Phase I Environmental Site Assessment
Lewis & Clark Regional Water System, Inc.
Madison Service Line 5
Lake County, SD
GeoTek #15-818

SUMMARY

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of the referenced site in Lake County, South Dakota. Any exceptions to, or deletions from, this practice are described in the Purpose and Scope of Services sections of the report and contract.

This assessment has not revealed evidence of recognized environmental conditions in connection with the property except for the following:

- One open release file for the City of Madison water supply indicates solvent impacts to shallow groundwater near the city water supply wells. Construction dewatering of impacted groundwater, if necessary, would require permitting, water testing, and possible water treatment. This is considered a Recognized Environmental Condition.

INTRODUCTION

Purpose

This Phase I Environmental Site Assessment was conducted during the period of July 23, 2015 to August 10, 2015. 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 E1527-2013 (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.

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 15, 2015 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.

Privileged and Confidential; Prepared at the Request of Counsel.

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.

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 Banner Associates, Inc. and 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 mostly agricultural land, vacant land, and rural residential yards in Lake County, South Dakota. Madison Service Line Segment 5 is generally outside the city limits of Madison and Wentworth with the exception of the last part of the segment at the Madison Water Treatment Plant. Lewis and Clark Regional Water System, Inc. has a proposed pipeline easement for Madison Service Line 5.

The Madison Service Line Segment 5 runs from a connection with the Big Sioux Community Water System on SD Highway 34 near Lake Madison along rural section line roads to the water treatment plant at the southeast corner of Madison, South Dakota. The pipeline route is approximately 5 miles long. The proposed total right of way width of both the permanent and temporary construction easement is approximately 60' (Figure 2).

There are approximately 13 separate parcels. The approximate legal description and owners of the parcels are on a list in Appendix E. The proposed pipeline easement crosses township roads and SD Highway 34.

Privileged and Confidential; Prepared at the Request of Counsel.

Site and Vicinity General Characteristics

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

Current Use of the Property

The site consists of agricultural land (mostly cropland; some pasture or hay), vacant land, and rural residential land.

Description of Improvements

Improvements on or immediately adjacent to the proposed site are:

-a grain bin at SW ¼ 13-106-52
-paved roads (SD Highway 34, Lake County Highway 29, 4th Street SE)
-gravel driveways
-overhead and underground utility lines
-fencing along many property boundaries, and separating some interior areas.

Current Uses of Adjoining Properties

The vicinity consists of agricultural land (cropland, pasture, hay land), farmsteads, rural and in-town residences, and the City of Madison Water Treatment Plant. Surrounding land is primarily agricultural and rural residential.

A drive-by survey of the immediate site vicinity revealed the following items of apparent potential environmental significance such as suspect UST locations, potential hazardous waste generators, industrial properties, etc:

1. A gravel pit is present across the road in Sections 16, 17, and 8. The area was mostly obscured by trees and brush.

2. A sign for a "shooting range" was noted near the gravel pit entrance in Section 16 across the road from the proposed site. There is potential for lead impacts from shooting range ammunition.

3. Items in storage at a residence along 4th Street east of Division Avenue appear to be an auto salvage yard. This is located across the street to the north from the proposed site.

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 environmental reports are not known or reported to exist for the subject property.

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

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. Madison Well Field, bounded by Garfield Ave., Division Ave., 1st St. SE & 4th St. SE

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.

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.

There were no listed sites within the radius reviewed.

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.

There were no listed sites within the radius reviewed.

Privileged and Confidential; Prepared at the Request of Counsel.

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. Open or pending investigations involving a spill, leakage, or contamination of soil and water within an approximate 1/2 mile radius of the subject property were:

DENR #2006.135 City of Madison - Drinking water well #9; Solvents were detected in pre-treatment and post treatment samples from a city drinking water well in 2005. Quarterly testing of city wells was initiated and two other wells have had detections below the maximum contaminant level. Wells with detections are located south and southeast of the water treatment plant in a shallow aquifer formation. Information indicates former potential historic solvent sources in the area (landfill, auto salvage, drycleaners), however assessment has not confirmed a source. The affected well is no longer used as a drinking water source. Monitoring and assessment continues.

DENR #2012.224 ATP - SD DOT Madison Shop, 45656 SD Hwy 34, Diesel. A diesel tank was removed under the abandoned tank program in 2012. No other information is available.

B. Closed, inactive, or no further action status investigations involving a spill, leakage, or contamination of soil and water within an approximate 1/2 mile radius of the subject property were:

DENR #89.124 Pace Trucking, Pamida loading dock, S. Washington & 8th
DENR #90.490 Madison Airport, Airport Drive, JP-4
DENR #90.617 Lake Madison, Johnson's Point Slough, Lake Madison
DENR #91.019 Olson Oil Company, 1016 NE 3rd Street
DENR #91.344 Hilde Pipe and Gravel, SW edge of Lake Madison
DENR #93.057 US Fish and Wildlife facility, US Fish and Wildlife facility
DENR #93.196 Domestic Seed & Supply, 2 miles E & .25 N of Madison Airport
DENR #94.227 Fish and Wildlife Service, Hwy. 19
DENR #2000.358 Marr's Beach Resort, WNW edge of Lake Madison
DENR #2001.014 Clean ATP - Diana Johnson Property, 601 SE 4th Street
DENR #2014.003 Lakeview Industrial Park, E of 455th Avenue & S of SE 12th Street

C. Registered underground or aboveground storage tanks (USTs & ASTs) within an approximate 1/4 mile radius of the subject property are listed below:

1. Hilde Pipe and Gravel, PO Box 6: 2 removed UST
2. Marr's Beach Resort, Lake Madison: 1 removed UST
3. Fish and Wildlife Service, S Hwy 19: 3 removed UST

4. SD Dept of Transportation, 45656 SD Hwy 34: 3 current UST, 2 removed UST
5. Siedsehlaw Implement, Box 409: 2 removed UST
6. B&G Transport, 433 SE 12th Street: 2 current AST
7. Classic Corner Convenience, 500 SE 10th Street: 5 current UST
8. Keith's South Side Service, 1200 S. Egan: 3 removed UST

D. State Brownfields List.

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 assistance is available for targeted assessment and perhaps cleanup. There are also revolving loans funds. The intent of the program is to promote assessment, cleanup and reuse of brownfields. The list was reviewed for facilities within an approximate one-half mile radius.

1. City of Madison-Former Rosebud Office, West half of block: Van Eps, Egan, Center & SW 1st St. Lead impacted surface soils and petroleum from a former underground tank were detected during redevelopment of this property. Surface soils with lead and subsurface soils with petroleum were excavated and transported to the Brookings Landfill for disposal. The file is listed as closed.

2. Former Rosebud Manufacturing, Lake Area Improvement Corp, 213 & 219 S Egan Avenue. Solvent and petroleum impacts were detected during redevelopment of this property. Petroleum was detected from a former underground storage tank. The source of the solvents was not known. The file is listed as open.

E. State Institutional Controls

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. At this time, we are not aware of a state registry or list of such facilities.

F. State Permitted Solid Waste Facilities

A list of DENR permitted solid waste facilities such as active and closed landfills, rubble sites, ash monofill, sludge monofill, transfer stations, petroleum contaminated soil landfarms, etc., was reviewed for facilities within an approximate one-half mile radius of the subject property.

There were no listed sites within the radius reviewed.

G. State Surface Water Discharge Permits

DENR administers federal regulations (40 CFR 122-123) for storm water discharges from industrial facilities, or construction activities involving over one acre of earthwork or land disturbance. If over one acre of land will be disturbed, a notice of intent to be covered under the state's general permit should be submitted to DENR at least 15 days prior to conducting work. As part of the permit, a pollution prevention plan must be developed and implemented.

SD also has a general permit for temporary dewatering and temporary water use. If temporary or long term dewatering is conducted, the appropriate notice of intent to be covered under the state's general permit for those activities should be submitted to DENR at least 15 days prior to conducting the work.

HISTORICAL RESOURCES REVIEW

Aerial Photograph Review

A review was conducted of available historical aerial photographs from various sources. Photographs from the years 1940, 1952, 1953, 1956, 1965, 1975, 1983, 1984, 1991, 1998, 2004, 2005, 2006, 2007, 2010, 2011, 2012, 2014, and 2015 were reviewed. The following pertinent information about the site and vicinity was obtained from the review. The photo source and scale are also listed. Copies of photos (where available) are included in Appendix B.

* 1940 – USDA NRCS (Scale 1" = 660')

  This photo is poor quality. The site appears mostly as seen today with four farmsteads or rural residences along the route, a few houses in town on 4th Street east of Division Avenue, and the gravel pit south and east of the route in Sections 16, 17, and 8. The water treatment plant is not seen and this lot is vacant land. Roads appear as seen today.

* 1952 – USGS (Scale Varies)

  This photo is poor quality. Specific structures cannot be determined. The site appears similar to the previous photo.

* 1953 – USGS (Scale Varies)

  There are no apparent significant changes from the previous photo.

* 1956 – USDA NRCS (Scale 1" = 660')

  There are no apparent significant changes from the previous photo.

Privileged and Confidential; Prepared at the Request of Counsel.

* 1965 – EROS Data Center (Scale 1" = 1512')

  There are driveways and structures at the water treatment plant, however no specific items can be determined due to the photo scale. There are no apparent significant changes from the previous photo.

* 1983 – USGS (Scale Varies)

  There are no apparent significant changes from the previous photo.

* 1984 – USGS (Scale Varies)

  There are no apparent significant changes from the previous photo.

* 1991 NAPP (Scale 1" = 833')

  There are no apparent significant changes from the previous photo.

* 1998 NAPP (Scale 1" = 833')

  Two water treatment ponds are now seen south of the water treatment plant. There are no other apparent significant changes from the previous photo.

* 2004 – Google Earth (Scale Varies)

  There are no apparent significant changes from the previous photo.

* 2005 – Google Earth (Scale Varies)

  There are no apparent significant changes from the previous photo.

* 2006 – Google Earth (Scale Varies)

  There are no apparent significant changes from the previous photo.

* 2007 – Google Earth (Scale Varies)

  There are no apparent significant changes from the previous photo.

* 2010 – Google Earth (Scale Varies)

  There are no apparent significant changes from the previous photo.

* 2011 – Google Earth (Scale Varies)

  There are no apparent significant changes from the previous photo.

* 2012 – Google Earth (Scale Varies)

  There are no apparent significant changes from the previous photo.

* 2014 – Google Earth (Scale Varies)

  There are no apparent significant changes from the previous photo.

* 2015 – Google Earth (Scale Varies)

  There are no apparent significant changes from the previous photo.

City Directories

City Directories of the area (Polk - 1966, 1969, 1971 and City Directories Inc. – 1989, 1995, 2001) were reviewed for the site and vicinity for years that directories were locally available. From our work in the area, rural street addresses appear to have been first established in about 1997. Directories with rural addresses were not available for Madison or Wentworth. There were no apparent business listings in 2002.

4^{th} Street SE (Madison)		
832	1966, 1969 & 1971	John's Salvage
No #	1969	Madison City Water Treatment
No #	1966	Waltz Construction

County Atlases/Maps

1. Standard Atlas of Lake County, South Dakota, 1911, by George A. Ogle & Co. Publishers

   There are six farmsteads or building sites adjacent to the route. There are section line roads. Land owner names on and adjacent to the site are listed. There are no other apparent non-residential owner names

2. Atlas of Lake County, South Dakota, 1957, by Thomas O. Nelson Co.

   There are six farmsteads or building sites adjacent to the route. There are section line roads. Land owner names on and adjacent to the site are listed. Lake County is shown as the owner of the northwest part of Section 16 (current gravel pit area). There are no other apparent non-residential owner names

3. Atlas of Lake County, South Dakota, 1964, by Midwest Atlas Co.

   The site and area appear as previously seen.

4. Atlas of Lake County, South Dakota, 1971, by Midwest Atlas Co.

   The site and area appear as previously seen.

5. Atlas of Lake County, South Dakota, 1980, by Midwest Atlas Co.

   Another farmstead or building site is seen in Section 9 near 4th Street. Other items remain as previously described.

Fire Insurance Maps

A review was conducted of available fire insurance maps. Sanborn Map Company maps were available for Madison for the years 1891, 1898, 1904, 1908, 1914, 1921, 1931, and 1949. A Fire Underwriters Inspection Bureau map was available for Wentworth for 1959. The site was not detailed on the maps.

National Pipeline Mapping System

This publically available database of pipelines was searched on July 24, 2015. Hazardous liquid pipelines or gas transmission pipelines were not identified within one mile of the subject property. The pipeline maps are attached in Appendix C.

Topographic Maps

A review was conducted of available historical topographic maps from various sources. Maps from 1968 were available. A consolidated 1968 map of the Madison and Lake Madison Quadrangles is attached as Figure 1. The following pertinent information regarding the subject property and vicinity was observed.

* 1968 - USGS Madison, South Dakota 7.5 minute Quadrangle &
  1968 - USGS Lake Madison, South Dakota 7.5 minute Quadrangle

  The site appears to be mostly vacant or agricultural land. The proposed pipeline easement is approximately 5 miles long and crosses one intermittent stream. The elevation of the site ranges from about 1700' at the east end to about 1665' at the water treatment plant. Section line roads and the gravel pit appear as seen today. The vicinity appears to be mostly vacant or 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.

Seven 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 6 to 10 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. The zoning/land use records were deemed not likely to be useful. Building department records do not 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 South Dakota Geological Survey (SDGS) has mapped the area along the east three miles of the proposed pipeline as Quaternary Till, Stagnation Moraine. This unit is a heterogeneous mixture of boulders, pebbles, sand, silt, and clay with up to 2' of wind-deposited silt and clay at the land surface. There is a hummocky topography with poorly developed drainage and numerous lakes and sloughs. Beneath the surficial unit is mostly other glacial clay till, with some outwash (sand and gravel) and lake deposits. The glacial deposits are about 300' thick (R. Hammond, 1991).

The west approximate 2 miles of the proposed pipeline are mapped as Quaternary Glacial Outwash. The outwash was deposited by glacial meltwaters, and consists of boulders, pebbles and sand. The thickness of the outwash is estimated to be 20' to 30' thick (R. Hammond, 1991).

The site has a poor probability of encountering sand and gravel within 25' of the land surface for the east three miles of the pipeline. The west two miles have a good chance of encountering sand and gravel within 25' of the land surface (Tomhave, 1986)

Shallow groundwater is likely present within about 10' to 15' of the land surface. Shallow groundwater often flows in the direction of the surface topographic gradient. Therefore, the groundwater gradient may be to the southeast.

The North Skunk Creek Aquifer exists in surficial sand and gravel deposits in the area. The aquifer average thickness is 39'. The regional aquifer gradient is to the southeast (Hansen, 1986).

The Howard Aquifer exists within buried outwash. It is about 40' thick in the area. The groundwater gradient is to the southeast (Hansen, 1986).

Three bedrock aquifers (Niobrara, Codell, & Dakota) also exist below the Cretaceous Pierre Shale (Hansen, 1986).

In 1991, the City of Madison had four municipal water supply wells (34-51' deep) in the North Skunk Creek Aquifer, and two wells (254-257' deep) in the Howard Aquifer (P. Hammond, 1991). Since then, six additional wells (five are 32-35' deep, one is 230' deep) have been added (DENR, 2012).

The east three miles of the proposed pipeline are not located within a wellhead protection area. The remainder of the proposed line is mostly within Zone B of the Lake County Groundwater Protection Zones, with a portion of the line at the west end within Zone A. Zone A indicates groundwater is within an approximate 10 year time of travel to the municipal supply wells. Zone B is within the shallow aquifer boundary and the land area contributes drainage to Zone A.

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.

The general soil type for the east three miles of the proposed route is classified as the Egan-Viborg association. This is a nearly level to gently sloping, well drained and moderately well drained silty soil formed in glacial drift on uplands (USDA, 1973).

The general soil type for the west two miles of the proposed route is classified as the Dempster association. This is a nearly level to sloping, well-drained silty soil formed in alluvium over sand and gravel. It is found on uplands and stream terraces (Schultz, 1973).

General Site Setting

On July 29, 2015 we performed a reconnaissance visit of the site to make visual observations of existing site conditions and land use practices.

The site consists of cropland, pasture, vacant land, and rural residential yard areas. There were no buildings observed on-site. Improvements on-site included some gravel driveways and paved highways. There were barbed wire fences along many parcel boundaries, especially adjacent to section lines. There were also some overhead and underground utility lines.

Evidence of sumps, agricultural drain tile lines, cisterns, water wells, distressed vegetation, surface stains or waste disposal was not observed. Note that tall grass, brush, and trees somewhat obscured our view of parts of the site.

The subject property is roughly linear shaped. Madison Segment #5 is approximately 5 miles long by 60' wide. This is an approximate area of 36 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.

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 are often suspected to contain Polychlorinated Biphenyls (PCBs). One pole mounted transformer was observed adjacent to the site in Section 10-106-52. Markings indicating PCB content were not observed. Evidence of leaks or spills of transformer oil were not noted.

Water Supply Wells

Water supply wells were not observed on-site. Although it is possible a well may exist at or near current or former residences and farmsteads, typical surface features of wells were not observed on-site.

If a water well is later discovered on-site, it would probably be considered abandoned. State well construction standards (ARSD 74:02:04:69) would require that abandoned wells be plugged. Well abandonment may be performed by the property owner or by a licensed well driller. 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 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.

Owners

Level 1 Contaminant Survey Checklists were sent to the owners of the parcels of the subject property. Of 15 checklists sent, 7 were filled out and returned to us. An example letter sent to the property owners and the returned checklists are attached in Appendix E.

There were these responses on the returned checklists:

- Parcel #1 – all negative responses
- Parcel #3 – 4 unknown responses (unknown previous chemicals on the property, previous dumping on the property, asbestos, chemical contamination)
- Parcel #4 – all unknown responses (owner indicates she recently inherited the property and has no site specific information)
- Parcel #5 – 1 unknown response (have contaminants been identified in a private well)
- Parcel #6 – all negative responses
- Parcel #10 – all negative responses
- Parcel #11 – all negative responses

Local Government Officials

SD Department of Environment and Natural Resources (DENR) - Mr. Scott Bickler was interviewed on July 24, 2015 regarding potential information on the site. He is a Senior Hydrologist with the DENR Groundwater Quality Program, and has been located in the DENR's Sioux Falls Office since 1989. He is familiar with the site area. Mr. Bickler was not aware of leaks, spills, releases, or hazardous material conditions at or adjacent to the subject property beyond those previously listed in the SD DENR list review in this report.

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 11 minor data gaps consisting of a lack of historical information for intervals greater than 5 years were present. Unspecified use spanned 6 to 10 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 mostly agricultural land, vacant land, and rural residential yards in Lake County, South Dakota. There were no buildings observed on-site with the exception of the connection point at the Madison Water Treatment Plant.

* Evidence of sumps, agricultural drain tile lines, cisterns, water wells, distressed vegetation, surface stains or waste disposal was not observed. Note that tall grass, brush, and trees somewhat obscured our view of parts of the site.

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

* The site has been agricultural land or rural farmsteads for the known history.

* Electrical transformers are often suspected to contain Polychlorinated Biphenyls (PCBs). One pole mounted transformer was observed adjacent to the site in Section 10-106-52. Markings indicating PCB content were not observed. Evidence of leaks or spills of transformer oil were not noted.

* Water supply wells were not observed on-site. Although it is possible a well may exist at or near current or former residences and farmsteads, typical surface features of wells were not observed on-site.

* Evidence of underground storage tanks (USTs) was not observed. Aboveground storage tanks (ASTs) were not observed on-site. There is no knowledge of USTs or ASTs being previously located on-site.

* Three owner questionnaires listed possible environmental concerns (unknown conditions), but did not identify known concerns. We note that unknown responses may be true for the entire parcel, but the item may or may not be on the proposed pipeline route easement itself.

* The site is not on the regulatory agency lists reviewed. There are few nearby facilities that occur on regulatory lists. One open release for the City of Madison water supply indicates solvent impacts to shallow groundwater near the city water supply wells. Construction dewatering of impacted groundwater, if necessary, would require permitting, water testing, and possible water treatment. Other off-site listings are not considered environmentally significant with respect to the site.

OPINION

Assessment for the City of Madison wells is on-going. Solvent impacts to shallow groundwater are possible near the west end of the project site. Construction dewatering of impacted groundwater, if necessary, would require permitting, water testing, and possible water treatment.

Farmsteads adjacent to or near the site have potential for environmental risks from such items as ag chemical and fertilizer storage and use, animal wastes, waste disposal pits, machinery fueling and maintenance, etc. There may be current or former water supply wells, storage tanks (ASTs/USTs), household septic fields and lines, manure pits, agricultural drainage tiles, etc. Each of these items, if present, could: result in increased nutrients; contaminate soil, groundwater, or surface water; or provide a transport mechanism. Significant items were not observed in the immediate vicinity of the proposed site during the site visit.

If the potential for releases is of concern, subsurface assessment should be considered. Should releases be identified and reported to DENR, assessment and/or clean-up of the site may be required. If the substance release is a motor fuel or fuel oil, a responsible party or impacted third party may be eligible for reimbursement of assessment and cleanup costs from the SD Petroleum Release Compensation Fund. The PRCF has a $10,000 deductible (except for third party liability cases), with coverage up to $1,000,000 for eligible expenses related to releases of motor fuels and fuel oil. Expenses related to hydraulic oil, motor oil, used oil, and other substances (i.e. cutting oils, solvents, paints) are not eligible for reimbursement. Transmission pipeline releases are reportedly excluded from PRCF coverage. Releases from vehicles may be covered if certain criteria are met. If a release originates off-site, there is also some coverage of expenses for an impacted third party. However, coverage is secured through the responsible party.

Although not suspected, if an abandoned petroleum UST is discovered, it could be removed at no expense to the property owner under a current DENR program. Abandoned petroleum USTs are eligible for the DENR Tank Yank Program unless they are at a commercially operated motor fuel station operated on or after April 1, 1988. USTs storing motor fuel, heating oil, motor oil, waste oil, etc., are eligible. DENR hires private contractors and consultants to conduct the work. UST contents are removed. Soil samples are collected at the time of UST removal. Contaminated backfill soils, if present, are removed. Replacement soil is minimally compacted. If there is pavement over the UST, it would not be replaced. The state also pays for "any additional cleanup that is needed". Currently, there is no known ending date for this program.

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.

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 DENR 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 DENR.

CONCLUSIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of the referenced site in Lake County, South Dakota. Any exceptions to, or deletions from, this practice are described in the Purpose and Scope of Services sections of the report and contract.

This assessment has not revealed evidence of recognized environmental conditions in connection with the property except for the following:

- One open release file for the City of Madison water supply indicates solvent impacts to shallow groundwater near the city water supply wells. Construction dewatering of impacted groundwater, if necessary, would require permitting, water testing, and possible water treatment. This is considered a Recognized Environmental Condition.

The term "recognized environmental conditions" is defined as:

> the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis 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. Conditions determined to be de minimis are not recognized environmental conditions.

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. As there were no buildings on-site, suspect asbestos containing materials were not observed.

General information on asbestos follows:

> An inspection and sampling of suspect asbestos containing building materials is usually required by EPA (NESHAPs rules in 40 CFR 61) and SD Department of Environment and Natural Resources (DENR) rules prior to construction, demolition, or renovation activities involving the materials. Additionally, a notification form must be submitted to DENR 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.
>
> Most landfill operators/owners will accept building debris without segregating non-friable (non-dust producing under hand pressure) suspect asbestos containing materials. The landfill accepting the waste may also have requirements regarding packaging, transport, and disposal of the material.

These factors should be considered when selecting a landfill for the demolition debris. During building demolition, we recommend care be taken to lessen the possibility that the non-friable materials would become friable. Possible precautions include: demolition equipment should not traverse or pulverize areas of floor tile, use water to keep material wet during removal, keeping debris sections relatively intact, and minimizing breakage, etc.

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, 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).

Wetlands

A review was conducted of available National Wetlands Inventory maps prepared by the US Department of the Interior, Fish & Wildlife Service. Online maps were reviewed and copies are attached in Appendix F. Please refer to the actual maps for the type and number of wetlands.

The geology of the Madison area includes lakes, sloughs, and several wetlands. The proposed pipeline route is within or near 16 mapped wetland areas.

Field observations were made for potential wetlands including observations of surface water, wetland vegetation, or apparent drainage ways. The observations are arranged by parcel. Wetlands that would appear to be low road ditches are excluded. Note that tall grass, cattails, trees, and other vegetation may have partially obscured our view.

Parcel 1 – 1 draw/stream with water, cattails, etc.
Parcel 7 – 1 draw/stream with water, cattails, etc.

Owner observations of wetlands were solicited with the questionnaires. We did not receive owner reports of historic wetlands.

REFERENCES

Hammond, R. H., Geology of Lake and Moody Counties, South Dakota, SD Geological Survey, Bulletin 35, 1991.

Hansen, Donald S., Major Aquifers in Lake and Moody Counties, South Dakota, SD Geological Survey Information Pamphlet No. 31, 1986.

Hansen, Donald S., Water Resources of Lake and Moody Counties, South Dakota, US Geological Survey Water-Resources Investigations Report 84-4209, 1986.

SD Department of Environment and Natural Resources, Environmental Events Database, July 24, 2015.

SD Department of Environment and Natural Resources, Permitted and Closed Solid Waste Facilities, July 24, 2015.

SD Department of Environment and Natural Resources, Registered ASTs and USTs, July 24, 2015.

Tomhave, Dennis W., Sand and Gravel, Resources in Lake County, South Dakota, SD Geological Survey Information Pamphlet No. 32, 1987.

US Environmental Protection Agency (EPA), Archive *CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System), November 12, 2013.

US EPA, Brownfields Properties List, July 24, 2015.

US EPA, *CERCLIS and NPL (National Priorities List), November 12, 2013.

US EPA, Emergency Response Notification System list, July 24, 2015.

US EPA, Institutional Controls/Engineering Controls List, January 11, 2011.

US EPA, RCRIS Facility List, June 11, 2015.

US Department of the Interior, Fish & Wildlife Service, National Wetlands Inventory, July 27, 2015.

US Geological Survey, 1968, Lake Madison, South Dakota Quadrangle, 7.5 minute series map.

US Geological Survey, 1968, Madison, South Dakota Quadrangle, 7.5 minute series map.

USDA, SCS, Soil Survey of Lake County, South Dakota, December 1973.

* - US EPA is in the process of creating a system to replace CERCLIS. CERCLIS data is frozen as of November 12, 2013 until the new system is operational.

Privileged and Confidential; Prepared at the Request of Counsel.

QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

Tracy A. Michel – Senior Project Engineer/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 650 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 22 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.

Tracy is the Environmental Professional for this report, and has completed the site reconnaissance and interviews within the report.

Jerald K. Zutz - Senior Project Engineer/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 750 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 31 years of experience.

Jerry is an Environmental Professional, and has completed the peer review for this report.

ENVIRONMENTAL PROFESSIONAL STATEMENT

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312 and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Tracy A. Michel, PE
Senior Project Manager
CPRR #6865

TABLE 1- SITE USE TIME LINE		
Year	**Historical Source**	**Site Use**
1891	Sanborn Map	The site is not shown in detail.
Data gap greater than 5 years.		Significant change in use from previous and following years not suspected.
1898	Sanborn Map	The site is not shown in detail.
Data gap greater than 5 years.		Significant change in use from previous and following years not suspected.
1904	Sanborn Map	The site is not shown in detail.
1908	Sanborn Map	The site is not shown in detail.
1911	County Atlas	There are six farmsteads or building sites adjacent to the route. There are section line roads. Land owner names on and adjacent to the site are listed. There are no other apparent non-residential owner names.
1914	Sanborn Map	The site is not shown in detail.
Data gap greater than 5 years.		Significant change in use from previous and following years not suspected.
1921	Sanborn Map	The site is not shown in detail.
Data gap greater than 5 years.		Significant change in use from previous and following years not suspected.
1931	Sanborn Map	The site is not shown in detail.
Data gap greater than 5 years.		Significant change in use from previous and following years not suspected.
1940	Aerial Photo	This photo is poor quality. The site appears mostly as seen today with four farmsteads or rural residences along the route, a few houses in town on 4th Street east of Division Avenue, and the gravel pit south and east of the route. The water treatment plant is not seen and this lot is vacant land. Roads appear as seen today.
Data gap greater than 5 years.		Significant change in use from previous and following years not suspected.
1949	Sanborn Map	The site is not shown in detail.
1952	Aerial Photo	Specific structures cannot be determined. The site appears similar to the previous photo.
1953	Aerial Photo	There are no apparent significant changes from the previous photo.
1956	Aerial Photo	There are no apparent significant changes from the previous photo.
1957	County Atlas	There are six farmsteads or building sites adjacent to the route. There are section line roads. Land owner names on and adjacent to the site are listed. Lake County is shown as the owner of the northwest part of Section 16 (current gravel pit area). There are no other apparent non-residential owner names.
Data gap greater than 5 years.		Significant change in use from previous and following years not suspected.
1964	County Atlas	The site and area appear as previously seen.
1965	Aerial Photo	There are driveways and structures at the water treatment plant, however no specific items can be determined due to the photo scale. There are no apparent significant changes from the previous photo.
1966	City Directory	There are no listings for the site.
1969	City Directory	The City Water Treatment Plant is listed but does not have a street number.
1971	City Directory	There are no listings for the site.
1971	County Atlas	The site and area appear as previously seen.
1975	Aerial Photo	There are no apparent significant changes from the previous photo.

TABLE 1- SITE USE TIME LINE		
Year	**Historical Source**	**Site Use**
1980	County Atlas	Another farmstead or building site is seen in Section 9 near 4th Street. Other items remain as previously described.
1983	Aerial Photo	There are no apparent significant changes from the previous photo.
1984	Aerial Photo	There are no apparent significant changes from the previous photo.
1989	City Directory	There are no listings for the site.
1991	Aerial Photo	There are no apparent significant changes from the previous photo.
1995	City Directory	There are no listings for the site.
1998	Aerial Photo	Two water treatment ponds are now seen south of the water treatment plant. There are no other apparent significant changes from the previous photo.
2001	City Directory	There are no listings for the site.
2004	Aerial Photo	There are no apparent significant changes from the previous photo.
2005	Aerial Photo	There are no apparent significant changes from the previous photo.
2006	Aerial Photo	There are no apparent significant changes from the previous photo.
2007	Aerial Photo	There are no apparent significant changes from the previous photo.
2010	Aerial Photo	There are no apparent significant changes from the previous photo.
2011	Aerial Photo	There are no apparent significant changes from the previous photo.
2012	Aerial Photo	There are no apparent significant changes from the previous photo.
2014	Aerial Photo	There are no apparent significant changes from the previous photo.
2015	Aerial Photo	There are no apparent significant changes from the previous photo.

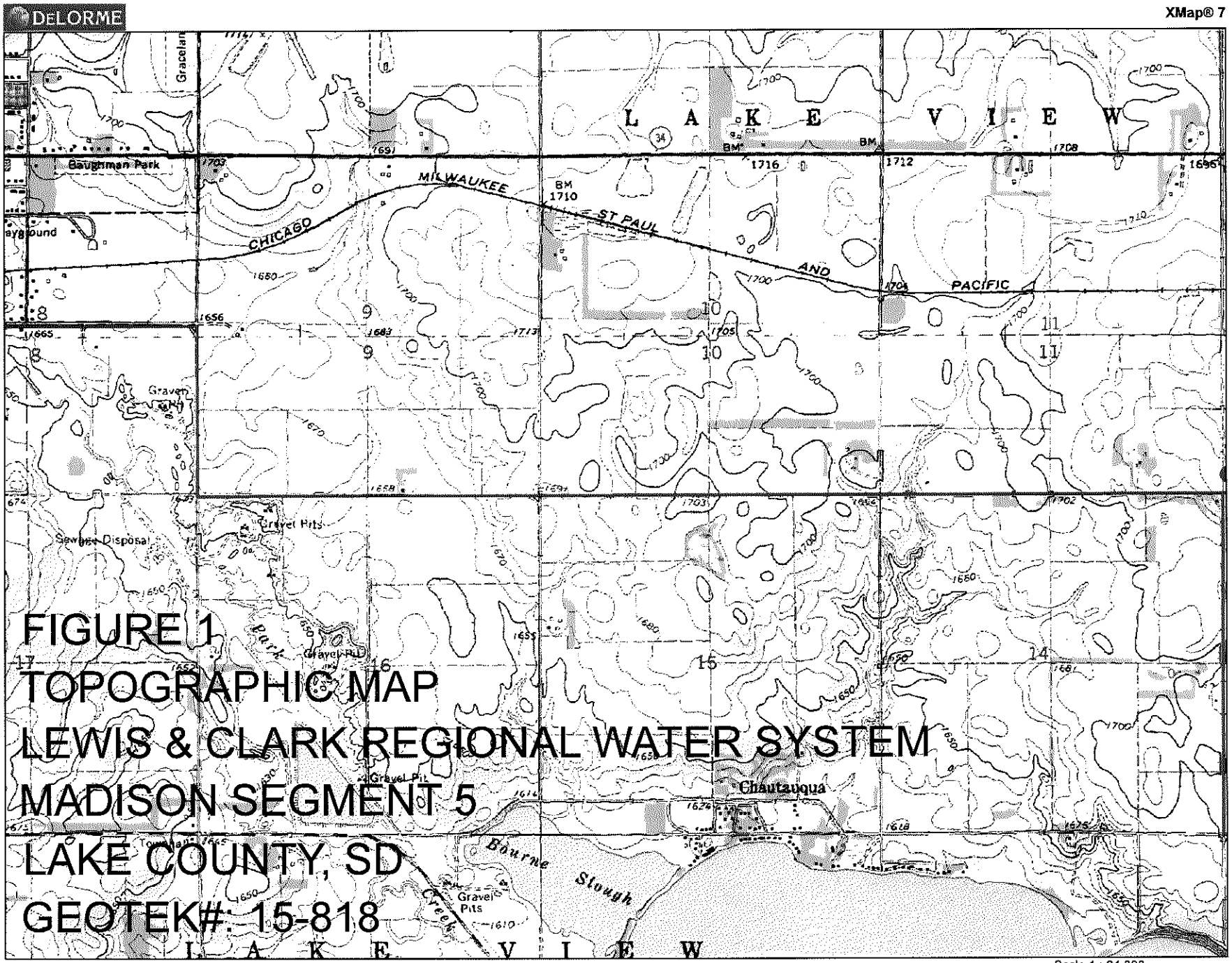

FIGURE 1
TOPOGRAPHIC MAP
LEWIS & CLARK REGIONAL WATER SYSTEM
MADISON SEGMENT 5
LAKE COUNTY, SD
GEOTEK#: 15-818