thence East 100 feet, thence in a Northerly direction parallel to right-of-way 379 1/2 feet, thence West 100 feet to right-of-way of said Salina and South Western Railway Company, thence South along said right-of-way 379 1/2 feet to the point of beginning, McPherson County, Kansas.

for the sum of TEN DOLLARS AND 00 CENTS and other good and valuable consideration

EXCEPT AND SUBJECT TO:

Easements and Restrictions of Record, if any.

DATED: December 9, 1997

Richard L. Howse
Richard L. Howse

STATE OF KANSAS, RILEY COUNTY, ss:

BE IT REMEMBERED, that on this 9th day of December A.D. 1997, before me, the undersigned, a notary public in and for the County and State aforesaid, came

Richard L. Howse, A single Person

STATE OF Kansas)
McPherson) ss.
County,)

This instrument was filed for record on the
11 day of Dec, A.D., 1997
at 9:30 o'clock A M., and duly
recorded in book 248 of Deeds
at page 206.

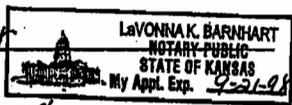
who is personally known to me to be the same person who executed the within instrument of writing and such person duly acknowledged the execution of the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal, the day and year last above written.

Linda K. Paul
Register of Deeds.
Debbie Harter
Deputy.

Fees, \$ 6.00
alot

Linda K. Paul



Term expires: 9-21-98

JOINT TENANCY WARRANTY DEED
(KANSAS STATUTORY WARRANTY FORM)

5

Russell R. Howse and Nancy L. Howse, Husband and Wife

ENTERED IN TRANSFER RECORD IN
MY OFFICE THIS 16 DAY
OF Dec A.D. 1997
DO-CLERK

CONVEY(S) and WARRANT(S) TO

Joseph H. Ledell, Jr. and Sharon K. Ledell, husband and wife

as JOINT TENANTS and not as tenants in common, with full rights of survivorship, the whole estate to vest in the survivor in the event of the death of either, all the following described REAL ESTATE in the County of McPherson and the State of Kansas, to-wit:

The South Half of the Northeast Quarter (S 1/2 NE 1/4) of Section Thirty-two (32), Township Eighteen (18) South, Range Three (3) West of the Sixth Principal Meridian, subject to Railroad right-of-way, and except a tract of land described as follows:

Beginning on the East line of the right-of-way of Salina and South Western Railway Company 16 1/2 feet North of the South line of the NE 1/4 of said Section 32, thence East 100 feet, thence in a Northerly direction parallel to right-of-way 379 1/2 feet, thence West 100 feet to right-of-way of said Salina and South Western Railway Company, thence South along said right-of-way 379 1/2 feet to the point of beginning, McPherson County, Kansas.

for the sum of TEN DOLLARS AND 00 CENTS and other good and valuable consideration

EXCEPT AND SUBJECT TO:

Easements and Restrictions of Record, if any.

DATED: December 8, 1997

STATE OF KANSAS, RILEY COUNTY, ss:

BE IT REMEMBERED, that on this 8th day of December A.D. 1997, before me, the undersigned, a notary public in and for the County and State aforesaid, came

Russell R. Howse and Nancy L. Howse, Husband and Wife

Russell R. Howse
Russell R. Howse
Nancy L. Howse
Nancy L. Howse

who are personally known to me to be the same persons who executed the within instrument of writing and such persons duly acknowledged the execution of the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal, the day and year last above written.

Donna T. Seidler
Donna T. Seidler

STATE OF Kansas 6673) X
McPherson County,) ss.

This instrument was filed for record on the

11 day of Dec, A.D., 1997.

at 9:25 o'clock A M., and duly

recorded in book 248 of Deeds

at page 205.

Linda K. Paul
Register of Deeds.
Debbie Hartor
Deputy.

W-100 6-6-97

ENTERED IN TRANSFER RECORD IN
MY OFFICE THIS 16 DAY
OF Dec 1997
CO. CLERK

4

CONSERVATORS DEED

THIS INDENTURE made this 8th day of December, 1997 by and between The Trust Company of Manhattan duly appointed Conservator of Ardis M. Howse/^{widow} and Joseph H. Ledell, Jr. and Sharon K. Ledell, husband and wife, as joint tenants with the right of survivorship and not as tenants in common, as Grantees.

Grantor, by virtue of an Order authorizing the sale of real estate issued by the District Court of Riley County, Kansas, on the 25th day of June, 1997, having sold the real estate hereinafter described, in compliance with said order, and being duly confirmed as provided by law, in consideration of the sum of Seventy Three Thousand One Hundred and Fifty Dollars and zero cents (\$73,150.00), which is not less than three-fourths of the appraised value of the real estate hereinafter described, does by these presents grant, bargain, sell, and convey to Joseph H. Ledell, Jr. and Sharon K. Ledell as joint tenants with the right of survivorship and not as tenants in common, their heirs and assigns, the right, title and interest of Ardis M. Howse/^{widow} discharged from all liability for her debts, in and to the following-described real estate located in McPherson County, Kansas:

The South Half of the Northeast Quarter (S/2 NE/4) of Section Thirty-Two (32), Township Eighteen (18) South, Range Three (3) West of the Sixth Principal Meridian except the right of way of the Union Pacific Railroad Company, formerly the Salina and South Western Railway Company and except a tract of land described as follows: Beginning on the East line of the right of way of the Salina and South Western Railway Company 16 1/2 feet North of the South line of the NE/4 Section 32, thence East 100 feet, thence in a Northerly direction parallel to the right of way 379 1/2 feet, thence West 100 feet to the right of way of the Salina and South Western Railway Company, thence South along said right of way 379 1/2 feet to place of beginning, McPherson County, Kansas.

TO HAVE AND HOLD the above-described real estate, together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining, forever.

IN WITNESS WHEREOF, Grantor has hereunto set its hand this 8th day of December, 1997.

[Signature]
THE TRUST COMPANY OF MANHATTAN,
Conservator of Ardis M. Howse
BY: DOUGLASS R. WILEY, Vice-President &
Trust Officer

STATE OF KANSAS, COUNTY OF RILEY, SS:

BE IT REMEMBERED that on this 8th day of December, 1997 before me, the undersigned, a notary public in and for the county and state aforesaid, came Douglass R. Wiley, Vice-President and Trust Officer of The Trust Company of Manhattan, Conservator of Ardis M. Howse/^{widow} who is personally known to me to be the same person who executed the above Conservator's Deed and such person duly acknowledged the execution of the same.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal the day and year last above written.

NOTARY PUBLIC - State of Kansas
CAROL J. HANSON
My Appt. Exp. 4-14-98

My appointment expires:

April 14, 1998

[Signature]
NOTARY PUBLIC
Carol J. Hanson

6672 x
State of Kansas, McPherson Co. SS

This instrument was filed for record
on the 11 day of Dec A.D., 1997
at 9:20 o'clock A.M., and duly recorded
in book 248 on page 204
Linda K. Paul
Register of Deeds
Debra Oster
Deputy

600
alast

ENTERED IN TRANSFER RECORD IN
MY OFFICE THIS 16 DAY
OF Dec. A.D. 19 97
CO. CLERK

6670 X
State of Kansas, McPherson Co. BS
This instrument was filed for record
on the 11 day of Dec. A.D. 19 97
at 9:10 o'clock A.m. and duly recorded
in book 248 on page 203
Linda K Paul
Register of Deeds
Debbie Hartor
Deputy

QUIT CLAIM DEED

Harry Ledell, a single person,

QUIT CLAIMS TO

Joseph H. Ledell, Jr. and Sharon K. Ledell, husband and wife, as JOINT TENANTS and not as tenants in common, with full rights of survivorship, the whole estate to vest in the survivor in the event of the death of either,

all of his right, title and interest in and to the following described real estate located in McPherson County, Kansas:

North Half of the Northeast Quarter (N 1/2 NE 1/4) of Section Thirty-two (32), Township Eighteen (18) South, Range Three (3) West of the Sixth Principal Meridian, subject to Railroad right-of-way, and except a tract of land described as follows:

Beginning at the Northwest corner of the NE 1/4 of said Section 32; thence East along the Section line 499.7 feet to the West line of the right-of-way of the Union Pacific Railroad; thence Southwesterly along the West line of said Railroad right-of-way 438.0 feet; thence Northwesterly 441.6 feet to a point on the Quarter Section line dividing the NE 1/4 and the NW 1/4 of said Section 32, which point is 387.0 feet South of the point of beginning; thence North to the point of beginning, McPherson County, Kansas;

"Pursuant to K.S.A. 79-1437, a Real Estate Sales Validation Questionnaire is not required due to Exception No. 12."

EXCEPT AND SUBJECT TO: Easements, restrictions and reservations of record, if any.

FOR AND IN CONSIDERATION of the sum of One Dollar (\$1.00) and termination of life estate and mineral reservation.

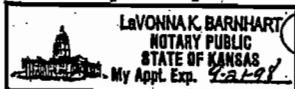
DATED this 9th day of December, 1997.

Harry Ledell
Harry Ledell

STATE OF KANSAS, COUNTY OF MCPHERSON, SS:

BE IT REMEMBERED, that on this 9th day of December, 1997, before me, the undersigned, a Notary Public, duly commissioned in and for the county and state aforesaid, came Harry Ledell, a single person, who is personally known to me to be the same person who executed the within instrument of writing and such person duly acknowledged the execution of the same.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal on the day and year last above written.



LaVonna K. Barnhart
LaVonna K. Barnhart
Notary Public

My commission expires: September 21, 1998

600
2/1/98

RIGHT-OF-WAY-EASEMENT

KNOW ALL MEN BY THESE PRESENTS, that Charles Houchen and Betty Jo Houchen, husband and wife, hereinafter called Grantors, in consideration of one dollar (\$1.00) and other good and valuable consideration paid by Rural Water District No. 6, hereinafter called the Grantee, the receipt and sufficiency of which is hereby acknowledged, does hereby grant, bargain, sell, transfer, and convey to said Grantee, its successors, and assigns, a perpetual easement with the right to erect, construct, install and lay and thereafter use, operate, inspect, repair, maintain, replace and remove over and across the following land owned by Grantors in McPherson County, Kansas:

See attached Exhibit A.

Together with the right of ingress and egress over Grantors' adjacent lands for the purposes for which the above-mentioned rights are granted. The easement hereby granted shall not exceed thirty feet (30') in width, the centerline thereof to be located across said land as finally laid and installed.

The consideration recited herein shall constitute payment in full for all damages sustained by Grantors by reason of the installation of the structures referred to herein and the Grantee will maintain such easement in a state of good repair and efficiency so that no unreasonable damages will result from its use of Grantors' premises. This Agreement together with other provisions of this grant shall constitute a covenant running with the land for the benefit of the Grantee, its successors, and assigns. The Grantors covenant that they are the owners of the above-described lands and that said lands are free and clear of all encumbrances and liens except the following: _____.

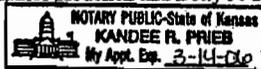
IN WITNESS WHEREOF, the said Grantors have executed this instrument this 25th day of June, 2002.

Charles R Houchen
Charles Houchen, Grantor

Betty Jo Houchen
Betty Jo Houchen, Grantor

STATE OF KANSAS, COUNTY OF MCPHERSON: ss.

This instrument was acknowledged before me on June 25, 2002, by Charles Houchen and Betty Jo Houchen, husband and wife, Grantors.



My appointment expires: 3-14-06

Kande R. Prieb
Notary Public 1600

State of Kansas, McPherson Co. SS

This instrument was filed for record on the 4 day of June, A.D., 2002

at 11:10 o'clock A. m., and duly recorded in book 71-318, on page 213-214

Linda S. Paul
Register of Deeds

Debbie Hite
Deputy

Exhibit A.

A tract of land in the Northeast Quarter (NE/4), Section Thirty-two (32), Township Eighteen (18), Range Three (3), West of the Sixth Principal Meridian, described as follows:

Beginning at the Northwest corner of the NE 1/4 of said Section 32; thence East along the Section line 499.7 feet to the West line of the right-of-way of the Union Pacific Railroad; thence Southwesterly along the West line of said Railroad right-of-way 438.0 feet; thence Northwesterly 441.6 feet to a point on the Quarter Section line dividing the NE 1/4 and the NW 1/4 of said Section 32, which point is 387.0 feet South of the point of beginning; thence North to the point of beginning, McPherson County, Kansas;

414

DUPLICATE ORIGINAL

[McPherson County, Kansas]

2114
 State of Kansas, McPherson Co., SS:
 This instrument was filed for record
 on the 27th day of March A.D., 2003
 at 10:55 o'clock A.M., and duly recorded
 in book 77-318 on page 414-452
[Signature]
 Register of Deeds

PERPETUAL EASEMENT DEED

THIS EASEMENT DEED, made as of the 30th day of September, 2002, by UNION PACIFIC RAILROAD COMPANY, a Delaware corporation, having an office at 1416 Dodge Street, Omaha, Nebraska 68719, Grantor, AT&T CORP., Grantee, a New York corporation, having an office at 1200 Peachtree Street, N.E., Promenade One - Room 2015, Atlanta, GA 30309.

WITNESSETH, that Grantor and Grantee have entered into an Easement Agreement dated as of February 25, 1988 (hereinafter the "Agreement") whereby Grantor has granted to Grantee rights to construct, operate, maintain and replace a telecommunications transmission system on the property of the Grantor under the terms, provisions, and conditions contained in the Agreement, one of which is that Grantor shall grant to Grantee a perpetual easement in the form of this deed, the covenants of which touch and concern the land encumbered by this deed.

NOW, THEREFORE, for and in consideration of Ten Dollars (\$10.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration, Grantor, by these presents does hereby grant to Grantee a PERPETUAL EASEMENT as set forth in the Agreement in the locations situated in the County of McPherson, State of Kansas, as more particularly described in Pages 7-15 of Exhibit "A", attached hereto and by this reference made a part hereof.

IN WITNESS WHEREOF, the Grantor has caused these presents to be signed by its Vice President - Law and attested by its Assistant Secretary and its corporate seal to be hereunto affixed as of the day and year first herein written.

UNION PACIFIC RAILROAD COMPANY,

By J. Michael Hemmer
 Title: Vice President - Law
 J. MICHAEL HEMMER

Attest:



Exhibit "B"

Description of a Perpetual Easement granted to AT&T Corp from Union Pacific Railroad dated September 30, 2002 and more particularly described in Exhibit "A".

The said Easement being located in and a part of the following Sections in McPhearson County, Kansas:

- ✓ NE 1/4 Sec 3, T17S, R3W
- ✓ NW 1/4 Sec 3, T17S, R3W
- ✓ SW 1/4 Sec 3, T17S, R3W
- ✓ SE 1/4 Sec 4, T17S, R3W
- ✓ NE 1/4 Sec 9, T17S, R3W
- ✓ NW 1/4 Sec 9, T17S, R3W
- ✓ SW 1/4 Sec 9, T17S, R3W
- ✓ SE 1/4 Sec 8, T17S, R3W
- ✓ NE 1/4 Sec 17, T17S, R3W
- ✓ SE 1/4 Sec 17, T17S, R3W
- ✓ NE 1/4 Sec 20, T17S, R3W
- ✓ SE 1/4 Sec 20, T17S, R3W
- ✓ NE 1/4 Sec 29, T17S, R3W
- ✓ SE 1/4 Sec 29, T17S, R3W
- ✓ SW 1/4 Sec 29, T17S, R3W
- ✓ NW 1/4 Sec 32, T17S, R3W
- ✓ SW 1/4 Sec 32, T17S, R3W
- ✓ NW 1/4 Sec 5, T18S, R3W
- ✓ SW 1/4 Sec 5, T18S, R3W
- ✓ NW 1/4 Sec 8, T18S, R3W
- ✓ SW 1/4 Sec 8, T18S, R3W
- ✓ SE 1/4 Sec 8, T18S, R3W
- ✓ NE 1/4 Sec 17, T18S, R3W
- ✓ SE 1/4 Sec 17, T18S, R3W
- ✓ NE 1/4 Sec 20, T18S, R3W
- ✓ SE 1/4 Sec 20, T18S, R3W
- ✓ NE 1/4 Sec 29, T18S, R3W
- ✓ SE 1/4 Sec 29, T18S, R3W
- ✓ NE 1/4 Sec 32, T18S, R3W
- ✓ SE 1/4 Sec 32, T18S, R3W
- ✓ NE 1/4 Sec 5, T19S, R3W
- ✓ SE 1/4 Sec 5, T19S, R3W
- ✓ SW 1/4 Sec 5, T19S, R3W
- ✓ NW 1/4 Sec 8, T19S, R3W
- ✓ SW 1/4 Sec 8, T19S, R3W
- ✓ NW 1/4 Sec 17, T19S, R3W
- ✓ SW 1/4 Sec 17, T19S, R3W
- ✓ NW 1/4 Sec 20, T19S, R3W

AUG 25 2005 1:48PM

No. 2761

P. 2

DO NOT FURNISH

01066271
54023 & 50831

GENERAL WARRANTY DEED

(Following Kansas Statutory Warranty Form)

This 6 day of October 2003

Jeff W. Foster and Sara K. Foster, husband and wife

CONVEY(S) AND WARRANT(S) TO

Foster Farms, a Kansas partnership

State of Kansas, McPherson Co., KS
This instrument was filed for record
on the 7 day of Oct, A.D. 2003
in 2003 book 200, and duly recorded
in book 200 on page 221-224
[Signature]
Register of Deeds

7813K

their heirs and assigns, all the following described REAL ESTATE in the County of
McPherson State of Kansas, to-wit:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

ENTERED IN TRANSFER RECORD IN
MY OFFICE THIS 14 DAY
OF October, A.D. 2003
[Signature]
CLERK

Pursuant to K.S.A. 79-1437 a Real Estate Validation
Questionnaire is not required due to exception No. 3.

for the sum of One Dollar and other Valuable Consideration and creation of partnership

EXCEPT AND SUBJECT TO:

Easements, Restrictions and Reservations of record, if any.

[Signature]
Jeff W. Foster

[Signature]
Sara K. Foster

STATE OF KANSAS, McPherson COUNTY, ss.

BE IT REMEMBERED, That on this 6 day of October, A.D. 2003, before me, the
undersigned, a Notary Public in and for the County and State aforesaid, came:

Jeff W. Foster and Sara K. Foster, husband and wife

who is/are personally known to me to be the same person(s) who executed the within instrument of writing and such
person(s) acknowledged the execution of the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal, the day and year last above written.

Term Expires _____ *[Signature]* Notary Public



EXHIBIT A

FILE: 01066271
PIN No.: 54023 & 50831

PARCEL I:

✓ Lot Four (4), Block Ninety (90), Original Town Site, McPherson, McPherson County, Kansas, according to the recorded plat thereof. (206 South Main)

PARCEL II:

✓ West 67 feet of Lots One (1) and Two (2) Block Eighty (80), Original Town Site, McPherson, McPherson County, Kansas, according to the recorded plat thereof. (211 West Kansas)

PARCEL III:

✓ Northwest Quarter of the Northeast Quarter (NW 1/4 NE 1/4) of Section Thirty-one (31), Township Eighteen (18) South, Range Three (3) West of the Sixth Principal Meridian, McPherson County, Kansas.

AND

✓ East Half of the Northeast Quarter (E 1/2 NE 1/4) of Section Thirty-one (31), Township Eighteen (18) South, Range Three (3) West of the Sixth Principal Meridian, EXCEPT a tract described as follows:

Beginning at the Southeast corner of the NE 1/4 of said Section 31, thence West along the South line of said NE 1/4 747.10 feet, thence with a deflection angle 134 degrees 52 minutes 16 seconds right-Northeast 1054.18 feet to the East line of said NE 1/4, thence with a deflection angle 134 degrees 52 minutes 16 seconds right-South along the East line of said NE 1/4 747.10 feet to the point of beginning, in McPherson County, Kansas. (Hilton West)

PARCEL IV:

✓ Northwest Quarter (NW 1/4) of Section Thirty-two (32), Township Eighteen (18) South, Range Three (3) West of the Sixth Principal Meridian, EXCEPT a tract described as follows:

Beginning at the Northwest corner of the NW 1/4 of said Section 32, thence East along the North line of said NW 1/4 770.89 feet, thence with a deflection angle 133 degrees 52 minutes 57 seconds right-Southwest 1114.10 feet to a point on the West line of said NW 1/4 that is 803.00 feet South of the Northwest corner of said NW 1/4, thence with a deflection angle 136 degrees 12 minutes 58 seconds right-North along the West line

Continued on next page
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EXHIBIT A

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of said NW 1/4 803.00 feet to the point of beginning, in McPherson County, Kansas. (Hilton East)

PARCEL V:

✓ Southwest Quarter (SW 1/4) of Section Eleven (11), Township Nineteen (19) South, Range Four (4) West of the Sixth Principal Meridian, EXCEPT a tract described as follows:

Beginning at the Southwest corner of the SW 1/4 of said Section 11, thence with an assumed bearing of North 00 degrees 14 minutes 33 seconds West along the West line of said SW 1/4 400.00 feet; thence South 89 degrees 48 minutes 59 seconds East parallel with the South line of said SW 1/4 332.00 feet; thence South 41 degrees 36 minutes 41 seconds East 496.27 feet to a point that is 30.00 feet North of the South line of said SW 1/4; thence South 00 degrees 14 minutes 33 seconds East parallel with the West line of said SW 1/4 30.00 feet to the South line of said SW 1/4; thence North 89 degrees 48 minutes 59 seconds West along the South line of said SW 1/4 660.00 feet to the point of beginning, McPherson County, Kansas. (Kubin)

PARCEL VI:

✓ Southeast Quarter (SE 1/4) of Section Ten (10), Township Nineteen (19) South, Range Four (4) West of the Sixth Principal Meridian, McPherson County, Kansas. (Writsler)

PARCEL VII:

✓ Northeast Quarter (NE 1/4) of Section Twenty-six (26) Township Eighteen (18) South, Range Two (2) West of the Sixth Principal Meridian, McPherson County, Kansas. (Goering/Krabbiel pasture)

PARCEL VIII:

✓ Southeast Quarter (SE 1/4) of Section Twenty-four (24), Township Twenty (20) South, Range Four (4) West of the Sixth Principal Meridian, EXCEPT a tract described as follows:

Commencing at the Southeast corner of the SE 1/4 of said Section 24; thence West along the South line of said SE 1/4 599.00 feet for a point of beginning; thence continuing West along said section line 278.00 feet; thence with a deflection angle 90 degrees 00 minutes 00 seconds right-North 623.00 feet;

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EXHIBIT A

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thence with a deflection angle 90 degrees 00 minutes 00 seconds
right-East 278.00 feet; thence with a deflection angle 90
degrees 00 minutes 00 seconds right-South 623.00 feet to the
point of beginning, McPherson County, Kansas. (Goering)

PARCEL IX:

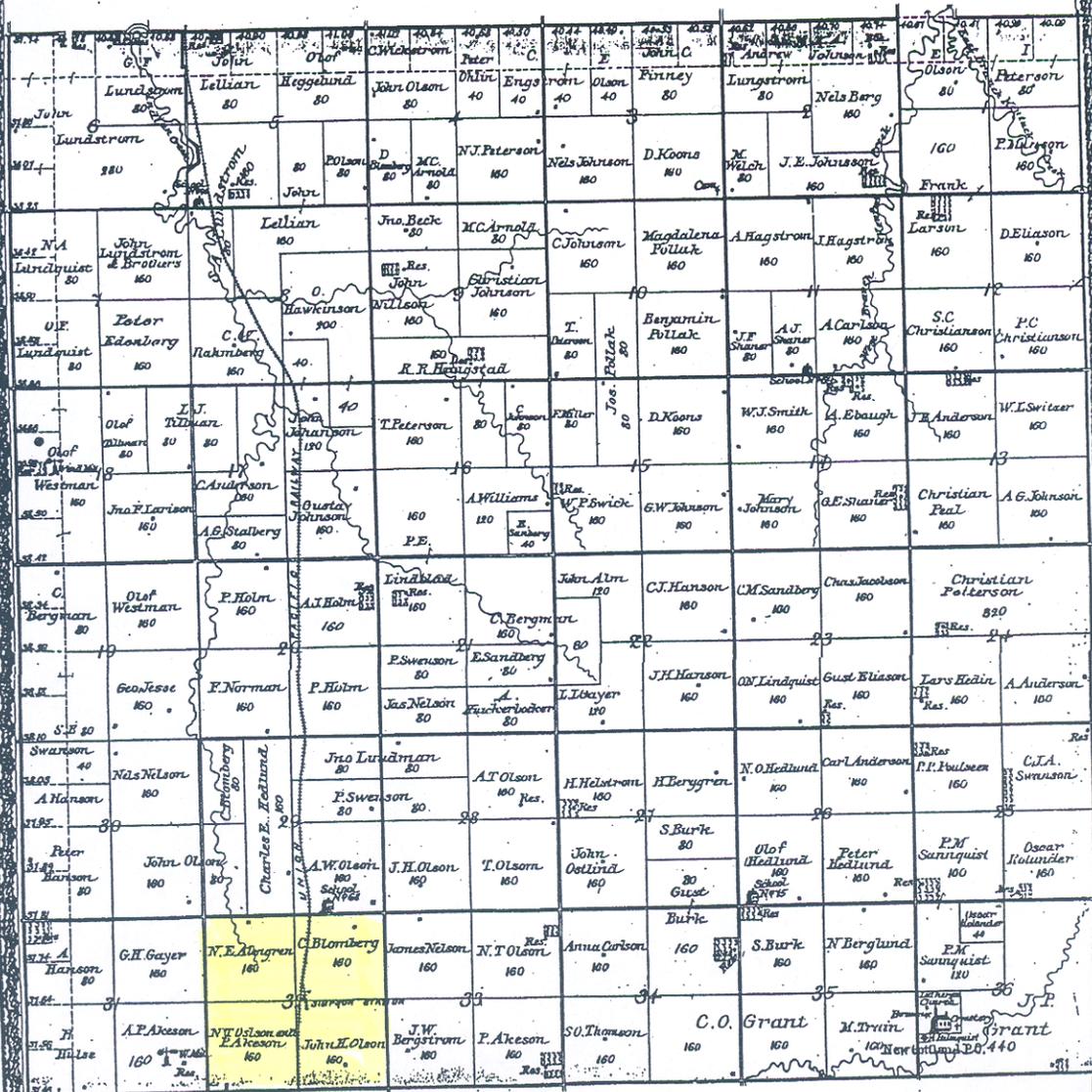
All of Grantors Equitable Interest in and to:

✓ Southwest Quarter of the Northeast Quarter (SW 1/4 NE 1/4) of
Section Thirty-one (31), Township Eighteen (18) South, Range
Three (3) West of the Sixth Principal Meridian, McPherson
County, Kansas. (Johnson 40)

3rd Dist

NEW GOTTLAND

T. 19. S. R. 2. W.
Scale in inches - 1 mile.



131.54
54.00

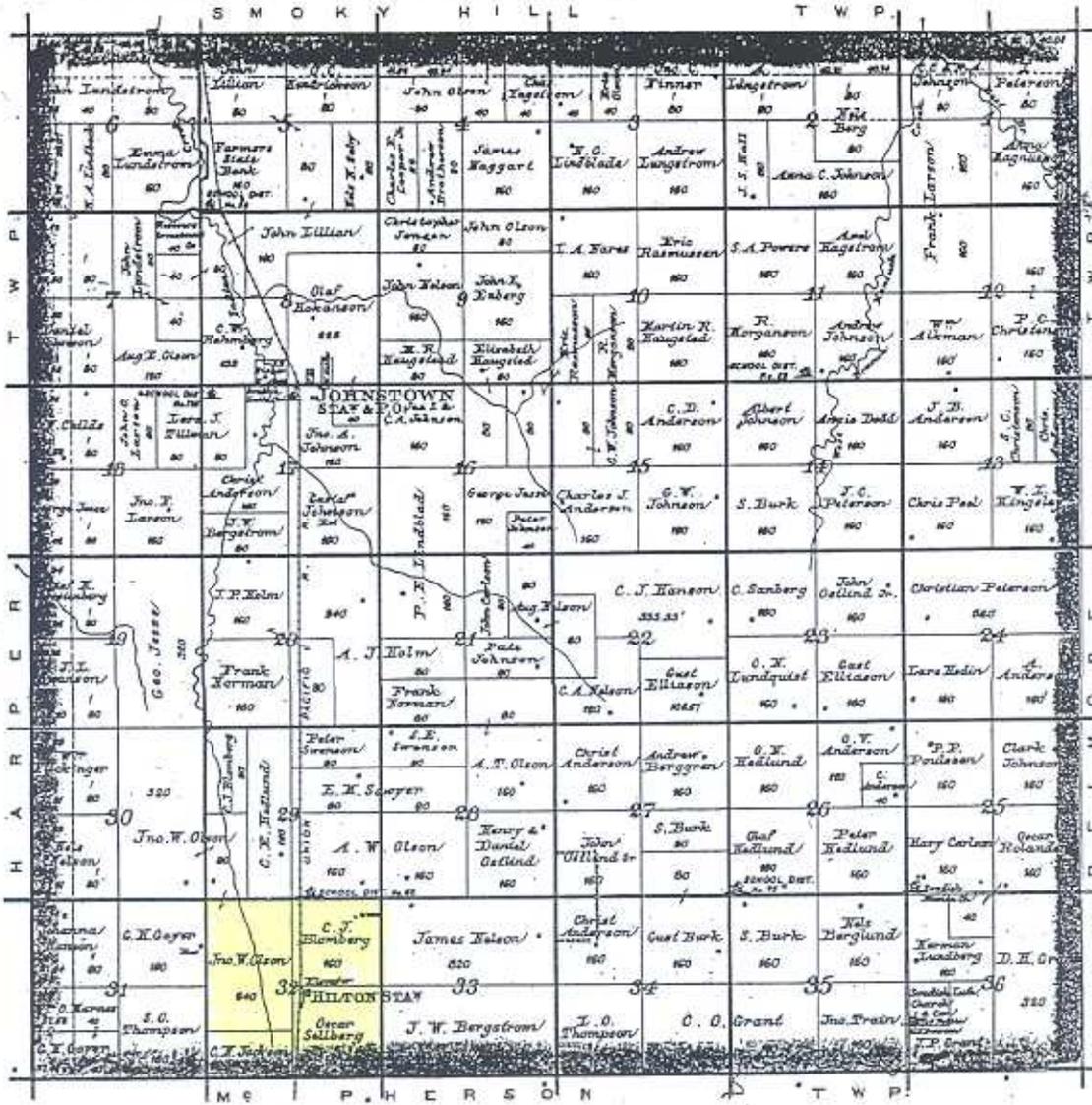
1903

PLAT OF
NEW GOTTLAND

Scale 2 Inches to the Mile.

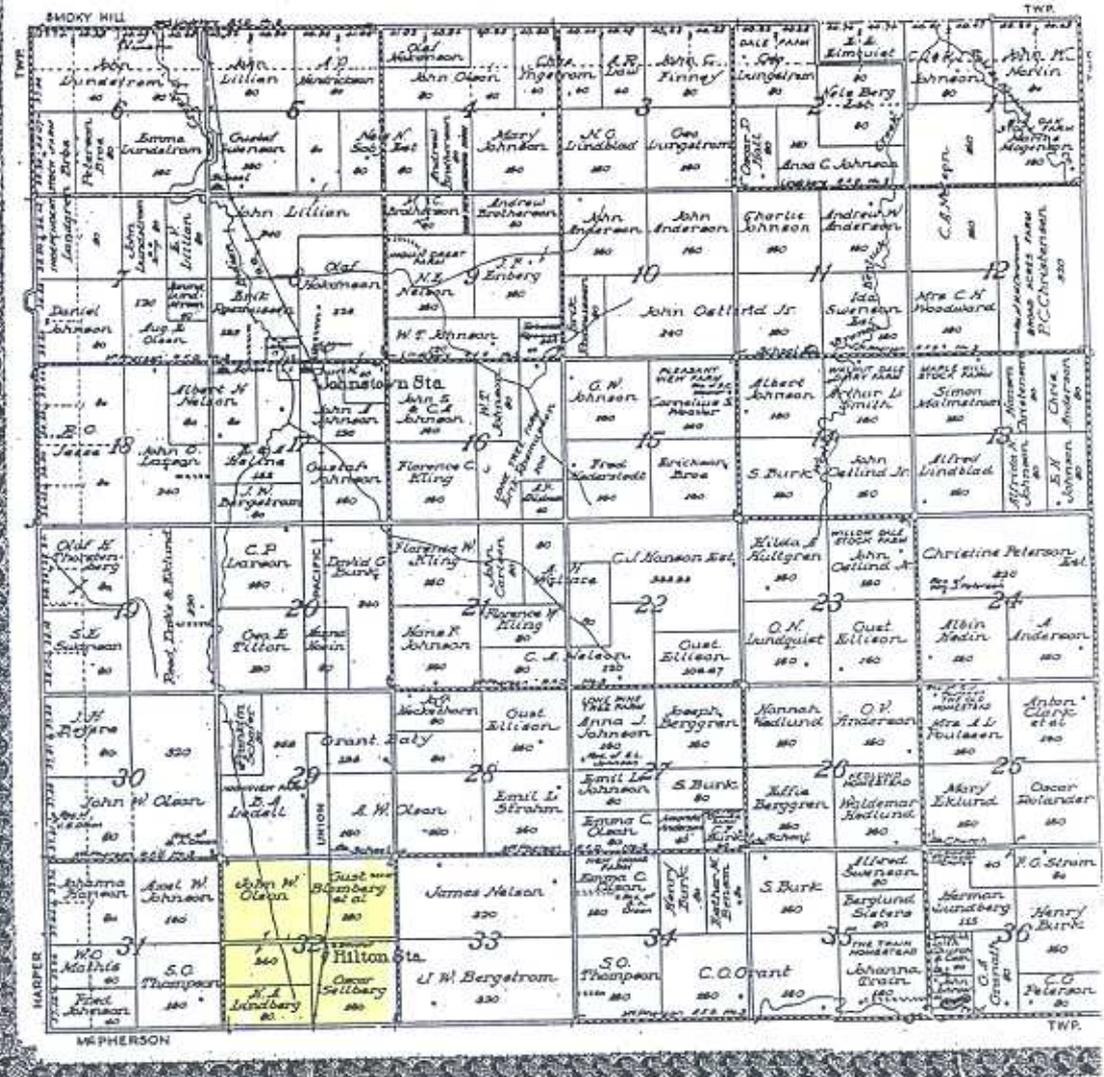
Township 18 South, Range 3 West.

of the 6th Principal Meridian



MAP OF
NEW GOTTLAND
TOWNSHIP
 Scale 2 inches to 1 mile

Township 18 South Range 3 West of the 6th P.M.



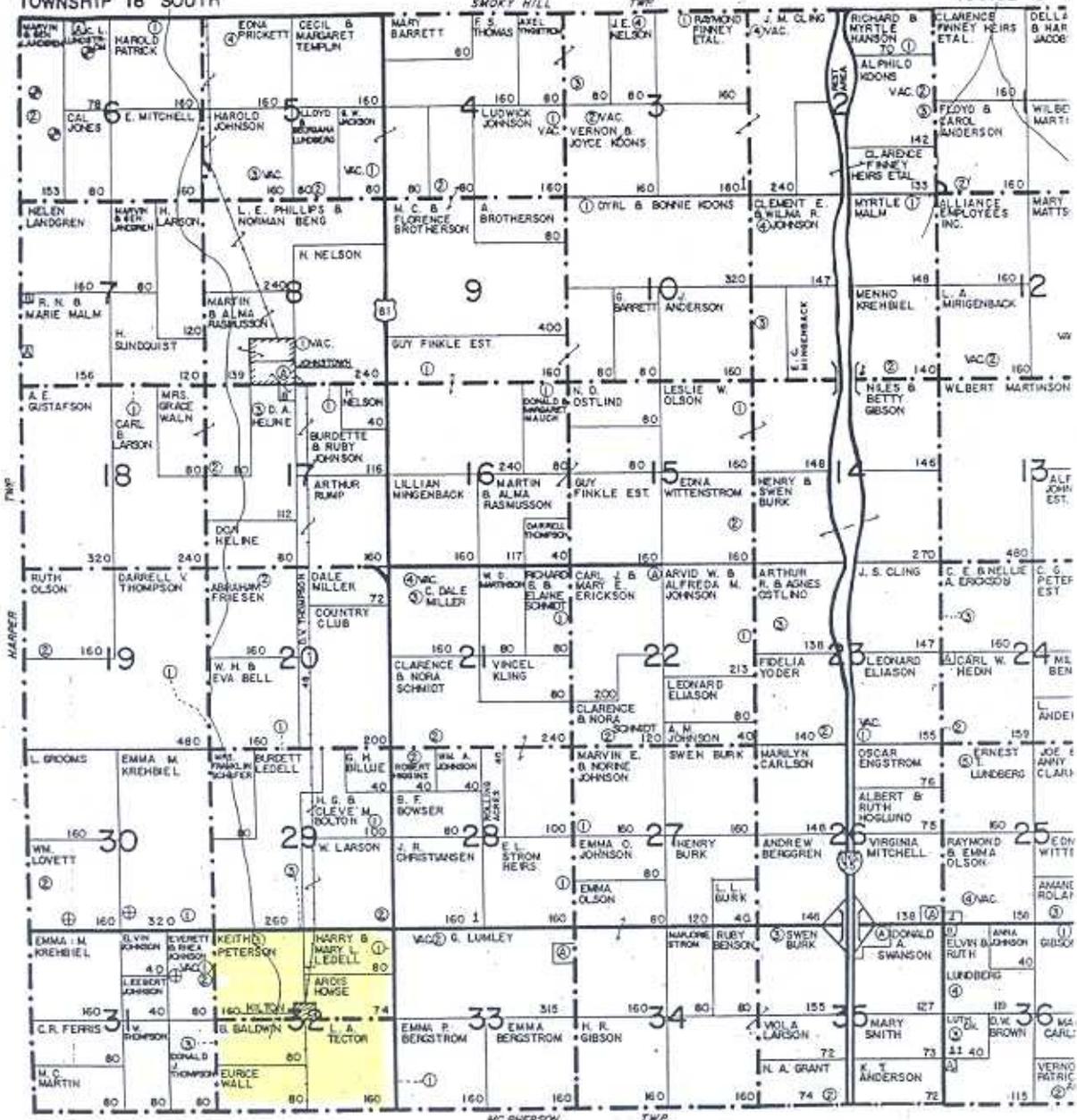
1969

NEW GOTTLAND CODE-H

TOWNSHIP 18 SOUTH

SMOKY HILL TWP

RANGE 3 1



SMALL TRACT OWNERS

SEC.	TRACT	OWNER	ACRES	SEC.	TRACT	OWNER	ACRES
1	A	HENRY & DOBA LEA BURER	94.78	31	A	BEAT & LOUISE ABELL	34.90
7	A	WILKINSON & WILKINSON MALK	72.99	31	A	MELVIN & NEVA LOSLAND	66.90
7	B	PAGE & GEORGE MALK	68.90	31	A	LE ROY & MARY ANN ERICSSON	35.90
8	A	R. H. & MARIE K. MALK	19.99	31	A	EMMA BENTON	61.91
11	B	LELAND & EVEL JOHNSON (CHILDREN)	81.94	31	B	JOHN T., JR. & THORNA LYMAK	60.90
33	A	NEW GOTTLAND COVENANT GEORGE					



McPHERSON COUNTY

MAPPING DEPARTMENT

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Cartographer

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McPHERSON COUNTY

SUSAN R. HENSON MENG
McPherson County Clerk

smeng@mcphersoncountyks.us

P.O. Box 425

McPherson, KS 67460

820-241-3856

McPherson County
Government Website

mcphersoncountyks.us

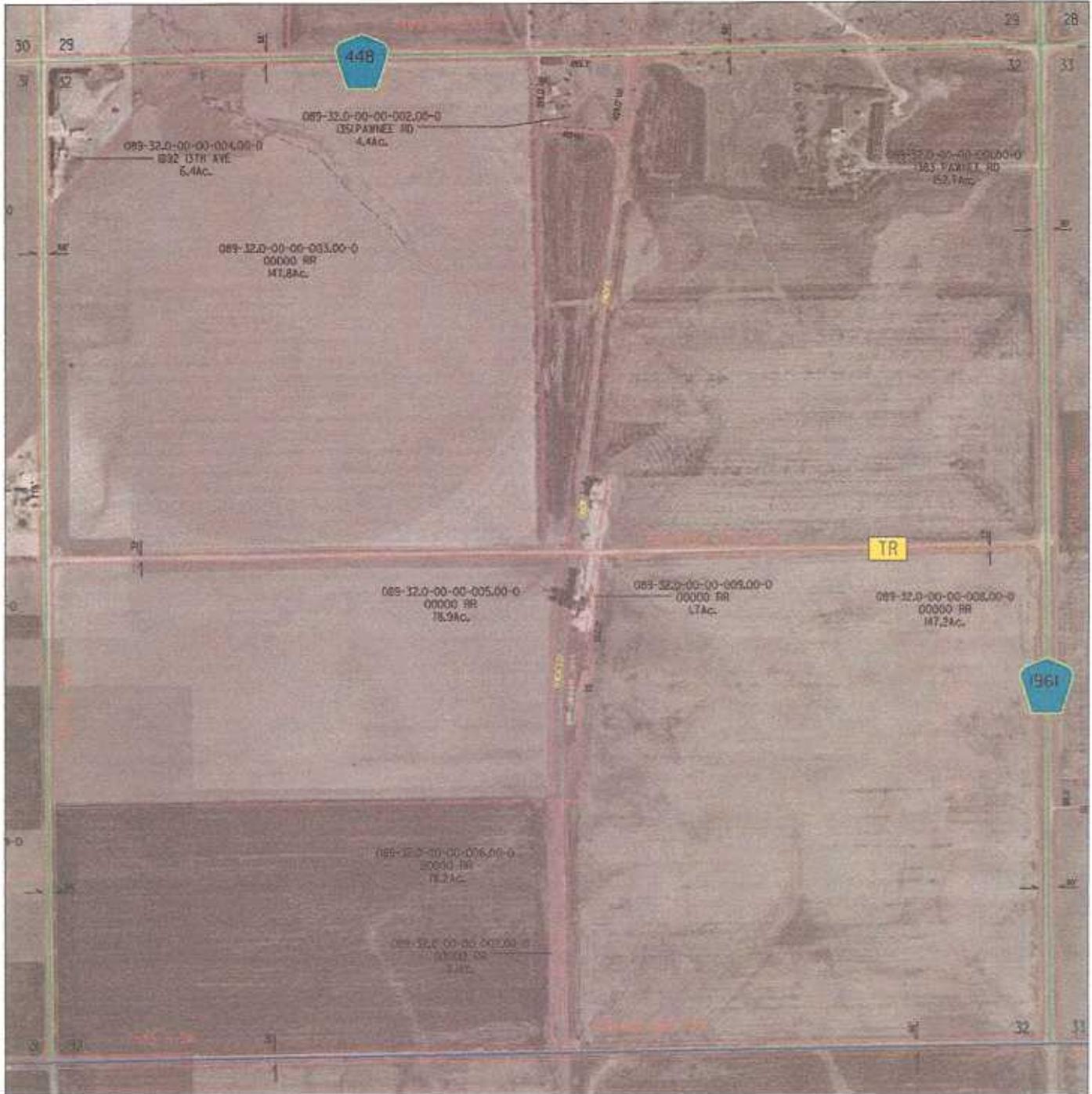
It's user friendly and very informational!

MCPHERSON COUNTY, KANSAS PARCEL IDENTIFICATION REPORT

THIS INFORMATION HAS BEEN COMPILED FOR AD VALORUM TAX PURPOSES ONLY

	SITE ADDRESS	OWNER ADDRESS
PARC_NO 089-32.0-00-00-001.00-0 TAX DIST 101 SCH DIST 418 SEC 32 TWN 18 RNG 3	1383 PAWNEE RD	LEDELL, JOSEPH H JR & SHARON K 1383 PAWNEE RD MCPHERSON KS 67480
LT # BLK # SUBD	<u>NE4 LESS ROW & EX TR CA NW/C</u> <u>'(S) WLY481'(S) N391'(S) TO PO</u>	<u>NE4 FOR POB TH E541'(S) SLY442</u> <u>B & THAT PART VAC RAILROAD</u>
BK/PG #1 D248 / 202+ BK/PG #2 D221 / 700 BK/PG #3 M271 / 221 BK/PG #4 D188 / 233		
PARC_NO 089-32.0-00-00-002.00-0 TAX DIST 101 SCH DIST 418 SEC 32 TWN 18 RNG 3	1351 PAWNEE RD	HOUCHEN, CHARLES R & BETTY JO 1351 PAWNEE RD MCPHERSON KS 67480
LT # BLK # SUBD	<u>CA NW/C NE4 FOR POB TH E499.7'</u> <u>LRY438' NWLY441.6' TO PT 387'S</u>	<u>TO WLRY UNION PACIFIC SW ALG W</u> <u>OF POB TH N TO POB LESS ROW &</u>
BK/PG #1 D188 / 411 BK/PG #2 / BK/PG #3 / BK/PG #4 /		
PARC_NO 089-32.0-00-00-003.00-0 TAX DIST 101 SCH DIST 418 SEC 32 TWN 18 RNG 3	00000 RR	FOSTER FARMS PO BOX 423 MCPHERSON KS 67480
LT # BLK # SUBD	<u>CA NE/C NW4 FOR POB TH S2607'</u> <u>TO POB</u>	<u>W2607' N1837' NELY1068' E1869'</u>
BK/PG #1 D263 / 231 BK/PG #2 D251 / 315 BK/PG #3 D251 / 313 BK/PG #4 M289 / 112		
PARC_NO 089-32.0-00-00-004.00-0 TAX DIST 101 SCH DIST 418 SEC 32 TWN 18 RNG 3	1892 13TH AVE	JOHNSON, GLENN A & DIANE K 1892 13TH AVE MCPHERSON KS 67480
LT # BLK # SUBD	<u>CA NW/C NW4 TH 33' E & 33'S FO</u> <u>783' TO POB</u>	<u>R POB TH E 737.8' SWLY 1094' N</u>
BK/PG #1 D215 / 293 BK/PG #2 / BK/PG #3 / BK/PG #4 /		

		SITE ADDRESS	OWNER ADDRESS
PARC_NO	089-32.0-00-00-005.00-0	00000	TOLL, IONE
TAX DIST	101 SCH DIST 418	RR	
SEC 32	TWN 18 RNG 3		2510 8TH AVE LINDSBORG KS 67456
LT #		<u>N2SW4 & N2SE4 LYING W OF RR</u>	<u>ROW LESS ROW & THAT PART OF</u>
BLK #		<u>VACATED RAILROAD</u>	
SUBD			
BK/PG #1	D603 / 339	BK/PG #2 D603 / 289	BK/PG #3 D260 / 812 BK/PG #4 D256 / 444
PARC_NO	089-32.0-00-00-006.00-0	00000	DOSSETT, ELSIE FAM TRUST
TAX DIST	101 SCH DIST 418	RR	TTEE
SEC 32	TWN 18 RNG 3		1196 LIMESTONE MCPHERSON KS 67460
LT #		<u>S2 SW4 LESS R/W</u>	
BLK #			
SUBD			
BK/PG #1	D238 / 426	BK/PG #2 M292 / 182	BK/PG #3 D237 / 024 BK/PG #4 D212 / 650
PARC_NO	089-32.0-00-00-007.00-0	00000	LIKINS, LEROY & SHARON K
TAX DIST	101 SCH DIST 418	RR	
SEC 32	TWN 18 RNG 3		300 W NORTHVIEW MCPHERSON KS 67460
LT #		<u>S2SE4 LYING W OF RR ROW & THAT</u>	<u>PART OF VAC RAILROAD</u>
BLK #			
SUBD			
BK/PG #1	D217 / 248	BK/PG #2 /	BK/PG #3 / BK/PG #4 /
PARC_NO	089-32.0-00-00-008.00-0	00000	LEDELL, BURDETT A LIV
TAX DIST	101 SCH DIST 418	RR	TRUST - TTEE
SEC 32	TWN 18 RNG 3		1348 PAWNEE RD MCPHERSON KS 67460
LT #		<u>SE4 LYG E OF RR R/W EX TR DESC</u>	<u>AS FOL CA NW/C SE4 TH 270'E &</u>
BLK #		<u>16.5'S FOR POB TH E33' SWLY660</u>	<u>W33' NELY660' TO POB & THAT</u>
SUBD			
BK/PG #1	D257 / 367	BK/PG #2 D246 / 486	BK/PG #3 D246 / 480 BK/PG #4 94PR / 2638
PARC_NO	089-32.0-00-00-009.00-0	00000	MID KANSAS COOP ASSN
TAX DIST	101 SCH DIST 418	RR	
SEC 32	TWN 18 RNG 3		PO BOX D MOUNDRIDGE KS 67107
LT #		<u>CA NW/C SE4 TH 270'E & 16.5'S</u>	<u>FOR POB TH E33' SWLY660' W33'</u>
BLK #		<u>NELY660' TO POB & THAT PART OF</u>	<u>VAC RAILROAD</u>
SUBD			
BK/PG #1	D232 / 431	BK/PG #2 D206 / 167	BK/PG #3 / BK/PG #4 /





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Appendix C:

Waste Management Plan

Appendix C: Waste Management Plan

This appendix presents the environmental protection controls and performance standards enacted to ensure that environmental investigation and remediation activities do not adversely affect public health or the environment. In addition, this section discusses the mechanisms for establishing site-specific controls for each location undergoing response activities.

This section addresses only environmental protection controls and standards, not the numerous controls and standards for protecting the health and safety of site workers and the general public and for assuring the quality and accuracy of data gathered. The latter are discussed in the *Master Work Plan* (Argonne 2002).

C.1 The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and Applicable or Relevant and Appropriate Requirements

The federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or “Superfund”)¹ is the primary driver for the work addressed at former CCC/USDA facilities. CERCLA authorizes both short-term removal (emergency response) actions and long-term remediation. CERCLA specifies that response and cleanup must assure protection of health and the environment. Further, on-site remedial actions must attain (or receive waivers for) federal environmental applicable or relevant and appropriate requirements (ARARs), more stringent state environmental ARARs, and state facility siting laws.²

Compliance with ARARs derived from other environmental laws is a crucial feature of CERCLA. The ARARs identified for each site addressed under CERCLA authority provide cleanup goals and guide response implementation. Factors considered in identifying site-specific ARARs include the chemicals present, the location, the physical features, and the actions under consideration as remedies.

¹ 42 USC (United States Code) 9601 *et seq.*

² Section 121(d).

C.2 The National Oil and Hazardous Substances Pollution Contingency Plan and U.S. Environmental Protection Agency Policy

The 1990 National Oil and Hazardous Substances Pollution Contingency Plan (NCP)³ extended the requirement for compliance with ARARs to include not only long-term remedial actions, but also more immediate removal actions as practicable (considering the urgency of the situation).⁴ The NCP explicitly requires the identification of ARARs only when the response evaluation phase is reached (in the case of remediation activities, during the remedial investigation or feasibility study).⁵ As a matter of policy, the EPA has stated that treatment or disposal of investigation-derived wastes produced during response activities must ensure protection of human health and the environment and must, to the extent possible, comply with (or receive waivers for) federal and state ARARs.

C.3 Procedure for Identifying Controls and Standards

In numerous documents, the EPA has published guidance for the identification of site-specific ARARs and the subsequent determination of environmental protection controls and performance standards from the ARARs. For this investigation, federal statutes, executive orders, federal regulations, state laws, state regulations, and local ordinances were all reviewed as potential sources of necessary, reasonable, and prudent controls and standards. State laws and regulations and local ordinances were considered only when they are legally enforceable, consistently enforced, and more stringent than the corresponding federal requirements. In addition to statutes and regulations directed at protection of the environment, state laws and regulations pertaining to the siting of certain facilities were also reviewed.

In general, *applicable requirements* have basic statutory or regulatory jurisdiction, whether an activity is conducted under CERCLA or another authority. The EPA guidance defines applicable requirements as “cleanup standards, standards of control, and other

³ Published in the *Federal Register* on March 8, 1990 (55 FR 8666) and codified in Part 300 of Title 40 of the *Code of Federal Regulations* (40 CFR 300).

⁴ See NCP, 40 CFR Section 300.415(j) (55 FR 8666, 8843) and Section 300.435(b)(2) (55 FR 8666, 8852) (March 8, 1990).

⁵ 40 CFR 300.430(d)(3).

substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance present at a CERCLA site.” *Relevant and appropriate requirements*, though they are “not ‘applicable’ . . . at a CERCLA site, address problems or situations sufficiently similar . . . that their use is well suited to the particular site.”

Additional standards and controls for response activities derived from guidance or advisories issued by federal or state agencies are not legally binding, but they are defined as requirements *to be considered* in the formal ARAR process. Such standards and controls were reviewed for their usefulness in developing operating procedures or best management practices that assure compliance with federal and state regulations and protection of public health and the environment in conjunction with response activities at former CCC/USDA facilities.

Environmental protection controls and standards are classified as follows:

- **Chemical Specific.** Chemical-specific (or ambient) controls and standards are health-based or risk-based standards issued for specific chemicals or chemical families. The anticipated chemical-specific requirements applicable to the generation, management, and ultimate disposal of wastes derived from site investigations would involve carbon tetrachloride and, at some locations, nitrates. (Even though the nitrate contamination that might be encountered is not attributable to CCC/USDA activities, the presence of such contamination will establish the applicability of nitrate-specific controls in the management and disposal of wastes.)
- **Performance, Design, or Action Specific.** Performance-, design-, or action-specific requirements are applicable to the generation, management, and disposal of wastes associated with planned response activities.
- **Location Specific.** Location-specific restrictions are placed on concentrations of hazardous substances — or the conduct of activities involving those substances — solely because of the special or sensitive nature of the location involved. It is beyond the scope of this document to develop a comprehensive list of location-specific requirements. However, this document directs that a reconnaissance survey of each location be conducted before characterization

activities begin. This survey is to identify the presence of environmentally sensitive areas that could be affected by the investigation and response. Such sensitive areas include faults displaced in Holocene time; 100-yr floodplains; salt dome formations; historic properties; critical habitats upon which endangered or threatened species depend; wetlands; wilderness areas; wildlife refuges; areas immediately adjacent to streams or rivers; areas affecting national, wild, scenic, or recreational rivers; wellhead protection areas; and other sensitive areas as defined by the EPA or state authorities. In addition, the survey is to identify all requirements imposed by federal or state siting statutes and regulations.

The KDHE is the authorized state agency for developing and implementing environmental protection programs.⁶ Most Kansas environmental control programs are authorized to operate *in lieu* of their federal counterparts.

The federal and state environmental protection controls and performance standards that are applicable or relevant and appropriate to the activities anticipated at former CCC/USDA facilities are identified and analyzed in Table D.1 (at the end of this appendix).

C.4 Implementation of Controls and Standards

The application of the standards and requirements identified in Table C.1 depends on the chosen techniques for the response action, the specific location where activities will be conducted, and the chemical constituency of the resulting waste at each site. Consequently, the controls ultimately applied will be determined during the response activities at each location.

⁶ Kansas Statutes Annotated (KSA), Chapter 75, Article 56, Statute 75-5601.

C.4.1 CERCLA Wastes and the Off-Site Rule

CERCLA wastes are any hazardous substance, pollutant, or contaminant⁷ generated in the course of a response action. CERCLA wastes are subject to requirements of the Resource Conservation and Recovery Act (RCRA), Subtitle C, *if* they are listed or identified as hazardous waste or exhibit a characteristic of hazardous waste. Such wastes may be placed *only* in a facility operating in compliance with RCRA or other applicable federal or state requirements. Furthermore, CERCLA wastes may not be transferred to a land disposal facility that is releasing contaminants into the environment; releases from other waste management units must be controlled. The purpose is to avoid contributions to present or future environmental problems by CERCLA wastes from response actions authorized or funded under CERCLA. Such wastes are therefore directed to management units determined to be environmentally sound.⁸

The Off-Site Rule (OSR)⁹ regulates the off-site transfer of CERCLA wastes. The OSR establishes the following:

- Criteria and procedures for determining whether facilities are acceptable for the receipt of CERCLA wastes from response actions authorized or funded under CERCLA.
- Compliance and release criteria, along with a process for determining whether facilities are acceptable on the basis of those criteria.

The OSR applies to any remedial or removal action involving the off-site transfer of CERCLA waste, whether the action is conducted by the EPA, states, private parties, or other federal agencies, if the action is financed through the Superfund or is taken under CERCLA legal authority.

⁷ Section 121(d)(3).

⁸ Preamble to final Off-Site Rule (OSR), 58 FR 49200, 49201, September 22, 1993.

⁹ 40 CFR 300.440.

C.4.2 Investigation-Derived Wastes

Although the investigations conducted at former CCC/USDA facilities are generally minimally intrusive, they do produce small amounts of wastes. Investigation-derived waste (IDW) streams include (1) cuttings from soil borings and well installations, (2) well development fluids, (3) purge water recovered from sampling wells, (4) residuals and quality control duplicates from sample analyses performed both in the field and in off-site laboratories, (5) equipment decontamination rinsates, (6) soiled and potentially contaminated personal protective equipment, and (7) other miscellaneous wastes associated with well installation and sampling of various environmental media.

Site characterization activities might result in air emissions of particulate matter or other materials from drilling equipment. Therefore, air pollution laws and regulations can be ARARs.

In all instances, investigation-derived wastes are to be managed in a manner consistent with the applicable EPA Office of Solid Waste and Emergency Response directive. In addition, field investigators are to seek site-specific guidance and directives from the appropriate regulatory authorities, including federal, state, and local environmental or public health authorities.

The approach to management of IDWs is as follows:

- Leave a site in a condition no worse than before the project.
- Remove wastes that pose an immediate threat to human health or the environment.
- Keep on-site wastes that do not require off-site disposal or extended aboveground containerization.
- Comply with federal and state ARARs, to the extent practicable.
- Exercise careful planning and coordination for management of project-derived wastes.

- Minimize the quantity of wastes generated.

The approach to handling and disposal of soil and water IDWs is as follows:

- Soil cores collected during sampling will be retained in core boxes for lithologic descriptions and research. The cores will be transported and stored at an Argonne facility.
- Soil IDW from drilling activities will be stored on-site in 55-gal drums or a roll-off dumpster. A representative sample will be collected and analyzed by a KDHE-certified laboratory.
- A Solid Waste Disposal Authorization will be obtained from the KDHE for disposal of soil in a permitted landfill. If analytical data indicate the soils cannot be disposed in a permitted landfill, alternative disposal methods will be proposed to KDHE for review.
- Water IDW will be stored on-site in 55-gal drums or polyurethane containers. If acceptable to the KDHE, the wastewater will be aerated prior to sampling. Then the wastewater will be analyzed for VOCs and nitrate.
- The results of the wastewater analyses will be discussed with the KDHE, and the appropriate disposal method will be determined.

TABLE C.1 Potential applicable or relevant and appropriate requirements (ARARs) for former CCC/USDA facilities in Kansas. ^a

Title	Citation ^b	Description	Comment
<i>Federal Laws and Regulations</i>			
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)	42 USC 9601 <i>et seq.</i>		
National Oil and Hazardous Substances Pollution Contingency Plan (NCP)	40 CFR Part 300	Provides the federal government's blueprint for responding to both oil spills and hazardous substance releases.	Applicable to releases into the environment of hazardous substances and pollutants or contaminants that may present an imminent and substantial danger to public health or the national welfare.
		Off-Site Rule establishes procedures for planning and implementing off-site response actions (40 CFR 300.440).	Applicable to response actions involving off-site transfers of hazardous substances, pollutants, or contaminants.
Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)	67 FR 71169 (Nov. 29, 2002)	The draft guidance is intended to be a screening tool to aid users in determining whether a vapor intrusion pathway is complete and, if so, whether the complete pathway poses an unacceptable risk to human health at cleanup sites. With a complete pathway, humans are exposed to vapors originating from site contamination. The draft guidance begins with simple and generally reasonably conservative screening approaches and gradually progresses toward a more complex assessment involving increasingly greater use of site-specific data. For sites determined to have an incomplete vapor intrusion pathway, further consideration of the current site situation generally should not be needed. For sites determined to have a complete pathway, guidance is provided to evaluate whether the pathway does or does not pose a potential significant risk to human health. The draft guidance is not intended to provide recommendations to delineate the extent of risk or eliminate the risk.	Suggested for use at National Priorities List and Superfund Alternative Sites.

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Safe Drinking Water Act (SDWA) (Public Health Service Act)	42 USC 300(f) <i>et seq.</i>		
National Primary Drinking Water Standards	40 CFR Part 141, Subparts B and G	Establishes maximum contaminant levels (MCLs), which are health-based standards for public water systems. The MCL for carbon tetrachloride is 5 µg/L. The MCL for chloroform (total trihalomethanes) is 100 µg/L.	Applicable to organic groundwater contamination in a sole-source aquifer.
National Secondary Drinking Water Regulations (NSDWRs)	40 CFR Part 143	Establishes secondary maximum contaminant levels (SMCLs) for public water systems to protect the aesthetic quality of the water. The SMCLs are not federally enforceable but are included as guidelines for the states.	Applicable if groundwater is a source of drinking water and if the NSDWRs have been adopted as enforceable standards by the state.
Maximum Contaminant Level Goals (MCLGs)	40 CFR Part 141, Subpart F	Establishes non-enforceable drinking water quality goals at levels of no known or anticipated adverse health effects, with an adequate margin of safety. The MCLG for carbon tetrachloride is zero.	May be relevant and appropriate if a more stringent standard is required to protect human health and the environment.
Standards for Owners and Operators of Public Water Supply Systems	40 CFR Part 141	Provides treatment requirements for public water supply systems (i.e., systems that serve at least 25 people or have at least 15 connections).	Relevant and appropriate in the establishment of cleanup goals for groundwater contamination.
Underground Injection Control Regulations	40 CFR Parts 144–148	Provides for protection of underground sources of drinking water.	Applicable if a response alternative involves underground injection.
Sole-Source Aquifers	40 CFR Part 149	Prohibits activities, including drilling, in an area designated a sole-source aquifer without special permission of the U.S. Environmental Protection Agency (EPA).	Applicable if the aquifer in the area is a sole-source aquifer.

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Clean Water Act (Federal Water Pollution Control Act)	33 USC 1251 <i>et seq.</i>		
Ambient Water Quality Criteria	40 CFR Part 131	<p>Section 304(a) of the Clean Water Act (CWA) requires the EPA to publish and periodically update ambient water quality criteria (AWQCs). These criteria are to “. . . accurately reflect . . . the latest scientific knowledge . . . on the kind and extent of all identifiable effects on health and welfare including, but not limited to, plankton, fish, shellfish, wildlife, plant life . . . which may be expected from the presence of pollutants in any body of water. . . .”</p> <p>Water quality criteria developed under Section 304(a) are based solely on data and scientific judgments on the relationship between pollutant concentrations and environmental and human health effects. These recommended criteria provide guidance for states and tribes in adopting water quality standards under Section 303(c) of the CWA.</p>	<p>Developed for some organic constituents in groundwater; may be relevant and appropriate.</p>
National Pollutant Discharge Elimination System (NPDES)	40 CFR Parts 122, 124, and 125	<p>Establishes NPDES permit procedures, criteria, and standards governing the discharge of pollutants from any point source into waters of the United States (Sections 318, 402, and 405 of the CWA). Most storm water discharges require coverage by an NPDES permit.</p>	<p>Discharge limits will be established if effluent is discharged to a surface water body.</p> <p>No permit is required for on-site response actions under CERCLA, but the substantive requirements apply if a response alternative involves discharge into a creek or other surface water on-site. A permit is required if the discharge is to a creek or other surface water off-site.</p>

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Clean Water Act (cont.)			
Water Quality Standards	40 CFR Part 131	Forms the foundation of the water-quality-based pollution control program mandated by the CWA. These standards define the goals for a water body by designating the water body's uses, setting criteria to protect those uses, and establishing provisions to protect water bodies from pollutants.	Applicable to surface water discharges.
National Pretreatment Standards	40 CFR Part 403	Provides general pretreatment standards and regulations for existing and new sources of pollution; establishes standards to control pollutants that pass through or interfere with treatment processes in publicly owned treatment works (POTW) or that may contaminate sewage sludge.	Applicable if a response alternative involves discharge to publicly owned treatment works.
Dredge or Fill Requirements	40 CFR Parts 230–233 (40 CFR Part 6.302(a))	Requires permits for discharge of dredged or fill material into navigable waters.	Applicable if a response alternative requires discharge of dredged or fill material into navigable waters.
Executive Order on Protection of Wetlands	Executive Order 11,990	Requires federal agencies to avoid, to the extent possible, adverse impacts associated with the destruction or loss of wetlands and to avoid support of new construction in wetlands if a practicable alternative exists.	Applicable if a response alternative has a negative effect on a wetland.
Rivers and Harbors Act of 1899			
Section 10 Permit	33 CFR Parts 320–330 (40 CFR Part 6.302(a))	Requires permit for structures for work in or affecting navigable waters.	Applicable if a response alternative affects a navigable waterway.
Executive Order on Floodplain Management	Executive Order No. 11,988	Requires federal agencies to evaluate the potential effects of actions in a floodplain to avoid, to the extent possible, the adverse impacts associated with direct and indirect development of a floodplain.	Applicable if activities are located in a 100-yr floodplain.

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Clean Air Act	42 USC 7401 <i>et seq.</i>		
National Primary and Secondary Ambient Air Quality Standards	40 CFR Part 50	Establishes national primary and secondary ambient air quality standards under Section 109 of the Clean Air Act to protect public health and welfare.	Applicable if contaminants are discharged to the air during treatment.
National Emissions Standards for Hazardous Air Pollutants (NESHAPs)	40 CFR Parts 61 and 63	Implements Section 112 of the Clean Air Act, which governs the federal control program for hazardous air pollutants (HAPs). Identifies emission standards for HAPs that originate from specific categories of sources, including site remediation. NESHAPs are technology based and are issued to limit the release of specified HAPs from specific industrial sectors. A <i>Federal Register</i> notice published for carbon tetrachloride (50 FR 32621 [August 13, 1985]) and chloroform (50 FR 39626 [September 27, 1985]) included consideration of serious health effects, such as cancer, due to ambient exposures.	Applicable if the identified HAPs are emitted from a specific source category (for example, if on-site treatment units with emissions are part of response actions).
Solid Waste Disposal Act (as amended by the Resource Conservation and Recovery Act [RCRA])	40 USC 6901 <i>et seq.</i>		
Criteria for Classification of Solid Waste Disposal Facilities and Practices	40 CFR Part 257	Establishes classification criteria for sanitary landfills and open dumps, which are prohibited (Sections 4005 and 1008 of RCRA). At a minimum, facilities meet the sanitary landfill classification “only if there is no reasonable probability of adverse effects on health or the environment . . .” [Section 4004(a) of RCRA].	Applicable if a response alternative involves land disposal of solid waste.
		Provides for protection of surface water and groundwater at solid waste disposal facilities (40 CFR 257.3-3 and -4).	Applicable if a response action includes provisions for an on-site landfill.

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Solid Waste Disposal Act (cont.)			
Criteria for Municipal Solid Waste Landfills	40 CFR Part 258	Establishes minimum national criteria for municipal solid waste landfill units.	Applicable if municipal solid waste is placed in a municipal solid waste landfill.
Identification and Listing of Hazardous Wastes	40 CFR Part 261	Identifies solid wastes that are subject to regulation as hazardous wastes under 40 CFR Parts 124, 262-265, 268, 270, and 271.	Applicable if a material at the site is defined as a solid and hazardous waste; requires handling as a hazardous waste.
Standards Applicable to Generators of Hazardous Waste	40 CFR Part 262	Establishes standards for generators of hazardous waste.	Applicable if hazardous wastes are generated as a result of on-site activities.
Standards Applicable to Transporters of Hazardous Waste	40 CFR Part 263	Establishes standards that apply to transporters of hazardous waste within the United States if the transportation requires a manifest under 40 CFR Part 262.	Applicable if a response alternative involves off-site transportation of hazardous wastes.
Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities	40 CFR Part 264	Establishes minimum national standards that define the acceptable management of hazardous wastes for owners and operators of facilities that treat, store, or dispose of hazardous waste.	Applicable or relevant and appropriate if hazardous waste is disposed of on-site.
Standards for Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities	40 CFR Part 266	Provides for groundwater protection standards, general monitoring requirements, corrective action requirements, and technical requirements. Establishes requirements that apply to recyclable materials.	RCRA standards can be relevant and appropriate for groundwater at a site if an on-site landfill is constructed. No substances are expected to be present at CCC/USDA sites in quantities to warrant recycling.

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Solid Waste Disposal Act (cont.)			
Land Disposal Restrictions	40 CFR Part 268	Identifies hazardous wastes that are restricted from land disposal; defines limited circumstances under which an otherwise prohibited waste may continue to be land disposed.	Applicable or relevant and appropriate if hazardous waste are disposed of on-site.
Hazardous Waste Permit Program	40 CFR Part 270	Establishes provisions covering basic EPA permitting requirements.	No permit is required for on-site CERCLA response actions. Substantive requirements are addressed in 40 CFR Part 264.
Universal Wastes	40 CFR Part 273	Establishes requirements governing universal wastes (hazardous waste batteries, hazardous waste pesticides that are either recalled or collected in waste pesticide collection programs, hazardous waste thermostats, and hazardous waste lamps).	Applicable if universal wastes are generated or managed on-site in the course of investigation or response operations.
Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks	40 CFR Part 280	Establishes regulations related to underground storage tanks.	Applicable if a response alternative involves use of underground storage tanks.
Occupational Safety and Health Act (OSHA)			
Occupational Safety and Health Standards	29 CFR Part 1910	Establishes safety and health standards for workers. OSHA has set a limit of 100 ppm for carbon tetrachloride in workplace air for an 8-hr work day, 40-hr work week.	Under 40 CFR Section 300.150, response actions under the NCP will comply with OSHA requirements for the safety and health of response action workers.
Noise Control Act of 1972	42 USC Sect. 4901 <i>et seq.</i>	Prohibits federal activities resulting in noise that would jeopardize the health or welfare of public.	Applicable for activities such as drilling near a public access point.

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Hazardous Materials Transportation Act	49 USC 5101 <i>et seq.</i>	Protects against the risks to life and property inherent in the transportation of hazardous material by listing the materials deemed hazardous and describing required labeling, placarding, and training. Hazardous materials are chemicals that the U.S. Department of Transportation has determined pose unreasonable risks to health, safety, and property during transportation activities.	Applicable if an alternative involves transportation of hazardous materials. Does not apply to on-site response operations.
Hazardous Materials Transportation Regulations	49 CFR Parts 106–180	Protects against the risks to life and property inherent in the transportation of hazardous material by listing the materials deemed hazardous and describing required labeling, placarding, and training. Hazardous materials are chemicals that the U.S. Department of Transportation has determined pose unreasonable risks to health, safety, and property during transportation activities.	Applicable if an alternative involves transportation of hazardous materials. Does not apply to on-site response operations.
National Historic Preservation Act	16 USC 470 <i>et seq.</i>	Requires (Section 106) federal agencies to consider the effects of any federally assisted undertaking (including those carried out with federal financial assistance and those requiring a federal permit, license, or approval) on any district, site, building, structure, or object that is listed in the National Register of Historic Places or eligible for such listing; requires agencies to give the Advisory Council on Historic Preservation a reasonable opportunity to comment on those undertakings.	Applicable if a district, site, building, structure, or object listed on or eligible for the National Register is on or adjacent to the site.
Protection of Historic Properties	36 CFR Parts 800 (40 CFR 6.301(b))	Defines how federal agencies meet the statutory responsibilities.	Applicable if a district, site, building, structure, or object listed on or eligible for the National Register is on or adjacent to the site.
Executive Order on Protection and Enhancement of Cultural Environments	Executive Order 11,593	Requires federal agencies to preserve, restore, and maintain the nation's historic and cultural environment in their activities.	
Executive Order on Preserve America	Executive Order 13,287	Formulates policy to promote intergovernmental cooperation and partnerships for the preservation and use of historic properties.	

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Historic Sites, Buildings and Antiquities Act (Historic Sites Act)	16 USC 461 <i>et seq.</i> (40 CFR 6.301(a))	Establishes a national policy to preserve historic sites and objects of national significance, including those located on refuges. Provides procedures for designation, acquisition, administration, and protection of such sites. Requires federal agencies to consider the existence and location of landmarks on the National Registry of Natural Landmarks and avoid undesirable impacts to such landmarks.	Applicable if an entity on the National Register of National Landmarks is on or adjacent to the site.
Archaeological and Historic Preservation Act	16 USC 469 <i>et seq.</i> (40 CFR 6.301(c))	Carries out policy established by the Historic Sites Act. Establishes procedures for preservation of historical and archaeological data that might be lost or destroyed through alteration of terrain as a result of a federal construction project or a federally licensed activity or program. Directs federal agencies to notify the Secretary of the Interior whenever they find that a federal or federally assisted, licensed, or permitted project may cause loss or destruction of significant scientific, prehistoric, or archaeological data.	Applicable if historical or archaeological data are on or adjacent to the site and if construction projects or alteration of terrain at the site could destroy historical or archaeological materials.
Antiquities Act	16 USC 431 <i>et seq.</i>	Authorizes the President to designate as national monuments objects or areas of historic or scientific interest on lands owned or controlled by the United States. Requires a permit for examination of ruins, excavation of archaeological sites, and the gathering of objects of antiquity on lands under the jurisdiction of the Secretaries of Interior, Agriculture, and Army. Provides penalties for violations.	
Preservation of American Antiquities	43 CFR 3 (40 CFR Sect. 6.301(b)) Executive Order 11,593	Protects all historic and prehistoric sites on federal lands and prohibits excavation or destruction of such antiquities without the permission (Antiquities Permit) of the secretary of the department that has the jurisdiction over those lands; authorizes the President to declare areas of public lands as national monuments and to reserve or accept private lands for that purpose.	Applicable if site operations affect antiquities on federal lands.

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Archaeological Resources Protection Act	16 USC 470aa <i>et seq.</i>	Supplements the provisions of the Antiquities Act of 1906. Establishes detailed requirements for issuance of permits for any excavation for or removal of archaeological resources from federal or Indian lands. Also established civil and criminal penalties for the unauthorized excavation, removal, or damage of such resources.	
Protection of Archaeological Resources	43 CFR Part 7, 36 CFR Part 296 (40 CFR 6.301(b))	Establishes uniform definitions, standards, and procedures to be followed by all federal land managers in providing protection for archaeological resources located on public lands and Indian lands.	Applicable if site operations affect archaeological resources on public or Indian lands.
American Indian Religious Freedom Act	42 USC 1996 <i>et seq.</i>	Protects and preserves the right of American Indians to have access to their sacred places; directs federal agencies to consult with Indian religious practitioners if a place of religious importance to American Indians may be affected by an undertaking.	Applicable if site operations affect access to sacred Indian sites.
Executive Order on Indian Sacred Sites	Executive Order 13,007	Requires agencies managing federal lands to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites; also requires agencies to develop procedures for reasonable notification of proposed actions.	Applicable if site operations affect access to sacred Indian sites.
Native American Grave Protection and Repatriation Act	25 USC 3001 <i>et seq.</i>	Establishes the priority for ownership or control of Native American cultural items excavated or discovered on federal or tribal lands after 1990 and the procedures for repatriation of items in federal possession; allows the intentional removal or excavation of Native American cultural items from federal or tribal lands only with a permit or upon consultation with the appropriate tribe.	Applicable if site operations involve excavation or discovery of Native American cultural items on federal or tribal lands.

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Native American Grave Protection and Repatriation Act (cont.)			
Native American Graves Protection and Repatriation Regulations	43 CFR Part 10	Develops a systematic process for determining the rights of linear descendants and Indian tribes to certain Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony. Defines items included under the Native American Grave Protection and Repatriation Act. Describes the consultation procedure applicable to intentional excavation or inadvertent discovery of remains or objects covered.	
Endangered Species Act	16 USC 1531 <i>et seq.</i>	Provides for the conservation of threatened and endangered plants and animals and the habitats in which they are found.	
Interagency Cooperation	50 CFR Part 402 (40 CFR 6.302(h))	Requires action to conserve threatened and endangered species within critical habits upon which endangered species depend, including consultation and conferencing with the Department of the Interior (U.S. Fisheries and Wildlife Service/U.S. National Marine Fisheries Service).	Applicable if threatened or endangered species or critical habitats are identified at the site.
Migratory Bird Treaty Act	16 USC 703 <i>et seq.</i>		
Migratory Bird Permits	50 CFR Parts 10 and 21	Requires a permit from the U.S. Fisheries and Wildlife Service for the taking of protected migratory birds.	Applicable if a response alternative will affect a migratory pathway.
Executive Order on Responsibilities of Federal Agencies to Protect Migratory Birds	Executive Order 13,186	Directs federal agencies taking actions having or likely to have a negative effect on migratory bird populations to work with the U.S. Fisheries and Wildlife Service to develop an agreement to conserve those birds.	

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Bald and Golden Eagle Protection Act	16 USC 668 <i>et seq.</i>		
Eagle Permits	50 CFR Parts 10 and 22	Requires a permit from the U.S. Fisheries and Wildlife Service to move nests because of construction or operation of project facilities.	Applicable if project activities affect bald and golden eagle populations, including construction or operation of facilities that call for the moving of nests.
Fish and Wildlife Conservation Act	16 USC 2901 <i>et seq.</i>	Encourages states to develop conservation plans for nongame fish and wildlife of ecological, educational, aesthetic, cultural, recreational, economic, or scientific value.	Applicable if significant populations are present at a site or are affected by site response activities.
Fish and Wildlife Coordination Act	16 USC 661 <i>et seq.</i> (40 CFR 6.302(g))	Requires consultation with the U.S. Fish and Wildlife Service when a federal department or agency proposes, authorizes, permits, or licenses any modification of any stream or other water body. Requires adequate provision for protection of fish and wildlife resources.	Applicable if a response alternative will cause damage to or loss of wildlife by modifying a stream or body of water.
Wilderness Act	16 USC 1311 <i>et seq.</i>		
Wilderness Preservation and Management	50 CFR Part 35, 43 CFR Part 6300	Describes the activities allowed and banned in wilderness areas and uses requiring authorization.	Applicable if a wilderness area exists on-site or adjacent to the site.
National Wildlife Refuge System Administration Act	16 USC 668dd		
Executive Order on the Management and General Public Use of the National Wildlife Refuge System	Executive Order 12,996	Directs preservation of a national network of lands and waters for the conservation and management of fish, wildlife, and plant resources for the benefit of present and future generations. Recognizes compatible uses, while ensuring maintenance of biological integrity and environmental health.	Applicable if a wildlife refuge area exists on-site or adjacent to the site.

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Wild and Scenic Rivers Act	16 USC 1271 <i>et seq.</i>	States that a federal agency may not assist, through grant, loan, license, or otherwise, the construction of a water resources project that would have a direct and adverse effect on the values for which a river in the National Wild and Scenic Rivers System or a study river on the National Rivers Inventory was established (as determined by the Secretary of the Interior for rivers under the jurisdiction of the Department of the Interior and by the Secretary of Agriculture for rivers under the jurisdiction of the Department of Agriculture).	
Wild and Scenic Rivers	36 CFR Part 297 (40 CFR 6.302(e))	Requires a notification process for federally assisted water resource projects in any portion of a designated river.	Applicable to on-site water resource projects located within, above, below, or outside a wild and scenic river or study river.
<i>Kansas State Laws</i>			
Kansas Voluntary Cleanup and Property Redevelopment Program	KSA, Chapter 65, Article 34, Sections 164 <i>et seq.</i> KAR, Title 28, Article 71	Applies to low- to medium-priority contaminated sites with minimal risk. Provides a mechanism for stakeholders (e.g., property owners, facility operators) cleaning up such sites to receive a “no further action” determination from the Kansas Department of Health and Environment (KDHE) (KAR 28-71-10). The KDHE is working with the EPA to develop a Memorandum of Agreement providing voluntary participants with assurance of relief from future federal liability for the voluntary party’s property. Identifies remedial standards for cleanup of environmental media (KAR 28-71-11). Provides that groundwater cleanup levels will be based on the most beneficial use of the groundwater [KAR 28-71-11(l)].	According to the KDHE, the program is truly voluntary and is designed for stakeholders to properly address contamination on eligible properties through private-state partnerships. No additional burdens or requirements are placed on voluntary participants.

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Environmental Use Control	KSA, Chapter 65, Article 1, Sections 1,221 <i>et seq.</i> KAR, Title 28, Article 73	<p>Provides a way for landowners to achieve site closure by addressing environmental concerns caused by residual contamination.</p> <p><i>An environmental use control</i> is a restriction or prohibition of uses of or activities on a specific property, as requested by the property owner, to ensure future protection of public health and the environment when environmental contamination exceeding standards for unrestricted use remains on the property following appropriate assessment and/or remedial activities [KSA, 65-1,222(b)]. Eligible property is real property that exhibits environmental contamination exceeding standards for unrestricted use and is being or has been investigated or remediated, or both, in an approved program [KAR 28-73-1(c)].</p> <p>Governs environmental use control agreements (KAR 28-73-3); long-term care agreements for properties that cover a large acreage, exhibit residual contamination characterized by higher toxicity or mobility, require complicated maintenance or monitoring of protective structures, and require frequent or complicated site inspections (KAR 28-73-4); financial assurance for such properties (KAR 28-73-5); duration of environmental controls (KAR 28-73-6); and restrictions, prohibitions, and zoning in lieu of environmental use controls (KAR 28-73-7).</p>	An environmental use control can be applied voluntarily to a property by the landowner to assure adequate protection of public health and the environment from contamination on the subject property. The protection offered can give a landowner relief from environmental liability concerns, making property more attractive to redevelopment or prospective buyers.

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Kansas Air Quality Control Act; Kansas Air Quality Regulations	KSA, Chapter 65, Article 30; KAR, Title 28, Article 19	<p>Requires permitting and preconstruction notice for air contaminant sources. Provides for reporting and inspections. Establishes state emission standards for listed HAPs and state air quality standards to protect the public health.</p> <p>Provides emission standards for HAPs (KAR 28-19-200 <i>et seq.</i>), including carbon tetrachloride and chloroform [KAR 28-19-201(a)]. Emission above a certain threshold requires an annual emissions fee (e.g., 10 tons/yr of a single HAP and 25 tons/yr of any combination of HAPs) (KAR 28-19-202).</p> <p>Emissions above certain threshold amounts require a construction permit (e.g., 25 tons/yr of particulate matter [PM], 15 tons/yr of PM 10, 100 tons/yr of carbon monoxide, 40 tons/yr of volatile organic compounds [VOCs]) or a preconstruction approval (e.g., 5 lb/hr of PM, 2 lb/hr of PM 10, 50 lb per 24-hr period of carbon monoxide, 50 lb per 24-hr period of VOCs (either 15 lb per 24-hr period or 3 lb/hr in a nonattainment area) (KAR 28-19-300).</p> <p>Requires operating permits for certain stationary sources (28-19-500 <i>et seq.</i>).</p> <p>Prohibits open burning (28-19-645 <i>et seq.</i>).</p> <p>Establishes new source performance standards for municipal solid waste landfills, including reporting, calculation of nonmethane organic compound emissions, installation of collection and control systems (28-19-720 <i>et seq.</i>).</p> <p>Establishes emission standards for major source HAPs (28-19-750 <i>et seq.</i>).</p>	<p>Applicable if any listed pollutants are discharged to the air during investigation or response through air stripping, thermal destruction, handling of contaminated soil, gaseous waste treatment, aeration, or disposal in a municipal solid waste landfill.</p>

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Underground Storage, Disposal Wells, and Surface Ponds	KSA, Chapter 65, Article 1; KAR, Title 28, Article 13	Regulates the construction and use of underground storage reservoirs, disposal wells, and surface ponds for the confinement, storage, and disposal of industrial fluids. Establishes approval and permitting requirements.	Applicable if a response alternative requires underground storage reservoirs, disposal wells, or surface ponds.
Drinking Water Regulations	KSA, Chapter 65, Article 33; KAR, Title 28, Article 15a	Establishes primary drinking water regulations. Adopts federal MCLs pertaining to public water supplies.	Applicable if waste derived from investigation or response enters public water systems. Not applicable to investigative wells that are not used for drinking water supply; however, relevant and appropriate for establishing sampling and analysis parameters during an investigation.
Water Pollution Control Regulations	KSA, Chapter 65, Article 33; KAR, Title 28, Article 16	Provides for the maintenance and protection of public health and welfare and the use of surface water for aquatic life; for agricultural, domestic, and industrial water supply; and for recreation. Controls surface water use designation. Establishes surface water quality standards (KAR 28-16-28 <i>et seq.</i>). Maximum contaminant level is defined as any of the enforceable standards for drinking water promulgated by the EPA [KAR 28-16-28b(aa)]. When the KDHE finds that the criteria are underprotective or overprotective for a given surface water segment, the KDHE may, in accordance with KAR 28-16-28f(f), make appropriate site-specific determinations (KAR 28-16-28e(a)). Surface water must be free from the harmful effects of substances that produce any public health hazard; hazardous substances must not occur in surface water at concentrations that jeopardize public health and other protected life [KAR 28-16-28e(b)].	Applicable if contaminated effluent from an investigative or response operation is discharged into surface water; also might be applicable to alluvial aquifers demonstrated to be hydraulically connected to surface water bodies.

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Water Pollution Control Regulations (cont.)		<p>Provides numeric criteria by use category for different parameters [KAR 28-16-28e(d)]. For chloroform the values are 28,900 µg/L for aquatic life-acute, 1,240 µg/L for aquatic life-chronic, 15.7 µg/L for public health-food procurement, and 100 µg/L for public health-domestic water supply. (No values are specified for agriculture-livestock and agriculture-irrigation.) For carbon tetrachloride the values are 35,200 µg/L for aquatic life-acute, 6.94 µg/L for public health-food procurement, and 5 µg/L for public health-domestic water supply. (No values are specified for aquatic life-chronic, agriculture-livestock, and agriculture-irrigation.)</p>	
		<p>Establishes procedures relating to the discharge of wastewaters under the NPDES program (KAR 28-16-57 <i>et seq.</i>). National effluent standards are adopted by reference.</p>	<p>Applicable if investigation or response operations involve discharge into “waters of the state.”</p>
		<p>Requires water management planning for water quality management areas deemed critical by state authorities (KAR 28-16-69 <i>et seq.</i>).</p>	<p>Applicable if contaminants resulting from investigation or response are discharged into a water quality management area.</p>
		<p>Establishes limitations on the types of wastes that can be discharged to a POTW and governs pollutants from nondomestic sources that are subject to one or more pretreatment standards and that are indirectly discharged, or otherwise introduced by any means, into any POTW (KAR 28-16-83 <i>et seq.</i>).</p>	<p>Applicable if investigation or response alternatives involve discharge of contaminated groundwater to a POTW.</p>
Kansas Water Well Contractor’s License Regulations; Water Well Construction and Abandonment Regulations	KSA, Chapter 82a, Article 12; KAR, Title 28, Article 30	<p>Establishes requirements for licensing of well drillers and standards for construction, operation, and plugging of wells (KAR 28-30-3 <i>et seq.</i>).</p>	<p>Applicable if investigation or response involves drilling of monitoring wells or other wells.</p>
Kansas Water Appropriation Act; Kansas Water Appropriation Act Rules	KSA, Chapter 82a, Sections 701 <i>et seq.</i> KAR, Title 5, Articles 1 <i>et seq.</i>	<p>Establishes requirements for obtaining, maintaining, and transferring water appropriations.</p>	<p>Applicable if water appropriations are required for groundwater remediation.</p>

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Underground Injection Control Regulations	KSA, Chapter 65, Article 1; KAR, Title 28, Article 46	Governs discharges into underground injection wells (KAR 28-46-1 <i>et seq.</i>). In general, federal SDWA regulations are adopted by reference.	Applicable if investigative or response wastes are introduced into wells for discharge or disposal.
Solid Waste Regulations	KSA, Chapter 65, Article 34; KAR, Title 28, Article 29	Establishes standards for management activities and facilities relative to solid wastes (KAR 28-29-21 <i>et seq.</i>). Establishes location restrictions, design standards, operating standards, groundwater monitoring, corrective action, and financial assurance for closure and postclosure, for municipal solid waste landfill units (KAR 28-29-100 <i>et seq.</i>). Liners for new municipal solid waste landfills must be designed in accordance with KAR 28-19-104(e)(1)(A) or (B). Alternative designs must demonstrate that a carbon tetrachloride concentration of 0.005 mg/L will not be exceeded [KAR 28-29-104(e)(1)(B)]. (Small units may request exemption [KAR 28-19-103].) Requires detection and assessment monitoring for carbon tetrachloride and chloroform (KAR 28-29-113).	Applicable if nonhazardous materials discarded as a result of the investigation or response are landfilled on-site. Applicable if a municipal solid waste landfill is used.
Hazardous Waste Management Standards and Regulations	KSA, Chapter 65, Article 34; KAR, Title 28, Article 31	Requires generators of solid waste to make a hazardous waste determination. For a waste that is not excluded from hazardous waste regulations and not listed as a hazardous waste, the determination is generally made through testing by a laboratory certified by the KDHE for such analyses [KAR 28-31-4(b)].	Applicable if investigation or response operations generate solid wastes.

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Hazardous Waste Management Standards and Regulations (cont.)		Establishes standards for hazardous waste generators and transporters and for storage, treatment, and disposal facilities (KAR 28-31-4 <i>et seq.</i>). Storage by certain hazardous waste generators for more than 90 days requires a permit [KAR 28-31-4(g)]. Adopts by reference federal land disposal restrictions (KAR 28-31-14).	Applicable to investigation samples or response-generated wastes that are determined to be hazardous and are transported or managed on-site through treatment, storage, and disposal. Transportation requirements do not include a manifesting requirement for samples sent for characterization.
		Adopts by reference federal regulations governing universal wastes (KAR 28-31-15).	Applicable if universal wastes are generated or managed on-site in the course of investigation or response operations.
Kansas Storage Tanks Act	KSA Chapter 65, Article 34	Governs storage tanks.	Applicable if a response alternative involves use of storage tanks to contain an accumulation of regulated substances; applies to associated piping, ancillary equipment, and the containment system.
Kansas State Board of Technical Professions	KSA, Chapter 74, Article 70 KAR, Title 66, Number 66-6-1 through Number 66-14-12	Establishes requirements for licensing of engineers, land surveyors, geologists, and others.	Applicable if the services of engineers, land surveyors, and geologists are required for site investigation and response activities.
Kansas Nongame and Endangered Species Conservation Act; Kansas Nongame and Endangered Species Conservation Regulations	KSA, Chapter 32, Article 9; KAR, Title 115, Article 15	Designates endangered and threatened species, as well as nongame species in need of conservation. Requires consultation with the Kansas Department of Wildlife and Parks regarding actions that might affect listed species and their critical habitats. Any projects that affect listed species or their habitat and that are publicly funded, are state or federally assisted, or require a permit from another state or federal agency require review and action permits (KSA 32-957 through 32-963, 32-1009 through 32-1012, 32-1033; KAR 115-15-1, -2, -3, and -4).	Applicable if threatened or endangered species are identified at or near the site.

TABLE C.1 (cont.)

Title	Citation ^b	Description	Comment
Kansas Levee Law	KSA, Chapter 24, Article 1; KAR, Title 5, Article 45	Requires prior approval of chief engineer before construction of floodplain fills and levees (KSA 24-126). <i>Floodplain fill</i> is material, usually soil, rock, or rubble, placed in a floodplain to an average height of more than 1 ft above the existing ground, which has the effect of diverting, restricting, or raising the level of floodwaters of a stream (KAR 5-45-1).	Applicable if site activities involve construction of floodplain fills.
Kansas Historic Preservation Act	KSA, Chapter 75, Article 27; KAR, Title 118, Article 3	Provides for protection and preservation of sites and buildings listed on state or federal historic registries (KSA 75-2715 through 75-2726; KAR 118-3-1 through 118-3-16).	Applicable if the investigation or response site is a listed state or federal historic site or is adjacent to such a site and if activities requiring permitting are initiated.
Kansas Unmarked Burial Sites Preservation Act	KSA Chapter 75, Article 27; KAR Title 126, Article 1	Establishes Burial Sites Preservation Board. Prohibits unauthorized disturbance. Requires permits for excavation of any unmarked burial site, registered or unregistered (KSA 75-2741 through 75-2754; KAR 126-1-1 through 126-1-2).	Applicable if investigation or remediation activities encounter a burial site.

TABLE C.1 Footnotes (cont.)

^a In addition to the ARARs listed here, the following advisory levels are to be considered:

- EPA Health Advisories (2004 Edition)

<u>Exposure</u>	<u>Carbon Tetrachloride</u>	<u>Chloroform</u>
One day (mg/L) (10-kg child)	4.0	4.0
Ten days (mg/L) (10-kg child)	0.2	4.0
Reference dose (mg/kg day)	0.0007	0.01
Drinking water equivalent level (mg/L)	0.03	0.4
Lifetime (mg/L) (70-kg adult)	Not available	0.7

- EPA Region III Risk-Based Concentration Table (2006 Update)
(carcinogenic effects)

	<u>Carbon Tetrachloride</u>	<u>Chloroform</u>
Tap water (µg/L)	1.6E-01	1.5E-01
Ambient air (µg/m ³)	1.2E-01	7.7E-02
Fish (mg/kg)	2.4E-02	1.4E+01
Soil, industrial (mg/kg)	2.2E+01	1.0E+04
Soil, residential (mg/kg)	4.9E+00	7.8E+02

^b Abbreviations for citations:

CFR, Code of Federal Regulations
 FR, Federal Register
 KAR, Kansas Administrative Regulations
 KSA, Kansas Statutes Annotated
 Sect., Section
 USC, United States Code



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