KU KANSAS GEOLOGICAL SURVEY
The University of Kansas

June 21, 2007

Alan Luttrell, P. E., City Engineer
306 South Main St.
Pratt, KS 67124

Dear Mr. Luttrell,

I was asked to review a water treatment facility improvement plan by the City of Quinter. Soils data from the NRCS web survey site indicates that the treatment area is located on Harney silt loam which is derived from loess. Current work in the Dodge City area in a similar soil suggests a strong possibility of the presence of macropores in this type of soil. The concern about macropores is that if the lagoons should leak there may be preferential or rapid flow of wastewater to the ground water. The ground water is approximately 80-95 ft deep in the area, based on well-log information from the KGS well log database. This is deep enough to protect the water if there is leakage and only matrix flow (not rapid flow). However, if preferential flow through macropores should occur then contamination of the aquifer could occur quite quickly.

Presuming that the current lagoons are not having problems with leakage this is probably a minor concern. However, since the soils and ground water investigation has not yet occurred, the possiblity of macropore occurrence should be kept in mind and appropriate precautions in the lagoon construction should be used. Compaction of clay soils and/or a bentonite or other liner may need to be considered.

The information provided to me and what we have available at the Kansas Geological Survey suggests that the project should proceed.

The above comments are based on regional geologic conditions and limited information available to the KGS at the time of writing and cannot be used in substitute for a detailed site characterization. Other geologic conditions, not discussed here, or for which the KGS has no knowledge, may affect the viability or safe operation of this facility or property. Geotechnical engineering and design are outside the purview of the KGS. It is the responsibility of the applicant to produce any detailed site characterizations, geotechnical or environmental testing, or design by a licensed professional geologist or engineer to complete the project.

Sincerely,

Margaret A. Townsend

Margaret Townsend
Geohydrology Section

Wastewater Treatment Facilities Improvements
Quinter, Kansas

The following form may be used by the Review Agency/Commission for comments in response to the request for clearance from the proposed Public Water Supply Loan Fund Project.

_____	Army Corps of Engineers
_____	Kansas Biological Survey
_____	State Conservation Commission
_____	Kansas Corporation Commission
_____	Division of Water Resources/Kansas Department of Agriculture
X	Kansas Geological Survey
_____	Kansas State Historical Society, State Historical Preservation Office
_____	Kansas Water Office
_____	Kansas Department of Wildlife & Parks
_____	US Dept. of Agriculture- Natural Resources Conservation Service
_____	Kansas Department of Health and Environment
_____	US Dept. of the Interior – Fish and Wildlife Service
_____	Regional Planning Office

Agency Review Comments: (to be completed by reviewing agency and returned to applicant contact person at name and address shown below.)

Comments: see attached letter

Recommended Action: (to be completed by the review agency and returned to applicant contact person at name and address shown below.)

_____	Clearance of project should be granted.
_____	Clearance of project should not be granted.
_____	Clearance of project should be delayed until the issues or questions have been clarified.
_____	Clearance of project should not be delayed, by the applicant (in the application), address or clarify the questions or concerns indicated above.

Margaret A. Townsend	KGS	6-21-07
Reviewer's Name	Division /Agency/Commission	Date

Project Title: Public Water Supply Loan Fund Application for Wastewater Treatment Facilities Improvements.

Applicant: City of Quinter, Kansas

Contact Person: Alan Luttrell, P.E., City Engineer

Address: 306 S. Main St.

City, State: Pratt, Ks Zip: 67124 Phone: 620-672-1112

May 31, 2007

Dr. William Harrison, Director
Kansas Geological Survey
University of Kansas
1930 Constant Ave., Campus West
Lawrence, KS 66047

Re: Intergovernmental Review for Environmental Clearance/Comment
Kansas Water Pollution Control Revolving Loan Fund (KWPCRLF) Program
Wastewater Treatment Facilities (WWTF) Improvements
39°04'24.91" N 100°13'08.96"W
City of Quinter, Kansas
P.O. Box 555
Quinter, KS 67752

Dear Sirs,

The City of Quinter, Kansas is applying for a loan through the KWPCRLF program administered by the Kansas Department of Health & Environment (KDHE) for the financing of a major WWTF Improvements project. As a part of the process, KDHE must prepare an environmental clearance document for the project based on clearances/comments received from an intergovernmental review.

The purpose of this letter is to request such a review from your agency. Enclosed are data and information regarding the project, hopefully sufficient for your needs. However, if further information or assistance is needed, please contact me at (620) 672-1112.

Please return clearances/comments to me at:

EBH & Associates, P.A.,
306 S. Main St.
Pratt, KS 67124

by June 29, 2007 for forwarding to KDHE as a part of the City's loan application. Thank you for your help and cooperation with these matters.

Sincerely,

Alan Luttrell, P.E.
EBH Engineers

Enc

Project Description Form

Project Location: The existing Quinter Wastewater Treatment Plant, Kansas Permit No.: M-SA15-OO01 is located northeast of the City of Quinter, Gove County, Kansas. The facility's legal description is N ½, NW ¼, NW ¼, Section. 28, Twp. 11S, Range 26W. The project delineation and location is shown attached Figure 1.

Project Type: Construction of additional Wastewater Treatment Lagoon

Lagoon size: Approximately 3.76 surface water acres.

Required Additional Land: Approximately 10 acres will be acquired

Project Cost: Total Project Cost is $732,100.00. The City will apply for a $ 720,100 loan from KDHE.

Existing Facility Description: The existing wastewater treatment facility (WWTP) is a discharging three-cell lagoon facultative lagoon system. The facility has not consistently been meeting NPDES Permit limitations for BOD and TSS. An evaluation performed by a Professional Engineer, registered in the State of Kansas has determined that the existing facility is undersized for its current organic loading.

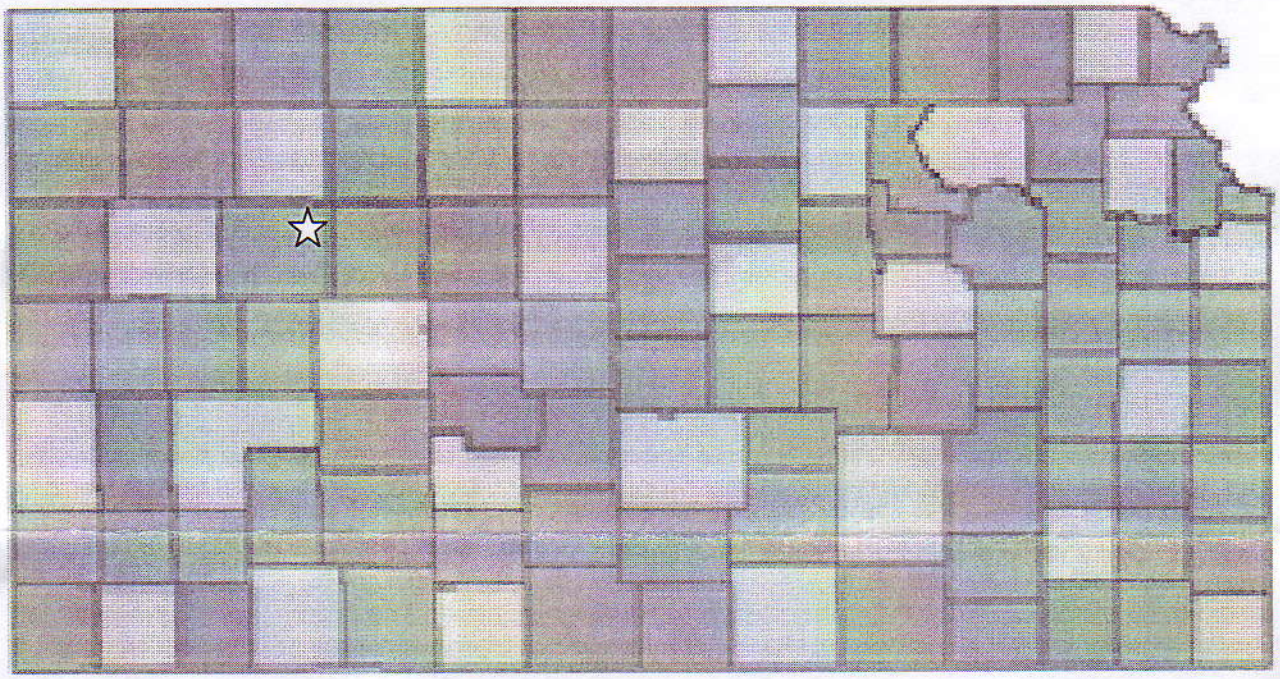
The proposed improvements consist of constructing an additional treatment cell that adjoins to the existing cells along the south side existing facility. New piping will be installed that allows the proposed and the existing cells to be interconnected. The property is currently either owned by the City or is under cultivation. No households or businesses will be displaced and there are no known residences or businesses within 1,000 feet of the facility. Groundwater and soils investigations will be performed, and the additional lagoon will be sealed to KDHE standards.

The City is pursuing a low interest loan through the KWPCRLF program administered by the Kansas Department of Health and Environment (KDHE). The estimated loan amount is $720,100.

Project Need: The project is necessary for the City of Quinter to upgrade their wastewater treatment capabilities because the existing facility cannot treat the wastewater to a level that consistently meets NPDES permit limitations for discharge to the surface water bodies. The improvements are being required by the U.S. Environmental Protection Agency, via the Kansas Department of Health and Environment.

The attached Figure 1 shows the location where the new wastewater lagoon will be constructed. It is adjacent to and south of the existing facility. Approximately 10 acres will be acquired by the City to construct the new lagoon. The project will be confined to the approximate area indicated on Figure 1.

Wastewater Treatment Facilities Improvements
Quinter, Kansas



General Location Map

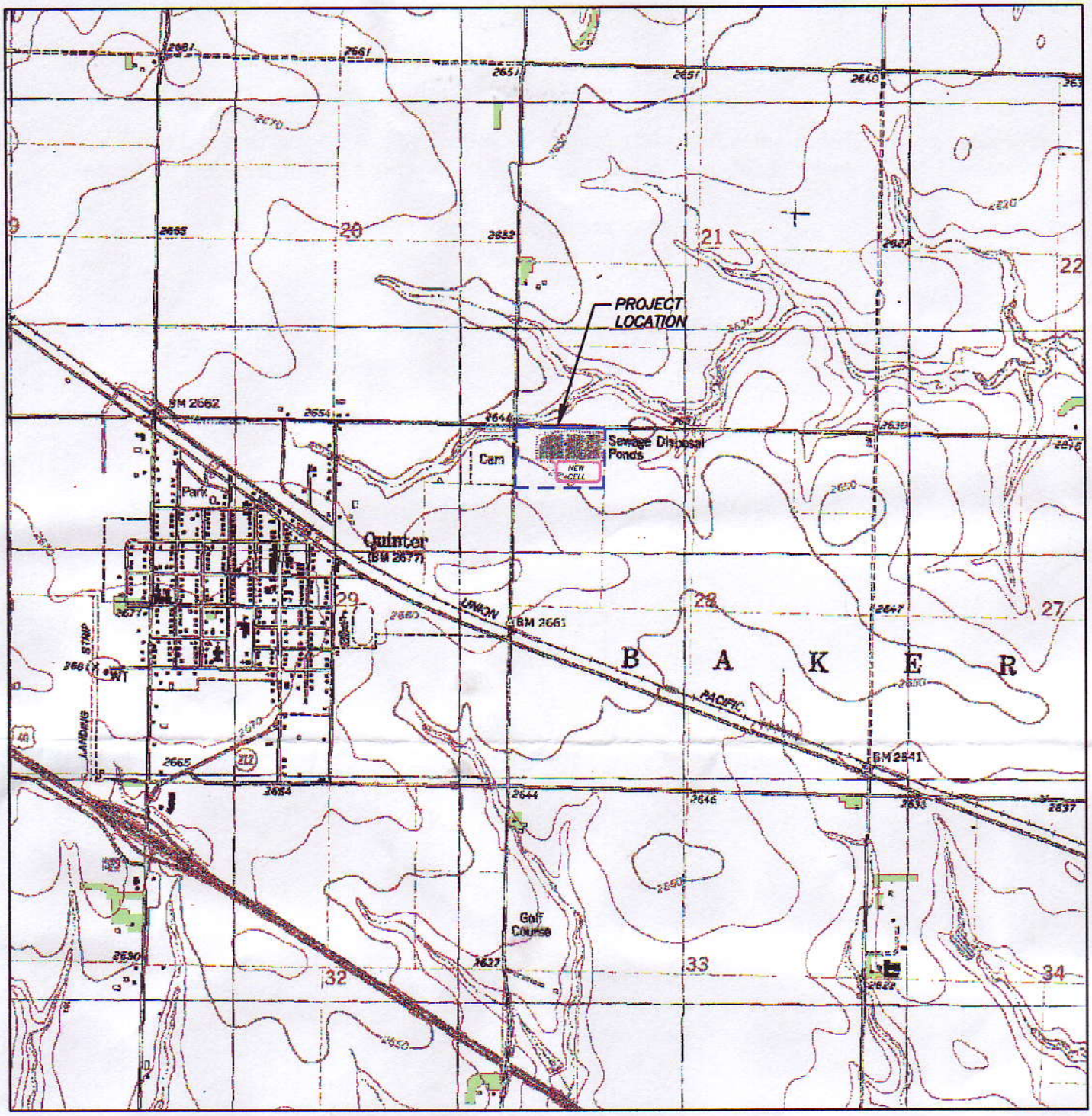


FIGURE 1
SITE LOCATION MAP
WASTEWATER TREATMENT
IMPROVEMENT PROJECT
QUINTER, KANSAS

0 2000'

EBH & Associates
ENGINEERS, PLANNERS & SURVEYORS
Evans-Bierly-Hutchison & Associates, P.A.
Offices in Kansas
Great Bend, Cimarron, Goodland,
Neodesha, & Pratt

Soil Map–Gove County, Kansas
(Quinter soils)

USDA Natural Resources Conservation Service

Web Soil Survey 2.0
National Cooperative Soil Survey

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features

Municipalities
- Cities
- Urban Areas

Water Features
- Oceans
- Streams and Canals

Transportation
- Rails

Roads
- Interstate Highways
- US Routes
- State Highways
- Local Roads
- Other Roads

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 14N

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Gove County, Kansas
Survey Area Data: Version 5, Dec 12, 2006

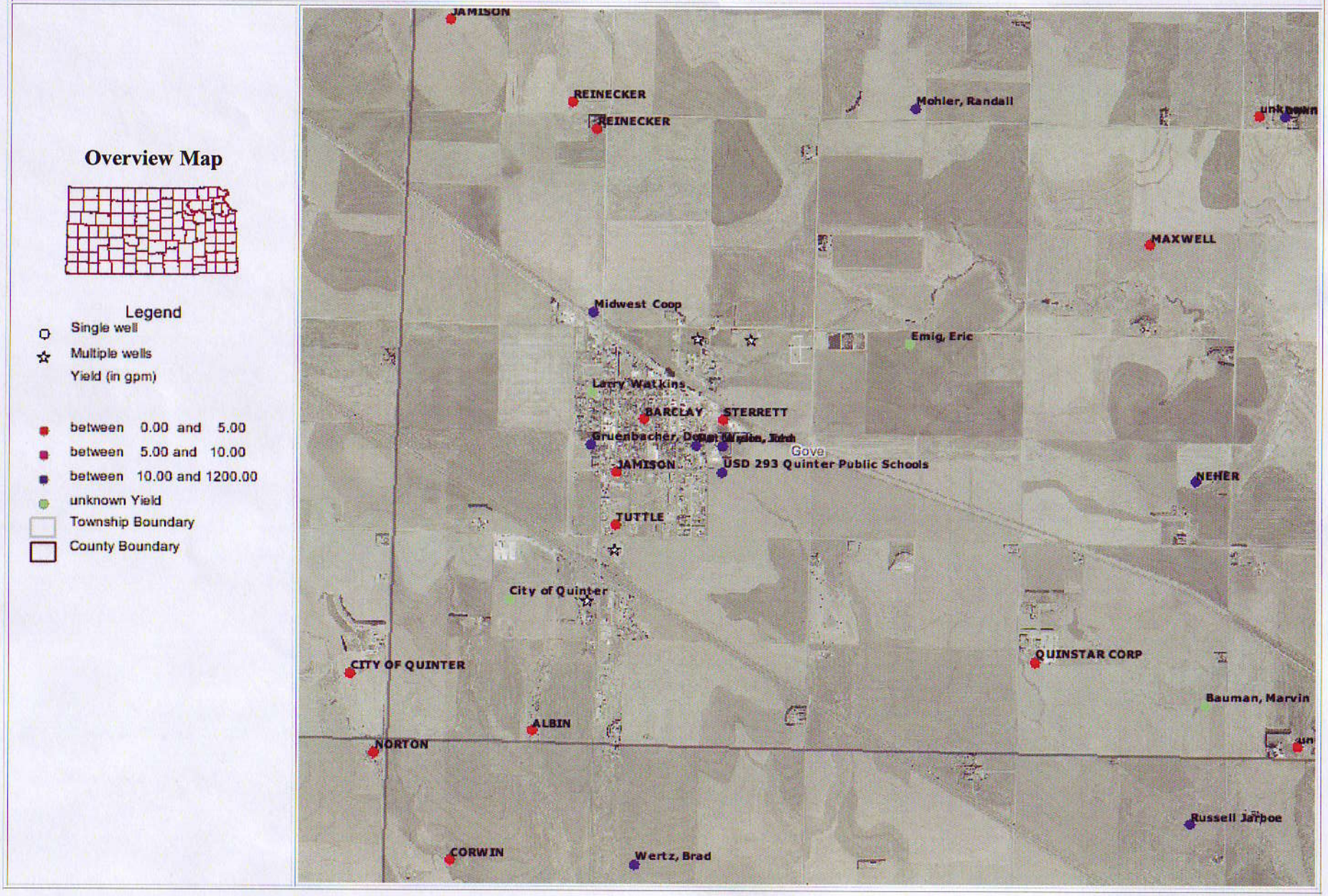
Date(s) aerial images were photographed: 8/25/1991

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Gove County, Kansas (KS063)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1637	Kim-Penden clay loams, 6 to 15 percent slopes	72.9	3.4%
1859	Ulysses silt loam, 3 to 6 percent slopes	5.5	0.3%
1866	Ulysses-Colby complex, 3 to 6 percent slopes	15.6	0.7%
2612	Harney silt loam, 0 to 1 percent slopes	1,295.0	59.6%
2613	Harney silt loam, 1 to 3 percent slopes	21.8	1.0%
2668	Holdrege silt loam, 1 to 3 percent slopes	736.2	33.9%
2747	Penden clay loam, 3 to 7 percent slopes	15.5	0.7%
9986	Miscellaneous water	10.7	0.5%
Totals for Area of Interest (AOI)		2,173.1	100.0%

Kansas WWC5 Well Viewer



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