

# Final Work Plan: Environmental Site Investigation at Sylvan Grove, Kansas

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Environmental Science Division



United States Department of Agriculture

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

July 2012



United States Department of Agriculture

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## Contents

Notation.....	v
1 Introduction.....	1-1
2 Background and Previous Studies .....	2-1
2.1 Previous Investigations .....	2-1
2.1.1 Private Well Sampling in January and March 1998 .....	2-1
2.1.2 Pre-CERLIS Site Reconnaissance and Evaluation in August 1998.....	2-2
2.1.3 Private Well Sampling in April 2006.....	2-3
2.1.4 Additional Investigations Related to Groundwater Contamination.....	2-4
2.2 Geologic and Hydrogeologic Setting.....	2-4
2.3 Former CCC/USDA Grain Bin Facility.....	2-6
2.4 Existing Wells in the Vicinity of the Former CCC/USDA Facility.....	2-7
2.4.1 Public Water Supply Wells.....	2-8
2.4.2 Private Wells.....	2-9
3 Proposed Technical Program .....	3-1
3.1 Technical Objectives and Phases of the Investigation.....	3-1
3.2 Investigation Tasks .....	3-2
3.2.1 Phase 1: Identification of Potential Contaminant Source Areas in the Vadose Zone Soil and Characterization of Groundwater-Bearing Zone(s) on the Former CCC/USDA Property; Groundwater Sampling for All Private and Public Water Supply Wells in the Vicinity of the Property.....	3-2
3.2.2 Phase 2: Delineation of the Extent of Contamination in Groundwater and the Local Groundwater Flow Pattern .....	3-5
3.3 Investigation Methods.....	3-6
3.3.1 Methods for Sampling of Existing Wells.....	3-6
3.3.2 Methods for Vertical-Profile Soil Sampling with the Sonic Drilling Rig .....	3-7
3.3.3 Methods for Groundwater Sampling with the Sonic Drilling Rig.....	3-7
3.3.4 Methods for Installing Monitoring Wells .....	3-8
3.3.5 Methods for Analyses of Soil and Groundwater Samples .....	3-8
3.3.6 Methods for Handling and Disposal of Investigation-Derived Wastes .....	3-9
3.4 Sampling and Reporting Schedule.....	3-10
3.5 Quality Assurance and Quality Control.....	3-10
3.6 Health and Safety .....	3-11
3.7 Sylvan Grove Contacts .....	3-11
3.8 Argonne Contacts.....	3-12
4 References.....	4-1
Appendix A: Testing Results for the Sylvan Grove Public Water Supply Wells .....	A-1

Appendix B: Water Well Logs for the Sylvan Grove Public Wells and Private Wells  
in the Vicinity of the Former CCC/USDA Facility ..... B-1

Appendix C: Property Records..... C-1

## Figures

1.1 Location of Sylvan Grove, Kansas ..... 1-3

2.1 Locations of the former CCC/USDA facility, the Falcon Service station, the  
former Farmers Elevator Company site, and adjacent private wells and public  
water supply wells..... 2-12

2.2 Historical analytical results for carbon tetrachloride in groundwater samples  
collected by the KDHE in 1998-2006 from four private wells near the former  
CCC/USDA facility ..... 2-13

2.3 Analytical results for soil samples collected by the KDHE in August 1998 at the  
former CCC/USDA facility ..... 2-14

2.4 Local topography in the vicinity of Sylvan Grove and the former CCC/USDA  
facility, with estimated locations of private wells and public water supply wells..... 2-15

2.5 North-to-south geologic cross section from the north county line to the south  
county line, illustrating the stratigraphic relationships in western Lincoln County  
and the local area near Sylvan Grove ..... 2-16

2.6 Historical aerial photographs taken in 1957, 1965, 1971, and 1980, illustrating  
changes in grain storage operation at the former CCC/USDA facility near the  
north edge of Sylvan Grove ..... 2-17

3.1 Proposed Phase 1 soil and groundwater sampling locations at Sylvan Grove ..... 3-14

3.2 Proposed groundwater sampling locations for two public water supply wells and  
a number of private wells in the vicinity of the former CCC/USDA facility ..... 3-15

3.3 Emergency route from the Sylvan Grove site to the Lincoln County Hospital,  
Lincoln, Kansas..... 3-16

## Tables

2.1 Analytical results from prior investigations at the former CCC/USDA facility..... 2-10

2.2 Generalized geologic section for Lincoln County, Kansas..... 2-11

3.1 Emergency information for the investigation at Sylvan Grove, Kansas..... 3-13

## **Notation**

AGEM	Applied Geosciences and Environmental Management
AMSL	above mean sea level
BER	Bureau of Environmental Remediation
BGL	below ground level
°C	degree(s) Celsius
CCC	Commodity Credit Corporation
EPA	U.S. Environmental Protection Agency
FSA	Farm Service Agency
ft	foot (feet)
gal	gallon(s)
gpm	gallon(s) per minute
hr	hour
IDW	investigation-derived waste
in.	inch(es)
KDHE	Kansas Department of Health and Environment
LUST	leaking underground storage tank
µg/kg	microgram(s) per kilogram
µg/L	microgram(s) per liter
MCL	maximum contaminant level
mg/L	milligram(s) per liter
mi	mile(s)
NAIP	National Agricultural Imagery Program
PVC	polyvinyl chloride
PWS	public water supply
USDA	U.S. Department of Agriculture
VOC	volatile organic compound

## Final Work Plan: Environmental Site Investigation at Sylvan Grove, Kansas

### 1 Introduction

In 1998, carbon tetrachloride was found above the maximum contaminant level (MCL) of 5 µg/L in groundwater from one private livestock well at Sylvan Grove, Kansas, by the Kansas Department of Health and Environment (KDHE). The 1998 KDHE sampling was conducted under the U.S. Department of Agriculture (USDA) private well sampling program. The Commodity Credit Corporation (CCC), a USDA agency, operated a grain storage facility in Sylvan Grove from 1954 to 1966. Carbon tetrachloride is the contaminant of primary concern at sites associated with former CCC/USDA grain storage operations.

Sylvan Grove is located in western Lincoln County, approximately 60 mi west of Salina (Figure 1.1). To determine whether the former CCC/USDA facility at Sylvan Grove is a potential contaminant source and its possible relationship to the contamination in groundwater, the CCC/USDA has agreed to conduct an investigation, in accordance with the Intergovernmental Agreement between the KDHE and the Farm Service Agency (FSA) of the USDA.

This *Work Plan* presents historical data related to previous investigations, grain storage operations, local private wells and public water supply (PWS) wells, and local geologic and hydrogeologic conditions at Sylvan Grove. The findings from a review of all available documents are discussed in Section 2.

On the basis of the analyses of historical data, the following specific technical objectives are proposed for the site investigation at Sylvan Grove:

- Evaluate the potential source of carbon tetrachloride at the former CCC/USDA facility.
- Determine the relationship of potential contamination (if present) at the former CCC/USDA facility to contamination identified in 1998 in groundwater samples from one private well to the west.
- Delineate the extent of potential contamination associated with the former CCC/USDA facility.



The detailed scope of work is outlined in Section 3. The results of the proposed work will provide the basis for determining what future CCC/USDA actions may be necessary, with the ultimate goal of achieving classification of the Sylvan Grove site at *no further action* status.

The proposed activities are to be performed on behalf of the CCC/USDA by the Environmental Science Division of Argonne National Laboratory, a nonprofit, multidisciplinary research center operated by the UChicago Argonne, LLC, for the U.S. Department of Energy. Argonne provides technical assistance to the CCC/USDA concerning environmental site characterization and remediation at former grain storage facilities.

Argonne issued a *Master Work Plan* (Argonne 2002) that has been approved by the KDHE. The *Master Work Plan* describes the general scope of all investigations at former CCC/USDA facilities in Kansas and provides guidance for these investigations. That document should be consulted for the complete details of plans for work associated with the former CCC/USDA facility at Sylvan Grove.

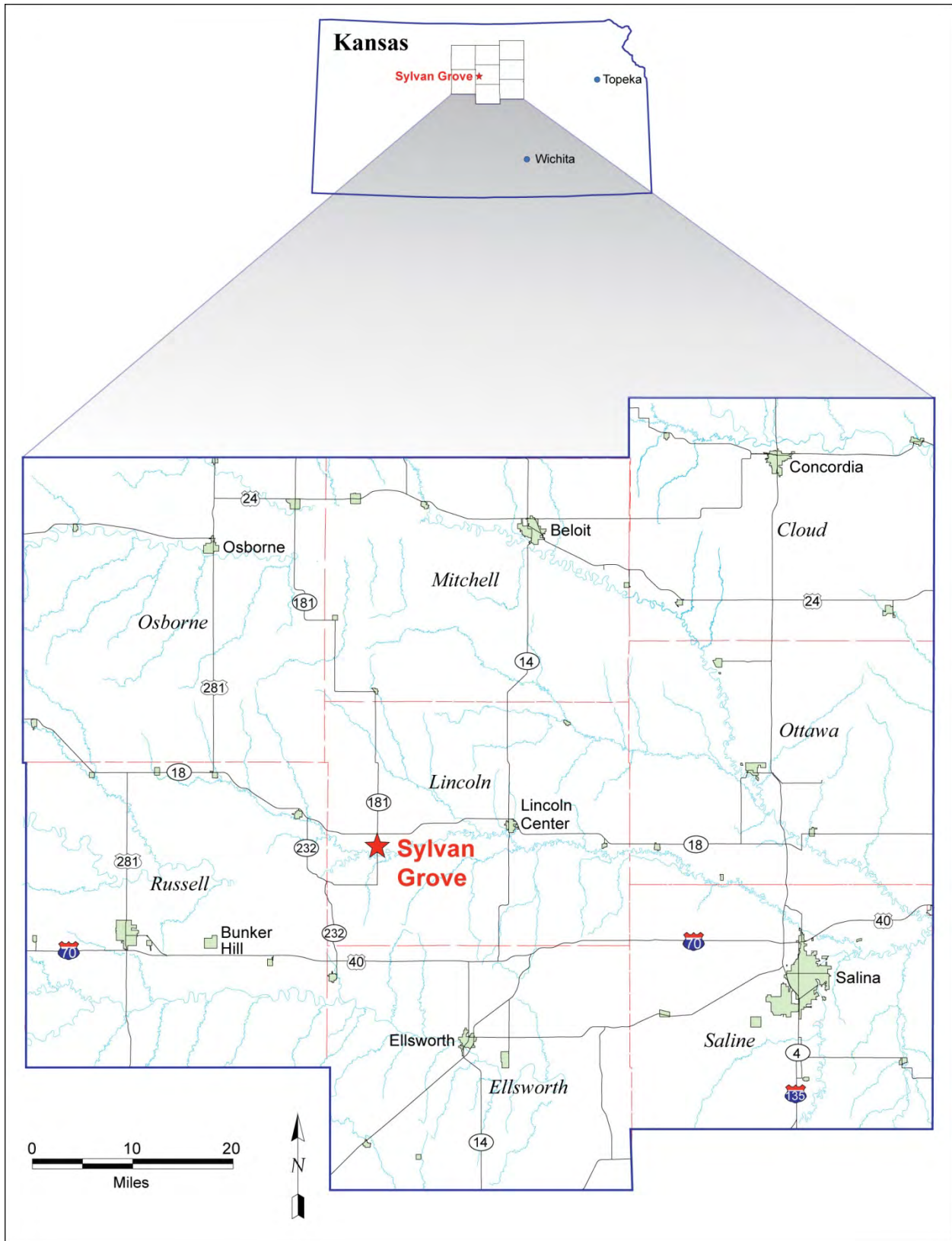


FIGURE 1.1 Location of Sylvan Grove, Kansas.

## **2 Background and Previous Studies**

Sylvan Grove, Kansas, is a small rural city located in western Lincoln County, in Sections 11-14; Township 12 South; Range 10 West. The 2000 Census recorded 324 residents in 157 households in the city of Sylvan Grove. This section summarizes the results of previous investigations, geologic/hydrogeologic conditions, and potential sources for contamination at Sylvan Grove.

The residents of the city are served by a public water system that obtains water from two wells located 2,800 ft southwest of the former CCC/USDA facility (Figure 2.1). No carbon tetrachloride has been found in the public wells, on the basis of communications with the Sylvan Grove utilities superintendent (Blasé 2012) and previous test results (Appendix A). The details are discussed in Section 2.4.1.

### **2.1 Previous Investigations**

To date, the carbon tetrachloride contamination at Sylvan Grove has been addressed by the following KDHE investigations:

- Private well sampling in January and March 1998 (under CCC/USDA funding)
- Pre-CERLIS site reconnaissance and evaluation in August 1998
- Private well sampling in April 2006 (under CCC/USDA funding)

These prior investigations are discussed below.

#### **2.1.1 Private Well Sampling in January and March 1998**

In January and March 1998, the KDHE North Central District Office sampled four private wells outside the northern city limit as part of the statewide USDA private well sampling program. Carbon tetrachloride was initially detected in the Oris Kingery livestock well (currently used for lawn and garden purposes) at 26.2 µg/L. A second sample collected in March 1998 from

this well confirmed carbon tetrachloride at 33.6 µg/L (Table 2.1). No carbon tetrachloride was identified in three additional private wells. Analytical results for groundwater samples also showed trace levels (below the MCL) of chloroform at 1.4-3.1 µg/L in the Kingery well and 1.0-2.2 µg/L in the Chris Meyer (MLC, Inc.) well. All of the January and March 1998 analyses for carbon tetrachloride and chloroform were conducted in an off-site laboratory.

Nitrate was detected at concentrations above the MCL of 10 mg/L at the Chris Meyer well (24.2 mg/L by the field laboratory and 24.08 mg/L by the off-site laboratory) in January 1998.

Approximate locations of the four private wells sampled in January and March 1998 are shown in Figure 2.2. The former CCC/USDA grain storage facility is located 50 ft east of the Kingery well and about 800 ft east of the Chris Meyer well. The well locations shown in Figure 2.2 were estimated on the basis of the descriptions on the KDHE's sampling data sheet (KDHE 1998). The locations will be surveyed in the proposed investigation.

### **2.1.2 Pre-CERLIS Site Reconnaissance and Evaluation in August 1998**

To determine whether the former CCC/USDA facility could be a possible source for the carbon tetrachloride identified in the Kingery well 50 ft to the west, the KDHE North Central District Office recommended further investigation by the KDHE Bureau of Environmental Remediation (BER). In August 1998, the KDHE/BER Site Assessment Unit conducted soil sampling beneath the former CCC/USDA facility with a Geoprobe unit. Six subsurface soil samples were collected at depths of 8.5-18.5 ft BGL (below ground level) at six locations across the former CCC/USDA facility (Figure 2.3).

The soil samples collected in August 1998 were initially analyzed by field screening procedures in the KDHE/BER mobile laboratory. Carbon tetrachloride was detected in four of the six soil samples collected, at concentrations ranging from 0.3 µg/kg to 28 µg/kg (Table 2.1). Two soil samples (SP1 and SP3) were submitted to an off-site laboratory for verification analysis. One of these soil samples (SP3) had the highest concentration of carbon tetrachloride as analyzed by the field laboratory (28 µg/kg). The off-site analyses detected no carbon tetrachloride or chloroform in either soil sample, at a reporting limit of 5.0 µg/kg (KDHE 1998). The presence of contamination in soil beneath the former CCC/USDA facility was therefore not

confirmed above the reporting limit by the off-site laboratory. The sampling proposed in this *Work Plan* (Section 3) will resolve questions about these 1998 results.

Attempts to collect groundwater samples with the KDHE Geoprobe unit were made at all six soil sampling locations at the former CCC/USDA facility in August 1998. These attempts were unsuccessful because of refusal to penetrate a bedrock unit that the KDHE (1998) described as “fine-grained sandstone beds.”

Two groundwater samples were collected from the Kingery well and the Winckler well (currently owned by R. Wolting; see Section 2.3) in this August 1998 sampling event. Carbon tetrachloride was detected in groundwater from the Kingery well, near the western edge of the former CCC/USDA facility, at 30.2 µg/L (off-site laboratory result) and 37.6 µg/L (field analysis result). Chloroform was reported at 1.4 µg/L in the Kingery well (off-site analysis). No contamination was detected by either laboratory in samples from the Winckler well, 200 ft southeast of the former facility.

### **2.1.3 Private Well Sampling in April 2006**

In April 2006, the KDHE resampled three of the four private wells that had been sampled in 1998 (Table 2.1 and Figure 2.2). Carbon tetrachloride and chloroform were again detected in the groundwater sample collected from the Kingery well, at 18.2 µg/L and 1.2 µg/L, respectively. No contamination was found in the K. Meyer well or the C. Meyer well. These analyses were conducted by an off-site laboratory.

A nitrate concentration of 81.5 mg/L was reported for the Kingery well.

The Winckler property, which includes the former CCC/USDA property, was transferred to the Woltings in 2003 (Section 2.3). The Wolting family moved into a new home on the property after 2006. No groundwater sample was taken from the Wolting well in the 2006 sampling event.

## **2.1.4 Additional Investigations Related to Groundwater Contamination**

### **2.1.4.1 Falcon (Feldkamp) Service Station**

In 1990, a release of fuel from leaking underground storage tanks (LUSTs) was identified at the service station owned by the Feldkamp Brothers Oil Company (currently owned by Falcon Service). Five LUSTs were removed, and the contaminated soil was excavated. Approximately 10 monitoring wells were installed to depths of 13-25 ft BGL. Free-phase product was observed in groundwater. The service station is located 1,000 ft southwest of the former CCC/USDA facility, as shown in Figure 2.1.

In November 2011, a brownfield targeted investigation to assess the current condition of the Falcon Service station site was conducted by Terracon Consultants, Inc., for the KDHE. 1,2-Dichloroethane was detected at 16 µg/L, above the KDHE risk-based standard for this compound. Continued monitoring was recommended through the KDHE LUST program.

### **2.1.4.2 Former Farmers Elevator Company Site**

In 2008, the KDHE performed a pre-CERCLIS site reconnaissance and evaluation for nitrate and pesticide contamination at the former Farmers Elevator Company site. Nitrate was detected at maximum concentrations of 470 mg/kg in subsurface soil and 35 mg/L in groundwater. This site is located about 3,000 ft south of the former CCC/USDA facility (Figure 2.1) and is currently owned by the Sylvan Grove Historical Society. The property is being enrolled in the Voluntary Cleanup and Property Redevelopment Program to address the on-site contamination.

## **2.2 Geologic and Hydrogeologic Setting**

Sylvan Grove lies within the Smoky Hills Upland of the Great Plains physiographic province. The topographic features in this area typically include long, gently sloping pediments of uplands; bold escarpments of deeply dissected uplands; deep, narrow channels of tributary valleys; and broad, flat alluvial valleys along major streams. These features reflect the differential weathering characteristics of the Cretaceous clay, sandstone, shale, and limestone

(Berry 1952). The land surface elevations at Sylvan Grove (including the former CCC/USDA grain storage property) vary, from uplands at approximately 1,550 ft AMSL (above mean sea level) to the north, to the Saline River and its floodplain at 1,430 ft AMSL to the south (Figure 2.4). The local relief is up to 120 ft. The Saline River is a major river system running from west to east across the middle of the Lincoln County. In the vicinity of Sylvan Grove, headwaters of several intermittent creeks dissect the surface of the uplands and drain the local area, generally flowing southward to the Saline River (Figure 2.4).

The near-surface geologic formations in Lincoln County were mainly deposited from the early Cretaceous to the Quaternary (Table 2.2). The formations of Cretaceous age near Sylvan Grove include the Dakota formation, which is underlain by the Cheyenne sandstone and Kiowa shale of early Cretaceous age and the overlying Graneros shale and Greenhorn limestone (Figure 2.5). The Dakota formation crops out in large areas adjacent to the Saline River and its tributaries. The Graneros shale forms a gentle grade from the top of the underlying Dakota formation to the overlying Greenhorn limestone, which extends over large upland areas (Berry 1952). The Dakota formation consists largely of gray to dark gray shale, sandy shale, and varicolored clays, containing irregular lenticular beds of siltstone and sandstone that yield moderate quantities of water. The overlying noncalcareous Graneros shale and Greenhorn limestone are in general impervious, producing little to no water to wells, except for weathered Greenhorn limestone in a limited area. Information obtained from local drillers' logs suggests that most local water wells are producing water from sandstone beds in the Dakota formation.

Deposits of Pleistocene age unconformably overlie the Cretaceous formations as a result of alternating erosion and deposition. Pleistocene deposits are represented by the Meade formation, the Sanborn formation, and alluvium. The Meade formation is limited in the abandoned stream channel in the southwest corner of Lincoln County. The Sanborn formation lies over large areas, whereas alluvium is deposited in the present stream channels. As described by Berry (1952), the Sanborn formation consists of three prominent lithologic types that indicate three environments of deposition: (1) stream deposits of sand and gravel representing the major channel fills of earliest Sanborn time; (2) eolian silts covering large areas of the uplands, transported by winds from the floodplains of the major valleys during periods of alluviation; and (3) colluvial materials on slopes. The coarse materials of the Sanborn formation immediately overlying the Dakota formation can provide abundant water to wells. The Sylvan Grove public water supply wells tap water in this favorable condition (Berry 1952). The Sanborn formation loess (mainly silt) overlying the Dakota formation, however, produces little water to wells.

On the basis of drillers' logs obtained from Kansas water well registration forms (Appendix B), depths to the bedrock unit (most likely Dakota formation) vary from 11 ft at the Chris Meyer well to 65 ft at the Fischer well and 68 ft at the public wells to the south. In the 1998 KDHE investigation, the maximum depth of refusal with the Geoprobe unit was encountered at 18.5 ft BGL (KDHE 1998).

Regionally, groundwater in Lincoln County flows mainly to the Saline River valley system, about 4,000 ft south of the former CCC/USDA facility. The previous investigations at the Falcon Service station site indicated a generally southward flow direction in the shallow groundwater (GeoStat 2011).

### **2.3 Former CCC/USDA Grain Bin Facility**

To identify potential source areas at Sylvan Grove, Argonne conducted a property documents search and an analysis of historical aerial photographs for the former CCC/USDA facility. This section presents the results of combined analyses of all available documents.

The historical ownership of the properties related to the CCC/USDA grain storage operation at Sylvan Grove was determined on the basis of property documents acquired from the Lincoln County Courthouse. The historical ownership and property records are in Appendix C. The historical aerial photos taken in 1957, 1965, 1971, and 1980 (Figure 2.6) and the lease documents indicate that the CCC/USDA operated a two-acre grain storage facility consisting 30 circular bins near the northern edge of the city of Sylvan Grove in 1954-1966. The detailed lease and property transactions of property and the operation of the grain storage facility are summarized as follows:

- **April 22, 1954.** A warranty deed for approximately 16 acres of property, including the former CCC facility established at a later date, transferred the property from Eldor and Doris Hillmer to Harold and Melinda Panzer.
- **May 1, 1954.** Harold Panzer leased the middle-western part of his property (about 2 acres) to the CCC/USDA from May 1, 1954, to April 30, 1959.



- **June 22, 1957.** An aerial photo taken on this date shows 30 grain bins in two rows on the property leased to the CCC/USDA, indicating the presence of grain storage operations during the lease period (Figure 2.6).
- **March 28, 1959.** The lease of the 2-acre property was extended by Harold Panzer for 10 years, from May 1, 1959, to April 30, 1969.
- **April 25, 1960.** A warranty deed conveyed 16 acres of property from Harold and Melinda Panzer to Paul and Phyllis Winckler.
- **October 1, 1965.** An aerial photo taken on this date shows the 30-bin grain storage facility still in place on the leased property (Figure 2.6).
- **August 11, 1966.** An Agriculture Stabilization and Conservation newsletter (included with an FSA survey form) indicates that the 30 steel bins at Sylvan Grove were for sale. The FSA form confirms that the CCC/USDA grain storage operation ceased in 1966.
- **June 24, 1971.** An aerial photo taken on this date shows that all 30 grain bins had been removed from the formerly leased CCC/USDA property (Figure 2.6).
- **December 10, 2003.** A warranty deed conveyed the 16 acres of property from Paul and Phyllis Winkler to Ryan and Heather Wolting, the current owners of the property.
- **December 11, 2003.** A termination of the lease to the CCC/USDA during the 1960s was formally filed in Lincoln County.

## **2.4 Existing Wells in the Vicinity of the Former CCC/USDA Facility**

In a search for available information on existing wells, 16 private wells and 2 public water supply wells were identified within a distance of an approximately 0.5 mi from the former CCC/USDA facility (Figure 2.4). The well information was obtained mainly from Kansas well

registration forms, the KDHE (1998) site reconnaissance and investigation report, and direct communications with representatives of the city of Sylvan Grove. The details are discussed in below.

#### **2.4.1 Public Water Supply Wells**

The city of Sylvan Grove has provided a public water supply since the 1950s. The city well field is located at the southwest edge of the city, approximately 2,800 ft south of the former CCC/USDA facility (Figure 2.4). In late 1940s, six wells were drilled and installed for public water supply, at or near the city well field. Currently, wells PWS5 and PWS6 are actively providing the public water supply. The other four wells have been abandoned. Their precise locations are not recorded and remain unknown.

Argonne staff members recently visited the city of Sylvan Grove. Discussions with city officials indicated that water from wells PWS5 and PWS6 has been analyzed routinely by the KDHE laboratory and that no contaminants (including carbon tetrachloride) have been identified (Blasé 2012). The most recent results are in Appendix A. In 1998, because of apparent well deterioration (especially rust and scale accumulation along the shutter-type screen), Clarke Well and Equipment, Inc., refurbished both wells at the request of the city. Pumping tests after the treatments showed that the wells had been restored to good productivity of at least 200 gpm.

The public wells were originally installed in the city well field by Layne-Western Co. in 1949. The driller's log in Appendix B for well PWS2, which was made available to Argonne by Clarke Well and Equipment, Inc., is considered representative of the well field. This log (Appendix B) indicates that the public wells were completed to the top of a shale horizon in the Dakota formation at approximately 68 ft BGL. A thick (26-28 ft) layer of saturated sand and gravel overlying the bedrock serves as the source of groundwater to the wells. A well survey during the well refurbishment in 1998 determined that well PWS5 is 71 ft deep and is screened at 62-71 ft BGL, while PWS6 is 66 ft deep and is screened at 52-66 ft BGL. The static water level was at 39-40 ft BGL in both wells.

The geologic stratigraphic units and water-bearing zone penetrated by the Sylvan Grove public wells were also discussed by Berry (1952) in his geohydrology bulletin for Lincoln County. Berry suggested that the Pleistocene Sanborn formation (a layer of sand and gravel) and

the underlying Dakota formation of Cretaceous age provide the sources of groundwater. The location of the city well field is very close to the Saline River valley and about 1,200 ft north of the current Saline River channel.

#### **2.4.2 Private Wells**

In an effort to identify the private wells near the former CCC/USDA facility, Argonne, on behalf of the CCC/USDA, located 16 private wells within 0.5 mi of the former facility. City officials indicated that all of these wells are currently used for lawn and garden purposes (Meitler 2012). The work proposed in Section 3 includes groundwater sampling for most of private wells near the former facility and confirmation of the water use for each well.

Of the 16 private wells located, 7 were identified through Kansas water well registration forms. All of these wells are installed in the bedrock formation of shale layers containing sandstone beds (Dakota formation). No saturated sand and gravel were recorded above the Dakota formation, in contrast to the boreholes drilled at the city well field. The production rates of the private wells are, predictably, much lower than those of the public wells. The available well logs are in Appendix B.

The lawn and garden well at the Kingery residence, in which carbon tetrachloride was detected in groundwater, was characterized by the KDHE (1998) as a hand-dug well. The well is about 50 ft west of the former CCC/USDA facility. Its depth is about 50 ft BGL, and the groundwater level is 25-30 ft BGL. The water-bearing zone is likely in the Dakota formation, though neither well log nor geologic information is available for this well.

TABLE 2.1 Analytical results from prior investigations at the former CCC/USDA facility.

Location	Depth (ft BGL)	Date	Field Analysis		Off-Site Laboratory Analysis		
			Carbon Tetrachloride <sup>a</sup> (ppb) <sup>b</sup>	Nitrate (mg/L)	Carbon Tetrachloride <sup>c</sup> (ppb)	Chloroform <sup>c</sup> (ppb)	Nitrate (mg/L)
<i>KDHE private well sampling in January, March, and August 1998</i>							
Kingery	~ 50	01/30/98	— <sup>d</sup>	< 20	26.2	1.4	—
Kingery	~ 50	03/30/98	—	—	33.6	3.1	—
Kingery	~ 50	08/11/98	37.6	—	30.0	1.4	—
Meyer, C.	Unknown	01/30/98	—	24.2	ND <sup>e</sup>	2.2	24.08
Meyer, C.	Unknown	03/30/98	—	—	ND	1.0	—
Meyer, K.	Unknown	01/30/98	—	< 20	ND	ND	—
Winckler <sup>f</sup>	Unknown	03/30/98	—	—	ND	ND	—
Winckler <sup>f</sup>	Unknown	08/11/98	ND	—	ND	ND	—
<i>KDHE soil sampling in August 1998</i>							
SP1	8.5	08/11/98	ND	—	ND	ND	—
SP2	12.5	08/11/98	0.6	—	—	—	—
SP3	18.5	08/11/98	28	—	ND	ND	—
SP4	12.5	08/11/98	0.4	—	—	—	—
SP5	12.5	08/11/98	0.3	—	—	—	—
SP6	9.5	08/11/98	ND	—	—	—	—
<i>KDHE private well sampling in April 2006</i>							
Kingery	~ 50	04/06	—	—	18.2	1.2	81.5
Meyer, C.	Unknown	04/06	—	—	ND	ND	—
Meyer, K.	Unknown	04/06	—	—	ND	ND	—

<sup>a</sup> Reporting limits: 0.2 µg/kg for soil and 0.2 µg/L for water.

<sup>b</sup> Concentrations are given in parts per billion (µg/kg for soil or µg/L for water).

<sup>c</sup> Reporting limits: 5.0 µg/kg for soil or 0.5 µg/L for water.

<sup>d</sup> Not analyzed.

<sup>e</sup> ND, not detected at the indicated reporting limit.

<sup>f</sup> The current owner of the Winckler well is R. Wolting.

TABLE 2.2 Generalized geologic section for Lincoln County, Kansas. Series and formations present at Sylvan Grove are highlighted in bold font. Source of data: Berry (1952).

System	Series	Formation	Thickness (ft)	Physical Character	Water Supply
<b>Quaternary</b>	<b>Pleistocene</b>	Recent alluvium (unconformable on older formations)	0-6	Sand, gravel, clay, and silt; buff to tan. Predominantly fine sand and silt.	Yields supplies of water for domestic and stock use. Quantities are limited.
		<b>Sanborn formation</b> (unconformable on older formations)	0-35	Loess, sand, and (locally) colluvium at the base; tan to gray-buff. Sand and gravel locally cemented.	Yields little or no water to wells in this area.
		Meade formation	0-40	Gravel, sand, silt, clay, volcanic ash, and caliche; gray, tan, and buff.	Yields meager supplies of water to wells.
Tertiary	Pliocene	Ogallala formation (unconformable on older formations)	0-4	"Algal limestone," pink, gray, and tan. Fresh-water limestone and caliche.	Yields no water to wells.
<b>Cretaceous</b>	<b>Gulfian</b>	Carlile shale	0-20	Shale, chalky to black, fissile. Contains some interbedded limestone.	Yields no water to wells.
		Greenhorn limestone	65-90	Shale and limestone interbedded. Shale is calcareous, tan to blue-gray; limestone is thin bedded, fossiliferous, gray.	Weathered limestone; yields some potable water to shallow wells.
		<b>Graneros shale</b>	20-35	Shale, blue-gray, locally contains clay, siltstone, and sandstone. Contains selenite and pyrite.	Yields little or no water to wells.
		<b>Dakota formation</b>	140-200±	Clay, shale, siltstone, and sandstone, interbedded and varicolored. Contains abundant siderite, hematite, limonite, and some lignite.	The sandstone yields moderate quantities of water of variable quality. Generally, shallow wells yield good water, and deep wells yield poor water.
	<b>Comanchean</b>	Kiowa shale	75-100±	Shale, black, containing thin beds of sandstone and siltstone, with crystals of gypsum and pyrite.	Yields little or no water to wells.
		Cheyenne sandstone	0-100±	Sandstone, medium to fine-grained, gray; some shale and siltstone.	Yields no water to wells.



FIGURE 2.1 Locations of the former CCC/USDA facility, the Falcon Service station (previously owned by Feldkamp Brothers Oil Company), the former Farmers Elevator Company site, and adjacent private wells and public water supply wells. Locations of private wells are estimated on the basis of the KDHE (1998) investigation report, Kansas water well registration forms, and communications with Sylvan Grove officials. Sources of photograph: NAIP (2010).



FIGURE 2.2 Historical analytical results for carbon tetrachloride in groundwater samples collected by the KDHE in 1998-2006 from four private wells near the former CCC/USDA facility. Source of photograph: NAIP (2010).

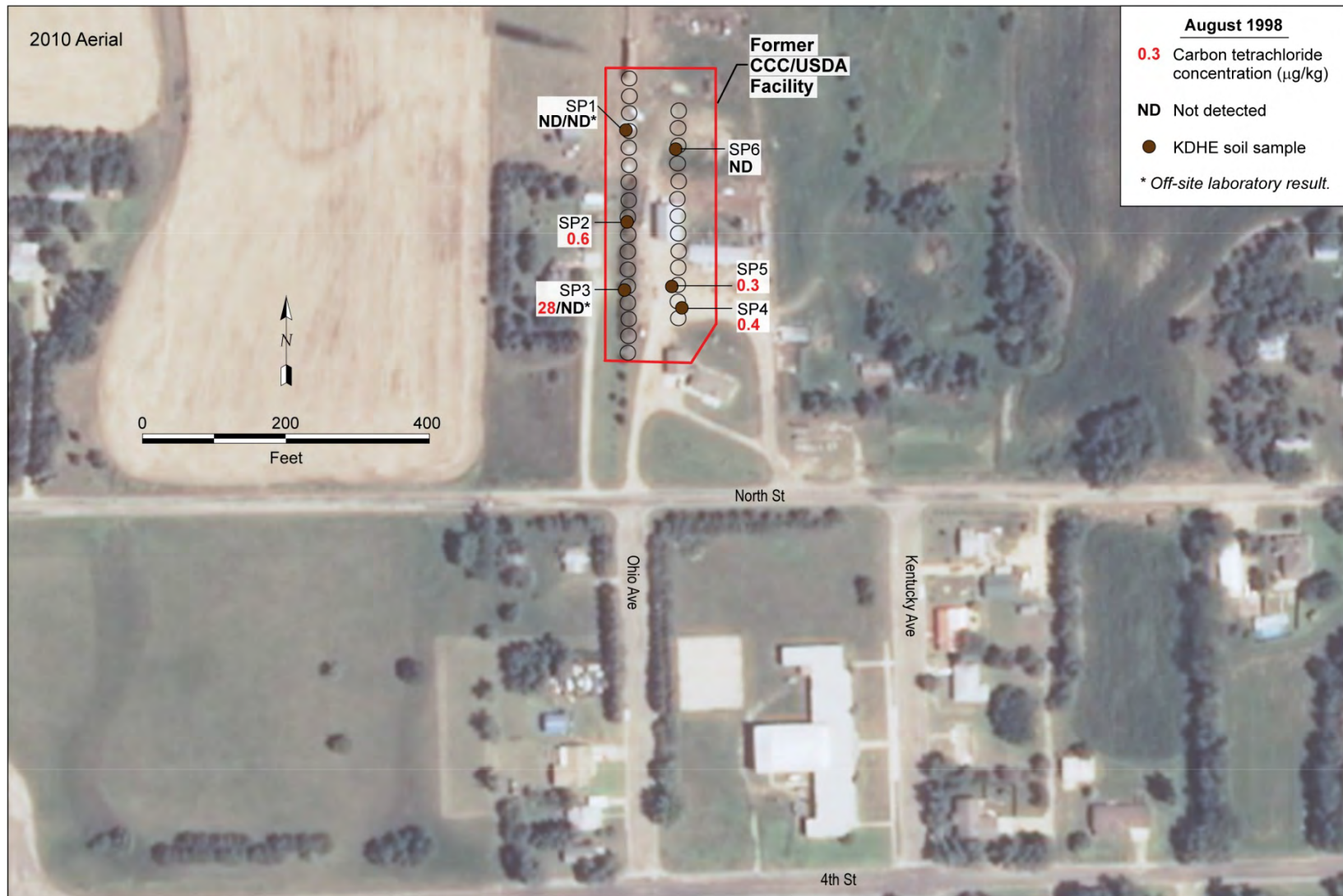


FIGURE 2.3 Analytical results for soil samples collected by the KDHE in August 1998 at the former CCC/USDA facility. Locations are estimated from the KDHE (1998) investigation report. Samples were collected at depths of 8.5-18.5 ft BGL. The maximum concentration identified by the KDHE field mobile laboratory for the soil sample collected at SP3 was not confirmed by analysis at the off-site laboratory. Source of photograph: NAIP (2010).



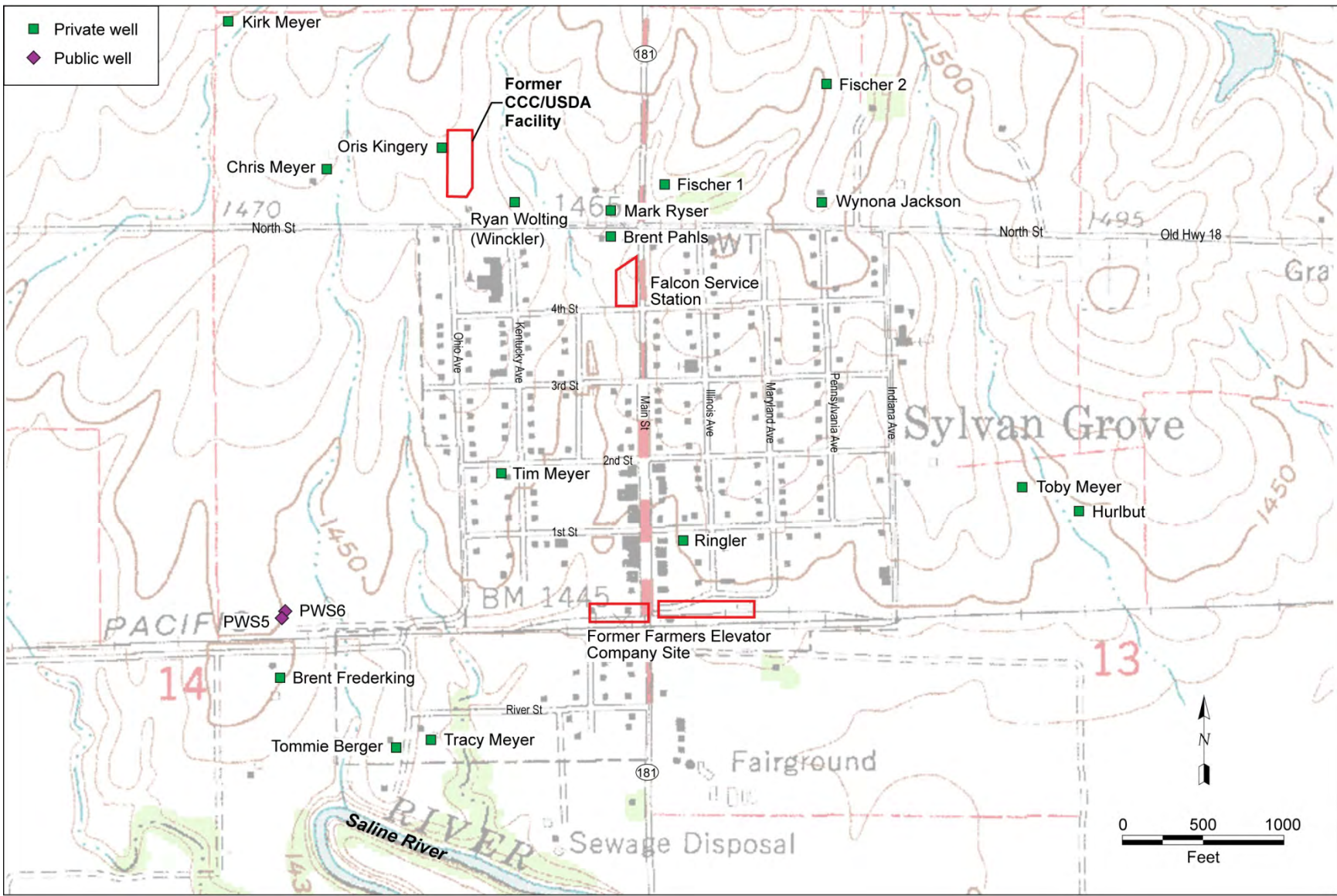


FIGURE 2.4 Local topography in the vicinity of Sylvan Grove and the former CCC/USDA facility, with estimated locations of private wells and public water supply wells. Source of 1982 topographic map: USGS (1997).

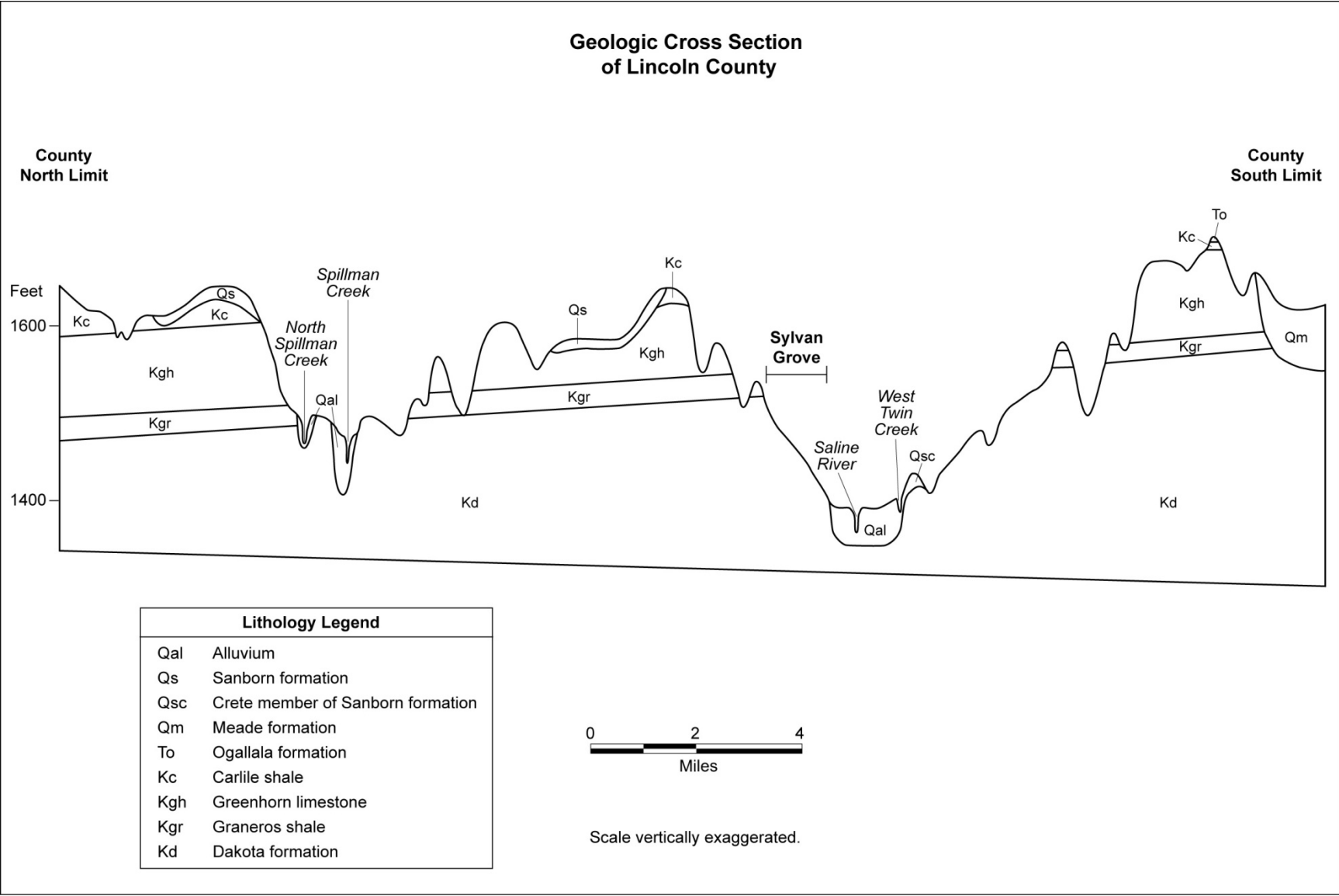


FIGURE 2.5 North-to-south geologic cross section from the north county line to the south county line, illustrating the stratigraphic relationships in western Lincoln County and the local area near Sylvan Grove.



FIGURE 2.6 Historical aerial photographs taken in 1957, 1965, 1971, and 1980, illustrating changes in grain storage operation at the former CCC/USDA facility near the north edge of Sylvan Grove. Sources of photographs: USDA (1957, 1965, 1971, 1980).

### 3 Proposed Technical Program

This section outlines the proposed investigative program at the former CCC/USDA facility at Sylvan Grove. A phased approach will be employed to optimize the field investigation by incorporating new results from the each previous phase, as well as input from the CCC/USDA and KDHE project managers. The goal of the proposed program is to identify and characterize any subsurface contamination associated with the former CCC/USDA facility and its relationship to the groundwater contamination found in the nearby Kingery well. The results of the proposed investigation will provide the basis of recommendations for future action, with the ultimate goal of requesting assignment of the Sylvan Grove site to *no further action* status.

#### 3.1 Technical Objectives and Phases of the Investigation

To achieve the investigational goal, the following detailed technical objectives are proposed:

- Evaluate the potential source of carbon tetrachloride at the former CCC/USDA facility.
- Determine the relationship of potential contamination at the former CCC/USDA facility to contamination identified in 1998 and 2006 in groundwater at one lawn and garden well to the west.
- Delineate the extent of potential contamination associated with the former CCC/USDA facility.

The proposed investigation is guided by these objectives and is divided into two phases for implementation. Data acquired during the first phase will be evaluated to determine whether the subsequent phase is necessary and also will be used to optimize the work in the subsequent phase. The CCC/USDA and KDHE project managers will be contacted during each phase and kept apprised of the results. The implementation of each phase of work will be discussed and mutually agreed upon by the CCC/USDA and KDHE project managers.

The proposed phases of the investigation are as follows:

- *Phase 1:* Identify potential contaminant source areas in the vadose zone soil and characterize groundwater-bearing zone(s) on the former CCC/USDA property. Collect groundwater samples from private wells and public water supply wells in the vicinity of the former CCC/USDA facility.
- *Phase 2:* If data from Phase 1 suggest that contaminants associated with the former CCC/USDA facility have migrated off the property, delineate the extent of the groundwater contamination emanating from the property, establish a groundwater monitoring network, and measure hydraulic properties that affect contaminant migration.

## 3.2 Investigation Tasks

### 3.2.1 Phase 1: Identification of Potential Contaminant Source Areas in the Vadose Zone Soil and Characterization of Groundwater-Bearing Zone(s) on the Former CCC/USDA Property; Groundwater Sampling for All Private and Public Water Supply Wells in the Vicinity of the Property

Phase 1 will be conducted in three stages, as follows:

- *Phase 1a:* Conduct one deep stratigraphic test (to a maximum depth of 100 ft BGL) to identify hydrostratigraphic units and characterize groundwater-bearing zone(s) in the bedrock formation at a location directly offsetting the identified contaminated private lawn and garden well (Oris Kingery) and underlying the former CCC/USDA grain storage facility. Collect groundwater samples for volatile organic compounds (VOCs) analyses at each identified groundwater-bearing zone.
- *Phase 1b:* Perform vertical soil profiling through the vadose zone at six locations, in addition to the stratigraphic test location. Collect shallow groundwater samples for VOCs analysis from the first water-bearing zone at each location.

- *Phase 1c:* Collect groundwater samples for VOCs analysis from private wells and public water supply wells in the vicinity of the former CCC/USDA facility.

Soil samples from the vadose zone and groundwater samples from the identified groundwater-bearing-zone(s) within the bedrock will be collected with the sonic drilling rig during Phase 1. Sampling will be performed according to procedures in the *Master Work Plan* (Argonne 2002) and methods specified in Section 3.3. Phase 1 will proceed as follows:

- First, a deep investigation borehole (maximum depth 100 ft BGL) will be drilled adjacent to the contaminated private well (Oris Kingery) (Figure 3.1). Vertical soil profiling and geologic coring will be conducted to characterize the vadose zone and the underlying water-bearing zone(s). The core samples will be examined visually for lithologic evaluation and description. All soil and groundwater samples will be analyzed for VOCs to delineate the vertical extent of contamination in the potential source area. Hydrogeologic testing, grain size analysis, and other physical/chemical analyses might be performed, if necessary, for selected samples. Results from this initial location will guide the selection of vertical sampling depths and intervals for other locations
- Vertical soil profiles will be collected at six locations in addition to the initial deep stratigraphic test location on the former CCC/USDA property. Of these, three locations are along the western row of former grain bins, one location is between the rows, and two locations are along the eastern row (Figure 3.1). These locations are expected to have been the most vulnerable to potential releases of carbon tetrachloride during the former grain storage operations. For each profile, soil samples will be collected at intervals of 4 ft or less or at significant changes in lithology, from near the surface to the top of the first groundwater-bearing zone. The depth to the top of the first water-bearing zone is anticipated at approximately 30-40 ft BGL. The results of soil analysis will assist in the determination of potential source areas in the vadose zone soil.
- At each of six investigation locations, one water sample will be collected at intervals of 10 ft or less from the underlying, identified groundwater-bearing zone within the bedrock formation, to establish potential soil-to-groundwater

- pathways and to confirm the location(s) of groundwater contamination associated with the source areas.
- Plant tissues will be collected along a grove of trees where the western row of grain bins was located, as shown in the 1957 and 1965 aerial photographs (Figure 2.6). Argonne's previous studies indicate that the presence of contamination in plant tissues is a good indicator of soil contamination.
  - Analyses for VOCs will be conducted for all soil, groundwater, and plant tissue samples collected, to identify any carbon tetrachloride and chloroform contamination.
  - All soil samples will be inspected visually for lithologic evaluation and description. Hydrogeologic testing, grain size analysis, and other chemical analyses may be performed in this or the subsequent phase for selected samples that are later determined to contain high concentrations of carbon tetrachloride.
  - Groundwater samples will be collected for VOCs analysis from the private wells and public water supply wells near the former CCC/USDA facility. The estimated locations of the wells are shown in Figure 3.2.
  - As analytical results are evaluated in the field, adjustments might be necessary to the number of sample points, the sample locations, and sampling intervals. The CCC/USDA and KDHE project managers will be contacted during field activities and kept apprised of results.

The results of the Phase 1 vertical soil profiling for the vadose zone, as well as groundwater sampling for the underlying groundwater-bearing zone, will indicate whether a soil source of carbon tetrachloride exists and a soil-to-groundwater migration pathway is potentially present at the former CCC/USDA facility.

### 3.2.2 Phase 2: Delineation of the Extent of Contamination in Groundwater and the Local Groundwater Flow Pattern

- *Phase 2:* If data from Phase 1 suggest that contaminants associated with the former CCC/USDA facility have migrated off the property, delineate the extent of the groundwater contamination emanating from the property, establish a groundwater monitoring network, and measure hydraulic properties that affect contaminant migration.

Most of the sampling points in Phase 2 will be located outside the former CCC/USDA property. This phase will proceed as follows:

- Additional borehole locations for groundwater sampling will be selected, on the basis of results from Phase 1, to characterize the lateral and vertical extent of any groundwater contamination emanating from the former CCC/USDA facility. These borehole locations will be in or near potential contaminant migration pathways downgradient from any source identified at the former CCC/USDA facility. The exact number and locations of boreholes will be determined at the end of Phase 1 or the beginning of Phase 2, in consultation with the CCC/USDA and KDHE project managers. The drilling rig will be used for advancing the boreholes.
- Groundwater samples will be collected from the identified water-bearing zone(s) over the vertical extent of the contaminant in groundwater.
- All groundwater samples will be analyzed for VOCs to determine the presence and concentrations of carbon tetrachloride and chloroform.
- Monitoring wells will be installed at selected locations that were used in Phases 1 and 2 to collect groundwater samples. The drilling rig will be used for well installation, as discussed in Section 3.3. Additional wells might be installed outside the former CCC/USDA property, if necessary, to configure the local groundwater flow pattern adequately.



- Groundwater levels will be measured in all wells at least 24 hr after well completion. Location coordinates and surface elevations will be estimated by Argonne personnel during the investigation through use of a global positioning system. At the end of the investigation, the location coordinates and elevations will be determined by a professional surveyor.
- Data loggers will be installed in the wells to facilitate long-term groundwater level monitoring, record seasonal water level fluctuations, and identify impacts of pumping at local wells.
- Results from the VOCs analyses on soil and groundwater samples generated in Phase 1, together with the groundwater flow pattern identified in Phase 2, will be compiled to constrain the extent of the contamination in groundwater and the primary direction of groundwater flow and contaminant migration.
- Slug testing may be conducted at selected wells to generate data on the range and distribution of aquifer hydraulic conductivity values across the area associated with contaminant sources and migration pathways. Such results can help to estimate the potential migration rate of the contamination in groundwater and the feasibility of various corrective actions. The testing will be performed according to the procedures in Section 6.7 of the *Master Work Plan* (Argonne 2002).

### **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 recorded.
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 hr after purging.
5. Groundwater samples for analysis of VOCs (including carbon tetrachloride and chloroform) will be collected in laboratory-approved containers and immediately placed in a cooler at 4°C. These samples will be shipped overnight 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.

### **3.3.2 Methods for Vertical-Profile Soil Sampling with the Sonic Drilling Rig**

Soil sampling will be performed by using the sonic drilling rig to obtain cores from a depth of 4 ft BGL to the top of the bedrock. Soil samples will be taken every 4 ft 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 procedures in the *Master Work Plan* (Argonne 2002).

### **3.3.3 Methods for 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-hr) 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, core samples will be collected as the drill is advanced through the first water-bearing zone. At this point, a groundwater sample will be collected with a bailer. An override casing will be advanced to isolate the water-bearing zone. A core barrel (4-in. inner diameter and 6-in. outer diameter) will then be advanced to the next water-bearing zone,

where the procedure will be repeated. Groundwater samples will be preserved and analyzed as described in Section 3.3.1 and Section 3.3.5.

### **3.3.4 Methods for Installing Monitoring Wells**

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 the sonic rig. The wells will consist of 2-in. polyvinyl chloride (PVC) casing installed in 8.25-in.-diameter boreholes. Screens will be 0.010-in. mill slot, PVC, at the appropriate length for the desired depth. A 10/20 (or #20) filter pack will be used. The filter pack will extend from 1 ft below the screen to 2 ft above the screened interval. A bentonite pellet seal 2-5 ft thick will be installed above the filter pack. A grout mixture of Portland cement with 5% bentonite will be placed, through a tremie pipe, in the annular space between the well casing and the borehole, from the top of bentonite seal to the ground surface.

All wells will be constructed in accordance with KDHE guidelines. Any variances required will be obtained from the appropriate agency prior to installation. All investigation-derived wastes (IDW) will be managed as described in Section 3.3.6. 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 as determined by the drilling engineer to be necessary.

### **3.3.5 Methods for Analyses of Soil and Groundwater Samples**

Soil and groundwater samples will be collected in laboratory-approved containers and shipped overnight to the AGEM Laboratory at Argonne. The soil samples will be analyzed at the AGEM Laboratory for carbon tetrachloride and chloroform by using a gas chromatograph–mass spectrometer system, according to U.S. Environmental Protection Agency (EPA) Methods 5030B and 8260B (EPA 1998). Groundwater samples will be analyzed at the AGEM Laboratory according to EPA Method 524.2 (EPA 1995).

Aliquots of a minimum of 10% of the total number of soil and water samples collected will be sent directly from the field to TestAmerica Laboratories, Inc., South Burlington,

Vermont, for verification analysis under the EPA's Contract Laboratory Program. An index of the EPA methods is online at <http://www.epa.gov/epahome/index>.

Selected soil samples will be tested for soil properties. Tests for soil may include porosity, water content, dry bulk density, total organic carbon, and grain size.

### **3.3.6 Methods for Handling and Disposal of Investigation-Derived Wastes**

The approach to handling and disposal of soil and water IDW 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 placed 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 will be aerated prior to sampling and analysis for VOCs.
- If analytical results for the wastewater indicate concentrations of carbon tetrachloride and chloroform below the MCL values, then the water will be discharged on-site, away from known sensitive receptors. If the analytical results indicate concentrations above the MCLs, then the water will be disposed of at a wastewater treatment facility approved by the KDHE.

### **3.4 Sampling and Reporting Schedule**

The proposed investigation is scheduled for summer 2012, pending successful negotiation of access. The CCC/USDA and Argonne will notify the KDHE a minimum of two weeks before the proposed field activities begin.

A report will be completed and submitted to the KDHE within 90 days after Argonne completes its quality review of the investigational data. The report will follow the guidelines for site monitoring established by KDHE Policy BER-RS-036 (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 direction(s), and contaminant levels
- Tables that include all analytical and field data
- Laboratory analytical data reports
- All relevant field documentation
- Quality assurance and quality control data

### **3.5 Quality Assurance and Quality Control**

Procedures necessary to maintain the quality of data will be implemented during all phases of the proposed investigation. Descriptions of the quality assurance and quality control methods are in Section 4 of the *Master Work Plan* (Argonne 2002).

### 3.6 Health and Safety

A site-specific health and safety plan will be prepared, approved by the Argonne field safety coordinator, and brought to the site for reference during the investigation.

An Argonne health-safety-environmental protection representative will visit the site during field activities to observe, monitor, and report on operations.

The general health and safety plan for use during this project, which is in Section 3 of the *Master Work Plan* (Argonne 2002), addresses all anticipated safety issues for activities at the Sylvan Grove site. Specific emergency information for use at the site is given below.

**Sylvan Grove has emergency 911 service.** All emergency calls, including police, fire, and ambulance calls, will be directed for an appropriate response from this number. No emergency medical facilities exist at Sylvan Grove. The nearest hospital with emergency medical facilities is in Lincoln, Kansas. Driving directions to the hospital and the map showing the route are in Figure 3.3. Additional emergency information is in Table 3.1.

### 3.7 Sylvan Grove Contacts

Larry Meitler, Mayor  
City of Sylvan Grove  
118 South Main Street  
P.O. Box 68  
Sylvan Grove, KS 67481  
785-526-7188 (office)  
785-526-7189 (fax)  
sylvanch@wtciweb.com

Louis Blasé, Utilities Superintendent  
City of Sylvan Grove  
118 South Main Street  
P.O. Box 68  
Sylvan Grove, KS 67481  
785-526-7188 (office)  
785-526-7189 (fax)  
sylvanch@wtciweb.com

Rachel Stecklein, City Clerk  
City of Sylvan Grove  
118 South Main Street  
P.O. Box 68  
Sylvan Grove, KS 67481  
785-526-7188 (office)  
785-526-7189 (fax)  
sylvanch@wtciweb.com

Tami L. Kerth, Register of Deeds  
Lincoln County Courthouse  
216 East Lincoln Avenue  
Lincoln, KS 67455  
785-524-4657 (office)  
785-524-5008 (fax)

Jude Stecklein, Superintendent  
Sylvan-Lucas Unified School District, USD 299  
504 West 4<sup>th</sup> Street  
Sylvan Grove, KS 67481  
785-526-7175 (office)  
785-526-7182 (fax)

### **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

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

TABLE 3.1 Emergency information for the investigation at Sylvan Grove, Kansas.<sup>a</sup>

Resource	Telephone Number	Name
All Emergencies	911	–
Medical Care	785-524-4403	Lincoln County Hospital <sup>b</sup> 624 North Second Street Lincoln, Kansas
Fire Protection (nonemergency)	–	Sylvan Grove City and Rural Fire District 127 South Main Street Sylvan Grove, Kansas
Police (nonemergency)	785-524-4479	Lincoln County Sheriff 116 North Second Street Lincoln, Kansas
Industrial Hygiene	630-252-3310	Argonne-Industrial Hygiene
Safety	630-988-9706	EVS Division <sup>c</sup> Field Safety Coordinator (Monte Brandner)
	630-252-4878	EVS Division <sup>c</sup> Environmental, Safety, and Health Coordinator (Bill Gasper)
Security	630-252-5737 630-252-5731	Argonne-Operations Security (workdays) (after hours and weekends)
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

<sup>a</sup> Post this table in the field operations base.

<sup>b</sup> The route from Sylvan Grove to the Lincoln County Hospital is shown in Figure 3.3.

<sup>c</sup> Environmental Science Division at Argonne.



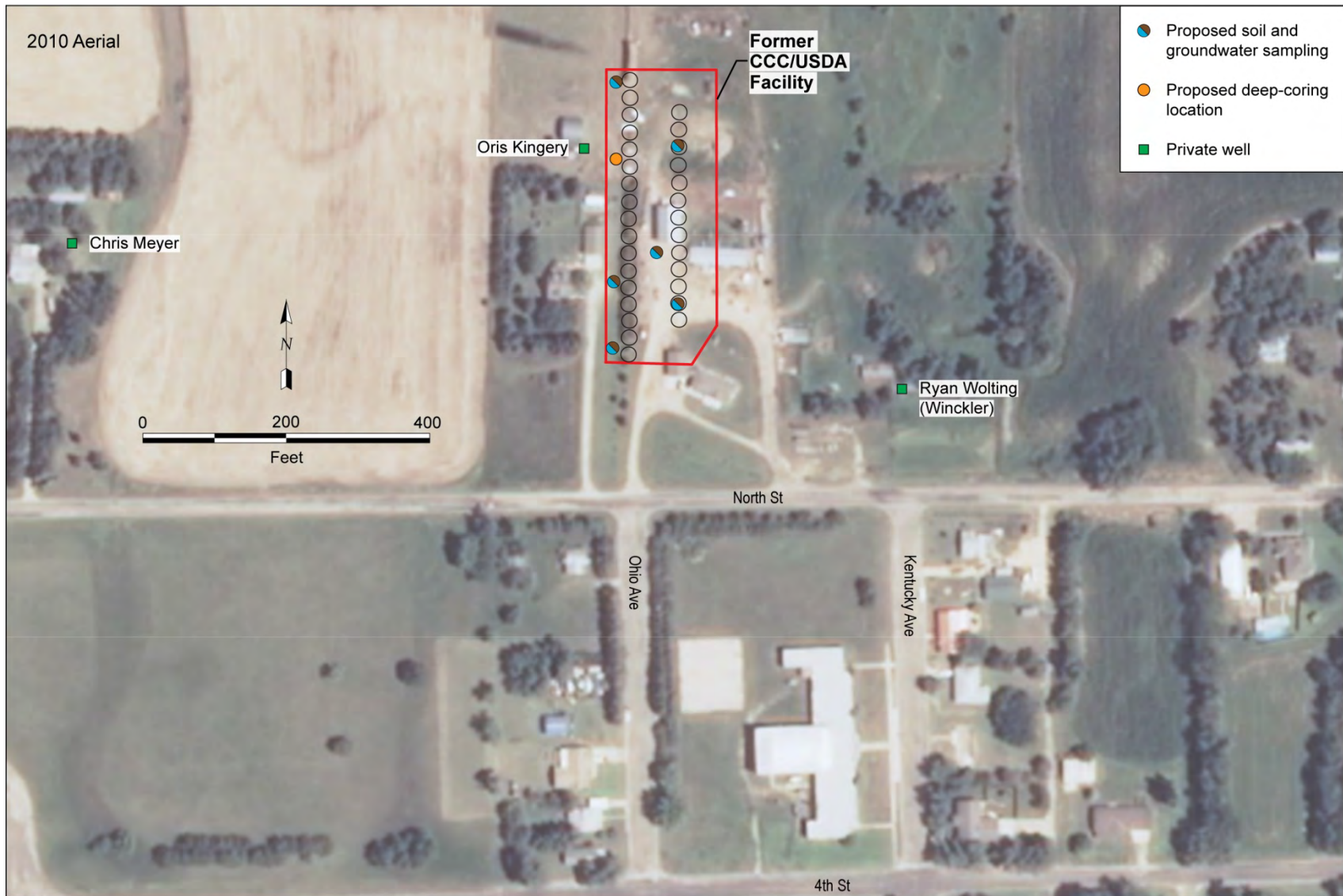


FIGURE 3.1 Proposed Phase 1 soil and groundwater sampling locations at Sylvan Grove. The location of the deep stratigraphic test directly adjacent to the contaminated Oris Kingery private well will enable identification of local stratigraphic units, groundwater-bearing zone(s), and the vertical extent of contamination in the potential source area. Source of photograph: NAIP (2010).



FIGURE 3.2 Proposed groundwater sampling locations for two public water supply wells and a number of private wells (if access is permitted) in the vicinity of the former CCC/USDA facility. Source of photograph: NAIP (2010).

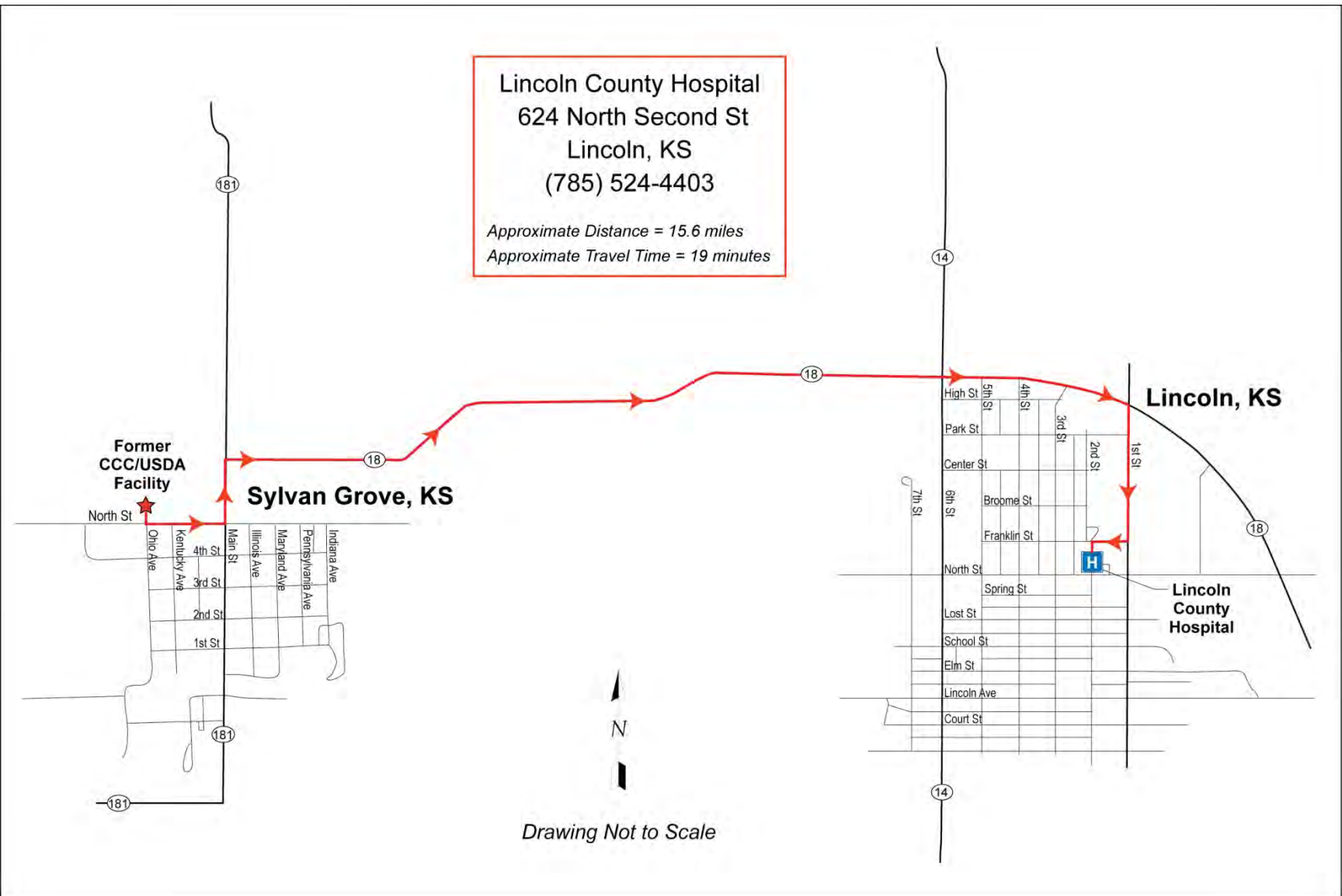


FIGURE 3.3 Emergency route from the Sylvan Grove site to the Lincoln County Hospital, Lincoln, Kansas.

## 4 References

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EPA, 1998, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*, EPA SW-846, 3rd edition, Draft Update IVA, U.S. Environmental Protection Agency, January.

GeoStat, 2011, *Feldkamp Bros. Oil Co. Petroleum Storage Tank Release Trust Fund Monitoring Report, Event 3 of 4*, KDHE project code U5-053-00306, prepared for the Kansas Department of Health and Environment, Bureau of Environmental Remediation, Storage Tank Section, by GeoStat Environmental, LLC, McPherson, Kansas, July.

KDHE, 1998, *Pre-CERCLIS Site Reconnaissance and Evaluation — Sylvan Grove USDA/CCC Site, Sylvan Grove, Lincoln County, Kansas*, P5-053-70463, Bureau of Environmental Remediation, Kansas Department of Health and Environment, Topeka, Kansas, August.

KDHE, 2005, *Scope of Work for Site Monitoring*, Policy BER-RS-036, Remedial Section, Bureau of Environmental Remediation, Kansas Department of Health and Environment, Topeka, Kansas, December ([http://www.kdheks.gov/ber/policies/BER\\_RS\\_036\\_SOW.pdf](http://www.kdheks.gov/ber/policies/BER_RS_036_SOW.pdf)).

Meitler, L., 2012, conversation between Meitler (Mayor, Sylvan Grove, Kansas) and J. Hansen and E. Yan (Environmental Science Division, Argonne National Laboratory, Argonne, Illinois), April 19.

NAIP, 2010, aerial photograph of Sylvan Grove, Kansas, ortho\_1-1\_1n\_s\_ks105\_2010\_1, National Agricultural Imagery Program, Field Service Agency, U.S. Department of Agriculture, Salt Lake City, Utah, September 21 (linked at <http://www.fsa.usda.gov/FSA/>).

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USDA, 1965, Aerial Photograph AYQ-1FF-258D, U.S. Department of Agriculture, Washington, D.C., October 1.

USDA, 1971, Aerial Photograph AYQ-1MM-210D, U.S. Department of Agriculture, Washington, D.C., June 24.

USDA, 1980, Aerial Photograph 20105-180-158TC, U.S. Department of Agriculture, Washington, D.C., July 11.

USGS, 1997, *Digital Raster Graphics (DRG) UTM NAD 27 of Buhler Quadrangle, Kansas, 7.5 Minutes Series*, U.S. Geological Survey, Reston, Virginia.

**Appendix A:**

**Testing Results for the Sylvan Grove Public Water Supply Wells**





**ORGANIC CHEMISTRY**

Report To: LARRY MEITLER  
Address: PO BOX 68, 118 S MAIN  
SYLVAN GROVE, KS 67481

Analysis Code: VF Lab Number: 564832  
Date Rec'd: 07/26/11  
Report Date: 08/02/11

Acct No: W2000 SYLVAN GROVE, CITY OF  
Site: WATER PLANT 1  
Collected By: LOUIS BLASE

Site ID No.: 00197010  
Sample Type: WATER Program Code: PE  
No. Compositied:  
Depth: Date: 07/24/11 Time: 20:10

VOIATILES ORGANIC COMPOUNDS	CONCENTRATION ( ug/L )	Analysis Date	EPA Method
Vinyl Chloride	< 0.50	07/28/11	524.2
1,1-Dichloroethylene	< 0.50	07/28/11	524.2
Dichloroethane	< 0.50	07/28/11	524.2
trans 1,2-Dichloroethylene	< 0.50	07/28/11	524.2
cis 1,2-Dichloroethylene	< 0.50	07/28/11	524.2
1,1,1-Trichloroethane	< 1.50	07/28/11	524.2
tetrachloroethane	< 1.50	07/28/11	524.2
Benzene	< 0.50	07/28/11	524.2
1,2-Dichloroethane	< 0.50	07/28/11	524.2
Trichloroethylene	< 0.50	07/28/11	524.2
1,2-Dichloropropane	< 0.50	07/28/11	524.2
Toluene	< 0.50	07/28/11	524.2
1,1,2-Trichloroethane	< 0.50	07/28/11	524.2
Tetrachloroethylene	< 0.50	07/28/11	524.2
Chlorobenzene	< 0.50	07/28/11	524.2
Ethylbenzene	< 0.50	07/28/11	524.2
Xylenes	< 0.50	07/28/11	524.2
Styrene	< 0.50	07/28/11	524.2
1,4-Dichlorobenzene	< 0.50	07/28/11	524.2
1,2-Dichlorobenzene	< 0.50	07/28/11	524.2
1,2,4-Trichlorobenzene	< 0.50	07/28/11	524.2
Ethylene Dibromide (EDB)	< 0.010	07/28/11	524.2
Methyl tert-butyl ether	< 0.50	07/28/11	524.2

Note: EDB is analyzed for screening purposes only by EPA Method 524.2.  
EPA method 524.2 is not an approved method for EDB.

Chemist: Mary Jane Ayala *MJA* < - Not Detected at Indicated Level

PC: DIANNE SANDS, BOW, CURTIS BUILDING, TOPEKA, KS, 66612  
MARSHA CARPENTER, ATTN: 2501 MARKET PLACE, SALINA, KS 67401



 **KANSAS HEALTH AND ENVIRONMENTAL LABORATORIES**  
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

**REPORT OF ANALYSIS**

**INORGANIC CHEMISTRY**

Report To: LARRY MEITLER  
PO BOX 58  
118 S MAIN  
SYLVAN GROVE KS 67481

Analysis Code: BT Lab Number: 563736  
W2000 SYLVAN GROVE, CITY OF  
Site ID: 00197010  
Account Code: EE

Collection Location: WATER PLANT 1

Collector: LOUIS BLASE  
Date/Time Collected: 07/11/11 09:00

Matrix: Water Collect Depth:  
Date/Time Received: 07/12/11 08:58

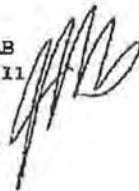
Sample Comments:

Parameter	Analytical Result	Units	Analysis Date	Analytical Method
Nitrate (N)	5.0	mg/L	07/13/11	EPA 300.0

Analytical Comments:

Reporting Analyst: JAB  
Date Reported: 07/19/11

Copies To: File  
BCW - PWSS



< - Not Detected at Indicated Level  
\* - Holding Time Exceeded



**KANSAS HEALTH AND ENVIRONMENTAL LABORATORIES**  
Kansas Department of Health and Environment  
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001



**REPORT OF ANALYSIS**

**INORGANIC CHEMISTRY**

Report To: LARRY MEITLER  
PO BOX 68  
118 S MAIN  
SYLVAN GROVE KS 67481

Analysis Code: WS Lab Number: 560036

W2000 SYLVAN GROVE, CITY OF  
Site ID: 00197010  
Account Code: PE

Collection Location: WATER PLANT 1  
Collector: LOUIS BLASE  
Date/Time Collected: 04/11/11 09:15

Matrix: Water Collect Depth:  
Date/Time Received: 04/12/11 09:54

Sample Comments:

Parameter	Analytical Result	Units	Analysis Date	Analytical Method
Alkalinity as CaCO3	330	mg/L	04/13/11	SM 2320B
Aluminum	< 10	ug/L	04/15/11	EPA 200.8
Antimony	< 1.0	ug/L	04/15/11	EPA 200.8
Arsenic	1.6	ug/L	04/15/11	EPA 200.8
Barium	150	ug/L	04/15/11	EPA 200.8
Beryllium	< 1.0	ug/L	04/15/11	EPA 200.8
Cadmium	< 1.0	ug/L	04/15/11	EPA 200.8
Calcium	150	mg/L	04/18/11	EPA 200.7
Chloride	82	mg/L	04/12/11	EPA 300.0
Chromium	1.8	ug/L	04/15/11	EPA 200.8
Copper	3.6	ug/L	04/15/11	EPA 200.8
Corrosivity	0.49	LT	04/26/11	Langlier idx
Fluoride	0.17	mg/L	04/12/11	EPA 300.0
Iron	< 0.010	mg/L	04/18/11	EPA 200.7
Lead	< 1.0	ug/L	04/15/11	EPA 200.8
Magnesium	14	mg/L	04/18/11	EPA 200.7
Manganese	< 1.0	ug/L	04/15/11	EPA 200.8
Mercury	< 0.50	ug/L	04/22/11	EPA 245.1
Nickel	< 1.0	ug/L	04/15/11	EPA 200.8
Nitrate (N)	4.2	mg/L	04/12/11	EPA 300.0
Potassium	3.5	mg/L	04/28/11	EPA 200.7
Selenium	8.8	ug/L	04/25/11	EPA 200.8
Silica	30	mg/L	04/18/11	EPA 200.7
Silver	< 1.0	ug/L	04/15/11	EPA 200.8
Sodium	68	mg/L	04/18/11	EPA 200.7
Specific Conductivity	1100	µS/cm	04/13/11	SM 2510B
Sulfate	120	mg/L	04/12/11	EPA 300.0
Thallium	< 1.0	ug/L	04/15/11	EPA 200.8
Total Dissolved Solids	690	mg/L	04/26/11	USGS 1751-B
Total Hardness	440	mg/L	04/26/11	SM 2340B
Total Phosphorus (P)	0.043	mg/L	04/25/11	EPA 365.1
Turbidity	< 0.15	NTU	04/12/11	SM 2130B
Zinc	0.012	mg/L	04/18/11	EPA 200.7
pH	7.3	pH unit	04/13/11	EPA 150.1

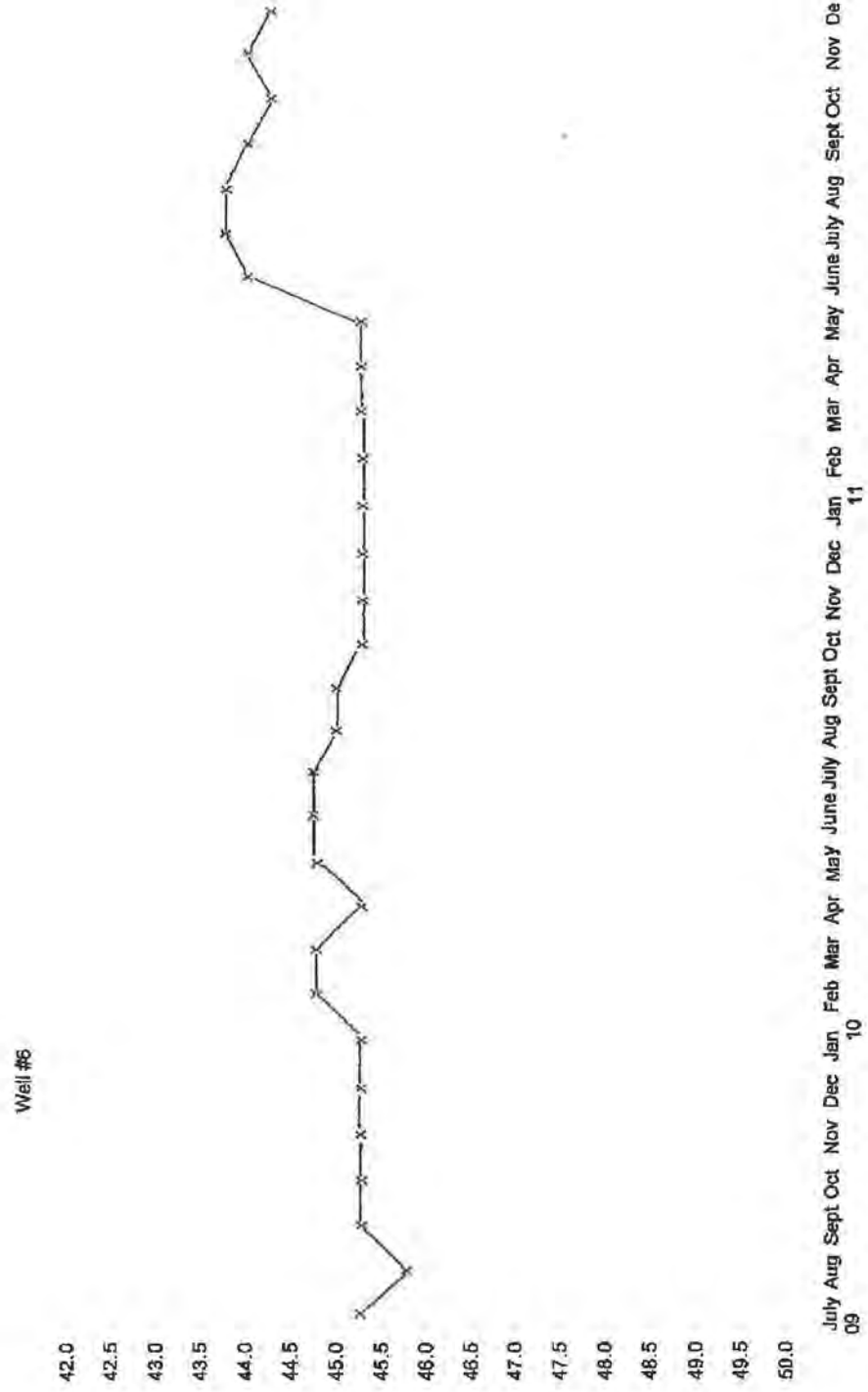
Reporting Analyst: JAB  
Date Reported: 04/26/11  
Copies To: File  
BOW-PWSS

< - Not Detected at Indicated Level  
\* - Holding Time Exceeded

Dec 2011

City of Sylvan Grove  
Depth to Water

Date	Well 5	Well 5	Increase/ Decrease	
2009 January	43' 6"	45' 7"	+4	Lowest point
February		45' 3"	+4	
March	43' 3"	46' 3"	0	
April	43' 1"	45' 2"	+1	
May		45' 1"	+1	
June		45' 1"	0	Highest point
July		45' 3"	-2	
August		45' 6"	-3	
September		45' 4"	+2	
October		45' 3"	+1	
November		45' 3"	0	
December		45' 1"	+2	
2010 January	42' 10"	45' 1"	0	
February		44' 11"	+2	
March		44' 11"	0	
April		45' 2"	-3	
May		44' 9"	+5	
June		44' 7"	+2	Highest point
July		44' 8"	-1	
August		45' 0"	-4	
September		45' 0"	0	
October		45' 1"	-1	
November		45' 3"	-2	Lowest point
December	43' 1"	45' 1"	+2	
2011 January		45' 2"	-1	
February		45' 2"	0	
March		45' 2"	0	
April		45' 2"	0	
May		45' 3"	-1	Lowest point
June		44' 0"	+15	
July		43' 6"	+6	Highest point
August		43' 9"	-3	
September		44' 0"	-3	
October		44' 2"	-2	
November		44' 0"	+2	
December		44' 2"	-2	



## **Appendix B**

### **Water Well Logs for the Sylvan Grove Public Wells and Private Wells in the Vicinity of the Former CCC/USDA Facility**

7858273029

BWR SALINA

F-633 T-225 P-004

OCT 21 '98 14:24

J. & S. W. 1-48

## Well Information for Layne-Western Co.

This sheet is to be filled in and mailed to office upon completion of well

1. Sylvan Grove 9-1-49  
Date  
Name of Job
2. Sylvan Grove Kansas  
City State
3. Well No. #2 C. L. Eitel  
Driller's Name
4. Well location: 94' South of #1 well house  
Give Distance and Direction from Permanent Land Mark as Well can be Accurately Located Several Years from now.
5. Work began 8-19-49; work completed 9-2-49 Number of working days 13
6. Diameter, length and type of material left in well:
7. 15 feet of Shutter screen made of Armo Size 18" No. 10" #5 opening  
Shutter, Concrete, Kerstone Armo, Bronco, Stainless Steel, Concrete Mesh
8. 53 feet of 16 inch inside casing made of Armo with welded connection  
Armo, Std. Pipe, Concrete Erected, Welded, Saver
9. 0 feet of 0 inch outside casing made of Armo with Armo connection  
Armo, Std. Pipe Erected, Welded, Saver
10. 11 tons yards of gravel used in well. Size 1/8"-1/4"
11. Test of well. Did you use test or permanent pump? Permanent 8 9  
Size of Bowl Stages
12. Pump No. 20346; geared head No. \_\_\_\_\_; ratio \_\_\_\_\_; r. p. m. \_\_\_\_\_; pulley diam. \_\_\_\_\_
13. Power used Electric; horse power \_\_\_\_\_; voltage \_\_\_\_\_; r. p. m. \_\_\_\_\_; pulley diam. \_\_\_\_\_; r. p. m. \_\_\_\_\_  
Electric Motor, Gasoline
14. Size of orifice 4 inch, by 3 inch. Orifice tube reading 24 inches.
15. Pumping test—measurements from ground level:
 

Time	G.P.M.	Static	Drawdown	Pumping Level
<u>7:00</u>	<u>00</u>	<u>47' 2"</u>	<u>00</u>	<u>47' 2"</u>
<u>8:00</u>	<u>205</u>	<u>"</u>	<u>5' 5"</u>	<u>52' 7"</u>
<u>9:00</u>	<u>205</u>	<u>"</u>	<u>5' 7"</u>	<u>52' 8"</u>
<u>10:00</u>	<u>205</u>	<u>"</u>	<u>5' 8"</u>	<u>52' 10"</u>
<u>11:00</u>	<u>205</u>	<u>"</u>	<u>5' 8"</u>	<u>52' 10"</u>
<u>12:00</u>	<u>205</u>	<u>"</u>	<u>5' 8"</u>	<u>52' 10"</u>
16. Recovery in 1 minutes 47' 2", in 30 minutes \_\_\_\_\_
17. Customer's pump No. 20346 was installed in this well by C. L. Eitel

7858273029

BWR SALINA

F-633 T-225 P-005

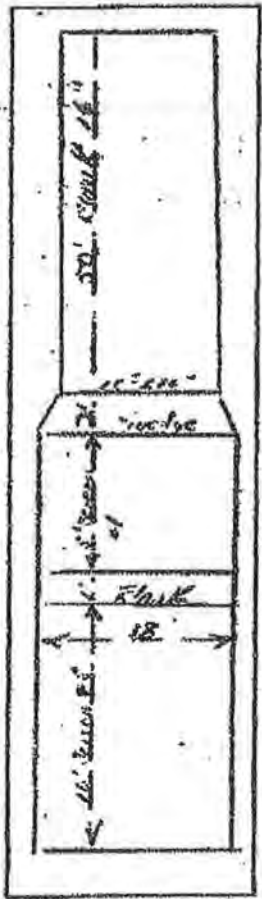
OCT 21 '98 14:24

10. Did you seal bottom of well? Yes Thickness 1/2 inches, material Steel Mesh
11. Was well under-reamed? No From \_\_\_\_\_ feet to \_\_\_\_\_ feet.  
From \_\_\_\_\_ feet to \_\_\_\_\_ feet.  
From \_\_\_\_\_ feet to \_\_\_\_\_ feet.
12. If all screen was not placed at bottom, state how it was spaced.  
From 68 feet to 56 feet; from 57 feet to 52 feet; from \_\_\_\_\_ feet to \_\_\_\_\_ feet.
13. Depth of well (from ground level to top of plug) 68 feet \_\_\_\_\_ inches.
14. Was cement placed around or between any of the casings? Yes
15. If so, state where, how much and method used. 2' around 16" Chuck & 10' 12" hole at 20' level

16. Log of well from ground level:

Feet	Feet	Formation
0	1	Soil
1	8	Dark Brown Clay
8	21	Light Brown Clay
21	30	Sandy Clay
30	40	Sandy Clay & streaks of cemented sand
40	49	Sand & Gravel with Clay Balls
49	57	Sand & Clay
57	68	Med. to coarse sand & Gravel
	68	Shale

FOR SKETCH



17. Remarks:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





2013 WATER WELL RECORD Form WWC-5 KSA 82a-1212

LOCATION OF WATER WELL: Fraction NW 1/4 SE 1/4 SE 1/4 Section Number 11 Township Number T 12 S Range Number R 10 E/W

County: Lincoln Distance and direction from nearest town or city street address of well if located within city? Approximately 1/2 mile north of Sylvan Grove

WATER WELL OWNER: Meyer Land & Cattle c/o Chris Meyer Box 149 Sylvan Grove, KS 67481 Board of Agriculture, Division of Water Resources Application Number:

LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:

N	I	I	N
---	NW	---	NE
---	I	I	---
W	---	---	E
---	SW	---	SE
---	I	I	---
S			X

DEPTH OF COMPLETED WELL: 93 ft. ELEVATION: unknown

Depth(s) Groundwater Encountered 1. . . . . ft. 2. . . . . ft. 3. . . . . ft.

WELL'S STATIC WATER LEVEL 33.1 ft. below land surface measured on (mo/day/yr) 9-10-93

Pump test data: Well water was not chgd. ft. after . . . . . hours pumping . . . . . gpn

Est. Yield unknown gpm; Well water was . . . . . ft. after . . . . . hours pumping . . . . . gpn

Bore Hole Diameter . . . 9 . . . in. to . . . 90 . . . ft. and . . . in. to . . . ft.

WELL WATER TO BE USED AS:

5 Public water supply	8 Air conditioning	11 Injection well
1 Domestic	3 Feedlot	6 Oil field water supply
2 Irrigation	4 Industrial	7 Lawn and garden only
		9 Dewatering
		10 Monitoring well
		12 Other (Specify below)

Was a chemical/bacteriological sample submitted to Department? Yes . . . . . No . . . . . X . . . . . If yes, (mo/day/yr) sample was submitted

Water Well Disinfected? Yes  No

TYPE OF BLANK CASING USED:

1 Steel	3 RMP (SR)	5 Wrought iron	8 Concrete tile	CASING JOINTS: Glued <input checked="" type="checkbox"/> Clamped
2 PVC	4 ABS	6 Asbestos-Cement	9 Other (specify below)	Welded
		7 Fiberglass		Threaded

Blank casing diameter . . . 5 . . . in. to . . . 70 . . . ft. Dia . . . in. to . . . ft. Dia . . . in. to . . . ft.

Casing height above land surface . . . 36 . . . in. weight . . . 2,36 . . . lbs./ft. Wall thickness or gauge No. . . . 214 . . .

TYPE OF SCREEN OR PERFORATION MATERIAL:

1 Steel	3 Stainless steel	5 Fiberglass	8 RMP (SR)	10 Asbestos-cement
2 Brass	4 Galvanized steel	6 Concrete tile	9 ABS	11 Other (specify)
				12 None used (open hole)

SCREEN OR PERFORATION OPENINGS ARE:

1 Continuous slot	3 Mill slot	5 Gauzed wrapped	8 Saw cut	11 None (open hole)
2 Louvered shutter	4 Key punched	6 Wire wrapped	9 Drilled holes	
		7 Torch cut	10 Other (specify)	

SCREEN-PERFORATED INTERVALS: From . . . 70 . . . ft. to . . . 90 . . . ft., From . . . ft. to . . . ft., From . . . ft. to . . . ft.

GRAVEL PACK INTERVALS: From . . . 30 . . . ft. to . . . 50 . . . ft., From . . . ft. to . . . ft., From . . . ft. to . . . ft.

From . . . 63 . . . ft. to . . . 90 . . . ft., From . . . ft. to . . . ft.

GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other Bentonite Holeplug

Grout intervals: From . . . ft. to . . . ft., From . . . 0 . . . ft. to . . . 30 . . . ft., From . . . 50 . . . ft. to . . . 63 . . . ft.

What is the nearest source of possible contamination:

1 Septic tank	4 Lateral lines	7 Pit privy	10 Livestock pens	14 Abandoned water well
2 Sewer lines	5 Cess pool	8 Sewage lagoon	11 Fuel storage	15 Oil well/Gas well
3 Watertight sewer lines	6 Seepage pit	9 Feedyard	12 Fertilizer storage	16 Other (specify below)
			13 Insecticide storage	None known

Direction from well?

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	11	Topsoil, clay			
11	17	Sandstone			
17	21	Shale, gray			
21	23	Sandstone			
23	30	Shale, gray			
30	56	Sandstone, shale stringer mixed			
56	63	Shale			
63	90	Sandstone			
90		Shale, hard			

CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 9-10-93 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 185. This Water Well Record was completed on (mo/day/yr) 9-27-93 under the business name of Clarke Well & Equipment, Inc. by (signature) [Signature]

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: 913-296-5545. Send one to WATER WELL OWNER and retain one for your records.

WATER WELL RECORD Form WWC-5 KSA B2a-1212

LOCATION OF WATER WELL:	Fraction	Section Number	Township Number	Range Number
County: <u>Lincoln</u>	SW ¼ SW ¼ SE ¼	11	T 12 S	R 10W E/W

Distance and direction from nearest town or city street address of well if located within city?  
Northwest corner of Sylvan Grove, Kansas

WATER WELL OWNER: Chris Meyer  
 IR#, St. Address, Box #: 1085 Main  
 City, State, ZIP Code: Sylvan Grove, Kansas 67481  
 Board of Agriculture, Division of Water Resource  
 Application Number: \_\_\_\_\_

LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:

N			
W	NW	NE	E
	SW	SE	
	S		

DEPTH OF COMPLETED WELL: 80 ft. ELEVATION: Unknown  
 Depth(s) Groundwater Encountered 1. 40 ft. 2. \_\_\_\_\_ ft. 3. \_\_\_\_\_ ft.  
 WELL'S STATIC WATER LEVEL 40 ft. below land surface measured on mo/day/yr 11/16/95  
 Pump test data: Well water was \_\_\_\_\_ ft. after \_\_\_\_\_ hours pumping \_\_\_\_\_ gpm  
 Est. Yield 1.5 gpm: Well water was \_\_\_\_\_ ft. after \_\_\_\_\_ hours pumping \_\_\_\_\_ gpm  
 Bore Hole Diameter 7 7/8 in. to 80 ft. and \_\_\_\_\_ in. to \_\_\_\_\_ ft.  
 WELL WATER TO BE USED AS:  
 1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below)  
 2 Irrigation 4 Industrial 7 Lawn and garden only 10 Monitoring well  
 5 Public water supply 8 Air conditioning 11 Injection well  
 Was a chemical/bacteriological sample submitted to Department? Yes \_\_\_\_\_ No \_\_\_\_\_; If yes, mo/day/yr sample was submitted \_\_\_\_\_  
 Water Well Disinfected? Yes \_\_\_\_\_ No \_\_\_\_\_

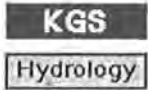
TYPE OF BLANK CASING USED:  
 1 Steel 3 RMP (SR) 6 Asbestos-Cement 9 Other (specify below)  
 2 PVC 4 ABS 7 Fiberglass  
 Casing diameter \_\_\_\_\_ ft. Dia \_\_\_\_\_ in. Dia \_\_\_\_\_ in. to \_\_\_\_\_ ft. Dia \_\_\_\_\_ in. to \_\_\_\_\_ ft.  
 Casing height above land surface \_\_\_\_\_ ft. weight \_\_\_\_\_ lbs./ft. Wall thickness or gauge No. Sch. 40  
 TYPE OF SCREEN OR PERFORATION MATERIAL:  
 1 Steel 3 Stainless steel 5 Fiberglass 8 RMP (SR) 11 Other (specify)  
 2 Brass 4 Galvanized steel 6 Concrete tile 9 ABS 12 None used (open hole)  
 SCREEN OR PERFORATION OPENINGS ARE:  
 1 Continuous slot 3 Mill slot 6 Wire wrapped 9 Drilled holes  
 2 Louvered shutter 4 Key punched 7 Torch cut 10 Other (specify)  
 SCREEN-PERFORATED INTERVALS: From 50 ft. to 80 ft. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 GRAVEL PACK INTERVALS: From 20 ft. to 80 ft. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 GROUT MATERIAL: 1 Neat cement 2 Cement grout 3 Bentonite 4 Other  
 Grout intervals: From 0 ft. to 20 ft. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 What is the nearest source of possible contamination:  
 1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well  
 2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well  
 3 Watertight sewer lines 6 Seepage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below)  
 13 Insecticide storage  
 Direction from well? North How many feet? 75

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	5	Top soil			
5	50	Shale			
50	80	Sand rock			

CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 11/16/95 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 186. This Water Well Record was completed on (mo/day/yr) 11/20/95 under the business name of Kelly's Water Well Service, Inc. by (signature) Chris Meyer

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY AND PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001. Telephone: (316) 236-5045. Send one to WATER WELL OWNER and retain one for your records.

KGS--Water Wells Query Answer--Scan of WWC5 Form



Scan of WWC5 Form

WATER WELL RECORD Form WWC-5 KSA 82a-1212

1 LOCATION OF WATER WELL: County Lincoln Fraction SW 1/4 SW 1/4 SW 1/4 Section Number 102 Township Number T 122 Range Number R 10 East/West EW  
Distance and direction from nearest town or city street address of well if located within city?  
Sylvan Grove KS 4 1/2 miles East on North End of town

2 WATER WELL OWNER: Lowell Fisher Board of Agriculture, Division of Water Resources  
Rt#, St. Address, Box #: PO Box 35 Application Number:  
City, State, ZIP Code: Sylvan Grove KS

3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:  

	N	
---	NW	NE
---	SW	SE
---		

DEPTH OF COMPLETED WELL: 100 ft. ELEVATION:  
 Depth(a) Groundwater Encountered: 85 ft. 2. \_\_\_\_\_ ft. 3. \_\_\_\_\_ ft.  
 WELL'S STATIC WATER LEVEL: 15 ft. below land surface measured on mo/dayr 8-10-01  
 Pump test data: Well water was \_\_\_\_\_ ft. after \_\_\_\_\_ hours pumping \_\_\_\_\_ gpm  
 Est. Yield \_\_\_\_\_ gpm. Well water was \_\_\_\_\_ ft. after \_\_\_\_\_ hours pumping \_\_\_\_\_ gpm  
 Bore Hole Diameter: 3 1/2 in. to 10.0 in. and \_\_\_\_\_ in. to \_\_\_\_\_ in.  
 WELL WATER TO BE USED AS: 5 Public water supply 6 Air conditioning 11 Injection well  
 Domestic 9 Feedlot 10 Oil field water supply 9 Dewatering 12 Other (Specify below)  
 2 Irrigation 4 Industrial 7 Lawn and garden only 10 Monitoring well  
 Was a chemical/bacteriological sample submitted to Department? Yes \_\_\_\_\_ No  If yes, mo/dayr sample was submitted \_\_\_\_\_  
 Water Well Disinfected? Yes  No \_\_\_\_\_

4 TYPE OF BLANK CASING USED:  
 1 Steel 3 RMP (SR) 5 Wrought iron 8 Concrete tile CASING JOINTS: Glued  Clamped \_\_\_\_\_  
 PVC 4 ABS 7 Fiberglass 9 Other (specify below) Welded \_\_\_\_\_  
 Threaded \_\_\_\_\_  
 Blank casing diameter: 3 1/2 in. to 10.0 in. Dia. \_\_\_\_\_ in. to \_\_\_\_\_ in. Dia. \_\_\_\_\_ in. to \_\_\_\_\_ in. Dia.  
 Casing height above land surface: 24 in. weight \_\_\_\_\_ lbs./ft. Wall thickness or gauge No. 30  
 TYPE OF SCREEN OR PERFORATION MATERIAL:  
 1 Steel 3 Stainless steel 5 Fiberglass  PVC 10 Asbestos-cement  
 2 Brass 4 Galvanized steel 6 Concrete tile 9 ABS 11 Other (specify) \_\_\_\_\_  
 12 None used (open hole)  
 SCREEN OR PERFORATION OPENINGS ARE:  
 1 Continuous slot 3 Mill slot 5 Gauzed wrapped  Saw cut 11 None (open hole)  
 2 Louvered shutter 4 Key punched 7 Torch cut 9 Drilled holes  
 10 Other (specify) \_\_\_\_\_  
 SCREEN-PERFORATED INTERVALS: From 80 ft. to 100 ft. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 From \_\_\_\_\_ ft. to \_\_\_\_\_ ft. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 GRAVEL PACK INTERVALS: From 80 ft. to 100 ft. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 From \_\_\_\_\_ ft. to \_\_\_\_\_ ft. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

5 GROUT MATERIAL: 1 Neat cement 2 Cement grout  Bentonite 4 Other \_\_\_\_\_  
 Grout Interval: From 79 ft. to 0 ft. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft. From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 What is the nearest source of possible contamination:  
 1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well  
 2 Sewer lines 5 Cess pool 8 Sewage lagoon 11 Fuel storage 15 Oil well/Gas well  
 3 Watertight sewer lines 6 Sumpage pit 9 Feedyard 12 Fertilizer storage 16 Other (specify below)  
 13 Insecticide storage  
 Direction from well? \_\_\_\_\_ How many feet? \_\_\_\_\_

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	2	Soil			
2	65	Yellow clay			
65	85	Blue shale			
85	95	Red & white chert			
95	100	Sand & Rock Red & white			

6 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/dayr) 8-18-01 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 660. This Water Well Record was completed on (mo/dayr) 8-10-01 by (signature) Lowell Fisher  
 Name (the business name of \_\_\_\_\_) \_\_\_\_\_

INSTRUCTIONS: Use (number) of tab over card. PLEASE PRINT NAME & PHONE clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, P.O. Box 660, Topeka, Kansas 66602-0660. Telephone: 781-205-5215. Send one to WATER WELL DIVISION and retain one for your records.

Kansas Geological Survey  
 Comments to webadmin@kgs.ku.edu  
 URL=http://www.kgs.ku.edu/Magellan/WaterWell/index.html  
 Display Programs Updated July 29, 2004  
 Data added continuously.

KGS--Water Wells Query Answer--Scan of WWC5 Form



Scan of WWC5 Form

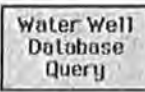
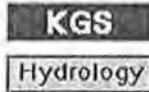
WATER WELL RECORD Form WWC-5 KSA 82a-1212

1 LOCATION OF WATER WELL: Fraction <u>NE 1/4 SW 1/4 Sec 13</u> Township Number <u>T 12 S</u> Range Number <u>R 10 EW</u>	
County: <u>Linn</u>	
Distance and direction from nearest town or city street address of well if located within city? <u>Sylvan Grove, Ky. Northeast 1/2 mile East 5 1/2 miles</u>	
2 WATER WELL OWNER: <u>Larry Fisher</u> RR #, St. Address, Box #: <u>Box 30</u> City, State, ZIP Code: <u>Sylvan Grove, Ky. 67483</u>	
Board of Agriculture, Division of Water Resources Application Number:	
3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX:	
	DEPTH OF COMPLETED WELL: <u>120</u> ft. ELEVATION: Depth(s) Groundwater Encountered: 1. <u>118</u> ft. 2. _____ ft. 3. _____ ft. WELL'S STATIC WATER LEVEL: <u>76</u> ft. below land surface measured on mo/day/yr <u>1-24-02</u> Pump test date: Well water was _____ ft. after _____ hours pumping _____ gpm Est. Yield _____ gpm: Well water was _____ ft. after _____ hours pumping _____ gpm Bore Hole Diameter: <u>8 3/4</u> in. to _____ ft. and _____ in. to _____ ft. WELL WATER TO BE USED AS: <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Feedlot <input type="checkbox"/> Oil field water supply <input type="checkbox"/> Dewatering <input type="checkbox"/> Injection well <input type="checkbox"/> Irrigation <input type="checkbox"/> Industrial <input type="checkbox"/> Lawn and garden only <input type="checkbox"/> Monitoring Well Was a chemical/bacteriological sample submitted to Department? Yes _____ No <input checked="" type="checkbox"/> If yes, mo/day/yr sample was submitted _____ Water Well Disinfected? Yes <input checked="" type="checkbox"/> No _____
4 TYPE OF BLANK CASING USED:	
1 Steel    3 RMP (SR) <input checked="" type="checkbox"/> PVC    4 ABS	5 Wrought iron    6 Concrete tile 6 Asbestos-Cement    7 Fiberglass 8 Other (specify below)
Blank casing diameter: <u>5</u> in. to <u>100</u> in. Dia. _____ in. to _____ ft. Dia. _____ in. to _____ ft. Dia. _____ in. to _____ ft. Dia. _____ in. to _____ ft.	
Casing height above land surface: <u>24</u> in. weight: <u>240</u> lbs. ft. Wall thickness or gauge No. <u>50.91</u>	
5 TYPE OF SCREEN OR PERFORATION MATERIAL:	
1 Steel    3 Stainless steel    5 Fiberglass 2 Brass    4 Galvanized steel    6 Concrete tile	7 RMP (SR)    8 ABS 9 PVC    10 Asbestos-cement 11 Other (specify) _____ 12 None used (open hole)
SCREEN OR PERFORATION OPENINGS ARE:	
1 Continuous slot    3 Flat slot 2 Lowered shutter    4 Key punched	5 Gauzed wrapped    8 Saw cut    11 None (open hole) 6 Wire wrapped    9 Drifted holes 7 Torch cut    10 Other (specify) _____
SCREEN-PERFORATED INTERVALS: From <u>100</u> ft. to <u>120</u> ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft.	
GRAVEL PACK INTERVALS: From <u>25</u> ft. to <u>120</u> ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft.	
6 GROUT MATERIAL: 1 Neat cement    2 Cement grout <input checked="" type="checkbox"/> Bentonite    4 Other _____	
Grout Interval: From <u>175</u> ft. to <u>0</u> ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft.	
What is the nearest source of possible contamination:	
1 Septic tank    4 Lateral lines    7 Pit privy 2 Sewer lines    5 Cess pool    8 Sewage lagoon 3 Watertight sewer lines    6 Seepage pit    9 Feedyard	10 Livestock pens    14 Abandoned water well 11 Fuel storage    15 Oil well Gas well 12 Fertilizer storage    16 Other (specify below) _____ 13 Insecticide storage
Direction from well?	
FROM TO LITHOLOGIC LOG FROM TO PLUGGING INTERVALS	
0 3 Soil	
3 45 Yellow clay	
45 80 Blue shale	
80 115 Light blue & white shale	
115 118 Sandy shale & sandstone	
118 130 Red shale	
7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION. This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/yr) <u>1-24-02</u> and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. <u>660</u> This Water Well Record was completed on (mo/day/yr) <u>1-25-02</u> under the business name of <u>Cooperman Water Well City</u> by (signature) <u>[Signature]</u>	
INSTRUCTIONS: Use spinner or dot point pen. PLEASE PRESS FIRMLY AND PRINT CLEAR. Please fill in blanks. Uncertain or circle the best answers. Send two (2) copies to Kansas Department of Health and Environment, Bureau of Water, Topol & Narveson 62620-0001. Telephone 913 296 5545. Send one to WATER WELL OWNER and retain one for your records.	

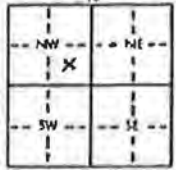
Kansas Geological Survey  
Comments to webadmin@kgs.ku.edu  
URL=<http://www.kgs.ku.edu/Magellan/WaterWell/index.html>  
Display Programs Updated July 29, 2004  
Data added continuously.



KGS--Water Wells Query Answer--Scan of WWC5 Form



Scan of WWC5 Form

1 LOCATION OF WATER WELL: County: <u>Lincoln</u>		Fraction: <u>C 1/4 SE 1/4 NW 1/4</u>	Section Number: <u>13</u>	Township Number: <u>T 12 S</u>	Range Number: <u>R 10 E</u>
Distance and direction from nearest town or city street address of well if located within city? <u>on E side of Sylvan Grove</u>					
2 WATER WELL OWNER: Name: <u>Toby Myers</u> RR#, St. Address, Box #: <u>1016A</u> City, State, ZIP Code: <u>Sylvan Grove, KS, 67481</u>		Board of Agriculture, Division of Water Resources Application Number: _____			
3 LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX: 		4 DEPTH OF COMPLETED WELL: <u>100</u> ft. ELEVATION: _____ Depth(s) Groundwater Encountered: 1. <u>28</u> ft. 2. _____ ft. 3. _____ ft. WELL'S STATIC WATER LEVEL: <u>40</u> ft. below land surface measured on mo/day/yr Pump test date: Well water was _____ ft. after _____ hours pumping _____ gpm Est. Yield _____ gpm: Well water was _____ ft. after _____ hours pumping _____ gpm Bore Hole Diameter: _____ in. to _____ ft. and _____ in. to _____ ft. WELL WATER TO BE USED AS: 1 Domestic 3 Feedlot 6 Oil field water supply 9 Dewatering 12 Other (Specify below) 2 Irrigation 4 Industrial 7 Lawn and garden only 10 Monitoring well Was a chemical/bacteriological sample submitted to Department? Yes _____ No _____ Water Well Disinfected? Yes _____ No _____			
5 TYPE OF CASING USED: 1 Steel 3 RMP (SR) 5 Wrought iron 8 Concrete tile CASING JOINTS: Claved <input checked="" type="checkbox"/> Clamped _____ <input checked="" type="checkbox"/> PVC 4 ABS 7 Fiberglass 9 Other (specify below) Welded _____ Blank casing diameter: _____ in. Dia. _____ in. Dia. _____ in. Dia. _____ in. Dia. _____ in. Dia. Casing height above land surface: _____ ft. Weight: _____ lbs./ft. Wall thickness or gauge No. _____ TYPE OF SCREEN OR PERFORATION MATERIAL: 1 Steel 3 Stainless steel 5 Fiberglass 8 RMP (SR) 10 Asbestos-cement 2 Brass 4 Galvanized steel 6 Concrete tile 9 ABS 11 Other (specify) _____ 12 None used (open hole) SCREEN OR PERFORATION OPENINGS ARE: 1 Continuous slot 3 Mill slot 5 Galvanized wrapped 8 Saw cut 11 None (open hole) 2 Louvered shutter 4 Key punched 6 Wire wrapped 9 Drilled holes 10 Other (specify) _____ SCREEN/PERFORATED INTERVALS: From: <u>100</u> ft. to <u>60</u> ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft. GRAVEL PACK INTERVALS: From: <u>100</u> ft. to <u>60</u> ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft.					
6 GROUT MATERIAL: 1 Neat cement 2 Cement grout <input checked="" type="checkbox"/> Bentonite 4 Other _____ Grout intervals: From: <u>60</u> ft. to <u>0</u> ft. From _____ ft. to _____ ft. From _____ ft. to _____ ft. What is the nearest source of possible contamination: 1 Septic tank 4 Lateral lines 7 Pit privy 10 Livestock pens 14 Abandoned water well 2 Sewer lines 5 Cess pool 8 Dewatering lagoon 11 Fuel storage 15 Oil well/Gas well 3 Water-tight sewer lines 6 Sepsage pit 9 Feedyard 12 Fertilizer storage 18 Other (specify below) 13 Insecticide storage Direction from well? FROM TO LITHOLOGIC LOG FROM TO PLUGGING INTERVALS 0 3 Soil 3 4.5 Yellow Clay 4.5 60 Red & White Clay 60 80 Blue shale 80 85 Sand 85 100 Red shale					
7 CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) <u>9-5-00</u> and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. <u>660</u> This Water Well Record was completed on (mo/day/yr) <u>9-5-00</u> under the business name of <u>Goodman's water well Rllc</u> by (signature) <u>Jim Paul</u> INSTRUCTIONS: Use typewriter or ball point pen. IN CASE OF LOSS, FILING and (2) FILED clearly indicate in blank underline or check the correct answer. Send 100 three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66603-0001. Telephone: 913-286-5245. Send one to WATER WELL OWNER and retain one for your records.					

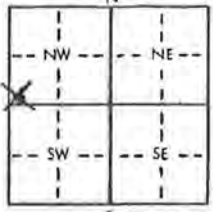
WATER WELL RECORD Form WWC-5 KSA 02a-1212

LOCATION OF WATER WELL: County: <u>Lincoln</u>	Fraction <u>SW 1/4 SW 1/4 NW 1/4</u>	Section Number <u>13</u>	Township Number <u>T 12 S</u>	Range Number <u>R 10 W</u>
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Distance and direction from nearest town or city street address of well if located within city?  
1/4 Mile South of Sylvan Grove

WATER WELL OWNER: Glen Ringler  
 IR#, St. Address, Box #: Rt 2, Box 51  
 City, State, ZIP Code: Sylvan Grove, KS 67481

Board of Agriculture, Division of Water Resources  
Application Number: \_\_\_\_\_

LOCATE WELL'S LOCATION WITH AN "X" IN SECTION BOX: 	DEPTH OF COMPLETED WELL... <u>136</u> ft. ELEVATION: Depth(s) Groundwater Encountered 1. <u>32</u> ft. 2. _____ ft. 3. _____ ft. WELL'S STATIC WATER LEVEL ... <u>32</u> ft. below land surface measured on <u>mo/day/yr</u> <u>4-21-92</u> Pump test data: Well water was _____ ft. after _____ hours pumping _____ gpm Est. Yield <u>10-20</u> gpm: Well water was _____ ft. after _____ hours pumping _____ gpm Bore Hole Diameter: <u>.8</u> in. to <u>1.46</u> in. and _____ in. to _____ in. WELL WATER TO BE USED AS: 1 Domestic _____ 3 Feedlot _____ 6 Oil field water supply _____ 9 Dewatering _____ 12 Other (Specify below) _____ 2 Irrigation _____ 4 Industrial _____ 7 Lawn and garden only _____ 10 Monitoring well _____ Was a chemical/bacteriological sample submitted to Department? Yes _____ No <u>X</u> _____; If yes, mo/day/yr sample was submitted _____ Water Well Disinfected? Yes <u>X</u> No _____
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TYPE OF BLANK CASING USED:  
 1 Steel \_\_\_\_\_ 3 RMP (SR) \_\_\_\_\_ 5 Wrought iron \_\_\_\_\_ 8 Concrete tile \_\_\_\_\_ CASING JOINTS: Glued X Clamped \_\_\_\_\_  
 2 PVC \_\_\_\_\_ 4 ABS \_\_\_\_\_ 6 Asbestos-Cement \_\_\_\_\_ 9 Other (specify below) \_\_\_\_\_ Welded \_\_\_\_\_  
 7 Fiberglass \_\_\_\_\_ Threaded \_\_\_\_\_  
 Blank casing diameter 5 in. to 11.6 ft. Dia \_\_\_\_\_ in. to \_\_\_\_\_ ft. Dia \_\_\_\_\_ in. to \_\_\_\_\_ ft.  
 Casing height above land surface 12 in. weight 2.37 lbs./ft. Wall thickness or gauge No. 2.14

TYPE OF SCREEN OR PERFORATION MATERIAL:  
 1 Steel \_\_\_\_\_ 3 Stainless steel \_\_\_\_\_ 5 Fiberglass \_\_\_\_\_ 7 PVC \_\_\_\_\_ 10 Asbestos-cement \_\_\_\_\_  
 2 Brass \_\_\_\_\_ 4 Galvanized steel \_\_\_\_\_ 6 Concrete tile \_\_\_\_\_ 9 ABS \_\_\_\_\_ 11 Other (specify) \_\_\_\_\_  
 12 None used (open hole) \_\_\_\_\_

SCREEN OR PERFORATION OPENINGS ARE:  
 1 Continuous slot \_\_\_\_\_ 3 Mill slot \_\_\_\_\_ 5 Gauzed wrapped \_\_\_\_\_ 8 Saw cut \_\_\_\_\_ 11 None (open hole) \_\_\_\_\_  
 2 Louvered shutter \_\_\_\_\_ 4 Key punched \_\_\_\_\_ 6 Wire wrapped \_\_\_\_\_ 9 Drilled holes \_\_\_\_\_  
 7 Torch cut \_\_\_\_\_ 10 Other (specify) \_\_\_\_\_

SCREEN-PERFORATED INTERVALS: From 11.6 ft. to 136 ft., From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 From \_\_\_\_\_ ft. to \_\_\_\_\_ ft., From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 GRAVEL PACK INTERVALS: From 25 ft. to 136 ft., From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
 From \_\_\_\_\_ ft. to \_\_\_\_\_ ft., From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

GROUT MATERIAL: 1 Neat cement \_\_\_\_\_ 2 Cement grout \_\_\_\_\_ 3 Bentonite \_\_\_\_\_ 4 Other \_\_\_\_\_  
 Grout intervals: From 5 ft. to 25 ft., From \_\_\_\_\_ ft. to \_\_\_\_\_ ft., From \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

What is the nearest source of possible contamination:  
 1 Septic tank \_\_\_\_\_ 4 Lateral lines \_\_\_\_\_ 7 Pit privy \_\_\_\_\_ 10 Livestock pens \_\_\_\_\_ 14 Abandoned water well \_\_\_\_\_  
 2 Sewer lines \_\_\_\_\_ 5 Cess pool \_\_\_\_\_ 8 Sewage lagoon \_\_\_\_\_ 11 Fuel storage \_\_\_\_\_ 15 Oil well/Gas well \_\_\_\_\_  
 3 Watertight sewer lines \_\_\_\_\_ 6 Seepage pit \_\_\_\_\_ 9 Feedyard \_\_\_\_\_ 12 Fertilizer storage \_\_\_\_\_ 16 Other (specify below) \_\_\_\_\_  
 13 Insecticide storage \_\_\_\_\_

Direction from well? West How many feet? 100 ft.

FROM	TO	LITHOLOGIC LOG	FROM	TO	PLUGGING INTERVALS
0	2	Top Soil			
2	9	Silty Tan Clay			
9	11	Gray Shale			
11	27	Sandstone			
27	49	Gray Shale			
49	55	Gray Shale With small layers of sandstone			
55	130	Gray Shale			
130	140	Sandstone			
140	146	Gray Shale			

CONTRACTOR'S OR LANDOWNER'S CERTIFICATION: This water well was (1) constructed, (2) reconstructed, or (3) plugged under my jurisdiction and was completed on (mo/day/year) 4-21-92 and this record is true to the best of my knowledge and belief. Kansas Water Well Contractor's License No. 138. This Water Well Record was completed on (mo/day/yr) 4-29-92 under the business name of Peterson Irrigation Inc. by (signature) Mike Peterson

INSTRUCTIONS: Use typewriter or ball point pen. PLEASE PRESS FIRMLY and PRINT clearly. Please fill in blanks, underline or circle the correct answers. Send top three copies to Kansas Department of Health and Environment, Bureau of Water, Topeka, Kansas 66620-0001 Telephone: 913-296-8545. Send one to WATER WELL OWNER and retain one for your records.

**Appendix C:**  
**Property Records**



<p style="text-align: center;">FROM</p> <p>Eldor Hillmer and Doris Hillmer (husband and wife) TO</p> <p>Harold and Melinda Panser (husband and wife)</p>	<p>STATE OF KANSAS, County of LINCOLN, ss.</p> <p>This instrument was filed for record on the 1st day of July, A. D., 1955 at 2:30 o'clock P. M., and duly recorded in Book 42 of Deeds, at Page 272</p> <p style="text-align: right;"><i>W. A. Busick</i> Register of Deeds.</p> <p>By _____ Deputy</p>
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THIS INDENTURE, Made this 22nd day of April, A. D., 1954 between Eldor Hillmer and Doris Hillmer, husband and wife, of Lincoln County, in the State of Kansas, of the first part, and Harold Panser and Melinda Panser, husband and wife of Lincoln County, in the State of Kansas, as joint tenants with the right of survivorship and not as tenants in common, of the second part:

WITNESSETH, That said parties of the first part, in consideration of the sum of One dollar and other consideration and 100 DOLLARS, the receipt whereof is hereby acknowledged, do by these presents, grant bargain, sell and convey unto said parties of the second part and the survivor of them all the following described REAL ESTATE, situated in the County of Lincoln and State of Kansas, to-wit:

Part of the Southeast Quarter (SE $\frac{1}{4}$ ) of Section Eleven (11), Township Twelve (12), Range Ten (10), West of the Sixth Principal Meridian, Lincoln County, Kansas, described by metes and bounds as follows; to-wit: Beginning at a point on Section line 851.2 west of the southeast corner of said Southeast Quarter (SE $\frac{1}{4}$ ), thence north 30 feet; thence west 47 feet; thence north 183 feet; thence west 55 feet; thence north 1121.5 feet; thence east 315 feet; thence south 1337.5; thence west 183 feet to place of beginning, excepting however, any mineral rights previously conveyed, and now of record, and further subject to an easement and right of way of School District #28, Lincoln County, Kansas, as it appears of record.

TO HAVE AND TO HOLD THE SAME, Together with all and singular the tenements, hereditaments and appurtenances hereunto belonging or in anywise appertaining, forever, as joint tenants, the survivor to take the whole estate.

And said grantors, their heirs, executors, and administrators, do hereby covenant, promise and agree, to and with said parties 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 un-incumbered of and from all former and other grants, title, charges, estates, judgments, taxes, assessments and incumbrances, of what nature or kind soever, EXCEPT a real estate mortgage now of record running to Clara Johansen in the principal sum of \$1500.00, which said parties assume and agree to pay. WARRANT AND FOREVER DEFEND the same unto said parties of the second part and the survivor of them against said parties 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 part 1ss of the first part have hereunto set their hand s the day and year first above written.

\_\_\_\_\_  
Eldor Hillmer

\_\_\_\_\_  
Doris Hillmer

State of Kansas, Lincoln County, ss.  
BE IT REMEMBERED, That on this 18th day of June, A. D., 1955, before me, the undersigned, a Notary Public in and for the County and State aforesaid, came

Eldor Hillmer, and Doris Hillmer, his wife, 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 notarial seal, the day and year last above written.

(SEAL) \_\_\_\_\_ W. A. Busick Notary Public.  
Term expires January 23rd, 1956

DEED—General Warranty—(Joint Tenancy)

FROM  
HAROLD F. PANZER and MELINDA PANZER,  
  
TO  
PAUL WINCKLER and PHYLLIS WINCKLER,

STATE OF KANSAS, COUNTY OF LINCOLN, ss.  
This instrument was filed for record on the 27  
day of April, A. D., 1960,  
at 2:25 o'clock P. M., and duly recorded in Book 43  
of Deeds, at Page 485  
By Keith Wiegert Register of Deeds  
Edna Huslar Deputy

THIS INDENTURE, Made this 25th day of April, A. D., 1960  
between HAROLD F. PANZER and MELINDA PANZER, husband and wife,  
of Lincoln County, in the State of Kansas, of the first part,  
and PAUL WINCKLER and PHYLLIS WINCKLER, husband and wife,  
of Lincoln County, in the State of Kansas, as joint tenants with the right  
of survivorship and not as tenants in common, of the second part:

WITNESSETH, That said parties of the first part, in consideration of the sum of  
One dollar and other valuable consideration and 100 DOLLARS,  
the receipt whereof is hereby acknowledged, do by these presents, grant, bargain, sell and convey unto said parties of the  
second part and the survivor of them all the following described REAL ESTATE, situated in the County of Lincoln  
and State of Kansas, to-wit:  
*heirs-and-all-and-every-person-or*

A part of the SOUTHEAST QUARTER of SECTION ELEVEN (11), TOWNSHIP TWELVE (12)  
South, RANGE TEN (10), West of the 6th P.M., described by metes and bounds as follows:  
Beginning at a point on Section line 668.2 feet West of the Southeast corner  
of said Section 11; thence North 1337.5 feet; thence West 533 feet; thence South 1337.1  
feet to the South line of said Section 11; thence East 533 feet to the point of  
beginning, in Lincoln County, Kansas;  
EXCEPTING from the above described tract the following tract described by metes  
and bounds as follows:

Beginning at a point on Section Line 851 feet West of the Southeast corner of  
said Southeast Quarter of said Section 11; thence Northwest on a 45 degree angle, the  
distance of 78 feet; thence due North 34 feet; thence West at right angle 56 feet;  
thence South at right angle to a point 10 feet North of the North limits of the High-  
way; thence in a southwesterly direction on 45 degree angle to the North Limit of said  
Highway; thence East along the North limit of said Highway to the point of beginning;

AND ALSO EXCEPT any established roads or highways on, through or across said  
land.

I. R. STAMPS \$9.35

TO HAVE AND TO HOLD THE SAME, Together with all and singular the tenements, hereditaments and appurtenances  
thereunto belonging or in anywise appertaining, forever, as joint tenants, the survivor to take the whole estate.

And said grantors, Harold F. Panzer and Melinda Panzer, husband and wife  
for themselves, their heirs, executors, and administrators, do hereby covenant, promise and agree, to and  
with said parties 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,

and that they will WARRANT AND FOREVER DEFEND the same unto said parties of the second  
part and the survivor of them against said parties 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.

HAROLD F. PANZER

MELINDA PANZER

State of Kansas, Lincoln County, ss.  
BE IT REMEMBERED, That on this 25th day of April, A. D., 1960, before me,  
the undersigned, a Notary Public in and for the County and State aforesaid, came  
HAROLD F. PANZER and MELINDA PANZER, husband and wife,  
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 official  
seal, the day and year last above written.

(SEAL)

W.A. BUZICK

Notary Public

Term expires January 23rd, 1962

### Miscellaneous Record

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.

PAUL G. WINCKLER, Lessor

COMMODITY CREDIT CORPORATION, LESSEE  
By John H. Becker  
Chairman, Lincoln ASC County  
Committee.

The lessor herein stated acknowledges and agrees that he has or will collect from Harold Panzer, previous lessor, the sum of \$50.00 paid by the lessee stated herein to Harold Panzer in consideration for lease of this property from May 1, 1960 thru April 30, 1961 and that this money collected shall be the rental consideration to the lessor stated herein for the period shown above.

#### ACKNOWLEDGMENT

I W. A. Buzick, do hereby certify that Paul G. Winckler & John H. Becker, 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 on behalf of a corporation, that he (she or they) as \_\_\_\_\_ was (were) duly authorized by the Board 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 July 26th, 1960.

My commission expires January 27rd-1962.

(SEAL) W. A. BUZICK  
Notary Public

Filed for record in Miscellaneous Book L, on Page 187. July 29, 1960, at 8:20 AM.

Keith Wiegert  
Register of Deeds.  
*By Edna Spolar*  
Deputy

Commodity Credit  
Corporation Form 297  
(6-1-56)

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

STATE COUNTY  
Kansas Lincoln

SERIAL NO. 49-053-37

#### SEVERANCE AGREEMENT

WHEREAS, DANIEL M. CROMWELL, of Vesper, Kansas, County of Lincoln, State of Kansas, hereinafter called the "Borrower" has applied to the Commodity Credit Corporation for a loan or for the guarantee of a loan for the purpose purchasing and erecting or constructing the following storage structure, to-wit:

TYPE	KIND (Wood, Steel, Etc.)	CAPACITY (Bushels or Tons)
Round, moveable (Butler)	Corrugated Steel	5,100 Bushels

on the following described real estate situated in the County of Lincoln, State of Kansas:

NW/4 8-12-8 at building site

Whereas the borrower has agreed to give Commodity Credit Corporation or its approved lending agency a mortgage lien on said storage structure:

Now, Therefore, the parties hereto do covenant and agree that such structures and equipment:

1. Shall remain severed from said real estate, and,
2. Even if attached to the realty, shall retain their personal character. shall be removable from the real estate, shall be treated as personal property with respect to the rights of the parties, and shall not become fixtures or a part of the real estate; and,
3. Shall not be subject to the lien of any security transaction or instrument heretofore or hereafter arising against the structure or realty on which it is placed until,
  - (a) the expiration of Commodity Credit Corporation's Lien and any extension or renewal thereof; and,
  - (b) Until repayment of said loan.
4. Shall, if acquired by Commodity Credit Corporation through foreclosure or other means, at the option of Commodity Credit Corporation remain on the above described real estate for a period not to exceed six (6) months after the date of acquisition by Commodity Credit Corporation at no expense to Commodity Credit Corporation.

IN WITNESS WHEREOF, the undersigned have executed these presents on the dates immediately below their respective signatures:

DANIEL M. CROMWELL  
Date: 7-25-60  
(signature of borrower)

FLORENCE E. CROMWELL  
Date: 7-25-60  
(owner)

NOVA CROMWELL  
Date: 7-25-60  
(signature of borrower's spouse)

# Lincoln County, Kansas

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

## LEASE OF PROPERTY

THIS LEASE, made entered into this day \_\_\_\_\_, 19\_\_\_\_, by and between Paul G. Winckler of Sylvan Grove, Kansas Lessor, and Commodity Credit Corporation, 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 Lincoln and State of Kansas.

Part of the SE 1/4 11-12-10 west of 6th Principal Meridian. Beginning at a point on section line 1201.2 feet west of SE 1/4 of Section 11, Township 12, Range 10 thence north 164 feet to SW corner of Bin Site. thence north 408 feet thence east 153 thence south 358 feet thence southwest to a point 120 feet east of beginning place thence west 120 feet to point of beginning with a driveway from public highway. containing 2 acres, more or less.

2. The term of the lease shall be for a period of 15 years, commencing the 1st day of May 1960, and ending the 30th day of April, 1974, 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 30th day of April of any year, by giving 60 days' previous notice in writing to the Lessor.

3. As rent for said property, the Lessee shall pay the Lessor Fifty Dollars (\$50.00) 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 do 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 60 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 Fifty Dollars (\$50.00) 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 \_\_\_\_\_ Dollars (\$ \_\_\_\_\_). 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.

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 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

\* \* \* THE LESSOR WARRANTS TO COOPERATE IN ALL MANNER TO BE REQUIRED BY GOVERNMENT AGENCIES IN CONNECTION WITH THE PROCEEDINGS OF SUCH INCREASED

Lincoln County, Kansas

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 of 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 purposes of leasing or selling his property.

(SEAL) HAROLD PANZER COMMODITY CREDIT CORPORATION, LESSEE

(SEAL) \_\_\_\_\_ By ORAL L. MYERS  
Vice-Chairman, Lincoln County  
ASC Committee

(To be Reproduced in ASG State Office)

State of Kansas, Lincoln County, ss.  
This instrument was filed for record at 8:20 May 26, 1954 A.M. Recorded in Book 23-P-212. P.E. Grimes, Register of Deeds.

This instrument was released from Chattel Mortgage Records this 14th day of April, A.D. 1959, and refiled in Miscellaneous Records, Book L, Page 28, at 11:05 A.M. and indexed to the land.

*Keith Wiegert*  
Keith Wiegert  
Register of Deeds

\*\*\*\*\* EXHIBIT 1  
(7-GR)

EXTENSION OF LEASE

This extension of Lease made and entered into this 28 day of March, 1959, by and between HAROLD PANZER, hereinafter called Lessor, and COMMODITY CREDIT CORPORATION, hereinafter called Lessee.

WITNESSETH, Whereas, the parties hereto have heretofore entered into a certain lease dated May 1, 1954, wherein the Lessor leased to the Lessee the following described property:

PART of the SE 1/4 11-12-10 WEST of 6th PRINCIPAL MERIDIAN. Beginning at a point on section line 1201.2 feet West of SE corner of SE Quarter of Section 11-12-10 thence North 164 feet to Southwest corner of Bin Site thence North 408 feet thence East 153 feet thence South 358 feet thence Southwest to a point 120 feet East of beginning place thence West 120 feet to point of beginning. With a driveway from public highway to Bin site. Containing 2 Acres more or less.

For a term ending April 30, 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 April 30, 1969.
- (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 April 30, 1974, 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 of lease on the day first above written.

HAROLD PANZER Lessor COMMODITY CREDIT CORPORATION  
MALINDA PANZER Lessors spouse By JOHN H. BECKER contracting officer

NOTE: it is necessary to have the above agreement acknowledged and recorded.

ACKNOWLEDGMENT

I, W.A. BUZICK do hereby certify that HAROLD PANZER, MALINDA PANZER, JOHN H. BECKER, 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, in case said instrument was executed on behalf of a corporation that he (she or they) as \_\_\_\_\_ and his (her or their) \_\_\_\_\_ was (were) duly authorized

Official title(s) (name of corporation)  
by the board 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 March 28, 1959. My commission Expires January 23, 1962.

W.A. BUZICK (SEAL)

Filed for record this 14th day of April, A.D. 1959, at 11:05 A.M. *Keith Wiegert*

## Miscellaneous Record

CL Form-58  
(4-2-54)  
Bin Site # 1.

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 HAROLD PANZER of Sylvan Grove, Kansas, lessor, and Commodity Credit Corporation, 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 Lincoln and state of Kansas:  
PART of the SE $\frac{1}{4}$  11-12--10 west of 6th Principal Meridian. Beginning at a point on section line 1201.2 feet west of SE corner of SE $\frac{1}{4}$  of Section 11-12-10 thence north 164 feet to SW corner of Bin Site thence north 408 feet thence east 153 feet thence south 358 feet thence southwest to a point 120 feet east of beginning place thence west 125 feet to point of beginning with a driveway from public highway to Bin Site. Containing 2 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 30th day of April, 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 30th day of April of any year, by giving 60 days' previous notice in writing to the Lessor.
3. As rent for said property, the Lessee shall pay the Lessor Fifty Dollars (\$50.00) 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.  
3-31-54  
CL Form - 58 (Reverse)  
(4-2-54)
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 Fifty Dollars (\$50.00) per year.
9. As 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 an abstract of title, certificate of title or other evidence of title satisfactory to CCG 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 extend to this lease or purchase, if made with a corporation for its general

Page 1 of Aug. 11, 1966 newsletter



*Com Copy*  
ASCS  
NEWSLETTER

Lincoln, Kansas  
Tel. 913-LA-44855.  
*August 11, 1966*

GRAIN STORAGE BINS FOR SALE

Thirty (30) steel BS&B grain bins (3250 bushel capacity) in good condition are being offered for sale. The bins are located at the CCC bin site in Sylvan Grove, Kansas. The bin site will be open for inspection of bins on Monday, August 15, 1966 from 10:00 A.M. to 3:00 P.M. Bid forms are available at the Lincoln ASCS County Office, Lincoln, Kansas. Bids will need to be returned to the office no later than 3:00 P.M. on August 19, 1966.

1967 WHEAT MEASUREMENT SERVICE

Measurement service before planting wheat this fall might be a good investment. The cost of the service compared to the penalty imposed on an acre of overplanting of permitted acres is small. The cost of measurement service on an average farm is about \$10.00 compared to a penalty of approximately \$55.00 per acre for overplanting permitted acres.

CONSERVATION COST-SHARE FUNDS AVAILABLE

Funds are still available for ACP practices on your farm. Complete that needed practice before seeding wheat this fall. If you are planning to do some conservation work on your farm, inquire at the ASCS County Office and file an application for cost-sharing. To be eligible for cost-sharing, an application will need to be on file before work is started.

CONSERVATION WORK COMPLETED DURING FISCAL YEAR 1966

Much conservation work was completed in Lincoln County during the fiscal year beginning July 1, 1965 and ending June 30, 1966. A summary of completed work during the period includes:

- 1,000,000 feet of terracing
- 63,000 feet of diversion terraces
- 365 acres of waterways
- 19 livestock wells
- 34 livestock water ponds
- 6 detention and erosion control dams

CERTIFICATION IS COMPLETED

Operators of all farms signed in the 1966 programs completed their certification of acreages by August 5, 1966. A "Thank You" goes to all producers for making certification of acreages a success in Lincoln County.

Page 2 of March 14, 1966  
newsletter

#### YOUR TELEPHONE SAVES YOU TRIPS

Sometimes your telephone may save you a trip to town. Many times we can furnish information by phone just as well as in person. We are glad to oblige if your questions or other business can be taken care of in this manner.

#### PATCHY DIVERTED ACRES MORE APT TO BE DEFICIENT

When you set aside your diverted acres for Wheat and Feed Grain Programs, we suggest keeping them in fields of reasonable size and shape so that you will be assured of having sufficient diverted acres to meet your intended diversion. Leaving just odds and ends for your diverted acres increases the chance of deficiency and non-compliance.

#### DO YOU NEED A LIVESTOCK WELL IN YOUR PASTURE ?

ACP cost-sharing is available to cover 50% of the cost of drilling and casing wells, located in fenced pastures, which will distribute grazing. Prior approval of the need and site are required.

#### OFFSETTING COMPLIANCE REQUIRES THAT THE RIGHT HAND KNOW WHAT THE LEFT HAND IS DOING

Farm operators and owners should understand the offsetting compliance requirement. For anyone to earn Wheat or Feed Grain Program payments, they must be planted within allotments and bases on other farms in which they have any interest.

#### DIVISION OF PAYMENT BETWEEN LANDLORDS AND TENANTS

The ASC County Committee must approve division of payments between tenants and landlords. Arrangements whereby tenants are not afforded a normal and reasonable share of diversion payments will not be approved by the county committee.

#### SOIL CONSERVATION DISTRICT BUYING TWO NEW GRASS DRILLS

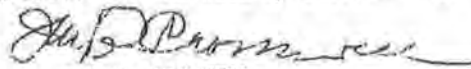
Farmers who are planting grasses or who plan to at some future time will be interested in the two new grass drills purchased by the SCD. They should be available to use very soon. Another Community Conservation Service by the District!

#### DATES TO REMEMBER

- March & April = Top dress waterways with nitrogen that have cool season grasses to be put up for hay this summer.
- March 31 = Final date to redeem warehouse wheat loans - WATCH THAT CASH MARKET!
- April 1 = Final date to enroll in 1966 Wheat and Feed Grain Programs.
- April 1 = Target date for farm operators to complete certification of 1966 Wheat Acreage.
- April 15 = Final date for seeding cool season grasses (brome, western wheat, etc.)
- April 30 = Final date for seeding native seedings of warm season grasses - (bluestem, switch, grammas, buffalo, etc.)
- May 1 = Order channel cat, bluegill or bass for farm ponds from SCS office for delivery from federal fish hatchery.
- Every Day = The time to practice SAFETY FIRST on the farm. A "hurry up" was never invented that will justify leaving power equipment running while it is being adjusted, or lubricated, or unplugged. If you lose your temper, you are toying with death around farm machinery.

#### SALE OF BINS

An announcement will be made within the next few days about selling the CCC grain bins at Sylvan Grove, Kansas. Anyone interested in buying a 3250 bushel steel bin should be made aware that the 30 bins at Sylvan Grove will be sold by auction very soon.

  
JAY R. CROMWELL  
ASC County Committee



JOINT TENANCY WARRANTY DEED  
(Following Kansas Statutory Form)

Paul G. Winckler, a/k/a Paul Winckler,  
and Phyllis R. Winckler, a/k/a Phyllis Winckler, husband and wife,

CONVEY AND WARRANT TO:

Ryan Wolting and Heather G. Wolting, 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 Lincoln and the State of Kansas, to-wit:

A part of the Southeast Quarter (SE/4) of Section Eleven (11), Township Twelve (12) South, Range Ten (10) West of the 6<sup>th</sup> P. M., described by metes and bounds as follows: Beginning at a point on Section line 668.2 feet West of the Southeast corner of said Section 11; thence North 1337.5 feet; thence West 533 feet; thence South 1337.1 feet to the South line of said Section 11; thence East 533 feet to the point of beginning, EXCEPTING any established roads or highways on, through or across said land, in Lincoln County, Kansas.

EXCEPT AND SUBJECT TO: Easements, restrictions and rights-of-way of record.  
For the sum of: Ten Dollars (\$10.00) and other valuable consideration.

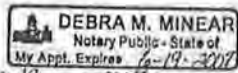
Dated: 12-10-03

Paul G. Winckler  
PAUL G. WINCKLER, A/K/A  
PAUL WINCKLER

Phyllis R. Winckler  
PHYLLIS R. WINCKLER, A/K/A  
PHYLLIS WINCKLER

STATE OF KANSAS, COUNTY OF LINCOLN, ss:

The foregoing instrument was acknowledged before me this 10th day of December, 2003, by Paul G. Winckler, a/k/a Paul Winckler, and Phyllis R. Winckler, a/k/a Phyllis Winckler, husband and wife.



Term Expires: June 19, 2007

Debra M. Minear  
Notary Public  
Name Printed: Debra M Minear

STATE OF KANSAS, COUNTY OF LINCOLN, ss:

This instrument was filed for record on the 11 day of December, 2003, at 9:45 o'clock A. M., and duly recorded in Book 67 of Deeds on page 487.



Tami L. Kerth  
Register of Deeds - Tami L. Kerth

Recording Fee \$ 8.00

Entered in Transfer Record in my office this 11<sup>th</sup> day of December, 2003.



Dawn M. Harlow  
County Clerk - Dawn M. Harlow

STC 8124

TERMINATION OF LEASE

KNOW ALL MEN BY THESE PRESENTS, That in consideration of all terms of the lease being fulfilled, WE hereby release and forever discharge the Lease of Property made by and between Paul G. Winckler of Sylvan Grove, Kansas, Lessor, and Commodity Credit Corporation, Lessee dated the 26th day of July, 1960, on the following described real estate in Lincoln County, Kansas:

Part of the SE/4 11-12-10 West of the 6<sup>th</sup> Principal Meridian. Beginning at a point on section line 1201.2 feet West of the SE corner of SE/4 of Section 11, Township 12, Range 10; thence North 164 feet to SW corner of Bin Site; thence North 408 feet; thence East 153 feet; thence South 358 feet; thence Southwest to a point 120 feet East of beginning place; thence West 120 feet to point of beginning with a driveway from public highway, containing 2 acres, more or less,

which is recorded in Book "L" of Miscellaneous Records, page 187, in the office of the Register of Deeds of Lincoln County, Kansas.

Dated this 11th day of December, 2003.

Paul G. Winckler  
PAUL G. WINCKLER

William C. Wineinger  
WILLIAM C. WINEINGER,  
COUNTY EXECUTIVE DIRECTOR

STATE OF KANSAS,  
LINCOLN COUNTY, ss:

BE IT REMEMBERED, That on this 11th day of December A.D., 2003 before me the undersigned, a Notary Public in and for the County and State aforesaid, came William C. Wineinger, County Executive Director of Farm Service Agency, formerly known as Agricultural Stabilization and Conservation Service, and an authorized representative of Commodity Credit Corporation, such person duly acknowledged the execution of the same to be the act of said corporation.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed my official Seal the day and year last above mentioned.

Notary Public: Debra M. Minear  
Debra M. Minear

Term Expires: 

STATE OF KANSAS, COUNTY OF Lincoln, ss:

The foregoing instrument was acknowledged before me this 18th day of December, 2003, by: Paul G. Winckler.

Notary Public: Debra M. Minear  
Debra M. Minear

Term Expires: 

STATE OF KANSAS, COUNTY OF LINCOLN, ss:

This instrument was filed for record on the 6<sup>TH</sup> day of JAN. A. D., 2004, at 1:50 o'clock P.M., and duly recorded in Book 3 of Misc on page 318.



Tami L. Kerth  
TAMI L. KERTH  
Register of Deeds

Recording Fee \$ 8.00



## Environmental Science Division

Argonne National Laboratory  
9700 South Cass Avenue, Bldg. 203  
Argonne, IL 60439-4843  
[www.anl.gov](http://www.anl.gov)



U.S. DEPARTMENT OF  
**ENERGY**

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