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October 25, 2010

Lewis & Clark Regional Water System, Inc.  
401 E. 8th Street, Suite 306  
Sioux Falls, SD 57103

Attn: Mr. Troy Larson

Subj: Phase I Environmental Site Assessment  
Lewis & Clark Regional Water System, Inc.  
Iowa Treated Water Pipeline - Segment 2  
Sioux County, IA  
GeoTek #10-789

Dear Mr. Larson

We have completed a Phase I Environmental Site Assessment for the referenced project. We are transmitting one copy of our report. This work was done in accordance with our July 1, 2010 contract.

Please refer to our conclusions and recommendations for the major findings and recommendations we have made.

If you have questions or concerns regarding the information presented in this report, or if we can be of additional service, please contact our office.

GeoTek Engineering & Testing Services, Inc.

Tracy A. Michel  
Senior Project Manager  
SD PE/Remediator #6865

**Phase 1 Environmental Site Assessment  
Lewis & Clark Regional Water System, Inc.  
Iowa Treated Water Pipeline – Segment 2  
Sioux City, Iowa**

**GeoTek #10-789**

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**Phase I Environmental Site Assessment  
Lewis & Clark Regional Water System, Inc.  
Iowa Treated Water Pipeline – Segment 2  
Sioux County, Iowa**

GeoTek #10-789

**SUMMARY**

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E1527-05 of the referenced site. This assessment has not revealed evidence of recognized environmental conditions in connection with the property.

In our opinion, the Magellan petroleum pipeline at Parcel #74 or the residential garbage pit on Parcel #84 would not be considered a recognized environmental conditions because they currently would not be subject to enforcement action if brought to the attention of appropriate government agencies.

**INTRODUCTION**

**Purpose**

This Phase I Environmental Site Assessment was conducted during the period of July 15 to October 25, 2010. The purpose of this Phase I Environmental Site Assessment was to evaluate the potential presence of hazardous substances and soil/groundwater contamination due to past/current land use practices at the site, or from nearby off-site operations.

**Scope of Services**

The scope of services for this assessment was performed in accordance with the American Society for Testing and Materials (ASTM) Standard E1527-05 (plus site observations for asbestos materials and wetlands) and included the following tasks:

1. Review of information on the geology and hydrogeology of the site vicinity. Review of available information, if any, regarding previous sampling and analysis of soil, groundwater or surface water conducted at the site.
2. Review of the subject property, records, and interview of individuals associated with the property regarding the present or past existence of suspect asbestos containing materials, environmental permits or licenses, hazardous or potentially hazardous substances, distressed vegetation, stained soil, unusual grade changes, random dumping or on-site disposal, suspect lead containing materials, suspect polychlorinated biphenyls (PCBs), and underground/aboveground storage tanks.

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3. Conduct a site vicinity reconnaissance to identify nearby off-site facilities that could potentially impact the subject property.
4. Review of available historical resources such as aerial photographs, fire insurance maps, tax assessor records, recorded land title records, USGS topographic maps, street directories, county atlases, and building department records, to identify, as nearly as possible, past uses of the property.
5. Review of reasonably available regulatory agency information and records. Verbal and/or written communication with federal, state and local environmental regulatory agencies having jurisdiction to determine compliance with regulations concerning the usage, storage, treatment and disposal of hazardous substances.
6. Visually observe property for evidence of wetlands. Interview landowners for historic knowledge of presence of wetlands. If available, review a published wetlands map from USDA or US Fish & Wildlife Service.
7. Preparing a report presenting our observations, pertinent documents, opinions, and recommendations.

#### **Significant Assumptions**

This report presents the results of our work performed at the referenced site. This work was performed in accordance with our July 1, 2010 contract (copy in Appendix D).

#### **Limitations and Exceptions**

Information contained herein was obtained through a limited work scope by means of interviews, document research, and on-site observations. Conclusions are based on available information. However, this is not to imply that this is all of the information that exists which may be pertinent to the environmental liabilities of the site. The intent of this study was to identify environmental problems that would be evident to an environmental professional and was not intended to represent an exhaustive research of all potential hazards which may exist. Furthermore, certain potential environmental hazards reported in this study may require more comprehensive analysis to fully assess their magnitude and financial impact.

This report is representative of present conditions only. Situations or activities which occur subsequent to this report and which result in adverse environmental impacts are not relevant to this study.

#### **Special Terms and Conditions**

The scope of our services did not include collecting or analyzing physical evidence for the presence or lack of contaminants such as asbestos, urea formaldehyde, mold, petroleum, PCBs, radon gas, fertilizers, herbicides, pesticides or other substances unless stated above.

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Similarly, an assessment of mineral rights investigation, drinking water testing, indoor air quality (including vapor intrusion), or environmental audits of operations, environmental practices or management was also not included in the scope of work.

With respect to our review of recorded land title records (if provided by Client), we have not provided an opinion as to marketability of title and have not otherwise warranted as to condition of title.

### User Reliance

No individual, corporation, or interest other than Lewis & Clark Regional Water System, Inc., may rely on this report without prior authorization from GeoTek Engineering & Testing Services, Inc.

## SITE DESCRIPTION

### Location and Legal Description

The site consists of cropland, rural residential yards, and rural businesses in Union County, South Dakota and in Sioux County, Iowa. Lewis and Clark Regional Water System, Inc. has a proposed pipeline easement for the Iowa Treated Water Pipeline Segment 2.

Iowa Segment 2 begins in rural South Dakota on 298<sup>th</sup> Street for less than one mile, crosses the Big Sioux River into Iowa, and runs primarily on 400<sup>th</sup> and 380<sup>th</sup> Street to Sioux Center, Iowa. The approximate pipeline route is shown on Figure 1. The pipeline route is approximately 18 miles long. The proposed total right of way width of both the permanent and temporary construction easement along Segment 2 is approximately 100', except in a few locations (Parcels 74, 79, 80, 81, 82, 83, 84, 87, 87-1, 92, 93, 105, 107, 108, 109, 110) where it is anticipated to narrow to perhaps 78-89' wide to avoid buildings or other adjacent development.

There are approximately 46 separate parcels (49 less 3 parcels still in negotiation, see table in Appendix E). The approximate legal description and owners of the parcels are listed in Appendix E. Additionally, although not listed in Appendix E, the proposed pipeline easement also crosses county and township roads and the Big Sioux River.

### Site and Vicinity General Characteristics

The site and vicinity is mixed rural agricultural land (mostly cropland; some pasture or hay), rural residential, and one rural business. The proposed pipeline easement crosses several roads and driveways.

### Current Use of the Property

The site consists of rural agricultural land (mostly cropland; some hay), rural residential land, and one rural business.

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### Description of Improvements

Improvements within the project construction limits are:

- paved and gravel roads
- gravel driveways
- large overhead electric lines
- a railroad line
- buried utilities
- livestock fencing along many property boundaries, and separating some interior areas
- a silage pile (Parcel 61)
- a confinement building (Parcel 73)
- a Magellan petroleum pipeline (Parcel 74)
- a garbage pit (Parcel 84)
- houses (Parcels 81, 91 & 103)

### Current Uses of Adjoining Properties

The vicinity consists of rural agricultural land (cropland, hay land, residences, farmsteads) and a rural business (Sioux Automation Center). A drive-by survey of the immediate site vicinity revealed the following items of apparent significance such as suspect UST locations, potential hazardous waste generators, industrial properties, etc:

1. A silage pile was observed on and adjacent to Parcel 61.
2. A confinement building was observed on and adjacent to Parcel 73. Animal wastes and feed supplements are likely stored on the property.
3. A garbage pit was observed on and adjacent to Parcel 84. Household trash and brush were observed in the pit, and the material was smoldering from a recent burn.
4. Aboveground storage tanks were observed at Sioux Automation Center in Parcel 105.

### USER PROVIDED INFORMATION

The user of this report may conduct certain tasks to assist in identifying possible recognized environmental conditions of the site. There were no significant items identified by the user. We have not been informed of environmental liens, activity or land use limitations, or a value reduction of the subject property due to environmental reasons.

Previous Phase I Environmental Site Assessments (ESAs) are not known to exist for the subject property.

Abstracts of title or other title records for the subject property were not available for review.

The reason this Phase I Environmental Site Assessment was performed was to attempt to identify significant environmental risks, if present, for the proposed pipeline easement and installation.

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**RECORDS REVIEW**

Copies of regulatory lists reviewed or databases searched are attached in Appendix B.

**National Priority List**

The U.S. Environmental Protection Agency (EPA) National Priority List (NPL) was reviewed for facilities within an approximate one mile radius of the subject property. The NPL is a list of federal superfund sites of known releases or threatened releases of hazardous substances, pollutants or contaminants throughout the United States. The NPL serves to identify sites which appear to warrant remedial actions or investigations.

There were no listed sites within the radius reviewed.

**CERCLIS List**

The U.S. E.P.A. CERCLIS (Comprehensive Environmental Cleanup Liability Information System) list was reviewed for facilities within an approximate one-half mile radius of the subject property. The CERCLIS list is an automated inventory system used by the EPA to keep record of hazardous sites or potential uncontrolled hazardous sites which may require cleanup based upon state investigation efforts and upon notifications received as provided by the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA or "Superfund"). It does not necessarily imply that an environmental problem exists at any particular site listed. The sites are in various stages of investigation.

Listed sites within the radius reviewed were:

1. Big Sioux River Watershed Site, entire length of river in South Dakota.

**Archive CERCLIS List**

The U.S. E.P.A. CERCLIS (Comprehensive Environmental Cleanup Liability Information System) list of NFRAP (no further remedial action planned) sites was reviewed for facilities within an approximate one-half mile radius of the subject property.

There were no listed sites within the radius reviewed.

**RCRIS List**

The U.S. E.P.A. Resource Conservation and Recovery Information System (RCRIS) list was reviewed for facilities within an approximate one-fourth mile radius of the subject property (one mile radius for treatment, storage, and disposal facilities, and facilities subject to corrective action). The RCRIS site list is a printout of permitted generators and transporters of hazardous waste, and hazardous waste treatment, storage or disposal facilities regulated by the RCRA Act of 1976.



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LQG = large quantity generator, over 1000 kilograms (about 2200 lbs)/month of hazardous waste.

SQG = small quantity generator, 100-1000 kg (about 220-2200 lbs)/month of hazardous waste.

CESQG = conditionally exempt small quantity generator, less than 100 kg (about 220 lbs)/month of hazardous waste.

Listed sites within the radius reviewed were:

1. Boehringer Ingelheim Vetmedica Inc., N Main Avenue, Sioux Center, IA: no info.
2. Golden Crisp Premium Foods, 15<sup>th</sup> Street NE, Sioux Center, IA: no info.
3. Groschopp Inc., 15<sup>th</sup> Street NE, Sioux Center, IA: CESQG
4. Joe's Ready Mix, N. Main Avenue, Sioux Center, IA: no info.
5. Lewis Drug, N. Main Avenue, Sioux Center, IA: no info.
6. Olivier Ready Built, Hwy 75-0.1 mile N of 20<sup>th</sup> Street, Sioux Center, IA: no info.
7. Pella Corp., N. Main Avenue, Sioux Center, IA: LQG
8. Sioux Automation Center, N. Main Avenue, Sioux Center, IA: CESQG (Parcel #105)
9. Sioux Preme Packing Co., US 75 Ave, Sioux Center, IA: CESQG
10. Ver Hoef Automotive, N. Main Avenue, Sioux Center, IA: CESQG

**Federal Brownfields Sites**

A brownfield site is real property for which the expansion, redevelopment or reuse may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Mine scarred lands may also be considered a brownfield site. EPA grants are available for assessment, cleanup, revolving loans funds and job training. The intent of the grants is to promote assessment, cleanup and reuse of brownfields. The list was reviewed for facilities within an approximate one-half mile radius.

There were no listed sites within the radius reviewed.

**Emergency Response Notification System**

This EPA list of reported spills was reviewed for facilities within an approximate one-fourth mile radius of the subject property.

Listed sites within the radius reviewed were:

1. BNSF Railroad, Marshall Subdivision MP 186, Sioux Center, IA: A derailment of 17 cars was reported on June 24, 2002. This event is listed as a non-release.

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**Federal Institutional Control/Engineering Control Registry**

Institutional controls are a legal or administrative restriction on the use of or access to a site to reduce or eliminate potential exposure to hazardous substances or petroleum in soil or groundwater, or to prevent activities that interfere with a response action. Engineering controls are physical modifications to a site to reduce or eliminate potential exposure to hazardous substances or petroleum in soil or groundwater.

There were no listed sites within the radius reviewed.

**South Dakota Department of Environment and Natural Resources (DENR)**

A. State Brownfields Sites

A brownfield site is real property for which the expansion, redevelopment, or reuse may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Mine scarred lands may also be considered a brownfield site. SD DENR grants are available for targeted assessment and cleanup. There are also revolving loan funds. The intent of the grants is to promote assessment, cleanup, and reuse of brownfields. The site was reviewed for facilities within an approximate one-half mile radius.

There were no listed sites within the radius reviewed.

B. State Institutional Control/Engineering Control Registry

Institutional controls are a legal or administrative restriction on the use of or access to a site to reduce or eliminate potential exposure to hazardous substances or petroleum in soil or groundwater, or to prevent activities that interfere with a response action. Engineering controls are physical modifications to a site to reduce or eliminate potential exposure to a hazardous substances or petroleum in soil or groundwater. At this time, we are not aware of a state registry or list of such facilities.

C. State List of Spills

Open or pending investigations involving a spill, leakage, or contamination of soil and/or water within an approximate ½ mile radius of the subject property:

There were no listed sites within the radius reviewed.

Closed investigations involving a spill, leakage, or contamination of soil and water within an approximate ½ mile radius of the subject property are listed below. Nearby sites are described in more detail.

There were no listed sites within the radius reviewed.

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D. Registered USTs or ASTs within an approximate ¼ mile radius:

There were no listed sites within the radius reviewed.

E. Permitted Solid Waste Facilities

This state list identifies active and closed landfills, rubble sites, ash monofill, sludge monofill, transfer stations, petroleum contaminated soil landfarms and similar facilities. It was reviewed for facilities within an approximate one-half mile radius of the subject property.

There were no listed sites within the radius reviewed.

**Iowa Department of Natural Resources (IDNR)**

A. Leaking Underground Storage Tank (LUST) sites reported within an approximate 1/2 mile radius of the subject property.

There were no listed sites within the radius reviewed.

B. Regulated USTs within an approximate 1/4th mile radius of the subject property were:

1. Orville Rehder, 3681 Cleveland Avenue, Hawarden, IA, 1 UST
2. Barry Haverhals, 3781 Dipper Avenue, Hawarden, IA, 1 UST

C. Emergency Response Unit Surface Spills within an approximate 1/4<sup>th</sup> mile radius are listed below. Listings begin January 1, 1995. Listings do not always include street addresses or other location information. Note that listed text is not always complete.

There were no listed sites within the radius reviewed.

D. Registry of Hazardous Waste or Hazardous Substance Disposal Sites

There were no hazardous waste or hazardous substance disposal sites noted within an approximate one mile radius of the subject property.

E. Permitted Solid Waste Management Facilities

This state list contains mostly active, but also some closed landfills. It was reviewed for facilities within an approximate one-half mile radius of the subject property.

There were no listed sites within the radius reviewed.

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F. State Brownfields Sites

A brownfield site is real property for which the expansion, redevelopment or reuse may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Mine scarred lands may also be considered a brownfield site. IDNR grants are available for targeted assessment and perhaps cleanup. There are also revolving loans funds. The intent of the grants is to promote assessment, cleanup and reuse of brownfields. The list was reviewed for facilities within an approximate one-half mile radius.

There were no listed sites within the radius reviewed.

#### G. State Institutional Control/Engineering Control Registry

Institutional controls are a legal or administrative restriction on the use of or access to a site to reduce or eliminate potential exposure to hazardous substances or petroleum in soil or groundwater, or to prevent activities that interfere with a response action. Engineering controls are physical modifications to a site to reduce or eliminate potential exposure to hazardous substances or petroleum in soil or groundwater. IDNR keeps a list of cities and counties that have water well ordinances which have been approved for use as an institutional control.

Sioux County was not on the 12-8-2009 list.

#### H. State Hazardous Material Release Database

Hazardous Material Release Database listings within an approximate ¼ mile radius of the subject property are listed below. Note that listings do not always include street addresses or other location information. Information listed is from IDNR website, and IDNR is responsible for accuracy and completeness.

Listed sites within the radius reviewed were:

1. Unknown spiller, 2938 380<sup>th</sup> Street, Sioux Center, IA: A fertilizer spill was reported in a field 500 yards east of 2938 380<sup>th</sup> Street.
2. Trans OVA Genetics, 2938 380<sup>th</sup> Street, Sioux Center, IA. No apparent spill information was included in the report.
3. Sioux County Egg Farm, 2726 380<sup>th</sup> Street, Sioux Center, IA. A manure release was reported in 2009. The project status is "closed."

#### Iowa State Fire Marshall's Office

Regulated Aboveground Storage Tanks (ASTs) within an approximate 1/4th mile radius of the subject property were:

There were no listed sites within the radius reviewed. Tanks at the Sioux Automation Center are apparently not registered.

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## HISTORICAL RESOURCES REVIEW

### Aerial Photograph Review

A review was conducted of available historical aerial photographs from various sources. Photographs from the years 1930s (exact year not given), 1950s (exact year not given), 1990s (exact year not given), 2002, 2005, and 2009 were reviewed. The following pertinent information about the site and vicinity was obtained from the review. The photo source and scale are also listed. The scale and clarity of some photos do not allow a detailed review.

\* 1930s ISU GIS (Scale: 1" = 2400')

These photos are somewhat poor quality and small scale. The site and vicinity appears to be agricultural land. There are apparent farmsteads on or adjacent to the subject property in Sections 6-95-47 (2 farms), 5-95-47, and 34-96-47. A rail line crosses the site in Section 32-96-45. The site follows section line roads except in portions of Sections 1-95-48, 6-95-47, and around the town of Lebanon in 35-96-47.

\* 1950s ISU GIS (Scale: 1" = 2400')

These photos are fair to poor quality. The site appears as previously seen.

\* 1990s ISU GIS (Scale: 1" = 2400')

These photos are good quality. The site and vicinity appears as previously seen.

\* 2002 ISU GIS (Scale: 1" = 2400')

These photos are good quality and shown in color-infrared. The Sioux Automation building is now present in Section 32-96-45. Other items remain as previously seen.

\* 2005 ISU GIS (Scale: 1" = 2400')

These photos are good quality and shown in color. The site and vicinity appears as previously seen.

\* 2009 ISU GIS (Scale: 1" = 2400')

These photos are good quality and shown in color. The site and vicinity appears as previously seen.

### City Directories

According to the database of holdings for the Sioux County Library and the Sioux Center Library, street directories are not available for Sioux Center or Lebanon, Iowa.

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County Atlases/Maps

1. Sioux County Atlas, 1977 by R.C. Booth Enterprises

The site is in Virginia Township in South Dakota and Eagle, Garfield, Plato, and Welcome Townships in Iowa. The site follows section line roads with the exception of portions of Sections 1-95-48, 6-95-47, and around the town of Lebanon in 35-96-47. This map identifies land owners but not buildings. There are no apparent commercial land owners.

2. Sioux County Atlas, 1981 by R.C. Booth Enterprises

This map identifies land owners but not buildings. There are no apparent significant changes from the previous map.

3. Pictorial Atlas of Sioux County, Iowa, 1985 by Title Atlas Company

This map identifies land owners but not buildings. There are no apparent significant changes from the previous map.

4. Sioux County Atlas, 1995 by R.C. Booth Enterprises

This map identifies land owners but not buildings. There are no apparent significant changes from the previous map.

5. Sioux County Atlas, 1997 by R.C. Booth Enterprises

This map identifies land owners but not buildings. There are no apparent significant changes from the previous map.

Fire Insurance Maps

A review was conducted of available fire insurance maps of towns located within one mile of the project.

Lebanon - Based on a review of area library holdings and references, Sanborn Map Company or other fire insurance maps were apparently not made for Lebanon.

Sioux Center - Sanborn Map Company fire insurance maps were available for the years 1917 and 1927. The site was not covered by the maps. The Sanborn map review is attached in Appendix C.

National Pipeline Mapping System

This publically available database of pipelines was searched on October 14, 2010. There is a pipeline crossing the project site in Parcel #74. A copy of the map is attached in Appendix C.

**Recorded Land Title Records**

Abstract of titles or other land records for the many parcels of the subject property were not available for review.

**Topographic Maps**

A review was conducted of available historical topographic maps from various sources. A consolidated topographic map is attached as Figure 1. Topo map years included in the consolidated map are given below, beginning at the west end of the project and proceeding east to Sioux Center. The following pertinent information regarding the subject property and vicinity was observed.

- \* 1968 – Hawarden North, Iowa-South Dakota 7.5 minute Quadrangle
- \* 1968 – Lebanon, Iowa 7.5 minute Quadrangle
- \* 1964, Photorevised 1980 – Sioux Center, Iowa 7.5 minute Quadrangle

The easement crosses by dwellings or other rural structures in Sections 6-95-47 (2 farms), 5-95-47, 35-96-47, 36-96-47, 31-96-46, 34-96-46, and 36-96-46. A large electric line crosses the site in Sections 36-96-47 and 34-96-46. The easement crosses unnamed intermittent streams in 21 locations, Dry Creek in Sections 5-95-47 and 4-95-47, and the Big Sioux River in Sections 1-95-48 and 6-95-47. The planned route runs past the town of Lebanon in Section 35-96-47 and crosses railroad tracks in Section 32-96-45. The elevation of the site is approximately 1410' to 1510'. There are roads on section lines in the area. The vicinity appears to be mostly agricultural land, with a few apparent farmsteads.

**Data Failure**

The all appropriate inquiry standard requires that standard historical sources be consulted to develop a history of the previous uses of the site (at five year intervals) and surrounding area. Standard historical sources include aerial photographs, fire insurance maps, property tax files, recorded land title records, local street directories, building department records, zoning/land use records, and other sources. Standard historical sources that are reasonably ascertainable, publicly available, available at reasonable time and cost, and practically reviewable must be reviewed from the present back to the first developed use (which includes agricultural use or placement of fill dirt) or back to 1940, whichever is earlier. Review of standard historical sources may be excluded if they are not reasonably ascertainable or not likely to be sufficiently useful, accurate or complete.

Data failure occurs when all standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed, and yet the objective of the research has not been met. Data failure is not uncommon in trying to identify previous uses of property back to 1940 or earlier. If data failure occurs, the report shall document the failure, and if any standard historical resources were excluded, give the reasons for exclusion.

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Minor data gaps consisting of a lack of historical information for intervals greater than 5 years were present. Data gaps greater than the required interval ranged from 9 to about 20 years. Use prior to and following the data gaps was not significantly different, therefore site use was assumed to be consistent across the gaps. Historical zoning/land use records and building department records were not reviewed and/or available. Building department records are not known to exist. Sufficient local street directories or other records were not available to document uses of the site and surrounding area at five years intervals. Please refer to the time line listed on Table 1 for a summary of historical site use.

## SITE RECONNAISSANCE

### Methodology and Limiting Conditions

Observations were made by viewing the subject property from the fence line or right of way of adjacent roads, and traversing select site areas by auto or on foot.

### Hydrogeology

The Iowa Geological Survey has mapped the area as glacial drift (Munter, 1983). The glacial drift in the vicinity consists primarily of clay till. Glacial till can be described as a mixture of sand, gravel, and boulders in a clay and silt matrix. The glacial drift is approximately 300' thick in the site vicinity (Burkart, 1984). The glacial drift is likely underlain by Cretaceous units such as the Carlile Shale Greenhorn Limestone, Graneros Shale, and the Woodbury Member of the Cretaceous Dakota Sandstone Formation (Munter, 1983).

Glacial till deposits often contain perched groundwater at 10' to 15' below the ground surface. Shallow groundwater likely flows in the direction of the surface topographic gradient which varies along the project route.

Groundwater is also present within the Dakota Sandstone and is considered an aquifer (Munter, 1983).

### Water Source Protection Areas

We are not aware of water source or aquifer protection zones for Sioux County.

### Soils

For specific information about soils along the proposed pipeline easement refer to the latest county USDA soil survey. The soil types indicate the parent materials, as well as low or poorly drained areas (wetlands). Areas may have significant shallow groundwater that could complicate proposed pipeline installation.



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The general soil type on the route is Galva silty clay loam with Radford-Judson Complex in the drainageways. The Galva soils are deep and nearly level soil on plane uplands or stream benches. The soil formed in loess that is underlain by sand and gravel. Permeability is moderate (O'Connor 1990).

Radford-Judson soils are nearly level and gently sloping on foot slopes, alluvial fans, and narrow bottom land, mainly along small streams and waterways. They are subject to flooding (O'Connor 1990).

### General Site Setting

On September 30, 2010 we performed a reconnaissance visit of the site to make visual observations of existing site conditions and land use practices.

The site consists of rural agricultural land (mostly cropland; some hay), rural residential land, and one rural business.

Improvements within the project construction limits are:

- paved and gravel roads
- gravel driveways
- large overhead electric lines
- a railroad line
- buried utilities
- livestock fencing along many property boundaries, and separating some interior areas
- a silage pile (Parcel 61)
- a confinement building (Parcel 73)
- a Magellan petroleum pipeline (Parcel 74)
- a garbage pit (Parcel 84)
- houses (Parcels 81, 91 & 103)

There were also some trees or shelterbelts, gravel and paved roads, and a rail line on parts of the site. There were barbed wire fences along many parcel boundaries, especially adjacent to section lines. There were also some overhead and underground utilities.

Evidence of sumps, cisterns, distressed vegetation, surface stains or waste disposal was not observed. Note that occasional tall grass, cattails, trees, and other vegetation somewhat obscured our view of those parts of the site.

The subject property is linear shaped. Iowa Segment 2 is approximately 18 miles long by up to 100' wide, trending east-west. This is an approximate area of 218 acres. Photographs of the site are attached in Appendix A.

### Hazardous or Potentially Hazardous Materials

Hazardous or potentially hazardous materials were not observed or suspected to exist on-site.

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Agricultural or lawn chemicals such as herbicides, pesticides, insecticides, fertilizers, etc., have likely been applied to the site in the past. If used or handled on-site, there is potential for uncontrolled releases to have occurred. We presume there is no concern regarding ag chemical usage at crop/lawn application rates. Evidence of uncontrolled ag chemical releases (i.e. unusual areas devoid of vegetation) was not observed.

### PCB Review

Electrical transformers observed on or adjacent to the site are listed below. Apparent electric cable boxes are excluded. Unless otherwise noted, transformers were pole mounted, and without observed leakage or markings indicating PCB content.

- three transformers were noted on Parcel 66; placards on each indicating "No PCBs"; specific placard information could not be read from the ground
- one transformer was noted on Parcel 81
- one transformer was noted on Parcel 85

### Water Supply Well Review

Evidence of water supply wells was not noted on or adjacent to the site. If a water well(s) is later discovered on-site, it would probably be considered abandoned unless there is future anticipated use. South Dakota state well construction standards (ARSD 74:02:04:69) would require that abandoned wells be plugged. In South Dakota, well abandonment may be performed by the property owner or by a licensed well driller. In Iowa, abandoned wells must be plugged by an Iowa licensed well driller (IAC 567-39). There may be an Iowa state program available to pay to plug unused wells, up to a maximum of \$200. The cost of well plugging would be dependent upon the depth and diameter of the well, and other factors.

### Underground/Aboveground Storage Tank Review

Evidence of underground storage tanks (USTs), such as fill/vent pipes or dispenser islands, was not observed. Aboveground storage tanks (ASTs) were not observed on-site. There is no specific or reported knowledge of USTs or ASTs being previously located on-site.

## INTERVIEWS

The objective of interviews is to obtain information indicating possible recognized environmental conditions of the site. An interview of the owner/key site manager, and occupant(s) if different than manager, and at least one state and/or local government official are required. In the case of abandoned properties where there is evidence of unauthorized use or uncontrolled access, interviews of one or more neighboring owners or occupants are required. The site was not an abandoned property.

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**Owners**

Level 1 Contaminant Survey Checklists were sent to the owners of the parcels of the subject property. Of 49 checklists, 30 were returned to us (61% return). Attached in Appendix E are a list of property owners, an example letter sent to property owners, and the returned checklists.

There were these potentially significant positive responses on the returned checklists (listed by parcel #):

-#73 - one positive response – manure pit located under hog building. This is outside the planned construction area.

-#103 – two positive responses - adjoining industrial use; property wastewater discharge. The site is located west of the railroad tracks from Sioux Automation Center (see next paragraph). Wastewater discharge from the site is described as household septic tank wastes and does not appear to rise to the level of an environmental concern.

-#105 – six positive responses - property and adjoining industrial use; waste paint in containers 50 gallons or larger; drums or sacks of chemicals on site; storage tanks on-site; hazardous substance or petroleum on-site. This site is Sioux Automation Center, Inc., and manufactures special truck bodies. The business is relatively new (built 1999) and there was no observed exterior waste disposal. Three petroleum ASTs were noted on the south side of the building, away from the planned construction area. There are also 3 propane tanks on the east side of the building. Adjacent industrial use is the Pella window plant to the east. The site conducts painting of trucks, and maintains a supply of paints and associated chemicals. The company president indicates there is no on-site waste disposal and wastes are collected by a licensed recycler. The positive responses do not appear to rise to the level of an environmental concern.

**Local Government Officials**

Union County Emergency Management - Director Mr. Raymond Roggow was interviewed on October 12, 2010. He was not aware of potential leaks, spills, releases, or hazardous material conditions on the subject property or immediate vicinity. There are no liquid petroleum pipelines in the immediate vicinity. He was not aware of (active or former) landfills in the area.

Sioux County Emergency Management - Director Mr. Nathan Huizenga was interviewed on October 15, 2010. He was not aware of potential leaks, spills, releases, or hazardous material conditions on the subject property or immediate vicinity. Mr. Huizenga provided a map of the Magellan petroleum pipeline in the area, and the location in Section 34-96-47 matches other data reviewed as a part of this project. He was not aware of active or former landfills in the area.

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### DATA GAPS

A data gap is defined as a lack of or inability to obtain the required information for this report despite a good faith effort, such as the inability to perform the site reconnaissance, interviews, etc. A data gap may not always be considered significant, and data failure of standard historical source review may or may not be considered a data gap. This report must identify and comment on significant data gaps that affect the ability to identify recognized environmental conditions, and identify sources of information that were consulted to address the data gaps (if any).

Significant data gaps were not noted for this report. About four minor data gaps consisting of a lack of historical information for intervals greater than 5 years were present. Unspecified use spanned 9 to about 20 years and previous use was not significantly changed from following use, suggesting low potential for an alternate site use in the gap.

In our opinion, there were no additional interviews, records, or data to be reviewed that would be considered likely to be useful within the cost and time frame of this work.

### FINDINGS

The following summarizes our professional opinions regarding the Phase I Environmental Site Assessment performed on the subject property, based on the information presented in the previous sections of this report.

- \* The site consists of rural agricultural land (mostly cropland; some hay), rural residential land, and one rural business. Improvements within the project construction limits are typical rural improvements including roads, driveways, utilities, fencing, a railroad line, a silage pile, a buried petroleum pipeline, and four structures.
- \* Evidence of sumps, cisterns, distressed vegetation, surface stains or waste disposal was not observed. Note that occasional tall grass, cattails, trees, and other vegetation somewhat obscured our view of those parts of the site.
- \* Hazardous or potentially hazardous materials were not observed or suspected to exist on-site.
- \* Five electrical transformers were observed on or adjacent to the site. Transformers were pole mounted, and evidence of leakage was not noted.
- \* Apparent water wells were not noted on or immediately adjacent to the site. There may be water supply wells at or near current/former residences and farmsteads.
- \* Evidence of underground storage tanks (USTs) was not observed. Aboveground storage tanks (ASTs) were not observed on-site. There is no specific or reported knowledge of USTs or ASTs being previously located on-site.

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\* A Magellan buried petroleum pipeline crosses the proposed easement. While there is potential for undetected releases from this pipeline, releases are not known to have occurred.

\* Historical resources did not indicate prior non-agricultural or non-residential land use with the exception of Sioux Automation Center on Parcel 105. This business was constructed in 1999 and was cropland prior to development.

\* One site parcel is listed on regulatory agency lists. Sioux Automation Center (Parcel #105) is a conditionally exempt small quantity generator of hazardous waste (waste solvent generation). There are few nearby facilities that occur on regulatory lists. The listings are not considered environmentally significant with respect to the proposed pipeline.

### OPINION

The few farmsteads adjacent to or near the site have several environmental risks. One is agricultural chemical and fertilizer storage and use. Animal wastes may be generated, stored, and disposed of. There may be current or former disposal pits for household and farm wastes. There may be current or former water supply wells, storage tanks (ASTs/USTs), household septic fields and lines, manure pits, agricultural drainage tiles, etc. There is some potential for releases from the Magellan petroleum pipeline. Each of these items, if present, could: result in increased nutrients; contaminated soil, groundwater, or surface water; or provide a transport mechanism to them.

One apparent rural residential dump was noted along the proposed pipeline easement. There may be some potential for buried wastes at this location and other former/current farmsteads. If encountered, wastes may require special disposal, and may be a release source.

The Magellan petroleum pipeline crosses the planned route in Parcel 74. No releases from this section of pipeline were noted in the list review. There is potential for undocumented releases from the petroleum pipeline. If encountered, petroleum impacts may require testing and special disposal.

Should substance releases be encountered or detected, notification to the US Environmental Protection Agency, South Dakota Department of Environment and Natural Resources, or Iowa Department of Natural Resources may be necessary.

If abandoned water supply wells are encountered, they may need to be plugged. The cost of sealing a well with cement grout would be dependent upon the depth and diameter of the well. The minimum cost would be a few hundred dollars, with higher expenses for deep and large diameter wells.

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If over one acre of land will be disturbed by earthwork (i.e. pipeline construction or other earthwork), a notice of intent to be covered under the State's general permit for storm water discharges in association with construction activities should be submitted to the State at least 15 days prior to conducting work. As part of the permit, a pollution prevention plan must be developed and implemented. Likewise, if dewatering of trenches is conducted, the appropriate notice of intent to be covered under the State's general permit should be submitted to the appropriate State.

### CONCLUSIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E1527-05 of the referenced site. This assessment has not revealed evidence of recognized environmental conditions in connection with the property.

ASTM defines "recognized environmental conditions" as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release...". The term includes hazardous substances even under conditions in compliance with laws. Specifically excluded are de minimus conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies.

In our opinion, the Magellan petroleum pipeline at Parcel #74 or the residential garbage pit on Parcel #84 would not be considered a recognized environmental conditions because they currently would not be subject to enforcement action if brought to the attention of appropriate government agencies.

### DEVIATIONS

Any exceptions to, or deletions from, this practice are described in the "Scope of Services" section of this report.

### ADDITIONAL SERVICES

#### Asbestos Review

The subject property was reviewed for obvious suspected asbestos containing building materials. Four structures are located partially within the project construction limits. The structures do not overlie the planned pipeline location and will apparently not be affected by construction. The structures were not directly reviewed for asbestos containing materials.

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An inspection and sampling of suspect asbestos containing building materials is usually required by EPA (NESHAPs rules in 40 CFR 61) rules and Iowa Department of Natural Resources (IDNR) rules prior to construction, demolition, or renovation activities that would disturb the materials. Additionally, a notification form must be submitted to IDNR at least 10 working days prior to demolition (including those where no asbestos is present), and prior to disturbing or removing certain quantities of asbestos. Asbestos materials may require special disposal.

Federal OSHA rules may apply to contractors and employees working with asbestos containing materials. Notification of the existence of suspected and confirmed asbestos building materials is required. Thermal system insulations, spray or trowelled surfacing materials, and asphalt or vinyl flooring must be presumed to contain asbestos in buildings constructed before 1980 unless tested otherwise. For employees such as custodial and maintenance workers, an asbestos awareness course is required in buildings with confirmed or presumed asbestos containing materials.

### Lead Review

There are little to no painted surfaces on-site. If present (structures partially on-site), paint may contain lead. Most definitions of lead-based paint define it as paint containing 0.5% or more lead. Beginning in 1955, voluntary industry standards were 1% or less lead in residential interior paint. In 1971, a federal law prohibited the use of paint with over 1% lead in federal government residences. In 1973, federal law lowered the allowable amount to 0.5%. In 1977, federal law lowered the allowable amount of lead in residential interior paint to 0.06%. Contractors should comply with OSHA lead exposure rules during work involving potential lead-based paint (29 CFR 1926.62). We presume adjacent structures will not be disturbed by pipeline construction activities.

### Wetlands

A review was conducted of National Wetlands Inventory maps prepared by the US Department of the Interior, Fish & Wildlife Service. Excerpts from the maps are attached in Appendix F. Please refer to the actual maps for the type and number of wetlands. Below are observations from the maps, arranged by section of the proposed pipeline easement. Wetlands that would appear to be low road/rail ditches are excluded. Note that tall grass, cattails, trees, and other vegetation may have partially obscured our view.

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Section	Township	Range	Mapped Wetlands (USFW Maps)	Observed Wetlands (site visit)
1	95	48	Big Sioux River, 2 areas along the river	Big Sioux River at or near flood stage
6	95	47	1 area	no areas
5	95	47	no areas	1 area with stream
4	95	47	no areas	1 area with stream
33	96	47	no areas	no areas
34	96	47	no areas	1 area with stream
35	96	47	2 areas	no areas
36	96	47	no areas	no areas
31	96	46	no areas	no areas
32	96	46	no areas	no areas
33	96	46	1 area	no areas
34	96	46	no areas	no areas
35	96	46	no areas	1 area with stream
36	96	46	no areas	no areas
31	96	45	no areas	1 area with stream
32	96	45	1 area	no areas
29	96	45	no areas	no areas
28	96	45	no areas	no areas

Specific owner observations of wetlands were not noted on returned questionnaires.



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US Geological Survey, Lebanon, Iowa Quadrangle, 7.5 minute series map, 1968.

US Geological Survey, Sioux Center, Iowa Quadrangle, 7.5 minute series map, 1964, photorevised 1980.

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**SIGNATURE OF ENVIRONMENTAL PROFESSIONALS**

The conclusions and recommendations contained in this report present our professional opinions. These opinions were arrived in accordance with currently accepted hydrogeological and engineering practices at this time and location. Other than this, no warranty is implied or intended.



Tracy A. Michel  
Senior Project Manager  
SD PE/Remediator #6865

This report was reviewed by:



Jerald K. Zutz  
Senior Project Manager  
SD PE/Remediator #5083

**QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS**

Tracy A. Michel – Senior Project Manager: Tracy is a project manager/engineer on assessment/remediation projects. She holds a degree in civil engineering from South Dakota State University. Tracy has completed over 600 Phase I Environmental Site Assessments throughout Iowa, South Dakota, North Dakota, Minnesota, and Nebraska. Tracy is a Registered Professional Engineer and a Certified Petroleum Release Remediator in South Dakota with 18 years of experience. Tracy is an AHERA certified asbestos building inspector/management planner in South Dakota, and an AHERA asbestos building inspector in Minnesota and Iowa. She has received training as a lead-based paint inspector/risk assessor under the EPA model curriculum. Tracy is also a member of ASTM Committee E50 on Environmental Assessment.

Jerald K. Zutz - Senior Project Manager: Jerry is a project engineer/manager on assessment and remediation projects. He holds a degree in geologic engineering from South Dakota School of Mines and Technology. Jerry has completed over 650 Phase I Environmental Site Assessments throughout South Dakota, North Dakota, Iowa, Minnesota and Nebraska. Jerry is a licensed asbestos building inspector in South Dakota and Iowa and has received training as a lead-based paint inspector/risk assessor under the EPA model curriculum. He is a Registered Professional Engineer and a Certified Petroleum Release Remediator in South Dakota with 25 years of experience.

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TABLE 1 - SITE USE TIME LINE		
Year	Historical Source	Site Use
1917	Sanborn Map	This map covers Sioux Center only. The site was not covered by the maps.
Data gap greater than 5 years. Significant change in use from previous and following years not suspected.		
1927	Sanborn Map	This map covers Sioux Center only. The site was not covered by the maps.
1930s	Aerial Photo	The site and vicinity appears to be agricultural land. There are apparent farmsteads on or adjacent to the subject property in Sections 6-95-47 (2 farms), 5-95-47, and 34-96-47. A rail line crosses the site in Section 32-96-45. The site follows section line roads except for in portions of Sections 1-95-48, 6-95-47, and around the town of Lebanon in 35-96-47.
Data gap greater than 5 years. Significant change in use from previous and following years not suspected.		
1950s	Aerial Photo	The site appears as previously seen.
Data gap greater than 5 years. Significant change in use from previous and following years not suspected.		
1964 & 1968	Topo Maps	The easement crosses by dwellings or other rural structures, large overhead electric lines, unnamed intermittent streams, Dry Creek, and the Big Sioux River. The planned route runs past the town of Lebanon and crosses railroad tracks. There are roads on section lines in the area. The vicinity appears to be mostly agricultural land, with a few apparent farmsteads.
Data gap greater than 5 years. Significant change in use from previous and following years not suspected.		
1977	County Atlas	The site is in Virginia Township in South Dakota and Eagle, Garfield, Plato, and Welcome Townships in Iowa. The site follows section line roads with the exception of portions of Sections 1-95-48, 6-95-47, and around the town of Lebanon in 35-96-47. This map identifies land owners but not buildings. There are no apparent commercial land owners.
1981	County Atlas	The site appears as previously seen.
1985	County Atlas	The site appears as previously seen.
1990s	Aerial Photo	The site appears as previously seen.
1995	County Atlas	The site appears as previously seen.
1997	County Atlas	The site appears as previously seen.
2002	Aerial Photo	The Sioux Automation building is now present in Section 32-96-45. Other items remain as previously seen.
2005	Aerial Photo	The site appears as previously seen.
2009	Aerial Photo	The site appears as previously seen.

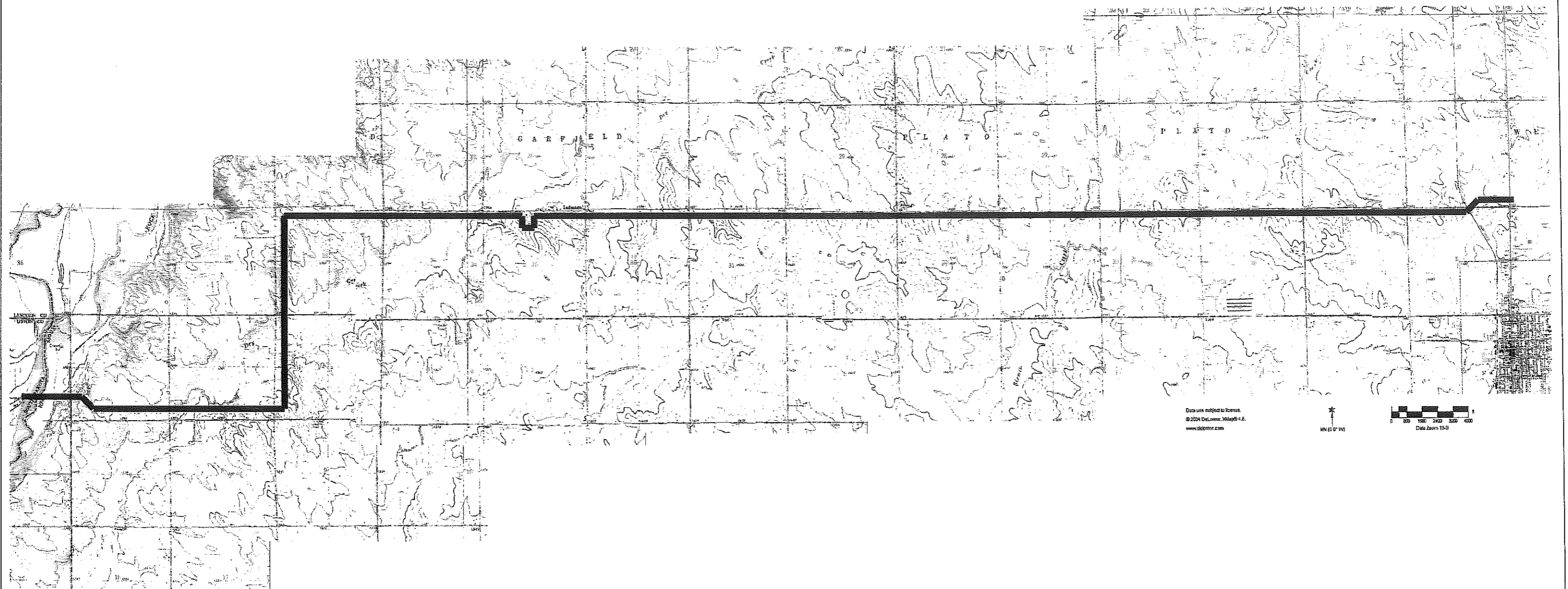


Figure 1	Project #: 10-789-5	
Topographic Map	Drawn By:	Checked By:
L&CRWS – Iowa Segment 2	<b>GEOTEK ENGINEERING &amp; TESTING SERVICES, INC.</b>	
Sioux County, Iowa		