

# GEOTEK ENGINEERING & TESTING SERVICES, INC.

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September 21, 2004

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

Attn: Mr Troy Larson

Subj: Phase I Environmental Site Assessment

Proposed Water Treatment and Storage Facility

Lewis and Clark Rural Water System

SW Corner of 467th Avenue and 270th Street

Rural Sioux Falls, South Dakota

GeoTek #04-910

Dear Mr. Larson:

We have completed a Phase I Environmental Site Assessment for the referenced project. We are transmitting three copies of our report. This work was done in accordance with our August 27, 2004 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.

øerald K Z√tz√ Project Manager

PE/Remediator #5083

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PHASE I ENVIRONMENTAL SITE ASSESSMENT
LEWIS & CLARK RURAL WATER SYSTEM
SW CORNER OF 467th AVENUE AND 270TH STREET
RURAL SIOUX FALLS, SOUTH DAKOTA

#### GEOTEK #04-910

#### SUMMARY

Our Phase I Environmental Site Assessment did not identify recognized environmental conditions in association with the referenced site

#### INTRODUCTION

#### Purpose

This Phase I Environmental Site Assessment was conducted during the period of August 24 through September 21, 2004. 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 E1527-00 (plus site observations for asbestos materials) and included the following tasks:

- 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.
- 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
- 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
- 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
- Visually observe property for evidence of wetlands. Interview landowner for historic knowledge of presence of wetlands. Review a published wetlands map from USDA or US Fish & Wildlife Service.
- 7. Complete the Level 1 Contaminant Survey Checklist for the subject property.
- 8 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 the August 27, 2004 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, nitrates, herbicides, pesticides or insecticides, or radon gas unless stated above.

Similarly, an assessment of mineral rights investigation, drinking water testing, indoor air quality, 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 Rural 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 southwest of Sioux Falls, SD. Two large water storage reservoirs and a pump station are planned to be constructed on-site. The approximate legal description is: the N500' of NE1/4, Section 21, T100N, R51W, Lincoln County, South Dakota. This legal description includes the approximate 33' road right of way on both the north and east side of the subject property. The current property owner is the Julia Ollerich et al Family Trust.

# Site and Vicinity General Characteristics

The site and vicinity is mostly rural agricultural land (cropland, pasture, sloughs), with a few residences

# Current Use of the Property

The site consists of rural agricultural land (cropland)

# Description of Improvements

The only known improvements on the site are barbed-wire fences along most of the north and part of the east property boundaries.

# Current Uses of Adjoining Properties

The vicinity consists of rural agricultural land (cropland), and residential properties.

A drive-by survey of the immediate site vicinity (approximately 500') revealed the following items of apparent significance such as suspect UST locations, potential hazardous waste generators, industrial properties, etc:

Some wastes or waste disposal (cut trees, concrete blocks, and several plastic bags) was observed in the east road ditch of 467th Avenue, adjacent to the east

## USER PROVIDED INFORMATION

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.

One previous environmental assessment is known to exist for the site. A Phase I Environmental Site Assessment was completed on a 100' wide proposed pipeline easement along the east side of the subject property (GeoTek Engineering & Testing Services, Inc. report #04-101, dated May 19, 2004) This report did not identify recognized environmental conditions for the east 100' of the subject property, and did not identify items of concern in the immediate area

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

The reason the Phase I Environmental Site Assessment was performed was to attempt to identify significant environmental risks, if present, for the proposed construction and operation of a water treatment and storage facility.

# RECORDS REVIEW

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

## 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.

There were no listed sites within the radius reviewed.

## 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

## 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.

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

- A There were no investigations involving a spill, leakage, or contamination of soil and water within an approximate one-half mile radius of the subject property.
- B. Registered USTs or ASTs within an approximate onefourth mile radius of the subject property were:
  - 1 Enron Gas Pipeline Operating Com, Rural Route 1, no street address, Sioux Falls, Lincoln County, AST
- C. 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.

D. 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 1941, 1951, 1953, 1956, 1962, 1972, 1976, 1984, 1998, and 2002 were reviewed. The following pertinent information about the site and vicinity was obtained from the review. The photo source and scale are also listed Excluding 2002, copies of the photos are attached in Appendix B.

\* 1941 - USDA (Scale 1" = 1320')

The site appears to be agricultural land. There is a wet symbol draw on the map in the northeast corner of the site. There appears to be an intermittent stream along the south edge of the site. There are roads on the section lines adjacent to the east and north. There are no adjacent building or farmsteads.

\* 1951 - USDA (Scale 1" = 660')

The site and vicinity appears as previously seen.

\* 1953 - EROS Data Center (Scale 1" = 5800')

The photo is very small scale. The site and vicinity appears as previously seen.

\* 1956 - USDA (Scale 1" = 660')

The site and vicinity appears as previously seen.

\* 1962 - USDA (Scale 1" = 1320')

The site and vicinity appear as previously seen

\* 1972 - USDA (Scale 1" = 1670')

The site and vicinity appear as previously seen.

\* 1976 - USDA (Scale 1" = 1320')

The site and vicinity appear as previously seen.

\* 1984 - NHAP (Scale 1" = 1320')

The site appears as previously seen. There is now a house across the road to the east.

\* 1998 - USDA (Scale 1" = 660')

The site and vicinity appear as previously seen.

\* 2002 - Banner Associates (Scale: 1" = 100')

These photos were taken in November 2002. The site is cropland. The vicinity is as previously seen.

# County Atlases/Maps

Copies of the atlas pages are attached in Appendix B.

1 <u>Illustrated Historical Atlas of South Dakota, 1904</u> by E Frank Peterson

This map does not list land owners. The site is within Section 21, Delapre Township (R51W part). There are roads on the section lines adjacent to the north and east. Farmsteads are present nearby to the east and southwest. There is a water body just northeast of the site.

2. Standard Atlas of Lincoln County, South Dakota, 1910 by Geo. A. Ogle & Co.

The NE1/4 of Section 21 (includes the site) is owned by W.J. Coates. The area remains as previously seen.

3. Atlas of Lincoln County, South Dakota, 1949 by R. C. Booth Enterprises

The site is part of a larger parcel owned by C. J. Johnson. This atlas does not show buildings.

4 Atlas of Lincoln County, South Dakota, 1956 by R. C. Booth Enterprises

The site and vicinity remain as previously seen. This atlas does not show buildings.

5. <u>Atlas of Lincoln County, South Dakota, 1976</u> by Midland Atlas Co.

The NE1/4 of Section 21 (includes the site) is owned by William A. Ollerich. There are no building sites on or adjacent to the subject property.

6 Atlas of Lincoln County, South Dakota, 1983 by Midland Atlas Co

The site remains as previously seen. There is now a small tract across the road to the east where a house is present today.

7 Atlas of Lincoln County, South Dakota, 2002 by Midland Atlas Co., LLC.

The NE1/4 of Section 21 (includes the site) is owned by Julia Ollerich et al F.T. The vicinity appears as previously described.

#### Fire Insurance Maps

A review was conducted of available fire insurance maps:

Tea - A Fire Underwriters Inspection Bureau map of the City of Tea for January 1963 was available. The maps does not show the site or adjacent land. A copy of the map is attached in Appendix B.

Sioux Falls - A review was conducted of available fire insurance maps. Sanborn Map Company maps of nearby Sioux Falls were available for the years 1883, 1886, 1888, 1891, 1896, 1902, 1908, 1911, 1916, 1924, 1950 and 1963. The maps do not show the site or adjacent land. Apparently, there was little or no significant development in the site area for the years mapped.

# Lincoln County Director of Equalization

The site was assessed as part of a larger parcel, and therefore the record includes some off-site data.

Legal Description: NE1/4, Section 21, T100N, R51W,

Lincoln County, SD

Owner: Julie Ollerich etal

Address: not listed

Land Area:

160 acres

Improvements:

none listed

Assessed Value: Land only - \$197,050

#### Topographic Maps

review was conducted of available historical topographic maps from various sources. The map is attached as Figure 1 The following pertinent information regarding the subject property and vicinity was observed.

\* 1976 - USGS Tea, South Dakota 7.5 minute Quadrangle

This is a 1962 map, photorevised in 1976 subject property appears to be agricultural or vacant land. There are roads on the section lines adjacent to the north and east. Contour lines indicate the land slopes gently to the south. There are farmsteads nearby to the east and west. The nearest surface water is an unnamed, intermittent stream about 1000' northwest.

#### SITE RECONNAISSANCE

# Methodology and Limiting Conditions

Exterior observations were made by observing the site from the adjacent roads, and traversing areas on foot Tall crops, and heavy grass/weeds on low parts somewhat obscured our view of the land surface.

## Hydrogeology

#### Geology

The surficial geologic unit at the site is believed to be Quaternary till (a heterogeneous mixture of boulders, sand, silt, and clay). The till is known to contain one or more buried outwash (sand and gravel) deposits in the site area. The outwash is up to about 77' thick.

The site has a poor probability of sand and gravel deposits within 25' of the land surface (Schulz, 1991) ...

Based on the approximate surface and bedrock elevations, the Quaternary units are approximately 200' thick (Niehus, 1994).

According to Niehus (1994), the bedrock is the Precambrian Sioux Quartzite, at an elevation of roughly 1300' However, later work by Filipovic (2001) indicates there are several Cretaceous age units (Niobrara, Carlile, Graneros, Split Rock Creek) within about a mile of the site that have a top elevation of about 1307 to 1374'

#### Groundwater

Groundwater usually exists within glacial till deposits within about 10-15' below the land surface. The groundwater gradient is often in the direction of the surface topographic gradient. Therefore, the groundwater gradient may be to the south.

# <u> Area Aquifers</u>

These potential aquifer units are known to exist in the area:

Wall Lake Aquifer - This is a buried outwash aquifer in Southern Minnehaha and Northern Lincoln Counties According to Lindgren (1992), the Wall Lake Aquifer is up to about 77' thick It is about 117-140' to the top of the outwash The water level in the aquifer in the area is at about 1435' in elevation (Filipovic, 2001)

Niobrara Aquifer - This is a calcareous siltstone that may have layers of chalk. The unit is unusually less than 50' thick. It is a minor aquifer in Lincoln County (Niehus, 1994).

Carlile Aquifer - This is a shale unit, sometimes over 250' thick in the area. It is considered a minor aquifer in Lincoln County (Niehus, 1994).

Split Rock Creek Aquifer - While it may contain groundwater and is considered an aquifer in nearby Minnehaha County, the Split Rock Creek Formation is not considered an aquifer in the area.

Sioux Quartzite Wash Aquifer - In some areas, quartzite sand is present above the Sioux Quartzite Formation. It is a minor aquifer in Lincoln County (Niehus, 1994).

Sioux Quartzite Aquifer - This is a minor bedrock aquifer in Lincoln County (Niehus, 1994).

Water within other unnamed buried sand and gravel bodies may also be considered aquifers

# Water Source Protection Areas

We are not aware of water source or aquifer protection zones for areas of Lincoln County

# Municipal Water Supplies

The municipal water supply of nearby communities or rural water districts is listed below:

-the City of Sioux Falls gets water from the Big Sioux River, from the Big Sioux Aquifer, from the Skunk Creek Aquifer, and from the Split Rock Creek Aquifer

-the City of Tea purchases their water from Lincoln County Rural Water System, and also has two wells (205', 275' deep), apparently for back up use (DENR, 2003). Apparently, the city wells are screened in the Sioux Quartzite Aquifer

-the Lincoln County Rural Water System purchases their water from the City of Sioux Falls. They also have one 29' deep well (DENR, 2003)

#### Soils

The soil on most of the site is Egan-Shindler complex, 2-6% slopes. It is a deep, well-drained gently sloping soil on the sides of drainageways and around depressions. The underlying material is loamy glacial till. Runoff is medium. Permeability is moderate to moderately slow (Driessen, 1976).

The soil on the east and northwest parts of the site is Huntimer silty clay loam, 0-2% slopes. It is a deep, well-drained, nearly level silty soil on mesalike hilltops on uplands. The soil formed in glacial sediment of ancient ice-walled lakes. Runoff is slow (Driessen, 1976).

The soil on the south edge and northeast part of the site is Worthing silty clay 0-1% slopes. It is a deep, poorly drained to very poorly drained, level, clayey soils in depressions in uplands. The underlying material is silty clay. The soil formed in alluvium that was washed from adjacent soils. Permeability is slow. Runoff from adjacent soils ponds on this soil. These soils have a seasonal high water table within 5' of the land surface (Driessen, 1976).

# General Site Setting

On September 9, 2004, 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, currently planted to corn. The land of the site is rectangular shaped, being 500' north-south by 1320' east-west (when including road right of ways), for an area of about 15 acres. Photographs of the site are attached in Appendix A.

One improvement exists on-site. There is barbed-wire livestock fencing along most of the north edge of the site, and part of the east edge of the site.

An approximate 20' by 40' mostly bare area was observed in the northeast corner of the site. It appears this area was not planted to corn. A few apparent native stones were observed on the land surface in this area.

There is a grass waterway along the south edge of the property

Surface stains, distressed vegetation, unusual grade changes, floor drains, or evidence of on-site waste disposal was not observed on-site.

# Hazardous or Potentially Hazardous Materials

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

Agricultural and 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.

#### PCB Review

Electrical transformers were not observed on or immediately adjacent to the site (transformers are often suspected to contain polychlorinated biphenyls (PCBs))

#### Water Supply Wells

Water supply wells were not observed or suspected to exist on-site. However, water supply wells may exist at nearby current or former farmsteads or houses. If an old water well is encountered during construction, it would probably be considered abandoned. SD well construction standards (ARSD 74:02:04:69) require that abandoned wells be plugged. Well plugging 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, location, and other specific information.

## Underground/Aboveground Storage Tank Review

Evidence of underground storage tanks (USTs), such as fill/vent pipes or dispenser islands, were not observed. Buried tanks are not known to have been previously located on-site. Aboveground storage tanks (ASTs) were also not observed on-site.

Most farms have motor fuel storage tanks (mostly aboveground), and older homes often have or had heating oil tanks. There is potential for releases associated with tanks at adjacent or nearby farms or homes that could impact the property. Should releases be suspected or identified, the DENR may require assessment and/or clean-up of the site.

The SD Petroleum Release Compensation Fund (PRCF) may reimburse eligible parties for expenses related to assessment and remediation of motor fuels or fuel oil. The PRCF has a \$10,000 deductible, with coverage up to \$1,000,000 for eligible expenses related to releases of motor fuels and fuel oil. Expenses related to hydraulic oil, used oil, and other substances 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.

If later discovered, abandoned USTs can be removed at no expense to the property owner under a current DENR program. Abandoned petroleum USTs are eligible for the 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 perhaps 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 conducts and pays for "any additional cleanup that is needed". Currently, there is no known ending date for this program.

# INTERVIEWS

A Level 1 Contaminant Survey Checklist was filled out by the owner of the subject property. The checklist is attached in Appendix E. There were no positive responses on the owner's part of the checklist.

Owner - A telephone interview was conducted with owner's representative Mr. Jerald Ollerich on September 13, 2004. The land has been owned by his dad or family for about 40 years. The land has been used for crop production during that and prior periods. He is not aware of or suspect that former building sites were previously located on-site. There are no known drain tile lines for agricultural drainage. Likewise, buried utilities crossing the site are not known to exist. There is one small area in the west central part of the land that is low where crops will drown out in wet years, but the area can be farmed in dry years.

Local Government Officials - Mr. Harold Timmerman, Lincoln County Emergency Management Director, was interviewed on September 17, 2004. He had no knowledge of leaks, spills, releases, or hazardous material conditions at the site or in the area. There are no nearby liquid pipelines.

#### 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

- \* An approximate 20' by 40' mostly bare area was observed in the northeast corner of the site. It appears this area was not planted to corn
- \* Surface stains, distressed vegetation, unusual grade changes, floor drains, or evidence of on-site waste disposal was not observed on-site.
- \* Hazardous or potentially hazardous materials were not observed or suspected to exist on-site
- \* Electrical transformers were not observed on or immediately adjacent to the site (transformers are often suspected to contain polychlorinated biphenyls (PCBs))
- \* Water supply wells were not observed or suspected to exist on-site
- \* Evidence of underground storage tanks (USTs) were not observed. Buried tanks are not known to have been previously located on-site. Aboveground storage tanks (ASTs) were also not observed on-site

- \* There are no apparent reports of leaks, spills or releases of substances near the site.
- \* There is one other regulatory listing. The off-site listing is not considered significant with respect to the site.

#### OPINION

There are no known or suspected former building sites on the subject property. There was a farmstead or dwelling identified nearby to the southwest on a 1904 atlas, but not in 1910 or later years. There appears to be low potential for risks associated with a typical farmstead

Since the proposed reservoir construction may disturb over one acre of land, 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 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 E1527-00 of the referenced site. This assessment has not revealed evidence of recognized environmental conditions in connection with the property

#### **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. Suspect asbestos containing materials were not observed

Historical documents do not indicate buildings were previously located on-site, indicating lesser potential for subsurface building material debris (which could contain asbestos)

#### Lead Review

Painted surfaces were not observed on-site.

## <u>Wetlands</u>

#### Map

A review was conducted of an available National Wetlands Inventory map prepared by the US Department of the Interior, Fish & Wildlife Service. The map was published in 1990, based on aerial photos from 1983. A copy of the map is attached in Appendix F. Excluding one wetland in the north road ditch, there is one small wetland marked on the west edge of the subject property. Please refer to the actual map for the wetland designation.

#### Observations

Based on field observations (i.e. surface water, low elevation, type of vegetation or other) on September 9, 2004, there was one area that may be considered a wetland. On the south edge of the site was a waterway that was not in crop production. There were two areas in the north road ditch that may also be considered wetlands.

#### REFERENCES

Driessen, James L., and others, Soil Conservation Service, Soil Survey of Lincoln County, South Dakota, issued June 1976.

Filipovic, Dragan, and Pence, Stan F., <u>The Wall Lake Aquifer Study</u>, SD Geological Survey, Open-File Report 88-UR, 2001

Fire Underwriters Inspection Bureau, Map of City of Tea, SD, January 1963.

Niehus, Colin A., <u>Major Aquifers in Lincoln and Union Counties</u>, <u>South Dakota</u>, <u>SD Geological Survey Information Pamphlet 49</u>, 1997

Niehus, Colin A., <u>Water Resources of Lincoln and Union Counties</u>, <u>South Dakota</u>, <u>US Geological Survey Water-Resources Investigations Report 93-4195</u>, 1994

Sanborn Map Company, City of Sioux Falls, South Dakota, 1883, 1886, 1888, 1891, 1896, 1902, 1908, 1911, 1916, 1924, 1950, and 1963

Schulz, Layne D., and Martin J. Jarrett, <u>Sand and Gravel</u> <u>Resources in Lincoln County</u>, <u>South Dakota</u>, SD Geological Survey Information Pamphlet No. 43, 1991.

SD Department of Environment and Natural Resources, Permitted and Closed Solid Waste Facilities, March 15, 2004

SD Department of Environment and Natural Resources, Public Water System Data Handbook, June 3, 2003

SD Department of Environment and Natural Resources, Registered ASTs and USTs, January 15, 2004

SD Department of Environment and Natural Resources, Release List, June 15, 2004

US Environmental Protection Agency (EPA), Archive CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System), August 20, 2004.

US EPA, CERCLIS and NPL (National Priorities List), July 29, 2004.

US EPA, Emergency Response Notification System list, August 22, 2004

US EPA, RCRIS Facility List, July 12, 2004

US Department of the Interior, Fish & Wildlife Service, National Wetlands Inventory, Tea, South Dakota Quadrangle, 7.5 minute series map, 1990

US Geological Survey, Lennox NW, South Dakota Quadrangle, 7.5 minute series map, 1962, photorevised 1978

US Geological Survey, Tea, South Dakota Quadrangle, 7.5 minute series map, 1962, photorevised 1976.

# 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.

Jerald K. Zhitz V Project Manager

PE/Remediator #5083

This report was reviewed by:

Daniel R. Hanson

Senior Project Manager

PE/Remediator #4829

## QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

Jerald K. Zutz-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 500 Phase I Environmental Site Assessments throughout South Dakota, Iowa, Minnesota and Nebraska Jerry is a licensed asbestos building inspector in South Dakota 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 16 years of experience.

Daniel R. Hanson - Senior Project Engineer/Manager: Dan is a senior project engineer/manager on assessment and remediation projects. He holds a degree in civil engineering from South Dakota State University. Dan is the manager of environmental services for GeoTek projects in South Dakota and Minnesota. He is a Registered Professional Engineer and a Certified Petroleum Release Remediator in South Dakota with 19 years of experience.



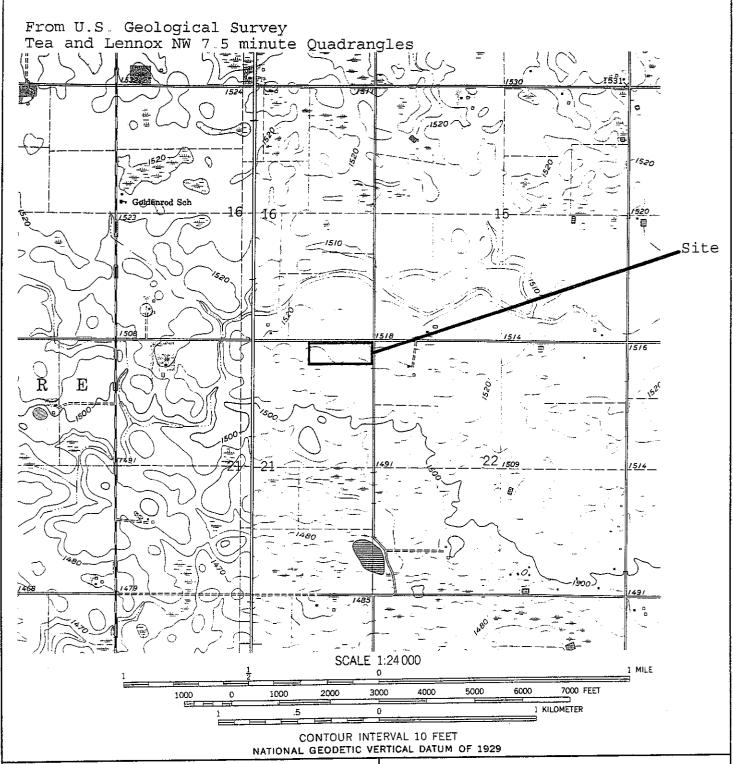


FIGURE 1
TOPOGRAPHICAL SITE MAP
PROPOSED WATER TREATMENT & STORAGE
LEWIS & CLARK RURAL WATER SYSTEM
SW CORNER OF 467TH AVE. & 270TH ST
RURAL SIOUX FALLS, SD

PROJECT#: 04-910

DRAWN BY:

CHECKED BY:

GEOTEK ENGINEERING & TESTING SERVICES, INC.