UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

AUG 13 1999

Mr. Robert D. Patzwald
Deputy Director
Department of Public Works
City of Leavenworth
100 North 5th Street
Leavenworth, KS 66048-1970

Re: Former Leavenworth Municipal Landfill
Brownfields Targeted Assessment
2110 3rd Street
Leavenworth, Kansas

Dear Mr. Patzwald:

I am writing to clarify the U.S. Environmental Protection Agency (EPA) Region 7 intentions concerning the property referenced above. My response is based upon the facts presently known to EPA and is provided solely for informational purposes. For the reasons stated below, EPA does not presently contemplate additional Superfund action for this property. However, due to the locally observed elevated levels of lead in surface soils and the presence of hazardous substances in groundwater associated with the property, the city of Leavenworth should consult with the Kansas Department of Health & Environment (KDHE) before redevelopment activities are undertaken at the property.

In response to growing concern over health and environmental risks posed by hazardous waste sites, Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), establishing the Superfund program to clean up these sites. The Superfund program is implemented by EPA in cooperation with individual states and local and tribal governments. Sites are discovered by citizens, businesses, and local, State, or Federal agencies. A fter a potential hazardous waste site is reported to EPA, the available information is recorded in the Comprehensive Environmental Response and Liability Information System (CERCLIS), EPA's data management system for Superfund. Sites are added to CERCLIS when EPA believes that there may be contamination that warrants action under Superfund.

This site has not been listed in CERCLIS, but has been evaluated by EPA Region 7 under the Brownfields Targeted Assessment (BTA) Program, to determine the extent, if any, the property is contaminated by hazardous substances. As the June 25, 1999 BTA Report for the Leavenworth Landfill Site states, soil sampling analytical results suggest the property may have been impacted to a limited extent by lead waste. The EPA Superfund program has determined that No Further Federal Action is appropriate at this property, unless new information warranting further Superfund consideration or conditions not previously known to the EPA regarding the property are discovered.

The federal Superfund Program is intended to address worst cases of hazardous contamination across the country. Sites which do not warrant attention under the Federal program may yet pose a lesser threat to human health and the environment which warrants attention under a State program. You should contact Mr. Rick Bean, Chief, Remedial Section Bureau of Environmental Remediation, KDHE for further information regarding the options available to you for re-development of this property. For your convenience, I have shared a copy of the June 25, 1999 BTA Report for this property with Mr. Bean.

If you have any questions regarding the BTA program status of the former Leavenworth Landfill property, please contact me at (913) 551-7988.

Sincerely,

Shane Reed
Brownfields Project Manager
Superfund Division

cc: Rick Bean, KDHE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

Mr. Robert D. Patzwald, Deputy Director
Department of Public Works
City of Leavenworth
100 North 5th Street
Leavenworth, KS 66048-1970

Re: Former Leavenworth Municipal Landfill
Brownfields Targeted Assessment
2110 3rd Street
Leavenworth, Kansas

Dear Mr. Patzwald:

I am writing to clarify United States Environmental Protection Agency (EPA) Region 7 intentions concerning the above-referenced property. My response is based upon the facts presently known to the EPA and is provided solely for informational purposes. For the reasons stated below, EPA does not presently contemplate additional Superfund action for this property. However, due to the locally observed elevated levels of lead in surface soils and the presence of hazardous substances in groundwater associated with the property, the city of Leavenworth should consult with the Kansas Department of Health & Environment (KDHE) before redevelopment activities are undertaken at the property.

In response to growing concern over health and environmental risks posed by hazardous waste sites, Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, establishing the Superfund program to clean up these sites. The Superfund program is implemented by EPA in cooperation with individual states and local and tribal governments. Sites are discovered by citizens, businesses, and local, state, or federal agencies. After a potential hazardous waste site is reported to EPA, the available information is recorded in the Comprehensive Environmental Response and Liability Information System (CERCLIS), EPA's data management system for Superfund. Sites are added to CERCLIS when EPA believes that there may be contamination that warrants action under Superfund.

This site has not been listed in CERCLIS, but has been evaluated by EPA Region 7 under the Brownfields Targeted Assessment (BTA) Program, to determine the extent, if any, the property is contaminated by hazardous substances. As the June 25, 1999, BTA report for the Leavenworth

Landfill Site states, soil sampling analytical results suggest the property may have been impacted to a limited extent by lead waste. The EPA Superfund program has determined that no further federal action is appropriate at this property, unless new information warranting further Superfund consideration or conditions not previously known to the EPA regarding the property are discovered.

The federal Superfund Program is intended to address worst cases of hazardous contamination across the country. Sites which do not warrant attention under the federal program may yet pose a lesser threat to human health and the environment which warrants attention under a state program. KDHE will have some concerns regarding the observed local lead contamination and hazardous substances associated with groundwater on-site. You should contact Mr. Rick Bean, Chief, Remedial Section Bureau of Environmental Remediation, Kansas Department of Health & Environment for further information regarding the options available to you for re-development of this property. For your convenience, I have enclosed Mr. Bean's business card and have also shared a copy of the June 25, 1999, BTA Report for this property with Mr. Bean.

If you have any questions regarding the Brownfields Targeted Assessment program status of the former Leavenworth Landfill property, please contact me at (913)551-7988.

Sincerely,

Shane Reed

Shane Reed
Brownfields Project Manager
Site Assessment/Cost Recovery Branch
Superfund Division

Enclosure

BROWNFIELDS ASSESSMENT DECISION - U.S. EPA REGION 7

SITE NAME: The Leavenworth Landfill Site
Leavenworth, Kansas
Alias Site Names:
Address: 2110 3rd Street
City: Leavenworth County or Parish: Leavenworth State: Kansas

Refer to Report Dated: June 25, 1999 Report type: Brownfields Targeted Assessment
Report Developed by: Shane Reed, Region 7 Brownfields Project Manager

DECISION: No Further Remedial Response Action - Site Referred to Kansas Department of Health and the Environment

Based on the data collected for this Brownfields Targeted Assessment, No Further Response Action is planned by the United States Environmental Protection Agency, Region VII Superfund Program at the present time. However, observed levels of contamination on-site may prohibit the types of redevelopment desired by the City of Leavenworth. Therefore, due to the locally elevated levels of lead in surface soils and the presence of hazardous substances in groundwater associated with the property, this site is being referred to the Kansas Department of Health and the Environment for further developmental consideration.

DISCUSSION/RATIONALE:
Based on the analytical data collected from the subject property sample screening criteria, it appears that hazardous substances are present in the soil and ground water at the subject site. Concentrations of these hazardous substances exceed the Kansas Department of Health and the Environment (KDHE) Risk Based Standards for Kansas (RSKs) screening levels. The most notable surface contamination (lead), concentration of 1,310 mg/Kg, is slightly in excess of the RSK value for lead of 1,000 mg/Kg. This appears to be localized and is limited to one sample in the northwest portion of the subject site. At the present time, the subject property is partially controlled and exposure to surface contaminants is limited. There are significant concentrations of various hazardous substances found in the local ground water of the subject site. However, ground water at the site is not used for drinking water and the closest well used for drinking water (both private and public) is approximately 3.0 miles from the site. Therefore, based on present conditions it appears that the potential for exposure to human receptors is low.

The findings of this investigation are not of a significant nature to warrant further Superfund investigation at this time. However, contaminant concentrations may impact the proposed redevelopment plans for the property as a recreational or commercial area. In order to address the elevated concentrations of lead surface soils and the presence of hazardous substances found in groundwater, EPA Region 7 recommends the following:

- Consult with Kansas Department of Health and the Environment, Remedial Section, to determine what actions should be taken to adequately address the concentrations of hazardous substances in surface soils and groundwater associated with the site.

Site Decision
Made by: Shane Reed, Signature: Shane Reed Date: 7/14/99
Brownfields Project Manager, EPA Region 7
State Review
Made by: Rick Bean Signature: Rick Bean Date: 7/27/99
Chief, Remedial Section, KDHE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

BROWNFIELDS TARGETED ASSESSMENT REPORT

The Leavenworth Landfill Site
Leavenworth, Kansas

Prepared By:

McKinzie Construction, Inc.
Contract No. 8K0613YASW

June 25, 1999

PREPARED BY:

Wood H. Ramsey, CHMM,
Project Manager

Date: 06/25/99

EDITED AND APPROVED BY:

Shane Reed
Region 7 Brownfields Project Manager

Date: 7/9/99

McKinzie Construction, Inc.

7301 Mission Road, Suite 219
Prairie Village, Kansas 66208
Office: (913) 262-0010
Fax: (913) 262-6566

June 25, 1999

Mr. Shane Reed
Brownfields Project Manager
Superfund Division
U.S. Environmental Protection Agency
726 Minnesota Avenue
Kansas City, Kansas 66101

RE: Leavenworth Brownfields Targeted Assessment
Leavenworth, Kansas

Dear Mr. Reed:

McKinzie Construction, Incorporated (McKinzie) has completed a Brownfields Targeted Assessment at the former Leavenworth municipal landfill, in Leavenworth, Kansas. This report includes our findings from site reconnaissance and sampling activities, historical records review, government database records review and interviews.

We appreciate the opportunity to provide environmental services to the Environmental Protection Agency, and look forward to working with you in the future. If you have any questions concerning this report, or if we may be of additional assistance, please contact us at (913) 262-5200.

Sincerely,
McKinzie Construction, Inc.

Wood H. Ramsey, CHMM
Sr. Project Manager

TABLE OF CONTENTS

page

TABLES

FIGURES

APPENDICES

U.S. EPA REGION 7
BROWNFIELDS SITE SCREENING REPORT

I. INVESTIGATION SUMMARY

Type of investigation: X Phase I (equivalent) X Phase II (equivalent)

McKinzie Construction, Incorporated, was directed by the U.S. Environmental Protection Agency (EPA) Region 7 Superfund Division to conduct a Brownfields Targeted Assessment (BTA) of the Leavenworth Landfill Site. The City of Leavenworth has requested assistance with the assessment of the property for the purposes of future development. The State of Kansas, specifically the Kansas Department of Health and Environment (KDHE) is also a stakeholder in the Brownfields program and has provided assistance with the performance of the Leavenworth Landfill BTA.

The purpose of the Leavenworth Landfill BTA is to: 1) assist the City of Leavenworth in determining the nature and extent of potential contamination at the subject property; 2) assess risks presented by the contamination, and 3) assess the site with regard to American Society of Testing and Materials (ASTM) standards for environmental site assessments.

The subject site is the former location of the Leavenworth municipal landfill, which operated from approximately 1969 to 1972. It was used for the disposal of household wastes and some limited industrial wastes. The City of Leavenworth also operated an equipment maintenance garage and service center at the subject site from 1976 to 1993. It has also been used for calf roping/horse show activities. The site is located in the southeast portion of Leavenworth, Leavenworth County, Kansas, north of the intersection of 3rd Street and Marion. It is located in the flood plain for 5-Mile Creek, which flows along the east side of the site and continues for approximately 0.5 mile, and then enters the Missouri River. Several years prior to the operation of the landfill, the channel of 5-Mile Creek was redirected by the U.S. Army Corps of Engineers. Before that the stream meandered through the subject property and rendered it essentially unusable. According to the former landfill operator, the landfill operations consisted of placing waste in pits approximately 12 feet deep. The pits extended into sand. Ground water was usually encountered approximately 13 feet below grade. As part of the garage operations, at least two underground storage tanks were used to store diesel fuel and waste oil. Both tanks have been removed and closure was approved by the Kansas Department of Health and Environment (KDHE).

The site is currently unoccupied. There are three structures located on the property and all three are associated with aboveground storage tanks. The storage tanks were used to store road oil, according to City of Leavenworth personnel. The tanks currently contain residues of the former contents. The subject site is surrounded by commercial and industrial properties. Adjacent to the west are Great Western Manufacturing, and GNB, Inc. To the north of the site is the City of Leavenworth waste water treatment plant and an auto salvage yard is on the south. GNB, Inc. manufactures lead-acid batteries and has been in operation at that location since 1939, according to a GNB site investigation report. According to the KDHE files, several environmental characterization activities have taken place at GNB. Those activities included the investigation of underground fuel storage tanks, surface discharges of waste water, and burning of battery casings. The investigation findings led to remedial activities in 1995 at the GNB facility that consisted of stabilizing lead contaminated soil with flyash, placing the soil on-site and capping the treated soil.

A site reconnaissance was conducted by McKinzie Construction on October 8, 1998. McKinzie Construction reviewed city street directories, land title records, state and federal records and conducted interviews of persons knowledgeable about the subject site. There were no records of large quantities of hazardous substances being disposed of at the former landfill, although unconfirmed reports of the disposal of calcium hydroxide and unknown solvents were noted on an EPA site investigation report. Site sampling activities took place November 30 through December 2, 1998. Samples were collected from the landfill burial areas, UST/AST areas and the maintenance garage area at the surface and at depth and from ground water. Surface soil samples were collected along the site perimeter and from sediment in drainage channels. Soil sample results revealed an elevated concentration of lead over the screening level established for the assessment at one location on the subject property. A total of seven ground water samples was collected from landfill, the AST and UST areas and the equipment maintenance area. The ground water sample results were evaluated with KDHE's RSK Manual screening levels. The volatile compounds detected at concentrations exceeding the RSK levels included benzene and methylene chloride. Several semi-volatile compounds were detected at levels over the RSK levels, including 2,6-dinitrotoluene, pentachlorophenol, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and benzo(a)pyrene. Sample collection locations are shown in Figures 2a-2e and Figures 3a-3c.

Based on the analytical data collected from the subject property, it appears that lead is present in excess of screening levels at only one soil sample location, and ground water contamination was detected in five ground water samples at the subject site. There were no obvious signs of sensitive receptors within 200 feet of the site and there are no persons occupying the site. Workers at the City of Leavenworth waste water treatment plant drive through the site on an asphalt road (along the west edge of the site), so the duration of any potential exposure is limited. Based on those conditions and other criteria, it was determined that no further Superfund response action is warranted.

II. PROGRAM CONTACTS

REQUESTED BY: H.B. Weeks, Mayor		**DATE OF REQUEST:** 07/22/98
CONTACT: Robert D. Patzwald, Deputy Director, Dept. Of Public Works		
AGENCY/OFFICE: City of Leavenworth, Leavenworth, Kansas		
MAILING ADDRESS:. 100 N. 5th Street		
CITY: Leavenworth	**STATE:** Kansas	**ZIP:** 66048-1970
TELEPHONE: 913/682-9201 ext. 23	**FAX:** 913/682-1521	
EVALUATOR: Wood H. Ramsey		
AGENCY/OFFICE: McKinzie Construction		
MAILING ADDRESS: 7301 Mission Road, Suite 219		
CITY: Prairie Village	**STATE:** Kansas	**ZIP:** 66208
TELEPHONE: 913/262-0010	**FAX:** 913/262-6566	

III. SITE DESCRIPTION

NAME: Leavenworth Municipal Landfill

LEGAL DESCRIPTION: The Leavenworth Brownfields Assessment site occupies an approximate 16.5 acre tract, in Section 1, Township 9 South, Range 22 East, in the city of Leavenworth, Leavenworth County, Kansas. The subject property of this assessment is described as Block 3, parcel 101-01-0-10-03-003.00, according to the Leavenworth County Register of Deeds office. The site layout is shown in Figure 1, Site Location Map

ADDRESS OR OTHER LOCATION IDENTIFIER: 2110 3rd Street

CITY: Leavenworth	**STATE:** Kansas	**ZIP:** 66048

DIRECTIONS TO SITE: From Interstate 70, travel north on U.S. 73 (4th Street). Turn right onto Marion Street and travel east. Turn left onto the driveway behind the Price Chopper grocery store. Follow the driveway approximately 300 feet north. The vacant ground to the north and east is the subject site.

MAP ATTACHED: Y X **or N**__(See Figure 1)

SITE AND VICINITY CHARACTERISTICS: The subject property is located in the southeastern portion of Leavenworth, Kansas. It is northeast of the intersection of Marion Street and 4th Street (U.S. 73). The site is in a gently sloping valley and is within the flood plain of 5-Mile Creek and the Missouri River. Prior to 1965, 5-Mile Creek meandered through the subject property, but the channel was diverted by the U.S. Army Corps of Engineer in the mid-1960s. The surrounding area is used for industrial and commercial purposes. There are two manufacturing facilities adjacent to the subject property and a municipal waste water treatment plant is located immediately to the north.

The subject property is located in the Kansas Drift Plain, which is part of the dissected Till Plain of the Central Lowlands and is at an elevation of approximately 780 feet above mean sea level. The average annual rainfall is approximately 33 inches and the prevailing winds are from the south and south-west.

CURRENT USE OF THE PROPERTY: At the time of the assessment activities, the property was used as access to the City of Leavenworth wastewater treatment plant. There were no other apparent uses identified.

TYPE OF FACILITY: Inactive landfill/vacant ground	**TYPE OF OWNERSHIP:** Municipal

OWNER/OPERATOR INFORMATION: The subject property is owned by the City of Leavenworth, Leavenworth, Kansas, according to the Leavenworth County Register of Deeds Office.

PROPERTY DESCRIPTION: The subject property currently consists of a capped landfill with an asphalt road along the west side, aboveground storage tanks in the west and southeast portions of the site and 5-Mile Creek along the south and east side of the site. There are two surface drainage channels, which drain east to 5-Mile Creek. The southeast portion of the landfill area is covered with waste soil piles (construction/demolition waste).

SITE STATUS (active/inactive): Inactive	**YEARS OF OPERATION**: 1969 to 1972, 1974 to 1993

PAST USES OF THE PROPERTY (to the extent identified): The subject property was operated as a municipal landfill from approximately 1969 to 1972, according to Charlie Klingler, City of Leavenworth Public Works Department. The landfill was intended for domestic waste although some industrial waste was disposed of at the landfill, according to EPA files. According to Mr. Bill Harris, a former employee at the landfill, the use of the property prior to the landfill operation was limited, due to the meandering of 5-Mile Creek. Mr. Harris reported that the area resembled a swamp, because of the creek. Mr. Harris did report that a horse-riding arena was present prior to the landfill operation. Mr. Klingler reported that the City of Leavenworth operated a Street Department maintenance garage at the subject property, following the closure of the landfill. Maintenance and repair work was performed on city-owned vehicles and diesel fuel and waste oil were stored in underground storage tanks at the garage area.

CURRENT AND PAST USES OF ADJOINING PROPERTY: The adjoining properties have been used primarily for commercial and industrial purposes. GNB, Inc., a manufacturer of batteries, is located adjacent to the west and has been present since 1939, according to KDHE files. Great Western Manufacturing, a manufacturer of metal products is also located adjacent to the west. The area to the southwest has been used for retail purposes. The City of Leavenworth Wastewater Treatment Plant is located adjacent to the north. An automobile salvage yard is located along the southern boundary of the subject site and has been present since the early 1960s. The subject site is bordered by 5-Mile Creek and 2nd Street on the east.

SITE RENDERING, MAP OR SITE PLAN:

The site plan is attached as Figure 2.

IV. BROWNFIELDS CRITERIA

A. RECORDS REVIEW

1. ENVIRONMENTAL RECORDS (standard environmental record sources, Federal and State)

McKinzie Construction reviewed federal (EPA) and state (KDHE) database information provided by a contract agency for indications of environmental concerns in the vicinity of the subject property. The database report lists the federal and state databases which were searched, the dates which they were last updated, and the number of occurrences that were encountered within the respective search radii. The search areas encompassed distances up to one (1.0) mile from the perimeter of the site. A copy of the report is included as Appendix A.

In summary, fifteen (15) off-site locations were identified in the database report. References for those sites were found in the State Hazardous Waste Site (SHWS) listing, the State Landfill (SWF/LF) database, the leaking underground storage tank (LUST) site listing, the registered underground storage tanks (UST) listing and the Resource Conservation and Recovery Information System - Small Quantity Generator (RCRIS-SQG) listing. The information provided by state and federal databases indicated a potential environmental impact on the subject site. The most significant potential impact or threat is presented by the GNB facility located adjacent to the west of the subject site. Extensive site characterization and remediation has taken place at GNB, due to lead contamination of soil from improper management of lead-acid battery manufacturing wastes. All work was performed under an agreement with KDHE. The KDHE is currently contemplating remedial action concerning Sonny Hill Jeep-Eagle, a former car dealership located nearly one mile south of the subject site, due to groundwater contamination by chlorinated solvents.

ARE ANY FEDERAL SUPERFUND (CERCLIS) SITES LOCATED WITHIN A 0.5 MILE RADIUS? **YES X or NO ☐**

EXPLAIN: The KDHE identified three sites with CERCLIS identification numbers that are located within 0.5 mile of the subject site. Those sites include GNB, Inc. (CERCLIS # KSD007150477), a battery manufacturer located adjacent to the subject site on the west; Missouri River Brush and Rubble Disposal Site (CERCLIS # KSD980632202), a former trash dump on the banks of the Missouri River and is located approximately 0.5 mile northeast of the subject site, and the City Maintenance Garage (CERCLIS # KSD980632210), which is located on the subject site. The GNB, Inc. site is the location of a remedial action involving lead contaminated soil (see section V.B.2 - Adjoining Property Use, in this report). According to information provided by Environmental Data Resources, Inc., to McKinzie, the Missouri River Brush and Rubble Disposal Site has been designated as No Further Response Actions Planned by the EPA. The City Maintenance Garage was located on the grounds of the former Leavenworth landfill and was used to maintain city vehicles and store supplies, such as paint, fuel and motor oil. KDHE file information indicated that two USTs were removed from the site and that contamination was not apparent.

ARE ANY FEDERAL NPL SITES LOCATED WITHIN A 1.0 MILE RADIUS? **YES ☐ or NO X**

EXPLAIN:

ARE ANY FEDERAL RCRA TSD FACILITIES LOCATED WITHIN A 1.0 MILE RADIUS? **YES ☐ or NO X**

EXPLAIN:

ARE ANY FEDERAL RCRA GENERATORS LOCATED ON THE PROPERTY OR ADJOINING PROPERTIES? **YES X or NO ☐**

EXPLAIN: There are three (3) small quantity RCRA generators located on or adjacent to the property: Great Western Manufacturing and GNB on the west, and Century Van Lines to the south/southeast. Advance Automotive is within 1/8 mile to the southwest (at the southwest corner of 4th and Marion). According to the government records database report, no violations have been documented at Great Western Manufacturing, Century Van Lines or Advance Automotive. However, violations were noted for GNB. According to KDHE files, GNB conducted two site characterization activities, followed by remediation work (soil stabilization with fly ash). At the time of the BTA for the subject site, a third characterization action was being conducted.

IS THERE ANY RECORD OF FEDERAL SPILL NOTIFICATIONS (ERNS) ON THE PROPERTY? **YES ☐ or NO X**

EXPLAIN:

ARE OTHER STATE HAZARDOUS WASTE SITE LISTINGS (State Registry, VCPs, etc.) LOCATED WITHIN A 1.0 MILE RADIUS? **YES X or NO ☐**

EXPLAIN: There are three (3) State Hazardous Waste Sites listings for sites listed as within 1.0 miles of the subject site. The sites include GNB, Inc and Sonny Hill Jeep-Eagle. GNB was listed twice, with one of the listings indicating participation in the State's Voluntary Cleanup Program. McKinzie reviewed KDHE records pertaining to those sites and interviewed KDHE personnel familiar with the sites. Based on the KDHE file information, interviews and database information, the GNB, Inc. facility appears to present a potential for environmental impact on the subject property.

ARE ANY STATE/MUNICIPAL LANDFILLS OR SOLID WASTE DISPOSAL FACILITIES LOCATED WITHIN A 0.5 MILE RADIUS? **YES X or NO ☐**

EXPLAIN: The former City of Leavenworth Maintenance Garage was listed as a Solid Waste Landfill. The maintenance garage was located on the subject property, although the database report did not indicate as such. The address for the City maintenance garage was listed as 2101 West 3rd Street, which was the address found for the City landfill in Polk's Street Directory for 1970 through 1972.

ARE ANY STATE REGISTERED USTs OR LEAKING USTs LOCATED WITHIN A 0.5 MILE RADIUS? YES X or NO ☐

EXPLAIN: There are four (4) sites with leaking USTs listed as within 1/2 mile of the subject site. There are three (3) sites with registered USTs listed as within 1/4 mile of the subject site. The four LUST sites consist of: City of Leavenworth Garage, 3rd & Marion Streets (2101 South 3rd Street); Gould National Battery, 1901 South 4th Street; Saco Service Station, 1825 South 4th Street; and Western Resources, Inc., 1820 2nd Street. According to the government records database report reviewed by McKinzie Construction, the KDHE lists all four sites as closed.

The database report indicated that registered USTs exist at three (3) locations, within 0.25 mile of the subject site. Those locations are Saco Petroleum, 1924 South 4th Street, Gould National Battery, 1901 South 4th Street and Century Van Lines, 211 Marion. The database report indicated that the tanks have been removed from the Saco Petroleum and Gould National Battery sites. Ms. Barbara Clark, General Manager, Century Van Lines, reported that the USTs located on their property remain in use and are in the process of being upgraded to meet RCRA requirements.

DOES THE PROPERTY HAVE ANY HISTORY OF ENVIRONMENTAL VIOLATIONS OR ENVIRONMENTAL LIENS? **YES ☐ or NO X**

EXPLAIN: Based on the government records database report, there were no indications of environmental violations. A review of KDHE and EPA files by McKinzie Construction did not reveal any enforcement actions. McKinzie Construction reviewed the recorded land title records at the Leavenworth County Register of Deeds Office for the subject property since 1960. There were no environmental liens filed for the property. A copy of the warranty deed for the subject property is included in Appendix B.

2. HISTORICAL USE RECORDS

WHAT HAVE BEEN THE USES OF THE PROPERTY SINCE 1940?

Based on interviews, historical aerial photographs and city street directories, the subject property appears to have been used for a horse riding arena. Besides the use for the horse arena, the subject property appeared to be unoccupied until 1965, when the landfill operation began, according to a letter submitted by H.B. Weeks, Mayor of Leavenworth. According to Mr. Weeks, the landfill closed in 1972. Mr. Weeks also stated that a city maintenance garage was built on the subject site in 1976 and was later demolished in 1993. The maintenance garage was used to store road materials and vehicles.

IS THERE ANY EVIDENCE THAT THE PROPERTY WAS EVER USED FOR THE FOLLOWING?

Fuel Storage	**YES X or NO ☐**
Motor Vehicle Repair	**YES X or NO ☐**
Commercial Printing	**YES ☐ or NO X**
Dry Cleaning	**YES ☐ or NO X**
Photo Developing	**YES ☐ or NO X**
Junk Yard	**YES ☐ or NO X**
Landfill	**YES X or NO ☐**
Waste Treatment, Disposal, or Processing	**YES X or NO ☐**
Recycling	**YES ☐ or NO X**
Other Industrial Uses (explain)	**YES ☐ or NO X**

IS THERE ANY EVIDENCE THAT FILL DIRT WAS BROUGHT ONTO THE PROPERTY? IF SO ARE THE ORIGINS KNOWN? **YES X or NO ☐**

A visual survey of the property by McKinzie Construction revealed an area of approximately 2.0 acres in the southeast corner of the site that was occupied by piles of soil that appeared to be construction/demolition waste. Mr. Bill Harris, the former operator of the landfill, reported that small quantities of waste soil were delivered to the site and used as cover. It is also likely that fill was placed on the subject property when the U.S. Army Corps of Engineers redirected the channel of 5-Mile Creek.

WERE THE FOLLOWING RESOURCES CONSULTED?

Fire Insurance Maps	**YES X or NO ☐**
Property Tax Files	**YES ☐ or NO X**
Property Title Records	**YES X or NO ☐**
Zoning/Land Use Records	**YES ☐ or NO X**
Aerial Photographs	**YES X or NO ☐**
USGS 7.5 Minute Topographic Map (required, attach)	**YES X or NO ☐**
Local Street Directories	**YES X or NO ☐**
Building Department Records (for alterations, improvements, demolitions, etc.)	**YES ☐ or NO X**
Other (explain)	**YES X or NO ☐**

McKinzie Construction contracted with a private company to research available government records, such as site assessment reports and leaking underground storage tank files. Aerial photographs were obtained from the Kansas Department of Transportation and are found in Appendix C. In addition, the Floodway and Flood Boundary Map for Leavenworth, Kansas, Federal Emergency Management Agency and the Soil Survey of Leavenworth and Wyandotte Counties, Kansas, U.S. Department of Agriculture were reviewed. U.S. Environmental Protection Agency and Kansas Department of Health and Environment files pertaining to the subject site were also reviewed. A file for the subject site existed at the EPA Region 7 Office and included a site investigation report. The investigation took place in October 1984 and included the collection of three water samples and one soil sample. The report concluded that the subject site did not pose an environmental threat. A copy of the report and a Potential Hazardous Waste Site/Site Inspection Report is included as Appendix D.

3. *ADDITIONAL RECORD SOURCES (if any)*

No other record sources were used.

V. INFORMATION FROM SITE RECONNAISSANCE AND INTERVIEWS

A. PERSONAL INTERVIEWS

OWNERS/OPERATORS INTERVIEWED and CONTACT INFORMATION:

Mr. Robert Patzwald, Director, Public Works, City of Leavenworth, 100 North 5th Street, Leavenworth, Kansas
Mr. Charles Klingler, Public Works, City of Leavenworth, 100 North 5th Street, Leavenworth, Kansas
Mr. Mike MacDonald, Public Works, City of Leavenworth, 100 North 5th Street, Leavenworth, Kansas

PRE-ASSESSMENT QUESTIONNAIRE(S) ATTACHED? **YES X or NO ☐ (See Appendix E)**

GOVERNMENTAL OFFICIALS INTERVIEWED and CONTACT INFORMATION: (Please attach questionnaire for each interview conducted)

Mr. Michael LaBuda, Kansas Department of Health and Environment, Forbes Field, Building 740, Topeka, Kansas

PRE-ASSESSMENT QUESTIONNAIRE(S) ATTACHED? **YES X or NO ☐**

B. SITE RECONNAISSANCE

1. SUBJECT SITE

WHAT IS THE PRESENT USE OF THE PROPERTY?

The property is currently unoccupied. It is used for access from Marion and 4th Streets to the City of Leavenworth Wastewater Treatment Plant, located north of the subject property.

ARE ANY BUILDINGS OR STRUCTURES LOCATED ON THE PROPERTY? IF SO, INCLUDE THE FOLLOWING INFORMATION FOR EACH BUILDING:

Two structures exist on the subject site. One structure is located near the west aboveground storage tank farm and one is located near the south/east aboveground storage tank farm. The structures were part of the city maintenance facility, so they are approximately 25 years old. Each structure consists of one story and appeared to be little more than a shack for electrical utilities and tank loading/unloading operations. The structure near the west tank farm is set on the same pad as the tanks. The structure is constructed of plywood and is in very poor condition. The structure near the east tank farm consists of a wood frame and has corrugated steel siding and a roof. It is in fair condition and appears to be used to house pumps, valving and electrical equipment, used to load and unload the tanks. There did not appear to be any drains or sumps present in the two structures. Photographs of the subject site are included in Appendix F.

Significant staining was observed outside the structures, near both the west and east tank farms. The staining was found on the ground to the east of the west AST area and on the tank pad. Staining of surface soil was also present to the east and north of the east AST area. The staining appeared to be a result of loading/unloading of asphalt or road tar.

IS THE PROPERTY SERVED BY A POTABLE WATER SUPPLY? **YES ☐ or NO X**

EXPLAIN: The subject property is not currently provided with potable water. However, the surrounding properties are provided with potable water.

IS THE PROPERTY SERVED BY A SEWAGE SYSTEM? **YES ☐ or NO X**

EXPLAIN: The subject property is not currently connected to the Leavenworth municipal sewage system. However, the surrounding properties are served by the municipal sewage system.

WERE ANY PONDS OR LAGOONS OBSERVED ON SITE? **YES ☐ or NO X**

EXPLAIN: Although ponds or lagoons were not observed, water was present in a drainage ditch on the site and was probably due to several rainfall events that had occurred prior to the site reconnaissance.

WERE ANY OTHER INDICATIONS OF THE PRESENCE OF HAZARDOUS MATERIALS OBSERVED? **YES X or NO ☐**

EXPLAIN: There are six aboveground storage tanks that have been used to store asphalt and currently contain some residues of road oil. Several empty 55-gallon steel drums were observed at two locations on the surface of the landfill. The drums were in bad condition and there were no markings discernable on them. There was no indication that the contents of the drums had leaked.

DESCRIBE SITE GEOLOGIC, HYDROGEOLOGIC, HYDROLOGIC, OR TOPOGRAPHIC CONDITIONS:

The subject property is located on alluvium within the 5-Mile Creek and Missouri River flood plain and is underlain by the Lansing Group, which consists of the Plattsburg Limestone, the Vilas Shale and the Stanton Limestone. The Plattsburg Limestone ranges from 15 to 25 feet thick. The Vilas Shale is approximately 15 to 25 feet thick. The Stanton Limestone is the uppermost formation and is approximately 25 feet thick. The Quaternary deposits that lie above the Pennsylvanian bedrock are Kansas age glacial and proglacial deposits consisting of the Atchison Formation and the Kansan Till, both of which contain stratified clays, silt, sand and gravel. A weathered loess (the Sanborn Formation) overlies the Quaternary deposits and may be as deep as approximately 40 feet near the subject property. Ground water is found in three separate zones near the subject site: the Vilas Shale zone, the Plattsburg Limestone and alluvium, and the uppermost zone, the Sanborn Formation. Ground water flow is generally towards the east. Ground water samples collected during this assessment were likely collected from the Plattsburg Limestone and alluvium, based on the presence of sand in the probe holes. Site geology and hydrology information was obtained from the Site Investigation Report, GNB Facility No. 477, September 1992, Environmental Resources Management-North Central, Inc. A copy of the report is included in Appendix G.

IS THERE REASON TO SUSPECT ANY OF THE FOLLOWING MAY BE PRESENT ON SITE:

Asbestos-Containing Materials	**YES ☐ or NO X**
Radon	**YES X or NO ☐**
Lead-Based Paint	**YES ☐ or NO X**
Lead Soldered Water Lines	**YES ☐ or NO X**
Heating/Cooling Fluids	**YES ☐ or NO X**
PCB-Containing Electric/Hydraulic Equipment	**YES X or NO ☐**
Wetlands	**YES ☐ or NO X**

EXPLAIN: Leavenworth County is designated by the EPA as having an average radon level of greater than 4.0 picocuries per liter, however, no structures on the subject property are occupied. PCB was detected in two soil samples collected at the site. The PCB concentrations were below screening levels.

2. ADJOINING PROPERTY USE (Past and Present)

WHAT ARE THE PRESENT USES OF ADJOINING PROPERTIES?

The adjoining properties are used primarily for commercial and industrial purposes. GNB, Inc., a battery manufacturer, is located adjacent to the west and has been present since 1939, according to Kansas Department of Health and Environment (KDHE) files. Great Western Manufacturing, a manufacturer of metal products is also located adjacent to the west. The area to the southwest is the location of a grocery store (Price Chopper). The City of Leavenworth Wastewater Treatment Plant is located adjacent to the north. An automobile salvage yard is located along the southern boundary of the subject site and has been present since the early 1960s. The subject site is bordered by 5-Mile Creek and 2nd Street on the east.

MAP ATTACHED YES X (See Figure 1) **NO ___**

WHAT ARE THE PAST USES OF ADJOINING PROPERTIES?

The adjoining properties have been used primarily for commercial and industrial purposes. GNB, Inc., a manufacturer of lead-acid batteries is located adjacent to the west and has been present since 1939, according to Kansas Department of Health and Environment (KDHE) files. Great Western Manufacturing, a manufacturer of metal products is also located adjacent to the west. The area to the southwest has been used primarily for retail purposes, based on city street directories. The City of Leavenworth Wastewater Treatment Plant is located adjacent to the north and has been present since the 1960s. An automobile salvage yard is located along the southern boundary of the subject site and has also been present since the early 1960s. The subject site is bordered by 5-Mile Creek on the east. Prior to the mid-1960s, 5-Mile Creek meandered through the middle of the subject site, but the stream was re-channeled to its current location in about 1965.

WERE THE FOLLOWING RESOURCES CONSULTED TO VERIFY ADJOINING PROPERTY USES?

Fire Insurance Maps	**YES X or NO ☐**
Property Tax Files	**YES ☐ or NO X**
Property Title Records	**YES ☐ or NO X**
Zoning/Land Use Records	**YES ☐ or NO X**
Aerial Photographs	**YES X or NO ☐**
USGS 7.5 Minute Topographic Map (required, attach)	**YES X or NO ☐**
Local Street Directories	**YES X or NO ☐**
Building Department Records (for alterations, improvements, demolitions, etc.)	**YES ☐ or NO X**
Other (explain)	**YES X or NO ☐**

McKinzie Construction contracted with a private company to research available government records. Those records, along with site reconnaissance activities, were used to determine the use of adjoining properties. Also, McKinzie personnel reviewed KDHE files for GNB, Inc., a property located adjacent to the west of the subject property. GNB, Inc. has entered into a voluntary agreement with the KDHE to remediate contamination at the facility. The KDHE file for GNB, Inc. included two site investigation reports, which discussed site characterization activities pertaining to potential lead contamination in surface and subsurface soil and potential soil contamination resulting from underground petroleum storage tanks. The report findings indicated significant lead contamination of soil from facility waste management practices. Based on the information reviewed, there did not appear to be documentation indicating off-site migration of contaminants from the GNB facility to the subject property. A copy of one of the site investigation reports is included in Appendix G. In addition to the site investigation activities, a soil stabilization project took place at the GNB facility in 1995. Lead contaminated soil was stabilized on-site with fly ash, using a pug mill. The project was monitored by the KDHE.

C. SAMPLING AND ANALYTICAL RESULTS

1. SAMPLING DESIGN

SAMPLING OBJECTIVES: Sampling activities were conducted to document the nature and extent of suspected contamination at the site and compare the sample results to the KDHE Risk Standards for Kansas (RSK) Manual screening levels and EPA Region IX Preliminary Remedial Goals (PRGs). Delineation of the full extent of contamination was beyond the scope of the BTA. Initially, KDHE Interim Remedial Goals were to be used to evaluate sample results. Since the completion of sampling activities, KDHE has implemented the RSK Manual, which provides risk-based screening levels. The KDHE has requested that the sample results be evaluated using the RSK levels. For that reason, RSK levels and PRGs have been used to evaluate soil and ground water sample results. Samples were collected from surface soil (potentially impacted by GNB, Inc. and on-site ASTs), subsurface soil/debris (to characterize wastes disposed at the landfill and potential impact of USTs) and sediments (to assess the impact of potential contaminant migration from the landfill). Sample collection activities were performed in accordance with a site-specific Quality Assurance Project Plan (QAPP) dated November 23, 1998.

Eleven (11) surface soil samples were collected along the site perimeter to evaluate the potential for contaminant migration onto the property from the auto salvage facility, the Great Western facility and the GNB facility. Surface samples were also collected at the AST farms and the equipment maintenance area, for a total of three (3) samples. The sample locations were based on a judgmental approach. During the course of the assessment, 12 surface samples in the landfill area were added to the scope of work and a total of 28 surface samples were collected (including two background samples). The sample depth was approximately 0 to 2 inches for all surface samples. Surface soil sample locations are shown on Figure 2a. The perimeter soil sample locations are shown on Figure 2c.

Subsurface soil sampling was performed to address three potential sources of contaminants: wastes disposed in the landfill, storage tanks and the former equipment maintenance (street department) operations. Landfill waste was assessed by collecting one depth sample in six, 300-foot by 300-foot cells. The actual sampling location was based primarily on access with a truck-mounted probe rig. Some sample locations were selected on a judgmental approach, such as the tank farm areas and the maintenance garage area. One location was sampled for each of the three AST/UST tank farms, at a location down gradient from the tanks. One location was sampled to address the former equipment maintenance activities performed by the City of Leavenworth. A total of ten (10) subsurface soil samples were collected. Subsurface soil sampling locations are shown on Figure 2b.

Five (5) sediment samples were collected along drainage features. Samples were collected from 5-Mile Creek, where it first entered the subject site, at one location along the subject site and near where it left the site. Two drainage channels located on the site were also be sampled. The collection depth was approximately 0 to 2 inches. Sediment sample locations are shown on Figure 2d.

Ground water samples were collected from six borings, to determine whether wastes disposed of on-site have impacted the ground water. Three ground water samples were collected borings in the landfill and three samples were collected in borings completed at the west AST farm, the former UST location and the equipment maintenance area. An attempt was made to collect ground water at the east AST farm, but water was not available. The amount of ground water collected was variable, due a high silt content that clogged the screened section of probe rod and due to poor recharge. Ground water sample locations are shown on Figure 2e.

Sample collection methods are summarized as follows. Surface soil samples were collected from the top two inches of soil with stainless steel spoons and homogenized (except for VOCs) in aluminum pie pans. Ground water samples were collected through slotted probe rods (using a hydraulic probe rig) at a depth of approximately 16 feet below grade. Subsurface soil and ground water sampling was conducted according to SOP# 2230.7A, *Geoprobe Operation*. Disposable polyethylene tubing was inserted to the depth of the slotted rod and water was pumped from the tubing. The subsurface continuous soil sampling was completed to a depth of approximately 16 feet below ground surface (bgs). Soil samples were collected with four-foot acetate sleeves and the sample collected from each four-foot interval was split into two samples, one for headspace analysis and the other for laboratory analysis. The split samples were obtained by removing several 4 to 5 inch sections of soil from the sleeve. Each section was split into two pieces to produce the two composite samples. The headspace samples were placed in a glass jar and covered with foil. The headspace in the sample jar was screened using a photo ionization detector (PID). The laboratory sample from the depth interval with the highest PID measurement was submitted to the laboratory for analysis. The remaining samples were discarded. The surface and depth samples were analyzed for a combination of parameters, including TRPH (OA1/OA2), VOCs, SVOCs, pesticides/PCBs, and metals. Water samples were analyzed for VOCs, SVOCs, pesticides and metals.

SURFACE/SUBSURFACE SOIL: Surface soil sampling was conducted to evaluate the potential for contaminant migration onto the property from the auto salvage facility, the Great Western facility and the GNB facility. Samples were also collected across the surface of the landfill, at the AST areas and the equipment maintenance area. The surface samples were also collected along the west and south perimeter of the site. All surface samples were collected at an approximate depth of 0-2 inches. The surface samples collected are summarized as follows:

Landfill:	12
Maintenance area:	1
AST areas:	2
Perimeter:	11
Background:	2

Subsurface soil sampling was performed to address three potential sources of contaminants: wastes disposed in the landfill, storage tanks and the former equipment maintenance (street department) operations. Based on information provided by the former landfill operator, Mr. Bill Harris, the type of waste disposed was consistent throughout the landfill and the depth of each burial cell was approximately 12 feet below grade. Ground water was usually encountered at approximately 12 feet and sand was present beginning approximately 12 to 15 feet below grade. The subsurface sampling performed to address landfill waste was based on six, 300-foot by 300-foot cells. One location was selected within each cell and the exact location was based primarily on access with a truck-mounted probe rig. The samples collected to address ASTs and USTs were located based on the greatest potential for contamination. One location was sampled for each of the three tank farms, at a location down gradient from the tanks. One location, which was determined during sampling activities, was sampled to address the former equipment maintenance activities performed by the City of Leavenworth. The subsurface samples collected are summarized as follows:

Landfill:	6
Maintenance area:	1
AST area:	2
Former UST area:	1

GROUND WATER: The objective was to identify ground water contamination and determine if the concentrations detected pose an unacceptable risk for the intended site use. The analytical parameters included metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides and total petroleum hydrocarbons. Ground water sampling was performed by advancing hollow stainless steel rods into the ground and inserting a polyethylene tube down the rods. Ground water was collected using a vacuum pump. Samples were placed in containers identified in the QAPP and preserved prior to submittal to the laboratory. In addition to the field samples, quality control samples were also collected. The ground water samples collected are summarized as follows:

Landfill:	3
UST area:	1
AST area:	1
Maintenance area:	1
QC/Rinsate:	1
QC/Trip Blank:	1
QC/Field Blank:	1

SEDIMENT SAMPLES: The data quality objective was to provide valid data of known and documented quality to locate any areas of contamination and determine if concentrations detected pose an unacceptable risk for the intended site use. Elements of that objective were to determine if metals, VOCs, SVOCs or pesticides exist in sediment on-site in drainage pathways at levels exceeding background (up gradient concentrations).

A total 5 sediment samples were collected along drainage features. Samples were collected from 5-Mile Creek, as it first enters the subject site, at one location along the subject site and as it leaves the site. Two drainage channels on the site were also sampled. The collection depth was from 0 to 2 inches.

DEVIATIONS TO THE QUALITY ASSURANCE PROJECT PLAN: Twelve surface soil samples were added to the original sampling plan, in order to assess the condition of the landfill cover. Although ground water samples were collected at all six locations, there was not enough water available to analyze samples for parameters that required more than 1.0 liter of water. The deleted analyses are as follows. For sample AS502100: semivolatiles, pesticides, pentachlorophenol, hexachlorobenzene; sample AS502101: pentachlorophenol, hexachlorobenzene; sample AS502102: pentachlorophenol, hexachlorobenzene; sample AS502103: pentachlorophenol, hexachlorobenzene; for sample AS502104: semivolatiles, pesticides, pentachlorophenol, hexachlorobenzene; and for sample AS502105: pentachlorophenol, hexachlorobenzene.

2. ANALYTICAL RESULTS

SURFACE and SUBSURFACE SOIL SAMPLE RESULTS:

Subsurface Soil Samples

Landfill Area Samples: There were no significant detections of the analytes tested.

West AST Area Sample: There were no significant detections of the analytes tested.

East AST Area Sample: There were no significant detections of the analytes tested.

Former UST Location: There were no significant detections of the analytes tested.

Former Maintenance Shop Area: A sample collected at the 0 to 4 foot depth revealed no significant detections for the parameters tested.

The analytical data are found in Appendix H, along with the field sheets and chain-of custody documentation.

Surface Soil Samples

Landfill Surface: There were no significant detections of the analytes tested.

West Perimeter Samples: Nine samples were collected at a depth of approximately 0 to 2 inches along the west perimeter of the site, near the GNB, Inc. and Great Western Manufacturing property lines. **One sample (#AS0501001) contained lead at 1,310 mg/Kg, in excess of the RSK value for lead of 1,000 mg/Kg.** It was collected in the northwest portion of the site (see Figure 2). The samples also contained chlordane, benzo(k)fluoranthene, chrysene, and benzo(a)anthracene at concentrations below screening levels.

South Perimeter Samples: There were no significant detections of the analytes tested.

West AST Area Sample: There were no significant detections of the analytes tested.

East AST Area Sample: There were no significant detections of the analytes tested.

Former Maintenance Shop Area: There were no significant detections of the analytes tested.

Background Samples: Background soil samples were collected from a Leavenworth park located approximately one mile south, on the north side of the Dwight D. Eisenhower Veterans Affairs Medical Center in Leavenworth. There were no significant detections of the analytes tested.

The analytical data are found in Appendix H, along with the field sheets and chain-of custody documentation. The location of the sample result exceeding the RSK/PRG levels is found in Figure 3a.

SEDIMENT SAMPLE RESULTS:

Five-Mile Creek: There were no significant detections of the analytes tested for the three samples collected.

South Drainage Ditch: There were no significant detections of the analytes tested.

North Drainage Ditch: There were no significant detections of the analytes tested.

The analytical data are found in Appendix H, along with the field sheets and chain-of-custody documentation.

GROUND WATER SAMPLES RESULTS:

A total of seven ground water samples were collected from six probe holes at the subject site. Three of the probes were completed in the landfill, and from a probe was completed at the AST and UST areas and the equipment maintenance area. The sample volumes varied and were dependent upon the available water at each location. Because the EPA Region IX PRGs do not provide criteria for ground water (the PRGs address only tap water), the sample results were evaluated against the KDHE RSKs and EPA Maximum Contaminant Levels (MCLs). The compounds detected in excess of the KDHE RSKs are summarized in Table 1 and Table 2.

The volatile compounds detected at concentrations at or above the RSK levels included **benzene and methylene chloride**. Several semi-volatile compounds were detected at levels over the RSK levels, including **pentachlorophenol, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and benzo(a)pyrene**. A ground water sample collected from the southeast section of the landfill (approximately 50 feet east of the east AST area) contained **2,6-dinitrotoluene**, which exceeds the RSK level of 4.0 micrograms per liter.

The analytical data are found in Appendix H, along with the field sheets and chain-of-custody documentation. The locations of samples resulting in values over the RSK levels are found in Figures 3b and 3c.

Table 1
Ground Water Sample Values at or Above Levels of Concern for Volatile, Semi-Volatile, Pesticides/PCBs

Sample Number	Compound	Result	RSK Level	MCL Level	Location
AS502100	Benzene DDD-4,4' Pentachlorophenol	6.9 3.0 1.1	5.0 3.0 1.0	5.0 NA 1.0	Former UST Area (co-located with AS502024)
AS502101	Benzo(a)anthracene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene	60 52 46 59	0.4 0.3 3.0 0.2	NA NA NA NA	Northeast landfill section (co-located with AS502004)
AS502102	Benzene 2,6-Dinitrotoluene	5.9 15	5.0 4.0	5.0 NA	Southeast landfill section (co-located with AS502006)
AS502103	Methylene chloride	370	6.0	NA	Former UST area (co-located with AS502024)
AS502105	DDD-4,4'	3.9	3.0	NA	Equipment maintenance area (co-located with AS502025)

All values are in μg/L. NA - Not available

Table 2
Ground Water Results for Selected Metals

Sample# / Metal	AS502 100	AS502 101	AS502 102	AS502 103	AS502 104	AS502 105	AS502 108	AS502 110F	MCL Levels	RSK Levels
Aluminum	97600	738000	176000	479000	241000	1560	ND	ND	NA	NA
Barium	**8380**	**16900**	**4150**	**10800**	**3990**	153	ND	127	2000	2000
Beryllium	**470**	**385**	**565**	**281**	**638**	ND	ND	ND	4.0	4.0
Cadmium	**237**	**107**	**550**	**103**	**103**	ND	ND	ND	5.0	5.0
Cobalt	67.2	451	117	374	201	14.7	ND	ND	NA	NA
Chromium	**272**	**1530**	**639**	**1430**	**969**	6.00	ND	ND	100	100
Copper	573	**1980**	955	**3010**	**2150**	ND	ND	ND	1300	1300
Iron	471000	1460000	814000	1350000	1940000	31500	57.0	ND	NA	NA
Manganese	**6200**	**37500**	**8820**	**22300**	**11500**	**836**	ND	ND	NA	50
Nickel	**252**	**1480**	**327**	**1350**	**740**	62.1	ND	ND	100	100
Lead	**4890**	**12000**	**9780**	**83700**	**3150**	**453**	ND	ND	15	15
Zinc	4960	**16100**	**14800**	**18900**	**28200**	108	ND	ND	NA	5000
Arsenic	**187**	**214**	**175**	**474**	**254**	28.1	ND	ND	50	50
Mercury	**4.80**	**23.3**	**4.79**	**12.7**	**33.2**	0.344	ND	ND	2.0	2.0
Antimony	5.81	ND	ND	ND	**8.26**	**10.2**	ND	ND	6.0	8.0

Boldface indicates values in excess of RSK level. NA = Not available. All values are in μg/L.

VI SUPERFUND SITE SCREENING CRITERIA

A. REMEDIAL CRITERIA

1. SOURCE AND WASTE CHARACTERISTICS

KNOWN OR SUSPECTED SOURCE TYPES AND LOCATIONS:

A potential for soil and groundwater contamination exists based on several possible sources. The primary source would be the landfill disposal cells, where municipal waste was buried from approximately 1969 until 1972. Based on information obtained from EPA files for the subject site, the landfill may have received industrial waste, such as calcium hydroxide, which was generated by a local acetylene manufacturer, and waste solvents may have been disposed at the landfill. In addition, the City of Leavenworth Maintenance Garage used underground storage tanks for storing Fuel Oil No. 2 and waste oil. KDHE tank closure files indicated that the two tanks were removed in 1991 and 1992 and no soil contamination was observed; however, no soil samples were collected. The City of Leavenworth also used six aboveground storage tanks for storing road oil. Loading/unloading operations appear to have resulted in spills of product around the tanks.

A second potential source of contamination is the GNB, Inc. facility located adjacent to the subject site on the northwest. Prior to 1985, GNB waste practices included burning battery casings in a trench located on the east side of the GNB facility (near the subject site) and surface discharges of process wastewater. Lead was detected in a trench at 9,600 parts per million and as high as 146,000 parts per million in another area of the GNB facility. Site remediation activities took place in 1995 and consisted of on-site stabilization of lead.

SIZE OF SOURCES AND QUANTITIES (Volume, Area):

The City of Leavenworth municipal landfill covered an area of approximately 16.5 acres, according to information provided by the Leavenworth County Tax Assessor's office. According to Mr. Bill Harris, there were no known hazardous wastes buried at the landfill.

The tanks used at the maintenance garage included a 4,000 gallon diesel fuel tank and a 500 gallon waste oil tank. The six aboveground road oil tanks are each approximately 10,000 gallons in capacity.

Site investigation activities conducted in November-December 1998 indicated that lead was present in one soil sample at 1,310 mg/Kg, which exceeds KDHE and EPA Region 9 screening levels. Ground water sample results revealed the presence of benzene, pentachlorophenol, DDD, 2,6-dinitrotoluene, and polyaromatic compounds at concentrations slightly over the KDHE and EPA Region 9 screening levels.

WASTE TYPES OR HAZARDOUS SUBSTANCES KNOWN OR SUSPECTED TO BE PRESENT:

The City of Leavenworth municipal landfill was intended for disposal of primarily household/domestic wastes. However, according to an EPA Site Inspection Report for the subject property and according to questionnaires completed by City of Leavenworth personnel, some hazardous substances may have been disposed of at the landfill. The EPA Site Inspection Report (see Appendix D) indicates that some calcium hydroxide residues might have been buried, along with solvents. According to the City of Leavenworth, a paint spill occurred at the maintenance garage and may have impacted surface soil.

2. GROUND WATER PATHWAY

What is the likelihood that a release to ground water has occurred at the site?

Groundwater samples collected from the subject property indicate that hazardous substances are present in the ground water.

If a release is not suspected proceed to A.3.

a. USE AND CHARACTERISTICS:

GENERAL STRATIGRAPHY AND HYDROLOGY:

The subject property is located on alluvium within the 5-Mile Creek and Missouri River flood plain and is underlain by the Lansing Group, which consists of the Plattsburg Limestone, the Vilas Shale and the Stanton Limestone. The Plattsburg Limestone ranges from 15 to 25 feet thick. The Vilas Shale is approximately 15 to 25 feet thick. The Stanton Limestone is the uppermost formation and is approximately 25 feet thick. The Quaternary deposits that lie above the Pennsylvanian bedrock are Kansas age glacial and proglacial deposits consisting of the Atchison Formation and the Kansan Till, both of which contain stratified clays, silt, sand and gravel. A weathered loess (the Sanborn Formation) overlies the Quaternary deposits and may be as deep as approximately 40 feet near the subject property. Ground water is found in three separate zones near the subject site: the Vilas Shale zone, the Plattsburg Limestone and alluvium, and the uppermost zone, the Sanborn Formation. Ground water flow is generally towards the east. Ground water samples collected during this assessment were likely collected from the Plattsburg Limestone and alluvium, based on the presence of sand in the probe holes. Geology and hydrology information was obtained from the Site Investigation Report, GNB Facility No. 477, September 1992, Environmental Resources Management-North Central, Inc.

PRESENCE OF KARST TERRAIN: The site is underlain by alluvium over limestone/shale and therefore, karst terrain is not a concern at the subject site.

DEPTH TO SHALLOWEST AQUIFER: During site characterization activities in November 1998, ground water was encountered in soil borings at a depth of approximately 16 feet below ground surface.

PRIVATE WELLS WITHIN 4 MILES (locations and population served): Based on water well database information provided by KDHE, there are 57 ground water wells located within approximately one mile of the subject site. According to the KDHE, all of the 57 wells are observation wells. Most of the wells are located close to the site. There were 23 observation wells installed at GNB, Inc.; nine wells were installed at 4th & Marion, by the Four-B Corporation, and eight wells were installed at Steve's APCO. Additional observation wells were installed by Block and Company at 4th and Ash (presumably Sonny Hill Jeep-Eagle), by Carl's Gas Service at 3111 E. 4th Street, by the City of Leavenworth at 4th and Montana and by the KDHE at 2912 S. 4th Street.

Within four miles of the site there are an additional 59 observation wells, 31 domestic use wells and five private drinking water wells. The closest well designated for domestic use is approximately 3.0 miles west of the subject site.

MUNICIPAL WELLS WITHIN 4 MILES (locations and population served): There are four drinking water supply wells used by the City of Leavenworth (population = 42,250). The wells are located at Stigers Island, approximately 3 miles southeast of the subject site. According to Mr. Bo Cansteiner, City of Leavenworth, the wells are approximately 75 feet deep and are screened in unconsolidated materials (alluvium).

DISTANCE TO NEAREST DRINKING WATER WELL: The closest drinking water well would be at the City of Leavenworth well field at Stigers Island, southeast of the subject site. The population of Leavenworth is approximately 42,250 people.

WELLHEAD PROTECTION AREAS: According to the KDHE/Wellhead Protection Program, there are no active wellhead protection plans in use in Leavenworth County. The wellhead protection program is voluntary and the KDHE encourages public drinking water to address an area with a radius of 2.0 miles or less around the water supply.

3. SURFACE WATER PATHWAY

What is the likelihood that a release to surface water has occurred at the site?

There were no obvious signs that surface water has been contaminated due to disposal activities taking place at the subject site. Water samples were collected during a 1985 EPA site investigation (see Appendix D) and indicated the presence of barium, calcium, magnesium, mercury and sodium. Mercury was detected at concentrations of 2.20 μg/L, 1.60 μg/L and 2.5 μg/L in 5-Mile Creek upstream, adjacent and downstream of the site, respectively. However, it was concluded following the site inspection that the site did not present a threat and no further investigation activity took place. There were no samples collected from 5-Mile Creek during this site assessment at the subject site and it is uncertain that the contaminants originated from the subject property.

If a release is not suspected proceed to A.4.

a. USE AND CHARACTERISTICS:

FLOOD FREQUENCY: Not applicable.

DISTANCE TO NEAREST SURFACE WATER: Not applicable.

SURFACE WATER BODIES WITHIN 15 DOWNSTREAM MILES: Not applicable.

DESIGNATED AND/OR PROTECTED USES OF SURFACE WATER BODIES: Not applicable.

DRINKING WATER INTAKES WITHIN 15 DOWNSTREAM MILES (locations and populations served): Not applicable.

FISHERIES WITHIN 15 DOWNSTREAM MILES: Not applicable.

KNOWN OR POTENTIAL SENSITIVE ENVIRONMENTS AND WETLANDS WITHIN 15 DOWNSTREAM MILES: Not applicable.

4. SOIL EXPOSURE PATHWAY

What is the likelihood of exposure to hazardous substances at the site?

Access to the site is limited, but it is not completely controlled. Fencing exists along the north, west and portions of the south boundaries of the subject site. The site can be accessed on the south side, near the Price Chopper Grocery store and along the banks of 5-Mile Creek, as it borders the site on the east and south. Surface soil sample results indicated the presence of lead in one sample at 1,310 mg/Kg, which exceeds both KDHE and EPA Region 9 screening levels of 1,000 mg/Kg. However, a total of 28 surface soil samples, 5 sediment samples and 10 subsurface soil samples were collected and only one resulted in a detection of lead that exceeded established screening levels. Based on the limited presence of lead and the accessibility of the site, the potential for exposure to surface contaminants at the subject site is low.

a. CHARACTERISTICS:

NUMBER OF PEOPLE LIVING WITHIN 200 FEET: Based on site reconnaissance activities and available maps, it does not appear that anyone lives within 200 feet of the subject property.

SCHOOLS OR DAY-CARES WITHIN 200 FEET: There were no schools or day-care operations observed within 200 feet of the subject property, during site reconnaissance activities.

POPULATIONS WITHIN 1 MILE: There are approximately 10,000 people living within one mile of the subject property, according to Mr. Gary Dies, Leavenworth City Planner. The population of the City of Leavenworth is estimated to be 42,250, according to the Leavenworth Chamber of Commerce.

NUMBER OF WORKERS AT THE FACILITY OR ADJACENT FACILITIES WHOSE CONTAMINATION IS SUSPECTED: City of Leavenworth personnel working at the waste water treatment plant cross the site on a daily basis in city vehicles. The road is asphalt covered and since the workers appear to remain in vehicles, it does not appear that a significant exposure potential exists for city workers.

LOCATIONS OF KNOWN OR POTENTIAL TERRESTRIAL SENSITIVE ENVIRONMENTS: There were no obvious signs of potential terrestrial sensitive environments, nor were any documented in the information reviewed by McKinzie.

5. AIR PATHWAY

What is the likelihood that a release of hazardous substances are migrating from the site to the air?

A release of airborne contaminants appears unlikely. An assessment of the air pathway at the subject site was not conducted as part of this assessment.

If a release is not suspected proceed to B.

a. CHARACTERISTICS

POPULATIONS WITHIN 4 MILES: Not applicable

DISTANCE TO NEAREST INDIVIDUAL: Not applicable

LOCATIONS OF KNOWN OR POTENTIAL SENSITIVE ENVIRONMENTS WITHIN 0 TO 1/4 MILE AND 1/4 TO ½ MILE: Not applicable

B. REMOVAL CRITERIA

IS THERE A RELEASE AS DEFINED BY THE NCP? **YES X or NO ☐**

EXPLAIN: Based on analytical results for samples collected from the ground water, surface soil and subsurface soil, hazardous substances were detected at the subject site in all three media.

*(A **RELEASE** is defined as any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment of barrels, containers, and other closed receptacles containing any hazardous substances or pollutant or contaminant), but excludes: workplace exposures; engine exhaust emissions; nuclear releases otherwise regulated; and the normal application of fertilizer. For purposes of the NCP, release also means threat of release.[40 CFR 300.410(e)])*

IS THE SOURCE A FACILITY OR VESSEL AS DEFINED BY THE NCP? **YES X or NO ☐**

EXPLAIN: The subject site is a former municipal landfill.

*(A **FACILITY** is defined as any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or POTW), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, or aircraft or any site or area, where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any vessel. A VESSEL is defined as any description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water other than a public vessel. [40 CFR 300.410(e)]*

DOES THE RELEASE INVOLVE A HAZARDOUS SUBSTANCE, OR POLLUTANT CONTAMINANT AS DEFINED BY THE NCP? **YES X or NO ☐**

EXPLAIN: Sample results indicated the presence of lead (1,310 mg/Kg) in surface soil and ground water samples contained benzene and methylene chloride, 2,6-dinitrotoluene, pentachlorophenol, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and benzo(a)pyrene at levels exceeding respective KDHE RSK Manual screening levels.

*(A **HAZARDOUS SUBSTANCE** means any substance, element, compound, mixture, solution, hazardous waste, toxic pollutant, hazardous air pollutant, or imminently hazardous chemical substance or mixture designated pursuant to the CWA, CERCLA, SDWA, CAA or TSCA. The term does not include petroleum products, natural gas, natural gas liquids, liquefied natural gas, synthetic gas or mixtures of natural and synthetic gas. The definition of **POLLUTANT or CONTAMINANT** includes, but is not limited to, any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions or physical deformations, in such organisms or their offspring. The term does not include petroleum products, natural gas, natural gas liquids, liquefied natural gas, synthetic gas or mixtures of natural and synthetic gas.).[40 CFR 300.410(e)]*

IS THE RELEASE SUBJECT TO THE LIMITATIONS ON RESPONSE? **YES ☐ or NO X**

EXPLAIN:
*(The **LIMITATIONS ON RESPONSE** provisions of the NCP (40 CFR 300.400(B) states that removals shall not be undertaken in response to a release: of a naturally occurring substance in its unaltered or natural form; from products that are a part of the structure of, and result in exposure within, residential buildings or business or community structures; or into public or private drinking water supplies due to deterioration of the system through ordinary use.).[40 CFR 300.410(e)]*

DOES THE QUANTITY OR CONCENTRATION WARRANT RESPONSE? **YES X or NO☐**

EXPLAIN: Although the concentrations of some of the CERCLA hazardous substances detected exceed the screening levels, the concentrations do not appear to warrant a Federal response pursuant to CERCLA, **however, some form of response by the State of Kansas may be warranted.**
[40 CFR 300.410(e)]

HAS A PRP BEEN IDENTIFIED? (Include name, address and telephone number) **YES X or NO ☐**

EXPLAIN:. The City of Leavenworth/Public Works Department, 100 N. 5th Street, Leavenworth, Kansas, 66048-1970, Contact: Mr. Robert Patzwald, Telephone: 913/682-9201.

[40 CFR 300.410(e)]

IS THERE AN ACTUAL OR POTENTIAL EXPOSURE TO HAZARDOUS SUBSTANCES OR POLLUTANTS, OR CONTAMINANTS? **YES X or NO ☐**

EXPLAIN: Based on the analytical results, CERCLA hazardous substances are present at the site in surface soil and the site is accessible to the local residents and workers at the City of Leavenworth waste water treatment plant.

IS THERE ACTUAL OR A POTENTIAL FOR CONTAMINATION OF DRINKING WATER SUPPLIES? **YES ☐ or NO X**

EXPLAIN: Although contaminants were detected in ground water present in boreholes at the site, it is unlikely that contamination would impact either the City of Leavenworth surface water intakes, which are upstream from the site on the Missouri River, or the City of Leavenworth well field at Stigers Island, approximately 3 miles down stream on the Missouri River.

ARE THERE HAZARDOUS SUBSTANCES, POLLUTANTS, OR CONTAMINANTS IN DRUMS, BARRELS, OR BULK STORAGE CONTAINERS? **YES X or NO ☐**

EXPLAIN: Aboveground storage tanks are present and contain residues of petroleum/hydrocarbon compounds (asphalt).

ARE THERE HIGH LEVELS OF HAZARDOUS SUBSTANCES, POLLUTANTS, OR CONTAMINANTS IN NEAR-SURFACE SOILS? **YES X or NO ☐**

EXPLAIN: The detected concentrations of hazardous substances exceed the screening levels established for this assessment.

("High levels" may be determined by streamlined risk assessments, health consultations, state or federal soil screening criteria, and/or Superfund program policies or directives.)

ARE THERE CONDITIONS ON SITE WHICH MAY BE SUSCEPTIBLE TO IMPACT FROM ADVERSE WEATHER CONDITIONS? **YES X or NO ☐**

EXPLAIN: The subject site is located within the 100-year flood plain of 5-Mile Creek/Missouri River and was impacted by flooding in 1993.

IS THERE A THREAT OF FIRE OR EXPLOSION? **YES ☐ or NO X**

EXPLAIN:

IS THERE A POTENTIAL FOR OTHER FEDERAL OR STATE RESPONSE MECHANISMS? **YES X or NO ☐**
IF SO, IDENTIFY THE APPROPRIATE PROGRAM:

___RCRA ___NRC ___FIFRA ___UST ___OTHER FEDERAL (_____) _X_STATE DEFERRAL

EXPLAIN: Further action at the subject property (e.g., ground water monitoring, natural attenuation or institutional controls), may be addressed by the KDHE Voluntary Cleanup and Property Redevelopment Program.

ARE THERE OTHER SITUATIONS OR FACTORS WHICH WARRANT FURTHER SUPERFUND RESPONSE? **YES ☐ or NO X**

EXPLAIN:

VII. SUPERFUND SITE SCREENING FINDINGS AND RECOMMENDATIONS

√	NO FURTHER SUPERFUND RESPONSE ACTION REQUIRED - SUPERFUND CERCLIS ENTRY NOT WARRANTED

(Cite the appropriate criteria from SECTION IV as the basis for the above determination.)

Yes	No	Unknown	Issue	Yes	No	Unknown	Issue
	√		Ground Water Pathway Threat		√		Direct Exposure Pathway Threat
	√		Surface Water Pathway Threat		√		Air Pathway Threat
√			Release Or Threat Of Release (CERCLA Hazardous Substances were present in the environment)		√		Subject To Response Limitations
√			A Facility Or Vessel (The subject site is considered a facility, due to its former use as a landfill)			√	Willing/Capable PRP Response (The City of Leavenworth was not contacted concerning response)
√			Actual Or Potential Exposure Threats (Hazardous substances are present and access to the site is not controlled)	√			Drums, Barrels Or Bulk Containers Present (An empty 55-gallon drum and six aboveground storage tanks were observed on the subject site)
	√		High Levels Of Contaminants In Surface Soils	√			Site Susceptible To Adverse Weather Conditions (the subject site is located in a 100-year flood plain)
	√		Threat Of Fire Or Explosion	√			Referred To Another Program

VIII ADDITIONAL INFORMATION OR COMMENTS

Not applicable.

(NOTE: Complete Site Prioritization Information Summary Attachment for sites recommended for further Integrated Assessment work.)

IX CONCLUSIONS

The Brownfields Targeted Assessment for the Leavenworth Landfill Site consisted of obtaining and reviewing background information and conducting site reconnaissance activities consistent with ASTM standards for environmental site assessment on the subject site, collecting samples of soil, sediment and ground water at the site, and evaluating the risks presented by existing contamination.

The review of background information (including interviews, regulatory agency files, etc.) and site reconnaissance activities revealed that aboveground storage tanks exist on the site, underground storage tanks were present but have since been removed and that a State Hazardous Waste Site (GNB, Inc.) is located adjacent to the west of the subject site. There was no record of large quantities of hazardous substances being disposed of at the former landfill, although unconfirmed reports of disposal of calcium hydroxide and unknown solvents were noted on a EPA report.

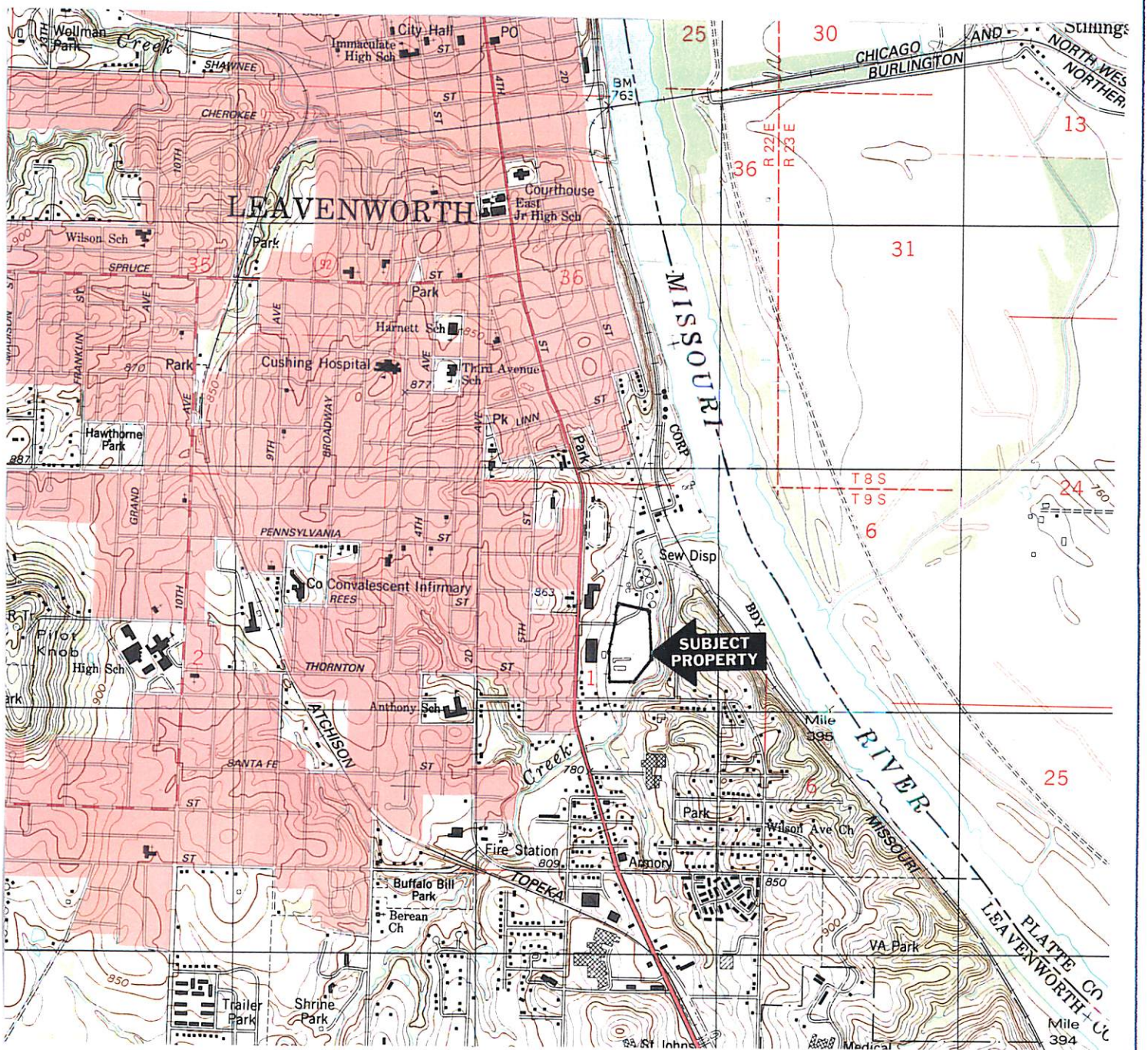
Based on the analytical data collected from the subject property sample screening criteria, it appears that hazardous substances are present in the soil and ground water at the subject site, at concentrations exceeding the screening levels. The most significant surface contamination (lead) appears to be limited to one sample in the northwest portion of the subject. The other significant concentrations were found in ground water. Since the subject property is partially controlled, exposure to surface contaminants is limited. Ground water at the site is not used for drinking water and the closest well used for drinking water (both private and public) is approximately 3.0 miles from the site. Therefore, it appears that the potential for exposure is low.

CONTRACTOR APPROVAL (if applicable)

SIGNATURE: _____ **DATE:** _____

POSITION/TITLE: Wood H. Ramsey/Sr. Project Manager

OFFICE/COMPANY: McKinzie Construction, Incorporated



LEAVENWORTH, KANSAS–MISSOURI

1975
EDITED IN 1984

SCALE 1:24,000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET

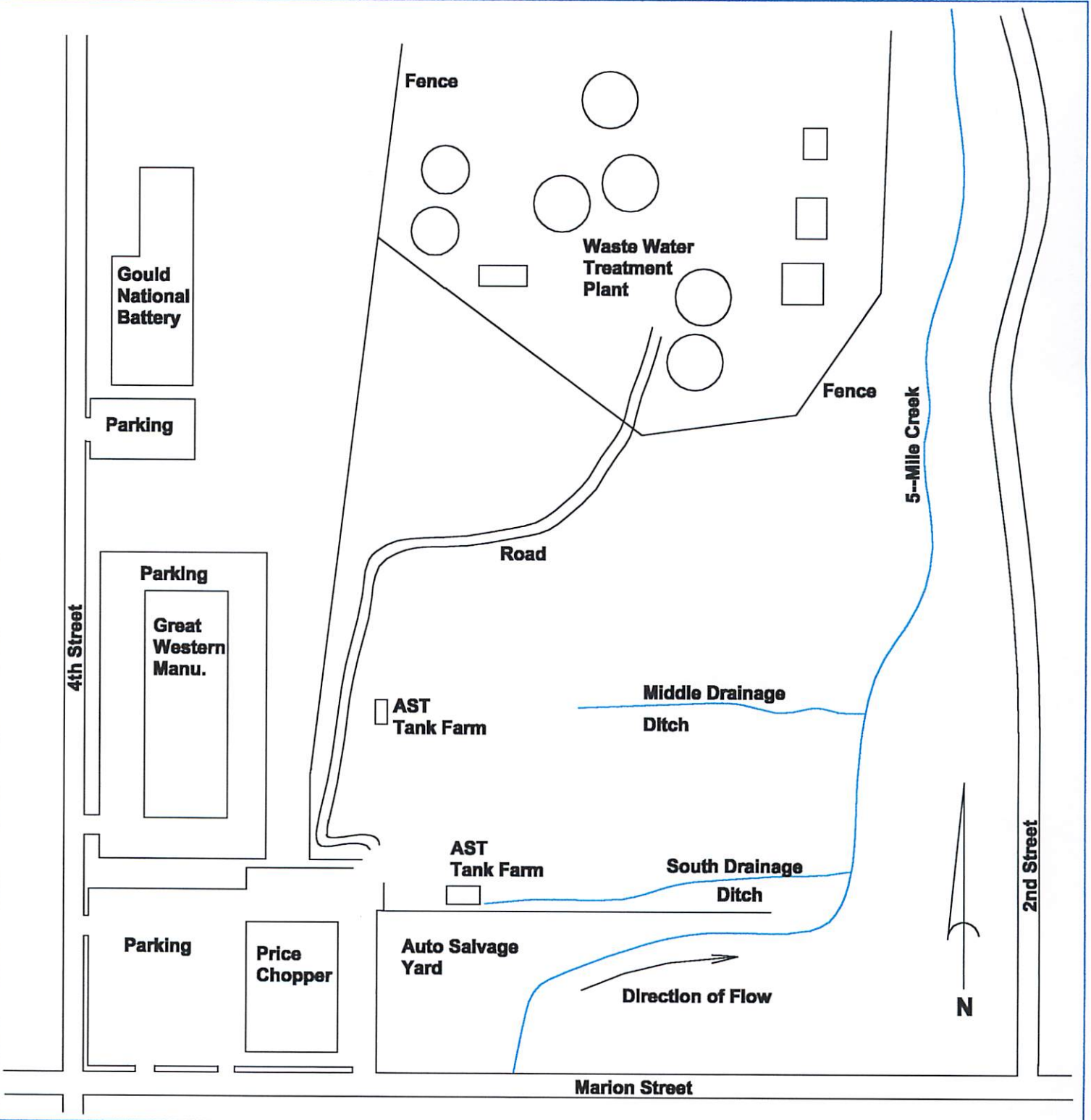
N

PROJ.# E-98-004	CHECKED BY: RDM
SCALE: AS SHOWN	PRODUCED BY: WHR
DATE: February 10. 1999	

AREA MAP
LEAVENWORTH LANDFILL BTA
LEAVENWORTH, KANSAS
CONTRACT NO. 8K0613YASW

F1

McKinzie Construction



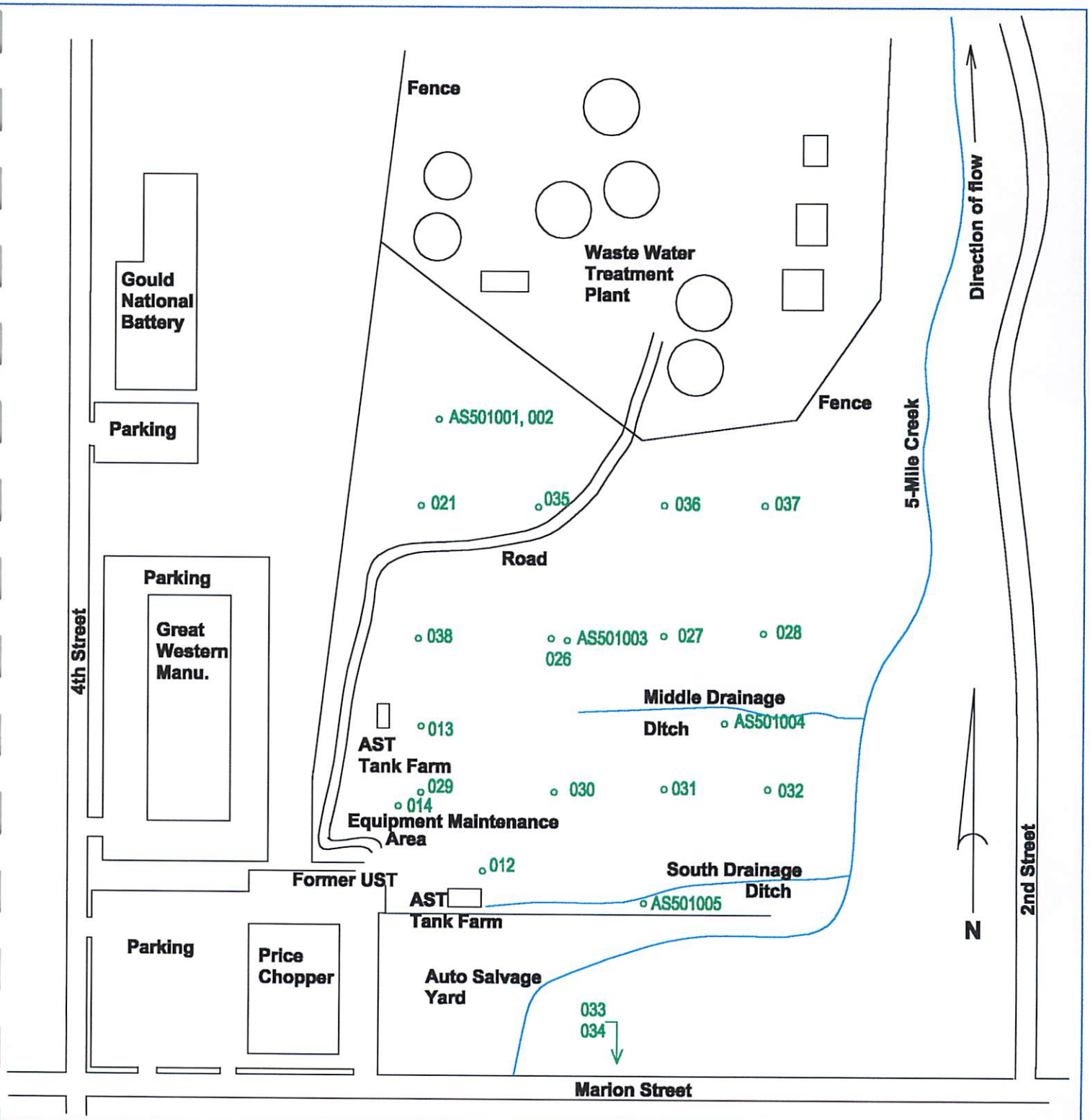
LEAVENWORTH BTA
LEAVENWORTH LANDFILL
LEAVENWORTH, KANSAS
CONTRACT #8K0613YASW

FIGURE 2, SITE PLAN

Scale: None | **Drawn by: WR**

Date: October 21, 1998

McKINZIE CONSTRUCTION
7301 MISSION ROAD
SUITE 219
PRAIRIE VILLAGE, KS



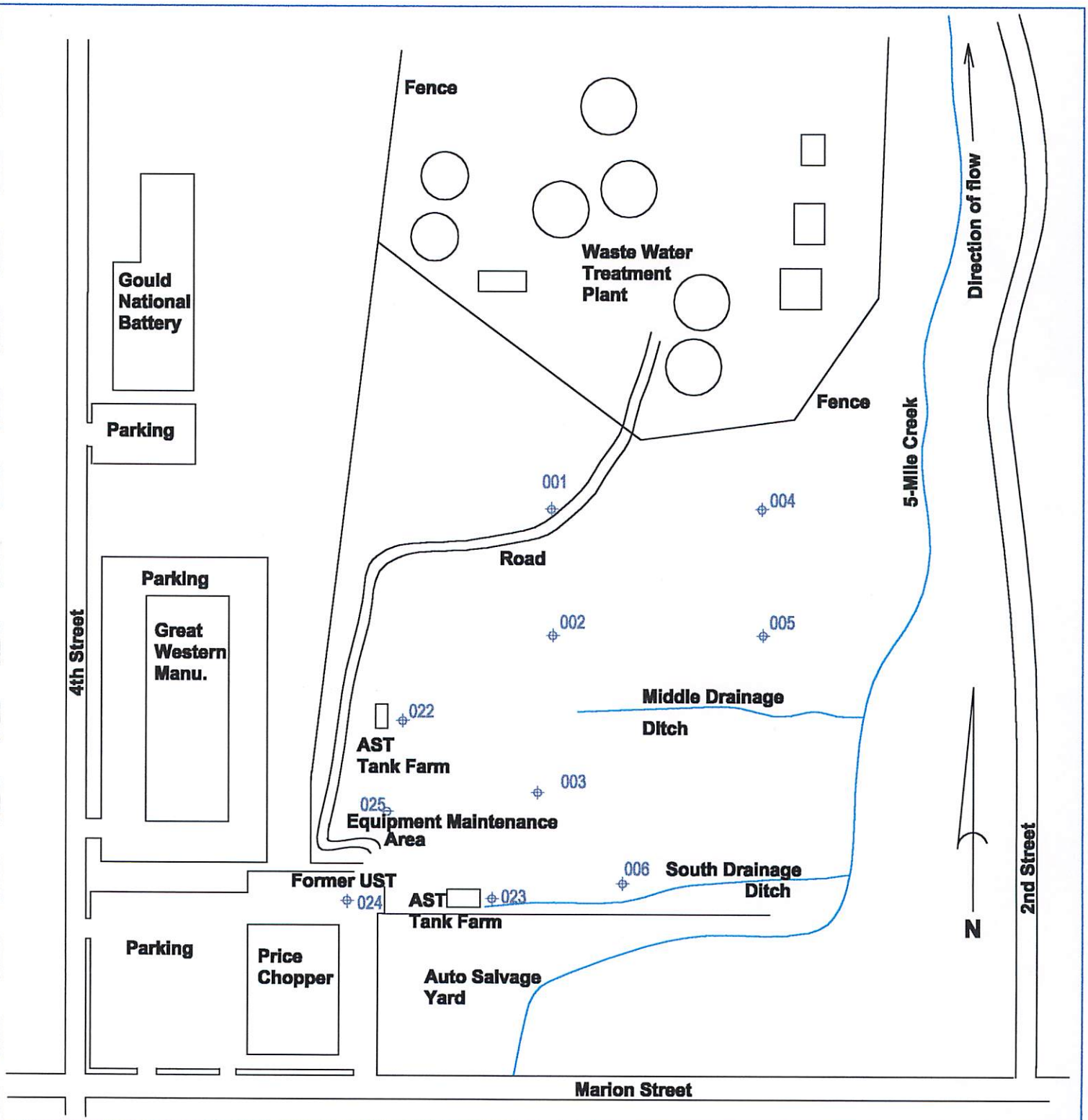
LEAVENWORTH BTA
LEAVENWORTH LANDFILL
LEAVENWORTH, KANSAS
CONTRACT #8K0613YASW

FIGURE 2a; Surface Soil Sample Locations

Scale: None | **Drawn by: WR**

Date: February 10, 1999

McKINZIE CONSTRUCTION
7301 MISSION ROAD
SUITE 219
PRAIRIE VILLAGE, KS



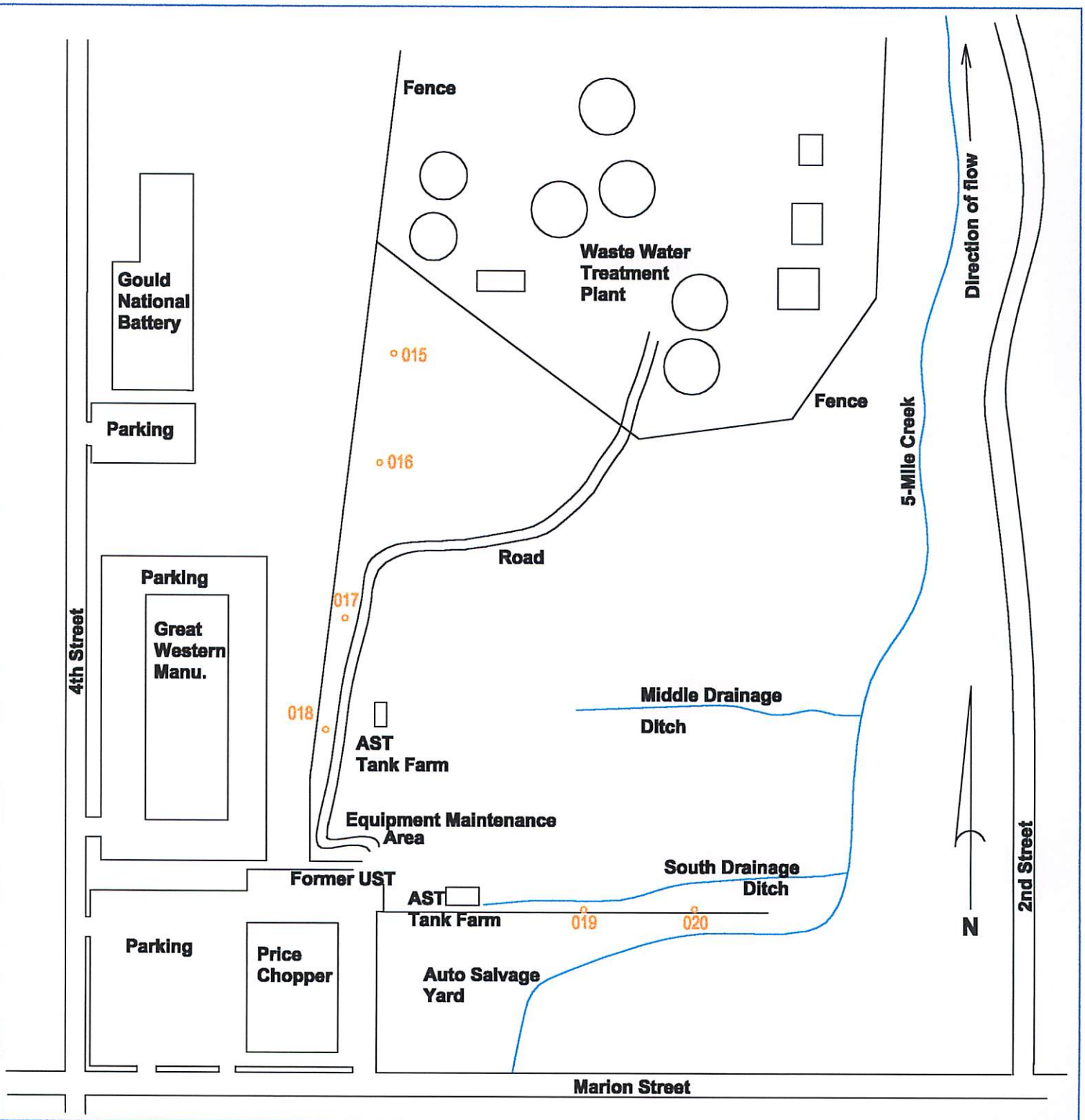
LEAVENWORTH BTA
LEAVENWORTH LANDFILL
LEAVENWORTH, KANSAS
CONTRACT #8K0613YASW

FIGURE 2b; Subsurface Soil Sample Locations

Scale: None | **Drawn by: WR**

Date: February 10, 1999

McKINZIE CONSTRUCTION
7301 MISSION ROAD
SUITE 219
PRAIRIE VILLAGE, KS



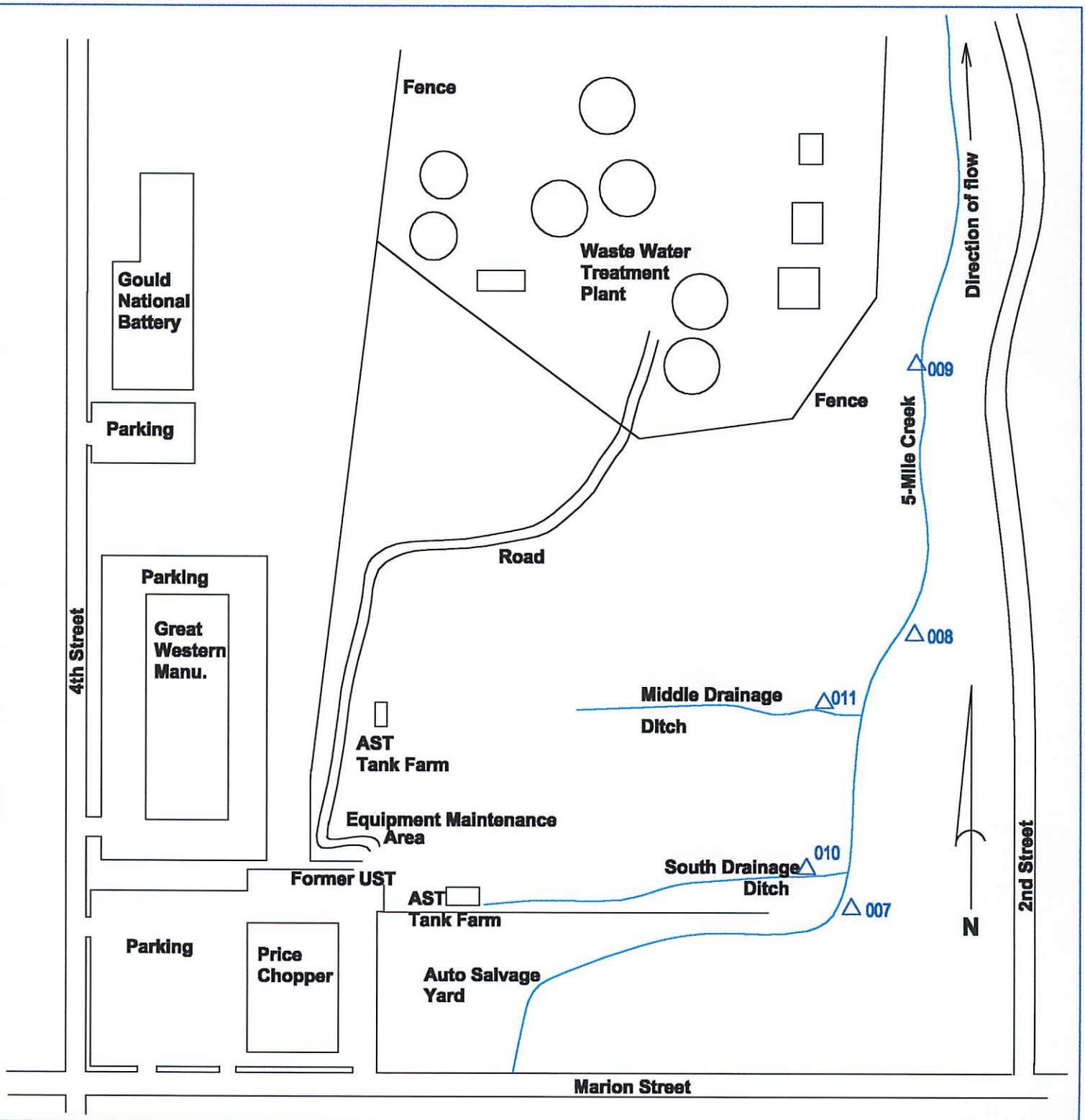
LEAVENWORTH BTA
LEAVENWORTH LANDFILL
LEAVENWORTH, KANSAS
CONTRACT #8K0613YASW

FIGURE 2c; Perimeter Soil Sample Locations

Scale: None | **Drawn by: WR**

Date: February 10, 1999

McKINZIE CONSTRUCTION
7301 MISSION ROAD
SUITE 219
PRAIRIE VILLAGE, KS



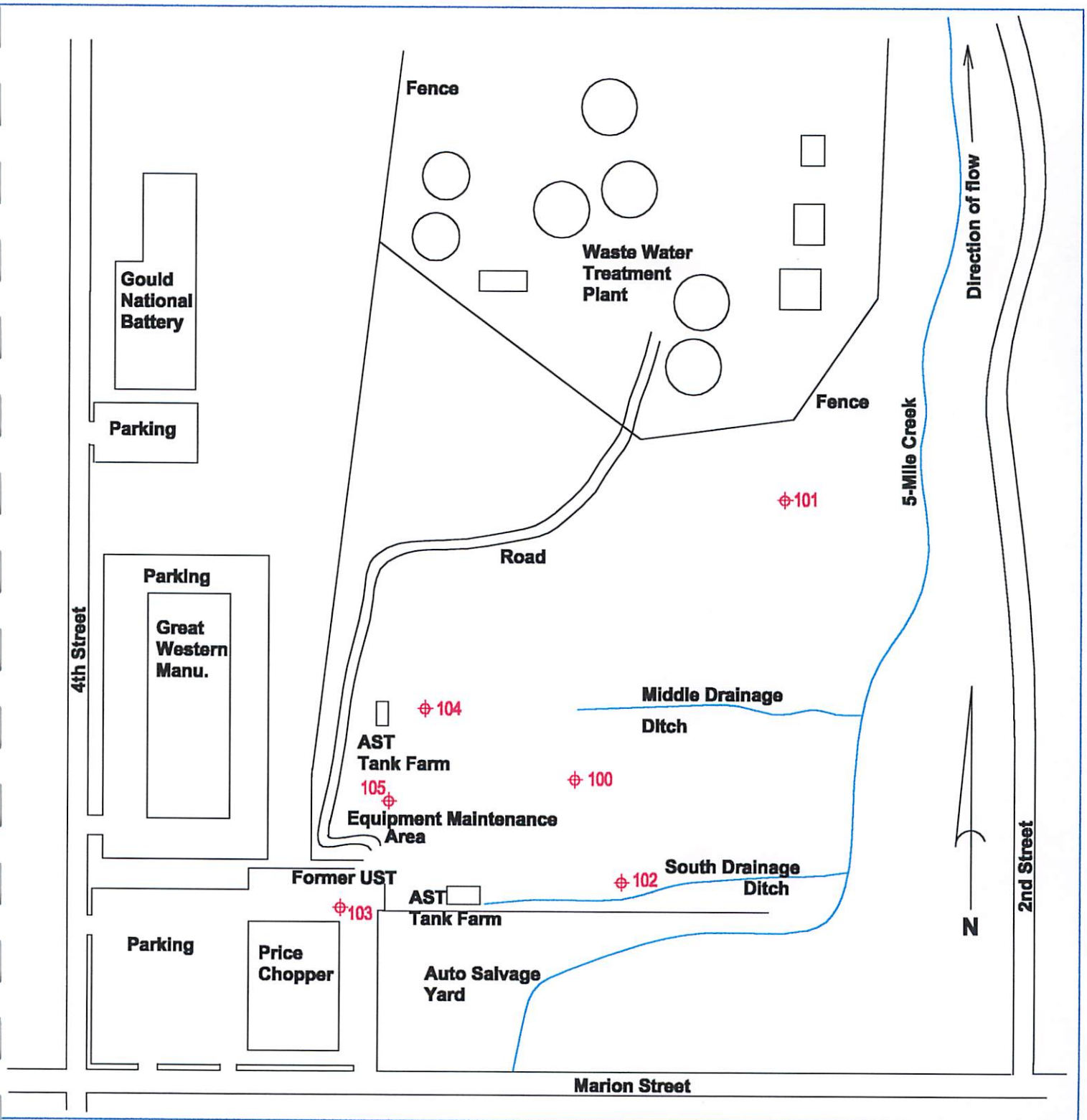
LEAVENWORTH BTA
LEAVENWORTH LANDFILL
LEAVENWORTH, KANSAS
CONTRACT #8K0613YASW

FIGURE 2d; Sediment Sample Locations

Scale: None | Drawn by: WR

Date: February 10, 1999

McKINZIE CONSTRUCTION
7301 MISSION ROAD
SUITE 219
PRAIRIE VILLAGE, KS



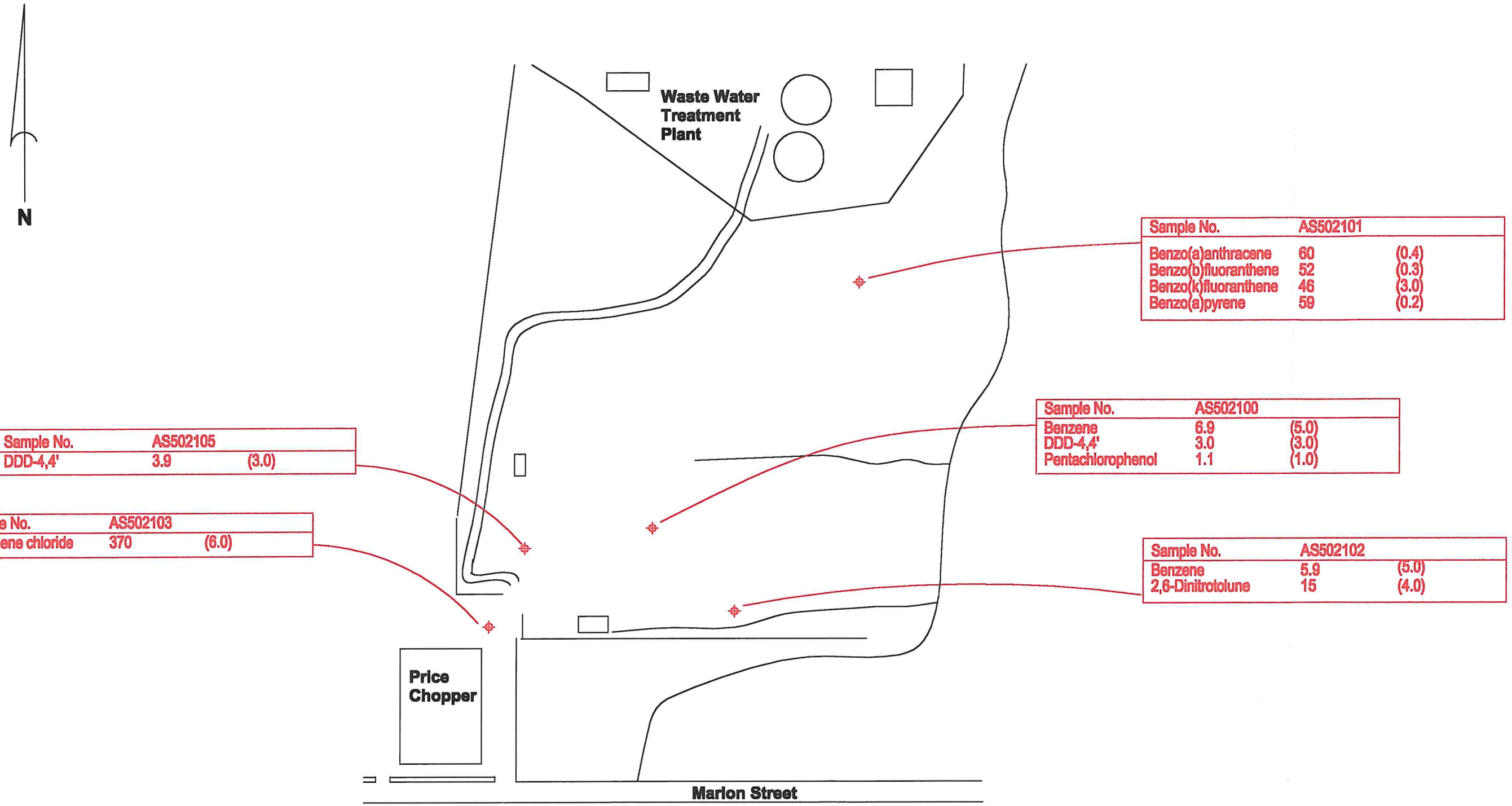
LEAVENWORTH BTA
LEAVENWORTH LANDFILL
LEAVENWORTH, KANSAS
CONTRACT #8K0613YASW

FIGURE 2e; Groundwater Sample Locations

Scale: None | Drawn by: WR

Date: February 10, 1999

McKINZIE CONSTRUCTION
7301 MISSION ROAD
SUITE 219
PRAIRIE VILLAGE, KS



Sample No.	AS502101	
Benzo(a)anthracene	60	(0.4)
Benzo(b)fluoranthene	52	(0.3)
Benzo(k)fluoranthene	46	(3.0)
Benzo(a)pyrene	59	(0.2)

Sample No.	AS502100	
Benzene	6.9	(5.0)
DDD-4,4'	3.0	(3.0)
Pentachlorophenol	1.1	(1.0)

Sample No.	AS502105	
DDD-4,4'	3.9	(3.0)

Sample No.	AS502103	
Methylene chloride	370	(6.0)

Sample No.	AS502102	
Benzene	5.9	(5.0)
2,6-Dinitrotolune	15	(4.0)

All sample results in ug/L.
RSK values indicated in parenthesis.

LEAVENWORTH BTA
LEAVENWORTH LANDFILL
LEAVENWORTH, KANSAS
CONTRACT #8K0613YASW

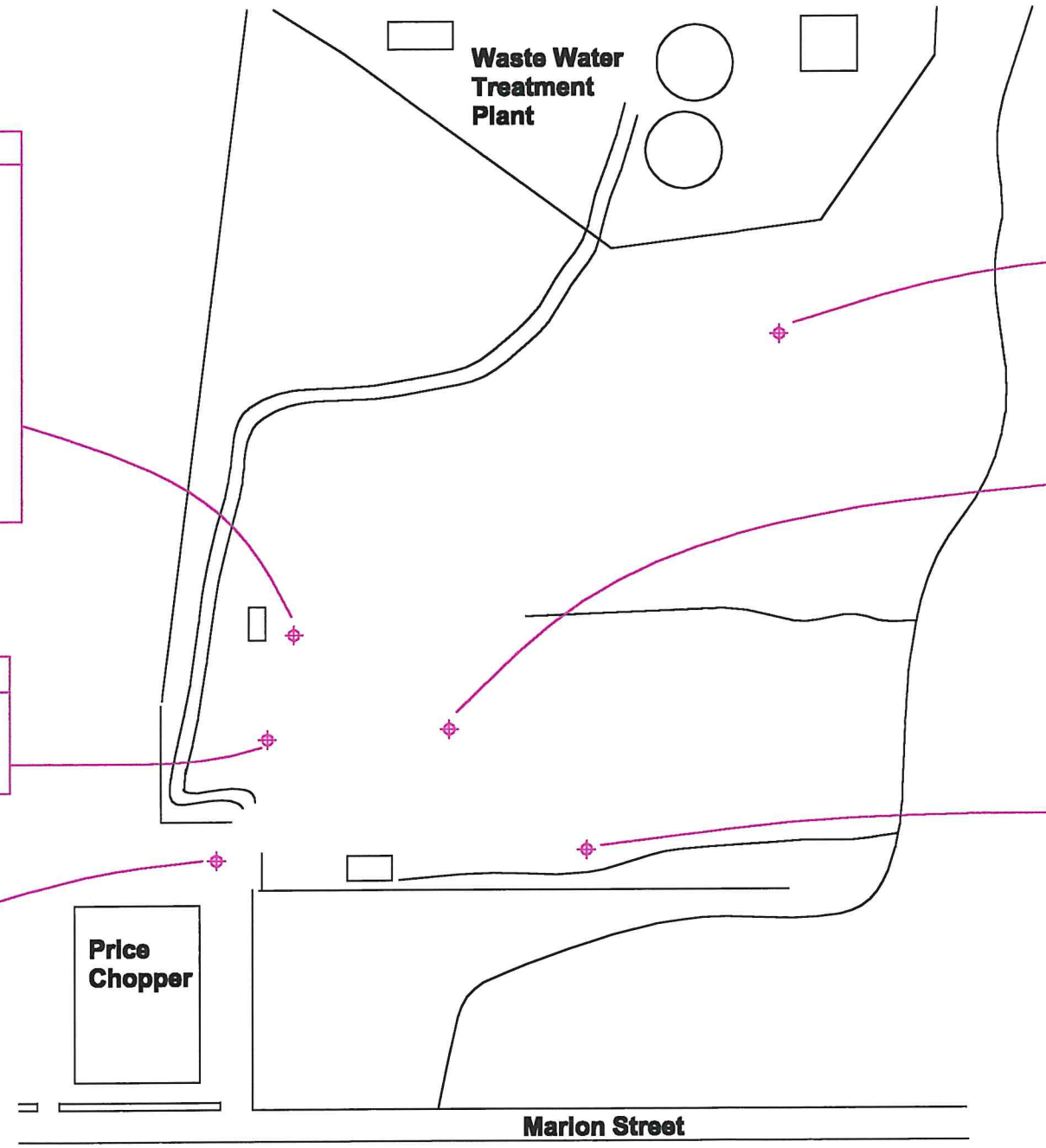
FIGURE 3b; Groundwater Sample Results Over RSK Values (excluding Metals)

Scale: None | Drawn by: JT/WR

Date: May 20, 1999

McKINZIE CONSTRUCTION
7301 MISSION ROAD
SUITE 219
PRAIRIE VILLAGE, KS

N



Sample No.	AS502104	RSK
Barium	3990	2000
Beryllium	6.38	4.0
Cadmium	103	5.0
Chromium	969	100
Copper	2150	1300
Manganese	11500	50
Nickel	740	100
Lead	3150	15
Arsenic	254	50
Antimony	8.26	8.0
Mercury	33.2	2.0
Zinc	28200	5000

Sample No.	AS502101	RSK
Barium	16900	2000
Beryllium	38.5	4.0
Cadmium	107	5.0
Chromium	1530	100
Manganese	37500	50
Nickel	1480	100
Lead	12000	15
Arsenic	214	50
Mercury	23.3	2.0
Copper	1980	1300
Zinc	16100	5000

Sample No.	AS502100	RSK
Barium	8380	2000
Beryllium	4.70	4.0
Cadmium	23.7	5.0
Chromium	272	100
Manganese	6200	50
Nickel	252	100
Lead	4890	15
Arsenic	187	50
Mercury	4.80	2.0

Sample No.	AS502105	RSK
Manganese	836	50
Lead	453	15
Antimony	10.2	8.0

Sample No.	AS502102	RSK
Barium	4150	2000
Beryllium	5.65	4.0
Cadmium	55.0	5.0
Chromium	639	100
Manganese	8820	50
Nickel	327	100
Lead	9780	15
Arsenic	175	50
Mercury	4.79	2.0
Zinc	14800	5000

Sample No.	AS502103	RSK
Barium	10800	2000
Beryllium	28.1	4.0
Cadmium	103	5.0
Chromium	1430	100
Copper	3010	1300
Manganese	22300	50
Nickel	1350	100
Lead	83700	15
Arsenic	474	50
Mercury	12.7	2.0
Zinc	18900	5000

All Units are in ug/L.

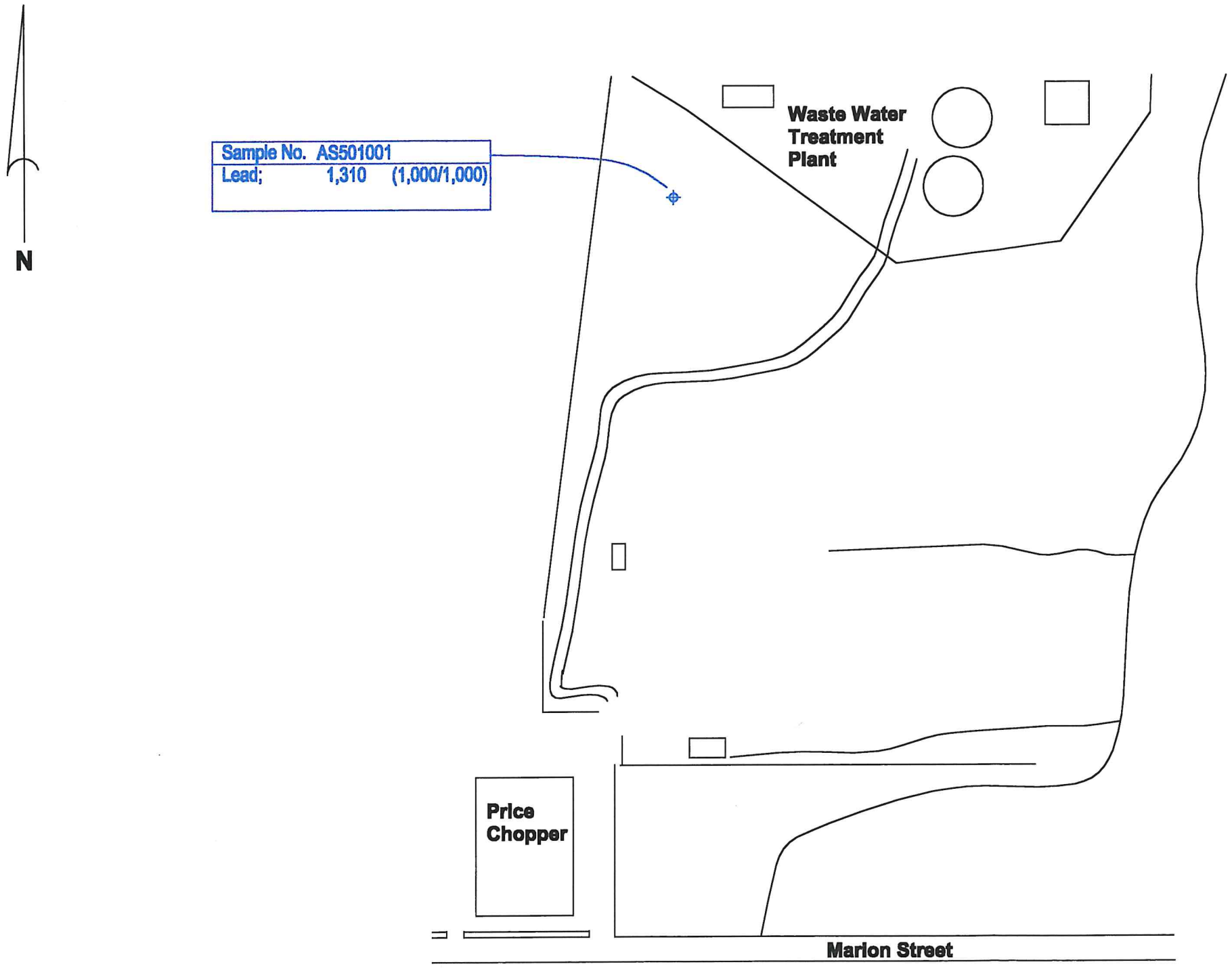
LEAVENWORTH BTA
LEAVENWORTH LANDFILL
LEAVENWORTH, KANSAS
CONTRACT #8K0613YASW

FIGURE 3c; Groundwater Sample Results Over RSK Values (Metals Only)

Scale: None | Drawn by: JT/WR

Date: May 20, 1999

McKINZIE CONSTRUCTION
7301 MISSION ROAD
SUITE 219
PRAIRIE VILLAGE, KS



All units in mg/Kg.
RSK/PRG values in parenthesis.

LEAVENWORTH BTA LEAVENWORTH LANDFILL LEAVENWORTH, KANSAS CONTRACT #8K0613YASW	FIGURE 3a; Surface Soil Sample Results Over RSK/PRG Values	McKINZIE CONSTRUCTION 7301 MISSION ROAD SUITE 219 PRAIRIE VILLAGE, KS
	Scale: None / Drawn by: JT/WR	
	Date: May 20, 1999	

APPENDIX A

Legal Description/Warranty Deed

KANSAS QUIT CLAIM DEED

THIS INDENTURE, Made on the 20th day of October A.D. One Thousand Nine Hundred and Sixty, by and between Clarence C. Jones and Mary J. Jones, husband and wife of the County of Leavenworth, State of Kansas, parties of the first part, and Corbin K. Lansdon and Towanda Lansdon, husband and wife, as joint tenants with right of survivorship, and not as tenants in common of the County of Leavenworth, State of Kansas, parties of the second part:

WITNESSETH, that said parties of the first part, in consideration of the sum of One Dollar and other good and valuable considerations, to them paid by said parties of the second part (the receipt of which is hereby acknowledged), do by these presents Remise, Release and forever Quit Claim unto the said parties of the second part the following described lots, tracts or parcels of land, lying, being and situate in the County of Leavenworth and State of Kansas, to-wit:

All of that tract of land located in Block Four (4) in Halderman's Pilot Knob Addition to the City of Leavenworth which lies between the North Three Hundred Feet (N.310') and the South Two Hundred Feet (S.200') of said Block Four (4) in said Halderman's Pilot Knob Addition to the City of Leavenworth.
$.55 U. S. I. R. Stamps Cancelled

TO HAVE AND TO HOLD THE SAME, with all the rights, immunities, privileges and appurtenances thereto belonging, unto said parties of the second part and unto the survivor to them forever, so that neither the said parties of the first part nor their heirs, nor any other person or persons for them or in their name or behalf, shall or will hereafter claim or demand any right or title to the aforesaid premises or any part thereof, but they and each of them shall, by these presents, be excluded and forever barred.

IN WITNESS WHEREOF, The said parties of the first part have hereunto set their hands and seals the day and year above written.

Signed, sealed and delivered in the presence of us:

Clarence C. Jones (SEAL)
Clarence C. Jones

Mary J. Jones (SEAL)
Mary J. Jones

STATE OF KANSAS)
) SS
COUNTY OF LEAVENWORTH)

BE IT REMEMBERED, That on this 20th day of October A.D. 1960 before me, the undersigned, a Notary Public in and for said County and State, came Clarence C. Jones and Mary J. Jones, husband and wife who are personally known to me to be the same persons who executed the within instrument of writing, and duly acknowledged the execution of the same.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my official seal the day and year last above written.

My commission expires April 17, 1961
(Notarial Seal)

Ethan Potter
Notary Public

Entered in transfer record this 27 day of December 1960
Thos J. Cahill, County Clerk by Agnes Ward, Deputy (Seal of County Clerk)
Filed for record December 27, 1960 at 8:34 o'clock A.M.
E. M. Walker, Register of Deeds

Book 398
Page 55

WARRANTY DEED

THIS INDENTURE, Made this 20th day of October, 1960, A.D. between Edward F. Reilly and Marian C. Reilly, husband and wife and Margaret G. Wolters and Raymond M. Wolters, husband and wife, of Leavenworth County, in the State of Kansas, parties of the first part, and The City of Leavenworth, Kansas, a municipal corporation, party of the second part.

WITNESSETH, That the said parties of the first part in consideration of the sum of Twenty-five Thousand Dollars ($25,000.00), the receipt whereof is hereby acknowledged does by these presents, grant, bargain, sell and convey unto the said party of the second part, the following described real estate, situated in the County of Leavenworth, State of Kansas, to-wit:

A tract of land in the Northeast Quarter (NE 1/4) of Section One (1), Township Nine (9), Range Twenty-two (22) East, described as follows, to-wit: Beginning at a point in the East and West center line of Section One (1), Township Nine (9), Range Twenty-two (22), East, that is 471.41 feet East of the center of said Section One (1), said point of beginning being on the Easterly Right of Way line of the Missouri Pacific Railroad; thence Easterly along the East and West center line of Section One (1), Township Nine (9), Range Twenty-two (22) E. said line bearing 88° 23' 00" East, 862.51 feet to the West line of Second Street; thence North 9° 49' 30" West along the Westerly Right of Way line of Second Street, 727.59 feet; thence North 10° 10' 30" East, 295.85 feet; thence North 9° 19' 30" West 244.35 feet; thence North 19° 49' 30" West, 629.39 feet; thence South 70° 10' 30" West 160.00 feet; thence North 75° 44' 30" West 106.00 feet; thence North 0° 23' 30" East 440.66 feet; thence South 70° 10' 30" West 14 feet to the Easterly Right of Way line of the Missouri Pacific Railroad Co.; thence South 7° 02' 30" West along said Right of Way line 2149.27 feet to a point of curve, said curve bearing left and having a radius of 1302.69 feet; thence along said curve 140.76 feet to the point of beginning. Less the Whitton tract of land which is described as follows, to-wit: Beginning at the Northwest corner of the fractional Northeast Quarter (NE 1/4) of Section One (1), Township Nine (9), Range Twenty-two (22) East Twenty-one (21) chains and Fifty (50) links South, variation of 10° 10 __ East of the point where the East side of Second Street strikes the North line of said quarter (1/4) section; running thence South parallel with the West

line of said quarter (1/4) section; three (3) chains, eighteen (18) links; thence East at right angles six (6) chains, twenty-four (24) links to the center line of Five Mile Creek; thence North 6° 45' West Three (3) chains and twenty-two (22) links to a point in the center line of said creek; thence West Five (5) chains, seventy-four (74) links to the place of beginning and containing 1.905 acres, said tract being wholly within the Northeast Quarter (NE 1/4) of Section One (1), Township Nine (9), Range Twenty-two (22) East, in the City and County of Leavenworth, State of Kansas.
That the land above described is approximately 23.440 acres, more or less.
$27.50 U. S. I. R. Stamps Cancelled

TO HAVE AND TO HOLD THE SAME, together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining, forever.
And said parties of the first ____, for their heirs, executors and administrators do hereby covenant, promise and agree to and with said party of the second part, that at the delivery of these presents, ____ have lawfully seized in their own right of an absolute and indefeasible estate of Inheritance, in fee simple, of and in all and singular, the above granted and described premises, with the appurtenances; that the same are free, clear, discharged and unincumbered of and from all former other grants, titles, charges, estates, judgements, taxes, assessments and incumbrances, of what nature or kind soever; and that they will Warrant and Forever Defend the same unto the said party of the second part, their assigns, against the said parties of the first part, their heirs, and all and every person or persons whomsoever lawfully claiming or to claim the same.
IN WITNESS WHEREOF, the said parties of the first part hereunto set their hands the day and year first above written.

Edward F. Reilly
Edward F. Reilly

Marian C. Reilly
Marian C. Reilly

Margaret G. Wolters
Margaret G. Wolters

Raymond M. Wolters
Raymond M. Wolters

STATE OF KANSAS)
) SS.
COUNTY OF LEAVENWORTH)

BE IT REMEMBERED, That on this 20th day of October, 1960 A.D. before me, the undersigned, a Notary Public, in and for the County and State aforesaid, came Edward F. Reilly and Marian C. Reilly and Margaret G. Wolters and Raymond M. Wolters, wife and husband, who are personally known to me to be the same persons who executed the within instrument of writing, and such persons duly acknowledged the execution of the same.
IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notary seal, the day and year last above written.

My Commission Expires: Aug. 30, 1962
(Notarial Seal)

E. D. Kelly
Notary Public

Entered in transfer record this 28 day of December 1960
Thos J. Cahill, County Clerk by H. Norris, Deputy (Seal of County Clerk)
Filed for record December 28, 1960 at 8:34 o'clock A.M.
E. M. Walker, Register of Deeds

WARRANTY DEED

THIS INDENTURE, Made this 17th day of October A.D. 1960 between Harvester Realty Corporation, a corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, located at Milwaukee, Wisconsin, party of the first part, and City of Leavenworth, Kansas, a municipal corporation, party of the second part.
WITNESSETH, That the said party of the first part, for and in consideration of the sum of One Dollar ($1.00) and other good and valuable consideration to it paid by the said party of the second part, the receipt whereof is hereby confessed and acknowledged, has given, granted, bargained, sold, remised, released, aliened, conveyed and confirmed, and by these presents does give, grant, bargain, sell, remise, release, alien, convey and confirm unto the said party of the second part, its successors and assigns forever, the following described real estate, situated in the County of Leavenworth and State of Kansas, to-wit:

Lot One (1) in Block Forty-four (44) "Leavenworth" (known also as Leavenworth City Proper or Leavenworth City "Original Town") according to the map or plat of said Leavenworth now of record in the office of the Register of Deeds in and for said County of Leavenworth and entitled "Plat of Leavenworth K.T."
$11.00 U. S. I. R. Stamps Cancelled

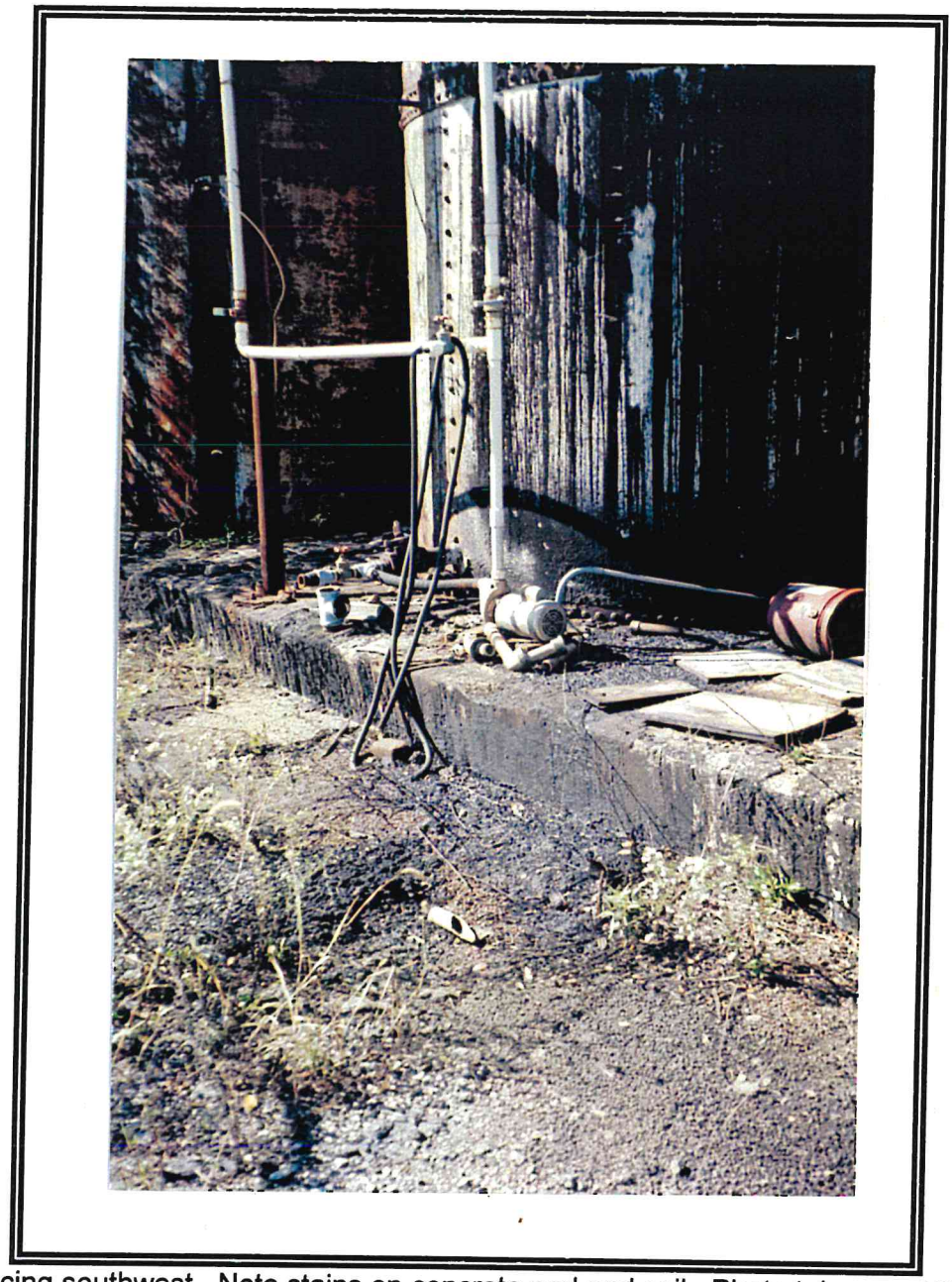
Together with all and singular the hereditaments and appurtenances thereunto belonging or in any wise appertaining; and all the estate, right, title, interest, claim or demand whatsoever, of the said party of the first part, either in law or equity, either in possession or expectancy of, in and to the above bargained premises, and their hereditaments and apurtenances.
TO HAVE AND TO HOLD the said premises as above described with the hereditaments and appurtenances, unto the said party of the second part, and to its successors and assigns FOREVER.
And the said Harvester Realty Corporation party of the first part, for itself and its successors, does covenant, grant, bargain and agree to and with the said party of the second part, its successors and assigns, that the above bargained premises, in the quiet and peaceable possession of the said party of the second part, its successors and assigns, against all and every person or persons lawfully claiming the whole or any part thereof,

APPENDIX B

Site Photographs

1. East AST area on south end of subject property, facing southwest. Price Chopper store is in the background. Photo taken on 10/08/98.

2. West AST area, facing south. Note residues on the tank in the foreground and stain on soil. Photo taken on 10/08/98.



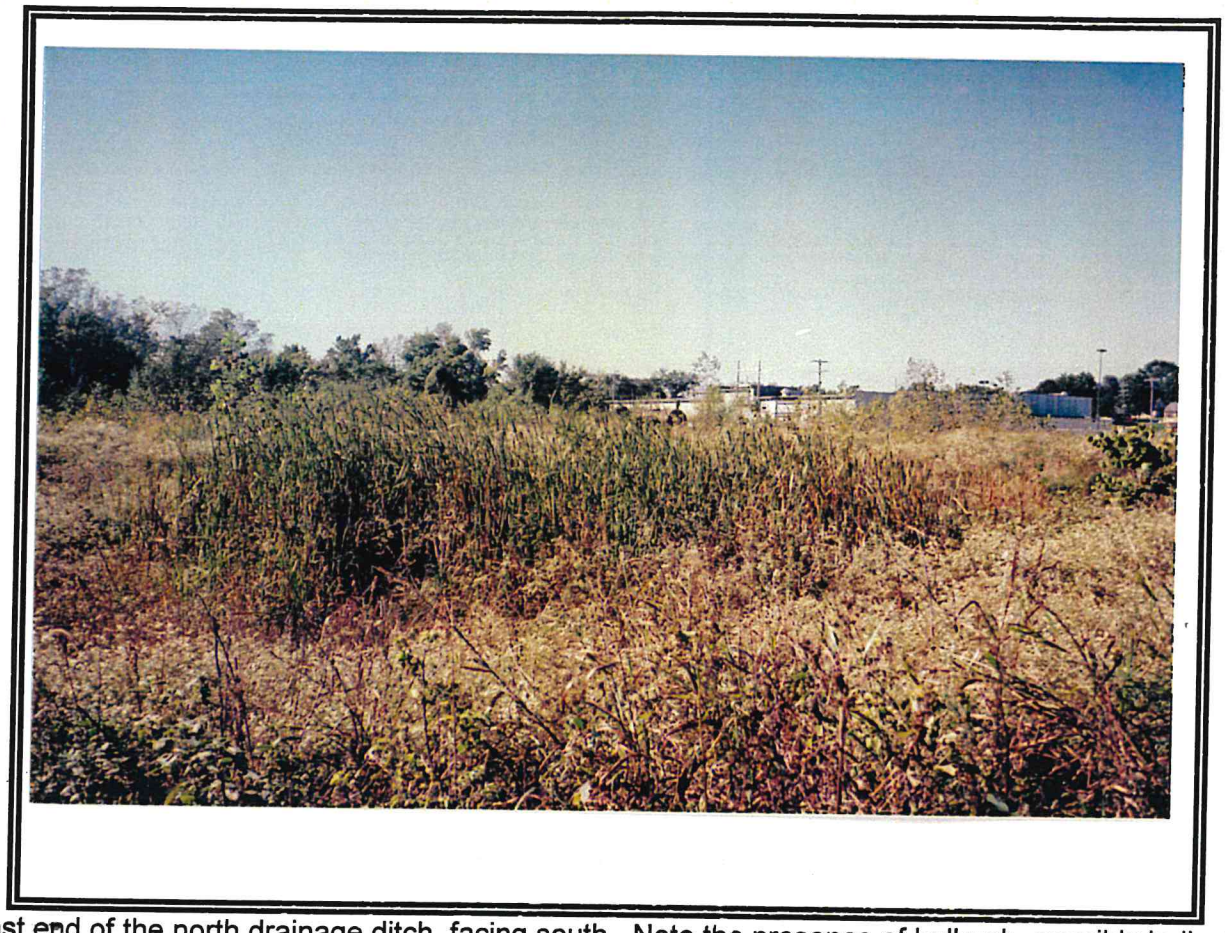
3. West AST area, facing southwest. Note stains on concrete pad and soil. Photo taken on 10/08/98.

East AST area, facing southwest. Note staining below tank. Photo taken on 10/08/98.

A view of the landfill, facing northeast. The city waste water treatment plant is on the left. The trees mark the location of 5-Mile Creek. Photo taken on 10/08/98.

6. A view of the center portion of the landfill, facing east. The tree line marks the creek location. Photo taken on 10/08/98.

7. The southeast corner of the landfill, facing southeast. Photo taken on 10/08/98.



8. The east end of the north drainage ditch, facing south. Note the presence of bullrush, possibly indicating a wetland area. Photo taken on 10/08/98.

9. Trash pile in northwest corner of the landfill, facing northeast. Note the empty drums. Photo taken on 10/08/98.

10. Lake's Auto Salvage, located on the south side of the subject property. Photo taken facing south. Photo taken on 10/08/98.

. A view of GNB, Inc. from the center portion of the landfill, facing west. Photo taken on 10/08/98.

.2. A view of the city waste water treatment plant, facing north from the landfill. Photo taken on 10/08/98.

3. A view along of the asphalt road along the west side of the subject property, facing south. Photo taken on 10/08/98.

APPENDIX C

Government Records Database Report

The EDR-Radius Map
with GeoCheck®

Leavenworth Municipal Landfill
2110 S 3rd St
Leavenworth, KS 66048

Inquiry Number: 301445.1s

October 09, 1998

Environmental Data Resources, Inc.
an edr company

***The* Source For Environmental Risk Management Data**

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-97. Search distances are per ASTM standard or custom distances requested by the user.

The address of the subject property for which the search was intended is:

2110 S 3RD ST
LEAVENWORTH, KS 66048

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the subject property or within the ASTM E 1527-97 search radius around the subject property for the following Databases:

NPL:	National Priority List
Delisted NPL:	NPL Deletions
RCRIS-TSD:	Resource Conservation and Recovery Information System
CERCLIS:	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP:	Comprehensive Environmental Response, Compensation, and Liability Information System
CORRACTS:	Corrective Action Report
AST:	Aboveground Storage Tank Data
RAATS:	RCRA Administrative Action Tracking System
RCRIS-LQG:	Resource Conservation and Recovery Information System
HMIRS:	Hazardous Materials Information Reporting System
PADS:	PCB Activity Database System
ERNS:	Emergency Response Notification System
FINDS:	Facility Index System
TRIS:	Toxic Chemical Release Inventory System
NPL Lien:	NPL Liens
TSCA:	Toxic Substances Control Act
MLTS:	Material Licensing Tracking System
ROD:	ROD
CONSENT:	Superfund (CERCLA) Consent Decrees
Coal Gas:	Former Manufactured gas (Coal Gas) Sites.

Unmapped (orphan) sites are not considered in the foregoing analysis.

Search Results:

Search results for the subject property and the search radius, are listed below:

Subject Property:

The subject property was not listed in any of the databases searched by EDR.

Surrounding Properties:

Elevations have been determined from the USGS 1 degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. EDR's definition of a site with an elevation equal to the subject property includes a tolerance of -10 feet. Sites with an elevation equal to or higher than the subject property have been differentiated below from sites with an elevation lower than the subject property (by more than 10 feet). Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

SHWS: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already by listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Health & Environment's list: Summary of Bureau of Environmental Remediation Sites in Kansas.

A review of the SHWS list, as provided by EDR, has revealed that there are 3 SHWS sites within approximately 1 Mile of the subject property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
GNB BATTERIES, INC.	1901 S 4TH ST	1/8 - 1/4 NW	A8	16
GNB BATTERIES - VCP	1825 S 4TH ST	1/8 - 1/4 NNW	B11	17
SONNY HILL JEEP EAGLE - LEAVEN	3501 S 4TH ST	1/2 - 1 SSE	14	19

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Department of Health & Environment's Directory of Sanitary Landfills, Solid Waste Transfer Stations and Collectors in Kansas.

A review of the SWF/LF list, as provided by EDR, and dated 05/28/1998 has revealed that there is 1 SWF/LF site within approximately 0.5 Miles of the subject property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CITY OF LEAVENWORTH GARAGE	***2101 S 3RD***	***1/4 - 1/2 WSW***	***13***	***17***

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Kansas Department of Environmental Protection's LUST Incident Report.

A review of the LUST list, as provided by EDR, and dated 04/01/1998 has revealed that there are 4 LUST sites within approximately 0.5 Miles of the subject property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CITY GARAGE	3RD / MARION (2101 S	0 - 1/8 SSW	3	10
GNB BATTERY, INC.	1901 S 4TH ST	1/8 - 1/4 NW	A7	15
SACO SERVICE STATION	1824 S 4TH ST	1/8 - 1/4 NNW	B9	16
WESTERN RESOURCES, LEAVENWORTH	1820 2ND AVE	1/4 - 1/2 NW	12	17

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Health & Environment's UST (Report) Listing Including Names.

A review of the UST list, as provided by EDR, and dated 04/01/1998 has revealed that there are 3 UST sites within approximately 0.25 Miles of the subject property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CENTURY VAN LINES INC	***211 MARION***	***0 - 1/8 S***	***2***	***9***
SACO PETROLEUM	1924 S 4TH ST	1/8 - 1/4 NW	A4	11
GNB INCORPORATED	1901 S 4TH ST	1/8 - 1/4 NW	A6	13

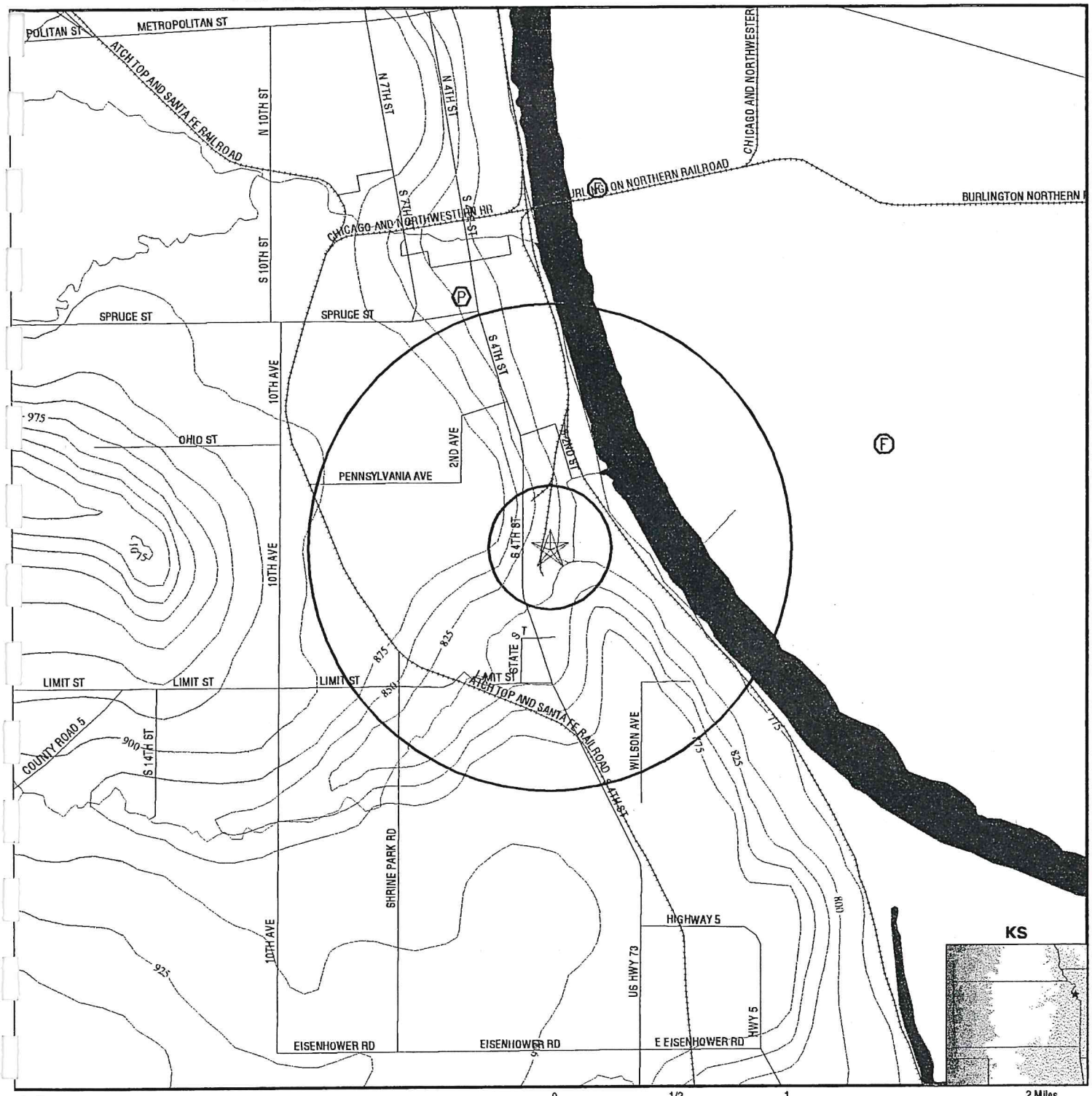
RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-SQG list, as provided by EDR, and dated 07/01/1998 has revealed that there are 4 RCRIS-SQG sites within approximately 0.25 Miles of the subject property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
GREAT WESTERN MFG CO	***2017 S 4TH ST***	***0 - 1/8 WNW***	***1***	***9***
CENTURY VAN LINES INC	***211 MARION***	***0 - 1/8 S***	***2***	***9***
ADVANCE AUTOMOTIVE	***319 MARION***	***1/8 - 1/4 SW***	***5***	***13***
G N B BATTERIES	***1825 S 4TH ST***	***1/8 - 1/4 NNW***	***B10***	***16***

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
LEAVENWORTH COAL GAS PLANT (FORMER)	SHWS
LEAVENWORTH LIGHT & HEATING (ELECT	SHWS
LEAVENWORTH PENITENTIARY	FINDS,SHWS
DOEGE, CARRIE	SHWS
LEAVENWORTH LANDFILL	LUST
KDOT, LEAVENWORTH	LUST
USD 453, SERVICE CENTER	LUST
OLD CITY SHOP, LV SHOP	LUST
BONNER SPRINGS, MAINTENANCE	UST
LEAVENWORTH COUNTY SHOP	UST
LEAVENWORTH, CITY OF, GARAGE	UST
USCG ANT LEAVENWORTH	UST
LEAVENWORTH, LANDFILL	AST
MANCE LAWN & GARDEN	RCRIS-SQG,FINDS
AMERICAN ROOFING	RCRIS-SQG
SHERWIN WILLIAMS STORE 7219	RCRIS-SQG
CITY OF LEAVENWORTH WELL FIELD	ERNS
FORT LEAVENWORTH ARMY DEPOT	ERNS
4 MILES WEST OF LEAVENWORTH KS, 1 MILE WEST OF COUNTY RD 33	ERNS
73 HIGHWAY OUTSIDE OF LEAVENWORTH, TO COUNTY RD 33, 1 MILE S	ERNS
LEAVENWORTH HIGH SCHOOL	FINDS
LEAVENWORTH CO HEALTH DEPT	FINDS



- Major Roads
- Contour Lines
- Waterways
- Earthquake epicenter, Richter 5 or greater
- (F) Closest Federal Well in quadrant
- [S] Closest State Well in quadrant
- (P) Closest Public Water Supply Well

TARGET PROPERTY:	Leavenworth Municipal Landfill	CUSTOMER:	
ADDRESS:	2110 S 3rd St	CONTACT:	Wood Ramsey
CITY/STATE/ZIP:	Leavenworth KS 66048	INQUIRY #:	301445.1s
LAT/LONG:	39.2967 / 94.9066	DATE:	October 09, 1998 5:12 pm

GEOCHECK VERSION 2.1
SUMMARY

TARGET PROPERTY COORDINATES

Latitude (North):	39.296741 - 39° 17' 48.3"
Longitude (West):	94.906570 - 94° 54' 23.7"
Universal Transverse Mercator:	Zone 15
UTM X (Meters):	5410783.5
UTM Y (Meters):	72314176.0

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property:	2439094-C8 LEAVENWORTH, KS MO

GEOLOGIC AGE IDENTIFICATION†

Geologic Code:	PP3
Era:	Paleozoic
System:	Pennsylvanian
Series:	Missourian Series

ROCK STRATIGRAPHIC UNIT†

Category:	Stratifed Sequence

GROUNDWATER FLOW INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, including well data collected on nearby properties, regional groundwater flow information (from deep aquifers), or surface topography.‡

AQUIFLOW™** Search Radius: 2.000 Miles

MAP ID	DISTANCE FROM TP	DIRECTION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported			

General Topographic Gradient at Target Property: General East
General Hydrogeologic Gradient at Target Property: No hydrogeologic data available.

FEDERAL DATABASE WELL INFORMATION

WELL QUADRANT	DISTANCE FROM TP	LITHOLOGY	DEPTH TO WATER TABLE
Northern	1 - 2 Miles	Alluvium	13 ft.
Eastern	1 - 2 Miles	Alluvium	7 ft.
Southern	>2 Miles	Not Reported	Not Reported

STATE DATABASE WELL INFORMATION

WELL QUADRANT	DISTANCE FROM TP
NO WELLS FOUND	

† Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).
‡ U.S. EPA Ground Water Handbook, Vol I: Ground Water and Contamination, Office of Research and development EPA/625/6-90/016a,Chapter 4, page 78, September 1990.
** EDR AQUIFLOW™ information System of hydrogeologically determined groundwater flow directions at specific locations. See the date pages at the end of this report for a complete description.

GEOCHECK VERSION 2.1
SUMMARY

PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest PWS.
NOTE: PWS System location is not always the same as well location.

PWS Name: LEAVENWORTH CO RWD 09
P O BOX 295 LORAN THOMAS CHMN
TONGANOXIE, KS 66086
Location Relative to TP: 1 - 2 Miles North
PWS currently has or has had major violation(s): Yes

AREA RADON INFORMATION

EPA Radon Zone for LEAVENWORTH County: 1

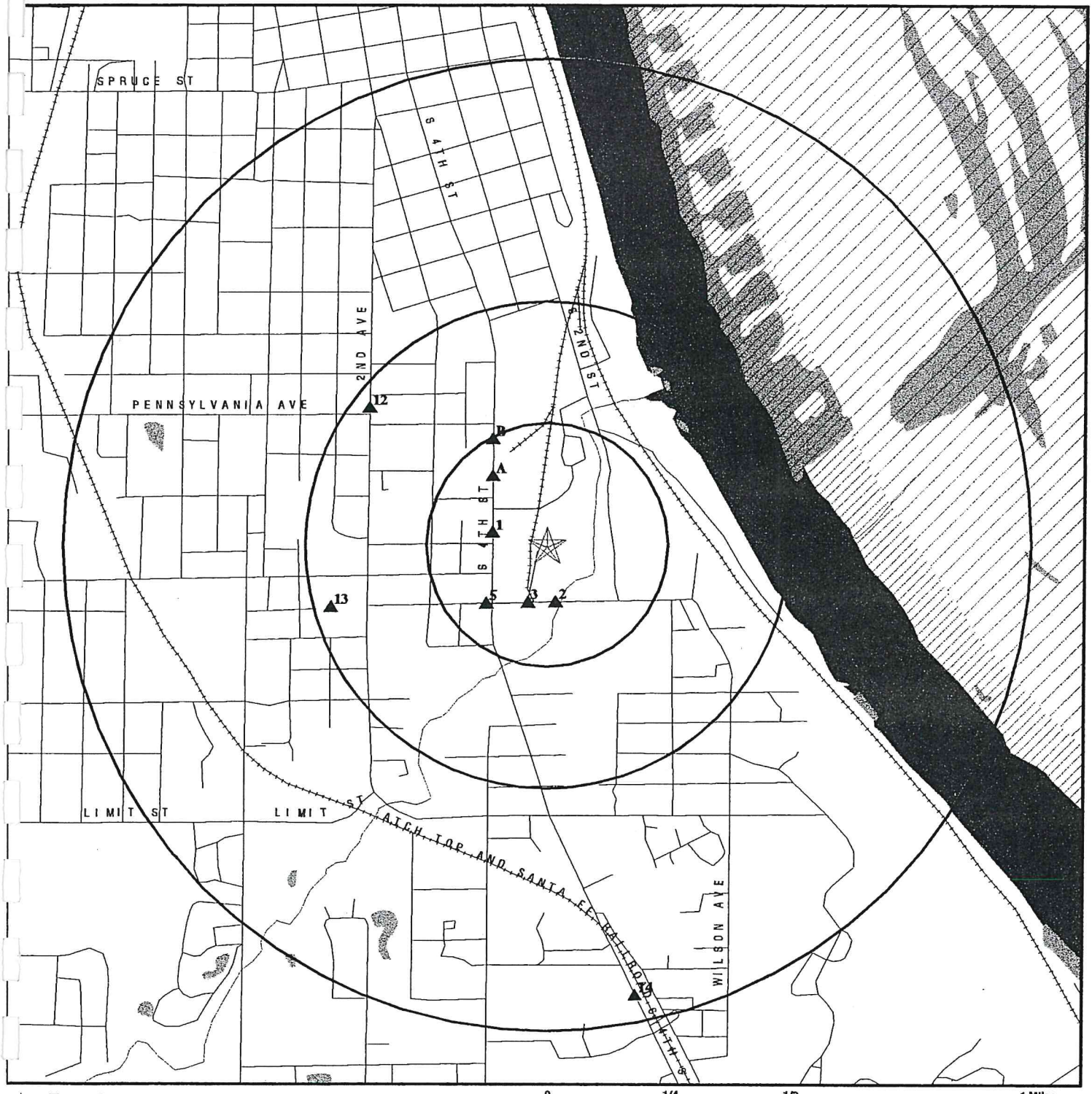
Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Zip Code: 66048

Number of sites tested: 14

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	2.875 pCi/L	75%	25%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	2.307 pCi/L	86%	14%	0%

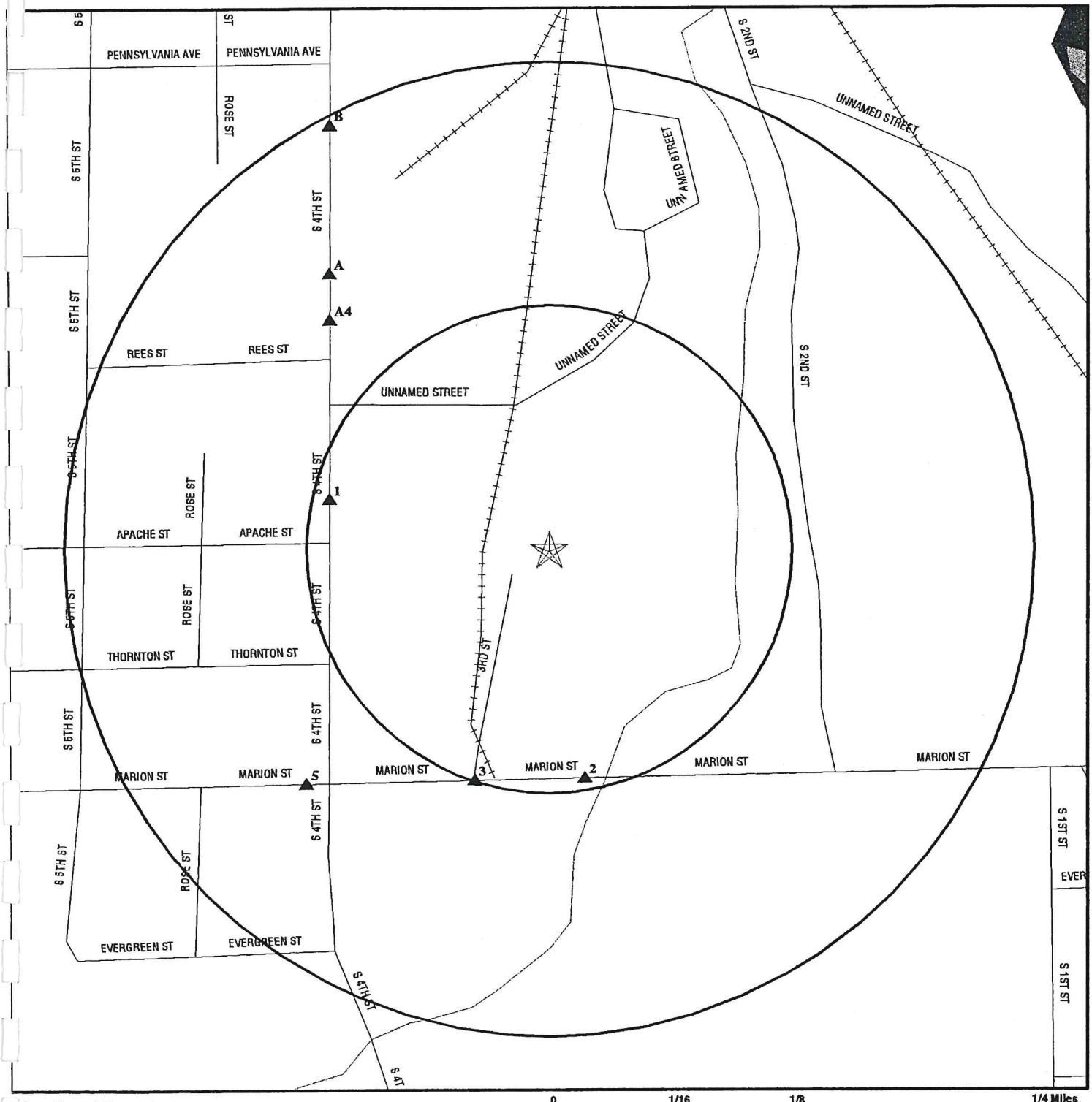
OVERVIEW MAP - 301445.1S -



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites (if requested)
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Wetlands per National Wetlands Inventory (1994)

TARGET PROPERTY:	Leavenworth Municipal Landfill	CUSTOMER:	
ADDRESS:	2110 S 3rd St	CONTACT:	Wood Ramsey
CITY/STATE/ZIP:	Leavenworth KS 66048	INQUIRY #:	301445.1s
LAT/LONG:	39.2967 / 94.9066	DATE:	October 09, 1998 5:10 pm

DETAIL MAP - 301445.1S - I



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- Coal Gasification Sites (if requested)
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- Wetlands per National Wetlands Inventory (1994)

TARGET PROPERTY:	Leavenworth Municipal Landfill	CUSTOMER:	
ADDRESS:	2110 S 3rd St	CONTACT:	Wood Ramsey
CITY/STATE/ZIP:	Leavenworth KS 66048	INQUIRY #:	301445.1s
LAT/LONG:	39.2967 / 94.9066	DATE:	October 09, 1998 5:11 pm

MAP FINDINGS SUMMARY SHOWING ALL SITES

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPL		1.000	0	0	0	0	NR	0
Delisted NPL		TP	NR	NR	NR	NR	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
State Haz. Waste		1.000	0	2	0	1	NR	3
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		TP	NR	NR	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	1	NR	NR	1
LUST		0.500	1	2	1	NR	NR	4
UST		0.250	1	2	NR	NR	NR	3
AST		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	2	2	NR	NR	NR	4
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
ROD		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
Coal Gas		1.000	0	0	0	0	NR	0

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

MAP FINDINGS SUMMARY SHOWING ONLY SITES HIGHER THAN OR THE SAME ELEVATION AS TP

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPL		1.000	0	0	0	0	NR	0
Delisted NPL		TP	NR	NR	NR	NR	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
State Haz. Waste		1.000	0	2	0	1	NR	3
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		TP	NR	NR	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	1	NR	NR	1
LUST		0.500	1	2	1	NR	NR	4
UST		0.250	1	2	NR	NR	NR	3
AST		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	2	2	NR	NR	NR	4
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
ROD		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
Coal Gas		1.000	0	0	0	0	NR	0

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

1
WNW
< 1/8
Higher

GREAT WESTERN MFG CO
2017 S 4TH ST
LEAVENWORTH, KS 66048

RCRIS-SQG **1000158717**
FINDS **KSD007136872**
TRIS

RCRIS:
Owner: JAMES C. SCHROEDER
(913) 682-2291
Contact: KARL ROMIG
(913) 682-2291
Record Date: 04/08/1993
Classification: Small Quantity Generator
Used Oil Recyc: No
Violation Status: No violations found

2
South
< 1/8
Higher

CENTURY VAN LINES INC
211 MARION
LEAVENWORTH, KS 66048

RCRIS-SQG **1000618266**
FINDS **KSD984993535**
UST

RCRIS:
Owner: TERRY SCHMIT
Contact: TERRY SCHMIT
(913) 651-3600
Record Date: 09/11/1991
Classification: Small Quantity Generator
Used Oil Recyc: No
Violation Status: No violations found

CENTURY VAN LINES INC (Continued) **1000618266**

UST:

Facility ID:	26223	Owner ID:	26223
Tank ID:	001	Capacity (Gals):	4000
Contact:	BARBARA CLARKDT	Facility Tel:	(913) 651-6930
Owner:	SCHMIDT, TERRY L 119 MARION LEAVENWORTH, KS 66048		
Owner GSA ID:	Not reported	Owner Tel:	(913) 651-3600
Federal Government:	No	State/Local Government:	No
Private/Corp:	Yes	Installation Year:	1979
Date Removed:	Not reported	QTY remaining in Tank:	Not reported
Tank currently in Use:	No	Tank temp out of Use:	No
Tank perm out of Use:	No	Tank Status:	Not reported
Tank Construction:	Steel		
Tank Internal Protection:	None		
Tank External Protection:	Painted		
Tank Piping:	Galvanized Steel		
Tank Content:	Diesel		
Tank Location:	Underground		
Owner Unknown:	No	Tank Exempt:	No
Active Asts:	0	Inactive Asts:	2
Active UST's:	0	Inactive UST's:	0
Principal CERCLA Substance/Chem Abstract Service Num:		Not reported	

Facility ID:	26223	Owner ID:	26223
Tank ID:	002	Capacity (Gals):	4000
Contact:	BARBARA CLARKDT	Facility Tel:	(913) 651-6930
Owner:	SCHMIDT, TERRY L 119 MARION LEAVENWORTH, KS 66048		
Owner GSA ID:	Not reported	Owner Tel:	(913) 651-3600
Federal Government:	No	State/Local Government:	No
Private/Corp:	Yes	Installation Year:	1979
Date Removed:	Not reported	QTY remaining in Tank:	Not reported
Tank currently in Use:	No	Tank temp out of Use:	No
Tank perm out of Use:	No	Tank Status:	Not reported
Tank Construction:	Steel		
Tank Internal Protection:	None		
Tank External Protection:	Painted		
Tank Piping:	Galvanized Steel		
Tank Content:	Gasoline		
Tank Location:	Underground		
Owner Unknown:	No	Tank Exempt:	No
Active Asts:	0	Inactive Asts:	2
Active UST's:	0	Inactive UST's:	0
Principal CERCLA Substance/Chem Abstract Service Num:		Not reported	

3
SSW
< 1/8
Higher

CITY GARAGE
3RD / MARION (2101 S 3RD?)
LEAVENWORT, KS 66048

LUST **S101835293**
N/A

CITY GARAGE (Continued) **S101835293**

LUST:
Facility ID: 08626
Project Name: LEAVENWORTH, GARAGE
Project Number: U405200868
Project Num Extension: A
Quarter Fraction of Section: NWNWSE
Section, Township, Range: 0922E36
Buried Tank Leak Assessment Date: 02/25/1991
Initial Report Date: 02/22/1991
Facility Status: CLOSED - a 'Closed' status indicates that according to the data available, levels of contamination at the site do not exceed cleanup levels set by the state.

A4 NW 1/8-1/4 Higher **SACO PETROLEUM** **UST** **U000195644**
1924 S 4TH ST **N/A**
LEAVENWORTH, KS 66048

UST:

Facility ID:	06464	Owner ID:	02522
Tank ID:	001	Capacity (Gals):	12000
Contact:	KIM SUTER	Facility Tel:	(816) 221-0755
Owner:	SACO PETROLEUM INC 1910 ARMOUR ROAD NORTH KANSAS CITY, MO 64116		
Owner GSA ID:	Not reported	Owner Tel:	(816) 221-0755
Federal Government:	No	State/Local Government:	No
Private/Corp:	Yes	Installation Year:	1978
Date Removed:	091990	QTY remaining in Tank:	0
Tank currently in Use:	No	Tank temp out of Use:	No
Tank perm out of Use:	Yes	Tank Status:	Removed
Tank Construction:	Steel		
Tank Internal Protection:	None		
Tank External Protection:	None		
Tank Piping:	Galvanized Steel		
Tank Content:	Gasoline		
Tank Location:	Underground		
Owner Unknown:	No	Tank Exempt:	No
Active Asts:	0	Inactive Asts:	0
Active UST's:	0	Inactive UST's:	4

Principal CERCLA Substance/Chem Abstract Service Num: Not reported

SACO PETROLEUM (Continued)

U000195644

Facility ID: 06464
Tank ID: 002
Contact: KIM SUTER
Owner: SACO PETROLEUM INC
1910 ARMOUR ROAD
NORTH KANSAS CITY, MO 64116
Owner GSA ID: Not reported
Federal Government: No
Private/Corp: Yes
Date Removed: 091990
Tank currently in Use: No
Tank perm out of Use: Yes
Tank Construction: Steel
Tank Internal Protection: None
Tank External Protection: None
Tank Piping: Galvanized Steel
Tank Content: Gasoline
Tank Location: Underground
Owner Unknown: No
Active Asts: 0
Active UST's: 0
Principal CERCLA Substance/Chem Abstract Service Num:

Owner ID: 02522
Capacity (Gals): 3000
Facility Tel: (816) 221-0755

Owner Tel: (816) 221-0755
State/Local Government: No
Installation Year: 1966
QTY remaining in Tank: 0
Tank temp out of Use: No
Tank Status: Removed

Tank Exempt: No
Inactive Asts: 0
Inactive UST's: 4
Not reported

Facility ID: 06464
Tank ID: 003
Contact: KIM SUTER
Owner: SACO PETROLEUM INC
1910 ARMOUR ROAD
NORTH KANSAS CITY, MO 64116
Owner GSA ID: Not reported
Federal Government: No
Private/Corp: Yes
Date Removed: 091990
Tank currently in Use: No
Tank perm out of Use: Yes
Tank Construction: Steel
Tank Internal Protection: None
Tank External Protection: None
Tank Piping: Galvanized Steel
Tank Content: Gasoline
Tank Location: Underground
Owner Unknown: No
Active Asts: 0
Active UST's: 0
Principal CERCLA Substance/Chem Abstract Service Num:

Owner ID: 02522
Capacity (Gals): 3000
Facility Tel: (816) 221-0755

Owner Tel: (816) 221-0755
State/Local Government: No
Installation Year: 1966
QTY remaining in Tank: 0
Tank temp out of Use: No
Tank Status: Removed

Tank Exempt: No
Inactive Asts: 0
Inactive UST's: 4
Not reported

SACO PETROLEUM (Continued) **U000195644**

Facility ID:	06464	Owner ID:	02522
Tank ID:	004	Capacity (Gals):	3000
Contact:	KIM SUTER	Facility Tel:	(816) 221-0755
Owner:	SACO PETROLEUM INC 1910 ARMOUR ROAD NORTH KANSAS CITY, MO 64116		
Owner GSA ID:	Not reported	Owner Tel:	(816) 221-0755
Federal Government:	No	State/Local Government:	No
Private/Corp:	Yes	Installation Year:	1966
Date Removed:	091990	QTY remaining in Tank:	0
Tank currently in Use:	No	Tank temp out of Use:	No
Tank perm out of Use:	Yes	Tank Status:	Removed
Tank Construction:	Steel		
Tank Internal Protection:	None		
Tank External Protection:	None		
Tank Piping:	Galvanized Steel		
Tank Content:	Gasoline		
Tank Location:	Underground		
Owner Unknown:	No	Tank Exempt:	No
Active Asts:	0	Inactive Asts:	0
Active UST's:	0	Inactive UST's:	4
Principal CERCLA Substance/Chem Abstract Service Num:		Not reported	

---

5 SW 1/8-1/4 Higher

ADVANCE AUTOMOTIVE
319 MARION
LEAVENWORTH, KS 66048

RCRIS-SQG **1000908012**
FINDS **KS0000792291**

RCRIS:

Owner:	RICK SAMMONS (913) 651-2079
Contact:	RICK SAMMONS (913) 651-2079
Record Date:	09/19/1994
Classification:	Small Quantity Generator
Used Oil Recyc:	No
Violation Status:	No violations found

A6 NW 1/8-1/4 Higher

GNB INCORPORATED
1901 S 4TH ST
LEAVENWORTH, KS 66048

UST **U001735780**
N/A

GNB INCORPORATED (Continued) **U001735780**

UST:

Facility ID:	25420	Owner ID:	23487
Tank ID:	001	Capacity (Gals):	550
Contact:	DON W GRAY	Facility Tel:	(913) 682-1551
Owner:	GNB INCORPORATED 1110 HIGHWAY 110 MENDOTA HEIGHTS, MN 55118		
Owner GSA ID:	Not reported	Owner Tel:	(612) 681-5000
Federal Government:	No	State/Local Government:	No
Private/Corp:	Yes	Installation Year:	1978
Date Removed:	031989	QTY remaining in Tank:	0
Tank currently in Use:	No	Tank temp out of Use:	No
Tank perm out of Use:	Yes	Tank Status:	Removed
Tank Construction:	Steel		
Tank Internal Protection:	Unknown		
Tank External Protection:	Unknown		
Tank Piping:	Unknown		
Tank Content:	Gasoline		
Tank Location:	Underground		
Owner Unknown:	No	Tank Exempt:	No
Active Asts:	0	Inactive Asts:	0
Active UST's:	0	Inactive UST's:	4
Principal CERCLA Substance/Chem Abstract Service Num:		Not reported	

Facility ID:	25420	Owner ID:	23487
Tank ID:	002	Capacity (Gals):	1000
Contact:	DON W GRAY	Facility Tel:	(913) 682-1551
Owner:	GNB INCORPORATED 1110 HIGHWAY 110 MENDOTA HEIGHTS, MN 55118		
Owner GSA ID:	Not reported	Owner Tel:	(612) 681-5000
Federal Government:	No	State/Local Government:	No
Private/Corp:	Yes	Installation Year:	1961
Date Removed:	031989	QTY remaining in Tank:	0
Tank currently in Use:	No	Tank temp out of Use:	No
Tank perm out of Use:	Yes	Tank Status:	Removed
Tank Construction:	Steel		
Tank Internal Protection:	Unknown		
Tank External Protection:	Unknown		
Tank Piping:	Unknown		
Tank Content:	Diesel		
Tank Location:	Underground		
Owner Unknown:	No	Tank Exempt:	No
Active Asts:	0	Inactive Asts:	0
Active UST's:	0	Inactive UST's:	4
Principal CERCLA Substance/Chem Abstract Service Num:		Not reported	

GNB INCORPORATED (Continued) **U001735780**

Facility ID:	25420	Owner ID:	23487
Tank ID:	003	Capacity (Gals):	1000
Contact:	DON W GRAY	Facility Tel:	(913) 682-1551
Owner:	GNB INCORPORATED 1110 HIGHWAY 110 MENDOTA HEIGHTS, MN 55118		
Owner GSA ID:	Not reported	Owner Tel:	(612) 681-5000
Federal Government:	No	State/Local Government:	No
Private/Corp:	Yes	Installation Year:	1961
Date Removed:	031989	QTY remaining in Tank:	0
Tank currently in Use:	No	Tank temp out of Use:	No
Tank perm out of Use:	Yes	Tank Status:	Removed
Tank Construction:	Steel		
Tank Internal Protection:	Unknown		
Tank External Protection:	Unknown		
Tank Piping:	Unknown		
Tank Content:	Diesel		
Tank Location:	Underground		
Owner Unknown:	No	Tank Exempt:	No
Active Asts:	0	Inactive Asts:	0
Active UST's:	0	Inactive UST's:	4
Principal CERCLA Substance/Chem Abstract Service Num:		Not reported	

Facility ID:	25420	Owner ID:	23487
Tank ID:	004	Capacity (Gals):	UNKNOWN
Contact:	DON W GRAY	Facility Tel:	(913) 682-1551
Owner:	GNB INCORPORATED 1110 HIGHWAY 110 MENDOTA HEIGHTS, MN 55118		
Owner GSA ID:	Not reported	Owner Tel:	(612) 681-5000
Federal Government:	No	State/Local Government:	No
Private/Corp:	Yes	Installation Year:	1900
Date Removed:	Not reported	QTY remaining in Tank:	Not reported
Tank currently in Use:	No	Tank temp out of Use:	No
Tank perm out of Use:	Yes	Tank Status:	Removed
Tank Construction:	Unknown		
Tank Internal Protection:	Unknown		
Tank External Protection:	Unknown		
Tank Piping:	Unknown		
Tank Content:	Empty		
Tank Location:	Underground		
Owner Unknown:	No	Tank Exempt:	No
Active Asts:	0	Inactive Asts:	0
Active UST's:	0	Inactive UST's:	4
Principal CERCLA Substance/Chem Abstract Service Num:		Not reported	

A7 **GNB BATTERY, INC.** **LUST** **S102688644**
NW **1901 S 4TH ST** **N/A**
1/8-1/4 **LEAVENWORT, KS**
Higher

GNB BATTERY, INC. (Continued) **S102688644**

LUST:
- Facility ID: 25420
- Project Name: GNB BATTERY
- Project Number: U405200207
- Project Num Extension: Not reported
- Quarter Fraction of Section: SW
- Section, Township, Range: 0922E01
- Buried Tank Leak Assessment Date: 03/29/1989
- Initial Report Date: 04/28/1989
- Facility Status: CLOSED - a 'Closed' status indicates that according to the data available, levels of contamination at the site do not exceed cleanup levels set by the state.

A8 NW 1/8-1/4 Higher | **GNB BATTERIES, INC.** | **SHWS** | **S101713565** **N/A**
1901 S 4TH ST
LEAVENWORT, KS

SHWS:
- Contaminants: ACID,VOC,HEAVY METAL,REFINED PETROLEUM,OTHER
- Contaminated Media: GROUNDWATER,SOIL
- Source: UNDERGROUND TANK/PIPING,NON-CITY/COUNTY LANDFILL,O
- Closed Status: Active Site
- Site Fractions: Not reported
- Site S/T/R: 0922E12

B9 NNW 1/8-1/4 Higher | **SACO SERVICE STATION** | **LUST** | **S101835276** **N/A**
1824 S 4TH ST
LEAVENWORT, KS

LUST:
- Facility ID: 06464
- Project Name: SACO SERVICE
- Project Number: U405200638
- Project Num Extension: Not reported
- Quarter Fraction of Section: NESW
- Section, Township, Range: 0822E36
- Buried Tank Leak Assessment Date: 09/18/1990
- Initial Report Date: 09/04/1990
- Facility Status: CLOSED - a 'Closed' status indicates that according to the data available, levels of contamination at the site do not exceed cleanup levels set by the state.

B10 NNW 1/8-1/4 Higher | **G N B BATTERIES** | **FINDS** **1000138217**
1825 S 4TH ST | **RCRIS-SQG** **KSD007150477**
LEAVENWORTH, KS 66048 | **TRIS**
CERC-NFRAP

CERCLIS-NFRAP Classification Data:
- Site Incident Category: Not reported
- Ownership Status: Private
- Federal Facility: Not a Federal Facility
- NPL Status: Not on the NPL

CERCLIS-NFRAP Assessment History:
- Assessment: DISCOVERY — Completed: 01-SEP-83
- Assessment: PRELIMINARY ASSESSMENT — Completed: 01-NOV-83

CERCLIS-NFRAP Alias Name(s):
- G N B BATTERIES (FINDS)
- GNB BATTERIES INC SUBSD OF GOULD INC

G N B BATTERIES (Continued) **1000138217**

RCRIS:
Owner: GNB TECHNOLOGIES
(404) 551-0300
Contact: LAWRENCE PELLMAN
(913) 682-1551
Record Date: 03/02/1998
Classification: Conditionally Exempt Small Quantity Generator
Used Oil Recyc: No
Violation Status: Violations exist

There are 1 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Compliance Evaluation Inspection (CEI)	Generator-All Requirements	03/30/1989

B11
NNW
1/8-1/4
Higher

GNB BATTERIES - VCP **SHWS** **S102282561**
1825 S 4TH ST **N/A**
LEAVENWORT, KS

SHWS:
Contaminants: VOC,REFINED PETROLEUM
Contaminated Media: GROUNDWATER,SOIL
Source: UNDERGROUND TANK/PIPING,NON-CITY/COUNTY LANDFILL
Closed Status: Active Site
Site Fractions: NWSWNE
Site S/T/R: 0922E01

12
NW
1/4-1/2
Higher

WESTERN RESOURCES, LEAVENWORTH **LUST** **S101835348**
1820 2ND AVE **N/A**
LEAVENWORT, KS

LUST:
Facility ID: 25611
Project Name: WESTERN RESOURCES
Project Number: U405201708
Project Num Extension: Not reported
Quarter Fraction of Section: SW
Section, Township, Range: 0822E36
Buried Tank Leak Assessment Date: 08/29/1994
Initial Report Date: 08/29/1994
Facility Status: CLOSED - a 'Closed' status indicates that according to the data available, levels of contamination at the site do not exceed cleanup levels set by the state.

13
WSW
1/4-1/2
Higher

CITY OF LEAVENWORTH GARAGE **RCRIS-SQG** **1000430281**
2101 S 3RD **FINDS** **KSD980632210**
LEAVENWORTH, KS 66048 **CERC-NFRAP**
SWF/LF

CITY OF LEAVENWORTH GARAGE (Continued) **1000430281**

CERCLIS-NFRAP Classification Data:
Site Incident Category: Not reported
Ownership Status: Other
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL

CERCLIS-NFRAP Assessment History:

Assessment:	DISCOVERY	Completed: 01-JUN-81
Assessment:	PRELIMINARY ASSESSMENT	Completed: 01-AUG-83
Assessment:	PRELIMINARY ASSESSMENT	Completed: 05-APR-85
Assessment:	SITE INSPECTION	Completed: 05-APR-85

CERCLIS-NFRAP Alias Name(s):
LEAVENWORTH MUNICIPAL GARAGE
CITY OF LEAVENWORTH GARAGE (FINDS)

RCRIS:
Owner: CITY OF LEAVENWORTH
(913) 682-9201
Contact: ROBERT PATZWALD
(913) 682-0650
Record Date: 06/03/1987
Classification: Small Quantity Generator
Used Oil Recyc: No
Violation Status: Violations exist

There are 4 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Compliance Schedule Evaluation (CSE)	Generator-All Requirements	04/24/1992
	Generator-All Requirements	04/24/1992
Compliance Evaluation Inspection (CEI)	Generator-All Requirements	04/24/1992
	Generator-All Requirements	04/24/1992

LF:
Facility ID: 0155
Fractions: SW
Township: 09
Owner Type: City Owned
Contact: ROBERT PATZWALD
Mailing Address: 5TH & SHAWNEE
LEAVENWORTH, KS 66048
Facility Status Closed
Facility Type: Closed
Solid Waste Type: Municipal Solid Waste
Tire Types: Not reported
Facility Phone: 913-682-0650
Section: 30
Range: 22E

Facility ID: 0336
Fractions: NE1/4
Township: 09
Owner Type: City Owned
Contact: R.D. PATZWALD
Mailing Address: CITY HALL
LEAVENWORTH, KS 66048
Facility Status Closed
Facility Type: Closed
Solid Waste Type: Construction/Demolition
Tire Types: Not reported
Facility Phone: 913-682-9201
Section: 01
Range: 22E

Map ID / Direction / Distance / Elevation	Site	Database(s)	EDR ID Number / EPA ID Number
14 SSE 1/2-1 Higher	**SONNY HILL JEEP EAGLE - LEAVENWORTH** **3501 S 4TH ST** **LEAVENWORT, KS**	**SHWS**	**S102522650** **N/A**

SHWS:

Contaminants:	VOC,REFINED PETROLEUM
Contaminated Media:	GROUNDWATER,SURFACE WATER,SOIL
Source:	MINING,OTHER
Closed Status:	Active Site
Site Fractions:	SENE
Site S/T/R:	0922E12

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)	Facility ID
BONNER SPRINGS	U003193968	BONNER SPRINGS, MAINTENANCE	KTA MILEPOST 226 & HWY 7	66048	UST	26564
LANSING	1000703989	MANCE LAWN & GARDEN	HWY 73 S 1 M	66048	RCRIS-SQG, FINDS	
LEAVENWORT	S102688651	LEAVENWORTH LANDFILL	RR 2	66048	LUST	28997
LEAVENWORT	S101835270	KDOT, LEAVENWORTH	16486 SPRINGDALE RD	66048	LUST	26642
LEAVENWORTH	1000617433	LEAVENWORTH HIGH SCHOOL	10TH & HALDERMA	66048	FINDS	
LEAVENWORTH	U000870868	LEAVENWORTH COUNTY SHOP	23690 - 187	66048	UST	04477
LEAVENWORTH	1001219335	AMERICAN ROOFING	2500 S 2ND ST (B)	66048	RCRIS-SQG	
LEAVENWORTH	U000196730	LEAVENWORTH, CITY OF, GARAGE	2101 S 3RD	66048	UST	08286
LEAVENWORTH	1001219363	SHERWIN WILLIAMS STORE 7219	3425 S 4TH ST	66048	RCRIS-SQG	
LEAVENWORTH	S101835303	USD 453, SERVICE CENTER	3RD / CHOCATU		LUST	27031
LEAVENWORTH	8720615	CITY OF LEAVENWORTH WELL FIELD	CITY OF LEAVENWORTH WELL FIELD		ERNS	
LEAVENWORTH	1000763739	LEAVENWORTH CO HEALTH DEPT	COUNTY SHOP CO RT 29 & 5	66048	FINDS	
LEAVENWORTH	U002234111	USCG ANT LEAVENWORTH	FOOT OF DAKOTA ST	66048	UST	27611
LEAVENWORTH	874373	FORT LEAVENWORTH ARMY DEPOT	FORT LEAVENWORTH ARMY DEPOT		ERNS	
LEAVENWORTH	A100053407	LEAVENWORTH, LANDFILL	GILMAN ROAD	66048	AST	40142
LEAVENWORTH	S101713568	LEAVENWORTH COAL GAS PLANT (FORMER)	LOT 1,BLK N / LOTS 1-3,9-10,BLK85		SHWS	
LEAVENWORTH	S103177520	LEAVENWORTH LIGHT & HEATING (ELECT	LOTS 4,5,6 OF BLOCK 82		SHWS	
LEAVENWORTH	S102688649	OLD CITY SHOP, LV SHOP	3RD / MARION (2101 S 3RD?)_		LUST	08286
LEAVENWORTH	89112294	4 MILES WEST OF LEAVENWORTH KS, 1 MILE WEST OF COUNTY RD 33	4 MILES WEST OF LEAVENWORTH KS, 1 MILE WEST OF COUNTY RD 33		ERNS	
LEAVENWORTH	89112201	73 HIGHWAY OUTSIDE OF LEAVENWORTH, TO COUNTY RD 33, 1 MILE S	73 HIGHWAY OUTSIDE OF LEAVENWORTH, TO COUNTY RD 33, 1 MILE S		ERNS	
LEAVENWORTH	1000617360	LEAVENWORTH PENITENTIARY	KS. STATE PEN	66048	FINDS, SHWS	
LEAVENWORTH COUNTY	S101713564	DOEGE, CARRIE	RT 2		SHWS	

GEOCHECK VERSION 2.1 ADDENDUM
FEDERAL DATABASE WELL INFORMATION

Well Closest to Target Property (Northern Quadrant)

BASIC WELL DATA

Site ID:	391905094541001	Distance from TP:	1 - 2 Miles
Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1966	County:	Platte
Altitude:	762.00 ft.	State:	Missouri
Well Depth:	31.00 ft.	Topographic Setting:	Valley flat
Depth to Water Table:	13.40 ft.	Prim. Use of Site:	Observation
Date Measured:	03301966	Prim. Use of Water:	Unused

LITHOLOGIC DATA

Geologic Age ID (Era/System/Series):	Cenozoic-Quaternary
Principal Lithology of Unit:	Alluvium
Further Description:	Not Reported

WATER LEVEL VARIABILITY

Water Level:	13.40 ft.	Water Level:	13.41 ft.	Water Level:	12.80 ft.	Water Level:	13.36 ft.
Date Measured:	03/30/66	Date Measured:	05/10/66	Date Measured:	06/23/66	Date Measured:	07/21/66
Water Level:	13.32 ft.	Water Level:	13.75 ft.	Water Level:	13.88 ft.	Water Level:	14.78 ft.
Date Measured:	08/29/66	Date Measured:	09/19/66	Date Measured:	10/05/66	Date Measured:	11/06/66
Water Level:	13.99 ft.	Water Level:	16.00 ft.	Water Level:	14.95 ft.	Water Level:	15.66 ft.
Date Measured:	11/08/66	Date Measured:	01/03/67	Date Measured:	02/14/67	Date Measured:	03/06/67
Water Level:	12.32 ft.	Water Level:	12.59 ft.	Water Level:	11.15 ft.	Water Level:	8.59 ft.
Date Measured:	04/25/67	Date Measured:	05/15/67	Date Measured:	06/02/67	Date Measured:	07/11/67
Water Level:	12.21 ft.	Water Level:	13.31 ft.				
Date Measured:	08/28/67	Date Measured:	01/12/68				

GEOCHECK VERSION 2.1
FEDERAL DATABASE WELL INFORMATION

Well Closest to Target Property (Eastern Quadrant)

BASIC WELL DATA

Site ID:	391810094525101	Distance from TP:	1 - 2 Miles
Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1966	County:	Platte
Altitude:	760.00 ft.	State:	Missouri
Well Depth:	25.00 ft.	Topographic Setting:	Valley flat
Depth to Water Table:	7.19 ft.	Prim. Use of Site:	Observation
Date Measured:	03301966	Prim. Use of Water:	Unused

LITHOLOGIC DATA

Geologic Age ID (Era/System/Series):	Cenozoic-Quaternary
Principal Lithology of Unit:	Alluvium
Further Description:	Not Reported

WATER LEVEL VARIABILITY

Water Level:	7.19 ft.	Water Level:	5.87 ft.	Water Level:	6.78 ft.
Date Measured:	03/30/66	Date Measured:	06/23/66	Date Measured:	01/12/68

GEOCHECK VERSION 2.1
FEDERAL DATABASE WELL INFORMATION

Well Closest to Target Property (Southern Quadrant)

BASIC WELL DATA

Site ID:	391523094513901	Distance from TP:	>2 Miles
Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Leavenworth
Altitude:	Not Reported	State:	Kansas
Well Depth:	Not Reported	Topographic Setting:	Not Reported
Depth to Water Table:	Not Reported	Prim. Use of Site:	Observation
Date Measured:	Not Reported	Prim. Use of Water:	Not Reported

LITHOLOGIC DATA

Not Reported

WATER LEVEL VARIABILITY

Not Reported

GEOCHECK VERSION 2.1
PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest PWS.

PWS SUMMARY:

PWS ID:	KS2010308	PWS Status:	Active	Distance from TP:	1 - 2 Miles
Date Initiated:	July / 1931	Date Deactivated:	Not Reported	Dir relative to TP:	North
PWS Name:	LEAVENWORTH CO RWD 09				
	P O BOX 295 LORAN THOMAS CHMN				
	TONGANOXIE, KS 66086				
Addressee / Facility:	Not Reported				
Facility Latitude:	39 06 34		Facility Longitude:	095 05 15	
Facility Latitude:	39 18 42		Facility Longitude:	094 54 48	
City Served:	TONGANOXIE				
Treatment Class:	Treated		Population Served:	1,001 - 2,500 Persons	

PWS currently has or has had major violation(s): Yes

VIOLATIONS INFORMATION:

Violation ID:	9400698	Source ID:	Not Reported	PWS Phone:	Not Reported
Vio. beginning Date:	01/01/94	Vio. end Date:	06/30/94	Vio. Period:	6 Months
Num of required Samples:	Not Reported	Number of Samples Taken:		Not Reported	
Analysis Result:	Not Reported	Maximum Contaminant Level:		Not Reported	
Analysis Method:	Not Reported				
Violation Type:	Initial Tap Sampling for Pb and Cu				
Contaminant:	LEAD & COPPER RULE				
Vio. Awareness Date:	Not Reported				

Violation ID:	9300809	Source ID:	Not Reported	PWS Phone:	Not Reported
Vio. beginning Date:	07/01/93	Vio. end Date:	12/31/93	Vio. Period:	6 Months
Num of required Samples:	Not Reported	Number of Samples Taken:		Not Reported	
Analysis Result:	Not Reported	Maximum Contaminant Level:		Not Reported	
Analysis Method:	Not Reported				
Violation Type:	Initial Tap Sampling for Pb and Cu				
Contaminant:	LEAD & COPPER RULE				
Vio. Awareness Date:	Not Reported				

ENFORCEMENT INFORMATION:

Violation Type:	Initial Tap Sampling for Pb and Cu		
Compliance Period:	07/01/93 - 12/31/93		
Contaminant:	LEAD & COPPER RULE		
Enforcement Date:	Not Reported	Enf. Action:	Not Reported
Violation Type:	Initial Tap Sampling for Pb and Cu		
Compliance Period:	01/01/94 - 06/30/94		
Contaminant:	LEAD & COPPER RULE		
Enforcement Date:	Not Reported	Enf. Action:	Not Reported

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM RECORDS:

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/27/98
Date Made Active at EDR: 10/06/98
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 09/03/98
Elapsed ASTM days: 33
Date of Last EDR Contact: 08/27/98

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/30/98
Date Made Active at EDR: 07/20/98
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 07/14/98
Elapsed ASTM days: 6
Date of Last EDR Contact: 07/10/98

NPL: National Priority List
Source: EPA
Telephone: 703-603-8852
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC).

Date of Government Version: 03/06/98
Date Made Active at EDR: 07/09/98
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 06/09/98
Elapsed ASTM days: 30
Date of Last EDR Contact: 09/21/98

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 07/01/98
Date Made Active at EDR: 10/06/98
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 08/27/98
Elapsed ASTM days: 40
Date of Last EDR Contact: 08/14/98

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/15/97
Date Made Active at EDR: 02/02/98
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 01/05/98
Elapsed ASTM days: 28
Date of Last EDR Contact: 08/14/98

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-260-3936
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/22/97
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 08/18/98
Date of Next Scheduled EDR Contact: 11/16/98

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned

Date of Last EDR Contact: 09/14/98
Date of Next Scheduled EDR Contact: 12/14/98

ROD: Records Of Decision
Source: NTIS
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 03/31/95
Database Release Frequency: Annually

Date of Last EDR Contact: 09/03/98
Date of Next Scheduled EDR Contact: 11/30/98

TRIS: Toxic Chemical Release Inventory System
Source: EPA/NTIS
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/95
Database Release Frequency: Annually

Date of Last EDR Contact: 09/28/98
Date of Next Scheduled EDR Contact: 12/28/98

TSCA: Toxic Substances Control Act
Source: EPA/NTIS
Telephone: 202-260-1444
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site. USEPA has no current plan to update and/or re-issue this database.

Date of Government Version: 12/31/94
Database Release Frequency: Annually

Date of Last EDR Contact: 07/22/98
Date of Next Scheduled EDR Contact: 10/26/98

STATE OF KANSAS ASTM RECORDS:

LUST: Leaking Underground Storage Tank Data
Source: Department of Health and Environment
Telephone: 913-296-1685
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 04/01/98
Date Made Active at EDR: 06/10/98
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 05/08/98
Elapsed ASTM days: 33
Date of Last EDR Contact: 10/05/98

SHWS: Identified Sites List
Source: Department of Health and Environment
Telephone: 913-296-1660
State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 07/14/97
Date Made Active at EDR: 08/25/97
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 07/17/97
Elapsed ASTM days: 39
Date of Last EDR Contact: 08/17/98

LF: Directory of Sanitary Landfills, Solid Waste Transfer Stations and Collector in Kansas
Source: Department of Health and Environment
Telephone: 913-296-1590
Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/28/98
Date Made Active at EDR: 07/23/98
Database Release Frequency: Annually
Date of Data Arrival at EDR: 06/25/98
Elapsed ASTM days: 28
Date of Last EDR Contact: 08/24/98

UST: Underground Storage Tank Data
Source: Department of Health and Environment
Telephone: 913-296-1685
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 04/01/98
Date Made Active at EDR: 06/10/98
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 05/08/98
Elapsed ASTM days: 33
Date of Last EDR Contact: 10/05/98

STATE OF KANSAS NON-ASTM RECORDS:

AST: Aboveground Storage Tank Data
Source: Department of Health and Environment
Telephone: 913-296-1685
Registered Aboveground Storage Tanks.

Date of Government Version: 04/01/98
Database Release Frequency: Quarterly
Date of Last EDR Contact: 10/05/98
Date of Next Scheduled EDR Contact: 01/04/99

Historical and Other Database(s)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

DELISTED NPL: NPL Deletions
Source: EPA
Telephone: 703-603-8769
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/06/98
Date Made Active at EDR: 07/09/98
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 06/09/98
Elapsed ASTM days: 30
Date of Last EDR Contact: 09/28/98

NFRAP: No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 08/27/98
Date Made Active at EDR: 10/03/98
Database Release Frequency: Quarterly

Date of Data Arrival at EDR: 09/03/98
Elapsed ASTM days: 30
Date of Last EDR Contact: 08/27/98

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SWDIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

Area Radon Information: The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones: Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1996 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in March 1997 from the U.S. Fish and Wildlife Service.

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Water Dams: National Inventory of Dams
Source: Federal Emergency Management Agency
Telephone: 202-646-2801
National computer database of more than 74,000 dams maintained by the Federal Emergency Management Agency.

Kansas Water Well Locations
Source: Kansas Geological Survey
Telephone: 913-864-3965

APPENDIX D

Aerial Photographs

SCALE: 1" = 1000'

Photo taken in 1966

North

SCALE: 1" = 900'

Photo taken in 1976

North

APPENDIX E

Potential Hazardous Waste Site/Preliminary Inspection Report

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

EPA

I. IDENTIFICATION
01 STATE: KS | 02 SITE NUMBER: 000010134

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Leavenworth Municipal Garage	3rd & Marion Streets				
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 COUNTY CODE**	**08 CONG DIST**
Leavenworth	KS	66048	Leavenworth		

09 COORDINATES: LATITUDE 39° 17' 47" | LONGITUDE 94° 54' 22"

10 TYPE OF OWNERSHIP (Check one): ☐ A. PRIVATE ☐ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☒ E. MUNICIPAL ☐ F. OTHER ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
10, 31, 84 (MONTH DAY YEAR)	☐ ACTIVE ☒ INACTIVE	1968 (BEGINNING YEAR) 1972 (ENDING YEAR) ☐ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
☐ A. EPA ☒ B. EPA CONTRACTOR Ecology & Environment (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR (Name of firm)
☐ E. STATE ☐ F. STATE CONTRACTOR (Name of firm) ☐ G. OTHER (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO
Michael LaBuda		FIT	(913) 432-9961
09 OTHER INSPECTORS	**10 TITLE**	**11 ORGANIZATION**	**12 TELEPHONE NO**
			( )
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Robert Patzwald	Refuse Dir.	Leavenworth, Ks.	(913) 682-9201
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT		

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO
Robert Patzwald	Director of Refuse-Leavenworth, Ks.	(913) 682-9201

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Michael LaBuda	E&E	FIT	913-432-9961	4, 24, 85 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
KS	000010134

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- X A SOLID
- B POWDER, FINES
- C SLUDGE
- E SLURRY
- F LIQUID
- G GAS
- D OTHER _____ (Specify)

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

- TONS unknown
- CUBIC YARDS _____
- NO OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)

- X A TOXIC
- B CORROSIVE
- C RADIOACTIVE
- X D PERSISTENT
- E SOLUBLE
- F INFECTIOUS
- G FLAMMABLE
- H IGNITABLE
- I HIGHLY VOLATILE
- J EXPLOSIVE
- K REACTIVE
- L INCOMPATIBLE
- M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			mercury, potassium, vanadium
ACD	ACIDS			aluminum, barium, calcium,
BAS	BASES			chromium, copper, iron, magnesium,
MES	HEAVY METALS			manganese, lead, nickel, zinc

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	lead		landfill	260.	ppm
	nickel		"	31.0	"
	zinc		"	290.	"
	aluminum		"	12,000.	"
	barium		"	190.	"
	calcium		"	19,000.	"
	copper		"	21.0	"
	iron		"	16.0	"
	magnesium		"	27,000.	"
	manganese		"	5,800.	"
	mercury		"	700.	"
	potassium		"	.23	"
	vanadium		"	2,100.	"
				35.0	"

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

E.P.A. Region VII Files
Site visits Sept. 12,13, Oct. 31, 1985
Sample analysis data

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
KS	000010134

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: none known — 04 NARRATIVE DESCRIPTION

01 ☐ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: none — 04 NARRATIVE DESCRIPTION

Five mile Creek contains various heavy metals, See Table 6.1 of text. Population shoud not be affected due to Five mile Creek not being used for drinking or recreation.

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: none known — 04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: none — 04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: none — 04 NARRATIVE DESCRIPTION

Area is secured by a fence. Landfill was covered in Sept. 1985 with additional 6-12 inches of soil.

01 ☒ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: unknown (Acres) — 04 NARRATIVE DESCRIPTION

Soil analysis revealed heavy metal contamination in the area of landfill sampled Site is secured and additional soil has been placed over landfill.

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: none — 04 NARRATIVE DESCRIPTION

Stream is not used for drinking or recreational purposes. Drinking water intake is approximately 3 miles upstream, from the site, on the Missouri River.

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: none — 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: none — 04 NARRATIVE DESCRIPTION

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
KS	000010134

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

none

01 ☐ K DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include names(s) of species)

none

01 ☐ L CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

none

01 ☐ M UNSTABLE CONTAINMENT OF WASTES — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
(Spills, Runoff, Standing liquids, Leaking drums)
03 POPULATION POTENTIALLY AFFECTED: none — 04 NARRATIVE DESCRIPTION

01 ☐ N DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

none

01 ☐ O CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

none

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

none

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

none

III. TOTAL POPULATION POTENTIALLY AFFECTED: 0

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Site inspection - Sept. 12, 13 and Oct. 31, 1985
Region VII E.P.A. Files

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
KS	000010134

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☐ B. PILES		
☐ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
XX F. LANDFILL	unknown	
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)

- ☐ A. INCINERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER

☒ A. BUILDINGS ON SITE

2

06 AREA OF SITE

57 (Acres)

07 COMMENTS

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☒ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC

Clay cap was placed on top and sides of landfill upon closure in 1972. Additional soil was added to the cap in 1985.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE ☐ YES ☒ NO

02 COMMENTS

VI. SOURCES OF INFORMATION (Cite specific references e.g. state files, sample analysis, reports)

Site inspection Sept. 12 and 13 and Oct. 31, 1985.
Region VII E.P.A. Files

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: KS | 02 SITE NUMBER: 000010134

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A. ☐	B. ☒
NON-COMMUNITY	C. ☐	D. ☒

02 STATUS: not affected

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ☐
D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE
A. 2.5 (mi)
B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)
☐ A. ONLY SOURCE FOR DRINKING ☒ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available) ☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available) ☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER: 40,000
03 DISTANCE TO NEAREST DRINKING WATER WELL: 2.5 (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
6-13 (ft)	East	_____ (ft)	_____ (gpd)	☐ YES ☒ NO

09 DESCRIPTION OF WELLS (Including useage, depth, and location relative to population and buildings)
NA

10 RECHARGE AREA		11 DISCHARGE AREA	
☐ YES ☒ NO	COMMENTS	☐ YES ☒ NO	COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)
☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☒ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME	AFFECTED	DISTANCE TO SITE
Fivemile Creek	X	Adjacent (mi)
	☐	(mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN
ONE (1) MILE OF SITE: A. _____ NO OF PERSONS
TWO (2) MILES OF SITE: B. _____ NO OF PERSONS
THREE (3) MILES OF SITE: C. _____ NO OF PERSONS

02 DISTANCE TO NEAREST POPULATION: one fifth (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE: approximately 200

04 DISTANCE TO NEAREST OFF-SITE BUILDING: one fifth (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural village, densely populated urban area)
City population is 40,000. Site is situated in Southeast sector of the city.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: KS | 02 SITE NUMBER: 000010134

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)
☐ A 10^{-6} – 10^{-8} cm/sec ☐ B 10^{-4} – 10^{-6} cm/sec ☐ C. 10^{-4} – 10^{-3} cm/sec ☐ D GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)
☐ A IMPERMEABLE (Less than 10^{-6} cm sec) ☒ B RELATIVELY IMPERMEABLE (10^{-4} – 10^{-6} cm sec) ☐ C RELATIVELY PERMEABLE (10^{-2} – 10^{-4} cm sec) ☐ D VERY PERMEABLE (Greater than 10^{-2} cm sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH	
approx 70 (ft)	(ft)		

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
-4 to 0 (in)	4.29 (in)	>5 %		>5 %

09 FLOOD POTENTIAL
SITE IS IN 100 YEAR FLOODPLAIN

10
☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)
NA ESTUARINE OTHER
A. _____ (mi) B. _____ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)
NA _____ (mi)
ENDANGERED SPECIES _____

13 LAND USE IN VICINITY

DISTANCE TO COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS, NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS PRIME AG LAND	AG LAND
A. one fifth (mi)	B. one fifth (mi)	C. 2 (mi)	D. 2 (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

Site is located in a relatively flat floodplain area of the Missouri River. Bluffs are near the site to the southeast and west. The area is encompassed on three sides by light industry, commercial businesses and residences.

VII. SOURCES OF INFORMATION (Cite specific references e.g., state files, sample analysis, reports)

Site inspection Sept. 12 & 13 and Oct. 31, 1985.
Region VII E.P.A. files
Community Profile of Leavenworth, Ks.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
KS	000010134

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER	3	Region VII E.P.A. Laboratory	April 1985
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	1	Region VII E.P.A. Laboratory	
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN none

01 TYPE	02 COMMENTS

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL

02 IN CUSTODY OF Ecology & Environment
(Name of organization or individual)

03 MAPS ☐ YES ☒ NO

04 LOCATION OF MAPS

V. OTHER FIELD DATA COLLECTED (Provide narrative description) none

VI. SOURCES OF INFORMATION (Cite specific references e.g., state files, sample analysis, reports)

Site inspection Sept. 12 & 13 and Oct. 31, 1985
Region VII E.P.A. Files
Community Profile of Leavenworth, Ks.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
KS	000010134

II. CURRENT OWNER(S)

01 NAME	02 D+B NUMBER
City of Leavenworth	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
3rd & Marion	

05 CITY	06 STATE	07 ZIP CODE
Leavenworth	KS	

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

	06 STATE	07 ZIP CODE

PARENT COMPANY (If applicable)

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

08 NAME	09 D+B NUMBER

10 STREET ADDRESS (P.O. Box, RFD #, etc.)	11 SIC CODE

12 CITY	13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

IV. REALTY OWNER(S) (If applicable, list most recent first)

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Site Inspection Sept. 12 & 13 and Oct. 31, 1985
Region VII E.P.A. Files - Community Profile of Leavenworth, Ks.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
KS	000010134

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER
same as owner	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER
1968-1972	City of Leavenworth, Ks

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

NAME	02 D+B NUMBER

STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD

10 NAME	11 D+B NUMBER

12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE

14 CITY	15 STATE	16 ZIP CODE

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Site inspection Sept. 12 & 13 and Oct. 31, 1985
Region VII E.P.A. Files
Community Profile of Leavenworth, Ks.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART B - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
KS	000010134

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
none	

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
none			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
none			

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER

03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE

05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Site inspection Sept. 12 & 13 and Oct. 31, 1985
Region VII E.P.A. Files
Community Profile of Leavenworth, Ks.

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
KS	000010134

II. PAST RESPONSE ACTIVITIES — No past responses

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

☐ E. CONTAMINATED SOIL REMOVED — 02 DATE ____ — 03 AGENCY ____
DESCRIPTION

01 ☐ F. WASTE REPACKAGED — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

01 ☐ G. WASTE DISPOSED ELSEWHERE — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

01 ☐ H. ON SITE BURIAL — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

01 ☐ L. ENCAPSULATION — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE ____ — 03 AGENCY ____
04 DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
KS	000010134

II PAST RESPONSE ACTIVITIES (Continued) No past responses.

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

III. SOURCES OF INFORMATION (Cite specific references, e.g. state files, sample analysis reports)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
KS	000010134

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION [ ] YES [X] NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

none

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

APPENDIX F

Questionaires

McKinzie Construction — 2ND STREET LANDFILL
Environmental Assessment Questionaire
Leavenworth Brownfields Targeted Assessment

I INTRODUCTION

A. Name of Preparer MICHAEL G. MCDONALD
B. Title CITY ENGINEER
C. Phone number 913 682 9201
D. Date 2-17-99
E. Length of time in current position 10 YEARS
F. Length of time at facility 10 YEARS
G. Facility location CITY HALL

II. RECORD REVIEW — CITY FILES SYSTEM

Indicate, to the best of your knowledge, whether the following documents are available concerning the subject property. If they are available please provide them to McKinzie Construction.

		Available	Not available	MAYBE
A.	Environmental Site Assessment Report		X	
B	Environmental Audit Report		X	
A.	Environmental Permits			
	1. solid waste disposal	X @ KDHE		
	2. air emission		X	
	3. hazardous waste treatment, storage or disposal		X	
	4. waste water discharge permits		X	
	5. NPDES permits		X	
	6. other permits (_____)		X	
B.	Petroleum or Hazardous Substance Tank Registration Forms		X	
C.	Tank Closure Reports	X @ KDHE		
D.	Material Safety Data Sheets		X	
E.	SARA Title III, Community Right-To-Know Reporting Forms		X	
F.	Site Safety Plans		X	
G.	Preparedness and Prevention Programs		X	
H.	Spill Prevention Control and Countermeasures Plans		X	
I.	Hydrogeologic Reports		X	
J.	Hazardous Waste Manifests		X	
K.	Hazardous Waste Generator Notices		X	
N.	Geotechnical Reports		X	
K.	Environmental Inspection Reports		X	
L.	Any records indicating the presence or absence of PCBs in transformers, capacitors, or hydraulic equipment		X	

MM.

III. FACILITY CONDITIONS

Explain any positive responses.

1. Are you aware of any pending threatened or past litigation relevant to the release of hazardous substances or petroleum products in on, or from the subject property?

   Yes__ No X Explain:_____

2. Are you aware of any pending threatened or past administrative proceeding relevant to hazardous substances or petroleum products in, on, or from the subject property?

   Yes__ No X Explain:_____

3. Are you aware of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products at the property?

   Yes__ No X Explain:_____

4. Are there currently or have there ever been any damaged or discarded automotive or industrial batteries or pesticides, paints, or other chemicals or industrial drums stored on, or used at the property?

   Yes X No__ Explain: LANDFILL OPERATIONS AT THE TIME WERE NOT WHAT THEY ARE TODAY

5. Has soil fill ever been brought on the property?

   Yes X No__ Explain: BEING A LANDFILL COVER MATERIAL WAS MOVED AROUND ON SITE BROUGHT IN FROM ADJOINING PROPERTY ON OCCASION

6. Are there or have there ever been any pits, ponds or lagoons located on the property which were used fro waste treatment or disposal?

   Yes__ No X Explain:_____

7. Is there currently or was there previously any stained soil on the property?

Yes__ No__ Explain: UNKNOWN

8. Are there currently or have there been any registered or unregistered (above or underground) storage tanks located on the property?

Yes X No__ Explain: AT FAR SOUTH END UNDER PARKING LOT THERE WERE SEVERAL UST FROM CITY OPERATIONS. CURRENT ADDRESS ROAD ON.

9. If the property is serviced by a private well, have contaminants ever been identified in the well in excess of applicable regulatory guidelines?

Yes__ No X Explain:

10. Does the property discharge waste water other than to a sanitary sewer?

Yes__ No X Explain:

11. Are you aware of the presence or likely presence of any hazardous substance or petroleum product on the property that could cause or contribute to a release into the ground groundwater, or surface water at the property?

Yes__ No X Explain:

IV. CERTIFICATION

The preparer represents that to the best of the preparer's knowledge, the above statements and facts are true and correct and, to the best of the preparer's knowledge, no material facts have been suppressed or misstated.

Signature

Date 2-17-11

McKinzie Construction
Environmental Assessment Questionaire
Leavenworth Brownfields Targeted Assessment

I INTRODUCTION

A. Name of Preparer Charles Klingler
B. Title Engineering Technician
C. Phone number 913-682-9201 ext 42
D. Date 2-1-99
E. Length of time in current position 7 months (19 years with city)
F. Length of time at facility 19 years
G. Facility location 100 N. 5th Street Leavenworth KANSAS

II. RECORD REVIEW

Indicate, to the best of your knowledge, whether the following documents are available concerning the subject property. If they are available please provide them to McKinzie Construction.

		Available	Not available
A.	Environmental Site Assessment Report	—	✓
B	Environmental Audit Report	—	✓
A.	Environmental Permits	—	✓
	1. solid waste disposal	KDHE ✓	—
	2. air emission	—	✓
	3. hazardous waste treatment, storage or disposal	—	✓
	4. waste water discharge permits	—	✓
	5. NPDES permits	—	✓
	6. other permits (_____)	—	✓
B.	Petroleum or Hazardous Substance Tank Registration Forms	—	✓
C.	Tank Closure Reports	KDHE ✓	—
D.	Material Safety Data Sheets	—	✓
E.	SARA Title III, Community Right-To-Know Reporting Forms	—	✓
F.	Site Safety Plans	—	✓
G.	Preparedness and Prevention Programs	—	✓
H.	Spill Prevention Control and Countermeasures Plans	—	✓
I.	Hydrogeologic Reports	—	✓
J.	Hazardous Waste Manifests	—	✓
K.	Hazardous Waste Generator Notices	—	✓
N.	Geotechnical Reports	—	✓
K.	Environmental Inspection Reports	—	✓
L.	Any records indicating the presence or absence of PCBs in transformers, capacitors, or hydraulic equipment	—	✓

III. FACILITY CONDITIONS

Explain any positive responses.

1. Are you aware of any pending threatened or past litigation relevant to the release of hazardous substances or petroleum products in on, or from the subject property?

   Yes__ No ✓ Explain:_____

2. Are you aware of any pending threatened or past administrative proceeding relevant to hazardous substances or petroleum products in, on, or from the subject property?

   Yes__ No ✓ Explain:_____

3. Are you aware of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products at the property?

   Yes__ No ✓ Explain:_____

4. Are there currently or have there ever been any damaged or discarded automotive or industrial batteries or pesticides, paints, or other chemicals or industrial drums stored on, or used at the property?

   Yes ✓ No__ Explain: S.Z.a. was used as landfill & service center

5. Has soil fill ever been brought on the property?

   Yes ✓ No__ Explain: cover material

6. Are there or have there ever been any pits, ponds or lagoons located on the property which were used fro waste treatment or disposal?

   Yes__ No ✓ Explain:_____

7. Is there currently or was there previously any stained soil on the property?

Yes__ No✓ Explain:_____

8. Are there currently or have there been any registered or unregistered (above or underground) storage tanks located on the property?

Yes✓ No__ Explain: Fuel & Road oil

9. If the property is serviced by a private well, have contaminants ever been identified in the well in excess of applicable regulatory guidelines?

Yes__ No✓ Explain:_____

10. Does the property discharge waste water other than to a sanitary sewer?

Yes__ No✓ Explain:_____

11. Are you aware of the presence or likely presence of any hazardous substance or petroleum product on the property that could cause or contribute to a release into the ground groundwater, or surface water at the property?

Yes__ No✓ Explain:_____

IV. CERTIFICATION

The preparer represents that to the best of the preparer's knowledge, the above statements and facts are true and correct and, to the best of the preparer's knowledge, no material facts have been suppressed or misstated.

Signature_____

Date 3-1-99

McKinzie Construction
Environmental Assessment Questionaire
Leavenworth Brownfields Targeted Assessment

I INTRODUCTION

A. Name of Preparer Robert D. Patzwald
B. Title Deputy Public Works Director
C. Phone number 913-682-9201
D. Date 3-1-99
E. Length of time in current position 5 yrs 5 mo.
F. Length of time at facility 5 yr 5 mo
G. Facility location 100 N. 5th St.

II. RECORD REVIEW

Indicate, to the best of your knowledge, whether the following documents are available concerning the subject property. If they are available please provide them to McKinzie Construction.

		Available	Not available
A.	Environmental Site Assessment Report	—	X
B	Environmental Audit Report	—	X
A.	Environmental Permits		
	1. solid waste disposal (Available @ KDHE)	X	
	2. air emission	—	X
	3. hazardous waste treatment, storage or disposal	—	X
	4. waste water discharge permits	—	X
	5. NPDES permits	—	X
	6. other permits (_____)	—	X
B.	Petroleum or Hazardous Substance Tank Registration Forms	—	X
C.	Tank Closure Reports (Available @ KDHE)	X	—
D.	Material Safety Data Sheets	—	X
E.	SARA Title III, Community Right-To-Know Reporting Forms	—	X
F.	Site Safety Plans	—	X
G.	Preparedness and Prevention Programs	—	X
H.	Spill Prevention Control and Countermeasures Plans	—	X
I.	Hydrogeologic Reports	—	X
J.	Hazardous Waste Manifests	—	X
K.	Hazardous Waste Generator Notices	—	X
N.	Geotechnical Reports	—	X
K.	Environmental Inspection Reports	—	X
L.	Any records indicating the presence or absence of PCBs in transformers, capacitors, or hydraulic equipment	—	X

Site was previously tested by EPA for possible superfund site. No contamination was found. Superfund I.D. # was revoked. I don't have report.

III. FACILITY CONDITIONS

Explain any positive responses.

1. Are you aware of any pending threatened or past litigation relevant to the release of hazardous substances or petroleum products in on, or from the subject property?

   Yes__ No X Explain:_____

2. Are you aware of any pending threatened or past administrative proceeding relevant to hazardous substances or petroleum products in, on, or from the subject property?

   Yes__ No X Explain:_____

3. Are you aware of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products at the property?

   Yes__ No X Explain:_____

4. Are there currently or have there ever been any damaged or discarded automotive or industrial batteries or pesticides, paints, or other chemicals or industrial drums stored on, or used at the property?

   Yes X No__ Explain: Landfill operations & a paint spill from Municipal street painting operation. Site was home to Municipal Garage operations.

5. Has soil fill ever been brought on the property?

   Yes X No__ Explain: Final cover material

6. Are there or have there ever been any pits, ponds or lagoons located on the property which were used fro waste treatment or disposal?

   Yes__ No X Explain:_____

7. Is there currently or was there previously any stained soil on the property?

Yes__ No X Explain:_____

8. Are there currently or have there been any registered or unregistered (above or underground) storage tanks located on the property?

Yes X No__ Explain: Road oil storage tanks and fuel tanks

9. If the property is serviced by a private well, have contaminants ever been identified in the well in excess of applicable regulatory guidelines?

Yes__ No X Explain:_____

10. Does the property discharge waste water other than to a sanitary sewer?

Yes__ No X Explain:_____

11. Are you aware of the presence or likely presence of any hazardous substance or petroleum product on the property that could cause or contribute to a release into the ground groundwater, or surface water at the property?

Yes__ No X Explain:_____

IV. CERTIFICATION

The preparer represents that to the best of the preparer's knowledge, the above statements and facts are true and correct and, to the best of the preparer's knowledge, no material facts have been suppressed or misstated.

Signature _____

Date 3/1/99

APPENDIX G

GNB, Inc. Site Investigation Report (excerpted)

SITE INVESTIGATION REPORT
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

VOLUME I OF II

SEPTEMBER 1992

PREPARED BY:

ENVIRONMENTAL RESOURCES MANAGEMENT-NORTH CENTRAL, INC.
102 WILMOT ROAD, SUITE 300
DEERFIELD, ILLINOIS 60015
PROJECT NO. 91207

TABLE OF CONTENTS

TABLE OF CONTENTS
(continued)

TABLE OF CONTENTS
(continued)

LIST OF TABLES

LIST OF TABLES
(continued)

LIST OF TABLES
(continued)

LIST OF FIGURES
(continued)

LIST OF FIGURES

LIST OF APPENDICES

Number	Description
A	Soil Boring Logs
B	Monitoring Well Construction Diagrams
C	Analytical Data Reports

1.0 INTRODUCTION

This report summarizes the results of the site investigation completed at the GNB, Incorporated (GNB) Facility No. 477, located in Leavenworth, Kansas. The site investigation was conducted in accordance with the Scope of Work, dated November 26, 1991, approved by the Kansas Department of Health and Environment (KDHE).

The GNB site is located at 1825 South 4th Street in the southeastern portion of the City of Leavenworth (Figure 1-1). It consists of approximately 9.5 acres of land that slopes toward the east. As shown on Figure 1-2, a main manufacturing building and various loading docks and outbuildings are situated on the site.

2.0 SCOPE OF WORK

In accordance with the approved Scope of Work, the site investigation consisted of an evaluation of the identified areas of environmental concern. The general locations of these potential areas of environmental concern are shown on Figure 2-1. The number, types, and locations of samples used to investigate each of the areas are described in the following subsections. The details of specific drilling, sample collection, analytical, and field screening procedures used during the site investigation are described in Section 3.0. Soil boring logs and monitoring well construction diagrams prepared during the site investigation are presented in Appendices A and B, respectively. Field screening results are presented on the soil boring logs.

2.1 Former Storage Tanks

2.1.1 Fuel Oil UST

As indicated in the soil boring logs included as Appendix A, four soil borings, designated as FO-1 to FO-4, were advanced to depths of 12.5 to 15 feet below ground surface (BGS) in the area of the fuel oil UST pit. Although all of the soil borings were positioned as near as possible to the former tank pit, soil boring FO-3 was advanced the closest to the pit (Figure 2-2). These borings were installed and continuously sampled in accordance with the procedures specified in Section 3.2.1. Each soil sample obtained from these borings was field screened by visual inspection and using the headspace method. Because visual observations and the field screening results did not indicate any petroleum, only one soil sample (FO3E) was collected for laboratory analysis of total petroleum hydrocarbons (TPH) as well as benzene, toluene, ethyl benzene, and xylene (BTEX) compounds (Table 2-1). Sample FO3E was selected because it was collected from

the boring closest to the UST pit at a depth that would have corresponded with the UST pit floor. The sample analyses were conducted in accordance with the analytical methods described in Section 3.8.

2.1.2 Diesel and Gasoline USTs

The investigation of the former diesel and gasoline USTs included drilling a single soil boring (UST-1) at the former pump location and eight soil borings (UST-2 through UST-9) in and around the former UST pit. Each soil boring was field screened by visual observation and using the headspace technique. Soil borings UST-1 through UST-8 were completed at depths ranging between 12.5 to 15 feet BGS, whereas UST-9 was advanced through the center of the former tank pit to a depth of 40.5 BGS.

Samples were collected from: (1) the interval containing the highest headspace reading in each boring, and (2) the bottom of each boring. If the field screening results did not indicate any petroleum, only one sample was collected from either the bottom of the soil boring or from an interval exhibiting a change in soil facies. Twelve soil samples were collected from the nine soil borings (including two samples from UST-1, UST-2, and UST-9) along with a field duplicate and two field blanks (Table 2-1). All of these samples were analyzed for BTEX and TPH in accordance with the analytical methods specified in Section 3.8.

Seven fewer soil borings were drilled in this area than were proposed in the approved Scope of Work because of the close proximity of the former USTs.

2.1.3 Acid Tank Farm

The location of the sulfuric acid tank farm, originally believed to be located in the area of the northwestern loading dock, was determined to be on top of the main building roof. Given the confirmation of this location, no further investigation of the acid tanks was pursued.

2.2 Surface Discharges of Process Wastewater

As specified in the approved Scope of Work, surface discharges of process wastewater may have occurred via a pipe and wastewater trench, which were reportedly located in the areas shown in Figures 2-3 and 2-4, respectively. The investigatory efforts associated with these areas are described in the following subsections.

2.2.1 Discharge Pipe

One surface soil sample, designated DP-S1, was collected directly at the end of the discharge pipe, and a second surface soil sample, DP-S2, was collected approximately 10 feet downslope of the discharge pipe. A hand auger was used to collect soil to depths of 3.5 feet BGS at locations DP-3 and DP-4, which are further downslope of the discharge pipe. The soil borings drilled at DP-1 and DP-2 were advanced to 14 feet BGS by using the drilling method specified in Section 3.2.1. The soil boring samples were field screened using visual inspection, the headspace technique, and a determination of soil pH. Two samples were collected from each soil boring. One sample was obtained from the interval exhibiting the highest field screening result, and the second was collected from below the vertical extent of the contamination. All samples from the discharge pipe area were analyzed in accordance with the analytical methodology in

Section 3.8 for the Target Compound List (TCL) volatile organic compounds (VOCs), TCL semivolatile organic compounds (SVOCs), and Target Analyte List (TAL) lead (Table 2-2).

2.2.2 Wastewater Discharge Trench

Ten soil borings were advanced in and around the former wastewater discharge trench at the locations shown in Figure 2-4. The borings were drilled by using the procedures outlined in Section 3.2.1. All of the soil borings were completed between 12.5 and 15 feet BGS, with the exception of AP-3, AP-9, and AP-10, which were completed at depths of 50 feet, 20 feet, and 20 feet BGS, respectively. Each sample interval was field screened by using the headspace technique, soil pH testing, and visual observations. Based upon the results of the field screening, the following soil samples were selected for laboratory analysis.

- Soil borings AP-1 and AP-2 - Only one soil sample was collected from the bottom of each borehole because the field screening showed no anomalous headspace or soil pH results.

- Soil boring AP-3 - Sample AP3D was collected from a discolored section at the center and bottom of the pit. A second sample (AP3I) was collected from the interval in which the lowest soil pH results were recorded, and a third soil sample (AP3T) was collected at the soil interval directly above the bedrock.

- AP-4 to AP-10 - Samples were collected from the interval exhibiting the lowest soil pH in each borehole and from the bottom of each borehole.

Because of the size of the wastewater discharge trench, four additional soil borings (i.e., beyond those proposed in the approved Scope of Work) were necessary to characterize the area. The laboratory samples collected from this area were analyzed for TCL VOCs, TCL SVOCs and/or TAL lead (Table 2-3).

2.3 Air Emissions and Control Area

The Screen-1.1 computer model was used to evaluate historical air emissions from three former air emission and control units at the facility, (i.e., a main baghouse unit serving the casting pot and plate-burning operations, a scrubber exhaust unit for the dry-forming operations, and a baghouse for the dry storage area). The data for the air emissions modeling was collected by interviewing facility employees, reviewing engineering drawings and other facility records, and obtaining meteorological data from the weather station at the Kansas City Regional Airport. Based on the predominant wind direction and the air emission modeling results, the zone of greatest particulate deposition was predicted to be north and north-northeast of the main baghouse area at a distance of approximately 70 feet to 420 feet away from the source. A sampling grid with a 50-foot grid interval was established over this area and then extended an additional 50 feet to evaluate the downwind extent of the particulate deposition (Figure 2-5). Surface soil samples were collected from 46 grid nodes, and twelve of these samples were randomly selected for laboratory analysis of TAL lead (Table 2-4). In addition, samples were obtained from two locations (ASA and ASB) near the source area. All of the surface soil samples were collected according to the procedures detailed in Section 3.3. However,

fewer surface samples were obtained for analysis than had been proposed in the approved Scope of Work because: (1) a smaller zone than anticipated was defined by the air modeling, and (2) the air emission sampling overlapped other areas that had already been sampled.

2.4 Raw Material and Waste Storage Areas

2.4.1 Waste Oil Tank

Five soil borings, designated WO-1 to WO-5, were advanced to a depth of 12 to 14 feet BGS in the vicinity of the waste oil tank (Figure 2-6). These borings were drilled according to the methods described in Section 3.2.1. Soil samples were collected from these borings and field screened by using the headspace procedure, fluorescence technique, and visual observation. Two soil samples were collected from each boring for laboratory analysis of BTEX and TPH (Table 2-5). One sample was collected from the bottom of each borehole and the other was obtained from the interval exhibiting the highest headspace and/or fluorescence readings.

2.4.2 Oil Storage Shed

As indicated on Figure 2-6, six soil borings (i.e., OS-1 to OS-6) were advanced and one surface soil sample (i.e., OS-S1) was collected in the vicinity of the oil storage shed. Three samples were collected from soil boring OS-5 including: (1) one from the bottom of the boring, (2) one from a visibly stained interval, and (3) one from the interval exhibiting the highest headspace reading (Table 2-6). In all of the remaining soil borings, one sample was obtained from the interval exhibiting the highest headspace reading, and a second soil sample was obtained from the bottom of the boring. The same drilling,

analytical, and field screening procedures specified for the waste oil tank investigation were used for this investigation.

2.4.3 Drum Storage Area

Four soil borings, DS-1 to DS-4, were advanced to approximately 14 feet BGS in the drum storage area using the drilling methods described in Section 3.2.1 (Figure 2-6). Soil samples were field screened by using the headspace technique and visual inspection. Two samples were collected from each boring: one was taken from the interval that exhibited the highest headspace reading and the other was collected from the bottom of the borehole. These samples were submitted for the analyses indicated on Table 2-7. Surface soil samples (i.e., DS-S1 through DS-S4) were also collected at each borehole location and submitted for laboratory analysis of TAL lead.

2.5 Historical Burning Pit

The approximate location of the historical burning pit was determined by interviewing GNB employees, reviewing historical aerial photographs, and evaluating topographic maps of the site (Figure 2-7). An electromagnetic survey was not used to determine the location and size of the historical burning pit because of the presence of metallic debris outside the historical burning pit that would have created interference. Two soil borings, BA-1 and BA-2, were drilled at the approximate location of the historical burning pit to: (1) confirm the location of the pit, (2) determine the depth of the pit, and (3) collect samples for characterization (Figure 2-7). These borings were drilled according to the methods detailed in Section 3.2.1.

Four test pits, designated TP-5, TP-7, TP-8, and TP-9, were completed within the historical burning pit to: (1) measure the lateral and vertical extent of the pit, (2) conduct a visual inspection of the pit, and (3) obtain samples for laboratory analysis. Because a sanitary sewer pipe passes through the historical burning pit location, test pits TP-5, TP-7, TP-8, and TP-9 were excavated to permit an evaluation of this area without damaging the sewer. All of the test pits were excavated according to the procedures detailed in Section 3.2.3. Soil samples were collected from one of the soil borings and three of the test pits for analysis of TCL VOCs, TCL SVOCs, TAL metals, and Toxicity Characteristic Leaching Procedure (TCLP) organics and inorganics. The analyses were performed in accordance with the methods described in Section 3.8. Samples BA2A, TP7A, TP8A, and TP9A were collected from within the fill material and samples BA2C, TP8B, and TP9B were obtained from the soil directly below the fill material (Table 2-8). The test pits were measured to determine the volume of fill material in the historical burning pit. Logs for both the test pits and the soil borings are presented in Appendix A.

2.6 Former Battery Breaking Area

To evaluate the soil conditions in the vicinity of the former battery breaking operation, 17 soil borings (designated BB-1 to BB-17) were advanced using a drill rig, and four borings (BB-30 to BB-33) were advanced by using a hand auger (Figure 2-8). All of these borings were installed on the grid nodes of a 40- by 40-foot grid established over the former battery breaking area. Several of the borings had to be moved slightly away from their grid point because of aboveground and underground utilities in the area. All of the soil boreholes were completed from 12.5 to 42.5 feet BGS, and a soil sample was collected every 2.5 feet over the length of the boring. These samples were field screened by using visual observation and soil pH testing. Twenty percent of the total number of

sample intervals screened, or 23 samples, were randomly selected for TAL lead laboratory analysis (Table 2-9). Five additional samples were taken from soil that was stained and/or exhibited anomolously low soil pH values; these samples were also analyzed for TAL lead.

Three fewer soil borings than were proposed in the approved Scope of Work were completed in the vicinity of the former battery breaking area because of underground utilities, and aboveground obstructions.

2.7 Solid Waste Fill Areas

To determine the volume, extent, and character of the solid waste fill areas at the site, a total of 36 soil borings (FA-1 to FA-36) were advanced across the eastern half of the site on a 50 by 50-foot grid (Figure 2-9). Soil borings were completed at depths of 5 to 15 feet BGS by using the drilling methods specified in Section 3.2.1. Eight of these soil borings (i.e., FA-1, FA-2, FA-3, FA-7, FA-20, FA-21, FA-24, and FA-33) were randomly chosen for collection of laboratory samples. Two samples were collected from each boring: a sample of the solid waste fill and a sample from the native soil immediately below the fill. These samples were analyzed for TCL VOCs, TCL SVOCs, TAL metals, TCLP organics and inorganics, and/or TAL lead, as shown on Table 2-10. In addition, a grab sample was obtained from soil boring FA-35 to evaluate an interval that exhibited odors and an elevated headspace reading. The grab sample collected from this interval (i.e., FA35E) was analyzed for TCL VOCs, TCL SVOCs, and TPH.

Six test pits, TP-1, TP-2, TP-3, TP-4, TP-6, and TP-10, were also completed at various locations at the site to: (1) visually determine the character of the fill, (2) measure the vertical extent of the fill, and (3) collect soil samples for analysis. One soil sample was

collected from each of the test pits within the fill and a second sample was collected from the native soil below the fill. These samples were analyzed for TCL VOCs, TCL SVOCs, TAL metals, and TCLP inorganics and organics (Table 2-10).

Two fill piles located in the wooded area north of the railroad spur were evaluated by collecting composite samples for analysis of TAL lead and TCLP inorganics. One soil sample was taken from each pile by compositing soil from four to five locations in accordance with the sampling methods described in Section 3.3. The samples were analyzed in accordance with the analytical methods specified in Section 3.8.

The background metals concentrations in the shallow soil at the site were determined by drilling and sampling two soil borings (BK-1 and BK-2) in the northwestern corner of the property. According to the historical aerial photographs, plant personnel, and an on-site inspection, this area was probably not affected by site activities. Soil samples were collected from each of the two soil facies encountered in these soil borings and analyzed for TAL metals as shown on Table 2-10. Because an additional soil facies was encountered in the soil borings, an additional soil sample was collected from each boring (i.e., beyond that indicated on the approved Scope of Work).

Because the solid waste fill area was larger and thinner than anticipated, the area could best be described through a series of soil borings instead of test pits as called for in the approved Scope of Work. As a result, 11 additional soil borings, but two fewer test pits were completed than originally proposed in the approved Scope of Work.

2.8 Formulation Area Flooring

Five hand-auger borings (FF-1 to FF-5) were advanced below the concrete floor in various areas of the dry-forming room to permit the collection of soil samples (Figure 2-10). A concrete coring machine was used to bore through the concrete floor and a hand auger was used to advance the boring and collect soil samples. The hand auger was advanced to a depth of 7 feet (i.e., the point of refusal) at each boring. Soil pH, headspace, and visual observations were used to field screen each 2-foot soil interval in accordance with the procedures described in Section 3.4. Two soil samples from each auger hole were collected: one from the interval with the most anomalous field screening results, and one from the bottom of the borehole (Table 2-11).

2.9 Ground Water

Nine monitoring wells, designated MW-1 to MW-9, were installed at the locations shown on Figure 2-11 to evaluate the ground water conditions at the site. The monitoring wells were installed, developed, and sampled in accordance with the procedures detailed in Sections 3.5 and 3.6. The wells were installed after the potential areas of environmental concern were investigated to ensure an adequate evaluation of the ground water beneath the site. Because the ground water flow direction, site geology, and the individual areas of environmental concern were more narrowly defined during the site investigation, the monitoring wells were installed in different locations than proposed in the approved Scope of Work. The rationale for the placement of the monitoring wells at the site is as follows:

- To ensure that MW-1, which was intended to be a background monitoring well, was situated upgradient of all

the potential source areas at the site, its location was selected after monitoring wells MW-2 through MW-9 were installed and one round of water elevations was measured in these wells. The ground water elevation data indicated that, in general, ground water flow was toward the east and northeast. Therefore, MW-1 was installed at the only accessible location in the southwestern corner of the site. Because no unconsolidated deposits were present at this location, the well was set in bedrock.

- The location of MW-2 was intended to evaluate the ground water quality in the unconsolidated portion of the surficial aquifer upgradient of the site. According to the approved Scope of Work, the proposed location of the well was the northwestern corner of the site. However, during the advancement of soil boring BK-1 in the vicinity of the proposed well location, ground water was not encountered in the unconsolidated deposits. Therefore, MW-2 was installed approximately 170 feet west of BK-1 where ground water was encountered in the unconsolidated deposits directly above bedrock.

- MW-3 was constructed in the vicinity of the diesel and gasoline USTs, the oil storage shed, the waste oil tank, and the drum storage area; MW-4 was installed in the vicinity of the dry-forming room and the wastewater discharge trench;

and MW-5 was constructed in the vicinity of the battery breaking area.

- MW-6, MW-7, MW-8, and MW-9 were installed along the eastern boundary of the site and in the vicinity of the solid waste fill areas, the historical burning pit, and the discharge pipe, respectively.

Two rounds of ground water samples were collected for analysis on May 12 and 13, 1992 (Table 2-12); and July 7 and 8, 1992 (Table 2-13), and four rounds of ground water elevation measurements were obtained on April 4, April 6, April 15, and May 15. The ground water samples were collected according to the procedures detailed in Section 3.6. Each ground water sample was analyzed for TCL VOCs, TCL SVOCs, TAL dissolved metals, and sulfates in accordance with the analytical methods described in Section 3.8.

2.10 Surface Water Runoff

The surface water runoff drainage pathways at the site were surveyed and are illustrated on Figure 1-2. No further work was conducted given the extensive surface and subsurface soil sampling performed at the site.

TABLE 2-1

FORMER UNDERGROUND STORAGE TANK SAMPLES
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

FUEL OIL UST

Sample Name	Sample Type	Sample Depth (ft.)	Analysis	
			BTEX	TPH
FO1FB	Field Blank	N/A	X	X
FO3E	Soil	12.5-15	X	X
FO3EFD	Field Duplicate	12.5-15	X	-

DIESEL AND GASOLINE UST

Sample Name	Sample Type	Sample Depth (ft.)	Analysis	
			BTEX	TPH
UST1A	Soil	0-2	X	X
UST1F	Soil	11.5-14	X	X
UST1FFD	Field Duplicate	11.5-14	X	X
UST2C	Soil	4-6.5	X	X
UST2F	Soil	11.5-14	X	X
UST3F	Soil	11.5-14	X	X
UST3FB	Field Blank	N/A	X	X
UST4C	Soil	4-6.5	X	X
UST5F	Soil	11.5-14	X	X
UST6E	Soil	10-12.5	X	X
UST7E	Soil	10-12.5	X	X
UST8E	Soil	10-12.5	X	X
UST8FB	Field Blank	N/A	X	X
UST9G	Soil	15-17.5	X	X
UST9P	Soil	37.5-40.5	X	X

Key:

BTEX = Benzene, toluene, ethylbenzene, and xylenes.
TPH = Total petroleum hydrocarbons.
UST = Underground storage tank.
N/A = Not applicable.

TABLE 2-2

SURFACE DISCHARGE OF PROCESS WASTEWATER
DISCHARGE PIPE
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

Sample Name	Sample Type	Sample Depth (ft.)	Analysis		
			TCL VOCs	TCL SVOCs	TAL Lead
DP1B	Soil	2-4	X	X	X
DP1F	Soil	11.5-14	X	X	X
DP2A	Soil	2-4	X	X	X
DP2E	MS/MSD	9-11.5	X	X	X
DP3A	Soil	0-1.75	X	X	X
DP3B	Soil	1.75-3.5	X	X	X
DP3BFD	Field Duplicate	1.75-3.5	X	X	X
DP3FB	Field Blank	N/A	X	X	X
DP4A	Soil	0-2	X	X	X
DP4B	Soil	2-3.5	X	X	X
DPS1	Soil	Surface	X	X	X
DPS2	Soil	Surface	X	X	X

Key:

MS/MSD = Matrix spike/matrix spike duplicate.
TCL VOCs = TCL VOCs = Target Compound List volatile organic compounds.
TCL SVOCs = Target Compound List semivolatile organic compounds.
TAL = Target Analyte List.
N/A = Not applicable.

TABLE 2-3

SURFACE DISCHARGE OF PROCESS WASTEWATER
WASTEWATER DISCHARGE TRENCH
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

Sample Name	Sample Type	Sample Depth (ft.)	Analysis		
			TCL VOCs	TCL SVOCs	TAL Lead
AP1E	Soil	10-12.5	X	X	X
AP2E	Soil	10-12.5			X
AP2FB	Field Blank	N/A	X	X	X
AP3D	Soil	7.5-10	X	X	X
AP3I	Soil	20-22.5	X		X
AP3T	Soil	47.5-50	X	X	X
AP4B	Soil	2.5-5		X	X
AP4E	Soil	10-12.5	X	X	X
AP4EFD	Field Duplicate	10-12.5	X	X	X
AP5B	Soil	2.5-5		X	X
AP5E	MS/MSD	10-12.5	X	X	X
AP6C	Soil	5-7.5		X	X
AP6F	Soil	12.5-15		X	X
AP7D	Soil	7.5-10			X
AP7E	Soil	10-12.5			X
AP8B	Soil	N/A			X
AP8F	Soil	12.5-15	X	X	X
AP9C	Soil	5-7.5			X
AP9H	Soil	17.5-20			X
AP10C	Soil	5-7.5			X
AP10H	Soil	17.5-20	X	X	X

Key:

TCL VOCs = Target Compound List volatiles organic compounds.
TCL SVOCs = Target Compound List semivolatiles organic compounds.
TAL = Target Analyte List.
MS/MSD = Matrix spike/matrix spike duplicate.
N/A = Not applicable.

TABLE 2-4

AIR EMISSIONS AND CONTROL SAMPLES
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

Sample Name	Sample Type	Sample Depth (ft.)	TAL Lead
ASA	Soil	Surface	X
ASAFD	Field Duplicate	Surface	X
ASB	Soil	Surface	X
ASBFD	Field Duplicate	Surface	X
ASBFB	Field Blank	N/A	X
AS8	Soil	Surface	X
AS12	Soil	Surface	X
AS15	Soil	Surface	X
AS16	Soil	Surface	X
AS18	Soil	Surface	X
AS23	Soil	Surface	X
AS24	Soil	Surface	X
AS26	Soil	Surface	X
AS27	Soil	Surface	X
AS29	Soil	Surface	X
AS29FD	Field Duplicate	Surface	X
AS36	Soil	Surface	X
AS36FB	Field Blank	N/A	X
AS39	Soil	Surface	X

Key:

TAL = Target Analyte List.
N/A = Not Applicable.

TABLE 2-5

RAW MATERIAL STORAGE AREA SAMPLES
WASTE OIL TANK
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

Sample Name	Sample Type	Sample Depth (ft.)	Analysis	
			BTEX	TPH
WO1A	Soil	0-2	X	X
WO1F	Soil	10-12	X	X
WO2C	Soil	4-6.5	X	X
WO2F	Soil	11.5-14	X	X
WO3A	Soil	0-2.5	X	X
WO3E	Soil	10-12.5	X	X
WO3FB	Field Blank	N/A	X	X
WO4A	Soil	0-2.5	X	X
WO4E	Soil	10-12.5	X	X
WO5A	Soil	1-3	X	X
WO5E	Soil	10-12.5	X	X
WO5EFD	Field Duplicate	10-12.5	X	X

KEY:

BTEX = Benzene, toluene, ethylbenzene, and xylenes.
TPH = Total petroleum hydrocarbons.
N/A = Not applicable.

TABLE 2-6

RAW MATERIAL STORAGE AREA SAMPLES
OIL STORAGE SHED
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

Sample Name	Sample Type	Sample Depth (ft.)	Analysis	
			BTEX	TPH
OS1A	Soil	0-2.5	X	X
OS1E	MS/MSD	10-12.5	X	X
OS2A	MS/MSD	0-2.5	X	X
OS2E	Soil	10-12.5	X	X
OS3A	Soil	0-2.5	X	X
OS3E	Soil	10-12.5	X	X
OS3EFD	Field Duplicate	10-12.5	X	X
OS4A	Soil	0-2.5	X	X
OS4AFB	Field Blank	N/A	X	X
OS4E	Soil	10-12.5	X	X
OS5A	Soil	0-2.5	X	X
OS5D	Soil	7.5-10	X	X
OS5E	Soil	10-12.5	X	X
OS5EFD	Field Duplicate	10-12.5	X	X
OS6A	Soil	0-2.5	X	X
OS6E	Soil	10-12.5	X	X
OSS1	Soil	Surface	X	X

Key:

BTEX = Benzene, toluene, ethylbenzene, and xylenes.
TPH = Total petroleum hydrocarbons.
MS/MSD = Matrix spike/matrix spike duplicate.
N/A = Not applicable.

TABLE 2-7

RAW MATERIAL STORAGE AREA SAMPLES
DRUM STORAGE AREA SAMPLES
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

Sample Name	Sample Type	Sample Depth (ft.)	Analysis		
			TCL VOCs	TPH	TAL Lead
DS1C	Soil	4-6.5	X	X	
DS1F	Soil	11.5-14	X	X	
DS2C	Soil	3.5-6	X	X	
DS2F	Soil	11-13.5	X	X	
DS3B	Soil	2-4	X	X	
DS3F	Soil	11.5-14	X	X	
DS4C	Soil	3.5-6	X	X	
DS4F	Soil	11-13.5	X	X	
DS4FB	Field Blank	N/A	X	X	
DSS1	Soil	Surface			X
DSS2	Soil	Surface			X
DSS3	Soil	Surface			X
DSS4	Soil	Surface			X

Key:

TCL VOCs = Target Compound List volatiles organic compounds.
TPH = Total petroleum hydrocarbons.
TAL = Target Analyte List.
N/A = Not applicable.

TABLE 2-8

HISTORICAL BURNING PIT SAMPLES
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

Sample Name	Sample Type	Sample Depth (ft.)	Analysis			
			TCL VOCs	TCL SVOCs	TAL Metals	TCLP inorganics and organics
BA2A	Soil	0-2.5	X	X	X	X
BA2C	Soil	5-7.5	X	X	X	X
TP7A	MS/MSD	Composite	X	X	X	X
TP8A	Soil	Composite	X	X	X	X
TP8B	Soil	Composite	X	X	X	X
TP8BFD	Field Duplicate	Composite	X	X	X	X
TP9A	Soil	Composite	X	X	X	X
TP9B	Soil	Composite	X	X	X	

Key:

MS/MSD = Matrix spike/matrix spike duplicate.
TCL VOCs = Target Compound List volatile organic compounds.
TCL SVOCs = Target Compound List semivolatile organic compounds.
TAL = Target Analyte List.
TCLP = Toxicity characteristic leaching procedure.

TABLE 2-12

GROUND WATER SAMPLES - ROUND ONE
(May 12 and 13, 1992)
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

Sample Name	Sample Type	Laboratory Used	VOCs	SVOCs	Dissolved Metals	Sulfates
MW-1	Ground Water	IEA	X	X	X	X
MW-2	Ground Water	IEA	X	X	X	X
MW-3	Ground Water	IEA	X	X	X	X
MW-4	Ground Water	IEA	X	X	X	X
MW-4MS	MS/MSD	IEA	X	X		
MW-5	Ground Water	IEA	X	X	X	X
MW-6	Ground Water	IEA	X	X	X	X
MW-7	Ground Water	IEA	X	X	X	X
MW-8	Ground Water	IEA	X	X	X	X
MW-9	Ground Water	IEA	X	X	X	X
MW-3D	Field Duplicate	IEA	X	X	X	X
MW-7B	Field Blank	IEA	X	X	X	X
TB1	Trip Blank	IEA	X			
TB2	Trip Blank	IEA	X			

Key:

VOCs = Volatile organic compounds.
SVOCs = Semivolatile organic compounds.
IEA = IEA Laboratory in Monroe, Connecticut.
MS/MSD = Matrix spike/matrix spike duplicate.

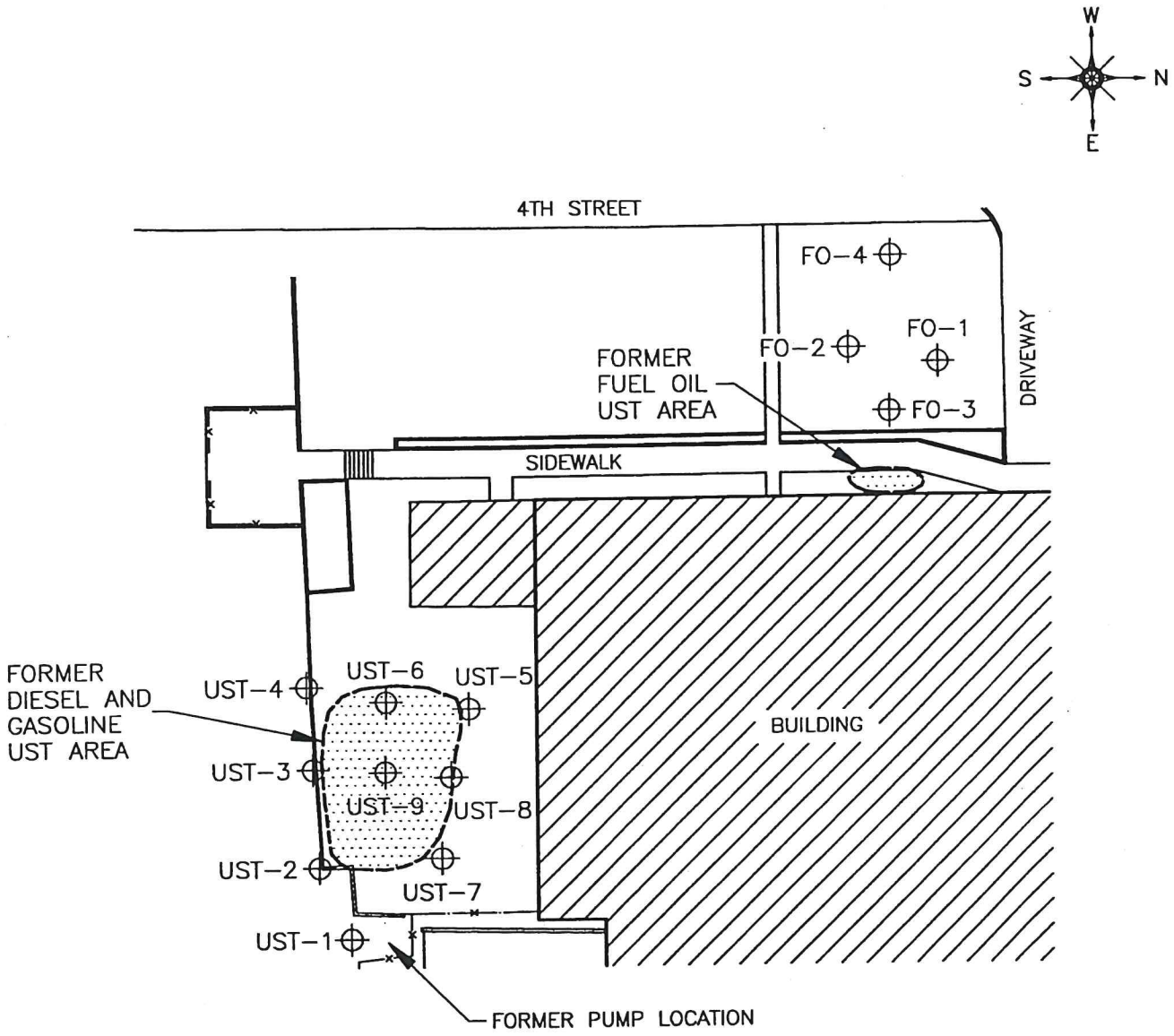
TABLE 2-13

GROUND WATER SAMPLES - ROUND TWO
(July 7 and 8, 1992)
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

Sample Name	Sample Type	Laboratory Used	VOCs	SVOCs	Dissolved Metals	Sulfates
MW-1	Ground Water	IEA	X	X	X	X
MW-1	Split	R.C.	X	X	X	X
MW-2	Ground Water	IEA	X	X	X	X
MW-3	Ground Water	IEA	X	X	X	X
MW-4	Ground Water	IEA	X	X	X	X
MW-5	Ground Water	IEA	X	X	X	X
MW-5	Split	R.C.	X	X	X	X
MW-6	Ground Water	IEA	X	X	X	X
MW-7	Ground Water	IEA	X	X	X	X
MW-7	Split	R.C.	X	X	X	X
MW-8	Ground Water	IEA	X	X	X	X
MW-8MS	MS/MSD	IEA	X	X		
MW-9	Ground Water	IEA	X	X	X	X
MW-3D	Field Duplicate	IEA	X	X	X	X
MW-7B	Field Blank	IEA	X	X	X	X
TB1	Trip Blank	IEA	X			
TB1	Split	R.C.	X			
TB2	Trip Blank	IEA	X			
TB2	Split	R.C.	X			

Key:

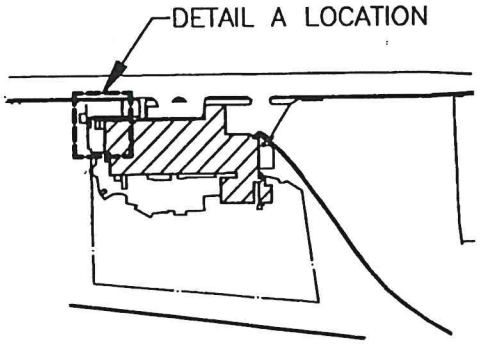
VOCs = Volatile organic compounds.
SVOCs = Semivolatile organic compounds.
IEA = IEA Laboratory in Monroe, Connecticut.
R.C. = Resource Consultants in Brentwood, Tennessee.
MS/MSD = Matrix spike/matrix spike duplicate.



DETAIL A

APPROX. SCALE (ft.)
0 30

SYMBOL LEGEND:	
FO-1	FUEL OIL UST SOIL BORING
UST-7	DIESEL AND GASOLINE UNDERGROUND STORAGE TANK SOIL BORING
	EXCAVATION PIT OUTLINE
	FENCE
UST	UNDERGROUND STORAGE TANK

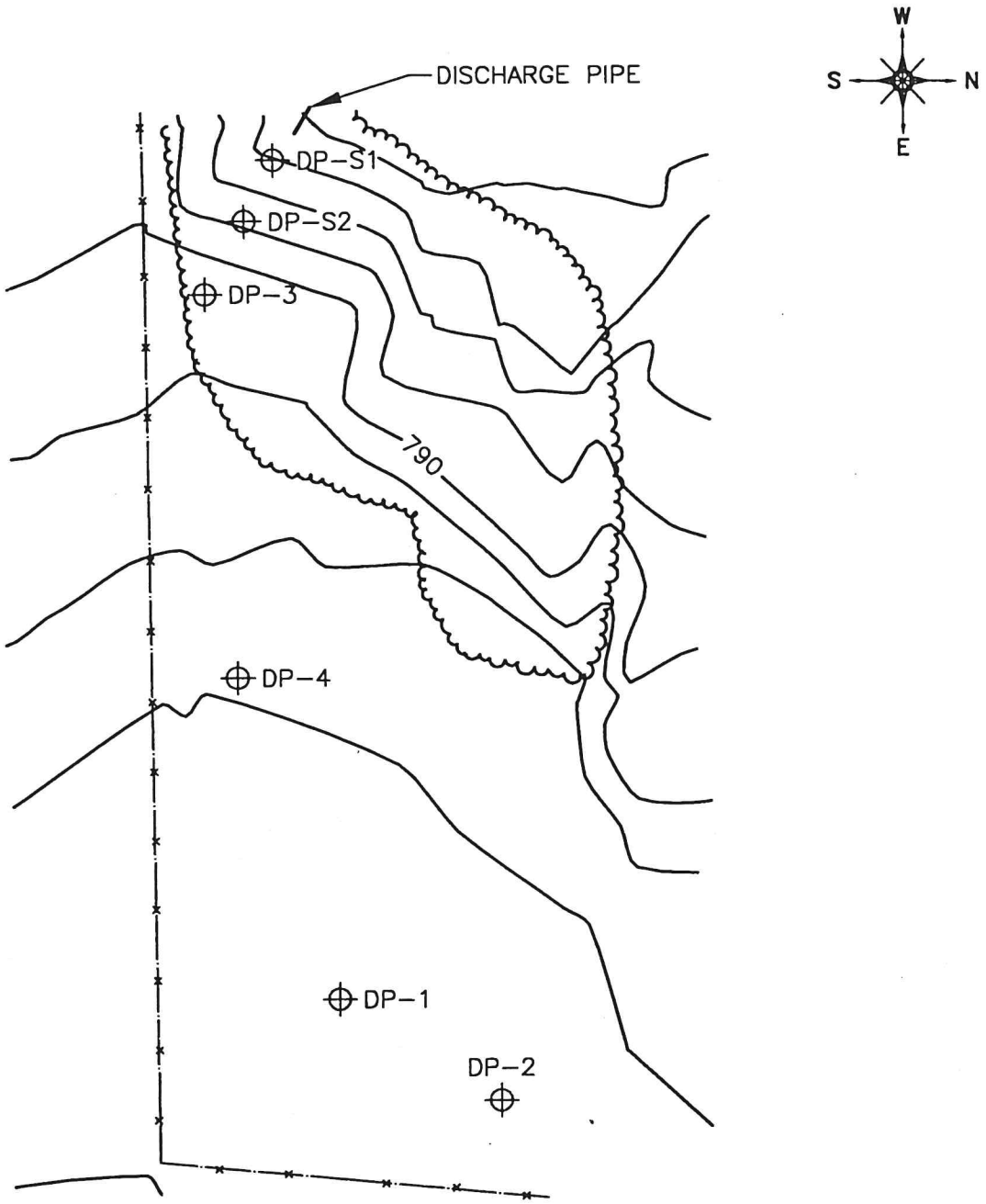


GNB FACILITY NO. 477

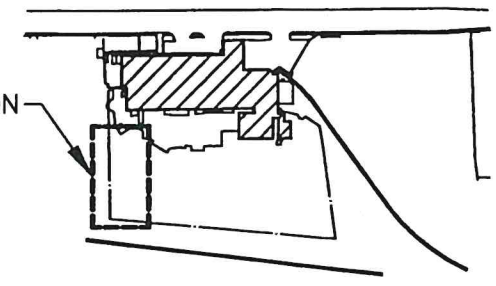
FIGURE 2-2

FORMER STORAGE TANKS
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

PROJECT 91207-4 | REPORT STR | DRAWN CWM | CHECKED | DATE 8/24/92 | APPROVED | CLIENT NAME GNB



DETAIL A



GNB FACILITY NO. 477

APPROX. SCALE (ft.)
0 30

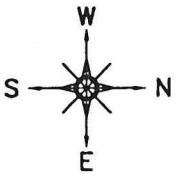
SYMBOL LEGEND:

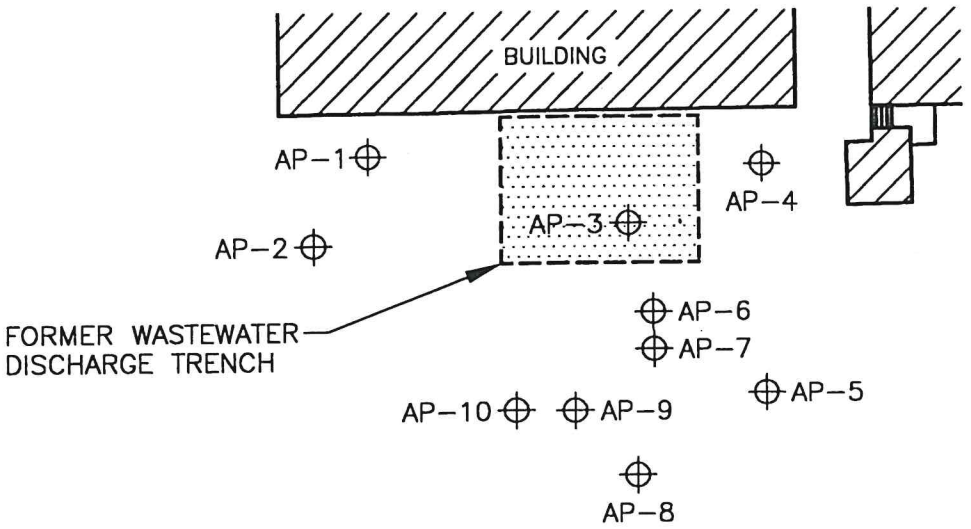
DP-S3	DISCHARGE PIPE SOIL BORING
	FENCE
790	ELEVATION CONTOUR (FEET ABOVE MSL)
	BRUSHLINE

FIGURE 2-3

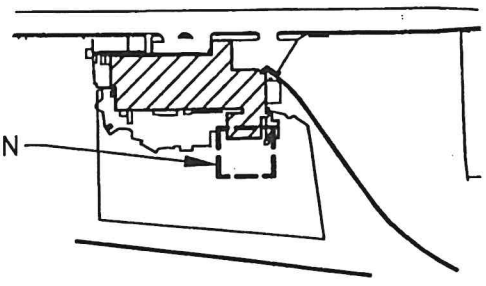
WASTEWATER DISCHARGE PIPE
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

PROJECT 91207-4 | REVISED STR | DRAWN CMM | CHECKED | DATE 9/23/92 | APPROVED | CLIENT NAME GNB





DETAIL A



GNB FACILITY NO. 477

APPROX. SCALE (ft.)
0 30

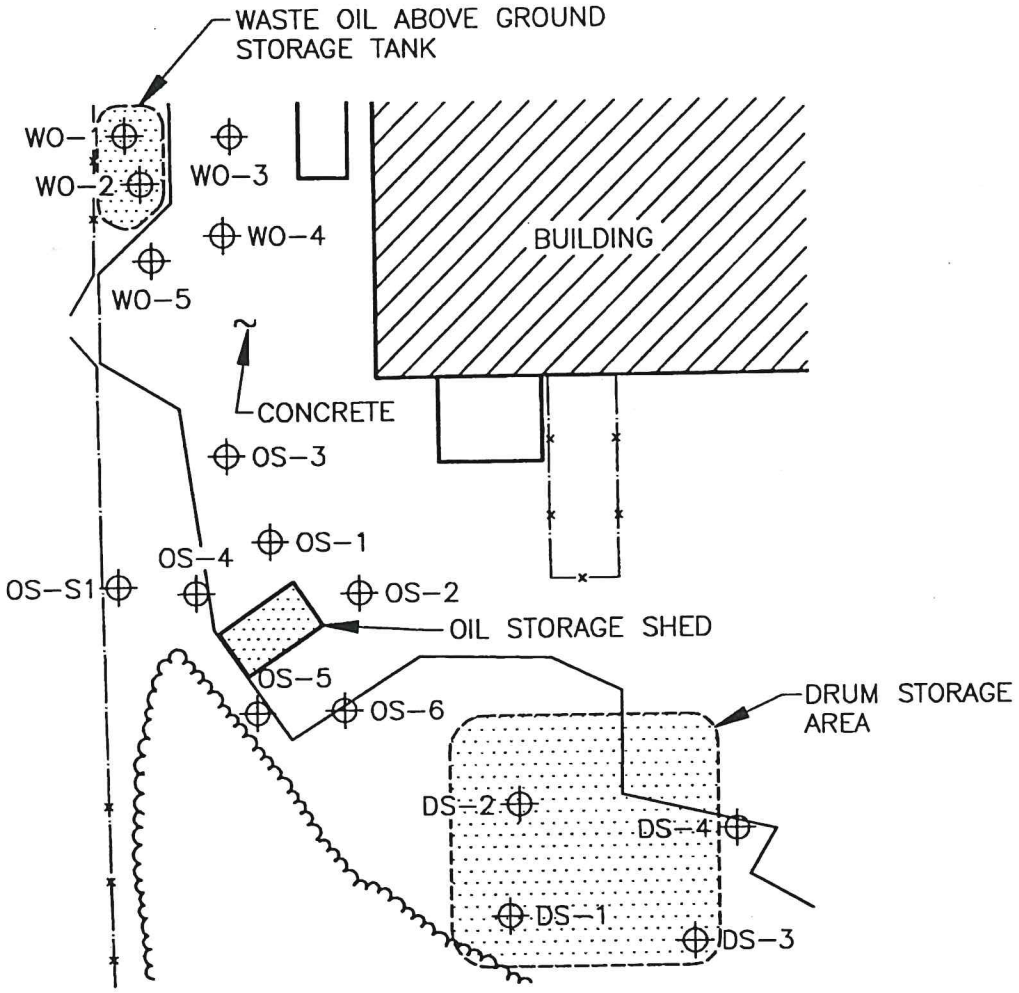
SYMBOL LEGEND:	
AP-3	ACID PIT AREA SOIL BORING
	APPROXIMATE ACID PIT LOCATION

FIGURE 2-4

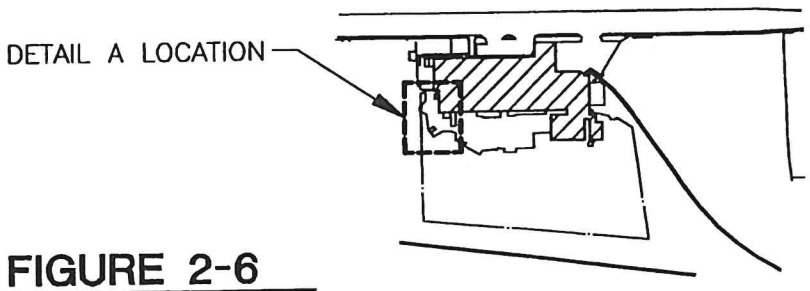
WASTEWATER DISCHARGE TRENCH
GNB FACILITY NO. 477
LEANVENWORTH, KANSAS

ERM

PROJECT: 91207-4
REPORT: SIR
DRAWN: CMM-
CHECKED:
DATE: 10/1/92
APPROVED:
CLIENT NAME: GNB



DETAIL A



GNB FACILITY NO. 477

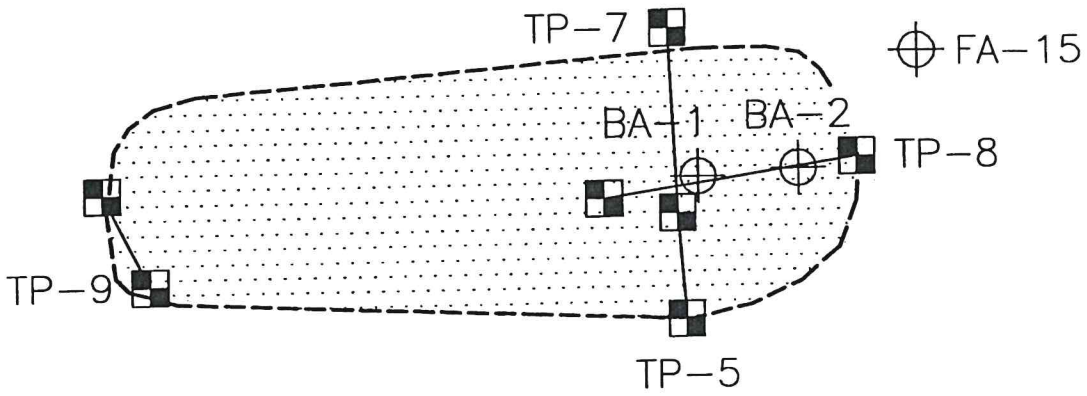
APPROX. SCALE (ft.)
0 30

SYMBOL LEGEND:	
⊕ DS-2	DRUM STORAGE AREA SOIL BORING
⊕ WO-4	WASTE OIL TANK AREA SOIL BORING
⊕ OS-6	OIL STORAGE SHED AREA SOIL BORING
~~	BRUSHLINE

FIGURE 2-6

RAW MATERIALS AND WASTE STORAGE AREAS GNB FACILITY NO. 477 LEAVENWORTH, KANSAS

PROJECT 91207-4 | REPORT SIR | DRAWN CMM- | CHECKED | DATE 8/24/92 | APPROVED | CLIENT MAG. GNB

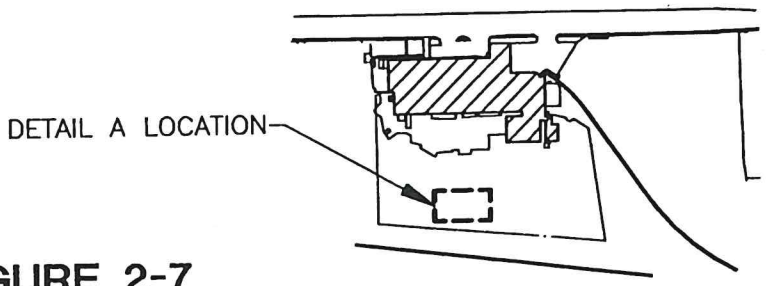


DETAIL A

APPROX. SCALE (ft.)
0 20

SYMBOL LEGEND:

FA-15	FILL AREA SOIL BORING
TP-8 / TP-8	TEST PIT EXTENT
BA-1	BURN PIT SOIL BORING
	APPROXIMATE AREA OF BURN PIT

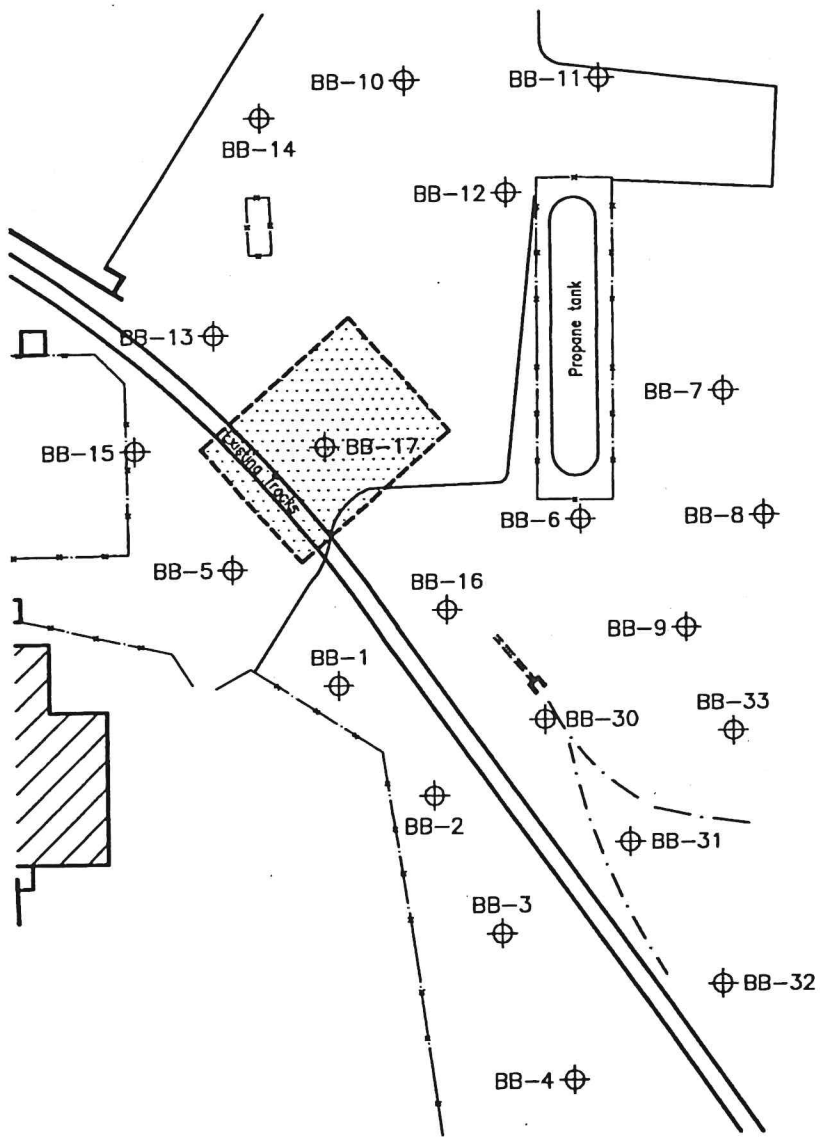


GNB FACILITY NO. 477

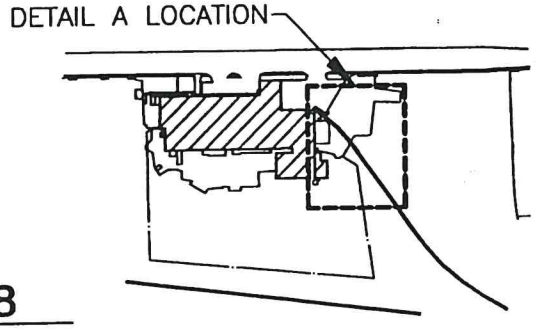
FIGURE 2-7

HISTORICAL BURNING PIT
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

PROJECT: 91207-4
REPORT: STR
DRAWN: CVLM
CHECKED:
DATE: 8/24/92
APPROVED:
CLIENT NAME: GNB



DETAIL A



APPROX. SCALE (ft.)
0 50

SYMBOL LEGEND:

- BB–8 BATTERY BREAKING AREA SOIL BORING
- FENCE
- APPROXIMATE AREA OF BATTERY BREAKING SHED

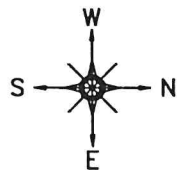
FIGURE 2-8

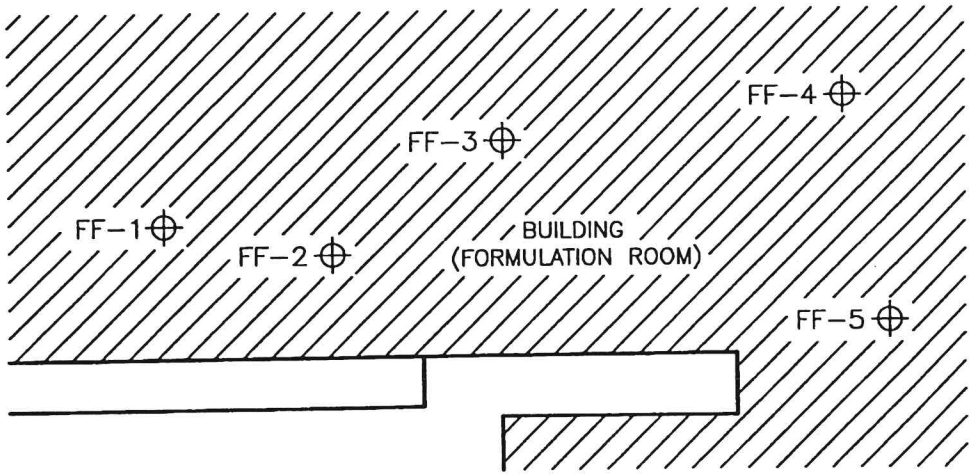
FORMER BATTERY BREAKING AREA
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

GNB FACILITY NO. 477

ERM

PROJECT 91207-4 | REPORT STR | DRAWN CMM | CHECKED | DATE 8/24/92 | APPROVED | CLIENT NAME GNB



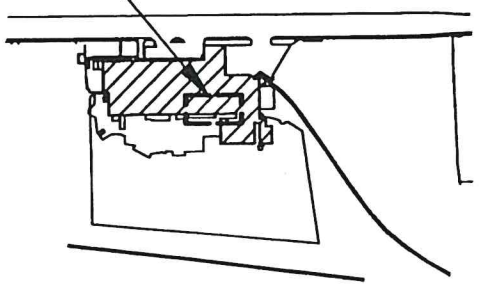


DETAIL A

APPROX. SCALE (ft.)
0 30

SYMBOL LEGEND:
FF-2 FORMULATION FLOOR HAND AUGER LOCATION

DETAIL A LOCATION



GNB FACILITY NO. 477

FIGURE 2-10

FORMULATION AREA FLOORING
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

PROJECT 91207-4 | REPORT STR | DRAWN CMW | CHECKED | DATE 8/11/92 | APPROVED | CLIENT NAME GNB

4.0 PHYSICAL CHARACTERISTICS OF THE STUDY AREA

The physical characteristics of the study area, including the physiography, meteorology, surface water hydrology, geology, and hydrogeology, are described in this section. The information examined during this investigation was derived from published reports and field investigation activities conducted during the site investigation.

4.1 Physiographic Features

The site is located in the Kansas Drift Plain, which is part of the dissected Till Plain Division of the Central Lowlands Province (Schoewe, 1949; Finneman, 1931). In the Leavenworth area, the Kansas Drift Plain is characterized by dissected uplands that form gently rolling hills. These hills slope south toward the Kansas River and east toward the Missouri River, and cause the elevation of the region to vary from 750 to 1,120 feet AMSL with a maximum relief of 370 feet.

The Missouri River, which is approximately one-half mile east of the site, is bordered by steep bluffs composed of the Lansing Group rocks (McLaren, 1958). Five Mile Creek, a northeastward tributary of the Missouri River, is located approximately 900 feet east of the site. Although the GNB facility is near the edge of the Missouri River Valley, most of the original topographical features have been obscured by the solid waste fill material placed on and around the site.

4.2 Meteorology

According to annual data obtained from the National Oceanic and Atmospheric Administration's Weather Station No. 13921 in Leavenworth, Kansas, the site and

adjacent properties are classified as a frequently changeable weather area. During the period from 1979 through 1989, the average yearly rainfall was 33.26 inches, and the average snowfall was 0.32 of an inch. The highest accumulation of rainfall occurred during the months of April through September when temperatures ranged from an average high of 88° F to an average low of 65° F. During the fall and winter months extending from October through March, the temperature varied from average highs of 53° F to average lows of 31° F. Although the wind direction is variable, the prevailing winds are from the south and south-southwest.

4.3 Surface Water Hydrology

The GNB Facility No. 477 is situated on the western side of the Missouri River Valley, at the transition from river alluvium to sloping uplands (Figure 1-1). The Missouri River is approximately 800 feet wide and flows in a southerly direction in the vicinity of Leavenworth, Kansas. Water level data for the area is obtained at the U.S. Geological Survey Gage Station No. 06893000, which is located approximately 30 miles downstream of Leavenworth. Based on records maintained at this Gage Station, the water level of the river fluctuated from a low of 692 feet AMSL to a high of 724 feet AMSL in 1991. The high water levels occur in the fall and winter months.

Five Mile Creek, which is situated between the Missouri River and the site, originates at a location approximately 1,200 feet to the northeast of the site (Figure 1-1).

4.4 Geology

The regional and site-specific stratigraphy and structural geology pertinent to the GNB Facility No. 477 are described in the following subsections.

4.4.1 Regional Geology

The State of Kansas is located on the southern extension of the Canadian Shield, which is part of the Central Stable Region Tectonic Province of North America. The region is characterized by a sequence of southward-thickening sedimentary strata that overlies basement rocks of Precambrian Age. These strata were subjected to a series of vertical crustal movements and formed broad basins or arches during the Paleozoic and Mesozoic Age time periods. The major geologic structures of the region include the Forest City Basin (in the area of the GNB Facility), the Bourbon Arch, the Chautauqua Arch, the Cherokee Basin, the North Kansas Basin, the Salina Basin, the Dodge City Basin, the Central Kansas Uplift, and the Nemaha Anticline. For the most part, the bedrock deposits of Kansas have been truncated by erosion and blanketed by unconsolidated deposits of Tertiary and Quaternary age.

As shown on Figure 4-1, the geology of the Leavenworth area consists of Pennsylvanian bedrock overlain by a relatively thin veneer of Quaternary till, alluvial, and proglacial deposits. The uppermost bedrock in the area is the Lansing Group, which includes the Plattsburg Limestone, the Vilas Shale, and the Stanton Limestone. The Plattsburg Limestone ranges from 15 to 25 feet thick and lithologically consists of basal, fine-grained, thin-to-thick irregularly bedded, occasionally massive, fossiliferous Merriam Limestone overlain by 0.5 to 1.0 foot of reddish brown Hickory Creek Shale and then 8 to 15 feet of fine-grained, thin-to-thick, wavy bedded, fossiliferous Spring Hill Limestone.

The Plattsburg Limestone is overlain by the Vilas Shale, which is typically composed of 15 to 25 feet of gray to green, clayey to silty, nonfossiliferous shale. In the vicinity of the site, the Vilas Shale forms a bench approximately 10 feet above the level of the Missouri River.

The Stanton Limestone is the uppermost, thickest, and most prominent formation of the Lansing Group. It ranges up to 25 feet thick, and is divided from bottom to top into the following five lithofacies:

- Captain Creek Limestone - a 3-foot-thick, basal, massive, blue or brown, fossiliferous limestone with shale beds;
- Eudora Shale - a 2 to 3-foot-thick, dark gray to black, hard, platy, flaky shale with phosphatic nodules;
- Stoper Limestone - an 11 to 15-foot-thick, light gray to buff, fine-grained, wavy bedded, fossiliferous limestone;
- Rock Lake Shale - a 4 to 5-foot-thick, gray to green, ripple-marked, arenaceous shale with discontinuous limestone; and
- South Bend Limestone - a 6 to 7-foot gray-blue to gray-brown, thin bedded, highly arenaceous fossiliferous limestone.

Before the deposition of the overlying Quaternary deposits, the bedrock of northeastern Kansas was extensively eroded, and many hundreds of feet were stripped away. As a

result, considerable local relief developed on this erosional surface, particularly along paleoriver valleys, such as the Missouri River Valley. The Quaternary deposits that overlie the Pennsylvanian bedrock in northeastern Kansas are relatively thick (i.e., up to several hundred feet) and consist of sand, gravel, silt, and clay. According to Frye and Leonard (1952), the oldest Quaternary deposits in Leavenworth County are Kansan Age proglacial and glacial deposits, including:

- The lowermost Atchison Formation, which consists of stratified silt, sand, and gravel deposited by proglacial streams; and

- The Kansan Till, which is comprised of nonstratified and stratified clays, silts, sands, and gravels of glacial origin.

According to McLaren (1952), the stratified sand and gravel deposits interbedded with the nonstratified, unsorted till deposits are more common than the non-stratified till. The Kansan Till is overlain by the Sanborn Formation, which is comprised of loess deposits of Illinoisan and Wisconsinan Age. The reddish brown and silty-clay loess is present throughout the Leavenworth area, it is thickest along the bluffs of the Missouri River. According to McLaren (1952), Quaternary alluvial deposits are present in the valleys of all of the major streams and rivers in northeastern Kansas, and reportedly, the alluvium in the bed of the Missouri River at Leavenworth is over 50 feet thick.

4.4.2 Site-Specific Geology

Based upon the bedrock, soil, and fill materials encountered in the 108 soil borings that were drilled at the site during the site investigation, the stratigraphy of the site may be defined by the following facies in ascending order:

- Plattsburg Limestone,
- Vilas Shale,
- Stanton Limestone,
- Undifferentiated Kansan Drift,
- Sanborn Formation,
- Solid Waste Fill, and
- Topsoil and Clean Fill.

The vertical and lateral stratigraphic relationships of the foregoing geologic facies are displayed on three cross sections of the site shown on Figures 4-2, 4-3, and 4-4, respectively. The physical characteristics of each of these facies are described below.

Plattsburg Limestone

Based on the regional geology of the area including observations of outcrops in the vicinity of the site and soil boring logs from the site, it appears the Pennsylvanian Plattsburg Limestone underlies the entire site. It is the lowermost strata encountered at the site and in general, it is a light gray fractured limestone that weathers to a bright orange yellow. Water was encountered in a limestone at monitoring well MW-4 that may be the Plattsburg Limestone (Figure 4-4).

Vilas Shale

The Vilas Shale, which overlies Plattsburg Limestone, is a greenish gray to black, commonly organic-rich, hard shale with thin limestone and sandstone interbeds. Vilas Shale was encountered at the base of borings BK-1, MW-1, BB-16, UST-9, and AP-3, which are all located on the western one-third of the site. As illustrated on Figure 4-2, Vilas Shale was not found on the eastern two-thirds of the site, likely as a result of pre-Quaternary erosion. Based on observations of outcrops in the vicinity of the site and the on-site soil borings, Vilas Shale appears to be 10 to 15 feet thick in areas that have not been affected by erosion. The sandstone and limestone interbeds encountered within the Vilas Shale at MW-1 contain water that is confined by the overlying shale.

Stanton Limestone

The Stanton Limestone consists of a lower light to dark gray, fractured limestone and an overlying white-to-beige, fractured, thick-bedded to massive limestone. During the site investigation, Stanton Limestone was only encountered at the MW-1 boring location at a thickness of 13 feet. However, outcrops in the vicinity of the site indicate that this

stratigraphic unit may range up to 25 feet in thickness. As illustrated on Figure 4-2, the Stanton Limestone overlies the Vilas Shale and has been eroded from all but the southwestern corner of the site. No water was encountered in this facies.

Undifferentiated Kansan Drift

The undifferentiated Kansan Drift facies is composed of the following four subfacies:

- Till;
- Gravel;
- Sand; and
- Interbedded silt, sand, and gravel.

The till consists of yellowish orange to orangish brown, very hard, nonstratified, unsorted clay with traces of shale and limestone granules and pebbles. During the site investigation, the till was only observed in BK-1 and MW-1, which directly overlies the Stanton Limestone and Vilas Shale. As shown on Figure 4-2, the till observed in MW-1 appears to be a remnant on top of the Missouri River Valley uplands. The till subfacies, which is probably part of the Kansas Till Formation, is confined to the western edge of the site and is not a water-bearing unit. The thickness of the till ranges from 1.7 to 6.5 feet.

The gravel subfacies is comprised of dark yellow to dark green, poorly sorted, fine to coarse gravel with some sand and silt. The gravel fragments, which are composed of

limestone, sandstone, and shale, were only encountered in MW-3, MW-6, and MW-9 at thicknesses of 0.5 to 2.0 feet. As shown on Figures 4-2 and 4-3, the gravel interfingers with the sand subfacies and the interbedded silt, sand, and gravel subfacies in the eastern part of the site. The gravel subfacies is a water-bearing unit.

The sand subfacies is composed of yellowish brown to greenish gray, silty, very fine to coarse sand with some fine to coarse gravel. This subfacies is generally stratified and varies from poorly to well-sorted sand. As shown on Figures 4-2 and 4-3, the sand subfacies was only encountered below the eastern half of the site, and is complexly interbedded with the gravel and interbedded silt, sand, and gravel subfacies. The sand facies is a water-bearing unit.

The interbedded silt, sand, and gravel subfacies is composed of yellowish brown to greenish gray, silty clay, clayey silt, sandy silt, silty sand, sand, and gravel. This subfacies is well stratified and complexly interbedded with the sand and gravel subfacies and the Sanborn Formation facies. As shown on Figures 4-2, 4-3, and 4-4, the interbedded silt, sand, and gravel subfacies was only encountered in the western half of the site, and portions of the subfacies bear water.

In general, the undifferentiated Kansan drift facies corresponds to the Kansan Till and Atchison Formations described by Frye and Leonard (1952). Because the Kansan Till Formation includes some proglacial sand and gravel deposits, no attempt has been made to differentiate the Kansan Formations. However, the till subfacies was only observed below the western side of the site, and the sand, gravel, and interbedded silt, sand, and gravel subfacies were only observed below the eastern half of the site. It appears that the later subfacies are proglacial or alluvial sediments that were deposited in the Paleo-Missouri River Valley.

Sanborn Formation

The Sanborn Formation consists of weathered loess characterized by dark-brown to yellowish gray silt, clayey silt, and silty clay. As shown on Figures 4-2, 4-3, and 4-4, the Sanborn Formation mantles the entire site and unconformably overlies the till subfacies as well as the Stanton Limestone and the Vilas Shale facies below the western half of the site. On the eastern half of the site, the loess conformably overlies and interfingers with the sand, gravel, and interbedded silt, sand, and gravel facies. The facies ranges from 22.5 to 43 feet thick and on the eastern half of the site contains a silty and sandy zone at a depth of approximately 20 to 25 feet BGS. This silty and sandy zone appears to thin and pinch out toward the west. It contains water that is confined by the overlying and underlying silty clay deposits.

Solid Waste Fill

The solid waste fill facies is characterized by chips of battery casings, caps, and interior parts; broken concrete; rubbish; crushed limestone gravel; and silty clay. This facies is generally between 3 and 5 feet thick, with a maximum thickness of 6.7 feet. As shown on Figures 4-2, 4-3, and 4-4, the solid waste fill facies unconformably overlies the Sanborn Formation on the eastern portion and part of the northern section of the site. It is not a water-bearing unit.

Topsoil and Clean Backfill

The topsoil and clean backfill facies consists of dark brown clayey silt, silty clay, sandy topsoil, and crushed limestone gravel. This facies includes the gravel used to backfill the diesel UST pit, native topsoil, and the topsoil used as fill on the western and

northwestern portions of the site. The facies is areally discontinuous, varies in thickness from 0 to 10 feet, and is not a water-bearing unit. These materials have been used to backfill various other holes and grade surfaces on the site.

4.5 Hydrogeology

Ground water below the site was found in three distinct water-bearing zones: (1) the Vilas Shale zone, which is composed of the sandstone and limestone interbeds in the Vilas Shale, (2) the lower zone, which is composed of the Plattsburg Limestone and overlying the sand and gravel deposits in the undifferentiated Kansan drift, and (3) the upper zone, which is composed of fractured and slightly coarser grained deposits within the Sanborn Formation. Each of these water-bearing zones is composed of coarser-grained aquifer materials that are overlain, and in some cases underlain, by fine grained aquitard and aquiclude materials. Accordingly, the ground water encountered in all of the water-bearing zones is under confined conditions. As shown on Figures 4-2, 4-3 and 4-4, the vertical and lateral stratigraphic relationships of the coarser grained aquifer materials are complex; however, each of the three water-bearing zones appears to be hydraulically isolated from the other water-bearing zones.

The Vilas Shale water-bearing zone was only encountered at MW-1, which is screened opposite the sandstone and limestone interbeds in the Vilas Shale. As shown on Figure 4-2, the water-bearing portion of the Vilas Shale is overlain by several feet of shale and is truncated to the east by the fine grained deposits of the Sanborn Formation. As a result, the ground water in this zone is under confined conditions and may be hydraulically isolated from the other two water-bearing zones.

The lower water-bearing zone, which was encountered at monitoring wells MW-2, MW-3, MW-4, MW-5, and MW-6, consists of the Plattsburg Limestone and the overlying silt, sand, and gravel deposits in the undifferentiated Kansan drift. As shown on Figures 4-2, 4-3, and 4-4, the geologic facies that comprised this lower water-bearing zone are overlain by the silty clay deposits of the Sanborn Formation. Therefore, the ground water in the lower water-bearing zone is under confined conditions and is separated from the upper water-bearing zone by an intervening aquitard or aquiclude.

The upper water-bearing zone appears to consist of fractured and slightly coarser grained deposits within the predominately silty clay Sanborn Formation. Unsaturated silty clay deposits underlie and overlie this water-bearing zone, and thereby separate it from the other two water-bearing zones. The ground water in the upper water-bearing zone is under confined conditions as indicated by the water rising up the bore hole several feet above the depth at which it was first encountered. The upper water-bearing zone is more productive in the eastern portion of the site where the loess deposits are siltier and sandier (i.e., MW-7, MW-8, and MW-9). As shown on Figure 4-2, these silty and sandy beds within the loess thin and pinch out toward the west. However, the upper water-bearing zone may be laterally continuous with the wet zones observed in the fractured silty clay at monitoring well locations MW-2, MW-3, MW-4, and MW-5. Those wet zones range from one to 15 feet in thickness and are situated at approximately the same elevation as the upper water-bearing zone intersected by monitoring wells MW-7, MW-8, and MW-9 (see Figures 4-2, 4-3, and 4-4). No evidence of the upper water-bearing zone was encountered in monitoring well MW-1 or in soil boring BK-1. Therefore, it appears that this zone thins and pinches out in the finer-grained silty clay deposits located on the western portion of the site.

Because the site is situated at a higher elevation than the nearby Missouri River, ground water flow was expected to be toward the east (i.e., toward the River). As shown on Table 4-1, static water level data were collected from the existing monitoring well network to evaluate ground water flow direction. Because the monitoring wells are set in three separate water-bearing units, the static water level data for each water-bearing unit must be evaluated separately. However, the number and/or the distribution of monitoring wells set in each of the water-bearing units are insufficient for a quantitative evaluation of the ground water flow direction and gradients in each water-bearing zone. The following qualitative conclusions can be drawn from the static water level data:

- The horizontal flow gradient in the upper and lower water-bearing zones at the site is generally toward the east and northeast;

- The vertical flow gradient at the site is probably downward; and

- Monitoring well MW-1 appears to be slightly downgradient of the operations at the site and therefore is not an ideal background monitoring well.

TABLE 4-1

WATER LEVEL ELEVATION DATA
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

Location	Measuring Date: 4/4/92		Measuring Date: 4/6/92		Measuring Date: 4/15/92		Measuring Date: 5/15/92	
	Depth to Water (feet)	Piezometric Surface Elevation (1)	Depth to Water (feet)	Piezometric Surface Elevation (1)	Depth to Water (feet)	Piezometric Surface Elevation (1)	Depth to Water (feet)	Piezometric Surface Elevation (1)
MW-1	N/A	N/A	N/A	N/A	N/A	N/A	34.25	776.19
MW-2	N/A	N/A	24.63	772.89	24.44	773.09	23.53	773.99
MW-3	N/A	N/A	22.42	777.16	22.29	777.29	23.12	776.68
MW-4	N/A	N/A	19.94	773.39	17.76	775.57	26.63	766.70
MW-5	N/A	N/A	19.66	776.32	19.74	776.24	19.00	776.98
MW-6	14.87	771.60	15.23	771.24	14.98	771.49	14.76	771.71
MW-7	14.27	772.94	14.36	772.85	14.01	773.20	13.99	773.22
MW-8	9.06	776.30	9.44	775.92	8.58	776.78	10.15	775.21
MW-9	5.52	776.91	6.17	776.26	5.91	776.52	6.57	775.68

Note: (1) Elevations are presented in feet above mean sea level.

Key: N/A = Data point did not exist at the time of measurement.

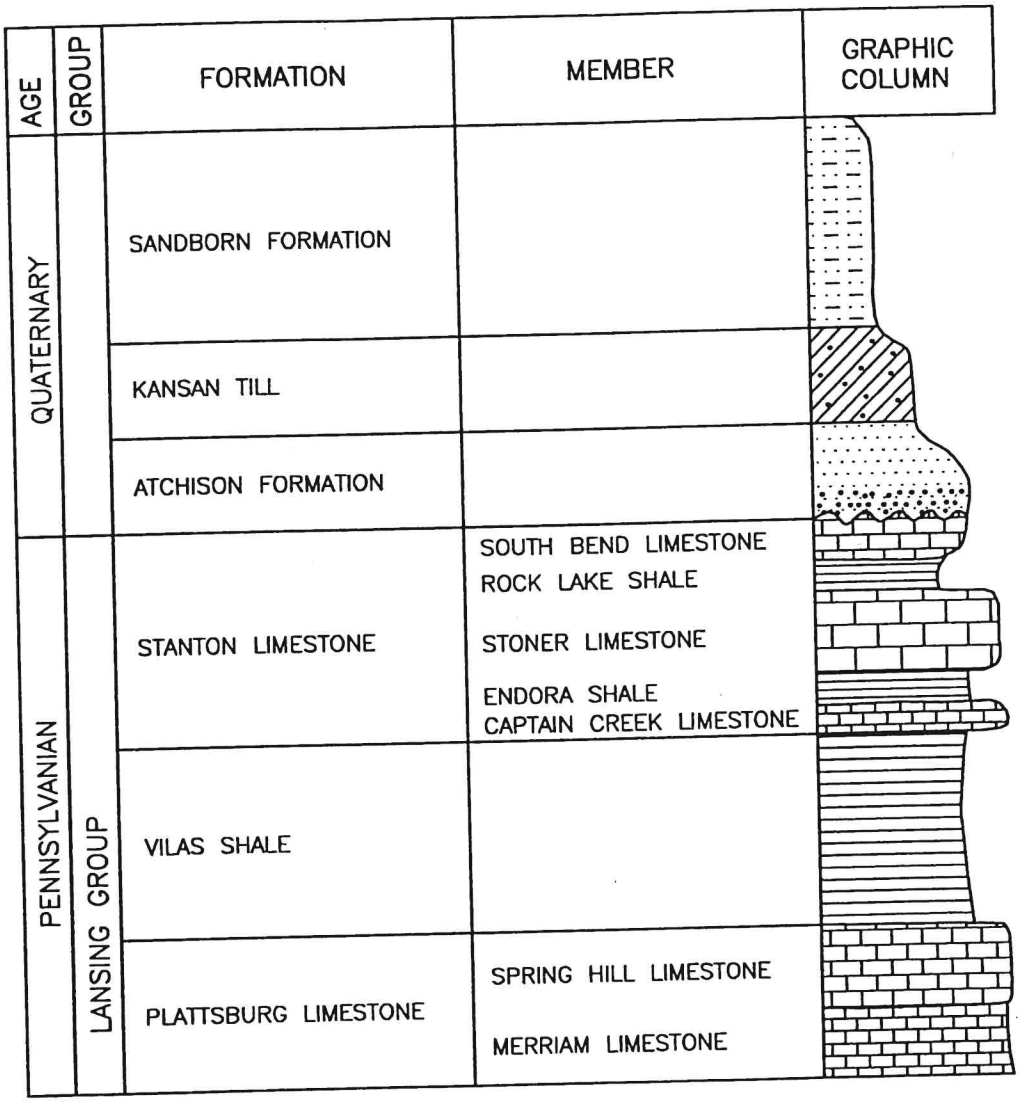


FIG4-5

PROJECT 81207-4 | REPORT SIR | DRAWN MO | CHECKED | DATE 9/3/92 | APPROVED | CLIENT NAME GNB

FIGURE 4-1

GENERALIZED REGIONAL STRATIGRAPHIC SECTION GNB FACILITY NO. 477 LEAVENWORTH, KANSAS

TABLE 5-1

SUMMARY OF BACKGROUND METALS
CONCENTRATIONS IN SOIL
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

Parameter	Sample Number				
	BKIE (mg/Kg)	BK1M (mg/Kg)	BK1O (mg/kg)	BK2B (mg/Kg)	BK2F (mg/Kg)
Aluminum	15,900	18,100	23,200	21,300	14,200
Arsenic	5.9	4.1	21.1	10.0	5.3
Barium	183	128	181	307	207
Cadmium	U	U	3.47	U	U
Calcium	3,770	3,580	12,800	3,160	3,730
Chromium	24.2	19.2	158	23	25.2
Cobalt	U	U	29.8	U	U
Copper	13.9	12.2	66.6	20	15.6
Iron	19,900	12,700	35,100	23,500	23,000
Lead	9.5	10.6	152	18.4	12.9
Magnesium	4,200	3,940	7,210	4,160	3,730
Manganese	524	254	698	1,270	126
Nickel	17.8	16.5	157	31.1	15.9
Potassium	2,070	2,100	6,500	2,880	1,950
Selenium	U	U	10.4	U	U
Vanadium	45.1	32.2	73.8	46.5	41.7
Zinc	69	46.3	813	78.2	62.3

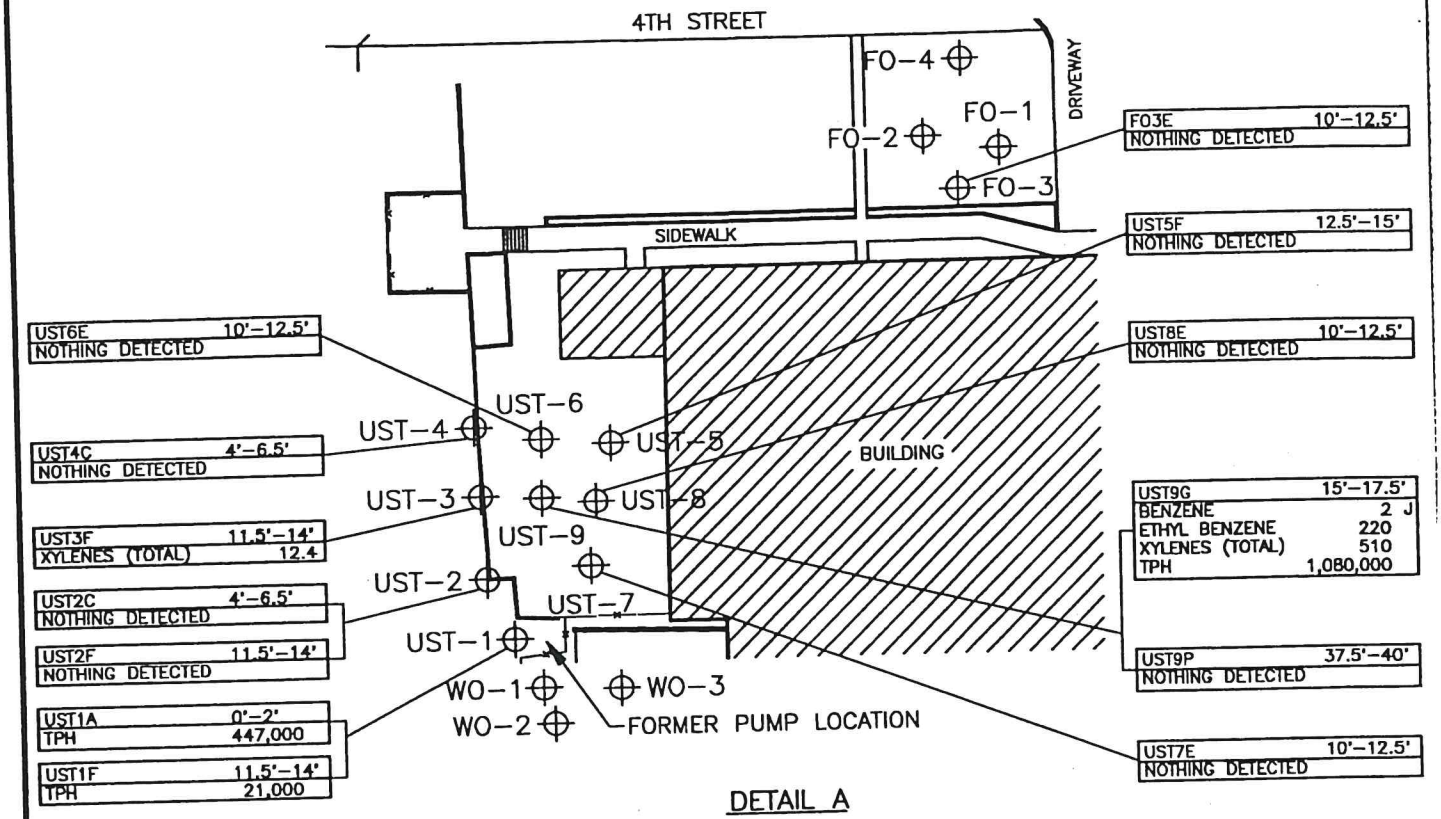
Key:
U = Undetected

TABLE 5-2

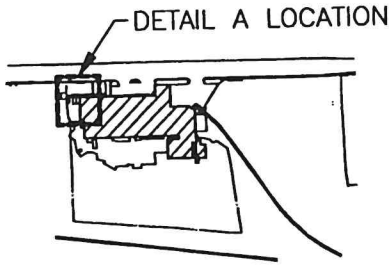
SUMMARY OF BACKGROUND CONCENTRATIONS IN GROUNDWATER
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

Sample No. Sample Identification Date Sample Collected Units	MW-1 Round One Groundwater Sample 5/13/92 (ug/L)	MW-1RE Round One Reanalyzed Groundwater Sample 5/13/92 (ug/L)	MW-1 Round Two Groundwater Sample 7/7/92 (ug/L)	MW-1 Round Two Groundwater Split Sample 7/7/92 (ug/L)
Volatile Organic Compounds:				
Methylene Chloride	10 U	N/A	10 U	5 U
Acetone	10 U	N/A	10 U	10 U
Carbon Disulfide	10 U	N/A	10 U	10 U
1,1-Dichloroethene	1 J	N/A	10 U	5 U
1,1-Dichloroethane	1 J	N/A	1 J	5 U
1,2-Dichloroethene (total)	10 U	N/A	10 U	5 U
2-Butanone	10 U	N/A	10 U	10 U
1,1,1-Trichloroethane	4 J	N/A	4 J	5 U
Trichloroethene	52	N/A	70	100
Benzene	10 U	N/A	10 U	5 U
4-Methyl-2-Pentanone	10 U	N/A	10 U	5 U
Tetrachloroethene	2 J	N/A	4 J	5 U
Toluene	1 JB	N/A	10 U	15
Xylenes (total)	10 U	N/A	10 U	5 U
Semivolatile Organic Compounds:				
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U
Phenanthrene	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U
Diethylphthalate	0 JB	10 U	1 JB	10 U
Di-n-butylphthalate	1 JB	1 JB	1 JB	10 U
Butylbenzylphthalate	10 U	10 U	0 JB	10 U
bis(2-Ethylhexyl)phthalate	12 B	18	10 B	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U
Dissolved Metals:				
Aluminum	14.00 U	N/A	15.00 U	100.00 U
Antimony	21.00 U	N/A	21.00 U	8.00
Barium	39.60 B	N/A	31.50 B	100.00 U
Beryllium	1.11 B	N/A	1.00 U	5.00 U
Cadmium	15.50	N/A	16.70	30.00
Calcium	516,000.00	N/A	497,000.00	658,000.00
Cobalt	5.78 B	N/A	8.81 B	90.00
Copper	4.00 U	N/A	2.00 U	10.00 U
Iron	48.20 B	N/A	103.00	160.00
Lead	1.00 U	N/A	2.00 U	9.00
Magnesium	145,000.00	N/A	147,000.00	160,000.00
Manganese	37,700.00	N/A	38,700.00	38,000.00
Nickel	260.00	N/A	272.00	340.00
Potassium	4,260.00 B	N/A	3,760.00 B	3,600.00
Sodium	65,000.00	N/A	62,900.00	69,000.00
Zinc	285.00	N/A	296.00	370.00
Sulfate	1,720,000	N/A	1,840,000	2,250,000

Key:
U = Compound was not detected.
J = Estimated concentration.
N/A = Not analyzed for this parameter.
B = Compound detected in laboratory blank at a similar concentration.



DETAIL A



GNB FACILITY NO. 477

NOTE: CONCENTRATIONS IN ug/Kg.

KEY: UST=UNDERGROUND STORAGE TANK
TPH=TOTAL PETROLEUM HYDROCARBONS
J=ESTIMATED CONCENTRATION

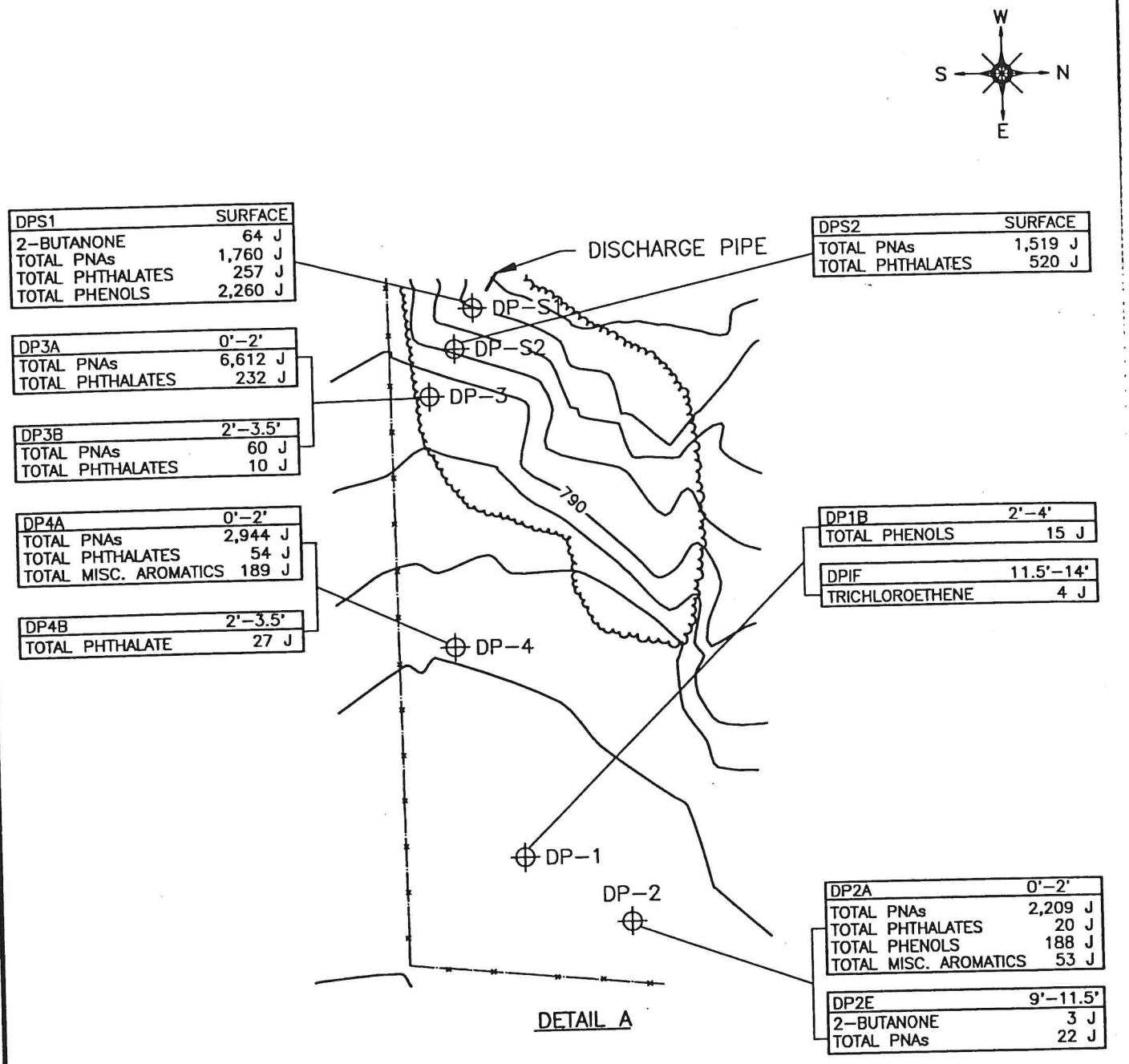
APPROX. SCALE (ft.)
0 40

SYMBOL LEGEND:	
⊕ FO-1	FUEL OIL UST SOIL BORING
⊕ UST-7	DIESEL UST SOIL BORING

FIGURE 5-1

ANALYTICAL RESULTS FORMER STORAGE TANKS GNB FACILITY NO. 477 LEAVENWORTH, KANSAS

CLIENT NAME: GNB
APPROVED:
DATE: 9/21/92
CHECKED:
DRAWN: CMM-
REVISED: SIR
PROJECT: 91207-4



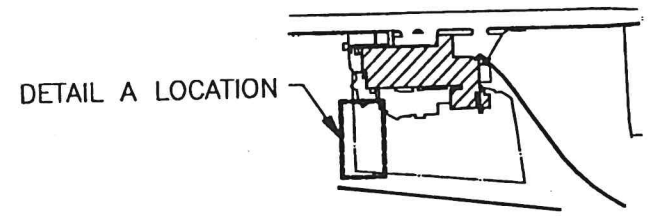
NOTE: ORGANIC CONCENTRATIONS IN ug/Kg.

KEY: PNAs=POLYNUCLEAR AROMATICS
J=ESTIMATED CONCENTRATION

APPROX. SCALE (ft.)
0 40

SYMBOL LEGEND:

DP-S3	DISCHARGE PIPE SOIL BORING
790	ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
	FENCE
	BRUSHLINE

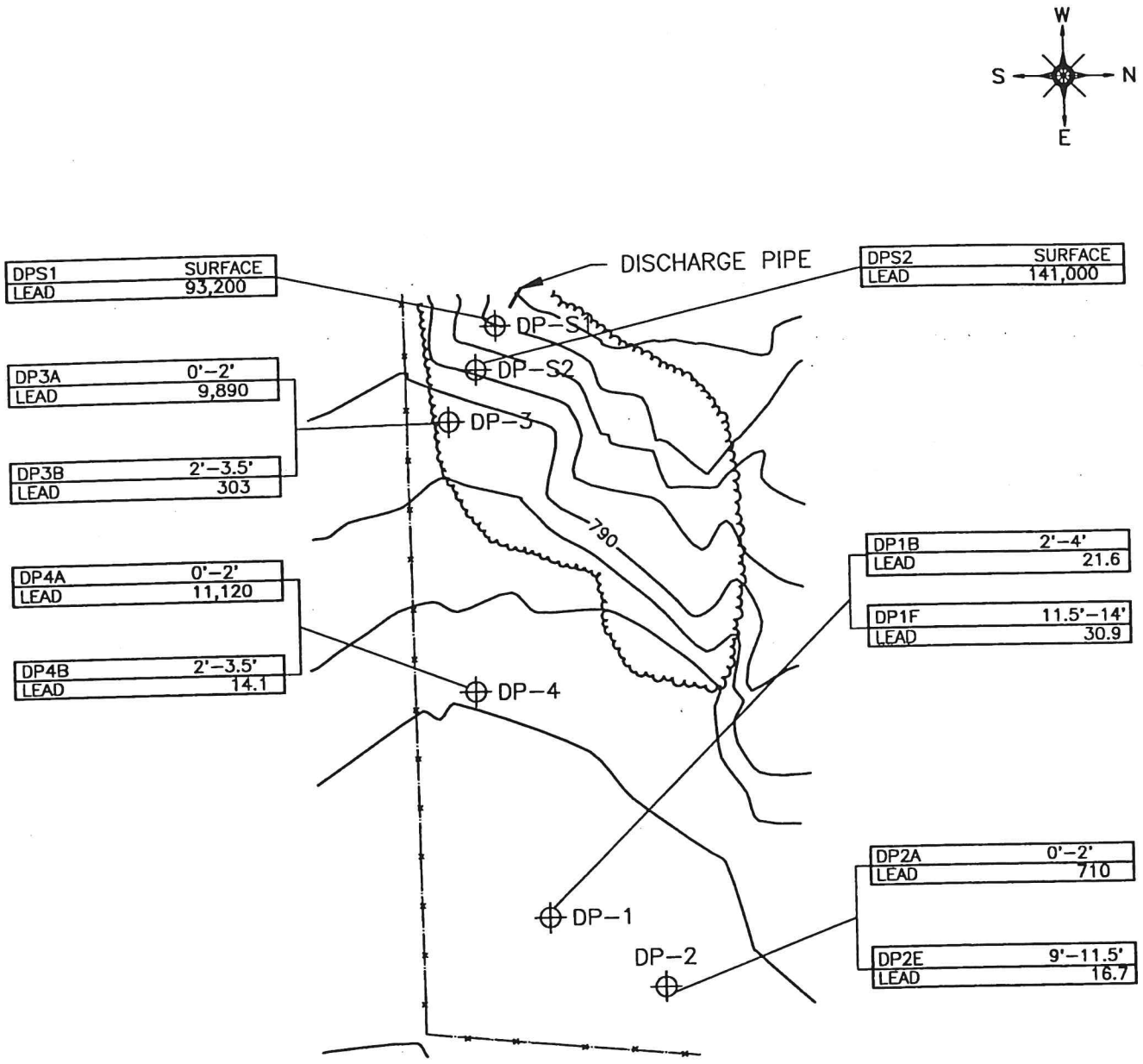


GNB FACILITY NO. 477

FIGURE 5-2

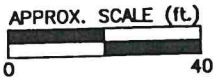
ORGANIC ANALYTICAL RESULTS DISCHARGE PIPE GNB FACILITY NO. 477 LEAVENWORTH, KANSAS

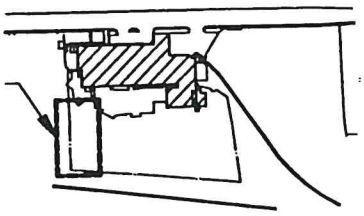
PROJECT 91207-4 | REPORT STR | DRAWN CMM | CHECKED | DATE 9/21/92 | APPROVED | CLIENT NAME GNB



DETAIL A

NOTE: CONCENTRATIONS IN mg/Kg.





GNB FACILITY NO. 477

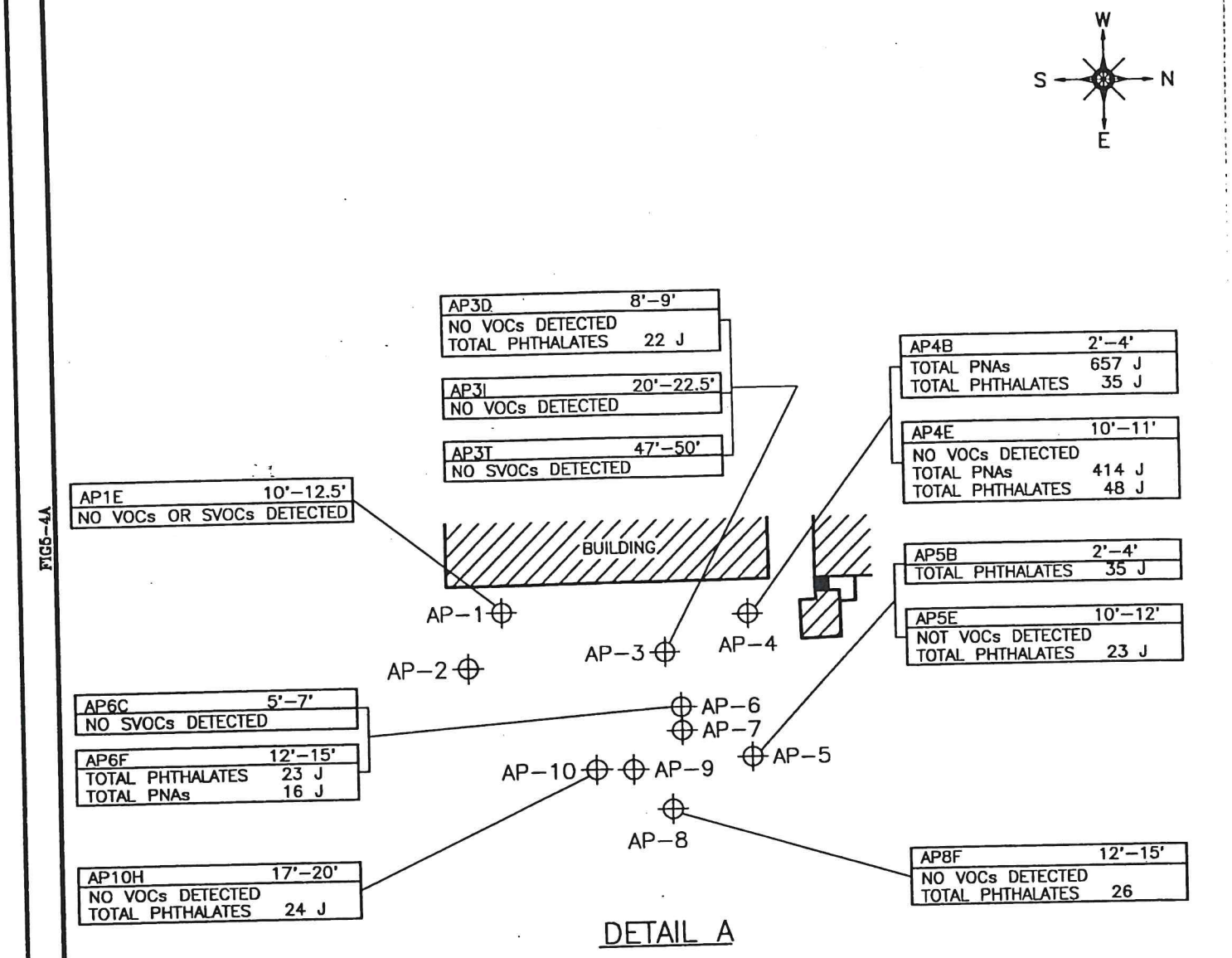
SYMBOL LEGEND:

- DP-S3 — DISCHARGE PIPE SOIL BORING
- 790 — ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
- FENCE
- BRUSHLINE

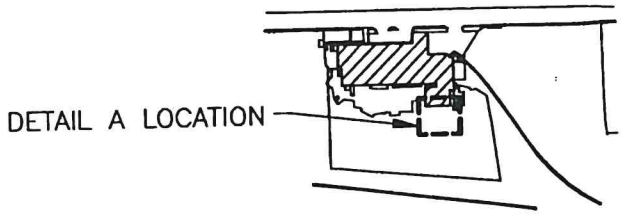
FIGURE 5-3

LEAD ANALYTICAL RESULTS DISCHARGE PIPE GNB FACILITY NO. 477 LEAVENWORTH, KANSAS

PROJECT 91207-4 | DRAWN SIR | DESIGN CMM | CHECKED | DATE 9/21/92 | APPROVED | CLIENT NAME GNB | FIG5-3A



DETAIL A



GNB FACILITY NO. 477

NOTE: ORGANIC CONCENTRATIONS IN ug/Kg.

KEY: PNAs=POLYNUCLEAR AROMATICS
VOCs=VOLATILE ORGANIC COMPOUNDS
SVOCs=SEMIVOLATILE ORGANIC COMPOUNDS
J=ESTIMATED CONCENTRATIONS

APPROX. SCALE (ft.)
0 40

SYMBOL LEGEND:	
⊕ AP–3	WASTEWATER DISCHARGE TRENCH SOIL BORING

FIGURE 5-4

ORGANIC ANALYTICAL RESULTS WASTEWATER DISCHARGE TRENCH GNB FACILITY NO. 477 LEAVENWORTH, KANSAS

FIG5-4A
CLIENT NAME: GNB
APPROVED:
DATE: 9/22/92
CHECKED:
DRAWN: CMM-
REPORT: SIR
PROJECT: 91207-4

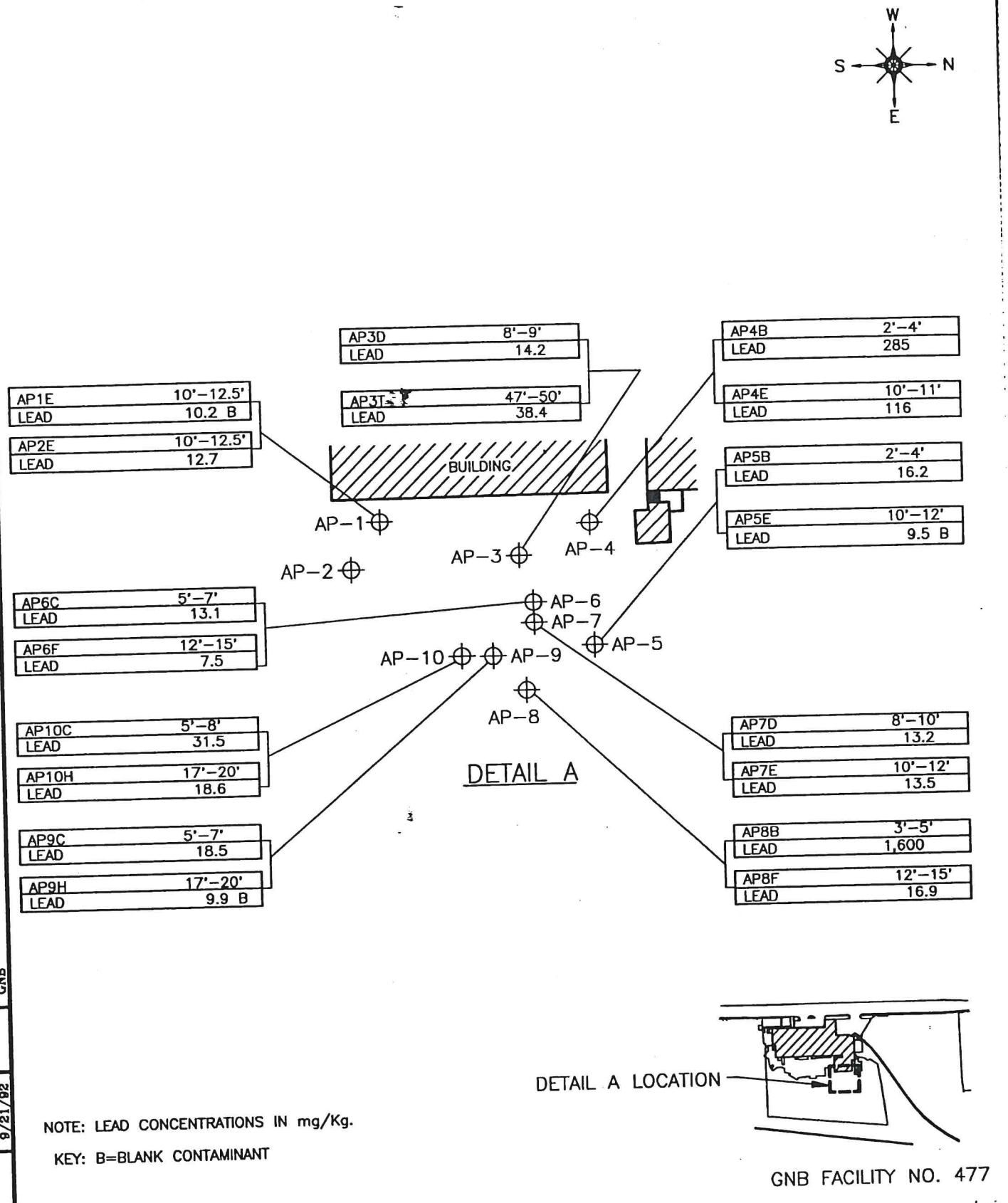
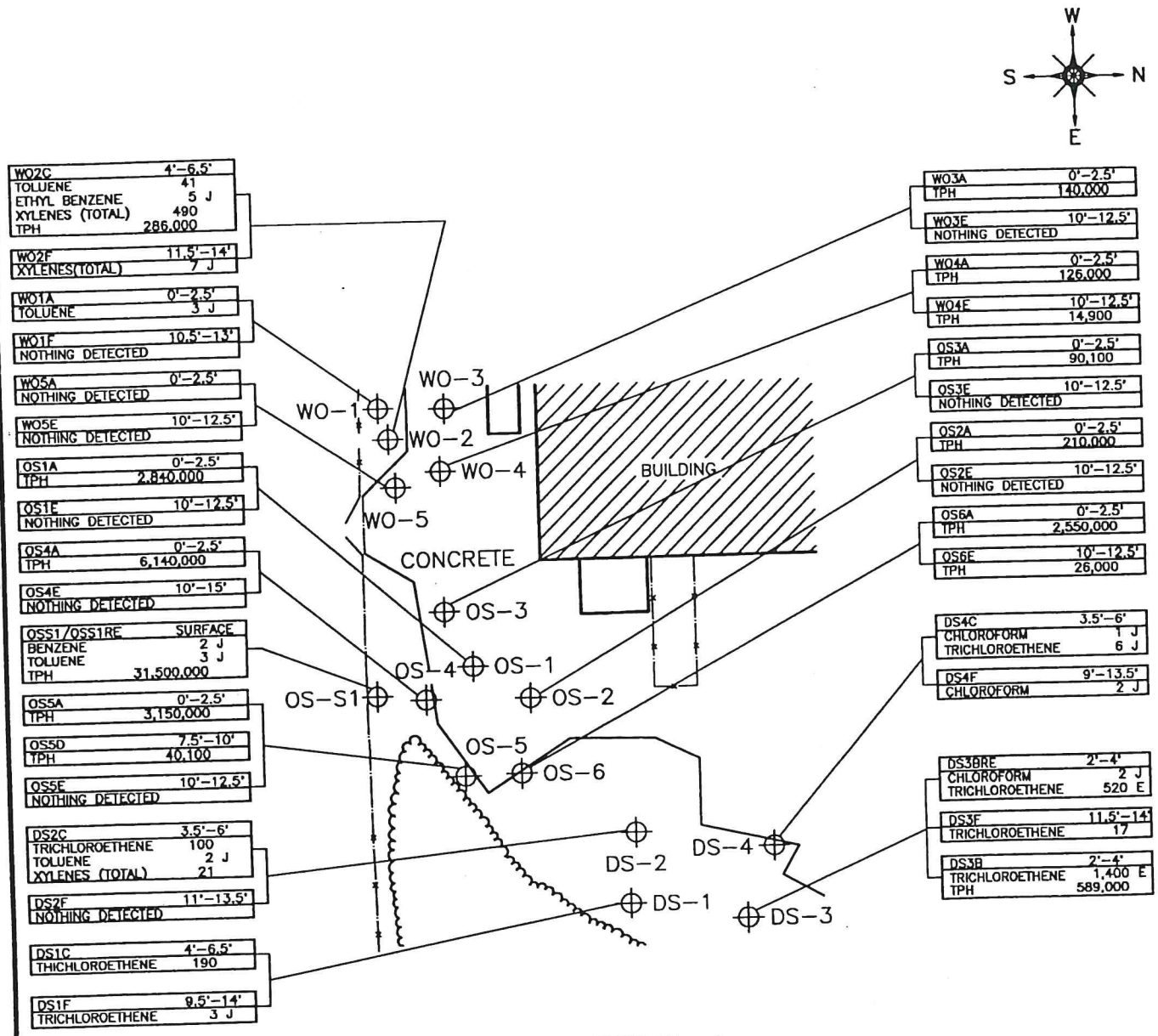


FIGURE 5-5

LEAD ANALYTICAL RESULTS
WASTEWATER DISCHARGE TRENCH
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

PROJECT 91207-4 | REVISION SIR | DRAWN CMM | CHECKED | DATE 9/21/92 | APPROVED | CLIENT NAME GNB



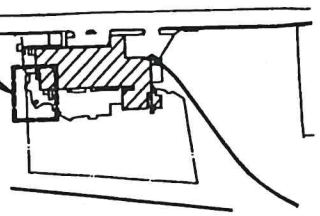
DETAIL A

NOTE: CONCENTRATIONS IN ug/Kg.

KEY: TPH=TOTAL PETROLEUM HYDROCARBONS
J=ESTIMATED CONCENTRATION
E=ESTIMATED COMPOUND EXCEEDS THE CALIBRATION RANGE OF INSTRUMENT

APPROX. SCALE (ft.)
0 40

DETAIL A LOCATION



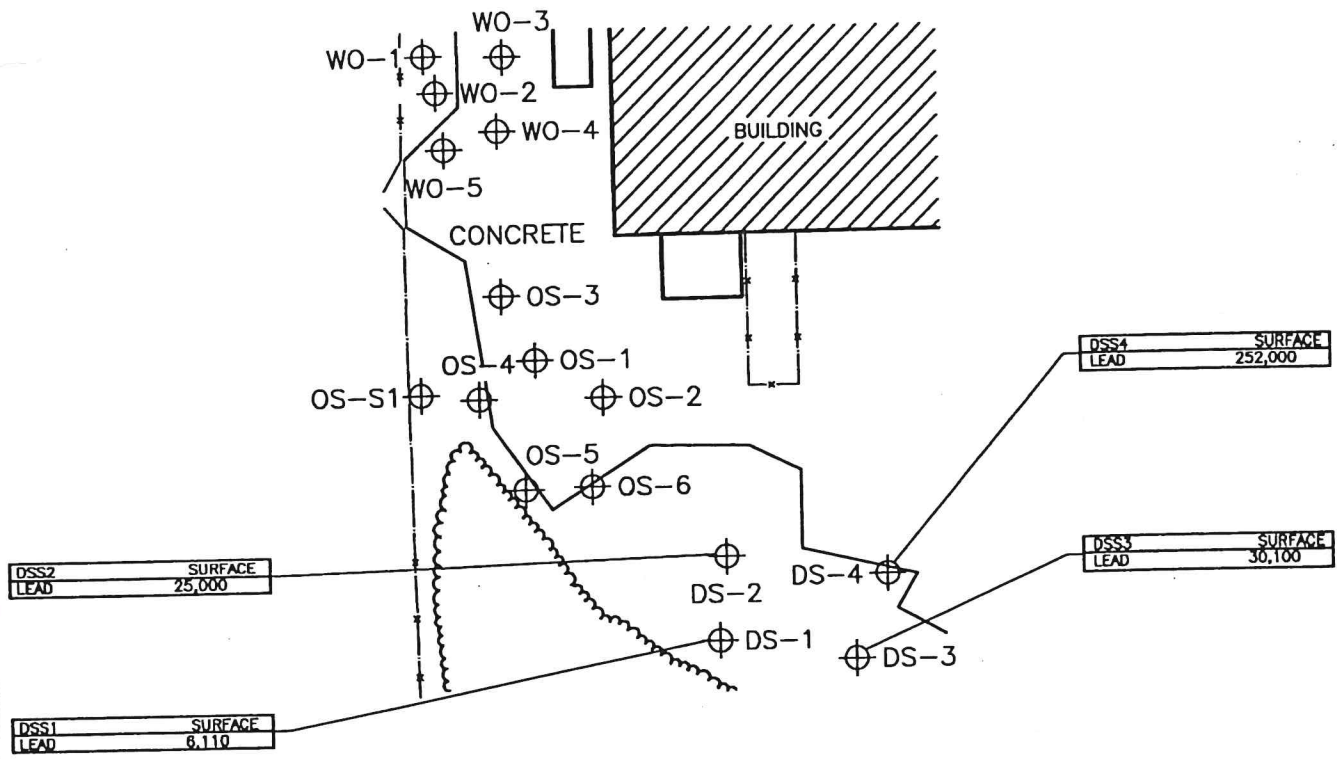
GNB FACILITY NO. 477

SYMBOL LEGEND:	
DS-2	DRUM STORAGE AREA SOIL BORING
WO-4	WASTE OIL TANK AREA SOIL BORING
OS-6	OIL STORAGE SHED AND SOIL BORING
	FENCE
	BRUSHLINE

FIGURE 5-7

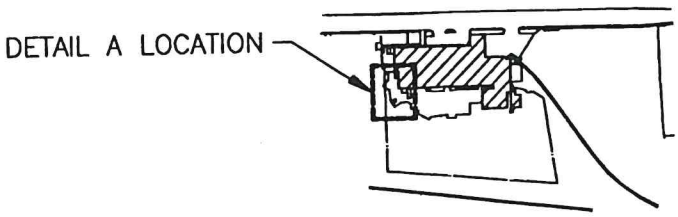
ORGANIC ANALYTICAL RESULTS RAW MATERIAL AND WASTE STORAGE AREAS GNB FACILITY NO. 477 LEAVENWORTH, KANSAS

FIG5-7A
CLIENT NAME: GNB
APPROVED:
DATE: 9/21/92
CHECKED:
ORIGIN: CMDM-
REPORT: SIR
PROJECT: 91207-4

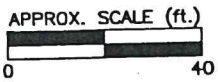


DETAIL A

NOTE: LEAD CONCENTRATIONS IN ug/Kg.



GNB FACILITY NO. 477

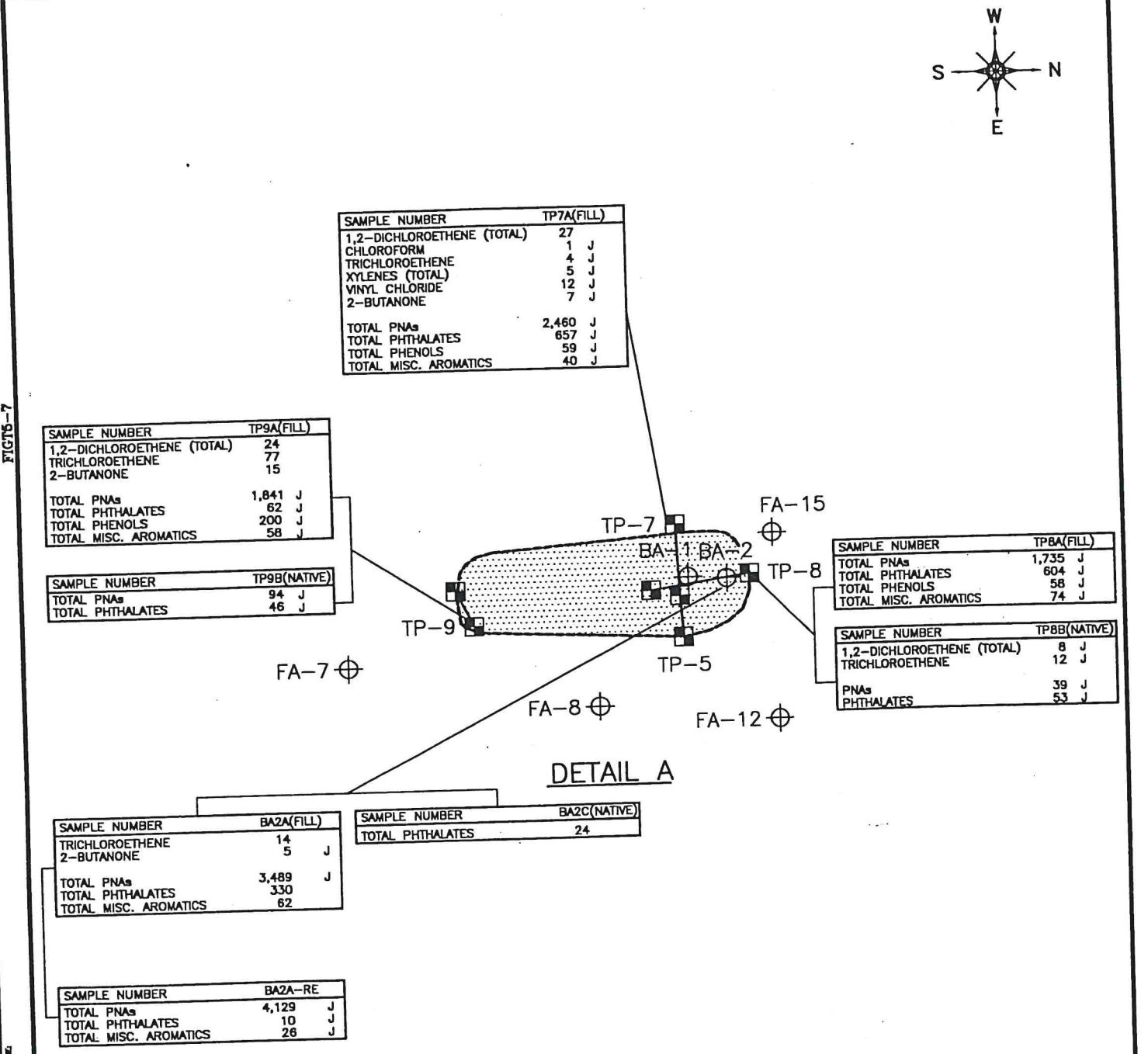


SYMBOL LEGEND:	
DS-2	DRUM STORAGE AREA SOIL BORING
WO-4	WASTE OIL TANK AREA SOIL BORING
OS-6	OIL STORAGE SHED AND SOIL BORING
	FENCE
	BRUSHLINE

FIGURE 5-8

LEAD ANALYTICAL RESULTS RAW MATERIAL AND WASTE STORAGE AREAS GNB FACILITY NO. 477 LEAVENWORTH, KANSAS

PROJECT 91207-4 | REPORT SIR | DRAWN CMM | CHECKED | DATE 9/21/92 | APPROVED | CLIENT NAME GNB

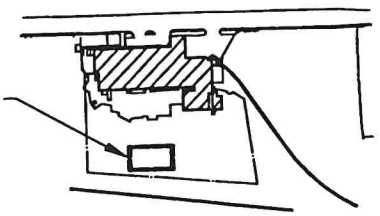


NOTE: CONCENTRATIONS IN ug/Kg
PNAs=POLYNUCLEAR AROMATICS
SVOCs=SEMIVOLATILE ORGANIC COMPOUNDS
J=ESTIMATED COMPOUND

APPROX. SCALE (ft.)
0 40

SYMBOL LEGEND:

FA-15	FILL AREA SOIL BORING
TP-8	TEST PIT
BA-1	BURN PIT SOIL BORING
	APPROXIMATE AREA OF BURN PIT



GNB FACILITY NO. 477

FIGURE 5-9

ORGANIC ANALYTICAL RESULTS
HISTORICAL BURNING PIT
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

ERM

FIGT5-7
CLIENT NAME: GNB
APPROVED:
DATE: 9/23/92
CHECKED:
DRAWN: CWM-
REPORT: SIR
PROJECT: 91207-4

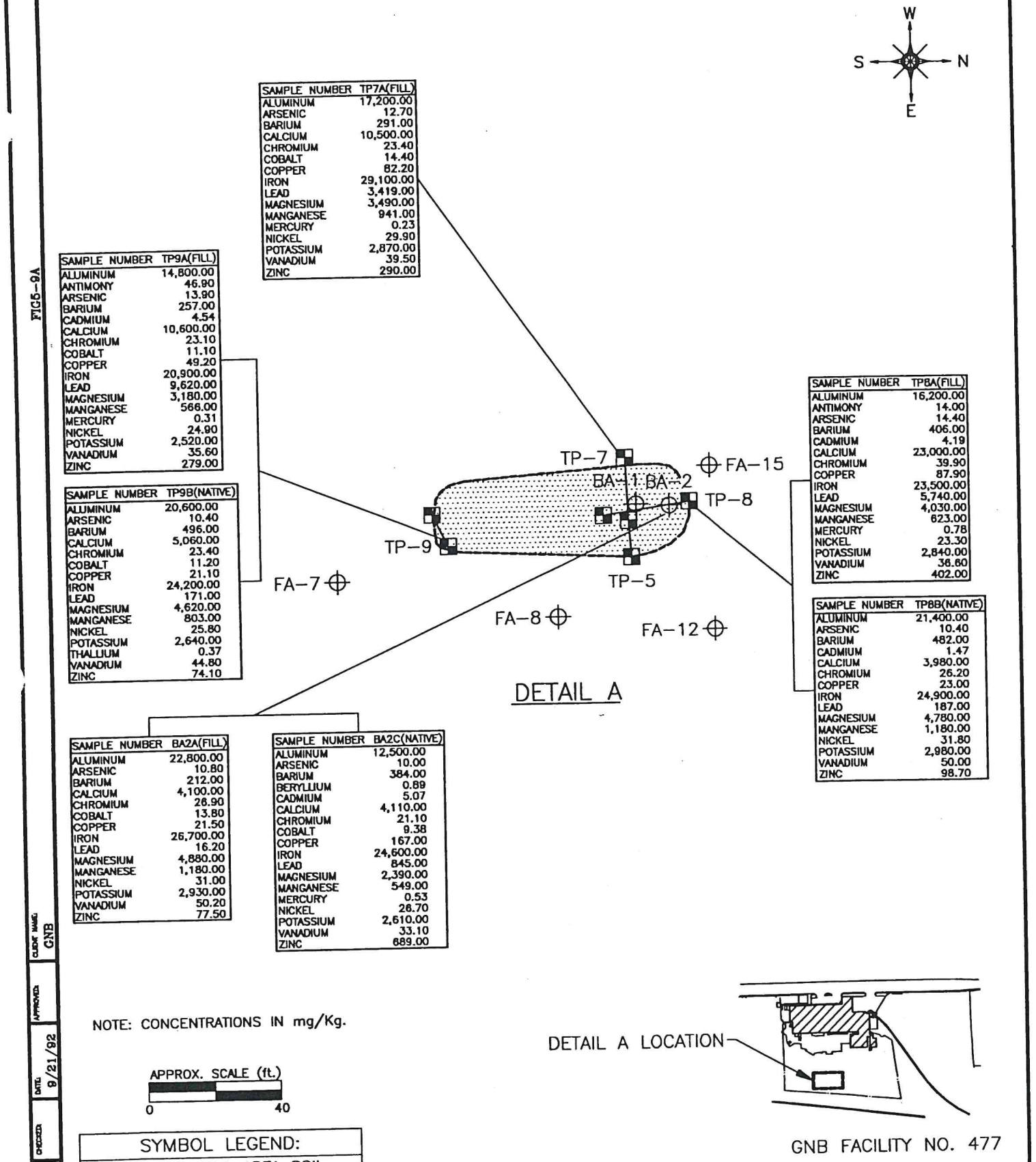
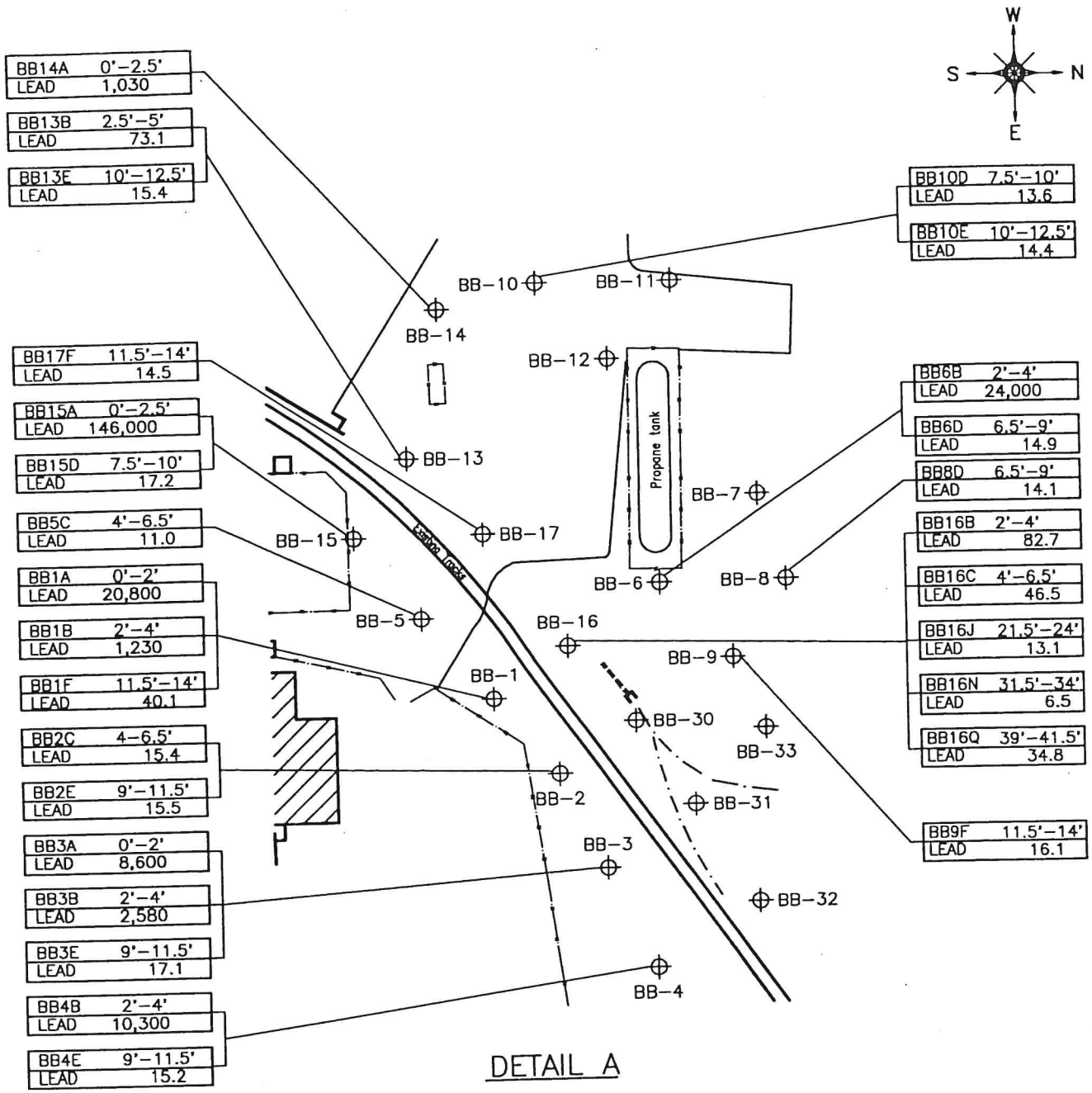


FIGURE 5-10

INORGANIC ANALYTICAL RESULTS
HISTORICAL BURNING PIT
GNB FACILITY NO. 477
LEAVENWORTH, KANSAS

FIG5-9A
CLIENT NAME: GNB
APPROVED:
DATE: 9/21/92
CHECKED:
DRAWN: CMM-
REPORT: SIR
PROJECT: 91207-4

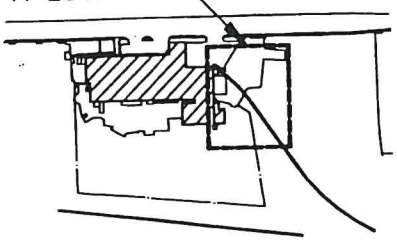


DETAIL A

NOTE: CONCENTRATIONS IN mg/Kg.

APPROX. SCALE (ft.)
0 60

DETAIL A LOCATION



GNB FACILITY NO. 477

SYMBOL LEGEND:

⊕ BB–8 BATTERY BREAKING AREA SOIL BORING

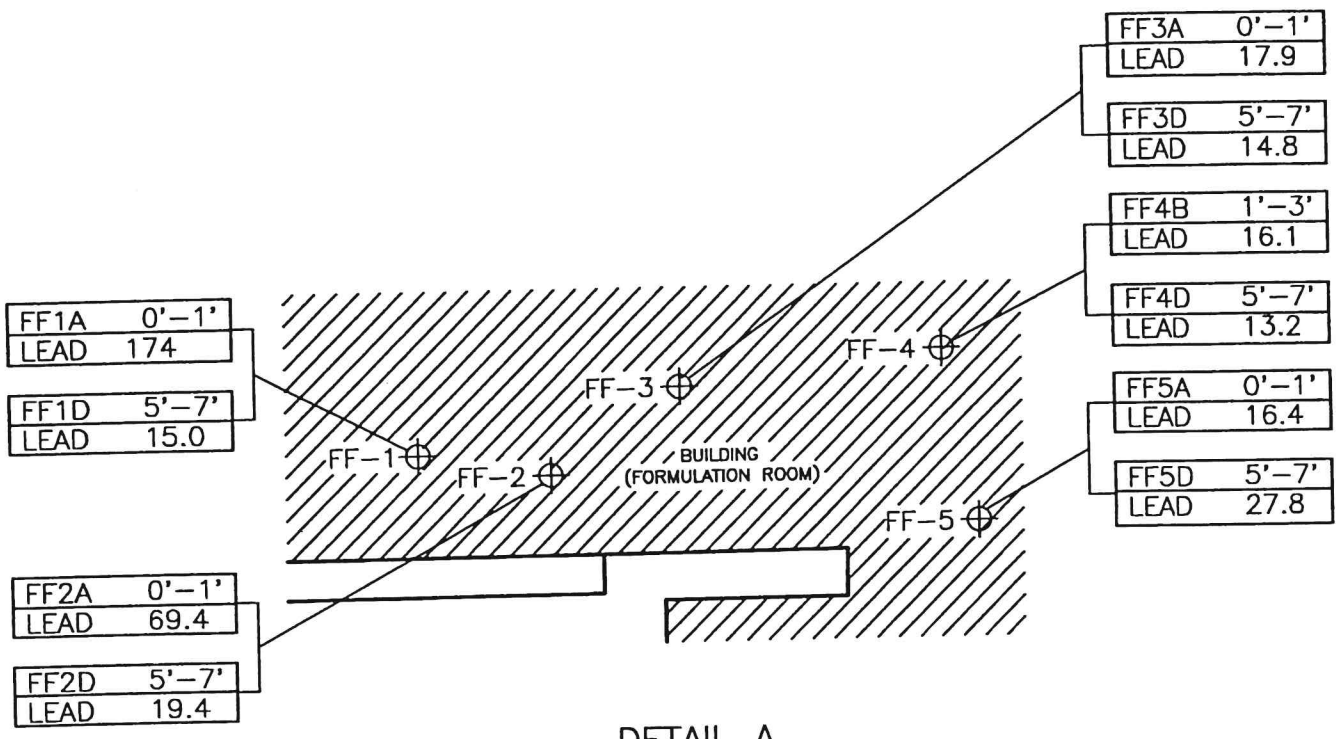
—x—x— FENCE

FIGURE 5-11

ANALYTICAL RESULTS FORMER BATTERY BREAKING AREA GNB FACILITY NO. 477 LEAVENWORTH, KANSAS

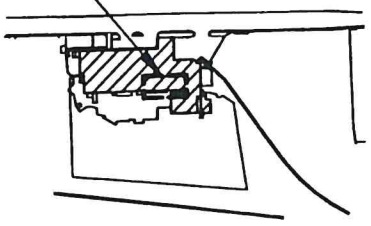
ERM

FIG5-7
CLIENT NAME: GNB
APPROVED:
DATE: 9/21/92
CHECKER:
DRAWN: CMM-
REPORT: SIR
PROJECT: 91207-4



DETAIL A

DETAIL A LOCATION



GNB FACILITY NO. 477

NOTE: CONCENTRATIONS IN mg/Kg.

APPROX. SCALE (ft.)
0 40

SYMBOL LEGEND:	
⊕ FF–2	FORMULATION FLOOR HAND AUGER LOCATION

FIGURE 5-14

ANALYTICAL RESULTS FORMULATION AREA FLOORING GNB FACILITY NO. 477 LEAVENWORTH, KANSAS

ERM

FIGS-9
PROJECT: 91207-4
REPORT: SIR
DRAWN: CWM
CHECKED:
DATE: 9/21/92
APPROVED:
CLIENT NAME: GNB

APPENDIX H

Analytical Data, Field Sheets and Chain-of-Custody

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

DATE:

SUBJECT: Data Transmittal for Activity #: A550
Site Description: Leavenworth Landfill

FROM: FOR Andrea Jirka, Program Manager M. Thomas
Regional Laboratory, Environmental Services Division

TO: Shane Reed
SUPR

Attached is the data transmittal for the above-referenced site. The data contained in this transmittal have been approved by the Regional Laboratory. This should be considered a _____ Partial or X Complete data transmittal (completes transmittal of _____). The Project Leader should notify the Regional Laboratory with 14 days of any changes in the LAST analytical database. If you have any questions, comments, or data changes, please contact Dee Simmons at 551-5129.

Attachment

cc: Analytical Data File

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS501 SAMNO: 001 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: Surface soil 0-2" DATE TIME FROM REF PT
LOCATION: LEAVENWORTH KS BEG: 11/05/98 9:55 EAST: ____
CASE/BATCH/SMO: _____/_/_____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/AIRS NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
8 OZ GLASS	NONE	SG07	SOLIDS, PERCENT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

NW section of property
Very damp soil
light brown clay-rich
50 yds SE from corner of property
10 ft. NW from concrete refuse

SAMPLE COLLECTED BY : _____

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS501 SAMNO: 002 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: Subsurface soil 12"-14"
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

DATE TIME FROM REF PT
BEG: 11/05/98 10:00 EAST: ____
END: __/__/__ __:__ NORTH: ____
DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
8 OZ GLASS	NONE	SG07	SOLIDS, PERCENT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Dark grey - appears to be fill-type material
clay rich w/ chunks of gravel, brick, etc.
moist and well compacted

SAMPLE COLLECTED BY : _____

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS501 SAMNO: 003 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: surface soil 0-2"
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: _____/_/_____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	11/05/98	10:20	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
8 OZ GLASS	NONE	SG07	SOLIDS, PERCENT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Surface soil

Dark brown, very damp

Clay rich - sparse vegetative cover

Roughly center of property

10 yds. NE of scrub poplar tree

SAMPLE COLLECTED BY : _____

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV., 25 FUNSTON RD. KANSAS CITY, KS 66115

FY:-99 ACTNO: AS501 SAMNO: 003 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: sediment
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

DATE TIME FROM REF PT
BEG: 11/05/98 10:30 EAST: ____
END: __/__/__ __:__ NORTH: ____
DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
8 OZ GLASS	NONE	SG07	SOLIDS, PERCENT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Sediment sample taken from drainage ditch east half of property
light brown, wet sediment

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY:-99 ACTNO: AS501 SAMNO: 003 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: Sediment
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

DATE TIME FROM REF PT
BEG: 11/05/98 10:50 EAST: ____
END: __/__/__ __:__ NORTH: ____
DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
8 OZ GLASS	NONE	SG07	SOLIDS, PERCENT

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Sediment sample
SE section of property
20 yds due east of trash farm
dark grey, very wet sample

EPA
14 day
11/5/98

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Shane Reed	Leavenworth Landfill	11 / 05 / 98	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE (8oz)	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
ASSD1001		1					X				
ASSD1002		1					X				
ASSD1003		1					X				
ASSD1004		1						X			
ASSD1005		1						X			

Courier

DESCRIPTION OF SHIPMENT

____ PIECE(S) CONSISTING OF ____ BOX(ES)

1 ICE CHEST(S); OTHER ____

MODE OF SHIPMENT

____ COMMERCIAL CARRIER: ____

____ COURIER

✓ SAMPLER CONVEYED

____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

11/5/98 1:25pm

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Shirley Williams ☐ SEALED ☒ UNSEALED	11/5/98	12:35p	Diana Sandoval ☐ SEALED ☐ UNSEALED	analyze
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

DATE: JAN 21 1999

SUBJECT: Data Transmittal for Activity #: AS502
Site Description: Leavenworth LF BIA

FROM: FOR Andrea Jirka, Program Manager M. Thomas
Regional Laboratory, Environmental Services Division

TO: Shane Reed
SUPR

Attached is the data transmittal for the above-referenced site. The data contained in this transmittal have been approved by the Regional Laboratory. This should be considered a _____ Partial or X Complete data transmittal (completes transmittal of _____). The Project Leader should notify the Regional Laboratory with 14 days of any changes in the LAST analytical database. If you have any questions, comments, or data changes, please contact Dee Simmons at 551-5129.

Attachment

cc: Analytical Data File

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 001 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: _____
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: _____/_/_____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/01/98	14:35	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS.
GLASS	ICED	SS	SEMIVOLATILES.
GLASS	NONE	SP	PESTICIDES.
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES.
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA.

Add (SG07)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Landfill Sample Collected from the Northwest Section
From 2nd 4' to 8' depth interval
The PID measurement was 11.8 ppm

0-4': PID = 1.7 ppm
8-12': PID = 1.2 ppm
12-16': PID = 0.6 ppm
Water encountered at 10.0' bgs

SAMPLE COLLECTED BY : Wood Ramsay, McKinzie Construction

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 002 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: Landfill - West central portion
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: _____/_/_____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/02/98	~~14~~: __	EAST: ____
END:	__/__/__	~~08~~:55	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS
GLASS	ICED	SS	SEMIVOLATILES
GLASS	NONE	SP	PESTICIDES
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA

Add (GC07)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Landfill Sample Collected from west central section at a depth of 8-12' below grade

The sample consisted of moist silty clay, with brick, wood and misc. debris. Sample recovery was 50%

PID readings:

Depth	measurement
0-4'	3.2
4-8'	4.6
8-12'	22.1
12-16'	12.9

Water encountered at 7.0 feet bgs

Probe refusal at 14.5' bgs

SAMPLE COLLECTED BY : Wood Ramsey, McKinzie

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 003 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: _____
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: _____/_/_____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/01/98	15:30	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS
GLASS	ICED	SS	SEMIVOLATILES
GLASS	NONE	SP	PESTICIDES
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA

Add (SG07)% soil

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Landfill Sample - collected from Southwest section at 12' to 16' depth interval PID = 26.2 ppm

Water encountered at 7.5' bgs.

other PID readings

Depth	PID (ppm)
0-4'	2.1
4-8'	2.6
8-12'	16.6
12-16	26.2

SAMPLE COLLECTED BY : Woodhansey, McKinzie

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 004 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: Landfill - NE section
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/02/98	09:40	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

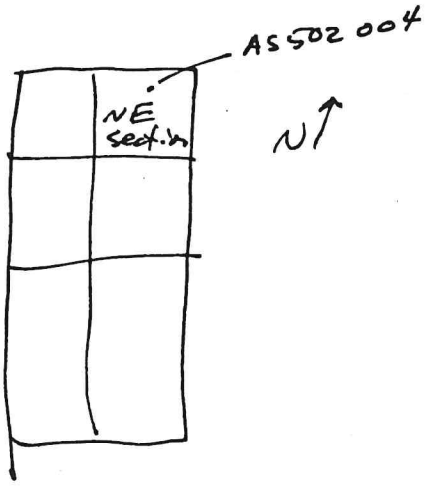
CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS
GLASS	ICED	SS	SEMIVOLATILES
GLASS	NONE	SP	PESTICIDES
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA

[redacted] (8007)X collide

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Landfill Sample collected from the northeast section of the landfill area, at a depth of 4-8 ft below groundsurface (bgs). The sample was a dark grey silty clay, containing plastic and wood. Recovery was 25%. Water was encountered at 5.0 bgs

PID reading	Depth
1.6 ppm	~~4-8'~~ 0-4'
10.2 ppm	~~8-12'~~ ~~4-8'~~
8.1 ppm	~~12~~ 8-12'
1.6 ppm	12-16'



SAMPLE COLLECTED BY : W. Ramsey, McKinzie

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 005 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: Landfill - East Central Section
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/02/96	11:18	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

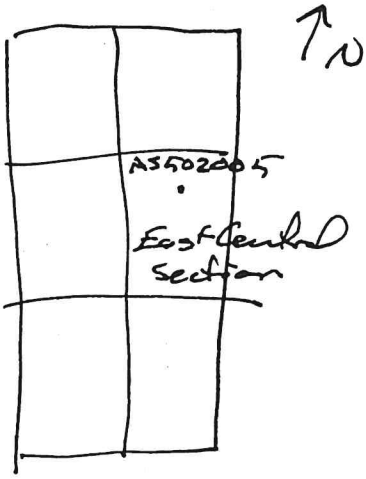
CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS
GLASS	ICED	SS	SEMIVOLATILES
GLASS	NONE	SP	PESTICIDES
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA

Add (8C07)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Landfill Sample collected from the center section on the east side of the land fill area, at a depth of 4-8'. The sample consisted of moist silty clay containing plastic and wood. The sample recovery was ~ 35%

Depth	PID Reading
0-4'	3.1 ppm
4-8'	23.8 ppm
8-12'	4.6 ppm
12-16'	2.4 ppm



SAMPLE COLLECTED BY : W. Ramsey, McKinzie

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 006 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA — REF PT: LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 — LONGITUDE: __ __ __

SAMPLE DES: Landfill - SE section
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/______ LAB: ___
STORET/AIRS NO: ______

	DATE	TIME
BEG:	12/02/98	12:10
END:	__/__/__	__:__

FROM REF PT
EAST: ____
NORTH: ____
DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	② METALS
GLASS	ICED	SS	① SEMIVOLATILES
GLASS	NONE	SP	③ PESTICIDES
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA

Add (8007)X coll[illegible]

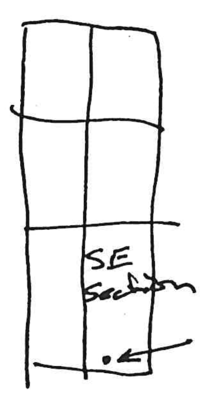
Reduced sample volume.

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Landfill Sample Collected from the southeast section of the landfill area at a depth of 8-12 feet bgs. Strong odors (hydrocarbon) were observed at the 4-8' depth and the 8-12' depth. Sample recovery was 10% or less and the soil consisted of wet black clay, with metal scrap. Water was encountered at 6.5' bgs.

PID Reading

Depth	PPM
0-4'	12.5
4-8	53.1
8-12	80.2
12-16	16.3



per PL's field sampler: provide data as prioritized below: VOAs from its own sample. 8 oz jar = ① Semi-VOAs ② Metals/Hg ③ Pesticides (if any sample volume left or at reduced vol...)

RK 12/3/98.

200

SAMPLE COLLECTED BY : W. Ramsey, McKinzie

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 007 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: Sediment Sample, Upgradient
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/__/____
STORET/AIRS NO: ____

LAB: ___

	DATE	TIME	FROM REF PT
BEG:	12/01/98	09:30	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

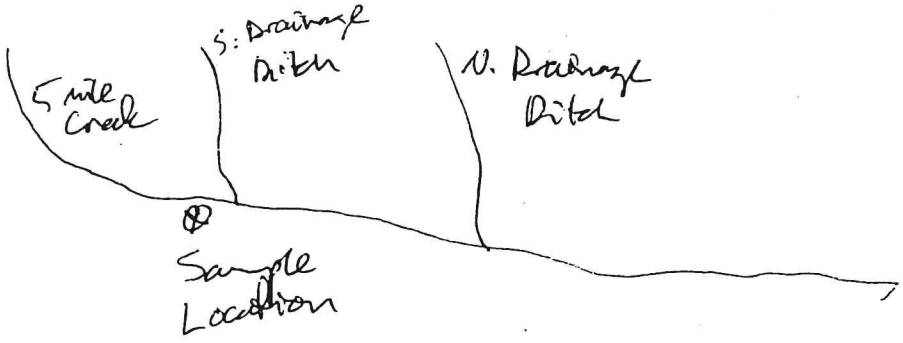
ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS,
GLASS	ICED	SS	SEMIVOLATILES,
GLASS	NONE	SP	PESTICIDES,
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES,
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA,

Add (SG07)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Sediment Sample, 5-Mile Creek upgradient of Site



201

SAMPLE COLLECTED BY : W. Ramsey, McKenzie

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 008 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: _____
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/01/98	09:40	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS
GLASS	ICED	SS	SEMIVOLATILES
GLASS	NONE	SP	PESTICIDES
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA

Add (SG07)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Sediment Sample, 5-Mile Creek, ~~to~~ middle portion of site

SAMPLE COLLECTED BY : _____

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 009 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: _____
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: _____/_/_____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/01/98	10:10	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

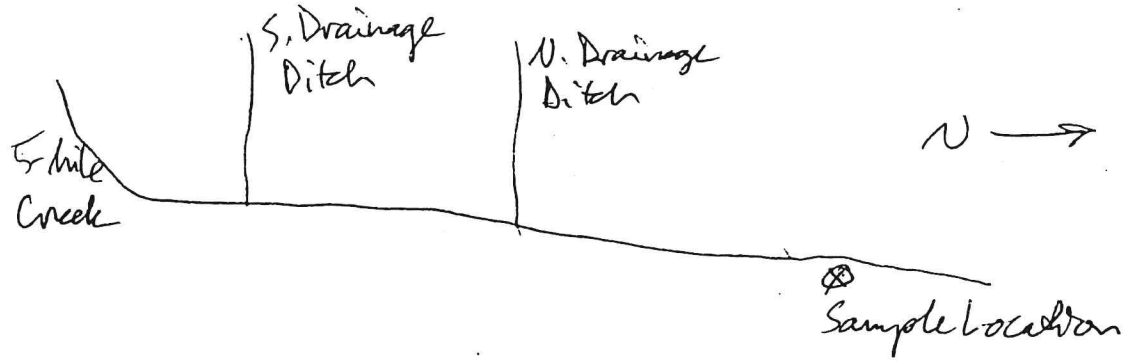
ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS;
GLASS	ICED	SS	SEMIVOLATILES;
GLASS	NONE	SP	PESTICIDES;
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES;
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA;

Add (SG07)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Sediment Sample - ~~down~~ 5-mile Creek on North end of site



SAMPLE COLLECTED BY : W. Ramsey, McKinzie Construction

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 010 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: _____
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: _____/_/_____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/01/98	09:15	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

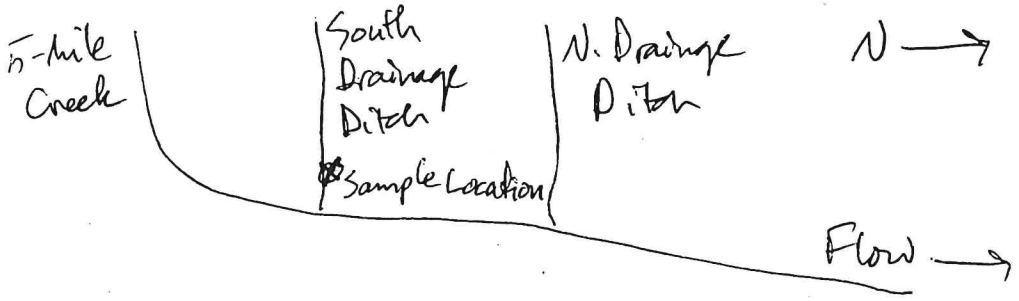
ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS,
GLASS	ICED	SS	SEMIVOLATILES,
GLASS	NONE	SP	PESTICIDES,
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES,
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA,

Add (8607)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Sediment Sample - South Drainage Ditch



SAMPLE COLLECTED BY : W. Ramsey, McKenzie

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 011 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: _____
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/01/98	09:25	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

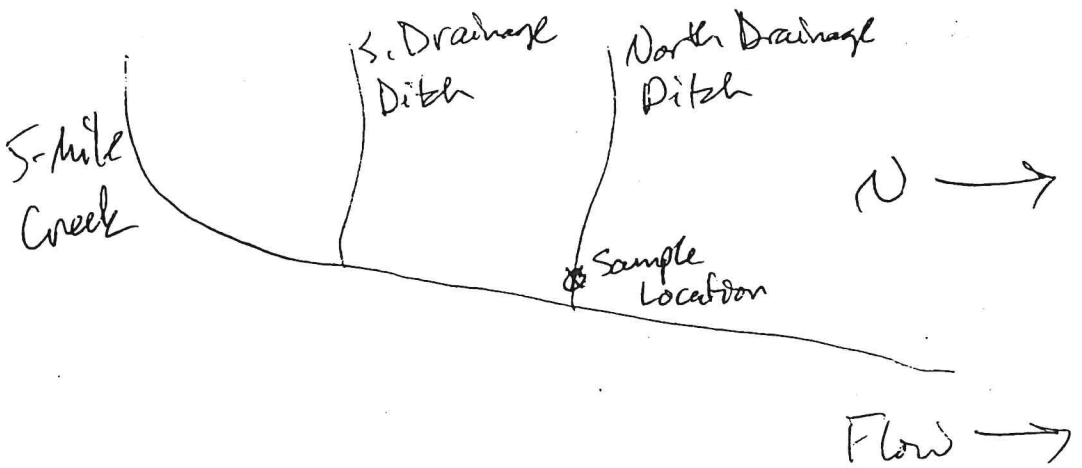
ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS.
GLASS	ICED	SS	SEMIVOLATILES.
GLASS	NONE	SP	PESTICIDES.
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES.
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA.

Add (9807)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Sediment Sample - North Drainage Ditch
0-2" depth



SAMPLE COLLECTED BY : W. Ramsey, McKenzie

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 012 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: _____ DATE TIME FROM REF PT
LOCATION: LEAVENWORTH KS BEG: 12/01/98 08:25 EAST: ____
CASE/BATCH/SMO: ____/_/____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/AIRS NO: _____ DOWN: ____

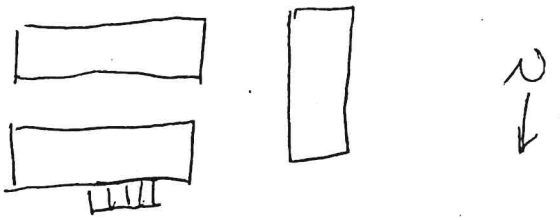
ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS
GLASS	NONE	SP	PESTICIDES
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
2-40 ML VIALS	COOL (4 C)	SU01	PETROLEUM HYDROCARBONS, TO
8 OZ GLASS	COOL (4 C)	SR01	PETROLEUM HYDROCARBONS, TOT

Aki (SG07)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Surface Soil - East Tank Farm
Collected at 0-2" depth, grab sample
Sample location north of stairs to north tank manway



SAMPLE COLLECTED BY : W. Ramsey, McKinzie

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 013 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: _____
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/01/98	06:30	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES.
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES:
GLASS	ICED	SM	METALS:
GLASS	NONE	SP	PESTICIDES.
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA.
2-40 ML VIALS	COOL (4 C)	SU01	PETROLEUM HYDROCARBONS, TO:
8 OZ GLASS	COOL (4 C)	SR01	PETROLEUM HYDROCARBONS, TOT.

Add (3G07) % solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Surface soil - West Tank Farm - Grab sample collected at 0-2" depth. Sample location on east side of center tank

*Sample location

SAMPLE COLLECTED BY : W. Ramsey, McKenzie

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 014 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: _____
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/01/98	08:50	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

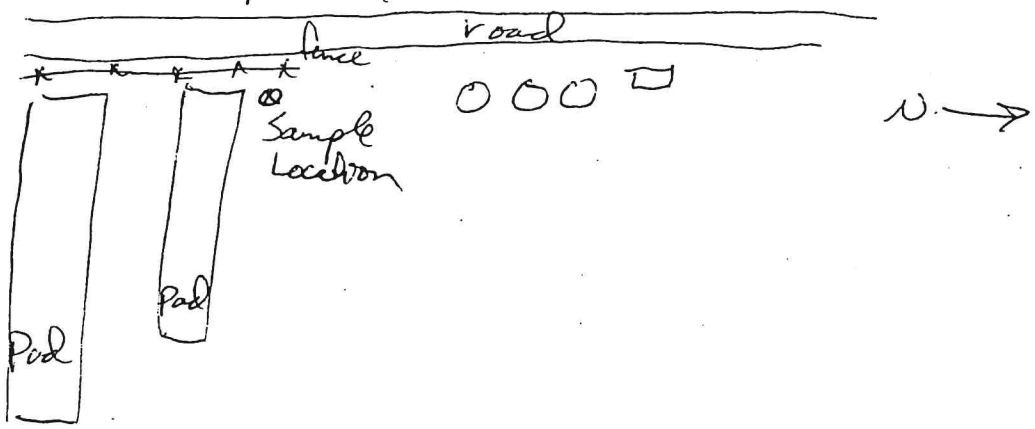
ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS
GLASS	NONE	SP	PESTICIDES
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
2-40 ML VIALS	COOL (4 C)	SU01	PETROLEUM HYDROCARBONS, TO
8 OZ GLASS	COOL (4 C)	SR01	PETROLEUM HYDROCARBONS, TOT

Add (3607)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Surface Soil - Equipment Maintenance Area
Grab sample collected at 0-2" depth near drum located on stand. Sample location ## is near NW corner of north building pad for former city street maintenance department.



SAMPLE COLLECTED BY : W. Ramsey, McKinzie

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 015 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: PM-1
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/22/98	08:50	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES ✓
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS ✓
GLASS	NONE	SP	PESTICIDES ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
~~2-40 ML VIALS~~	~~COOL (4 C)~~	~~SU01~~	~~PETROLEUM HYDROCARBONS, TO~~
~~8 OZ GLASS~~	~~COOL (4 C)~~	~~SR01~~	~~PETROLEUM HYDROCARBONS, TOT~~

Add (SC07)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Collected from waste perimeter
75' North of GNB gate. 10' east of
fence
0-2" depth

SAMPLE COLLECTED BY : Wood Danny McKenzie

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 016 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: PM-2
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/08/96	09:16	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES ✓
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS ✓
GLASS	NONE	SP	PESTICIDES ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
~~2-40 ML VIALS~~	~~COOL (4 C)~~	~~SU01~~	~~PETROLEUM HYDROCARBONS, TO~~
~~8 OZ GLASS~~	~~COOL (4 C)~~	SR01	PETROLEUM HYDROCARBONS, TOT

Add (SC07) % solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Collected from west perimeter of site 60' South of RNB gate, 10' east of fence

0-2" depth

SAMPLE COLLECTED BY : Ramsey, McKinzie

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 017 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: PM-3
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/8/98	09:20	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES ✓
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS ✓
GLASS	NONE	SP	PESTICIDES ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
~~2-40 ML VIALS~~	~~COOL (4 C)~~	~~SU01~~	~~PETROLEUM HYDROCARBONS, TO~~
~~8 OZ GLASS~~	~~COOL (4 C)~~	~~SR01~~	~~PETROLEUM HYDROCARBONS, TOT~~

111 (SC07)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Located along west perimeter of the site - get sample - 65' North of north tank (in west AST tank battery)

10' east of fence

0-2" depth

211

SAMPLE COLLECTED BY : Ramsay, McKinzie

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: ~~08~~ 018 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: PM-4
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/8/98	09:30	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES ✓
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS ✓
GLASS	NONE	SP	PESTICIDES ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
~~2-40 ML VIALS~~	~~COOL (4 C)~~	~~SU01~~	~~PETROLEUM HYDROCARBONS, TO~~
~~8 OZ GLASS~~	~~COOL (4 C)~~	~~SR01~~	~~PETROLEUM HYDROCARBONS, TOT~~

AM (SC07)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Grab sample from west perimeter of site, 25' South of south tank (in west AST tank battery)

0-2" depth

SAMPLE COLLECTED BY : Ramsey, McKenzie

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 019 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: PM-5
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/8/98	09:45	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES ✓
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS ✓
GLASS	NONE	SP	PESTICIDES ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
~~2-40 ML VIALS~~	~~COOL (4 C)~~	~~SU01~~	~~PETROLEUM HYDROCARBONS, TO~~
~~8 OZ GLASS~~	COOL (4 C)	SR01	PETROLEUM HYDROCARBONS, TOT

Add (SC07)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Grab sample from south perimeter ~50' east of east AST ~~battery~~ area 0-2" depth

SAMPLE COLLECTED BY : Ramsey, McKenzie

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 020 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: PM-6
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/8/98	09:50	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES ✓
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS ✓
GLASS	NONE	SP	PESTICIDES ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
~~2-40 ML VIALS~~	~~COOL (4 C)~~	SU01	~~PETROLEUM HYDROCARBONS, TO~~
~~8 OZ GLASS~~	~~COOL (4 C)~~	SR01	~~PETROLEUM HYDROCARBONS, TOT~~

Add (S007)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Grab sample from south perimeter of site, ~200' east of east AST area. 0-2" depth

SAMPLE COLLECTED BY : Ramsey, McKinzie

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 021 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: 0LS-1 DATE TIME FROM REF PT
LOCATION: LEAVENWORTH KS BEG: 12/8/78 12:30 EAST: ____
CASE/BATCH/SMO: ____/_/____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/AIRS NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES ✓
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS ✓
GLASS	NONE	SP	PESTICIDES ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
~~2-40 ML VIALS~~	~~COOL (4 C)~~	SU01	~~PETROLEUM HYDROCARBONS, TO~~
~~8 OZ GLASS~~	COOL (4 C)	SR01	~~PETROLEUM HYDROCARBONS, TOT~~

Add (3007)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Grab sample, 0-2" depth from location LS-1

SAMPLE COLLECTED BY : Ramsey

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 022 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: _____
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/__/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/01/98	12:10	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES•
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES•
GLASS	ICED	SM	METALS•
GLASS	NONE	SP	PESTICIDES•
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA•
2-40 ML VIALS	COOL (4 C)	SU01	PETROLEUM HYDROCARBONS, TO•
8 OZ GLASS	COOL (4 C)	SR01	PETROLEUM HYDROCARBONS,TOT•

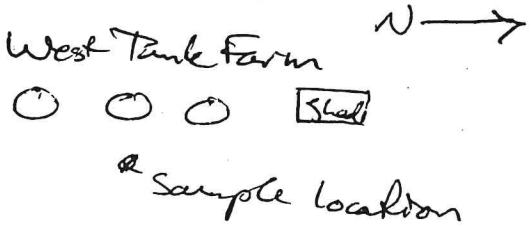
Add (5007)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

West Tank Farm Depth sample collected at 0-4' depth based on PID reading of 132 ppm. Sample location on east side of center tank

Other PID measurements:

Depth	Reading (ppm)
0-4'	132
4-6'	18.0
8-12'	18.0
12-16'	1.7



SAMPLE COLLECTED BY : D. Faundeen

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 023 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: _____ DATE TIME FROM REF PT
LOCATION: LEAVENWORTH KS BEG: 11/30/98 12:50 EAST: ____
CASE/BATCH/SMO: ____/_/____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/AIRS NO: _____ DOWN: ____

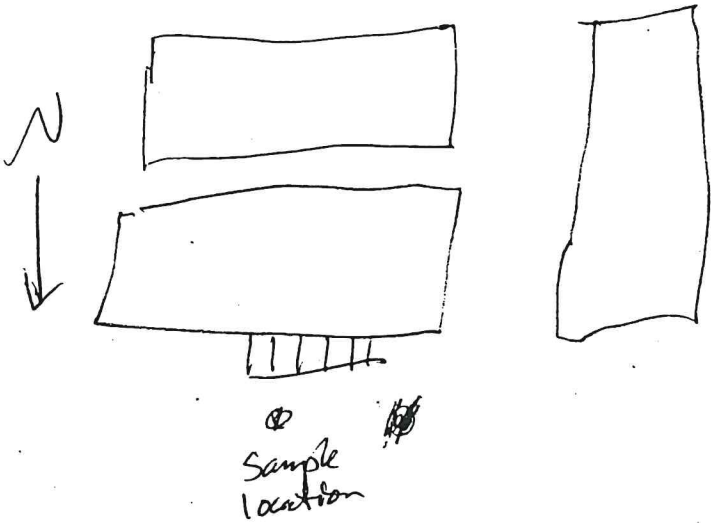
ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS
GLASS	NONE	SP	PESTICIDES
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
2-40 ML VIALS	COOL (4 C)	SU01	PETROLEUM HYDROCARBONS, TO
8 OZ GLASS	COOL (4 C)	SR01	PETROLEUM HYDROCARBONS, TOT

Add (SG07) % solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

East Tank Farm



Collected from 0-4' depth at sample location on north side of stairs leading to north tank manway

Auger refusal at 7.5 feet bgs.

Strong Odors - PID measurement was over 1,000 ppm

SAMPLE COLLECTED BY : W. Ramsey, McKenzie

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 024 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: _____ DATE TIME FROM REF PT
LOCATION: LEAVENWORTH KS BEG: 11/30/98 14:10 EAST: ____
CASE/BATCH/SMO: ____/_/____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/AIRS NO: _____ DOWN: ____

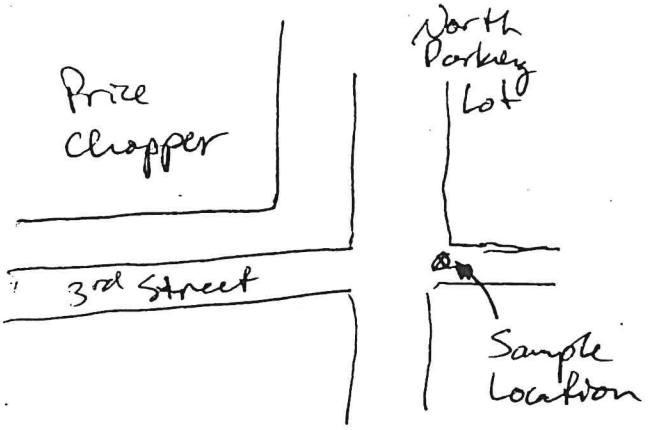
ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS
GLASS	NONE	SP	PESTICIDES
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
2-40 ML VIALS	COOL (4 C)	SU01	PETROLEUM HYDROCARBONS, TO
8 OZ GLASS	COOL (4 C)	SR01	PETROLEUM HYDROCARBONS, TOT

Add (5007)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

UST Tank Area



Sample collected at 0-4' depth interval at location where former UST was suspected as being located. A strong petroleum odor was observed

SAMPLE COLLECTED BY : W. Ramsey, McKinzie

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 025 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: _____ DATE TIME FROM REF PT
LOCATION: LEAVENWORTH KS BEG: 12/04/96 13:15 EAST: ____
CASE/BATCH/SMO: ____/_/____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/AIRS NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS
GLASS	NONE	SP	PESTICIDES
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
2-40 ML VIALS	COOL (4 C)	SU01	PETROLEUM HYDROCARBONS, TO
8 OZ GLASS	COOL (4 C)	SR01	PETROLEUM HYDROCARBONS, TOT

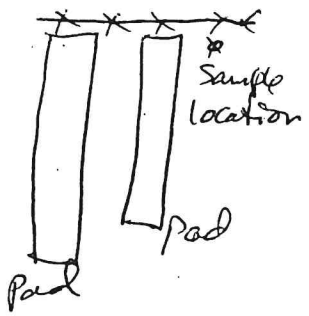
Add (SG07) % solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Former Maintenance Shop Area - ~~[illegible]~~ Sample collected from 4-8' depth based on PID reading of 51.2 ppm. Sample location is near NW corner of north pad for former city street department maintenance operation

Other PID readings

Depth	Reading (ppm)
0-4'	40.0
4-8'	51.2
8-12'	no recovery
12-16'	9.6 ppm



West tank farm
000

SAMPLE COLLECTED BY : W. Ramsey, McKenzie

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 026 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: LS-6
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

DATE TIME FROM REF PT
BEG: 12/8/98 11:46 EAST: ____
END: __/__/__ __:__ NORTH: ____
DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES ✓
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS ✓
GLASS	NONE	SP	PESTICIDES ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
~~2-40 ML VIALS~~	~~COOL (4 C)~~	~~SU01~~	~~PETROLEUM HYDROCARBONS, TO~~
~~8 OZ GLASS~~	~~COOL (4 C)~~	~~SR01~~	~~PETROLEUM HYDROCARBONS, TOT~~

Add (SC07)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Grab sample, soil 0-2" depth, collected at location LS-6

SAMPLE COLLECTED BY : W. Ramsey

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 028 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: LS-E

		DATE	TIME	FROM REF PT
LOCATION: LEAVENWORTH KS	BEG:	12/8/98	12:00	EAST:
CASE/BATCH/SMO: __/__/__ LAB:	END:	__/__/__	__:__	NORTH:
STORET/AIRS NO:				DOWN:

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES ✓
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS ✓
GLASS	NONE	SP	PESTICIDES ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
~~2-40 ML VIALS~~	~~COOL (4 C)~~	~~SU01~~	~~PETROLEUM HYDROCARBONS, TO~~
~~8 OZ GLASS~~	~~COOL (4 C)~~	SR01	~~PETROLEUM HYDROCARBONS, TOT~~

Add (8007)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Grab sample collected at 0-2" depth from location LS-E

SAMPLE COLLECTED BY : W. Ramsey

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 029 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: ___ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: ___ __ __

SAMPLE DES: LS-9
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/8/98	10:45	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES ✓
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS ✓
GLASS	NONE	SP	PESTICIDES ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
~~2-40 ML VIALS~~	COOL (4 C)	SU01	~~PETROLEUM HYDROCARBONS, TO~~
~~8 OZ GLASS~~	~~COOL (4 C)~~	SR01	~~PETROLEUM HYDROCARBONS, TOT~~

Add (8007)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

* Grab sample collected from 0-2" depth at location LS-9

SAMPLE COLLECTED BY : W. Ramsey

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 030 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: LS-10
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/8/98	10:50	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

AA (8007) % solids

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA ✓
~~2-40 ML VIALS~~	~~COOL (4 C)~~	~~SU01~~	~~PETROLEUM HYDROCARBONS, TOT~~ (OA-1) WR
~~8 OZ GLASS~~	~~COOL (4 C)~~	~~SR01~~	~~PETROLEUM HYDROCARBONS, TOT~~ (OA-2) WR
2 40 ml vials		SV	Volatiles
8 oz glass	1	SS, SP	semivolatiles, pesticides ✓

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Grab sample collected from 0-2" depth at location LS-10

SAMPLE COLLECTED BY : W. Ramsey

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 031 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: LS-11 DATE TIME FROM REF PT
LOCATION: LEAVENWORTH KS BEG: 12/8/98 11:10 EAST: ____
CASE/BATCH/SMO: ____/_/____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/AIRS NO: _____ DOWN: ____

ANALYSIS REQUESTED: Add (8007)% solids

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
~~2 40 ML VIALS~~	~~COOL (4 C)~~	~~SU01~~	~~PETROLEUM HYDROCARBONS, TOT~~ (OA-1) WR
~~8 OZ GLASS~~	COOL (4 C)	SR01	~~PETROLEUM HYDROCARBONS, TOT~~ (OA-2) WR
2 40 ml Vials		SV	Volatiles
8 oz glass		SS, SP	semivolatiles ✓ pesticides ✓

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Grab sample collected at 0-2" depth from location LS-11

SAMPLE COLLECTED BY : W. Ramsey

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 032 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: LS-12
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/__/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/8/98	11:15	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA ✓
~~2-40 ML VIALS~~	~~COOL (4 C)~~	~~SU01~~	~~PETROLEUM HYDROCARBONS, TOT~~ (OA-1) UR
~~8 OZ GLASS~~	~~COOL (4 C)~~	~~SR01~~	~~PETROLEUM HYDROCARBONS, TOT~~ (OA-2) UR
2 40ml vials		SU	volatiles
8oz glass		SS, SP	semivolatiles ✓, pesticides ✓

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Duplicate sample collected @ 0-2" depth at the location LS-12

SAMPLE COLLECTED BY : W. Ramsey

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 033 CC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: Background - 1 DATE TIME FROM REF PT
LOCATION: LEAVENWORTH KS BEG: 12/8/98 15:25 EAST: ____
CASE/BATCH/SMO: ____/_/____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/AIRS NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS ✓
8 OZ GLASS	COOL (4 C) Keep	SM34	MERCURY, TOTAL, BY COLD VA
~~2-40 ML VIALS~~	~~COOL (4 C)~~ Keep	SU01	~~PETROLEUM HYDROCARBONS, TOTAL~~ (OA-1) OK
~~8 OZ GLASS~~	~~COOL (4 C)~~ Keep	SR01	~~PETROLEUM HYDROCARBONS, TOT~~ (OA-2) OK
2 40 ml glass		SV	Soil potables
1 8oz glass		SS, SP	semivolatile, pesticide ✓

DO NOT delet on this sample. M 12/9/98

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

North sample 0-2" depth
City Park north of VA Hospital

SAMPLE COLLECTED BY : W. Ramsey

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 034 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: Background - 2
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

DATE TIME FROM REF PT
BEG: 12/8/98 15:30 EAST: ____
END: __/__/__ __:__ NORTH: ____
DOWN: ____

ANALYSIS REQUESTED:

Add (8307)% solids

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SM	METALS ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
2-40 ML VIALS	COOL (4 C)	SU01	PETROLEUM HYDROCARBONS, TOT (OA-1)
8 OZ GLASS	COOL (4 C)	SR01	PETROLEUM HYDROCARBONS, TOT (OA-2) ✓
8 oz glass		SS, SP	semivolatile ✓, pesticide ✓
2-40 ml vials		SV	volatiles

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

~~Perimeter Soil Sample - SCL~~

Background sample collected at City park north of VA Hospital South sample 0-2" depth

SAMPLE COLLECTED BY : W. Ramsey

relabeled as 035. per Sue note on COC in 12/10/98.

FINAL FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 022 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: ___ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: ___ __ __

SAMPLE DES: LS-2
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/8/98	12:55	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES ✓
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS ✓
GLASS	NONE	SP	PESTICIDES ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
~~2-40 ML VIALS~~	~~COOL (4 C)~~	~~SU01~~	~~PETROLEUM HYDROCARBONS, TO~~
~~8 OZ GLASS~~	COOL (4 C)	~~SR01~~	~~PETROLEUM HYDROCARBONS, TOT~~

Add (SOO7)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Grab sample from location LS-2 (landfill ~~stang~~ surface - 2), 0-2" depth

SAMPLE COLLECTED BY : Ramsey

Relabeled as 036 ← see note on COC. W 12/10/98.

FINAL FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: ~~023~~ QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: ___ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: ___ __ __

SAMPLE DES: LS-3
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/8/98	12:50	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES ✓
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS ✓
GLASS	NONE	SP	PESTICIDES ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
~~2-40 ML VIALS~~	~~COOL (4 C)~~	~~SU01~~	~~PETROLEUM HYDROCARBONS, TO~~
~~8 OZ GLASS~~	COOL (4 C)	~~SR01~~	~~PETROLEUM HYDROCARBONS, TOT~~

Add (3607)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Grab sample from LS-3, 0-2" depth

SAMPLE COLLECTED BY : W. Ramsey

Relabeled as 037. See note on COC. 12/10/98.

FINAL FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 024 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: LS-4
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/8/98	12:45	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES ✓
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS ✓
GLASS	NONE	SP	PESTICIDES ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
~~2-40 ML VIALS~~	~~COOL (4 C)~~	~~SU01~~	~~PETROLEUM HYDROCARBONS, TO~~
~~8 OZ GLASS~~	~~COOL (4 C)~~	~~SR01~~	~~PETROLEUM HYDROCARBONS, TOT~~

Add (9807)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER: ___ OPERABLE UNIT: ___

Grab sample, 0-2" depth from location LS-4

SAMPLE COLLECTED BY : W. Ramsey

Relabeled as 038. See note on COC. V 12/10/98

FINAL FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 025 QCC: _ MEDIA: SOIL PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: LS-5
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/__/____ LAB: ___
STORET/AIRS NO: _____

	DATE	TIME	FROM REF PT
BEG:	12/8/98	11:30	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
GLASS	ICED	SS	SEMIVOLATILES ✓
2-40 ML VIALS	COOL (4 C)	SV	SOIL VOLATILES
GLASS	ICED	SM	METALS ✓
GLASS	NONE	SP	PESTICIDES ✓
8 OZ GLASS	COOL (4 C)	SM34	MERCURY, TOTAL, BY COLD VA
~~2-40 ML VIALS~~	~~COOL (4 C)~~	~~SU01~~	~~PETROLEUM HYDROCARBONS, TO~~
~~8 OZ GLASS~~	~~COOL (4 C)~~	~~SR01~~	~~PETROLEUM HYDROCARBONS, TOT~~

Add (8007)% solids

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Sub-sample, 0-2" depth from location LS-5

SAMPLE COLLECTED BY : W. Ramsey

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 100 QCC: _ MEDIA: WATER PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: ~~UST Area~~ ~~NW Section~~ SW section DATE TIME FROM REF PT
LOCATION: LEAVENWORTH KS BEG: 12/01/98 14:30 EAST: ____
CASE/BATCH/SMO: ____/__/____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/AIRS NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2-40 ML VIALS	HCL +COOL (4 C)	WV	WATER VOLATILES*
CUBI	5 ML HNO3	WM	METALS*
GLASS	ICED	WS	SEMIVOLATILES*
GLASS	ICED	WP	PESTICIDES*
1 L CUBITAINER	1:1 HN03	WM34	MERCURY, TOTAL, BY COLD VA*
128 OZ GLASS	COOL (4 C)	~~WQ21~~	~~PENTACHLOROPHENOL, BY GC/E*~~
128 OZ GLASS	COOL (4 C)	~~WQ22~~	~~HEXACHLOROBENZENE BY GC/EC~~

> Insufficient volume

> Insuff. volume

↳ Deleted per Field Sampler due to

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT: 2a

Ground water / Landfill

Groundwater sample collected ~~using~~ at depth of 7.5 feet ~~to~~ below ground surface. The hole went dry after filling 2-40 mL, 1-L cubitainer (1-1gal jug

SAMPLE COLLECTED BY : W. Ramsey, McKenzie

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 101 QCC: _ MEDIA: WATER PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: Groundwater - NE section DATE TIME FROM REF PT
LOCATION: LEAVENWORTH KS BEG: 12/02/98 10:30 EAST: ____
CASE/BATCH/SMO: ____/_/____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/AIRS NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2-40 ML VIALS	HCL +COOL (4 C)	WV	WATER VOLATILES
CUBI	5 ML HNO3	WM	METALS
GLASS	ICED	WS	SEMIVOLATILES
GLASS	ICED	WP	PESTICIDES
1 L CUBITAINER	1:1 HN03	WM34	MERCURY, TOTAL, BY COLD VA
~~128 OZ GLASS~~	~~COOL (4 C)~~	~~WQ21~~	~~PENTACHLOROPHENOL, BY GC/E~~
~~128 OZ GLASS~~	~~COOL (4 C)~~	~~WQ22~~	~~HEXACHLOROBENZENE BY GC/EC~~

Deleted. (Insuff. Volume) MR

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:__

Ground water / Landfill Groundwater sample collected at NE section of landfill, from probe hole.

SAMPLE COLLECTED BY : W. Ramsey, McKinzie

FINAL

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 102 QCC: _ MEDIA: WATER PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: Landfill - SE Section DATE TIME FROM REF PT
LOCATION: LEAVENWORTH KS BEG: 12/02/98 13:00 EAST: ____
CASE/BATCH/SMO: ____/_/____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/AIRS NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2-40 ML VIALS	HCL +COOL (4 C)	WV	WATER VOLATILES
CUBI	5 ML HNO3	WM	METALS
GLASS	ICED	WS	SEMIVOLATILES
GLASS	ICED	WP	PESTICIDES
1 L CUBITAINER	1:1 HN03	WM34	MERCURY, TOTAL, BY COLD VA
~~128 OZ GLASS~~	~~COOL (4 C)~~	~~WQ21~~	~~PENTACHLOROPHENOL, BY GC/E~~
~~128 OZ GLASS~~	~~COOL (4 C)~~	~~WQ22~~	~~HEXACHLOROBENZENE BY GC/EC~~

Deleted. (Insuff. volume) RI

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Groundwater / Landfill Groundwater sample collected from probe hole at SE section of landfill area.

SAMPLE COLLECTED BY : W. Ramsey, McKinzie

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 103 QCC: _ MEDIA: WATER PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: _____ DATE TIME FROM REF PT
LOCATION: LEAVENWORTH KS BEG: 11/30/98 14:35 EAST: ____
CASE/BATCH/SMO: ____/_/____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/AIRS NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2-40 ML VIALS	HCL +COOL (4 C)	WV	WATER VOLATILES•
CUBI	5 ML HNO3	WM	METALS•
~~GLASS~~	~~ICED~~	~~WS~~	~~SEMIVOLATILES •~~
GLASS	ICED	WP	PESTICIDES•
1 L CUBITAINER	1:1 HN03	WM34	MERCURY, TOTAL, BY COLD VA•
~~128 OZ GLASS~~	~~COOL (4 C)~~	~~WQ21~~	~~PENTACHLOROPHENOL, BY GC/E~~
~~128 OZ GLASS~~	~~COOL (4 C)~~	~~WQ22~~	~~HEXACHLOROBENZENE BY GC/EC~~

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Ground Water / Tank Farms

UST Tank Area. Groundwater collected at depth of 9.0 feet below surface

Minimal portion of 1 gal jug filled

1-L cubie filled

2-40 ml vials filled

SAMPLE COLLECTED BY : W. Ramsey, McKinzie

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 104 QCC: _ MEDIA: WATER PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: Groundwater West AST
LOCATION: LEAVENWORTH KS
CASE/BATCH/SMO: ____/_/____ LAB: ___
STORET/AIRS NO: ____

	DATE	TIME	FROM REF PT
BEG:	12/01/98	12:45	EAST: ____
END:	__/__/__	__:__	NORTH: ____
			DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2-40 ML VIALS	HCL +COOL (4 C)	WV	WATER VOLATILES*
CUBI	5 ML HNO3	WM	METALS*
GLASS	ICED	~~WS~~	~~SEMIVOLATILES~~ WR
GLASS	ICED	~~WP~~	~~PESTICIDES~~
1 L CUBITAINER	1:1 HNO3	WM34	MERCURY, TOTAL, BY COLD VA*
128 OZ GLASS	COOL (4 C)	~~WQ21~~	~~PENTACHLOROPHENOL, BY GC/E~~ okay WR
128 OZ GLASS	COOL (4 C)	~~WQ22~~	~~HEXACHLOROBENZENE BY GC/EC~~ okay WR

* no sample delivered
* Deleted pr

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Ground water / Tank Farms

1-L cubie filled

2- 40 ml Vials filled

A small volume of ground water collected at 16.0' bgs

SAMPLE COLLECTED BY : W. Ramsey, McKenzie

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 105 QCC: _ MEDIA: WATER PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: Groundwater Maintenance Area DATE TIME FROM REF PT
LOCATION: LEAVENWORTH KS BEG: 12/01/98 13:45 EAST: ____
CASE/BATCH/SMO: ____/_/____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/AIRS NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2-40 ML VIALS	HCL +COOL (4 C)	WV	WATER VOLATILES•
CUBI	5 ML HNO3	WM	METALS•
GLASS	ICED	WS	SEMIVOLATILES•
GLASS	ICED	WP	PESTICIDES•
1 L CUBITAINER	1:1 HN03	WM34	MERCURY, TOTAL, BY COLD VA•
128 OZ GLASS	COOL (4 C)	~~WQ21~~	~~PENTACHLOROPHENOL, BY GC/EC~~
128 OZ GLASS	COOL (4 C)	~~WQ22~~	~~HEXACHLOROBENZENE BY GC/EC~~

Insufficient volume

insufficient volume

deleted per field sampler due to

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Ground water/Tank Farms

Groundwater sample ~~collected~~ encountered at 8.0' bgs and collected at 16.0 feet

Semi-VOAs + Pest. parameters will be reported as volume amount allows.

12/3/98

SAMPLE COLLECTED BY : W. Ramsey, McKinzie

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 108 QCC: _ MEDIA: WATER PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: ___ __ __

SAMPLE DES: _____ DATE TIME FROM REF PT
LOCATION: LEAVENWORTH KS BEG: 12/01/98 15:00 EAST: ____
CASE/BATCH/SMO: _____/_/_____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/AIRS NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2-40 ML VIALS	HCL +COOL (4 C)	WV	WATER VOLATILES•
CUBI	5 ML HNO3	WM	METALS•
GLASS	ICED	WS	SEMIVOLATILES•
GLASS	ICED	WP	PESTICIDES•
1 L CUBITAINER	1:1 HN03	WM34	MERCURY, TOTAL, BY COLD VA•
128 OZ GLASS	COOL (4 C)	WQ21	PENTACHLOROPHENOL, BY GC/E •
128 OZ GLASS	COOL (4 C)	WQ22	HEXACHLOROBENZENE BY GC/EC•

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Rinsate Sample

Collected from drive shoe of hydraulic probe sampler

SAMPLE COLLECTED BY : W. Ramsey McKenzie

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 110 QCC: F MEDIA: WATER PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __
LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: FIELD BLANK DATE TIME FROM REF PT
LOCATION: LEAVENWORTH KS BEG: 12/01/96 11:45 EAST: ____
CASE/BATCH/SMO: _____/_/_____ LAB: ___ END: __/__/__ __:__ NORTH: ____
STORET/AIRS NO: _____ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2-40 ML VIALS	HCL +COOL (4 C)	WV	WATER VOLATILES•
CUBI	5 ML HNO3	WM	METALS•
GLASS	ICED	WS	SEMIVOLATILES•
GLASS	ICED	WP	PESTICIDES•
1 L CUBITAINER	1:1 HN03	WM34	MERCURY, TOTAL, BY COLD VA•
128 OZ GLASS	COOL (4 C)	WQ21	PENTACHLOROPHENOL, BY GC/E•
128 OZ GLASS	COOL (4 C)	WQ22	HEXACHLOROBENZENE BY GC/EC•

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Field Blank sample

SAMPLE COLLECTED BY : W. Ramsey, McKenzie

FINAL

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII

ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

FY: 99 ACTNO: AS502 SAMNO: 111 QCC: F MEDIA: WATER PL: CRAWFORD, DAVE

ACTIVITY DES: LEAVENWORTH LANDFILL BTA REF LATITUDE: __ __ __

LOCATION: LEAVENWORTH KS PROJECT NUM: L30 PT: LONGITUDE: __ __ __

SAMPLE DES: TRIP BLANK DATE TIME FROM REF PT

LOCATION: LEAVENWORTH KS BEG: 12/1/98 17:00 EAST: ____

CASE/BATCH/SMO: ____/_/______ LAB: ___ END: __/__/__ __:__ NORTH: ____

STORET/AIRS NO: ______ DOWN: ____

ANALYSIS REQUESTED:

CONTAINER	PRESERVATIVE	MGP	NAME
2-40 ML VIALS	HCL +COOL (4 C)	WV	WATER VOLATILES

COMMENTS: FOR SUPERFUND ONLY: SUBSITE IDENTIFIER:___ OPERABLE UNIT:___

Trip Blank

SAMPLE COLLECTED BY : [signature]

M 12/2/98

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Shane Reed	Leavenworth BTA	30 / 11 / 98	1 of 2

CONTENTS OF SHIPMENT

SAMPLE NUMBER	CUBITAINER (1-L)	BOTTLE (1gal)	BOTTLE (8 oz)	BOTTLE (40 ml)	VOA SET (2 VIALS EA)	water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
AS502023			3	2 ^{102}	2		✓				
024			3	2	2 ^{102}		✓				
103	1	1			1	✓					

Not Complete

DESCRIPTION OF SHIPMENT	MODE OF SHIPMENT
____ PIECE(S) CONSISTING OF ____ BOX(ES)	____ COMMERCIAL CARRIER: ____
____ ICE CHEST(S); OTHER ____	____ COURIER
	____ SAMPLER CONVEYED ____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Wood Harvey ☐ SEALED UNSEALED ☐	12/02/98	7:00	Kaye L Dollmann ☐ SEALED UNSEALED ☒	Delivered to Lab
RELINQUISHED BY ☐ SEALED UNSEALED ☐	DATE	TIME	RECEIVED BY ☐ SEALED UNSEALED ☐	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED UNSEALED ☐	DATE	TIME	RECEIVED BY ☐ SEALED UNSEALED ☐	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

12/2/98

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Shane Read	Leavenworth RTA	1 / 12 / 98	2 of 2

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: 1-L CUBITAINER	8oz BOTTLE	1-gal BOTTLE	40 ml BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
AS502001		1		1			✓				
003		2			1		✓				
007		2			1			✓			
008		2			1			✓			
009		2			1			✓			
010		2			1			✓			
011		2			1			✓			
012		3			2		✓				
013		3			2		✓				
014		3			2		✓				
022		3			2		✓				
025		2		2			✓				
100	1		1		1	✓					
104	1				1	✓					
105	1		1		1	✓					
110F	1		2		1	✓					
111F					1	✓					
108	1		2		1	✓					

not Complete

DESCRIPTION OF SHIPMENT

_____ PIECE(S) CONSISTING OF _____ BOX(ES)

ICE CHESTS: OTHER _____

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER: _____

_____ COURIER

_____ SAMPLER CONVEYED (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Wood Kenney ☐ SEALED ☐ UNSEALED	12/02/98	7:00	Kaye L Dallmann ☐ SEALED ☒ UNSEALED	Deliver to lab
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

1-12/3/98

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Shane Reed	Leavenworth BTA	02 / 12 / 98	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: 1-L CUBITAINER	8 oz BOTTLE	1gal BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
AS502002		2			1		✓				
004		2			1		✓				
005		2			1		✓				
006		~~1~~ *			1		✓				* Reduced volume provided. Analyses are listed as prioritized by field sampler. On Batch Samples WQ21 & WQ22 deleted. m 12/3/98
101	1		1 *		1		✓				
102	1		1 *		1		✓				

DESCRIPTION OF SHIPMENT

_____ PIECE(S) CONSISTING OF _____ BOX(ES)

2 ICE CHEST(S); OTHER _____

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER: _____

X COURIER

_____ SAMPLER CONVEYED (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Wood Kenny ☐ SEALED ☐ UNSEALED	12/03/98	1100	Nicole Rohlen ☐ SEALED ☐ UNSEALED	Analysis
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

i— 12/9 (?)

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER (Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Shane Reed	Leavenworth RTA	8 / 12 / 98	1 of 1

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	8 oz BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
AS502015		2			1		✓				
16		2			1		✓				
17		2			1		✓				
18		2			1		✓				
19		2			1		✓				
20		2			1		✓				*Samples 022 thru
21		2			1		✓				025 sampled on
~~22~~ 035*		2			1		✓				12/8/98 (the already
~~23~~ 036*		2			1		✓				sampled & [illegible]
~~24~~ 037*		2			1		✓				on 12/2 [illegible] samples
~~25~~ 038*		2			1		✓				taken on (022-025)
26		2			1		✓				will be relabeled
27		2			1		✓				35-38 respectively.
28		2			1		✓				
29		2			1		✓				
30		2			1		✓				
31		2			1		✓				
32		2			1		✓				
33		3			2		✓				
34		3			2		✓				

Complete

DESCRIPTION OF SHIPMENT	MODE OF SHIPMENT
____ PIECE(S) CONSISTING OF ____ BOX(ES)	____ COMMERCIAL CARRIER: ____
____ ICE CHEST(S) OTHER ____	____ COURIER
	X SAMPLER CONVEYED (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
[signature] ☐ SEALED ☐ UNSEALED	12/8/98	1630	Barb Jones X SEALED ☐ UNSEALED	rec'd for analyses
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262 (Revised 5/85)

ANALYSIS REQUEST REPORT

VALIDATED DATA

FOR ACTIVITY: AS502

CRAWFORD, DAVE

01/21/99 17:50:25

ALL REAL SAMPLES AND FIELD Q.C.

* FINAL REPORT

FY: 99 ACTIVITY: AS502 DESCRIPTION: LEAVENWORTH LANDFILL BTA LOCATION: LEAVENWORTH KANSAS

STATUS: ACTIVE TYPE: SAMPLING - IN HOUSE ANALYSIS PROJECT: L30

LABO DUE DATE IS 1/ 7/99. REPORT DUE DATE IS 2/ 6/99.

INSPECTION DATE: 12/ 8/98 ALL SAMPLES RECEIVED DATE: 12/08/98

ALL DATA APPROVED BY LABO DATE: 01/19/99 FINAL REPORT TRANSMITTED DATE: 01/21/99

EXPECTED LABO TURNAROUND TIME IS 30 DAYS EXPECTED REPORT TURNAROUND TIME IS 60 DAYS

ACTUAL LABO TURNAROUND TIME IS 42 DAYS ACTUAL REPORT TURNAROUND TIME IS 44 DAYS

SITE CODE: SITE:

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE # STATUS	CITY	STATE	AIRS/ STORET LOC	NO	SECT	LAY-ER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
001		S	NW SECTION LANDFILL SAMPLE (4-8')	1	LEAVENWORTH	KANSAS					12/01/98	14:35	/ /	:
002		S	LANDFILL - WEST CENTRAL PORTION	1	LEAVENWORTH	KANSAS					12/02/98	08:55	/ /	:
003		S	SW SECTION LANDFILL SAMPLE (12-16')	1	LEAVENWORTH	KANSAS					12/01/98	15:30	/ /	:
004		S	LANDFILL - NE SECTION	1	LEAVENWORTH	KANSAS					12/02/98	09:40	/ /	:
005		S	LANDFILL - EAST CENTRAL SECTION	1	LEAVENWORTH	KANSAS					12/02/98	11:18	/ /	:
006		S	LANDFILL - SE SECTION	1	LEAVENWORTH	KANSAS					12/02/98	12:10	/ /	:
007		S	UPGRADIENT SEDIMENT SAMPLE/5-MILE CRK.	1	LEAVENWORTH	KANSAS					12/01/98	09:30	/ /	:
008		S	MIDDLE PORTION OF SITE/5-MILE CREEK	1	LEAVENWORTH	KANSAS					12/01/98	09:40	/ /	:
009		S	NORTH END OF SITE/5-MILE CREEK	1	LEAVENWORTH	KANSAS					12/01/98	10:10	/ /	:
010		S	SOUTH DRAINAGE DITCH SEDIMENT SAMPLE	1	LEAVENWORTH	KANSAS					12/01/98	09:15	/ /	:
011		S	NORTH DRAINAGE DITCH SEDIMENT (0-2")	1	LEAVENWORTH	KANSAS					12/01/98	09:25	/ /	:
012		S	EAST TANK FARM SURFACE SOIL (0-2")	1	LEAVENWORTH	KANSAS					12/01/98	08:25	/ /	:
013		S	WEST TANK FARM SURFACE SOIL (0-2")	1	LEAVENWORTH	KANSAS					12/01/98	08:30	/ /	:
014		S	EQUIPMENT MAINTENANCE AREA (0-2")	1	LEAVENWORTH	KANSAS					12/01/98	08:50	/ /	:
015		S	PM-1/75' NORTH OF GNB GATE	1	LEAVENWORTH	KANSAS					12/08/98	08:50	/ /	:
016		S	PM-2/60' SOUTH OF GNB GATE	1	LEAVENWORTH	KANSAS					12/08/98	09:10	/ /	:
017		S	PM-3/65' NORTH OF NORTH TANK	1	LEAVENWORTH	KANSAS					12/08/98	09:20	/ /	:
018		S	PM-4/25' SOUTH OF SOUTH TANK	1	LEAVENWORTH	KANSAS					12/08/98	09:30	/ /	:
019		S	PM-5/50' EAST OF EAST AST AREA	1	LEAVENWORTH	KANSAS					12/08/98	09:45	/ /	:
020		S	PM-6/20' EAST OF EAST AST AREA	1	LEAVENWORTH	KANSAS					12/08/98	09:50	/ /	:
021		S	LS-1/0-2" DEPTH FROM LOCATIONLS-1	1	LEAVENWORTH	KANSAS					12/08/98	12:30	/ /	:
022		S	WEST TANK FARM ON E.SIDE - CENTER TANK	1	LEAVENWORTH	KANSAS					12/01/98	12:16	/ /	:
023		S	EAST TANK FARM-N.SIDE OF STAIRS (0-4')	1	LEAVENWORTH	KANSAS					11/30/98	12:50	/ /	:

SAMP. NO.	QCC	M	DESCRIPTION	SAMPLE STATUS	#	CITY	STATE	AIRS/ STORET LOC	NO	SECT	LAY-ER	BEG. DATE	BEG. TIME	END. DATE	END. TIME
024		S	UST TANK AREA (0-4')	1		LEAVENWORTH	KANSAS					11/30/98	14:10	/ /	:
025		S	FORMER MAINTENANCE SHOP AREA	1		LEAVENWORTH	KANSAS					12/01/98	13:15	/ /	:
026		S	LS-6/0-2" DEPTH FROM LOCATION LS-6	1		LEAVENWORTH	KANSAS					12/08/98	11:40	/ /	:
027		S	LS-7/0-2" DEPTH FROM LOCATION LS-7	1		LEAVENWORTH	KANSAS					12/08/98	11:55	/ /	:
028		S	LS-8/0-2" DEPTH FROM LOCATION LS-8	1		LEAVENWORTH	KANSAS					12/08/98	12:00	/ /	:
029		S	LS-9/0-2" DEPTH FROM LOCATION LS-9	1		LEAVENWORTH	KANSAS					12/08/98	10:45	/ /	:
030		S	LS-10/0-2" DEPTH FROM LOCATION LS-10	1		LEAVENWORTH	KANSAS					12/08/98	10:50	/ /	:
031		S	LS-11/0-2" DEPTH FROM LOCATION LS-11	1		LEAVENWORTH	KANSAS					12/08/98	11:10	/ /	:
032		S	LS-12/0-2" DEPTH FROM LOCATION LS-12	1		LEAVENWORTH	KANSAS					12/08/98	11:15	/ /	:
033		S	BACKGROUND 1/NORTH SAMPLE(0-2")	1		LEAVENWORTH	KANSAS					12/08/98	15:25	/ /	:
034		S	BACKGROUND 2/CITY PARK NORTH OF VA HOS	1		LEAVENWORTH	KANSAS					12/08/98	15:30	/ /	:
035		S	LS-2/0-2" DEPTH GRAB SAMPLE	1		LEAVENWORTH	KANSAS					12/08/98	12:55	/ /	:
036		S	LS-3/0-2" DEPTH GRAB SAMPLE	1		LEAVENWORTH	KANSAS					12/08/98	12:50	/ /	:
037		S	LS-4/0-2" DEPTH FROM LOCATION LS-4	1		LEAVENWORTH	KANSAS					12/08/98	12:45	/ /	:
038		S	LS-5/0-2" DEPTH FROM LOCATION LS-5	1		LEAVENWORTH	KANSAS					12/08/98	11:30	/ /	:
100		W	GW LANDFILL (7.5')	1		LEAVENWORTH	KANSAS					12/01/98	14:30	/ /	:
101		W	GW SAMPLE AT NE SECTION-LANDFILL	1		LEAVENWORTH	KANSAS					12/02/98	10:30	/ /	:
102		W	GW SAMPLE AT SE SECTION-LANDFILL	1		LEAVENWORTH	KANSAS					12/02/98	13:00	/ /	:
103		W	GW UST TANK DRUM	1		LEAVENWORTH	KANSAS					11/30/98	14:35	/ /	:
104		W	GW WEST AST TANK FARMS	1		LEAVENWORTH	KANSAS					12/01/98	12:45	/ /	:
105		W	GW MAINENTANCE AREA	1		LEAVENWORTH	KANSAS					12/01/98	13:45	/ /	:
108		W	RINSATE SAMPLE	1		LEAVENWORTH	KANSAS					12/01/98	15:00	/ /	:
110	F	W	FIELD BLANK SAMPLE	1		LEAVENWORTH	KANSAS					12/01/98	11:45	/ /	:
111	F	W	TRIP BLANK	1		LEAVENWORTH	KANSAS					12/01/98	17:00	/ /	:

EXPLANATION OF CODES AND INFORMATION ON ANALYSIS REQUEST DETAIL REPORT

SAMPLE INFORMATION:

SAMP. NO. = SAMPLE IDENTIFICATION NUMBER (A 3-DIGIT NUMBER WHICH IN COMBINATION WITH THE ACTIVITY NUMBER AND QCC, PROVIDES AN UNIQUE NUMBER FOR EACH SAMPLE FOR IDENTIFICATION PURPOSES)

QCC = QUALITY CONTROL CODE (A ONE-LETTER CODE USED TO DESIGNATE SPECIFIC QC SAMPLES. THIS FIELD WILL BE BLANK FOR ALL NON-QC OR ACTUAL SAMPLES):

- B = CAL INCREASED CONCENTRATION FOR A LAB SPIKED DUP SAMPLE
- D = MEASURED VALUE FOR FIELD DUPLICATE SAMPLE
- F = MEASURED VALUE FOR FIELD BLANK
- G = MEASURED VALUE FOR METHOD STANDARD
- H = TRUE VALUE FOR METHOD STANDARD
- K = CAL INCREASED CONCENTRATION FOR FIELD SPIKED DUP SAMPLE
- L = MEASURED VALUE FOR A LAB DUPLICATE SAMPLE
- M = MEASURED VALUE FOR LAB BLANK
- N = MEASURED CONCENTRATION OF FIELD SPIKED DUPLICATE
- P = MEASURED VALUE FOR PERFORMANCE STANDARD
- R = CAL INCREASED CONCENTRATION RESULTING FROM LAB SPIKE
- S = MEASURED CONCENTRATION OF LAB SPIKED SAMPLE
- T = TRUE VALUE OF PERFORMANCE STANDARD
- W = MEASURED CONCENTRATION OF LAB SPIKED DUPLICATE
- Y = MEASURED CONCENTRATION OF FIELD SPIKED SAMPLE
- Z = CAL INCREASED CONCENTRATION RESULTING FROM FIELD SPIKE
- 1 = MEASURED VALUE OF FIRST SPIKED REPLICATE
- 2 = MEASURED VALUE OF SECOND SPIKED REPLICATE
- 3 = MEASURED VALUE OF THIRD SPIKED REPLICATE
- 4 = MEASURED VALUE OF FOURTH SPIKED REPLICATE
- 5 = MEASURED VALUE OF FIFTH SPIKED REPLICATE
- 6 = MEASURED VALUE OF SIXTH SPIKED REPLICATE
- 7 = MEASURED VALUE OF SEVENTH SPIKED REPLICATE

M = MEDIA CODE (A ONE-LETTER CODE DESIGNATING THE MEDIA OF THE SAMPLE):

- A = AIR H = HAZARDOUS WASTE/OTHER
- S = SOLID (SOIL, SEDIMENT, SLUDGE)
- T = TISSUE (PLANT & ANIMAL)
- W = WATER (GROUND WATER, SURFACE WATER, WASTE WATER, DRINKING WATER)

DESCRIPTION = A SHORT DESCRIPTION OF THE LOCATION WHERE SAMPLE WAS COLLECTED

AIRS/STORET LOC. NO. = THE SPECIFIC LOCATION ID NUMBER OF EITHER OF THESE NATIONAL DATABASE SYSTEMS, AS APPROPRIATE

DATE/TIME INFORMATION = SPECIFIC INFORMATION REGARDING WHEN THE SAMPLE WAS COLLECTED

- BEG. DATE = DATE SAMPLING WAS STARTED
- BEG. TIME = TIME SAMPLING WAS STARTED
- END DATE = DATE SAMPLING WAS COMPLETED
- END TIME = TIME SAMPLING WAS COMPLETED
- NOTE: A GRAB SAMPLE WILL CONTAIN ONLY BEG. DATE/TIME
  A TIMED COMPOSITE SAMPLE WILL CONTAIN BOTH BEG AND END DATE/TIME TO DESIGNATE DURATION OF SAMPLE COLLECTION

OTHER CODES

- V = VALIDATED

ANALYTICAL RESULTS/MEASUREMENTS INFORMATION:

COMPOUND = MGP (MEDIA-GROUP-PARAMETER) CODE AND NAME OF THE MEASURED CONSTITUENT OR CHARACTERISTIC OF EACH SAMPLE

UNITS = SPECIFIC UNITS IN WHICH RESULTS ARE REPORTED:

- C = CENTIGRADE (CELSIUS) DEGREES
- CFS = CUBIC FEET PER SECOND
- GPM = GALLONS PER MINUTE
- IN = INCHES
- I.D. = SPECIES IDENTIFICATION
- KG = KILOGRAM
- L = LITER
- LB = POUNDS
- MG = MILLIGRAMS (1 X 10-3 GRAMS)
- MGD = MILLION GALLONS PER DAY
- MPH = MILES PER HOUR
- MV = MILLIVOLT
- M/F = MALE/FEMALE
- M2 = SQUARE METER
- M3 = CUBIC METER
- NA = NOT APPLICABLE
- NG = NANOGRAMS (1 X 10-9 GRAMS)
- NTU = NEPHELOMETRIC TURBIDITY UNITS
- PC/L = PICO (1 X 10-12) CURRIES PER LITER
- PG = PICOGRAMS (1 X 10-12 GRAMS)
- P/CM2 = PICOGRAMS PER SQUARE CENTIMETER
- SCM = STANDARD CUBIC METER (1 ATM, 25 C)
- SQ FT = SQUARE FEET
- SU = STANDARD UNITS (PH)
- UG = MICROGRAMS (1 X 10-6 GRAMS)
- UMHOS = MICROMHOS/CM (CONDUCTIVITY UNITS)
- U/CC2 = MICROGRAMS PER 100 SQUARE CENTIMETERS
- U/CM2 = MICROGRAMS PER SQUARE CENTIMETER
- 1000G = 1000 GALLONS
- +/- = POSITIVE/NEGATIVE
- # = NUMBER

DATA QUALIFIERS = SPECIFIC CODES USED IN CONJUNCTION WITH DATA VALUES TO PROVIDE ADDITIONAL INFORMATION ON THE REPORTED RESULTS, OR USED TO EXPLAIN THE ABSENCE OF A SPECIFIC VALUE:

- BLANK = IF FIELD IS BLANK, NO REMARKS OR QUALIFIERS ARE PERTINENT. FOR FINAL REPORTED DATA, THIS MEANS THAT THE VALUES HAVE BEEN REVIEWED AND FOUND TO BE ACCEPTABLE FOR USE.
- I = INVALID SAMPLE/DATA - VALUE NOT REPORTED
- J = THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED QUANTITY
- K = ACTUAL VALUE OF SAMPLE IS < VALUE REPORTED
- L = ACTUAL VALUE OF SAMPLE IS > VALUE REPORTED
- M = DETECTED BUT BELOW THE LEVEL OF REPORTED VALUE FOR ACCURATE QUANTIFICATION
- O = PARAMETER NOT ANALYZED
- U = THE MATERIAL WAS ANALYZED FOR, BUT WAS NOT DETECTED. THE ASSOCIATED NUMERICAL VALUE IS THE SAMPLE DETECTION LIMIT.

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	001	002	003	004	005
SG07 SOLIDS, PERCENT	%	76.7	75.4	80.5	79.4	71.4
SM01 SILVER, TOTAL, BY ICAP	MG/KG	0.512 U	0.512 U	0.512 U	0.512 U	0.512 U
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG	10500	16700	10800	16400	16700
SM04 BARIUM, TOTAL, BY ICAP	MG/KG	164	209	102	193	214
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG	0.776	0.894	0.803	0.900	1.08
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG	4.48	10.8	5.18	5.80	6.35
SM07 COBALT, TOTAL, BY ICAP	MG/KG	6.10	9.96	7.64	8.05	8.50
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	15.6	21.5	17.9	20.4	23.7
SM09 COPPER, TOTAL, BY ICAP	MG/KG	20.2	36.7	11.2	14.5	25.2
SM10 IRON, TOTAL, BY ICAP	MG/KG	15900	48200	19000	22500	24600
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG	369	570	547	577	768
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG	0.296	0.517	0.211 U	0.211 U	0.400
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	17.9	24.8	16.7	21.9	26.1
SM14 LEAD, TOTAL, BY ICAP	MG/KG	87.9	392	18.0	34.0	72.2
SM16 SELENIUM, TOTAL, BY ICAP	MG/KG	2.01 U	2.01 U	2.01 U	2.01 U	2.01 U
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG	2.11 U	2.11 U	2.11 U	2.11 U	2.11 U
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG	31.0	37.7	29.5	39.7	43.4
SM20 ZINC, TOTAL, BY ICAP	MG/KG	91.0	671	60.1	96.1	144
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG	13900	8690	2650	10500	8120
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG	2850	3080	2480	3480	3390
SM23 SODIUM, TOTAL, BY ICAP	MG/KG	249	223	934	253	184
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG	1720	2350	1710	2390	2490
SM27 ARSENIC, TOTAL, BY AA	MG/KG	7.25	11.3	8.44	13.0	10.2
SM34 MERCURY, TOTAL, BY COLD VAPOR AA	MG/KG	0.0520	0.388	0.00389 U	0.00912	0.00619
SM56 ANTIMONY, TOTAL, BY AA	MG/KG	1.00 U	1.42	1.00 U	1.00 U	1.00 U
SP01 BHC, ALPHA, BY GC/EC	UG/KG	8.7 U	22 U	8.3 U	8.4 U	23 U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	001		002		003		004		005	
SP02 BHC, BETA, BY GC/EC	UG/KG	8.7	U	22	U	8.3	U	8.4	U	23	U
SP03 BHC, DELTA	UG/KG	13	U	33	U	12	U	13	U	35	U
SP04 BHC, GAMMA-(LINDANE), BY GC/EC	UG/KG	8.7	U	22	U	8.3	U	8.4	U	23	U
SP05 ALDRIN, BY GC/EC	UG/KG	8.7	U	22	U	8.3	U	8.4	U	23	U
SP06 DIELDRIN, BY GC/EC	UG/KG	13	U	33	U	12	U	13	U	35	U
SP07 ENDOSULFAN I, BY GC/EC	UG/KG	17	U	44	U	17	U	17	U	47	U
SP08 ENDOSULFAN II, BY GC/EC	UG/KG	130	U	330	U	120	U	130	U	350	U
SP09 ENDOSULFAN SULFATE, BY GC/EC	UG/KG	13	U	33	U	12	U	13	U	35	U
SP10 ENDRIN, BY GC/EC	UG/KG	35	U	88	U	33	U	36	U	93	U
SP11 ENDRIN ALDEHYDE, BY GC/EC	UG/KG	8.7	U	22	U	8.3	U	8.4	U	23	U
SP13 DDE-4,4'-	UG/KG	13	U	33	U	12	U	13	U	35	U
SP14 DDD-4,4'-	UG/KG	130	U	330	U	120	U	130	U	350	U
SP15 DDT-4,4'-	UG/KG	17	U	44	U	17	U	17	U	47	U
SP16 TOXAPHENE, BY GC/EC	UG/KG	870	U	2200	U	830	U	840	U	2300	U
SP17 PCB-AROCLOR 1016	UG/KG	870	U	2200	U	830	U	840	U	2300	U
SP18 PCB-AROCLOR 1221	UG/KG	430	U	1100	U	410	U	420	U	1200	U
SP19 PCB-AROCLOR 1232	UG/KG	170	U	440	U	170	U	170	U	470	U
SP20 PCB-AROCLOR 1242	UG/KG	170	U	440	U	170	U	170	U	470	U
SP21 PCB-AROCLOR 1248	UG/KG	350	U	880	U	330	U	340	U	930	U
SP22 PCB-AROCLOR 1254	UG/KG	87	U	2800		83	U	84	U	230	U
SP23 PCB-AROCLOR 1260	UG/KG	130	U	330	U	120	U	130	U	350	U
SP24 CHLORDANE, TECHNICAL, BY GC/EC	UG/KG	35	U	88	U	33	U	120	U	93	U
SP25 HEPTACHLOR, BY GC/EC	UG/KG	17	U	44	U	17	U	17	U	47	U
SP26 HEPTACHLOR EPOXIDE, BY GC/EC	UG/KG	8.7	U	62	U	8.3	U	8.4	U	23	U
SP34 CHLORDANE, ALPHA	UG/KG	43	U	110	U	41	U	42	U	120	U
SP36 CHLORDANE, GAMMA	UG/KG	43	U	110	U	41	U	42	U	120	U

COMPOUND	UNITS	001		002		003		004		005	
SP60 METHOXYCHLOR, BY GC/EC	UG/KG	22	U	55	U	21	U	21	U	58	U
SP61 ENDRIN KETONE, BY GC/EC	UG/KG	8.7	U	22	U	8.3	U	8.4	U	23	U
SS01 PHENOL, BY GC/MS	UG/KG	460	U	460	U	87	U	88	U	490	U
SS02 CARBAZOLE	UG/KG	280	U	290	U	54	U	54	U	300	U
SS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/KG	260	U	260	U	50	U	50	U	280	U
SS04 CHLOROPHENOL, 2-	UG/KG	347	U	350	U	66	U	67	U	370	U
SS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/KG	174	U	180	U	33	U	34	U	190	U
SS06 DICHLOROBENZENE,1,4-	UG/KG	110	U	110	U	21	U	21	U	120	U
SS07 BENZYL ALCOHOL	UG/KG	220	U	220	U	41	U	42	U	230	U
SS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/KG	130	U	130	U	25	U	25	U	980	
SS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/KG	590	U	600	U	110	U	110	U	630	U
SS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG	110	U	110	U	21	U	21	U	120	U
SS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/KG	500	U	510	U	95	U	96	U	540	U
SS12 N-NITROSODIPROPYLAMINE	UG/KG	260	U	260	U	50	U	50	U	280	U
SS13 HEXACHLOROETHANE, BY GC/MS	UG/KG	87	U	88	U	16	U	17	U	93	U
SS14 NITROBENZENE, BY GC/MS	UG/KG	110	U	110	U	21	U	21	U	120	U
SS15 ISOPHORONE, BY GC/MS	UG/KG	200	U	200	U	37	U	38	U	210	U
SS16 NITROPHENOL,2-	UG/KG	300	U	310	U	58	U	59	U	330	U
SS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/KG	280	U	290	U	54	U	54	U	300	U
SS18 BENZOIC ACID, BY GC/MS	UG/KG	1000	U	1000	U	190	U	190	U	1100	U
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG	220	U	220	U	41	U	42	U	230	U
SS20 DICHLOROPHENOL, 2,4-	UG/KG	410	U	420	U	79	U	80	U	440	U
SS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/KG	65	U	66	U	12	U	12	U	70	U
SS22 NAPHTHALENE, BY GC/MS	UG/KG	110	U	110	U	110		280		830	
SS23 CHLOROANILINE,4-	UG/KG	870	U	880	U	160	U	170	U	930	U
SS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/KG	65	U	66	U	12	U	12	U	70	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	001		002		003		004		005	
SS25 PHENOL,4-CHLORO-3-METHYL	UG/KG	410	U	420	U	79	U	80	U	440	U
SS26 METHYLNAPHTHALENE, 2-	UG/KG	130	U	130	U	450		25	U	140	U
SS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/KG	65	U	66	U	12	U	12	U	70	U
SS28 TRICHLOROPHENOL,2,4,6	UG/KG	390	U	400	U	74	U	75	U	420	U
SS29 TRICHLOROPHENOL,2,4,5	UG/KG	460	U	460	U	87	U	88	U	490	U
SS30 CHLORONAPHTHALENE, 2-	UG/KG	150	U	150	U	29	U	29	U	160	U
SS31 NITROANILINE,2-	UG/KG	200	U	200	U	37	U	38	U	210	U
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG	170	U	180	U	33	U	34	U	190	U
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG	150	U	150	U	29	U	29	U	160	U
SS34 NITROANILINE,3-	UG/KG	590	U	600	U	110	U	110	U	630	U
SS35 ACENAPHTHENE, BY GC/MS	UG/KG	150	U	150	U	220		29	U	160	U
SS36 DINITROPHENOL,2,4, BY GC/MS	UG/KG	1300	U	1300	U	250	U	250	U	1400	U
SS37 NITROPHENOL,4-	UG/KG	65	U	66	U	12	U	12	U	70	U
SS38 DIBENZOFURAN	UG/KG	200	U	200	U	44		38	U	210	U
SS39 DINITROTOLUENE,2,4, BY GC/MS	UG/KG	500	U	510	U	95	U	96	U	540	U
SS40 DINITROTOLUENE,2,6-	UG/KG	220	U	220	U	41	U	42	U	230	U
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG	370	U	380	U	70	U	71	U	400	U
SS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/KG	200	U	200	U	37	U	38	U	210	U
SS43 FLUORENE, GC/MS	UG/KG	350	U	350	U	110		67	U	370	U
SS44 NITROANILINE,4-	UG/KG	1400	U	1400	U	270	U	270	U	1500	U
SS45 PHENOL,4,6-DINITRO-2-METHYL	UG/KG	520	U	530	U	99	U	100	U	560	U
SS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/KG	43	U	44	U	8.3	U	8.4	U	47	U
SS47 ETHER, 4-BROMOPHENYL PHENYL	UG/KG	200	U	200	U	37	U	38	U	210	U
SS48 HEXACHLOROBENZENE, BY GC/MS	UG/KG	170	U	180	U	33	U	34	U	190	U
SS49 PENTACHLOROPHENOL, BY GC/MS	UG/KG	460	U	460	U	87	U	88	U	490	U
SS50 PHENANTHRENE, BY GC/MS	UG/KG	170		320		340		200		890	

COMPOUND	UNITS	001		002		003		004		005	
SS51 ANTHRACENE, BY GC/MS	UG/KG	240	U	240	U	46	U	46	U	260	U
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG	280	U	290	U	54	U	54	U	300	U
SS53 FLUORANTHENE, BY GC/MS	UG/KG	90	U	88	U	16	U	250		93	U
SS54 PYRENE, BY GC/MS	UG/KG	260	U	260	U	50	U	50	U	280	U
SS55 PHTHALATE, BUTYL BENZYL	UG/KG	240	U	240	U	46	U	46	U	260	U
SS56 DICHLOROBENZIDINE, 3,3'	UG/KG	4300	U	4400	U	830	U	840	U	4700	U
SS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/KG	330	U	330	U	62	U	63	U	350	U
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG	4800		400	U	390		680		6100	
SS59 CHRYSENE, BY GC/MS	UG/KG	260	U	260	U	290		50	U	280	U
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG	150	U	150	U	420		29	U	160	U
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG	150	U	150	U	29	U	29	U	160	U
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG	280	U	290	U	54	U	54	U	300	U
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG	330	U	330	U	62	U	63	U	350	U
SS64 PYRENE, INDENO(1,2,3-CD)	UG/KG	460	U	460	U	87	U	88	U	490	U
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG	460	U	460	U	87	U	88	U	490	U
SS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/KG	300	U	310	U	58	U	59	U	330	U
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	22	U	22	U	25	U	25	U	32	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG	44	U	45	U	49	U	50	U	64	U
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG	33	U	34	U	37	U	37	U	48	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG	33	U	34	U	37	U	37	U	48	U
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG	22	U	22	U	25	U	25	U	32	U
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG	11	U	11	U	12	U	12	U	16	U
SV11 CHLOROFORM, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	001		002		003		004		005	
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV17 BENZENE, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG	11	U	11	U	12	U	12	U	16	U
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV24 BROMOFORM, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV26 TOLUENE, BY GC/MS	UG/KG	11	U	11	U	35		12	U	16	U
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	77	
SV29 ETHYL BENZENE, BY GC/MS	UG/KG	19		11	U	32		12	U	16	U
SV30 ACETONE, BY GC/MS	UG/KG	70	U	35	U	180	U	53	U	54	U
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV32 METHYL ETHYL KETONE	UG/KG	25	U	22	U	110	U	25	U	32	U
SV34 HEXANONE, 2-	UG/KG	22	U	22	U	25	U	25	U	32	U
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG	22	U	22	U	25	U	25	U	32	U
SV36 STYRENE, BY GC/MS	UG/KG	11	U	11	U	12	U	12	U	16	U
SV44 DICHLOROBENZENE,1,4-	UG/KG	11	U	11	U	12	U	12	U	16	U
SV49 XYLENE, ORTHO	UG/KG	60		11	U	20		12	U	16	U
SV57 XYLENE, M AND/OR P	UG/KG	100		11	U	61		12	U	16	U
SV60 DICHLOROBENZENE, 1, 3-	UG/KG	11	U	11	U	12	U	12	U	16	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	001	002	003	004	005
SV61 DICHLOROBENZENE, 1, 2-	UG/KG	11 U	11 U	12 U	12 U	29
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG	11 U	11 U	12 U	12 U	16 U
ZZ01 SAMPLE NUMBER	NA	001	002	003	004	005
ZZ02 ACTIVITY CODE	NA	AS502	AS502	AS502	AS502	AS502

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	006		007		008		009		010	
SG07 SOLIDS, PERCENT	%	77.0		71.6		72.1		72.2		75.3	
SM01 SILVER, TOTAL, BY ICAP	MG/KG	0.512	U	0.512	U	0.512	U	0.512	U	0.512	U
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG	8090		10900		6700		10900		9440	
SM04 BARIUM, TOTAL, BY ICAP	MG/KG	151		211		133		178		78.2	
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG	0.394		0.903		0.586		0.848		0.751	
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG	5.67		4.83		4.60		5.68		5.15	
SM07 COBALT, TOTAL, BY ICAP	MG/KG	5.10		9.78		7.80		8.06		6.33	
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	17.1		17.4		12.9		16.7		16.5	
SM09 COPPER, TOTAL, BY ICAP	MG/KG	20.7		12.3		9.19		12.4		16.5	
SM10 IRON, TOTAL, BY ICAP	MG/KG	26100		18400		17200		20500		17700	
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG	322		606		454		530		410	
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG	0.211	U	0.211	U	0.211	U	0.211	U	0.211	U
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	12.9		20.5		15.6		20.2		19.1	
SM14 LEAD, TOTAL, BY ICAP	MG/KG	174		20.1		21.9		36.8		71.3	
SM16 SELENIUM, TOTAL, BY ICAP	MG/KG	2.01	U	2.01	U	2.01	U	2.01	U	2.01	U
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG	2.11	U	2.11	U	2.11	U	2.11	U	2.11	U
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG	18.9		33.4		23.4		31.9		25.6	
SM20 ZINC, TOTAL, BY ICAP	MG/KG	216		68.2		72.7		121		156	
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG	102000		3100		10400		7280		28500	
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG	2340		2500		2130		2830		3980	
SM23 SODIUM, TOTAL, BY ICAP	MG/KG	252		166	U	220		165	U	212	
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG	1180		1650		1070		1740		1810	
SM27 ARSENIC, TOTAL, BY AA	MG/KG	6.11		10.2		9.39		10.5		8.40	
SM34 MERCURY, TOTAL, BY COLD VAPOR AA	MG/KG	0.0595		0.00389	U	0.00389	U	0.00389	U	0.0388	
SM56 ANTIMONY, TOTAL, BY AA	MG/KG	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
SP01 BHC, ALPHA, BY GC/EC	UG/KG	8.7	U	2.3	U	4.6	U	2.3	U	4.4	U

COMPOUND	UNITS	006		007		008		009		010	
SP02 BHC, BETA, BY GC/EC	UG/KG	8.7	U	2.3	U	4.6	U	2.3	U	4.4	U
SP03 BHC, DELTA	UG/KG	13	U	3.5	U	6.9	U	3.5	U	6.6	U
SP04 BHC, GAMMA-(LINDANE), BY GC/EC	UG/KG	8.7	U	2.3	U	4.6	U	2.3	U	4.4	U
SP05 ALDRIN, BY GC/EC	UG/KG	8.7	U	2.3	U	4.6	U	2.3	U	4.4	U
SP06 DIELDRIN, BY GC/EC	UG/KG	13	U	3.5	U	6.9	U	3.5	U	6.6	U
SP07 ENDOSULFAN I, BY GC/EC	UG/KG	17	U	4.7	U	9.2	U	4.6	U	8.9	U
SP08 ENDOSULFAN II, BY GC/EC	UG/KG	130	U	35	U	69	U	35	U	66	U
SP09 ENDOSULFAN SULFATE, BY GC/EC	UG/KG	13	U	3.5	U	6.9	U	3.5	U	6.6	U
SP10 ENDRIN, BY GC/EC	UG/KG	35	U	9.3	U	18	U	9.2	U	18	U
SP11 ENDRIN ALDEHYDE, BY GC/EC	UG/KG	8.7	U	2.3	U	4.6	U	2.3	U	4.4	U
SP13 DDE-4,4'-	UG/KG	13	U	3.5	U	6.9	U	3.5	U	6.6	U
SP14 DDD-4,4'-	UG/KG	130	U	35	U	69	U	35	U	66	U
SP15 DDT-4,4'-	UG/KG	17	U	4.7	U	9.2	U	4.6	U	8.9	U
SP16 TOXAPHENE, BY GC/EC	UG/KG	870	U	230	U	460	U	230	U	440	U
SP17 PCB-AROCLOR 1016	UG/KG	870	U	230	U	460	U	230	U	440	U
SP18 PCB-AROCLOR 1221	UG/KG	430	U	120	U	230	U	120	U	220	U
SP19 PCB-AROCLOR 1232	UG/KG	170	U	47	U	92	U	46	U	89	U
SP20 PCB-AROCLOR 1242	UG/KG	170	U	47	U	92	U	46	U	89	U
SP21 PCB-AROCLOR 1248	UG/KG	350	U	93	U	180	U	92	U	180	U
SP22 PCB-AROCLOR 1254	UG/KG	87	U	23	U	46	U	23	U	44	U
SP23 PCB-AROCLOR 1260	UG/KG	130	U	35	U	69	U	35	U	66	U
SP24 CHLORDANE, TECHNICAL, BY GC/EC	UG/KG	35	U	9.3	U	18	U	9.2	U	40	
SP25 HEPTACHLOR, BY GC/EC	UG/KG	17	U	4.7	U	9.2	U	4.6	U	8.9	U
SP26 HEPTACHLOR EPOXIDE, BY GC/EC	UG/KG	8.7	U	2.3	U	4.6	U	2.3	U	4.4	U
SP34 CHLORDANE, ALPHA	UG/KG	43	U	12	U	23	U	12	U	22	U
SP36 CHLORDANE, GAMMA	UG/KG	43	U	12	U	23	U	12	U	22	U

COMPOUND	UNITS	006		007		008		009		010	
SP60 METHOXYCHLOR, BY GC/EC	UG/KG	22	U	5.8	U	12	U	5.8	U	11	U
SP61 ENDRIN KETONE, BY GC/EC	UG/KG	8.7	U	2.3	U	4.6	U	2.3	U	4.4	U
SS01 PHENOL, BY GC/MS	UG/KG	270	U	98	U	97	U	97	U	1400	U
SS02 CARBAZOLE	UG/KG	170	U	60	U	60	U	60	U	860	U
SS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/KG	160	U	56	U	55	U	55	U	800	U
SS04 CHLOROPHENOL, 2-	UG/KG	210	U	74	U	74	U	74	U	1100	U
SS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/KG	100	U	37	U	37	U	37	U	530	U
SS06 DICHLOROBENZENE,1,4-	UG/KG	65	U	23	U	23	U	23	U	330	U
SS07 BENZYL ALCOHOL	UG/KG	130	U	46	U	46	U	46	U	660	U
SS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/KG	78	U	28	U	28	U	28	U	400	U
SS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/KG	350	U	120	U	120	U	120	U	1800	U
SS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG	65	U	23	U	23	U	23	U	330	U
SS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/KG	300	U	110	U	110	U	110	U	1500	U
SS12 N-NITROSODIPROPYLAMINE	UG/KG	160	U	56	U	55	U	55	U	800	U
SS13 HEXACHLOROETHANE, BY GC/MS	UG/KG	52	U	19	U	18	U	18	U	260	U
SS14 NITROBENZENE, BY GC/MS	UG/KG	65	U	23	U	23	U	23	U	330	U
SS15 ISOPHORONE, BY GC/MS	UG/KG	120	U	42	U	42	U	41	U	600	U
SS16 NITROPHENOL,2-	UG/KG	180	U	65	U	65	U	64	U	930	U
SS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/KG	3000		60	U	60	U	60	U	860	U
SS18 BENZOIC ACID, BY GC/MS	UG/KG	600	U	210	U	210	U	210	U	3000	U
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG	130	U	46	U	46	U	46	U	660	U
SS20 DICHLOROPHENOL, 2,4-	UG/KG	250	U	88	U	88	U	88	U	1300	U
SS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/KG	39	U	14	U	14	U	14	U	200	U
SS22 NAPHTHALENE, BY GC/MS	UG/KG	65	U	23	U	23	U	23	U	330	U
SS23 CHLOROANILINE,4-	UG/KG	520	U	190	U	180	U	180	U	2600	U
SS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/KG	39	U	14	U	14	U	14	U	200	U

COMPOUND	UNITS	006		007		008		009		010	
SS25 PHENOL,4-CHLORO-3-METHYL	UG/KG	250	U	88	U	88	U	88	U	1300	U
SS26 METHYLNAPHTHALENE, 2-	UG/KG	290		28	U	28	U	28	U	400	U
SS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/KG	39	U	14	U	14	U	14	U	200	U
SS28 TRICHLOROPHENOL,2,4,6	UG/KG	230	U	84	U	83	U	83	U	1200	U
SS29 TRICHLOROPHENOL,2,4,5	UG/KG	270	U	98	U	97	U	97	U	1400	U
SS30 CHLORONAPHTHALENE, 2-	UG/KG	91	U	32	U	32	U	32	U	460	U
SS31 NITROANILINE,2-	UG/KG	120	U	42	U	42	U	41	U	600	U
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG	100	U	37	U	37	U	37	U	530	U
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG	91	U	32	U	32	U	32	U	460	U
SS34 NITROANILINE,3-	UG/KG	350	U	120	U	120	U	120	U	1800	U
SS35 ACENAPHTHENE, BY GC/MS	UG/KG	91	U	32	U	32	U	32	U	460	U
SS36 DINITROPHENOL,2,4, BY GC/MS	UG/KG	780	U	280	U	280	U	280	U	4000	U
SS37 NITROPHENOL,4-	UG/KG	39	U	14	U	14	U	14	U	200	U
SS38 DIBENZOFURAN	UG/KG	120	U	42	U	42	U	41	U	600	U
SS39 DINITROTOLUENE,2,4, BY GC/MS	UG/KG	300	U	110	U	110	U	110	U	1500	U
SS40 DINITROTOLUENE,2,6-	UG/KG	130	U	46	U	46	U	46	U	660	U
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG	220	U	79	U	78	U	78	U	1100	U
SS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/KG	120	U	42	U	42	U	41	U	600	U
SS43 FLUORENE, GC/MS	UG/KG	210	U	74	U	74	U	74	U	1100	U
SS44 NITROANILINE,4-	UG/KG	840	U	300	U	300	U	300	U	4300	U
SS45 PHENOL,4,6-DINITRO-2-METHYL	UG/KG	310	U	110	U	110	U	110	U	1600	U
SS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/KG	26	U	9.3	U	9.2	U	9.2	U	130	U
SS47 ETHER, 4-BROMOPHENYL PHENYL	UG/KG	120	U	42	U	42	U	41	U	600	U
SS48 HEXACHLOROBENZENE, BY GC/MS	UG/KG	100	U	37	U	37	U	37	U	530	U
SS49 PENTACHLOROPHENOL, BY GC/MS	UG/KG	270	U	98	U	97	U	97	U	1400	U
SS50 PHENANTHRENE, BY GC/MS	UG/KG	160		37	U	170		37	U	530	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	006		007		008		009		010	
SS51 ANTHRACENE, BY GC/MS	UG/KG	140	U	51	U	51	U	51	U	730	U
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG	170	U	60	U	60	U	60	U	860	U
SS53 FLUORANTHENE, BY GC/MS	UG/KG	52	U	19	U	330		18	U	260	U
SS54 PYRENE, BY GC/MS	UG/KG	160	U	56	U	55	U	55	U	800	U
SS55 PHTHALATE, BUTYL BENZYL	UG/KG	140	U	51	U	51	U	51	U	730	U
SS56 DICHLOROBENZIDINE, 3,3'	UG/KG	2600	U	930	U	920	U	920	U	13000	U
SS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/KG	200	U	70	U	69	U	69	U	1000	U
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG	230	U	84	U	83	U	83	U	1200	U
SS59 CHRYSENE, BY GC/MS	UG/KG	160	U	56	U	55	U	55	U	800	U
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG	91	U	32	U	32	U	32	U	460	U
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG	91	U	32	U	32	U	32	U	460	U
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG	170	U	60	U	60	U	60	U	860	U
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG	200	U	70	U	69	U	69	U	1000	U
SS64 PYRENE, INDENO(1,2,3-CD)	UG/KG	270	U	98	U	97	U	97	U	1400	U
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG	270	U	98	U	97	U	97	U	1400	U
SS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/KG	180	U	65	U	65	U	64	U	930	U
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	27	U	28	U	27	U	68	U	58	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG	54	U	55	U	54	U	140	U	120	U
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG	41	U	41	U	41	U	100	U	87	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG	41	U	41	U	41	U	100	U	87	U
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG	27	U	28	U	27	U	68	U	58	U
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG	14	U	14	U	14	U	34	U	29	U
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG	14	U	14	U	14	U	34	U	29	U
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG	14	U	14	U	14	U	34	U	29	U
SV11 CHLOROFORM, BY GC/MS	UG/KG	14	U	14	U	14	U	34	U	29	U
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG	14	U	14	U	14	U	34	U	29	U

COMPOUND	UNITS	006	007	008	009	010
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV17 BENZENE, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG	14 U	14 U	14 U	34 U	29 U
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV24 BROMOFORM, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV26 TOLUENE, BY GC/MS	UG/KG	1200	14 U	14 U	34 U	29 U
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV29 ETHYL BENZENE, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV30 ACETONE, BY GC/MS	UG/KG	51 U	28 U	27 U	70 U	64 U
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV32 METHYL ETHYL KETONE	UG/KG	27 U	28 U	27 U	68 U	58 U
SV34 HEXANONE, 2-	UG/KG	27 U	28 U	27 U	68 U	58 U
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG	27 U	28 U	27 U	68 U	58 U
SV36 STYRENE, BY GC/MS	UG/KG	14 U	14 U	14 U	34 U	29 U
SV44 DICHLOROBENZENE,1,4-	UG/KG	23	14 U	14 U	34 U	29 U
SV49 XYLENE, ORTHO	UG/KG	14 U	14 U	14 U	34 U	29 U
SV57 XYLENE, M AND/OR P	UG/KG	14 U	14 U	14 U	34 U	29 U
SV60 DICHLOROBENZENE, 1, 3-	UG/KG	14 U	14 U	14 U	34 U	29 U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	006	007	008	009	010
SV61 DICHLOROBENZENE, 1, 2-	UG/KG	14 U	14 U	14 U	34 U	29 U
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG	14 U	14 U	14 U	34 U	29 U
ZZ01 SAMPLE NUMBER	NA	006	007	008	009	010
ZZ02 ACTIVITY CODE	NA	AS502	AS502	AS502	AS502	AS502

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	011		012		013		014		015	
SG07 SOLIDS, PERCENT	%	73.2		87.4		85.5		69.7		77.0	
SM01 SILVER, TOTAL, BY ICAP	MG/KG	0.512	U	0.512	U	0.512	U	0.512	U	0.512	U
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG	8190		2050		1030		6480		6890	
SM04 BARIUM, TOTAL, BY ICAP	MG/KG	126		28.4		29.4		83.5		111	
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG	0.645		0.135		0.127		0.550		1.08	
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG	5.29		1.78		1.33		6.60		6.21	
SM07 COBALT, TOTAL, BY ICAP	MG/KG	6.26		2.83		1.50		5.15		6.32	
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	15.6		3.92		2.77		14.5		18.3	
SM09 COPPER, TOTAL, BY ICAP	MG/KG	19.7		5.42		3.84		15.6		23.7	
SM10 IRON, TOTAL, BY ICAP	MG/KG	16700		5770		4340		22800		20000	
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG	562		179		307		839		518	
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG	0.211	U	0.211	U	0.211	U	0.211	U	0.211	U
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	20.0		9.11		5.34		17.7		21.1	
SM14 LEAD, TOTAL, BY ICAP	MG/KG	154		13.3		58.3		356		137	
SM16 SELENIUM, TOTAL, BY ICAP	MG/KG	2.01	U	2.01	U	2.01	U	2.01	U	2.01	U
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG	2.11	U	2.11	U	2.11	U	2.11	U	2.11	U
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG	23.6		9.68		7.45		21.2		24.2	
SM20 ZINC, TOTAL, BY ICAP	MG/KG	221		38.7		50.9		285		220	
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG	65500		20500		206000		80400		54900	
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG	5640		1680		3400		9320		5900	
SM23 SODIUM, TOTAL, BY ICAP	MG/KG	258		132	U	134	U	214		334	
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG	1590		301		272		1290		1670	
SM27 ARSENIC, TOTAL, BY AA	MG/KG	9.96		4.04		2.52		8.36		22.3	
SM34 MERCURY, TOTAL, BY COLD VAPOR AA	MG/KG	0.0662		0.00389	U	0.00389	U	0.0163		0.108	
SM56 ANTIMONY, TOTAL, BY AA	MG/KG	1.00	U	1.00	U	1.00	U	1.87		1.00	U
SP01 BHC, ALPHA, BY GC/EC	UG/KG	4.6	U	7.6	U	7.8	U	9.6	U	8.7	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	011		012		013		014		015	
SP02 BHC, BETA, BY GC/EC	UG/KG	4.6	U	7.6	U	7.8	U	9.6	U	8.7	U
SP03 BHC, DELTA	UG/KG	6.8	U	11	U	12	U	14	U	13	U
SP04 BHC, GAMMA-(LINDANE), BY GC/EC	UG/KG	4.6	U	7.6	U	7.8	U	9.6	U	8.7	U
SP05 ALDRIN, BY GC/EC	UG/KG	4.6	U	7.6	U	7.8	U	9.6	U	8.7	U
SP06 DIELDRIN, BY GC/EC	UG/KG	6.8	U	18		12	U	14	U	13	U
SP07 ENDOSULFAN I, BY GC/EC	UG/KG	9.1	U	15	U	16	U	19	U	17	U
SP08 ENDOSULFAN II, BY GC/EC	UG/KG	68	U	110	U	120	U	140	U	130	U
SP09 ENDOSULFAN SULFATE, BY GC/EC	UG/KG	6.8	U	11	U	12	U	14	U	13	U
SP10 ENDRIN, BY GC/EC	UG/KG	18	U	30	U	31	U	38	U	35	U
SP11 ENDRIN ALDEHYDE, BY GC/EC	UG/KG	4.6	U	7.6	U	7.8	U	9.6	U	8.7	U
SP13 DDE-4,4'-	UG/KG	6.8	U	11	U	12	U	14	U	13	U
SP14 DDD-4,4'-	UG/KG	68	U	110	U	120	U	140	U	130	U
SP15 DDT-4,4'-	UG/KG	9.1	U	15	U	16	U	19	U	17	U
SP16 TOXAPHENE, BY GC/EC	UG/KG	460	U	760	U	780	U	960	U	870	U
SP17 PCB-AROCLOR 1016	UG/KG	460	U	760	U	780	U	960	U	870	U
SP18 PCB-AROCLOR 1221	UG/KG	230	U	380	U	390	U	480	U	430	U
SP19 PCB-AROCLOR 1232	UG/KG	91	U	150	U	160	U	190	U	170	U
SP20 PCB-AROCLOR 1242	UG/KG	91	U	150	U	160	U	190	U	170	U
SP21 PCB-AROCLOR 1248	UG/KG	180	U	300	U	310	U	380	U	350	U
SP22 PCB-AROCLOR 1254	UG/KG	46	U	76	U	78	U	96	U	87	U
SP23 PCB-AROCLOR 1260	UG/KG	68	U	110	U	120	U	140	U	130	U
SP24 CHLORDANE, TECHNICAL, BY GC/EC	UG/KG	18	U	30	U	31	U	38	U	730	
SP25 HEPTACHLOR, BY GC/EC	UG/KG	9.1	U	15	U	16	U	19	U	17	U
SP26 HEPTACHLOR EPOXIDE, BY GC/EC	UG/KG	4.6	U	7.6	U	7.8	U	9.6	U	8.7	U
SP34 CHLORDANE, ALPHA	UG/KG	23	U	38	U	39	U	48	U	80	
SP36 CHLORDANE, GAMMA	UG/KG	23	U	38	U	39	U	48	U	91	

COMPOUND	UNITS	011		012		013		014		015	
SP60 METHOXYCHLOR, BY GC/EC	UG/KG	11	U	19	U	19	U	24	U	22	U
SP61 ENDRIN KETONE, BY GC/EC	UG/KG	4.6	U	7.6	U	7.8	U	9.6	U	8.7	U
SR01 PETROLEUM HYDROCARBONS,TOTAL SEMIVOLATI	UG/KG			54.5		52.6	U	64.6	U		
SS01 PHENOL, BY GC/MS	UG/KG	1400	U	1200	U	1200	U	1500	U	91	U
SS02 CARBAZOLE	UG/KG	890	U	740	U	760	U	930	U	56	U
SS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/KG	820	U	690	U	700	U	860	U	52	U
SS04 CHLOROPHENOL, 2-	UG/KG	1100	U	920	U	940	U	1100	U	69	U
SS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/KG	550	U	460	U	470	U	570	U	34	U
SS06 DICHLOROBENZENE,1,4-	UG/KG	340	U	290	U	290	U	360	U	22	U
SS07 BENZYL ALCOHOL	UG/KG	680	U	570	U	580	U	720	U	43	U
SS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/KG	410	U	340	U	350	U	430	U	26	U
SS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/KG	1800	U	1500	U	1600	U	1900	U	120	U
SS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG	340	U	290	U	290	U	360	U	22	U
SS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/KG	1600	U	1300	U	1300	U	1600	U	99	U
SS12 N-NITROSODIPROPYLAMINE	UG/KG	820	U	690	U	700	U	860	U	53	U
SS13 HEXACHLOROETHANE, BY GC/MS	UG/KG	270	U	230	U	230	U	290	U	17	U
SS14 NITROBENZENE, BY GC/MS	UG/KG	340	U	290	U	290	U	360	U	22	U
SS15 ISOPHORONE, BY GC/MS	UG/KG	610	U	510	U	530	U	640	U	39	U
SS16 NITROPHENOL,2-	UG/KG	960	U	800	U	820	U	1000	U	60	U
SS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/KG	890	U	740	U	760	U	930	U	56	U
SS18 BENZOIC ACID, BY GC/MS	UG/KG	3100	U	2600	U	2700	U	3300	U	200	U
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG	680	U	570	U	580	U	720	U	43	U
SS20 DICHLOROPHENOL, 2,4-	UG/KG	1300	U	1100	U	1100	U	1400	U	82	U
SS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/KG	200	U	170	U	180	U	220	U	13	U
SS22 NAPHTHALENE, BY GC/MS	UG/KG	340	U	290	U	290	U	360	U	46	
SS23 CHLOROANILINE,4-	UG/KG	2700	U	2300	U	2300	U	2900	U	170	U

COMPOUND	UNITS	011		012		013		014		015	
SS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/KG	200	U	170	U	180	U	220	U	13	U
SS25 PHENOL,4-CHLORO-3-METHYL	UG/KG	1300	U	1100	U	1100	U	1400	U	82	U
SS26 METHYLNAPHTHALENE, 2-	UG/KG	410	U	340	U	350	U	430	U	58	
SS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/KG	200	U	170	U	180	U	220	U	13	U
SS28 TRICHLOROPHENOL,2,4,6	UG/KG	1200	U	1000	U	1000	U	1300	U	78	U
SS29 TRICHLOROPHENOL,2,4,5	UG/KG	1400	U	1200	U	1200	U	1500	U	91	U
SS30 CHLORONAPHTHALENE, 2-	UG/KG	480	U	400	U	410	U	500	U	30	U
SS31 NITROANILINE,2-	UG/KG	610	U	510	U	530	U	640	U	39	U
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG	550	U	460	U	470	U	570	U	34	U
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG	480	U	400	U	410	U	500	U	30	U
SS34 NITROANILINE,3-	UG/KG	1800	U	1500	U	1600	U	1900	U	120	U
SS35 ACENAPHTHENE, BY GC/MS	UG/KG	480	U	400	U	410	U	500	U	64	
SS36 DINITROPHENOL,2,4, BY GC/MS	UG/KG	4100	U	3400	U	3500	U	4300	U	260	U
SS37 NITROPHENOL,4-	UG/KG	200	U	170	U	180	U	220	U	13	U
SS38 DIBENZOFURAN	UG/KG	610	U	510	U	530	U	640	U	43	
SS39 DINITROTOLUENE,2,4, BY GC/MS	UG/KG	1600	U	1300	U	1300	U	1600	U	99	U
SS40 DINITROTOLUENE,2,6-	UG/KG	680	U	570	U	580	U	720	U	43	U
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG	1200	U	970	U	990	U	1200	U	73	U
SS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/KG	610	U	510	U	530	U	640	U	39	U
SS43 FLUORENE, GC/MS	UG/KG	1100	U	920	U	940	U	1100	U	69	U
SS44 NITROANILINE,4-	UG/KG	4400	U	3700	U	3800	U	4700	U	280	U
SS45 PHENOL,4,6-DINITRO-2-METHYL	UG/KG	1600	U	1400	U	1400	U	1700	U	100	U
SS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/KG	140	U	110	U	120	U	140	U	8.6	U
SS47 ETHER, 4-BROMOPHENYL PHENYL	UG/KG	610	U	510	U	530	U	640	U	39	U
SS48 HEXACHLOROBENZENE, BY GC/MS	UG/KG	550	U	460	U	470	U	570	U	34	U
SS49 PENTACHLOROPHENOL, BY GC/MS	UG/KG	1400	U	1200	U	1200	U	1500	U	91	U

COMPOUND	UNITS	011		012		013		014		015	
SS50 PHENANTHRENE, BY GC/MS	UG/KG	550	U	460	U	470	U	570	U	820	
SS51 ANTHRACENE, BY GC/MS	UG/KG	750	U	630	U	640	U	790	U	160	
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG	890	U	740	U	760	U	930	U	56	U
SS53 FLUORANTHENE, BY GC/MS	UG/KG	270	U	230	U	230	U	290	U	1700	
SS54 PYRENE, BY GC/MS	UG/KG	820	U	690	U	700	U	860	U	960	
SS55 PHTHALATE, BUTYL BENZYL	UG/KG	750	U	630	U	640	U	790	U	48	U
SS56 DICHLOROBENZIDINE, 3,3'	UG/KG	14000	U	11000	U	12000	U	14000	U	860	U
SS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/KG	1000	U	860	U	880	U	1100	U	630	
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG	1200	U	1000	U	1000	U	1300	U	78	U
SS59 CHRYSENE, BY GC/MS	UG/KG	820	U	690	U	700	U	860	U	700	
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG	480	U	400	U	410	U	500	U	30	U
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG	480	U	400	U	410	U	500	U	1100	
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG	890	U	740	U	760	U	930	U	56	U
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG	1000	U	860	U	880	U	1100	U	630	
SS64 PYRENE, INDENO(1,2,3-CD)	UG/KG	1400	U	1200	U	1200	U	1500	U	520	
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG	1400	U	1200	U	1200	U	1500	U	91	U
SS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/KG	960	U	800	U	820	U	1000	U	540	
SU01 PETROLEUM HYDROCARBONS, TOTAL VOLATILE	UG/KG			100	U	100	U	100	U		
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	50	U	27	U	25	U	31	U	27	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG	100	U	53	U	50	U	62	U	53	U
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG	75	U	40	U	38	U	46	U	40	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG	75	U	40	U	38	U	46	U	40	U
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG	50	U	27	U	25	U	31	U	27	U
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG	25	U	13	U	13	U	15	U	13	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	011		012		013		014		015	
SV11 CHLOROFORM, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV17 BENZENE, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG	25	U	13	U	13	U	15	U	13	U
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV24 BROMOFORM, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV26 TOLUENE, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV29 ETHYL BENZENE, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV30 ACETONE, BY GC/MS	UG/KG	54	U	45	U	41	U	48	U	27	U
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV32 METHYL ETHYL KETONE	UG/KG	50	U	27	U	25	U	31	U	27	U
SV34 HEXANONE, 2-	UG/KG	50	U	27	U	25	U	31	U	27	U
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG	50	U	27	U	25	U	31	U	27	U
SV36 STYRENE, BY GC/MS	UG/KG	25	U	13	U	13	U	15	U	13	U
SV44 DICHLOROBENZENE,1,4-	UG/KG	25	U	13	U	13	U	15	U	13	U
SV49 XYLENE, ORTHO	UG/KG	25	U	13	U	13	U	15	U	13	U

COMPOUND	UNITS	011	012	013	014	015
SV57 XYLENE, M AND/OR P	UG/KG	25 U	13 U	13 U	15 U	13 U
SV60 DICHLOROBENZENE, 1, 3-	UG/KG	25 U	13 U	13 U	15 U	13 U
SV61 DICHLOROBENZENE, 1, 2-	UG/KG	25 U	13 U	13 U	15 U	13 U
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG	25 U	13 U	13 U	15 U	13 U
ZZ01 SAMPLE NUMBER	NA	011	012	013	014	015
ZZ02 ACTIVITY CODE	NA	AS502	AS502	AS502	AS502	AS502

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	016		017		018		019		020	
SG07 SOLIDS, PERCENT	%	83.2		69.8		68.3		82.6		76.7	
SM01 SILVER, TOTAL, BY ICAP	MG/KG	0.512	U	0.512	U	0.512	U	0.512	U	0.512	U
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG	5280		10400		4270		7840		7180	
SM04 BARIUM, TOTAL, BY ICAP	MG/KG	49.9		211		53.8		119		104	
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG	0.676		1.04		0.519		0.636		0.630	
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG	5.72		10.7		13.9		4.76		4.36	
SM07 COBALT, TOTAL, BY ICAP	MG/KG	5.96		9.15		5.77		5.60		6.96	
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	11.6		17.6		10.0		13.6		12.9	
SM09 COPPER, TOTAL, BY ICAP	MG/KG	17.9		31.3		12.4		12.9		13.3	
SM10 IRON, TOTAL, BY ICAP	MG/KG	22200		27500		13400		16500		18000	
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG	726		623		656		477		442	
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG	0.211	U	0.797		0.211	U	0.211	U	0.211	U
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	19.4		27.2		22.5		17.4		20.0	
SM14 LEAD, TOTAL, BY ICAP	MG/KG	117		232		153		76.2		15.5	
SM16 SELENIUM, TOTAL, BY ICAP	MG/KG	2.01	U	2.01	U	2.01	U	2.01	U	2.01	U
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG	2.11	U	2.11	U	2.11	U	2.11	U	2.11	U
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG	15.0		32.4		14.6		24.3		17.6	
SM20 ZINC, TOTAL, BY ICAP	MG/KG	142		485		886		152		67.3	
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG	127000		7510		179000		71200		127000	
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG	14700		2750		6900		4900		3840	
SM23 SODIUM, TOTAL, BY ICAP	MG/KG	285		155		265		251		127	
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG	1340		1820		1050		1420		1720	
SM27 ARSENIC, TOTAL, BY AA	MG/KG	10.4		15.7		8.71		6.41		10.3	
SM34 MERCURY, TOTAL, BY COLD VAPOR AA	MG/KG	0.0238		0.122		0.0258		0.0599		0.121	
SM56 ANTIMONY, TOTAL, BY AA	MG/KG	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
SP01 BHC, ALPHA, BY GC/EC	UG/KG	8.0	U	9.5	U	9.8	U	8.1	U	8.7	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	016		017		018		019		020	
SP02 BHC, BETA, BY GC/EC	UG/KG	8.0	U	9.5	U	9.8	U	8.1	U	8.7	U
SP03 BHC, DELTA	UG/KG	12	U	14	U	15	U	12	U	13	U
SP04 BHC, GAMMA-(LINDANE), BY GC/EC	UG/KG	8.0	U	9.5	U	9.8	U	8.1	U	8.7	U
SP05 ALDRIN, BY GC/EC	UG/KG	8.0	U	9.5	U	9.8	U	8.1	U	8.7	U
SP06 DIELDRIN, BY GC/EC	UG/KG	12	U	14	U	15	U	12	U	13	U
SP07 ENDOSULFAN I, BY GC/EC	UG/KG	16	U	19	U	20	U	16	U	17	U
SP08 ENDOSULFAN II, BY GC/EC	UG/KG	120	U	140	U	150	U	120	U	130	U
SP09 ENDOSULFAN SULFATE, BY GC/EC	UG/KG	12	U	14	U	15	U	12	U	13	U
SP10 ENDRIN, BY GC/EC	UG/KG	32	U	38	U	39	U	32	U	35	U
SP11 ENDRIN ALDEHYDE, BY GC/EC	UG/KG	8.0	U	9.5	U	9.8	U	8.1	U	8.7	U
SP13 DDE-4,4'-	UG/KG	12	U	14	U	15	U	12	U	13	U
SP14 DDD-4,4'-	UG/KG	120	U	140	U	150	U	120	U	130	U
SP15 DDT-4,4'-	UG/KG	16	U	19	U	20	U	16	U	17	U
SP16 TOXAPHENE, BY GC/EC	UG/KG	800	U	950	U	980	U	810	U	870	U
SP17 PCB-AROCLOR 1016	UG/KG	800	U	950	U	980	U	810	U	870	U
SP18 PCB-AROCLOR 1221	UG/KG	400	U	480	U	490	U	400	U	430	U
SP19 PCB-AROCLOR 1232	UG/KG	160	U	190	U	200	U	160	U	170	U
SP20 PCB-AROCLOR 1242	UG/KG	160	U	190	U	200	U	160	U	170	U
SP21 PCB-AROCLOR 1248	UG/KG	320	U	380	U	390	U	320	U	350	U
SP22 PCB-AROCLOR 1254	UG/KG	80	U	95	U	98	U	81	U	87	U
SP23 PCB-AROCLOR 1260	UG/KG	120	U	140	U	150	U	120	U	130	U
SP24 CHLORDANE, TECHNICAL, BY GC/EC	UG/KG	32	U	38	U	100		150		35	U
SP25 HEPTACHLOR, BY GC/EC	UG/KG	16	U	19	U	20	U	16	U	17	U
SP26 HEPTACHLOR EPOXIDE, BY GC/EC	UG/KG	8.0	U	9.5	U	9.8	U	8.1	U	8.7	U
SP34 CHLORDANE, ALPHA	UG/KG	40	U	48	U	49	U	40	U	43	U
SP36 CHLORDANE, GAMMA	UG/KG	40	U	48	U	49	U	40	U	43	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502

VALIDATED DATA

COMPOUND	UNITS	016		017		018		019		020	
SP60 METHOXYCHLOR, BY GC/EC	UG/KG	20	U	24	U	24	U	20	U	22	U
SP61 ENDRIN KETONE, BY GC/EC	UG/KG	8.0	U	9.5	U	9.8	U	8.1	U	8.7	U
SS01 PHENOL, BY GC/MS	UG/KG	84	U	200	U	510	U	420	U	91	U
SS02 CARBAZOLE	UG/KG	52	U	120	U	320	U	260	U	56	U
SS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/KG	48	U	110	U	290	U	240	U	52	U
SS04 CHLOROPHENOL, 2-	UG/KG	64	U	150	U	390	U	320	U	69	U
SS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/KG	32	U	76	U	200	U	160	U	35	U
SS06 DICHLOROBENZENE,1,4-	UG/KG	20	U	48	U	120	U	100	U	22	U
SS07 BENZYL ALCOHOL	UG/KG	40	U	95	U	240	U	200	U	43	U
SS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/KG	24	U	57	U	150	U	120	U	26	U
SS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/KG	110	U	260	U	660	U	540	U	120	U
SS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG	20	U	48	U	120	U	100	U	22	U
SS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/KG	92	U	220	U	560	U	460	U	100	U
SS12 N-NITROSODIPROPYLAMINE	UG/KG	48	U	110	U	290	U	240	U	52	U
SS13 HEXACHLOROETHANE, BY GC/MS	UG/KG	16	U	38	U	98	U	81	U	17	U
SS14 NITROBENZENE, BY GC/MS	UG/KG	20	U	48	U	120	U	100	U	22	U
SS15 ISOPHORONE, BY GC/MS	UG/KG	36	U	86	U	220	U	180	U	39	U
SS16 NITROPHENOL,2-	UG/KG	56	U	130	U	340	U	280	U	61	U
SS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/KG	52	U	120	U	320	U	260	U	56	U
SS18 BENZOIC ACID, BY GC/MS	UG/KG	180	U	440	U	1100	U	930	U	200	U
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG	40	U	95	U	240	U	200	U	43	U
SS20 DICHLOROPHENOL, 2,4-	UG/KG	76	U	180	U	460	U	380	U	82	U
SS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/KG	12	U	29	U	73	U	61	U	13	U
SS22 NAPHTHALENE, BY GC/MS	UG/KG	20	U	120		120	U	100	U	22	U
SS23 CHLOROANILINE,4-	UG/KG	160	U	380	U	980	U	810	U	170	U
SS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/KG	12	U	29	U	73	U	61	U	13	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	016		017		018		019		020	
SS25 PHENOL,4-CHLORO-3-METHYL	UG/KG	76	U	180	U	460	U	380	U	82	U
SS26 METHYLNAPHTHALENE, 2-	UG/KG	76		260		150	U	120	U	26	U
SS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/KG	12	U	29	U	73	U	61	U	13	U
SS28 TRICHLOROPHENOL,2,4,6	UG/KG	72	U	170	U	440	U	360	U	78	U
SS29 TRICHLOROPHENOL,2,4,5	UG/KG	84	U	200	U	510	U	420	U	91	U
SS30 CHLORONAPHTHALENE, 2-	UG/KG	28	U	67	U	170	U	140	U	30	U
SS31 NITROANILINE,2-	UG/KG	36	U	86	U	220	U	180	U	39	U
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG	32	U	76	U	200	U	160	U	35	U
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG	28	U	67	U	170	U	140	U	30	U
SS34 NITROANILINE,3-	UG/KG	110	U	260	U	660	U	540	U	120	U
SS35 ACENAPHTHENE, BY GC/MS	UG/KG	28	U	67	U	170	U	140	U	30	U
SS36 DINITROPHENOL,2,4, BY GC/MS	UG/KG	240	U	570	U	1500	U	1200	U	260	U
SS37 NITROPHENOL,4-	UG/KG	12	U	29	U	73	U	61	U	13	U
SS38 DIBENZOFURAN	UG/KG	36	U	86	U	220	U	180	U	39	U
SS39 DINITROTOLUENE,2,4, BY GC/MS	UG/KG	92	U	220	U	560	U	460	U	100	U
SS40 DINITROTOLUENE,2,6-	UG/KG	40	U	95	U	240	U	200	U	43	U
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG	68	U	160	U	410	U	340	U	74	U
SS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/KG	36	U	86	U	220	U	180	U	39	U
SS43 FLUORENE, GC/MS	UG/KG	64	U	150	U	390	U	320	U	69	U
SS44 NITROANILINE,4-	UG/KG	260	U	620	U	1600	U	1300	U	280	U
SS45 PHENOL,4,6-DINITRO-2-METHYL	UG/KG	96	U	230	U	580	U	480	U	100	U
SS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/KG	8.0	U	19	U	49	U	40	U	8.7	U
SS47 ETHER, 4-BROMOPHENYL PHENYL	UG/KG	36	U	86	U	220	U	180	U	39	U
SS48 HEXACHLOROBENZENE, BY GC/MS	UG/KG	32	U	76	U	200	U	160	U	35	U
SS49 PENTACHLOROPHENOL, BY GC/MS	UG/KG	84	U	200	U	510	U	420	U	91	U
SS50 PHENANTHRENE, BY GC/MS	UG/KG	92		290		200	U	160	U	38	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	016		017		018		019		020	
SS51 ANTHRACENE, BY GC/MS	UG/KG	44	U	100	U	270	U	220	U	48	U
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG	220		120	U	320	U	260	U	110	
SS53 FLUORANTHENE, BY GC/MS	UG/KG	100		430		98	U	81	U	17	U
SS54 PYRENE, BY GC/MS	UG/KG	48	U	520		290	U	240	U	52	U
SS55 PHTHALATE, BUTYL BENZYL	UG/KG	44	U	100	U	270	U	220	U	48	U
SS56 DICHLOROBENZIDINE, 3,3'	UG/KG	800	U	1900	U	4900	U	4000	U	870	U
SS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/KG	60	U	350		370	U	300	U	65	U
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG	72	U	170	U	440	U	360	U	78	U
SS59 CHRYSENE, BY GC/MS	UG/KG	48	U	520		290	U	240	U	52	U
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG	28	U	67	U	170	U	140	U	30	U
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG	28	U	67	U	170	U	140	U	30	U
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG	52	U	590		320	U	260	U	56	U
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG	60	U	140	U	370	U	300	U	65	U
SS64 PYRENE, INDENO(1,2,3-CD)	UG/KG	84	U	200	U	510	U	420	U	91	U
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG	84	U	200	U	510	U	420	U	91	U
SS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/KG	56	U	130	U	340	U	280	U	61	U
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	27	U	28	U	65	U	35	U	28	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG	54	U	57	U	130	U	71	U	55	U
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG	40	U	43	U	98	U	53	U	41	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG	40	U	43	U	98	U	53	U	41	U
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG	27	U	28	U	65	U	35	U	28	U
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG	13	U	14	U	33	U	18	U	14	U
SV11 CHLOROFORM, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	016		017		018		019		020	
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV17 BENZENE, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG	13	U	14	U	33	U	18	U	14	U
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV24 BROMOFORM, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV26 TOLUENE, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV29 ETHYL BENZENE, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV30 ACETONE, BY GC/MS	UG/KG	27	U	28	U	86	U	35	U	28	U
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV32 METHYL ETHYL KETONE	UG/KG	27	U	28	U	65	U	35	U	28	U
SV34 HEXANONE, 2-	UG/KG	27	U	28	U	65	U	35	U	28	U
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG	27	U	28	U	65	U	35	U	28	U
SV36 STYRENE, BY GC/MS	UG/KG	13	U	14	U	33	U	18	U	14	U
SV44 DICHLOROBENZENE,1,4-	UG/KG	13	U	14	U	33	U	18	U	14	U
SV49 XYLENE, ORTHO	UG/KG	13	U	14	U	33	U	18	U	14	U
SV57 XYLENE, M AND/OR P	UG/KG	13	U	14	U	33	U	18	U	14	U
SV60 DICHLOROBENZENE, 1, 3-	UG/KG	13	U	14	U	33	U	18	U	14	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	016	017	018	019	020
SV61 DICHLOROBENZENE, 1, 2-	UG/KG	13 U	14 U	33 U	18 U	14 U
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG	13 U	14 U	33 U	18 U	14 U
ZZ01 SAMPLE NUMBER	NA	016	017	018	019	020
ZZ02 ACTIVITY CODE	NA	AS502	AS502	AS502	AS502	AS502

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	021	022	023	024	025
SG07 SOLIDS, PERCENT	%	82.4	79.9	83.0	72.2	87.5
SM01 SILVER, TOTAL, BY ICAP	MG/KG	0.512 U	0.512 U	0.512 U	0.512 U	0.512 U
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG	3770	7450	14300	3250	3970
SM04 BARIUM, TOTAL, BY ICAP	MG/KG	156	104	146	86.8	39.6
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG	0.475	0.586	0.974	0.186	0.393
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG	4.50	7.24	5.18	9.48	3.45
SM07 COBALT, TOTAL, BY ICAP	MG/KG	4.83	5.51	6.88	3.71	3.23
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	8.66	11.9	20.7	15.7	7.82
SM09 COPPER, TOTAL, BY ICAP	MG/KG	9.37	12.5	12.1	92.8	5.35
SM10 IRON, TOTAL, BY ICAP	MG/KG	20400	29000	20400	29200	16800
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG	772	824	397	315	646
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG	0.211 U	0.211 U	0.427	5.40	0.211 U
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	14.7	20.3	19.0	31.3	10.6
SM14 LEAD, TOTAL, BY ICAP	MG/KG	17.8	463	10.7	584	19.3
SM16 SELENIUM, TOTAL, BY ICAP	MG/KG	2.01 U	2.01 U	2.01 U	2.01 U	2.01 U
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG	2.11 U	2.11 U	2.11 U	2.11 U	2.11 U
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG	10.7	22.8	36.7	13.2	10.9
SM20 ZINC, TOTAL, BY ICAP	MG/KG	40.0	101	58.9	555	62.1
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG	157000	111000	3270	13400	255000
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG	21500	10400	3460	1330	15110
SM23 SODIUM, TOTAL, BY ICAP	MG/KG	272	391	197	317	274
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG	975	1340	2110	612	999
SM27 ARSENIC, TOTAL, BY AA	MG/KG	5.37	11.8	9.61	7.57	5.41
SM34 MERCURY, TOTAL, BY COLD VAPOR AA	MG/KG	0.170	0.00389 U	0.00389 U	0.342	0.00389 U
SM56 ANTIMONY, TOTAL, BY AA	MG/KG	1.00 U	1.11	1.00 U	3.90	1.00 U
SP01 BHC, ALPHA, BY GC/EC	UG/KG	2.0 U	8.3 U	2.0 U	23 U	7.6 U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	021		022		023		024		025	
SP02 BHC, BETA, BY GC/EC	UG/KG	2.0	U	8.3	U	2.0	U	23	U	7.6	U
SP03 BHC, DELTA	UG/KG	3.0	U	13	U	3.0	U	35	U	11	U
SP04 BHC, GAMMA-(LINDANE), BY GC/EC	UG/KG	2.0	U	8.3	U	2.0	U	23	U	7.6	U
SP05 ALDRIN, BY GC/EC	UG/KG	2.0	U	8.3	U	2.0	U	23	U	56	U
SP06 DIELDRIN, BY GC/EC	UG/KG	3.0	U	13	U	3.0	U	35	U	11	U
SP07 ENDOSULFAN I, BY GC/EC	UG/KG	4.0	U	17	U	4.0	U	46	U	15	U
SP08 ENDOSULFAN II, BY GC/EC	UG/KG	30	U	130	U	30	U	350	U	110	U
SP09 ENDOSULFAN SULFATE, BY GC/EC	UG/KG	3.0	U	13	U	3.0	U	35	U	11	U
SP10 ENDRIN, BY GC/EC	UG/KG	8.1	U	33	U	8.0	U	92	U	30	U
SP11 ENDRIN ALDEHYDE, BY GC/EC	UG/KG	2.0	U	8.3	U	2.0	U	23	U	7.6	U
SP13 DDE-4,4'-	UG/KG	3.0	U	13	U	3.0	U	35	U	11	U
SP14 DDD-4,4'-	UG/KG	30	U	130	U	30	U	350	U	110	U
SP15 DDT-4,4'-	UG/KG	4.0	U	42	U	4.0	U	46	U	15	U
SP16 TOXAPHENE, BY GC/EC	UG/KG	200	U	830	U	200	U	2300	U	760	U
SP17 PCB-AROCLOR 1016	UG/KG	200	U	830	U	200	U	2300	U	760	U
SP18 PCB-AROCLOR 1221	UG/KG	100	U	420	U	100	U	1200	U	380	U
SP19 PCB-AROCLOR 1232	UG/KG	40	U	170	U	40	U	460	U	150	U
SP20 PCB-AROCLOR 1242	UG/KG	40	U	170	U	40	U	460	U	150	U
SP21 PCB-AROCLOR 1248	UG/KG	81	U	330	U	80	U	920	U	300	U
SP22 PCB-AROCLOR 1254	UG/KG	20	U	83	U	20	U	1200		76	U
SP23 PCB-AROCLOR 1260	UG/KG	30	U	130	U	30	U	350	U	110	U
SP24 CHLORDANE, TECHNICAL, BY GC/EC	UG/KG	25		33	U	8.0	U	92	U	30	U
SP25 HEPTACHLOR, BY GC/EC	UG/KG	4.0	U	17	U	4.0	U	46	U	15	U
SP26 HEPTACHLOR EPOXIDE, BY GC/EC	UG/KG	2.0	U	8.3	U	2.0	U	23	U	7.6	U
SP34 CHLORDANE, ALPHA	UG/KG	10	U	42	U	10	U	120	U	38	U
SP36 CHLORDANE, GAMMA	UG/KG	10	U	42	U	10	U	120	U	38	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	021		022		023		024		025	
SP60 METHOXYCHLOR, BY GC/EC	UG/KG	5.1	U	21	U	5.0	U	58	U	19	U
SP61 ENDRIN KETONE, BY GC/EC	UG/KG	2.0	U	8.3	U	2.0	U	23	U	7.6	U
SR01 PETROLEUM HYDROCARBONS,TOTAL SEMIVOLATI	UG/KG			255		31.9		88.5		17.1	U
SS01 PHENOL, BY GC/MS	UG/KG	85	U	1300	U	420	U	1400	U	400	U
SS02 CARBAZOLE	UG/KG	52	U	810	U	260	U	900	U	250	U
SS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/KG	48	U	750	U	240	U	830	U	230	U
SS04 CHLOROPHENOL, 2-	UG/KG	65	U	1000	U	320	U	1100	U	300	U
SS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/KG	32	U	500	U	160	U	550	U	150	U
SS06 DICHLOROBENZENE,1,4-	UG/KG	20	U	310	U	100	U	350	U	95	U
SS07 BENZYL ALCOHOL	UG/KG	40	U	630	U	200	U	690	U	190	U
SS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/KG	24	U	380	U	120	U	420	U	110	U
SS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/KG	110	U	1700	U	540	U	1900	U	510	U
SS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG	20	U	310	U	100	U	350	U	95	U
SS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/KG	93	U	1400	U	460	U	1600	U	440	U
SS12 N-NITROSODIPROPYLAMINE	UG/KG	48	U	750	U	240	U	830	U	230	U
SS13 HEXACHLOROETHANE, BY GC/MS	UG/KG	16	U	250	U	80	U	280	U	76	U
SS14 NITROBENZENE, BY GC/MS	UG/KG	20	U	310	U	100	U	350	U	95	U
SS15 ISOPHORONE, BY GC/MS	UG/KG	36	U	560	U	180	U	620	U	170	U
SS16 NITROPHENOL,2-	UG/KG	56	U	880	U	280	U	970	U	270	U
SS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/KG	52	U	810	U	260	U	900	U	250	U
SS18 BENZOIC ACID, BY GC/MS	UG/KG	180	U	2900	U	920	U	3200	U	870	U
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG	40	U	630	U	200	U	690	U	190	U
SS20 DICHLOROPHENOL, 2,4-	UG/KG	77	U	1200	U	380	U	1300	U	360	U
SS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/KG	12	U	190	U	60	U	210	U	57	U
SS22 NAPHTHALENE, BY GC/MS	UG/KG	20	U	750		100	U	350	U	95	U
SS23 CHLOROANILINE,4-	UG/KG	160	U	2500	U	800	U	2800	U	760	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	021		022		023		024		025	
SS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/KG	12	U	190	U	60	U	210	U	57	U
SS25 PHENOL,4-CHLORO-3-METHYL	UG/KG	77	U	1200	U	380	U	1300	U	360	U
SS26 METHYLNAPHTHALENE, 2-	UG/KG	24	U	820		1300		420	U	110	U
SS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/KG	12	U	190	U	60	U	210	U	57	U
SS28 TRICHLOROPHENOL,2,4,6	UG/KG	73	U	1100	U	360	U	1200	U	340	U
SS29 TRICHLOROPHENOL,2,4,5	UG/KG	85	U	1300	U	420	U	1400	U	400	U
SS30 CHLORONAPHTHALENE, 2-	UG/KG	28	U	440	U	140	U	480	U	130	U
SS31 NITROANILINE,2-	UG/KG	36	U	560	U	180	U	620	U	170	U
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG	32	U	500	U	160	U	550	U	150	U
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG	28	U	440	U	140	U	480	U	130	U
SS34 NITROANILINE,3-	UG/KG	110	U	1700	U	540	U	1900	U	510	U
SS35 ACENAPHTHENE, BY GC/MS	UG/KG	28	U	440	U	140	U	480	U	130	U
SS36 DINITROPHENOL,2,4, BY GC/MS	UG/KG	240	U	3800	U	1200	U	4200	U	1100	U
SS37 NITROPHENOL,4-	UG/KG	12	U	190	U	60	U	210	U	57	U
SS38 DIBENZOFURAN	UG/KG	36	U	560	U	270		620	U	170	U
SS39 DINITROTOLUENE,2,4, BY GC/MS	UG/KG	93	U	1400	U	460	U	1600	U	440	U
SS40 DINITROTOLUENE,2,6-	UG/KG	40	U	630	U	200	U	690	U	190	U
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG	69	U	1100	U	340	U	1200	U	320	U
SS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/KG	36	U	560	U	180	U	620	U	170	U
SS43 FLUORENE, GC/MS	UG/KG	65	U	1000	U	320	U	1100	U	300	U
SS44 NITROANILINE,4-	UG/KG	260	U	4100	U	1300	U	4500	U	1200	U
SS45 PHENOL,4,6-DINITRO-2-METHYL	UG/KG	97	U	1500	U	480	U	1700	U	460	U
SS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/KG	8.1	U	120	U	390		140	U	38	U
SS47 ETHER, 4-BROMOPHENYL PHENYL	UG/KG	36	U	560	U	180	U	620	U	170	U
SS48 HEXACHLOROBENZENE, BY GC/MS	UG/KG	32	U	500	U	160	U	550	U	150	U
SS49 PENTACHLOROPHENOL, BY GC/MS	UG/KG	85	U	1300	U	420	U	1400	U	400	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	021		022		023		024		025	
SS50 PHENANTHRENE, BY GC/MS	UG/KG	32	U	1500		580		550	U	180	
SS51 ANTHRACENE, BY GC/MS	UG/KG	44	U	690	U	220	U	760	U	210	U
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG	52	U	810	U	260	U	900	U	250	U
SS53 FLUORANTHENE, BY GC/MS	UG/KG	16	U	1100		80	U	280	U	76	U
SS54 PYRENE, BY GC/MS	UG/KG	48	U	750	U	240	U	830	U	230	U
SS55 PHTHALATE, BUTYL BENZYL	UG/KG	44	U	690	U	220	U	760	U	210	U
SS56 DICHLOROBENZIDINE, 3,3'	UG/KG	810	U	12000	U	4000	U	14000	U	3800	U
SS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/KG	61	U	940	U	300	U	1000	U	280	U
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG	73	U	1100	U	360	U	1200	U	340	U
SS59 CHRYSENE, BY GC/MS	UG/KG	48	U	750	U	240	U	830	U	230	U
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG	28	U	440	U	140	U	480	U	130	U
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG	28	U	440	U	140	U	480	U	130	U
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG	52	U	810	U	260	U	900	U	250	U
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG	61	U	940	U	300	U	1000	U	280	U
SS64 PYRENE, INDENO(1,2,3-CD)	UG/KG	85	U	1300	U	420	U	1400	U	400	U
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG	85	U	1300	U	420	U	1400	U	400	U
SS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/KG	56	U	880	U	280	U	970	U	270	U
SU01 PETROLEUM HYDROCARBONS, TOTAL VOLATILE	UG/KG			100	U	100	U	100	U	100	U
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	29	U	28	U	25	U	62	U	27	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG	58	U	56	U	50	U	120	U	54	U
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG	43	U	42	U	38	U	93	U	41	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG	43	U	42	U	38	U	93	U	41	U
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG	29	U	28	U	25	U	62	U	27	U
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG	14	U	14	U	13	U	31	U	14	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	021		022		023		024		025	
SV11 CHLOROFORM, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV17 BENZENE, BY GC/MS	UG/KG	14	U	14	U	13	U	38		14	U
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG	14	U	14	U	13	U	31	U	14	U
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV24 BROMOFORM, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV26 TOLUENE, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG	14	U	14	U	22		31	U	14	U
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV29 ETHYL BENZENE, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV30 ACETONE, BY GC/MS	UG/KG	95	U	61	U	90	U	90	U	53	U
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV32 METHYL ETHYL KETONE	UG/KG	29	U	28	U	25	U	62	U	27	U
SV34 HEXANONE, 2-	UG/KG	29	U	28	U	25	U	62	U	27	U
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG	29	U	28	U	25	U	62	U	27	U
SV36 STYRENE, BY GC/MS	UG/KG	14	U	14	U	13	U	31	U	14	U
SV44 DICHLOROBENZENE,1,4-	UG/KG	14	U	14	U	13	U	31	U	14	U
SV49 XYLENE, ORTHO	UG/KG	14	U	14	U	13	U	31	U	14	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	021	022	023	024	025
SV57 XYLENE, M AND/OR P	UG/KG	14 U	14 U	13 U	31 U	14 U
SV60 DICHLOROBENZENE, 1, 3-	UG/KG	14 U	14 U	13 U	31 U	14 U
SV61 DICHLOROBENZENE, 1, 2-	UG/KG	14 U	14 U	13 U	31 U	14 U
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG	14 U	14 U	13 U	31 U	14 U
ZZ01 SAMPLE NUMBER	NA	021	022	023	024	025
ZZ02 ACTIVITY CODE	NA	AS502	AS502	AS502	AS502	AS502

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	026	027	028	029	030
SG07 SOLIDS, PERCENT	%	73.5	75.1	87.8	82.6	92.9
SM01 SILVER, TOTAL, BY ICAP	MG/KG	0.512 U	0.512 U	0.512 U	0.512 U	0.512 U
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG	7330	14700	8430	5920	4560
SM04 BARIUM, TOTAL, BY ICAP	MG/KG	112	157	130	110	78.7
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG	0.543	1.10	0.677	0.515	0.431
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG	3.20	7.88	4.39	4.22	3.60
SM07 COBALT, TOTAL, BY ICAP	MG/KG	4.43	12.3	5.80	4.36	3.90
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	9.55	27.4	13.8	10.7	7.85
SM09 COPPER, TOTAL, BY ICAP	MG/KG	7.48	19.0	13.9	9.30	7.13
SM10 IRON, TOTAL, BY ICAP	MG/KG	10200	31800	15500	15600	14600
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG	505	346	453	506	605
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG	0.211 U	0.211 U	0.211 U	0.211 U	0.211 U
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	10.9	32.0	16.1	14.4	12.6
SM14 LEAD, TOTAL, BY ICAP	MG/KG	18.5	174	266	74.7	36.0
SM16 SELENIUM, TOTAL, BY ICAP	MG/KG	2.01 U	2.01 U	2.01 U	2.01 U	2.01 U
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG	2.11 U	2.11 U	2.11 U	2.11 U	2.11 U
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG	18.3	34.6	23.3	17.9	13.6
SM20 ZINC, TOTAL, BY ICAP	MG/KG	68.1	78.4	134	115	55.8
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG	105000	5440	49300	108000	138000
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG	6190	3930	3450	7170	8860
SM23 SODIUM, TOTAL, BY ICAP	MG/KG	136	114 U	118 U	304	174
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG	1460	3160	1890	1060	907
SM27 ARSENIC, TOTAL, BY AA	MG/KG	5.42	13.5	7.85	8.37	4.83
SM34 MERCURY, TOTAL, BY COLD VAPOR AA	MG/KG	0.0260	0.0621	0.0455	0.0273	0.0273
SM56 ANTIMONY, TOTAL, BY AA	MG/KG	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
SP01 BHC, ALPHA, BY GC/EC	UG/KG	2.3 U	8.9 U	7.6 U	8.1 U	3.6 U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	026		027		028		029		030	
SP02 BHC, BETA, BY GC/EC	UG/KG	2.3	U	8.9	U	7.6	U	8.1	U	3.6	U
SP03 BHC, DELTA	UG/KG	3.4	U	13	U	11	U	12	U	5.4	U
SP04 BHC, GAMMA-(LINDANE), BY GC/EC	UG/KG	2.3	U	8.9	U	7.6	U	8.1	U	3.6	U
SP05 ALDRIN, BY GC/EC	UG/KG	2.3	U	8.9	U	7.6	U	8.1	U	3.6	U
SP06 DIELDRIN, BY GC/EC	UG/KG	3.4	U	13	U	11	U	12	U	5.4	U
SP07 ENDOSULFAN I, BY GC/EC	UG/KG	4.5	U	18	U	15	U	16	U	7.2	U
SP08 ENDOSULFAN II, BY GC/EC	UG/KG	34	U	130	U	110	U	120	U	54	U
SP09 ENDOSULFAN SULFATE, BY GC/EC	UG/KG	3.4	U	13	U	11	U	12	U	5.4	U
SP10 ENDRIN, BY GC/EC	UG/KG	9.1	U	36	U	30	U	32	U	14	U
SP11 ENDRIN ALDEHYDE, BY GC/EC	UG/KG	2.3	U	8.9	U	7.6	U	8.1	U	3.6	U
SP13 DDE-4,4'-	UG/KG	3.4	U	13	U	11	U	12	U	5.4	U
SP14 DDD-4,4'-	UG/KG	34	U	130	U	110	U	120	U	54	U
SP15 DDT-4,4'-	UG/KG	4.5	U	18	U	15	U	16	U	7.2	U
SP16 TOXAPHENE, BY GC/EC	UG/KG	230	U	890	U	760	U	810	U	360	U
SP17 PCB-AROCLOR 1016	UG/KG	230	U	890	U	760	U	810	U	360	U
SP18 PCB-AROCLOR 1221	UG/KG	110	U	440	U	380	U	400	U	180	U
SP19 PCB-AROCLOR 1232	UG/KG	45	U	180	U	150	U	160	U	72	U
SP20 PCB-AROCLOR 1242	UG/KG	45	U	180	U	150	U	160	U	72	U
SP21 PCB-AROCLOR 1248	UG/KG	91	U	360	U	300	U	320	U	140	U
SP22 PCB-AROCLOR 1254	UG/KG	23	U	89	U	76	U	81	U	36	U
SP23 PCB-AROCLOR 1260	UG/KG	34	U	130	U	110	U	120	U	54	U
SP24 CHLORDANE, TECHNICAL, BY GC/EC	UG/KG	9.1	U	36	U	30	U	32	U	29	
SP25 HEPTACHLOR, BY GC/EC	UG/KG	4.5	U	18	U	15	U	16	U	7.2	U
SP26 HEPTACHLOR EPOXIDE, BY GC/EC	UG/KG	2.3	U	8.9	U	7.6	U	8.1	U	3.6	U
SP34 CHLORDANE, ALPHA	UG/KG	11	U	44	U	38	U	40	U	18	U
SP36 CHLORDANE, GAMMA	UG/KG	11	U	44	U	38	U	40	U	18	U

COMPOUND	UNITS	026		027		028		029		030	
SP60 METHOXYCHLOR, BY GC/EC	UG/KG	5.7	U	22	U	19	U	20	U	9.0	U
SP61 ENDRIN KETONE, BY GC/EC	UG/KG	2.3	U	8.9	U	7.6	U	8.1	U	3.6	U
SS01 PHENOL, BY GC/MS	UG/KG	480	U	93	U	80	U	680	U	600	U
SS02 CARBAZOLE	UG/KG	300	U	58	U	49	U	420	U	370	U
SS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/KG	270	U	53	U	45	U	390	U	340	U
SS04 CHLOROPHENOL, 2-	UG/KG	360	U	71	U	61	U	520	U	460	U
SS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/KG	180	U	35	U	30	U	260	U	230	U
SS06 DICHLOROBENZENE,1,4-	UG/KG	110	U	22	U	19	U	160	U	140	U
SS07 BENZYL ALCOHOL	UG/KG	230	U	44	U	38	U	320	U	290	U
SS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/KG	140	U	26	U	23	U	190	U	170	U
SS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/KG	610	U	120	U	100	U	870	U	770	U
SS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG	110	U	22	U	19	U	160	U	140	U
SS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/KG	520	U	100	U	87	U	740	U	660	U
SS12 N-NITROSODIPROPYLAMINE	UG/KG	270	U	53	U	45	U	390	U	340	U
SS13 HEXACHLOROETHANE, BY GC/MS	UG/KG	91	U	18	U	15	U	130	U	110	U
SS14 NITROBENZENE, BY GC/MS	UG/KG	110	U	22	U	19	U	160	U	140	U
SS15 ISOPHORONE, BY GC/MS	UG/KG	200	U	40	U	34	U	290	U	260	U
SS16 NITROPHENOL,2-	UG/KG	320	U	62	U	53	U	450	U	400	U
SS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/KG	300	U	58	U	49	U	420	U	370	U
SS18 BENZOIC ACID, BY GC/MS	UG/KG	1000	U	200	U	170	U	1500	U	1300	U
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG	230	U	44	U	38	U	320	U	290	U
SS20 DICHLOROPHENOL, 2,4-	UG/KG	430	U	84	U	72	U	610	U	540	U
SS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/KG	68	U	13	U	11	U	97	U	86	U
SS22 NAPHTHALENE, BY GC/MS	UG/KG	110	U	22	U	19	U	160	U	140	U
SS23 CHLOROANILINE,4-	UG/KG	910	U	180	U	150	U	1300	U	1100	U
SS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/KG	68	U	13	U	11	U	97	U	86	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	026		027		028		029		030	
SS25 PHENOL,4-CHLORO-3-METHYL	UG/KG	430	U	84	U	72	U	610	U	540	U
SS26 METHYLNAPHTHALENE, 2-	UG/KG	140	U	26	U	23	U	190	U	170	U
SS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/KG	68	U	13	U	11	U	97	U	86	U
SS28 TRICHLOROPHENOL,2,4,6	UG/KG	410	U	80	U	68	U	580	U	520	U
SS29 TRICHLOROPHENOL,2,4,5	UG/KG	480	U	93	U	80	U	680	U	600	U
SS30 CHLORONAPHTHALENE, 2-	UG/KG	160	U	31	U	26	U	230	U	200	U
SS31 NITROANILINE,2-	UG/KG	200	U	40	U	34	U	290	U	260	U
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG	180	U	35	U	30	U	260	U	230	U
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG	160	U	31	U	26	U	230	U	200	U
SS34 NITROANILINE,3-	UG/KG	610	U	120	U	100	U	870	U	770	U
SS35 ACENAPHTHENE, BY GC/MS	UG/KG	160	U	31	U	26	U	230	U	200	U
SS36 DINITROPHENOL,2,4, BY GC/MS	UG/KG	1400	U	260	U	230	U	1900	U	1700	U
SS37 NITROPHENOL,4-	UG/KG	68	U	13	U	11	U	97	U	86	U
SS38 DIBENZOFURAN	UG/KG	200	U	40	U	34	U	290	U	260	U
SS39 DINITROTOLUENE,2,4, BY GC/MS	UG/KG	520	U	100	U	87	U	740	U	660	U
SS40 DINITROTOLUENE,2,6-	UG/KG	230	U	44	U	38	U	320	U	290	U
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG	380	U	75	U	64	U	550	U	490	U
SS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/KG	200	U	40	U	34	U	290	U	260	U
SS43 FLUORENE, GC/MS	UG/KG	360	U	71	U	61	U	520	U	460	U
SS44 NITROANILINE,4-	UG/KG	1500	U	290	U	250	U	2100	U	1900	U
SS45 PHENOL,4,6-DINITRO-2-METHYL	UG/KG	540	U	110	U	91	U	780	U	690	U
SS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/KG	45	U	8.9	U	7.6	U	65	U	57	U
SS47 ETHER, 4-BROMOPHENYL PHENYL	UG/KG	200	U	40	U	34	U	290	U	260	U
SS48 HEXACHLOROBENZENE, BY GC/MS	UG/KG	180	U	35	U	30	U	260	U	230	U
SS49 PENTACHLOROPHENOL, BY GC/MS	UG/KG	480	U	93	U	80	U	680	U	600	U
SS50 PHENANTHRENE, BY GC/MS	UG/KG	180	U	85		66		260	U	230	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	026		027		028		029		030	
SS51 ANTHRACENE, BY GC/MS	UG/KG	250	U	49	U	42	U	360	U	320	U
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG	300	U	58	U	49	U	420	U	370	U
SS53 FLUORANTHENE, BY GC/MS	UG/KG	91	U	18	U	84		130	U	110	U
SS54 PYRENE, BY GC/MS	UG/KG	270	U	53	U	45	U	390	U	340	U
SS55 PHTHALATE, BUTYL BENZYL	UG/KG	250	U	49	U	910		360	U	320	U
SS56 DICHLOROBENZIDINE, 3,3'	UG/KG	4500	U	890	U	760	U	6500	U	5700	U
SS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/KG	340	U	66	U	57	U	480	U	430	U
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG	410	U	80	U	68	U	580	U	520	U
SS59 CHRYSENE, BY GC/MS	UG/KG	270	U	53	U	45	U	390	U	340	U
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG	160	U	31	U	26	U	230	U	200	U
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG	160	U	31	U	26	U	230	U	200	U
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG	300	U	58	U	49	U	420	U	370	U
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG	340	U	66	U	57	U	480	U	430	U
SS64 PYRENE, INDENO(1,2,3-CD)	UG/KG	480	U	93	U	80	U	680	U	600	U
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG	480	U	93	U	80	U	680	U	600	U
SS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/KG	320	U	62	U	53	U	450	U	400	U
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	31	U	32	U	42	U	44	U	54	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG	62	U	64	U	84	U	88	U	110	U
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG	47	U	48	U	63	U	66	U	81	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG	47	U	48	U	63	U	66	U	81	U
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG	31	U	32	U	42	U	44	U	54	U
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG	16	U	16	U	21	U	22	U	27	U
SV11 CHLOROFORM, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	026		027		028		029		030	
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV17 BENZENE, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG	16	U	16	U	21	U	22	U	27	U
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV24 BROMOFORM, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV26 TOLUENE, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV29 ETHYL BENZENE, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV30 ACETONE, BY GC/MS	UG/KG	31	U	32	U	42	U	44	U	54	U
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV32 METHYL ETHYL KETONE	UG/KG	31	U	32	U	42	U	44	U	54	U
SV34 HEXANONE, 2-	UG/KG	31	U	32	U	42	U	44	U	54	U
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG	31	U	32	U	42	U	44	U	54	U
SV36 STYRENE, BY GC/MS	UG/KG	16	U	16	U	21	U	22	U	27	U
SV44 DICHLOROBENZENE,1,4-	UG/KG	16	U	16	U	21	U	22	U	27	U
SV49 XYLENE, ORTHO	UG/KG	16	U	16	U	21	U	22	U	27	U
SV57 XYLENE, M AND/OR P	UG/KG	16	U	16	U	21	U	22	U	27	U
SV60 DICHLOROBENZENE, 1, 3-	UG/KG	16	U	16	U	21	U	22	U	27	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	026	027	028	029	030
SV61 DICHLOROBENZENE, 1, 2-	UG/KG	16 U	16 U	21 U	22 U	27 U
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG	16 U	16 U	21 U	22 U	27 U
ZZ01 SAMPLE NUMBER	NA	026	027	028	029	030
ZZ02 ACTIVITY CODE	NA	AS502	AS502	AS502	AS502	AS502

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	031	032	033	034	035
SG07 SOLIDS, PERCENT	%	83.2	87.8	71.8	73.9	71.8
SM01 SILVER, TOTAL, BY ICAP	MG/KG	0.512 U	0.512 U	0.512 U	0.512 U	0.512 U
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG	5990	4570	7820	7320	4190
SM04 BARIUM, TOTAL, BY ICAP	MG/KG	43.7	74.7	206	156	109
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG	0.572	0.467	0.622	0.524	0.379
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG	5.64	4.46	4.19	3.34	4.81
SM07 COBALT, TOTAL, BY ICAP	MG/KG	9.57	4.37	7.22	6.31	3.97
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	14.4	13.9	12.4	12.0	10.9
SM09 COPPER, TOTAL, BY ICAP	MG/KG	9.72	12.3	9.06	7.22	14.6
SM10 IRON, TOTAL, BY ICAP	MG/KG	22300	15200	13700	10600	17000
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG	540	416	774	580	670
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG	0.211 U	0.211 U	0.296	0.211 U	0.211 U
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	20.3	14.2	17.0	13.0	13.8
SM14 LEAD, TOTAL, BY ICAP	MG/KG	11.1	136	22.7	18.6	31.9
SM16 SELENIUM, TOTAL, BY ICAP	MG/KG	2.01 U	2.01 U	2.01 U	2.01 U	2.01 U
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG	2.11 U	2.11 U	2.11 U	2.11 U	2.11 U
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG	18.9	15.2	25.1	24.7	14.9
SM20 ZINC, TOTAL, BY ICAP	MG/KG	53.7	185	93.2	74.5	74.2
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG	5830	60800	2610	2140	150000
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG	2630	4080	2010	1820	7570
SM23 SODIUM, TOTAL, BY ICAP	MG/KG	123	172	106 U	109 U	168
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG	1070	1070	1560	1550	1150
SM27 ARSENIC, TOTAL, BY AA	MG/KG	10.2	6.88	7.98	6.64	5.79
SM34 MERCURY, TOTAL, BY COLD VAPOR AA	MG/KG	0.0274	0.0621	0.0481	0.0318	0.120
SM56 ANTIMONY, TOTAL, BY AA	MG/KG	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
SP01 BHC, ALPHA, BY GC/EC	UG/KG	0.46 U	2.3 U	2.3 U	2.3 U	9.3 U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	031		032		033		034		035	
SP02 BHC, BETA, BY GC/EC	UG/KG	0.46	U	2.3	U	2.3	U	2.3	U	9.3	U
SP03 BHC, DELTA	UG/KG	0.70	U	3.4	U	3.5	U	3.4	U	14	U
SP04 BHC, GAMMA-(LINDANE), BY GC/EC	UG/KG	0.46	U	2.3	U	2.3	U	2.3	U	9.3	U
SP05 ALDRIN, BY GC/EC	UG/KG	0.46	U	2.3	U	2.3	U	2.3	U	9.3	U
SP06 DIELDRIN, BY GC/EC	UG/KG	0.70	U	3.4	U	3.5	U	3.4	U	14	U
SP07 ENDOSULFAN I, BY GC/EC	UG/KG	0.93	U	4.5	U	4.6	U	4.5	U	19	U
SP08 ENDOSULFAN II, BY GC/EC	UG/KG	7.0	U	34	U	35	U	34	U	140	U
SP09 ENDOSULFAN SULFATE, BY GC/EC	UG/KG	0.70	U	3.4	U	3.5	U	3.4	U	14	U
SP10 ENDRIN, BY GC/EC	UG/KG	1.9	U	9.0	U	9.3	U	9.0	U	37	U
SP11 ENDRIN ALDEHYDE, BY GC/EC	UG/KG	0.46	U	2.3	U	2.3	U	2.3	U	9.3	U
SP13 DDE-4,4'-	UG/KG	0.70	U	3.4	U	6.3		3.4	U	14	U
SP14 DDD-4,4'-	UG/KG	7.0	U	34	U	35	U	34	U	140	U
SP15 DDT-4,4'-	UG/KG	0.93	U	4.5	U	4.6	U	4.5	U	19	U
SP16 TOXAPHENE, BY GC/EC	UG/KG	46	U	230	U	230	U	230	U	930	U
SP17 PCB-AROCLOR 1016	UG/KG	46	U	230	U	230	U	230	U	930	U
SP18 PCB-AROCLOR 1221	UG/KG	23	U	110	U	120	U	110	U	460	U
SP19 PCB-AROCLOR 1232	UG/KG	9.3	U	45	U	46	U	45	U	190	U
SP20 PCB-AROCLOR 1242	UG/KG	9.3	U	45	U	46	U	45	U	190	U
SP21 PCB-AROCLOR 1248	UG/KG	19	U	90	U	93	U	90	U	370	U
SP22 PCB-AROCLOR 1254	UG/KG	4.6	U	23	U	23	U	23	U	93	U
SP23 PCB-AROCLOR 1260	UG/KG	7.0	U	34	U	35	U	34	U	140	U
SP24 CHLORDANE, TECHNICAL, BY GC/EC	UG/KG	1.9	U	9.0	U	9.3	U	9.0	U	49	
SP25 HEPTACHLOR, BY GC/EC	UG/KG	0.93	U	4.5	U	4.6	U	4.5	U	19	U
SP26 HEPTACHLOR EPOXIDE, BY GC/EC	UG/KG	0.46	U	2.3	U	2.3	U	2.3	U	9.3	U
SP34 CHLORDANE, ALPHA	UG/KG	2.3	U	11	U	12	U	12	U	46	U
SP36 CHLORDANE, GAMMA	UG/KG	2.3	U	11	U	12	U	12	U	46	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	031		032		033		034		035	
SP60 METHOXYCHLOR, BY GC/EC	UG/KG	1.2	U	5.6	U	5.8	U	5.6	U	23	U
SP61 ENDRIN KETONE, BY GC/EC	UG/KG	0.46	U	2.3	U	2.3	U	2.3	U	9.3	U
SR01 PETROLEUM HYDROCARBONS,TOTAL SEMIVOLATI	UG/KG					4.18	U	4.05	U		
SS01 PHENOL, BY GC/MS	UG/KG	84	U	80	U	97	U	94	U	97	U
SS02 CARBAZOLE	UG/KG	52	U	49	U	60	U	58	U	60	U
SS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/KG	48	U	45	U	56	U	54	U	56	U
SS04 CHLOROPHENOL, 2-	UG/KG	64	U	61	U	74	U	72	U	74	U
SS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/KG	32	U	30	U	37	U	36	U	37	U
SS06 DICHLOROBENZENE,1,4-	UG/KG	20	U	19	U	23	U	22	U	23	U
SS07 BENZYL ALCOHOL	UG/KG	40	U	38	U	46	U	45	U	46	U
SS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/KG	24	U	23	U	28	U	27	U	28	U
SS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/KG	110	U	100	U	120	U	120	U	120	U
SS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG	20	U	19	U	23	U	22	U	23	U
SS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/KG	92	U	87	U	110	U	100	U	110	U
SS12 N-NITROSODIPROPYLAMINE	UG/KG	48	U	45	U	56	U	54	U	56	U
SS13 HEXACHLOROETHANE, BY GC/MS	UG/KG	16	U	15	U	18	U	18	U	18	U
SS14 NITROBENZENE, BY GC/MS	UG/KG	20	U	19	U	23	U	22	U	23	U
SS15 ISOPHORONE, BY GC/MS	UG/KG	36	U	34	U	42	U	40	U	42	U
SS16 NITROPHENOL,2-	UG/KG	56	U	53	U	65	U	63	U	65	U
SS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/KG	52	U	49	U	60	U	58	U	60	U
SS18 BENZOIC ACID, BY GC/MS	UG/KG	180	U	170	U	210	U	210	U	210	U
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG	40	U	38	U	46	U	45	U	46	U
SS20 DICHLOROPHENOL, 2,4-	UG/KG	76	U	72	U	88	U	86	U	88	U
SS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/KG	12	U	11	U	14	U	14	U	14	U
SS22 NAPHTHALENE, BY GC/MS	UG/KG	20	U	42		23	U	22	U	23	U
SS23 CHLOROANILINE,4-	UG/KG	160	U	150	U	180	U	180	U	180	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	031		032		033		034		035	
SS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/KG	12	U	11	U	14	U	14	U	14	U
SS25 PHENOL,4-CHLORO-3-METHYL	UG/KG	76	U	72	U	88	U	86	U	88	U
SS26 METHYLNAPHTHALENE, 2-	UG/KG	24	U	77		28	U	27	U	28	U
SS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/KG	12	U	11	U	14	U	14	U	14	U
SS28 TRICHLOROPHENOL,2,4,6	UG/KG	72	U	68	U	83	U	81	U	83	U
SS29 TRICHLOROPHENOL,2,4,5	UG/KG	84	U	80	U	97	U	94	U	97	U
SS30 CHLORONAPHTHALENE, 2-	UG/KG	28	U	26	U	32	U	32	U	32	U
SS31 NITROANILINE,2-	UG/KG	36	U	34	U	42	U	40	U	42	U
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG	32	U	30	U	37	U	36	U	37	U
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG	28	U	26	U	32	U	32	U	32	U
SS34 NITROANILINE,3-	UG/KG	110	U	100	U	120	U	120	U	120	U
SS35 ACENAPHTHENE, BY GC/MS	UG/KG	28	U	26	U	32	U	32	U	32	U
SS36 DINITROPHENOL,2,4, BY GC/MS	UG/KG	240	U	230	U	280	U	270	U	280	U
SS37 NITROPHENOL,4-	UG/KG	12	U	11	U	14	U	14	U	14	U
SS38 DIBENZOFURAN	UG/KG	36	U	34	U	42	U	40	U	42	U
SS39 DINITROTOLUENE,2,4, BY GC/MS	UG/KG	92	U	87	U	110	U	100	U	110	U
SS40 DINITROTOLUENE,2,6-	UG/KG	40	U	38	U	46	U	45	U	46	U
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG	68	U	64	U	79	U	76	U	79	U
SS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/KG	36	U	34	U	42	U	40	U	42	U
SS43 FLUORENE, GC/MS	UG/KG	64	U	61	U	74	U	72	U	74	U
SS44 NITROANILINE,4-	UG/KG	260	U	250	U	300	U	290	U	300	U
SS45 PHENOL,4,6-DINITRO-2-METHYL	UG/KG	96	U	91	U	110	U	110	U	110	U
SS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/KG	8	U	7.6	U	9.3	U	9.0	U	9.3	U
SS47 ETHER, 4-BROMOPHENYL PHENYL	UG/KG	36	U	34	U	42	U	40	U	42	U
SS48 HEXACHLOROBENZENE, BY GC/MS	UG/KG	32	U	30	U	37	U	36	U	37	U
SS49 PENTACHLOROPHENOL, BY GC/MS	UG/KG	84	U	80	U	97	U	94	U	97	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	031		032		033		034		035	
SS50 PHENANTHRENE, BY GC/MS	UG/KG	32	U	51		37	U	36	U	78	
SS51 ANTHRACENE, BY GC/MS	UG/KG	44	U	42	U	51	U	50	U	51	U
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG	52	U	49	U	60	U	58	U	60	U
SS53 FLUORANTHENE, BY GC/MS	UG/KG	16	U	15	U	18	U	18	U	190	
SS54 PYRENE, BY GC/MS	UG/KG	48	U	45	U	56	U	54	U	56	U
SS55 PHTHALATE, BUTYL BENZYL	UG/KG	44	U	42	U	51	U	50	U	51	U
SS56 DICHLOROBENZIDINE, 3,3'	UG/KG	800	U	760	U	930	U	900	U	930	U
SS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/KG	60	U	57	U	69	U	68	U	69	U
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG	72	U	68	U	83	U	81	U	83	U
SS59 CHRYSENE, BY GC/MS	UG/KG	48	U	45	U	56	U	54	U	56	U
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG	28	U	26	U	32	U	32	U	32	U
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG	28	U	26	U	32	U	32	U	32	U
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG	52	U	49	U	60	U	58	U	60	U
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG	60	U	57	U	69	U	68	U	69	U
SS64 PYRENE, INDENO(1,2,3-CD)	UG/KG	84	U	80	U	97	U	94	U	97	U
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG	84	U	80	U	97	U	94	U	97	U
SS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/KG	56	U	53	U	65	U	63	U	65	U
SU01 PETROLEUM HYDROCARBONS, TOTAL VOLATILE	UG/KG					100	U	100	U		
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	37	U	58	U	38	U	34	U	51	U
SV04 BROMOMETHANE, BY GC/MS	UG/KG	75	U	120	U	75	U	68	U	100	U
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG	56	U	87	U	56	U	51	U	77	U
SV06 CHLOROETHANE, BY GC/MS	UG/KG	56	U	87	U	56	U	51	U	77	U
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG	37	U	58	U	38	U	34	U	51	U
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG	19	U	29	U	19	U	17	U	26	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	031		032		033		034		035	
SV11 CHLOROFORM, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV17 BENZENE, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG	19	U	29	U	19	U	17	U	26	U
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV24 BROMOFORM, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV26 TOLUENE, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV29 ETHYL BENZENE, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV30 ACETONE, BY GC/MS	UG/KG	38	U	58	U	57	U	34	U	51	U
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV32 METHYL ETHYL KETONE	UG/KG	37	U	58	U	38	U	34	U	51	U
SV34 HEXANONE, 2-	UG/KG	37	U	58	U	38	U	34	U	51	U
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG	37	U	58	U	38	U	34	U	51	U
SV36 STYRENE, BY GC/MS	UG/KG	19	U	29	U	19	U	17	U	26	U
SV44 DICHLOROBENZENE,1,4-	UG/KG	19	U	29	U	19	U	17	U	26	U
SV49 XYLENE, ORTHO	UG/KG	19	U	29	U	19	U	17	U	26	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	031	032	033	034	035
SV57 XYLENE, M AND/OR P	UG/KG	19 U	29 U	19 U	17 U	26 U
SV60 DICHLOROBENZENE, 1,.3-	UG/KG	19 U	29 U	19 U	17 U	26 U
SV61 DICHLOROBENZENE, 1, 2-	UG/KG	19 U	29 U	19 U	17 U	26 U
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG	19 U	29 U	19 U	17 U	26 U
ZZ01 SAMPLE NUMBER	NA	031	032	033	034	035
ZZ02 ACTIVITY CODE	NA	AS502	AS502	AS502	AS502	AS502

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	036		037		038		100	101
SP02 BHC, BETA, BY GC/EC	UG/KG	9.3	U	10	U	8.3	U		
SP03 BHC, DELTA	UG/KG	14	U	15	U	12	U		
SP04 BHC, GAMMA-(LINDANE), BY GC/EC	UG/KG	9.3	U	10	U	8.3	U		
SP05 ALDRIN, BY GC/EC	UG/KG	9.3	U	10	U	8.3	U		
SP06 DIELDRIN, BY GC/EC	UG/KG	14	U	15	U	12	U		
SP07 ENDOSULFAN I, BY GC/EC	UG/KG	19	U	21	U	17	U		
SP08 ENDOSULFAN II, BY GC/EC	UG/KG	140	U	150	U	120	U		
SP09 ENDOSULFAN SULFATE, BY GC/EC	UG/KG	14	U	15	U	12	U		
SP10 ENDRIN, BY GC/EC	UG/KG	37	U	41	U	33	U		
SP11 ENDRIN ALDEHYDE, BY GC/EC	UG/KG	9.3	U	10	U	8.3	U		
SP13 DDE-4,4'-	UG/KG	14	U	15	U	12	U		
SP14 DDD-4,4'-	UG/KG	140	U	150	U	120	U		
SP15 DDT-4,4'-	UG/KG	19	U	21	U	17	U		
SP16 TOXAPHENE, BY GC/EC	UG/KG	930	U	1000	U	830	U		
SP17 PCB-AROCLOR 1016	UG/KG	930	U	1000	U	830	U		
SP18 PCB-AROCLOR 1221	UG/KG	460	U	520	U	410	U		
SP19 PCB-AROCLOR 1232	UG/KG	190	U	210	U	170	U		
SP20 PCB-AROCLOR 1242	UG/KG	190	U	210	U	170	U		
SP21 PCB-AROCLOR 1248	UG/KG	370	U	410	U	330	U		
SP22 PCB-AROCLOR 1254	UG/KG	93	U	100	U	83	U		
SP23 PCB-AROCLOR 1260	UG/KG	140	U	150	U	120	U		
SP24 CHLORDANE, TECHNICAL, BY GC/EC	UG/KG	170		41	U	33	U		
SP25 HEPTACHLOR, BY GC/EC	UG/KG	19	U	21	U	17	U		
SP26 HEPTACHLOR EPOXIDE, BY GC/EC	UG/KG	9.3	U	10	U	8.3	U		
SP34 CHLORDANE, ALPHA	UG/KG	46	U	52	U	41	U		
SP36 CHLORDANE, GAMMA	UG/KG	46	U	52	U	41	U		

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	036		037		038		100	101
SP60 METHOXYCHLOR, BY GC/EC	UG/KG	23	U	26	U	21	U		
SP61 ENDRIN KETONE, BY GC/EC	UG/KG	9.3	U	10	U	8.3	U		
SS01 PHENOL, BY GC/MS	UG/KG	490	U	540	U	430	U		
SS02 CARBAZOLE	UG/KG	300	U	330	U	270	U		
SS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/KG	280	U	310	U	250	U		
SS04 CHLOROPHENOL, 2-	UG/KG	370	U	410	U	330	U		
SS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/KG	180	U	200	U	160	U		
SS06 DICHLOROBENZENE,1,4-	UG/KG	120	U	130	U	100	U		
SS07 BENZYL ALCOHOL	UG/KG	230	U	260	U	210	U		
SS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/KG	140	U	150	U	120	U		
SS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/KG	630	U	690	U	560	U		
SS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/KG	120	U	130	U	100	U		
SS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/KG	530	U	590	U	470	U		
SS12 N-NITROSODIPROPYLAMINE	UG/KG	280	U	310	U	250	U		
SS13 HEXACHLOROETHANE, BY GC/MS	UG/KG	93	U	100	U	82	U		
SS14 NITROBENZENE, BY GC/MS	UG/KG	120	U	130	U	100	U		
SS15 ISOPHORONE, BY GC/MS	UG/KG	210	U	230	U	180	U		
SS16 NITROPHENOL,2-	UG/KG	320	U	360	U	290	U		
SS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/KG	300	U	330	U	270	U		
SS18 BENZOIC ACID, BY GC/MS	UG/KG	1100	U	1200	U	950	U		
SS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/KG	230	U	260	U	210	U		
SS20 DICHLOROPHENOL, 2,4-	UG/KG	440	U	490	U	390	U		
SS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/KG	70	U	77	U	62	U		
SS22 NAPHTHALENE, BY GC/MS	UG/KG	120	U	130	U	100	U		
SS23 CHLOROANILINE,4-	UG/KG	930	U	1000	U	820	U		
SS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/KG	70	U	77	U	62	U		

COMPOUND	UNITS	036		037		038		100	101
SS25 PHENOL,4-CHLORO-3-METHYL	UG/KG	440	U	490	U	390	U		
SS26 METHYLNAPHTHALENE, 2-	UG/KG	140	U	150	U	120	U		
SS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/KG	70	U	77	U	62	U		
SS28 TRICHLOROPHENOL,2,4,6	UG/KG	420	U	460	U	370	U		
SS29 TRICHLOROPHENOL,2,4,5	UG/KG	490	U	540	U	430	U		
SS30 CHLORONAPHTHALENE, 2-	UG/KG	160	U	180	U	140	U		
SS31 NITROANILINE,2-	UG/KG	210	U	230	U	180	U		
SS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/KG	180	U	200	U	160	U		
SS33 ACENAPHTHYLENE, BY GC/MS	UG/KG	160	U	180	U	140	U		
SS34 NITROANILINE,3-	UG/KG	630	U	690	U	560	U		
SS35 ACENAPHTHENE, BY GC/MS	UG/KG	160	U	180	U	140	U		
SS36 DINITROPHENOL,2,4, BY GC/MS	UG/KG	1400	U	1500	U	1200	U		
SS37 NITROPHENOL,4-	UG/KG	70	U	77	U	62	U		
SS38 DIBENZOFURAN	UG/KG	210	U	230	U	180	U		
SS39 DINITROTOLUENE,2,4, BY GC/MS	UG/KG	530	U	590	U	470	U		
SS40 DINITROTOLUENE,2,6-	UG/KG	230	U	260	U	210	U		
SS41 PHTHALATE, DIETHYL, BY GC/MS	UG/KG	390	U	440	U	350	U		
SS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/KG	210	U	230	U	180	U		
SS43 FLUORENE, GC/MS	UG/KG	370	U	410	U	330	U		
SS44 NITROANILINE,4-	UG/KG	1500	U	1700	U	1300	U		
SS45 PHENOL,4,6-DINITRO-2-METHYL	UG/KG	560	U	620	U	490	U		
SS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/KG	46	U	51	U	41	U		
SS47 ETHER, 4-BROMOPHENYL PHENYL	UG/KG	210	U	230	U	180	U		
SS48 HEXACHLOROBENZENE, BY GC/MS	UG/KG	180	U	200	U	160	U		
SS49 PENTACHLOROPHENOL, BY GC/MS	UG/KG	490	U	540	U	430	U		
SS50 PHENANTHRENE, BY GC/MS	UG/KG	180	U	350		160	U		

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	036		037		038		100	101
SS51 ANTHRACENE, BY GC/MS	UG/KG	260	U	280	U	230	U		
SS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/KG	1000		330	U	270	U		
SS53 FLUORANTHENE, BY GC/MS	UG/KG	93	U	100	U	82	U		
SS54 PYRENE, BY GC/MS	UG/KG	280	U	310	U	250	U		
SS55 PHTHALATE, BUTYL BENZYL	UG/KG	8200		280	U	230	U		
SS56 DICHLOROBENZIDINE, 3,3'	UG/KG	4600	U	5100	U	4100	U		
SS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/KG	350	U	380	U	310	U		
SS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/KG	1700		460	U	370	U		
SS59 CHRYSENE, BY GC/MS	UG/KG	280	U	310	U	250	U		
SS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/KG	160	U	180	U	140	U		
SS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/KG	160	U	180	U	140	U		
SS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/KG	300	U	330	U	270	U		
SS63 PYRENE, BENZO(A), BY GC/MS	UG/KG	350	U	380	U	310	U		
SS64 PYRENE, INDENO(1,2,3-CD)	UG/KG	490	U	540	U	430	U		
SS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/KG	490	U	540	U	430	U		
SS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/KG	320	U	360	U	290	U		
SV03 CHLOROMETHANE, BY GC/MS	UG/KG	31	U	40	U	28	U		
SV04 BROMOMETHANE, BY GC/MS	UG/KG	61	U	80	U	56	U		
SV05 VINYL CHLORIDE, BY GC/MS	UG/KG	46	U	60	U	42	U		
SV06 CHLOROETHANE, BY GC/MS	UG/KG	46	U	60	U	42	U		
SV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/KG	31	U	40	U	28	U		
SV08 DICHLOROETHYLENE,1,1, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV09 DICHLOROETHANE,1,1, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV10 DICHLOROETHYLENE,TRANS-1,2	UG/KG	15	U	20	U	14	U		
SV11 CHLOROFORM, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV12 DICHLOROETHANE,1,2, BY GC/MS	UG/KG	15	U	20	U	14	U		

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	036		037		038		100	101
SV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV14 CARBON TETRACHLORIDE, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV15 BROMODICHLOROMETHANE, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV17 BENZENE, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV18 DICHLOROPROPYLENE,TRANS-1,3	UG/KG	15	U	20	U	14	U		
SV19 TRICHLOROETHYLENE, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV24 BROMOFORM, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV25 TETRACHLOROETHYLENE, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV26 TOLUENE, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV28 CHLOROBENZENE, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV29 ETHYL BENZENE, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV30 ACETONE, BY GC/MS	UG/KG	31	U	40	U	28	U		
SV31 CARBON DISULFIDE, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV32 METHYL ETHYL KETONE	UG/KG	31	U	40	U	28	U		
SV34 HEXANONE, 2-	UG/KG	31	U	40	U	28	U		
SV35 4-METHYL-2-PENTANONE(MIBK)	UG/KG	31	U	40	U	28	U		
SV36 STYRENE, BY GC/MS	UG/KG	15	U	20	U	14	U		
SV44 DICHLOROBENZENE,1,4-	UG/KG	15	U	20	U	14	U		
SV49 XYLENE, ORTHO	UG/KG	15	U	20	U	14	U		
SV57 XYLENE, M AND/OR P	UG/KG	15	U	20	U	14	U		
SV60 DICHLOROBENZENE, 1, 3-	UG/KG	15	U	20	U	14	U		

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	036	037	038	100	101
SG07 SOLIDS, PERCENT	%	71.9	64.7	80.8		
SM01 SILVER, TOTAL, BY ICAP	MG/KG	2.73	0.512 U	0.512 U		
SM02 ALUMINUM, TOTAL, BY ICAP	MG/KG	10700	10400	1360		
SM04 BARIUM, TOTAL, BY ICAP	MG/KG	231	169	17.9		
SM05 BERYLLIUM, TOTAL, BY ICAP	MG/KG	0.906	0.887	0.101 U		
SM06 CADMIUM, TOTAL, BY ICAP	MG/KG	7.19	6.63	1.45		
SM07 COBALT, TOTAL, BY ICAP	MG/KG	7.50	10.5	2.92		
SM08 CHROMIUM, TOTAL, BY ICAP	MG/KG	36.9	22.4	1.95		
SM09 COPPER, TOTAL, BY ICAP	MG/KG	57.3	28.2	11.0		
SM10 IRON, TOTAL, BY ICAP	MG/KG	26400	23100	4610		
SM11 MANGANESE, TOTAL, BY ICAP	MG/KG	517	654	88.7		
SM12 MOLYBDENUM, TOTAL, BY ICAP	MG/KG	0.211 U	0.211 U	0.211 U		
SM13 NICKEL, TOTAL, BY ICAP	MG/KG	23.5	27.0	12.0		
SM14 LEAD, TOTAL, BY ICAP	MG/KG	211	182	14.3		
SM16 SELENIUM, TOTAL, BY ICAP	MG/KG	2.01 U	2.01 U	2.01 U		
SM18 THALLIUM, TOTAL, BY ICAP	MG/KG	2.11 U	2.11 U	2.11 U		
SM19 VANADIUM, TOTAL, BY ICAP	MG/KG	31.5	29.4	3.73		
SM20 ZINC, TOTAL, BY ICAP	MG/KG	193	179	47.1		
SM21 CALCIUM, TOTAL, BY ICAP	MG/KG	49800	23300	7530		
SM22 MAGNESIUM, TOTAL, BY ICAP	MG/KG	3670	3590	1290		
SM23 SODIUM, TOTAL, BY ICAP	MG/KG	165	158	156		
SM24 POTASSIUM, TOTAL, BY ICAP	MG/KG	2180	2470	214		
SM27 ARSENIC, TOTAL, BY AA	MG/KG	11.1	10.4	5.50		
SM34 MERCURY, TOTAL, BY COLD VAPOR AA	MG/KG	0.729	0.204	0.0176		
SM56 ANTIMONY, TOTAL, BY AA	MG/KG	1.00 U	1.00 U	1.00 U		
SP01 BHC, ALPHA, BY GC/EC	UG/KG	9.3 U	10 U	8.3 U		

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	036	037	038	100	101
SV61 DICHLOROBENZENE, 1, 2-	UG/KG	15 U	20 U	14 U		
SV63 DICHLOROETHYLENE, CIS -1,2	UG/KG	15 U	20 U	14 U		
WM01 SILVER, TOTAL, BY ICAP	UG/L				7.24 U	7.24 U
WM02 ALUMINUM, TOTAL, BY ICAP	UG/L				97600	738000
WM04 BARIUM, TOTAL, BY ICAP	UG/L				8380	16900
WM05 BERYLLIUM, TOTAL, BY ICAP	UG/L				4.70	38.5
WM06 CADMIUM, TOTAL, BY ICAP	UG/L				23.7	107
WM07 COBALT, TOTAL, BY ICAP	UG/L				67.2	451
WM08 CHROMIUM, TOTAL, BY ICAP	UG/L				272	1530
WM09 COPPER, TOTAL, BY ICAP	UG/L				573	1980
WM10 IRON, TOTAL, BY ICAP	UG/L				471000	1460000
WM11 MANGANESE, TOTAL, BY ICAP	UG/L				6200	37500
WM12 MOLYBDENUM, TOTAL, BY ICAP	UG/L				4.41 U	13.5
WM13 NICKEL, TOTAL, BY ICAP	UG/L				252	1480
WM14 LEAD, TOTAL, BY ICAP	UG/L				4890	12000
WM17 TITANIUM, TOTAL, BY ICAP	UG/L				1520	1730
WM19 VANADIUM, TOTAL, BY ICAP	UG/L				212	1360
WM20 ZINC, TOTAL, BY ICAP	UG/L				4960	16100
WM21 CALCIUM, TOTAL, BY ICAP	MG/L				1400	5770
WM22 MAGNESIUM, TOTAL, BY ICAP	MG/L				395	447
WM23 SODIUM, TOTAL, BY ICAP	MG/L				12100	152
WM24 POTASSIUM, TOTAL, BY ICAP	MG/L				213	140
WM27 ARSENIC, TOTAL, BY AA	UG/L				187	214
WM31 ANTIMONY, TOTAL, BY AA	UG/L				5.81	4.37 U
WM32 SELENIUM, TOTAL, BY AA	UG/L				18.1 U	18.1 U
WM33 THALLIUM, TOTAL, BY AA	UG/L				16.5	4.35

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	036	037	038	100		101	
WM34 MERCURY, TOTAL, BY COLD VAPOR AA	UG/L				4.80		23.3	
WP01 BHC, ALPHA, BY GC/EC	UG/L				0.080	U	0.20	U
WP02 BHC, BETA, BY GC/EC	UG/L				0.10	U	0.25	U
WP03 BHC, DELTA	UG/L				0.16	U	0.40	U
WP04 BHC, GAMMA-(LINDANE), BY GC/EC	UG/L				0.10	U	0.25	U
WP05 ALDRIN, BY GC/EC	UG/L				0.080	U	0.66	U
WP06 DIELDRIN, BY GC/EC	UG/L				0.12	U	0.30	U
WP07 ENDOSULFAN I, BY GC/EC	UG/L				0.18	U	0.45	U
WP08 ENDOSULFAN II, BY GC/EC	UG/L				1.4	U	3.5	U
WP09 ENDOSULFAN SULFATE, BY GC/EC	UG/L				0.14	U	0.35	U
WP10 ENDRIN, BY GC/EC	UG/L				0.40	U	1.0	U
WP11 ENDRIN ALDEHYDE, BY GC/EC	UG/L				0.080	U	0.20	U
WP13 DDE, 4,4'-	UG/L				0.12	U	0.30	U
WP14 DDD, 4,4'-	UG/L				3.0		3.0	U
WP15 DDT, 4,4'-	UG/L				0.20	U	0.50	U
WP16 TOXAPHENE, BY GC/EC	UG/L				10	U	25	U
WP17 PCB-AROCLOR 1016	UG/L				2.0	U	5.0	U
WP18 PCB-AROCLOR 1221	UG/L				6.0	U	15	U
WP19 PCB-AROCLOR 1232	UG/L				2.0	U	5.0	U
WP20 PCB-AROCLOR 1242	UG/L				2.0	U	5.0	U
WP21 PCB-AROCLOR 1248	UG/L				4.0	U	10	U
WP22 PCB-AROCLOR 1254	UG/L				1.0	U	2.5	U
WP23 PCB-AROCLOR 1260	UG/L				1.2	U	3.0	U
WP24 CHLORDANE, TECHNICAL, BY GC/EC	UG/L				0.40	U	1.0	U
WP25 HEPTACHLOR, BY GC/EC	UG/L				0.18	U	0.45	U
WP26 HEPTACHLOR EPOXIDE, BY GC/EC	UG/L				0.080	U	0.20	U

COMPOUND	UNITS	036	037	038	100		101	
WS23 CHLOROANILINE,4-	UG/L				25	U	5.0	U
WS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/L				9.5	U	1.9	U
WS25 PHENOL,4-CHLORO-3-METHYL	UG/L				14	U	1.4	U
WS26 METHYLNAPHTHALENE, 2-	UG/L				9.0	U	12	
WS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/L				50	U	10	U
WS28 TRICHLOROPHENOL,2,4,6	UG/L				12	U	2.5	U
WS29 TRICHLOROPHENOL,2,4,5	UG/L				15	U	3.0	U
WS30 CHLORONAPHTHALENE, 2-	UG/L				7.5	U	1.5	U
WS31 NITROANILINE,2-(ORTHO)	UG/L				25	U	5.0	U
WS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/L				5.0	U	10	U
WS33 ACENAPHTHYLENE, BY GC/MS	UG/L				6.5	U	1.3	U
WS34 NITROANILINE,3-	UG/L				50	U	10	U
WS35 ACENAPHTHENE, BY GC/MS	UG/L				5.5	U	24	
WS36 DINITROPHENOL,2,4, BY GC/MS	UG/L				100	U	20	U
WS37 NITROPHENOL,4-	UG/L				68	U	14	U
WS38 DIBENZOFURAN	UG/L				6.0	U	18	
WS39 DINITROTOLUENE,2,4, BY GC/MS	UG/L				50	U	10	U
WS40 DINITROTOLUENE,2,6-	UG/L				25	U	5.0	U
WS41 PHTHALATE, DIETHYL, BY GC/MS	UG/L				25	U	5.0	U
WS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/L				25	U	5.0	U
WS43 FLUORENE, BY GC/MS	UG/L				25	U	31	
WS44 NITROANILINE,4-	UG/L				79	U	16	U
WS45 PHENOL,4,6-DINITRO-2-METHYL	UG/L				50	U	10	U
WS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/L				5.0	U	1.0	U
WS47 ETHER, 4-BROMOPHENYL PHENYL	UG/L				25	U	5.0	U
WS48 HEXACHLOROBENZENE, BY GC/MS	UG/L				25	U	5.0	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	036	037	038	100		101	
WS49 PENTACHLOROPHENOL, BY GC/MS	UG/L				100	U	20	U
WS50 PHENANTHRENE, BY GC/MS	UG/L				5.5	U	130	
WS51 ANTHRACENE, BY GC/MS	UG/L				25	U	43	
WS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/L				25	U	5.8	U
WS53 FLUORANTHENE, BY GC/MS	UG/L				25	U	150	
WS54 PYRENE, BY GC/MS	UG/L				50	U	86	
WS55 PHTHALATE, BUTYL BENZYL	UG/L				50	U	10	U
WS56 DICHLOROBENZIDINE, 3,3'	UG/L				120	U	1.0	U
WS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/L				50	U	60	
WS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/L				25	U	13	
WS59 CHRYSENE, BY GC/MS	UG/L				50	U	61	
WS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/L				50	U	10	U
WS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/L				50	U	52	
WS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/L				50	U	46	
WS63 PYRENE, BENZO(A), BY GC/MS	UG/L				50	U	59	
WS64 PYRENE, INDENO(1,2,3-CD)	UG/L				50	U	27	
WS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/L				50	U	10	U
WS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/L				50	U	30	
WS67 CARBAZOLE	UG/L				50	U	21	
WV03 CHLOROMETHANE, BY GC/MS	UG/L				7.0	U	7.0	U
WV04 BROMOMETHANE, BY GC/MS	UG/L				4.0	U	4.0	U
WV05 VINYL CHLORIDE, BY GC/MS	UG/L				5.0	U	5.0	U
WV06 CHLOROETHANE, BY GC/MS	UG/L				4.0	U	4.0	U
WV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/L				5.4	U	4.0	U
WV08 DICHLOROETHYLENE,1,1-	UG/L				4.0	U	4.0	U
WV09 DICHLOROETHANE,1,1, BY GC/MS	UG/L				3.0	U	3.0	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	036	037	038	100		101	
WV11 CHLOROFORM, BY GC/MS	UG/L				4.0	U	4.0	U
WV12 DICHLOROETHANE,1,2, BY GC/MS	UG/L				4.0	U	4.0	U
WV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/L				4.0	U	4.0	U
WV14 CARBON TETRACHLORIDE, BY GC/MS	UG/L				4.0	U	4.0	U
WV15 BROMODICHLOROMETHANE, BY GC/MS	UG/L				4.0	U	4.0	U
WV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/L				4.0	U	4.0	U
WV17 BENZENE, BY GC/MS	UG/L				6.9		4.0	U
WV19 TRICHLOROETHYLENE	UG/L				4.0	U	4.0	U
WV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/L				5.0	U	5.0	U
WV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/L				3.0	U	3.0	U
WV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/L				4.0	U	4.0	U
WV24 BROMOFORM, BY GC/MS	UG/L				3.0	U	3.0	U
WV25 TETRACHLOROETHYLENE	UG/L				4.0	U	4.0	U
WV26 TOLUENE, BY GC/MS	UG/L				5.5		4.0	U
WV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/L				4.0	U	4.0	U
WV28 CHLOROBENZENE, BY GC/MS	UG/L				4.0	U	4.0	U
WV29 ETHYL BENZENE, BY GC/MS	UG/L				4.2		4.0	U
WV30 ACETONE, BY GC/MS	UG/L				33	U	4.9	U
WV31 CARBON DISULFIDE, BY GC/MS	UG/L				3.0	U	3.0	U
WV32 METHYL ETHYL KETONE (2-BUTANONE)	UG/L				30		15	U
WV34 HEXANONE, 2-	UG/L				14	U	14	U
WV35 4-METHYL-2-PENTANONE(MIBK)	UG/L				14		3.0	U
WV36 STYRENE, BY GC/MS	UG/L				4.0	U	4.0	U
WV40 DICHLOROPROPYLENE,TRANS-1,3	UG/L				3.0	U	3.0	U
WV67 XYLENE, M AND/OR P	UG/L				13		4.0	U
WV70 XYLENE, ORTHO	UG/L				4.3		4.0	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	036	037	038	100	101
WV72 DICHLOROBENZENE,1,4-(PARA)	UG/L				5.0 U	5.0 U
WV74 DICHLOROBENZENE,1,3-(META)	UG/L				4.0 U	4.0 U
WV77 DICHLOROBENZENE,1,2-(ORTHO)	UG/L				4.0 U	4.0 U
WV78 DICHLOROETHYLENE,TRANS-1,2	UG/L				3.0 U	3.0 U
WV82 DICHLOROETHYLENE,CIS-1,2	UG/L				3.0 U	3.0 U
ZZ01 SAMPLE NUMBER	NA	036	037	038	100	101
ZZ02 ACTIVITY CODE	NA	AS502	AS502	AS502	AS502	AS502

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	102	103	104	105	108
WM01 SILVER, TOTAL, BY ICAP	UG/L	7.24 U	7.24 U	7.24 U	7.24 U	7.24 U
WM02 ALUMINUM, TOTAL, BY ICAP	UG/L	176000	479000	241000	1560	33.5 U
WM04 BARIUM, TOTAL, BY ICAP	UG/L	4150	10800	3990	153	1.26 U
WM05 BERYLLIUM, TOTAL, BY ICAP	UG/L	5.65	28.1	6.38	0.420 U	0.420 U
WM06 CADMIUM, TOTAL, BY ICAP	UG/L	55.0	103	103	0.592 U	0.706 U
WM07 COBALT, TOTAL, BY ICAP	UG/L	117	374	201	14.7	2.47 U
WM08 CHROMIUM, TOTAL, BY ICAP	UG/L	639	1430	969	6.00	3.69 U
WM09 COPPER, TOTAL, BY ICAP	UG/L	955	3010	2150	6.44 U	2.33 U
WM10 IRON, TOTAL, BY ICAP	UG/L	814000	1350000	1940000	31500	57.0
WM11 MANGANESE, TOTAL, BY ICAP	UG/L	8820	22300	11500	836	1.45 U
WM12 MOLYBDENUM, TOTAL, BY ICAP	UG/L	63.6	142	147	7.91	4.41 U
WM13 NICKEL, TOTAL, BY ICAP	UG/L	327	1350	740	62.1	6.23 U
WM14 LEAD, TOTAL, BY ICAP	UG/L	9780	83700	31500	453	10.4 U
WM17 TITANIUM, TOTAL, BY ICAP	UG/L	1520	3020	1690	22.2	4.18 U
WM19 VANADIUM, TOTAL, BY ICAP	UG/L	270	1080	350	3.67	2.51 U
WM20 ZINC, TOTAL, BY ICAP	UG/L	14800	18900	28200	108	4.07 U
WM21 CALCIUM, TOTAL, BY ICAP	MG/L	352	954	334	89.2	0.913 U
WM22 MAGNESIUM, TOTAL, BY ICAP	MG/L	67.1	214	102	54.0	0.500 U
WM23 SODIUM, TOTAL, BY ICAP	MG/L	101	256	220	221	1.64 U
WM24 POTASSIUM, TOTAL, BY ICAP	MG/L	35.3	101	93.1	71.2	0.510 U
WM27 ARSENIC, TOTAL, BY AA	UG/L	175	474	254	28.1	1.66 U
WM31 ANTIMONY, TOTAL, BY AA	UG/L	4.37 U	4.37 U	8.26	10.2	4.37 U
WM32 SELENIUM, TOTAL, BY AA	UG/L	18.1 U	18.1 U	18.1 U	1.81 U	1.81 U
WM33 THALLIUM, TOTAL, BY AA	UG/L	1.44 U	3.21	1.44 U	1.44 U	1.44 U
WM34 MERCURY, TOTAL, BY COLD VAPOR AA	UG/L	4.79	12.7	33.2	0.344	0.127 U
WP01 BHC, ALPHA, BY GC/EC	UG/L	0.080 U	0.80 U		0.20 U	0.0040 U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	102	103	104	105	108
WP02 BHC, BETA, BY GC/EC	UG/L	0.10 U	1.0 U		0.25 U	0.0050 U
WP03 BHC, DELTA	UG/L	0.16 U	1.6 U		0.40 U	0.0080 U
WP04 BHC, GAMMA-(LINDANE), BY GC/EC	UG/L	0.10 U	1.0 U		0.25 U	0.0050 U
WP05 ALDRIN, BY GC/EC	UG/L	0.080 U	0.80 U		0.20 U	0.0040 U
WP06 DIELDRIN, BY GC/EC	UG/L	0.12 U	1.2 U		0.30 U	0.0060 U
WP07 ENDOSULFAN I, BY GC/EC	UG/L	0.18 U	1.8 U		0.45 U	0.0090 U
WP08 ENDOSULFAN II, BY GC/EC	UG/L	1.4 U	14 U		3.5 U	0.070 U
WP09 ENDOSULFAN SULFATE, BY GC/EC	UG/L	0.14 U	1.4 U		0.35 U	0.0070 U
WP10 ENDRIN, BY GC/EC	UG/L	0.40 U	4.0 U		1.0 U	0.020 U
WP11 ENDRIN ALDEHYDE, BY GC/EC	UG/L	0.080 U	0.80 U		0.20 U	0.0040 U
WP13 DDE, 4,4'-	UG/L	0.12 U	1.2 U		0.30 U	0.0060 U
WP14 DDD, 4,4'-	UG/L	1.5	12 U		3.9	0.060 U
WP15 DDT, 4,4'-	UG/L	0.20 U	2.0 U		0.50 U	0.010 U
WP16 TOXAPHENE, BY GC/EC	UG/L	10 U	100 U		25 U	0.50 U
WP17 PCB-AROCLOR 1016	UG/L	2.0 U	20 U		5.0 U	0.10 U
WP18 PCB-AROCLOR 1221	UG/L	6.0 U	60 U		15 U	0.30 U
WP19 PCB-AROCLOR 1232	UG/L	2.0 U	20 U		5.0 U	0.10 U
WP20 PCB-AROCLOR 1242	UG/L	2.0 U	20 U		5.0 U	0.10 U
WP21 PCB-AROCLOR 1248	UG/L	4.0 U	40 U		10 U	0.20 U
WP22 PCB-AROCLOR 1254	UG/L	1.0 U	10 U		2.5 U	0.19 U
WP23 PCB-AROCLOR 1260	UG/L	1.2 U	12 U		3.0 U	0.060 U
WP24 CHLORDANE, TECHNICAL, BY GC/EC	UG/L	0.40 U	4.0 U		1.0 U	0.020 U
WP25 HEPTACHLOR, BY GC/EC	UG/L	0.18 U	1.8 U		0.45 U	0.0090 U
WP26 HEPTACHLOR EPOXIDE, BY GC/EC	UG/L	0.080 U	0.80 U		0.20 U	0.0040 U
WP83 ENDRIN KETONE, BY GC/EC	UG/L	0.10 U	1.0 U		0.25 U	0.0050 U
WP84 METHOXYCHLOR, BY GC/EC	UG/L	0.20 U	2.0 U		0.50 U	0.010 U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	036	037	038	100		101	
WP83 ENDRIN KETONE, BY GC/EC	UG/L				0.10	U	0.25	U
WP84 METHOXYCHLOR, BY GC/EC	UG/L				0.20	U	0.50	U
WP85 CHLORDANE, ALPHA	UG/L				0.020	U	0.020	U
WP86 CHLORDANE, GAMMA	UG/L				0.025	U	0.025	U
WQ21 PENTACHLOROPHENOL, BY GC/EC	UG/L				1.1			
WS01 PHENOL, BY GC/MS	UG/L				41		1.3	U
WS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/L				15	U	3.0	U
WS04 CHLOROPHENOL, 2-	UG/L				14	U	2.7	U
WS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/L				11	U	2.2	U
WS06 DICHLOROBENZENE,1,4-	UG/L				12	U	3.4	
WS07 BENZYL ALCOHOL	UG/L				6.5	U	1.3	U
WS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/L				12	U	2.5	U
WS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/L				12	U	2.3	U
WS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/L				7.0	U	1.4	U
WS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/L				810		3.3	U
WS12 N-NITROSODIPROPYLAMINE	UG/L				7.5	U	1.5	U
WS13 HEXACHLOROETHANE, BY GC/MS	UG/L				12	U	2.4	U
WS14 NITROBENZENE, BY GC/MS	UG/L				7.5	U	1.5	U
WS15 ISOPHORONE, BY GC/MS	UG/L				25	U	5.0	U
WS16 NITROPHENOL,2-	UG/L				10	U	2.1	U
WS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/L				10	U	2.1	U
WS18 BENZOIC ACID, BY GC/MS	UG/L				100	U	20	U
WS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/L				7.0	U	1.4	U
WS20 DICHLOROPHENOL, 2,4-	UG/L				16	U	3.1	U
WS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/L				25	U	5.0	U
WS22 NAPHTHALENE, BY GC/MS	UG/L				10	U	22	

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	102		103		104	105		108	
WP85 CHLORDANE, ALPHA	UG/L	0.020	U	0.020	U		0.020	U	0.020	U
WP86 CHLORDANE, GAMMA	UG/L	0.025	U	0.025	U		0.025	U	0.025	U
WQ21 PENTACHLOROPHENOL, BY GC/EC	UG/L						0.61		0.32	U
WQ22 HEXACHLOROBENZENE BY GC/ECD	UG/L								0.0080	U
WS01 PHENOL, BY GC/MS	UG/L	1.3	U				1.3	U	0.65	U
WS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/L	3.0	U				3.0	U	1.5	U
WS04 CHLOROPHENOL, 2-	UG/L	2.7	U				2.7	U	1.4	U
WS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/L	2.2	U				2.2	U	1.1	U
WS06 DICHLOROBENZENE,1,4-	UG/L	2.8					2.3	U	1.2	U
WS07 BENZYL ALCOHOL	UG/L	1.3	U				1.3	U	0.65	U
WS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/L	2.5	U				2.5	U	1.2	U
WS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/L	2.3	U				2.3	U	1.2	U
WS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/L	1.4	U				1.4	U	0.70	U
WS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/L	6.0					3.3	U	1.6	U
WS12 N-NITROSODIPROPYLAMINE	UG/L	1.5	U				1.5	U	0.75	U
WS13 HEXACHLOROETHANE, BY GC/MS	UG/L	2.4	U				2.4	U	1.2	U
WS14 NITROBENZENE, BY GC/MS	UG/L	1.5	U				1.5	U	0.75	U
WS15 ISOPHORONE, BY GC/MS	UG/L	5.0	U				5.0	U	2.5	U
WS16 NITROPHENOL,2-	UG/L	2.1	U				2.1	U	1.0	U
WS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/L	26					2.1	U	1.0	U
WS18 BENZOIC ACID, BY GC/MS	UG/L	20	U				20	U	10	U
WS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/L	1.4	U				1.4	U	0.70	U
WS20 DICHLOROPHENOL, 2,4-	UG/L	3.1	U				3.1	U	1.6	U
WS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/L	5.0	U				5.0	U	2.5	U
WS22 NAPHTHALENE, BY GC/MS	UG/L	3.9					2.8		1.0	U
WS23 CHLOROANILINE,4-	UG/L	5.0	U				5.0	U	2.5	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	102	103	104	105	108
WS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/L	1.9 U			1.9 U	0.95 U
WS25 PHENOL,4-CHLORO-3-METHYL	UG/L	1.4 U			1.4 U	1.4 U
WS26 METHYLNAPHTHALENE, 2-	UG/L	1.8			1.8 U	0.90 U
WS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/L	10 U			10 U	5.0 U
WS28 TRICHLOROPHENOL,2,4,6	UG/L	2.5 U			2.5 U	1.2 U
WS29 TRICHLOROPHENOL,2,4,5	UG/L	3.0 U			3.0 U	1.5 U
WS30 CHLORONAPHTHALENE, 2-	UG/L	1.5 U			1.5 U	0.75 U
WS31 NITROANILINE,2-(ORTHO)	UG/L	5.0 U			5.0 U	2.5 U
WS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/L	10 U			10 U	0.50 U
WS33 ACENAPHTHYLENE, BY GC/MS	UG/L	1.3 U			1.3 U	0.65 U
WS34 NITROANILINE,3-	UG/L	10 U			10 U	5.0 U
WS35 ACENAPHTHENE, BY GC/MS	UG/L	1.1 U			1.1 U	0.55 U
WS36 DINITROPHENOL,2,4, BY GC/MS	UG/L	20 U			20 U	10 U
WS37 NITROPHENOL,4-	UG/L	14 U			14 U	6.8 U
WS38 DIBENZOFURAN	UG/L	1.2 U			1.2 U	0.60 U
WS39 DINITROTOLUENE,2,4, BY GC/MS	UG/L	10 U			10 U	5.0 U
WS40 DINITROTOLUENE,2,6-	UG/L	15			5.0 U	2.5 U
WS41 PHTHALATE, DIETHYL, BY GC/MS	UG/L	5.0 U			5.0 U	2.5 U
WS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/L	5.0 U			5.0 U	2.5 U
WS43 FLUORENE, BY GC/MS	UG/L	5.0 U			5.0 U	2.5 U
WS44 NITROANILINE,4-	UG/L	16 U			16 U	7.9 U
WS45 PHENOL,4,6-DINITRO-2-METHYL	UG/L	10 U			10 U	5.0 U
WS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/L	1.0 U			1.0 U	0.50 U
WS47 ETHER, 4-BROMOPHENYL PHENYL	UG/L	5.0 U			5.0 U	2.5 U
WS48 HEXACHLOROBENZENE, BY GC/MS	UG/L	5.0 U			5.0 U	2.5 U
WS49 PENTACHLOROPHENOL, BY GC/MS	UG/L	20 U			20 U	10 U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	102	103	104	105	108
WS50 PHENANTHRENE, BY GC/MS	UG/L	1.1 U			1.8	0.55 U
WS51 ANTHRACENE, BY GC/MS	UG/L	5.0 U			5.0 U	2.5 U
WS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/L	5.0 U			5.0 U	2.5 U
WS53 FLUORANTHENE, BY GC/MS	UG/L	5.0 U			5.0 U	2.5 U
WS54 PYRENE, BY GC/MS	UG/L	10 U			10 U	5.0 U
WS55 PHTHALATE, BUTYL BENZYL	UG/L	10 U			10 U	5.0 U
WS56 DICHLOROBENZIDINE, 3,3'	UG/L	1.0 U			1.0 U	12 U
WS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/L	10 U			10 U	5.0 U
WS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/L	10 U			65	2.5 U
WS59 CHRYSENE, BY GC/MS	UG/L	10 U			10 U	5.0 U
WS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/L	10 U			10 U	5.0 U
WS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/L	10 U			10 U	5.0 U
WS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/L	10 U			10 U	5.0 U
WS63 PYRENE, BENZO(A), BY GC/MS	UG/L	10 U			10 U	5.0 U
WS64 PYRENE, INDENO(1,2,3-CD)	UG/L	10 U			10 U	5.0 U
WS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/L	10 U			10 U	5.0 U
WS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/L	10 U			10 U	5.0 U
WS67 CARBAZOLE	UG/L	10 U			10 U	5.0 U
WV03 CHLOROMETHANE, BY GC/MS	UG/L	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U
WV04 BROMOMETHANE, BY GC/MS	UG/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
WV05 VINYL CHLORIDE, BY GC/MS	UG/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
WV06 CHLOROETHANE, BY GC/MS	UG/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
WV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/L	4.0 U	370	4.0 U	5.2 U	4.9 U
WV08 DICHLOROETHYLENE,1,1-	UG/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
WV09 DICHLOROETHANE,1,1, BY GC/MS	UG/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
WV11 CHLOROFORM, BY GC/MS	UG/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	102		103		104		105		108	
WV12 DICHLOROETHANE,1,2, BY GC/MS	UG/L	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
WV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/L	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
WV14 CARBON TETRACHLORIDE, BY GC/MS	UG/L	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
WV15 BROMODICHLOROMETHANE, BY GC/MS	UG/L	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
WV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/L	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
WV17 BENZENE, BY GC/MS	UG/L	5.9		4.0	U	4.0	U	4.0	U	4.0	U
WV19 TRICHLOROETHYLENE	UG/L	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
WV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
WV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/L	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
WV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/L	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
WV24 BROMOFORM, BY GC/MS	UG/L	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
WV25 TETRACHLOROETHYLENE	UG/L	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
WV26 TOLUENE, BY GC/MS	UG/L	17		4.0	U	4.0	U	4.0	U	4.0	U
WV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/L	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
WV28 CHLOROBENZENE, BY GC/MS	UG/L	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
WV29 ETHYL BENZENE, BY GC/MS	UG/L	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
WV30 ACETONE, BY GC/MS	UG/L	4.0	U	14	U	4.0	U	6.9	U	13	U
WV31 CARBON DISULFIDE, BY GC/MS	UG/L	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
WV32 METHYL ETHYL KETONE (2-BUTANONE)	UG/L	15	U	15	U	15	U	15	U	15	U
WV34 HEXANONE, 2-	UG/L	14	U	14	U	14	U	14	U	14	U
WV35 4-METHYL-2-PENTANONE(MIBK)	UG/L	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
WV36 STYRENE, BY GC/MS	UG/L	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
WV40 DICHLOROPROPYLENE,TRANS-1,3	UG/L	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
WV67 XYLENE, M AND/OR P	UG/L	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
WV70 XYLENE, ORTHO	UG/L	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U
WV72 DICHLOROBENZENE,1,4-(PARA)	UG/L	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	102	103	104	105	108
WV74 DICHLOROBENZENE,1,3-(META)	UG/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
WV77 DICHLOROBENZENE,1,2-(ORTHO)	UG/L	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
WV78 DICHLOROETHYLENE,TRANS-1,2	UG/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
WV82 DICHLOROETHYLENE,CIS-1,2	UG/L	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
ZZ01 SAMPLE NUMBER	NA	102	103	104	105	108
ZZ02 ACTIVITY CODE	NA	AS502	AS502	AS502	AS502	AS502

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	110 F		111 F			
WM01 SILVER, TOTAL, BY ICAP	UG/L	7.24	U				
WM02 ALUMINUM, TOTAL, BY ICAP	UG/L	33.5	U				
WM04 BARIUM, TOTAL, BY ICAP	UG/L	1.27	U				
WM05 BERYLLIUM, TOTAL, BY ICAP	UG/L	0.420	U				
WM06 CADMIUM, TOTAL, BY ICAP	UG/L	0.897	U				
WM07 COBALT, TOTAL, BY ICAP	UG/L	2.47	U				
WM08 CHROMIUM, TOTAL, BY ICAP	UG/L	3.69	U				
WM09 COPPER, TOTAL, BY ICAP	UG/L	1.54	U				
WM10 IRON, TOTAL, BY ICAP	UG/L	29.3	U				
WM11 MANGANESE, TOTAL, BY ICAP	UG/L	1.45	U				
WM12 MOLYBDENUM, TOTAL, BY ICAP	UG/L	4.41	U				
WM13 NICKEL, TOTAL, BY ICAP	UG/L	6.23	U				
WM14 LEAD, TOTAL, BY ICAP	UG/L	10.4	U				
WM17 TITANIUM, TOTAL, BY ICAP	UG/L	4.18	U				
WM19 VANADIUM, TOTAL, BY ICAP	UG/L	2.51	U				
WM20 ZINC, TOTAL, BY ICAP	UG/L	4.07	U				
WM21 CALCIUM, TOTAL, BY ICAP	MG/L	0.821	U				
WM22 MAGNESIUM, TOTAL, BY ICAP	MG/L	0.500	U				
WM23 SODIUM, TOTAL, BY ICAP	MG/L	1.79	U				
WM24 POTASSIUM, TOTAL, BY ICAP	MG/L	0.510	U				
WM27 ARSENIC, TOTAL, BY AA	UG/L	1.66	U				
WM31 ANTIMONY, TOTAL, BY AA	UG/L	4.37	U				
WM32 SELENIUM, TOTAL, BY AA	UG/L	1.81	U				
WM33 THALLIUM, TOTAL, BY AA	UG/L	1.44	U				
WM34 MERCURY, TOTAL, BY COLD VAPOR AA	UG/L	0.127	U				
WP01 BHC, ALPHA, BY GC/EC	UG/L	0.0040	U				

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	110 F		111 F			
WP02 BHC, BETA, BY GC/EC	UG/L	0.0050	U				
WP03 BHC, DELTA	UG/L	0.0080	U				
WP04 BHC, GAMMA-(LINDANE), BY GC/EC	UG/L	0.0050	U				
WP05 ALDRIN, BY GC/EC	UG/L	0.0040	U				
WP06 DIELDRIN, BY GC/EC	UG/L	0.0060	U				
WP07 ENDOSULFAN I, BY GC/EC	UG/L	0.0090	U				
WP08 ENDOSULFAN II, BY GC/EC	UG/L	0.070	U				
WP09 ENDOSULFAN SULFATE, BY GC/EC	UG/L	0.0070	U				
WP10 ENDRIN, BY GC/EC	UG/L	0.020	U				
WP11 ENDRIN ALDEHYDE, BY GC/EC	UG/L	0.0040	U				
WP13 DDE, 4,4'-	UG/L	0.0060	U				
WP14 DDD, 4,4'-	UG/L	0.060	U				
WP15 DDT, 4,4'-	UG/L	0.010	U				
WP16 TOXAPHENE, BY GC/EC	UG/L	0.50	U				
WP17 PCB-AROCLOR 1016	UG/L	0.10	U				
WP18 PCB-AROCLOR 1221	UG/L	0.30	U				
WP19 PCB-AROCLOR 1232	UG/L	0.10	U				
WP20 PCB-AROCLOR 1242	UG/L	0.10	U				
WP21 PCB-AROCLOR 1248	UG/L	0.20	U				
WP22 PCB-AROCLOR 1254	UG/L	0.20	U				
WP23 PCB-AROCLOR 1260	UG/L	0.060	U				
WP24 CHLORDANE, TECHNICAL, BY GC/EC	UG/L	0.020	U				
WP25 HEPTACHLOR, BY GC/EC	UG/L	0.0090	U				
WP26 HEPTACHLOR EPOXIDE, BY GC/EC	UG/L	0.0040	U				
WP83 ENDRIN KETONE, BY GC/EC	UG/L	0.0050	U				
WP84 METHOXYCHLOR, BY GC/EC	UG/L	0.010	U				

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	110 F		111 F			
WP85 CHLORDANE, ALPHA	UG/L	0.020	U				
WP86 CHLORDANE, GAMMA	UG/L	0.025	U				
WQ21 PENTACHLOROPHENOL, BY GC/EC	UG/L	0.16	U				
WQ22 HEXACHLOROBENZENE BY GC/ECD	UG/L	0.0080	U				
WS01 PHENOL, BY GC/MS	UG/L	1.3	U				
WS03 ETHER,BIS(2-CHLOROETHYL), BY GC/MS	UG/L	3.0	U				
WS04 CHLOROPHENOL, 2-	UG/L	2.7	U				
WS05 DICHLOROBENZENE,1,3-, BY GC/MS	UG/L	2.2	U				
WS06 DICHLOROBENZENE,1,4-	UG/L	2.3	U				
WS07 BENZYL ALCOHOL	UG/L	1.3	U				
WS08 DICHLOROBENZENE,1,2-, BY GC/MS	UG/L	2.5	U				
WS09 CRESOL, ORTHO(2-METHYLPHENOL)	UG/L	2.3	U				
WS10 ETHER,BIS(2-CHLOROISOPROPYL), BY GC/MS	UG/L	1.4	U				
WS11 CRESOL, PARA-(4-METHYLPHENOL)	UG/L	3.3	U				
WS12 N-NITROSODIPROPYLAMINE	UG/L	1.5	U				
WS13 HEXACHLOROETHANE, BY GC/MS	UG/L	2.4	U				
WS14 NITROBENZENE, BY GC/MS	UG/L	1.5	U				
WS15 ISOPHORONE, BY GC/MS	UG/L	5.0	U				
WS16 NITROPHENOL,2-	UG/L	2.1	U				
WS17 DIMETHYLPHENOL,2,4, BY GC/MS	UG/L	2.1	U				
WS18 BENZOIC ACID, BY GC/MS	UG/L	20	U				
WS19 METHANE, BIS(2-CHLOROETHYOXY), BY GC/MS	UG/L	1.4	U				
WS20 DICHLOROPHENOL, 2,4-	UG/L	3.1	U				
WS21 TRICHLOROBENZENE,1,2,4, BY GC/MS	UG/L	5.0	U				
WS22 NAPHTHALENE, BY GC/MS	UG/L	2.0	U				
WS23 CHLOROANILINE,4-	UG/L	5.0	U				

COMPOUND	UNITS	110 F		111 F			
WS24 HEXACHLOROBUTADIENE, BY GC/MS	UG/L	1.9	U				
WS25 PHENOL,4-CHLORO-3-METHYL	UG/L	1.4	U				
WS26 METHYLNAPHTHALENE, 2-	UG/L	1.8	U				
WS27 HEXACHLOROCYCLOPENTADIENE, BY GC/MS	UG/L	10	U				
WS28 TRICHLOROPHENOL,2,4,6	UG/L	2.5	U				
WS29 TRICHLOROPHENOL,2,4,5	UG/L	3.0	U				
WS30 CHLORONAPHTHALENE, 2-	UG/L	1.5	U				
WS31 NITROANILINE,2-(ORTHO)	UG/L	5.0	U				
WS32 PHTHALATE, DIMETHYL, BY GC/MS	UG/L	10	U				
WS33 ACENAPHTHYLENE, BY GC/MS	UG/L	1.3	U				
WS34 NITROANILINE,3-	UG/L	10	U				
WS35 ACENAPHTHENE, BY GC/MS	UG/L	1.1	U				
WS36 DINITROPHENOL,2,4, BY GC/MS	UG/L	20	U				
WS37 NITROPHENOL,4-	UG/L	14	U				
WS38 DIBENZOFURAN	UG/L	1.2	U				
WS39 DINITROTOLUENE,2,4, BY GC/MS	UG/L	10	U				
WS40 DINITROTOLUENE,2,6-	UG/L	5.0	U				
WS41 PHTHALATE, DIETHYL, BY GC/MS	UG/L	5.0	U				
WS42 ETHER, 4-CHLOROPHENYL PHENYL	UG/L	5.0	U				
WS43 FLUORENE, BY GC/MS	UG/L	5.0	U				
WS44 NITROANILINE,4-	UG/L	16	U				
WS45 PHENOL,4,6-DINITRO-2-METHYL	UG/L	10	U				
WS46 N-NITROSODIPHENYLAMINE, BY GC/MS	UG/L	1.0	U				
WS47 ETHER, 4-BROMOPHENYL PHENYL	UG/L	5.0	U				
WS48 HEXACHLOROBENZENE, BY GC/MS	UG/L	5.0	U				
WS49 PENTACHLOROPHENOL, BY GC/MS	UG/L	20	U				

COMPOUND	UNITS	110 F		111 F			
WS50 PHENANTHRENE, BY GC/MS	UG/L	1.1	U				
WS51 ANTHRACENE, BY GC/MS	UG/L	5.0	U				
WS52 PHTHALATE, DI-N-BUTYL-, BY GC/MS	UG/L	5.0	U				
WS53 FLUORANTHENE, BY GC/MS	UG/L	5.0	U				
WS54 PYRENE, BY GC/MS	UG/L	10	U				
WS55 PHTHALATE, BUTYL BENZYL	UG/L	10	U				
WS56 DICHLOROBENZIDINE, 3,3'	UG/L	1.0	U				
WS57 ANTHRACENE, BENZO(A), BY GC/MS	UG/L	10	U				
WS58 PHTHALATE, BIS(2-ETHYLHEXYL), BY GC/MS	UG/L	10	U				
WS59 CHRYSENE, BY GC/MS	UG/L	10	U				
WS60 PHTHALATE, DI-N-OCTYL-, BY GC/MS	UG/L	10	U				
WS61 FLUORANTHENE, BENZO(B), BY GC/MS	UG/L	10	U				
WS62 FLUORANTHENE, BENZO(K), BY GC/MS	UG/L	10	U				
WS63 PYRENE, BENZO(A), BY GC/MS	UG/L	10	U				
WS64 PYRENE, INDENO(1,2,3-CD)	UG/L	10	U				
WS65 ANTHRACENE, DIBENZO(A,H), BY GC/MS	UG/L	10	U				
WS66 PERYLENE,BENZO(G,H,I), BY GC/MS	UG/L	10	U				
WS67 CARBAZOLE	UG/L	10	U				
WV03 CHLOROMETHANE, BY GC/MS	UG/L	7.0	U	7.0	U		
WV04 BROMOMETHANE, BY GC/MS	UG/L	4.0	U	4.0	U		
WV05 VINYL CHLORIDE, BY GC/MS	UG/L	5.0	U	5.0	U		
WV06 CHLOROETHANE, BY GC/MS	UG/L	4.0	U	4.0	U		
WV07 METHYLENE CHLORIDE (DICHLOROMETHANE)	UG/L	4.4	U	4.9	U		
WV08 DICHLOROETHYLENE,1,1-	UG/L	4.0	U	4.0	U		
WV09 DICHLOROETHANE,1,1, BY GC/MS	UG/L	3.0	U	3.0	U		
WV11 CHLOROFORM, BY GC/MS	UG/L	4.0	U	4.0	U		

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	110 F		111 F				
WV12 DICHLOROETHANE,1,2, BY GC/MS	UG/L	4.0	U	4.0	U			
WV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/L	4.0	U	4.0	U			
WV14 CARBON TETRACHLORIDE, BY GC/MS	UG/L	4.0	U	4.0	U			
WV15 BROMODICHLOROMETHANE, BY GC/MS	UG/L	4.0	U	4.0	U			
WV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/L	4.0	U	4.0	U			
WV17 BENZENE, BY GC/MS	UG/L	4.0	U	4.0	U			
WV19 TRICHLOROETHYLENE	UG/L	4.0	U	4.0	U			
WV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/L	5.0	U	5.0	U			
WV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/L	3.0	U	3.0	U			
WV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/L	4.0	U	4.0	U			
WV24 BROMOFORM, BY GC/MS	UG/L	3.0	U	3.0	U			
WV25 TETRACHLOROETHYLENE	UG/L	4.0	U	4.0	U			
WV26 TOLUENE, BY GC/MS	UG/L	4.0	U	4.0	U			
WV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/L	4.0	U	4.0	U			
WV28 CHLOROBENZENE, BY GC/MS	UG/L	4.0	U	4.0	U			
WV29 ETHYL BENZENE, BY GC/MS	UG/L	4.0	U	4.0	U			
WV30 ACETONE, BY GC/MS	UG/L	7.8	U	5.4	U			
WV31 CARBON DISULFIDE, BY GC/MS	UG/L	3.0	U	3.0	U			
WV32 METHYL ETHYL KETONE (2-BUTANONE)	UG/L	15	U	15	U			
WV34 HEXANONE, 2-	UG/L	14	U	14	U			
WV35 4-METHYL-2-PENTANONE(MIBK)	UG/L	3.0	U	3.0	U			
WV36 STYRENE, BY GC/MS	UG/L	4.0	U	4.0	U			
WV40 DICHLOROPROPYLENE,TRANS-1,3	UG/L	3.0	U	3.0	U			
WV67 XYLENE, M AND/OR P	UG/L	4.0	U	4.0	U			
WV70 XYLENE, ORTHO	UG/L	4.0	U	4.0	U			
WV72 DICHLOROBENZENE,1,4-(PARA)	UG/L	5.0	U	5.0	U			

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	110 F		111 F				
WV12 DICHLOROETHANE,1,2, BY GC/MS	UG/L	4.0	U	4.0	U			
WV13 TRICHLOROETHANE,1,1,1-, BY GC/MS	UG/L	4.0	U	4.0	U			
WV14 CARBON TETRACHLORIDE, BY GC/MS	UG/L	4.0	U	4.0	U			
WV15 BROMODICHLOROMETHANE, BY GC/MS	UG/L	4.0	U	4.0	U			
WV16 DICHLOROPROPANE,1,2, BY GC/MS	UG/L	4.0	U	4.0	U			
WV17 BENZENE, BY GC/MS	UG/L	4.0	U	4.0	U			
WV19 TRICHLOROETHYLENE	UG/L	4.0	U	4.0	U			
WV20 DICHLOROPROPYLENE,CIS-1,3, BY GC/MS	UG/L	5.0	U	5.0	U			
WV21 DIBROMOCHLOROMETHANE, BY GC/MS	UG/L	3.0	U	3.0	U			
WV22 TRICHLOROETHANE,1,1,2-, BY GC/MS	UG/L	4.0	U	4.0	U			
WV24 BROMOFORM, BY GC/MS	UG/L	3.0	U	3.0	U			
WV25 TETRACHLOROETHYLENE	UG/L	4.0	U	4.0	U			
WV26 TOLUENE, BY GC/MS	UG/L	4.0	U	4.0	U			
WV27 TETRACHLOROETHANE,1,1,2,2, BY GC/MS	UG/L	4.0	U	4.0	U			
WV28 CHLOROBENZENE, BY GC/MS	UG/L	4.0	U	4.0	U			
WV29 ETHYL BENZENE, BY GC/MS	UG/L	4.0	U	4.0	U			
WV30 ACETONE, BY GC/MS	UG/L	7.8	U	5.4	U			
WV31 CARBON DISULFIDE, BY GC/MS	UG/L	3.0	U	3.0	U			
WV32 METHYL ETHYL KETONE (2-BUTANONE)	UG/L	15	U	15	U			
WV34 HEXANONE, 2-	UG/L	14	U	14	U			
WV35 4-METHYL-2-PENTANONE(MIBK)	UG/L	3.0	U	3.0	U			
WV36 STYRENE, BY GC/MS	UG/L	4.0	U	4.0	U			
WV40 DICHLOROPROPYLENE,TRANS-1,3	UG/L	3.0	U	3.0	U			
WV67 XYLENE, M AND/OR P	UG/L	4.0	U	4.0	U			
WV70 XYLENE, ORTHO	UG/L	4.0	U	4.0	U			
WV72 DICHLOROBENZENE,1,4-(PARA)	UG/L	5.0	U	5.0	U			

ANALYSIS REQUEST DETAIL REPORT ACTIVITY: 9-AS502 VALIDATED DATA

COMPOUND	UNITS	110 F		111 F				
WV74 DICHLOROBENZENE,1,3-(META)	UG/L	4.0	U	4.0	U			
WV77 DICHLOROBENZENE,1,2-(ORTHO)	UG/L	4.0	U	4.0	U			
WV78 DICHLOROETHYLENE,TRANS-1,2	UG/L	3.0	U	3.0	U			
WV82 DICHLOROETHYLENE,CIS-1,2	UG/L	3.0	U	3.0	U			
ZZ01 SAMPLE NUMBER	NA	110		111				
ZZ02 ACTIVITY CODE	NA	AS502		AS502				

ACTIVITY AS502 LEAVENWORTH LANDFILL BTA

THE PROJECT LEADER SHOULD CIRCLE ONE - STORET, AIRS, OR ARCHIVE.

CIRCLE ONE: STORET AIRS ARCHIVE

DATA APPROVED BY LABO FOR TRANSMISSION TO PROJECT LEADER ON 01/21/99 15:20:32 BY