AWQ-LGD - LCSPER
SAWQ-LGD - Gas

85-SDP-13-91
M/R files

FOX engineering

November 26, 2003

Ms. Nina Koger, Lead Engineer
Energy & Waste Management Bureau
Iowa Department of Natural Resources
502 East 9th Street
Des Moines, Iowa 50319

Con 12-1-1
Doc # 32999

RE: 2003 Annual Groundwater Quality Report
Ames-Story Environmental Landfill
85-SDP-13-91P
P.N. 6004

Ms. Koger:

Find attached 1 copy of the 2003 Annual Groundwater Quality Report for the Ames-Story Environmental Landfill.

A copy of this data has been forwarded to Mr. William Fedeler, Ames-Story Environmental Landfill and IDNR Field Office #5 as required by the Permit.

Sincerely,
FOX ENGINEERING ASSOCIATES, INC.

Todd Whipple, CPG
Project Manager

Water | Wastewater | Solid Waste | Air | Land

1601 Golden Aspen Dr.
Suite 103
Ames, Iowa 50010
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2003 DEC -1 A 9:47

DEPT. OF
NATURAL RESOURCES

DATE STAMP

2003 ANNUAL GROUNDWATER QUALITY REPORT

OF

THE AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
AMES, IOWA

by:
FOX Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, Iowa 50010
(515) 233-0000

NOVEMBER, 2003

FOX engineering

6004-99A.321

Annual Groundwater Quality Report

November 20, 2003

Ms. Nina Koger, Lead Engineer
IDNR – Energy & Waste Management Bureau
Wallace State Office Building
502 East 9th Street
Des Moines, Iowa 50319

RE: AMES/STORY ENVIRONMENTAL LANDFILL
ANNUAL GROUNDWATER QUALITY REPORT
IDNR #85-SDP-13-91P
FOX PN 6004.320

Dear Ms. Koger:

This Annual Report has been prepared in accordance with IAC 567-113.26(8)d. The semiannual inspection reports have been submitted to IDNR in accordance with the General Provisions of the Permit. The following information and comments are presented in accordance with the IAC section referenced above.

1. ENVIRONMENTAL EFFECTS

a. Groundwater

The Hydrologic Monitoring System Plan (HMSP) for the site is approved by Special Provision X.7 of the current SDP Permit, dated July 12, 1999 (Attachment A). Conditions in the Permit require semi-annual and annual sampling to be performed at designated monitoring wells in the north portion of the site surrounding Trenches 1 through 4. Trenches 1 through 4 were filled between 1991 and 1999. It follows that all first year quarterly sampling episodes have been completed for the Trench 1 through 4 fill area.

Trenches 5 & 6 are located in the south portion of the site. Trench 5 construction was completed and approved for waste acceptance June 16, 1999. Trench 6 construction was completed and approved for waste acceptance May 26, 2000 (Permit Amendment #1). First year quarterly water sampling in Trench 5 & 6 was completed in March, 2001.

The site (both the north and south fill areas) is characterized as having two (2) groundwater systems that are monitored as part of the HMSP; the Water Table system and the Upper Aquifer sand layer system. MW-36 and MW-37 are the upgradient monitoring points for the Upper Aquifer System and the Water Table System, respectively.

Chemical analytical results for 2003 and Summary Tables are included in Attachment B. The chemical analytical data is also presented graphically by chemical

compound over time in Attachments C, D, and E. The statistical computations are included in the tables in Attachments C, D, and E. Graphs of the concentration versus time for the sampling points illustrate those compounds that exceed statistical limits. Review of the graphs and data indicate the following observations.

Water Table System - Test results from upgradient MW-37 (Attachment C) indicate detectable concentrations of arsenic, barium, chloride, iron (exceeding the Secondary MCL), magnesium, nitrogen ammonia, TOX, and zinc. The presence of the noted compounds in the upgradient well may indicate that the compounds are migrating onto the site from an off-site source(s), or are endemic to the region.

Downgradient MW's indicate detection of compounds at concentrations that do not exceed primary MCL's. The compounds that exceed statistical limits are summarized by monitoring well below:

MW-6	Barium, COD, chloride, and TOX
MW-28	COD, chloride, magnesium (3/92), and TOX
MW-23	Barium, COD (3/95), chloride, lead (10/91), and TOX
MW-24	Barium, COD (9/92), chloride (9/93), lead (4/91), and TOX (9/93)
MW-31	Barium, COD, chloride, lead (10/91), and TOX
MW-25	Barium, COD, chloride, lead (10/91), and TOX
MW-33	Barium, COD, chloride, iron, ammonia, and TOX
MW-34	Barium, COD, chloride, lead (10/91), ammonia (3/96), and TOX
MW-35	Barium, COD (9/01 & 3/02), chloride, and TOX
MW-39	Arsenic (12/00), barium, COD, chloride, and TOX
MW-40	Barium, chloride and TOX (9/02)
MW-43	Barium, COD, chloride, ammonia, and TOX

Indicator compounds such as chlorides, COD, and TOX have been found to exceed statistical control limits in a number of the downgradient MW's. In addition, barium, iron, magnesium, and nitrogen ammonia have also been detected in several downgradient wells. However, due to the presence of detectable concentrations of these compounds in the upgradient wells, these results have not been interpreted as a release of leachate into the groundwater. The lead concentrations detected in 1991 appear to be anomalous.

Upper Aquifer System - Test results from upgradient MW-36 (Attachment D) indicate detectable concentrations of arsenic, barium, COD, chloride, iron (in excess of secondary MCL's), magnesium, nitrogen ammonia, TOX, and zinc. The presence of the noted compounds in the upgradient well may indicate that the compounds are migrating onto the site from an off-site source(s), or are endemic to the region.

Downgradient MW's indicate detection of compounds at concentrations that exceed the primary MCL for arsenic at MW-8, MW-30, MW-38, MW-41, and MW-42. The secondary MCL for iron was exceeded at most wells for various sampling episodes. The secondary MCL for chloride was exceeded at MW-33 in March, 2003. The compounds that exceed statistical limits are summarized by monitoring well below:

MW-7	arsenic (12/00 & 3/01), barium, iron (3/03), and TOX (9/00)
MW-8	arsenic, barium, iron, ammonia (9/01), TOX, and zinc (3/01)
MW-29	arsenic, barium, COD (prior to 3/95), lead (10/91), iron (10/91), TOX (4/91 & 9/00), and zinc (3/01 & 3/02).
MW-30	arsenic (10/91), barium (4/91), COD (prior to 3/95), chloride (3/96), lead (10/91), and TOX
MW-32	COD, chloride (1/92), iron, magnesium, lead (4/91 & 10/91), and TOX
MW-25	COD (prior to 3/95), chloride, lead (10/91), magnesium, and TOX
MW-33	COD, chloride, iron, magnesium, nitrogen ammonia, and TOX
MW-34	COD, chloride, iron, lead (10/91), magnesium, nitrogen ammonia, and TOX
MW-35	COD (3/02 & 3/03), chloride, iron (8/97), magnesium, and TOX
MW-38	arsenic, barium, and chloride
MW-41	arsenic, barium, iron (3/01), and zinc (12/00)
MW-42	arsenic, barium, chloride (9/01), iron, lead (6/00), and TOX

Indicator compounds such as chlorides, COD, conductivity, and TOX have been found to exceed statistical control limits in a number of the downgradient MW's. In addition, arsenic, barium, iron, magnesium, and nitrogen ammonia have also been detected in excess of statistical control limits in several downgradient wells. However, due to the presence of detectable concentrations in the upgradient wells, these results have not been interpreted as a release of leachate into the groundwater. The detected lead concentrations appear to be anomalous.

Surface Water - Test results from upgradient SMP-1 indicate detectable concentrations of barium, COD, chloride, iron (in excess of the secondary MCL), lead, magnesium, and TOX. The presence of the noted compounds at the upgradient monitoring point may indicate that the compounds are endemic to the stream.

Downgradient Surface Water sampling points indicate detection of compounds at concentrations that exceed the primary MCL for arsenic at SMP-4 and SMP-6. The secondary MCL for iron is commonly exceeded at SMP-6. The compounds that exceed statistical limits are summarized by monitoring well below:

SMP-2	chloride (3/03) and lead (10/91)
SMP-3	barium (10/91), magnesium
SMP-4	arsenic, barium (6/00 & 9/02), COD, copper (9/02), magnesium (6/00 & 9/02), ammonia (9/02 & 3/03) and zinc (6/00 & 3/01)
SMP-5	barium, and ammonia (3/03)
SMP-6	arsenic, barium, iron, magnesium, and ammonia (9/02)

2. STATISTICAL COMPUTATIONS

Statistical computations are summarized on the spreadsheets/graphs in Attachments C, D, and E. It appears there is significant variation in background levels of certain measured constituents in upgradient groundwater and aquifer monitoring wells. The presence of the noted compounds in the upgradient well may indicate migration (run-on) of several compounds from an off-site source(s) or may indicate that the compounds are endemic to the area.

As stated in the May 5, 1992, Semi-Annual Report, the initial background concentrations of certain parameters were higher in downgradient monitoring wells than in the corresponding upgradient monitoring wells prior to acceptance of waste(s) at this landfill. Discussions of site conditions are offered in the May 5, 1992, Semi-Annual Report (Attachment F) and should be referenced.

3. WELL MAINTENANCE AND RE-EVALUATION PLAN

Monitoring Well Performance Evaluation Reports dated June 10, 1993; March 30, 1998; and June, 2003 were prepared and submitted in accordance with IAC 567-113.21. The 2003 Report (most recent) concluded that the integrity of all MW's was intact, and that no changes in the HMSP were recommended. Monitoring well reevaluation is tentatively scheduled for June, 2008, and will again include monitoring wells associated with Trenches 1-6.

Review of the water elevation data for 2003 does not indicate excessive variability compared to historic water elevation data. Water elevation data is summarized in Attachment G. Based on the available water elevation data, the assessment of well conditions, and the hydrologic conditions at the site, the semi-annual water level measurements are interpreted to be sufficient to gauge notable changes in the site hydrology. The 2003 Water Table Contour Map is also included in Attachment G.

4. LCS PERFORMANCE

The leachate control system (LCS) consists of a series of gravity collection pipes that underlie the trench fills. Trenches 1 through 4 are located north of a topographic divide and the LCS drain north to a City of Ames interceptor sanitary sewer located along the stream to the north. The LCS in Trenches 5 and 6 are located south of the topographic divide and drains south to a City of Ames interceptor sanitary sewer located along the railroad to the south.

Filling and capping on the north end of Trenches 1 – 4 is complete. As required by the approved Development and Operational Plans (DOPS), leachate head monitoring wells have been installed at the downgradient point within each Trench. The four (4) leachate piezometers were installed in May, 2003. Copies of the boring logs and the Monitoring Well/Piezometer Construction Documentation Forms are included in Attachment H.

Annual Groundwater Quality Report

Leachate Head elevations at the four (4) piezometers has been recorded monthly since installation and are summarized in the Table and graphs included in Attachment I. In summary, the leachate head elevation data demonstrates that the LCS is functioning as intended. The piezometers in Trench 1 & 2 are recorded as dry. The leachate thickness in Trench 3 has been recorded as ranging from 1.5 feet to 0.3 feet. The leachate thickness in Trench 4 has been recorded as ranging from 3.6 feet to 1.8 feet.

Based on information provided by the City of Ames (Attachment J), pretreatment testing results for September15, 2003; May 22, 2003; and September 3, 2002 are as follows:

Parameter	Permit Limit (mg/L)	Allowance Discharge (mg/L)	09/03 Results (mg/L)	05/03 Results (mg/L)	09/02 Results (mg/L)
PH	6.0-10.0		6.93	7.2	6.97
TSS	1,500/300		2.5	10.0	9.3
Ammonia-N	200/40		39	32	28
COD	2,500/250	1,500	490	480	520
TKN	/40	250	NT	42	NT
BTEX	0.75		<0.022	<0.02	0.029
TPH	10		<0.2	NT	0.200
Benzene	0.05		NT	NT	<0.002
Toluene			NT	NT	0.010
Ethylbenzene			NT	NT	0.005
Total Xylenes			NT	NT	0.014
Phenol			NT	0.06	NT
PCE			NT	NT	NT
Zinc			NT	1.1	NT
p-Cresol		0.025	NT	NT	NT
Alpha-Terpineol		0.033	NT	NT	NT
Benzoic Acid		0.12	NT	NT	NT

Chemical analysis of the leachate indicates that all parameters are within permit limits. The volume of leachate conveyed to the Ames Water Pollution Control Plant is reported as 2,244 gallons per month (approximately 26,932 gpy).

The leachate system was cleaned November 29, 2002 as per IAC 567-113.26(11)a.8. Line cleaning is tentatively scheduled with Service Tech of Ames for November/December, 2005.

5. EXPLOSIVE GAS MONITORING

Explosive gas monitoring was performed quarterly through September, 2003, per IAC 567-113.26(15). Results of the explosive gas monitoring indicate that explosive gases were within applicable limits in site structures and along the entire site perimeter. In addition, carbon monoxide (CO) and hydrogen sulfide (H_2S) gases were undetected. Gas monitoring results are summarized in the table in Attachment K.

6. RECOMMENDATIONS

a. Continue to perform semi-annual and annual sampling episodes in accordance with Special Provision X.7.a of the Permit.
b. Continue to perform semi-annual water level measurements in March and September of each year and reevaluate the data in the Annual Groundwater Quality Report in November of each year.
c. Continue to perform monthly leachate level measurements and reevaluate the data in the Annual Groundwater Quality Report in November of each year.
d. The leachate collection lines in Trenches 1 through 6 should be cleaned as necessary according to IAC 567-113.26(11)a.8 in 2005.
e. Continue to perform quarterly explosive gas monitoring and report the results in the Annual Groundwater Quality Report each November.

If the Department has any questions or if additional information is needed, contact Mr. William Fedeler, Owner, or myself at the FOX Engineering office in Ames.

LESLIE S. WOLFE LICENSED 8180 IOWA PROFESSIONAL ENGINEER

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

11/24/03

LESLIE S. WOLFE, P.E. DATE
IOWA REG. NO. 8180

My license renewal date is December 31, 2003.

Pages or sheets covered by this seal:

ATTACHMENT A
Permit, Permit Amendment, and Correspondence

RECEIVED JAN 2 4 2002
TDW

Fields of Opportunities

STATE OF IOWA

THOMAS J. VILSACK, GOVERNOR
SALLY J. PEDERSON, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
JEFFREY R. VONK, DIRECTOR

January 17, 2002

William Fedeler
Ames-Story Environmental Landfill
P.O. Box 2483
Ames, Iowa 50010

Re: Ames-Story Environmental Landfill
#85-SDP-13-91P

Dear Mr. Fedeler:

Enclosed is Amendment #2 to the permit issued July 12, 1999 for the Ames-Story Environmental Landfill. The amendment must be kept with the permit and the approved plans at the sanitary disposal project in accordance with solid waste rule 103.2(2)'c', IAC. Please review this amendment with your operators, as they must become familiar with it.

The enclosed amendment approves the Emergency Response and Remedial Action Plan (ERRAP), dated December 2001 and received on January 7, 2002, as submitted by FOX Engineering Associates, Inc., and incorporates the plan as part of the permit documents.

If you have any questions regarding this amendment, please contact Nina M. Koger at (515) 281-8986.

Sincerely,

for Lavoy Haage
Supervisor
Solid Waste Section

LH:nmf

ATTACHMENT

cc: Field Office 5

IOWA DEPARTMENT OF NATURAL RESOURCES
AMENDMENT #2

LICENSED PROFESSIONAL ENGINEER
FRANCIS L. HALLADA
7527
IOWA

Issued by: _____
F. Hallada, P.E.
Land Quality and Waste Management Assistance Division

For: the Director

Date Issued: January 17, 2002

Permit number 85-SDP-13-91P for the Ames-Story Environmental Landfill is hereby amended as follows:

The Emergency Response and Remedial Action Plan (ERRAP), dated December 2001 and received on January 7, 2001, as submitted by FOX Engineering Associates, Inc., is in compliance with 567 IAC 102.16(455B) and is hereby approved. An updated ERRAP shall be submitted at the time of each permit renewal application. An updated ERRAP shall be included with any request for permit modification to incorporate a facility expansion or significant changes in facility operation that require modification of the currently approved ERRAP.

STATE OF IOWA

DEPARTMENT OF NATURAL RESOURCES

THOMAS J. VILSACK, GOVERNOR
SALLY J. PEDERSON, LT. GOVERNOR

LYLE W. ASELL, INTERIM DIRECTOR

May 26, 2000

William Fedeler
Ames-Story Environmental Landfill
P.O. Box 2483
Ames, Iowa 50010

Re: Ames-Story Environmental Landfill
#85-SDP-13-91P

Dear Mr. Fedeler:

Enclosed is Amendment #1 to the permit issued July 12, 1999 for the Ames-Story Environmental Landfill. The amendment must be kept with the permit and the approved plans at the sanitary disposal project in accordance with solid waste rule 103.2(2)'c', IAC. Please review this amendment with your operators, as they must become familiar with it.

The enclosed amendment incorporates the Construction Certification Report for the Trench 6 construction, dated May 10, 2000, as part of the permit documents.

If you have any questions regarding this amendment, please contact Nina M. Koger at (515) 281-8986.

Sincerely,

Lavoy Haage

Lavoy Haage
Supervisor
Solid Waste Section

LH:nmf

ATTACHMENT

cc: Field Office 5

N. Koger, IDNR

F. Hallada, IDNR

WALLACE STATE OFFICE BUILDING / DES MOINES, IOWA 50319
515-281-5145 TDD 515-242-5967 FAX 515-281-8895 www.state.ia.us/dnr

BKO

Fox Engineering
1531 Airport Road
Ames, IA 50010

IOWA DEPARTMENT OF NATURAL RESOURCES
AMENDMENT #1

Issued by: _____
F. Hallada, P.E.
Environmental Protection Division

LICENSED PROFESSIONAL ENGINEER
FRANCIS L. HALLADA
7527
IOWA

For: the Director

Date Issued: May 26, 2000

Permit number 85-SDP-13-91P for the Ames-Story Environmental Landfill is hereby amended as follows:

The Construction Certification Report for the Trench 6 construction, dated May 10, 2000, as submitted by Fox Engineering, is hereby incorporated as part of the permit documents.

STATE OF IOWA

DEPARTMENT OF NATURAL RESOURCES

THOMAS J. VILSACK, GOVERNOR
SALLY J. PEDERSON, LT. GOVERNOR

PAUL W. JOHNSON, DIRECTOR

July 12, 1999

William K. Fedeler
P.O. Box 2483
Ames, Iowa 50010

SUBJECT: Ames-Story Environmental Landfill
#85-SDP-13-91P

Dear Mr. Fedeler:

Enclosed is the renewed permit for the Ames-Story Environmental Landfill. The permit and the approved plans must be kept at the sanitary disposal project in accordance with solid waste rule 103.2(2)'c', IAC. Please review the permit with your operators, as they must become familiar with it.

Note that the permit contains special provisions that may require a response or action by you which, if not properly complied with, may prompt enforcement action by this department.

On June 17, 1999, the Department was notified by Fox Engineering Associates, Inc., that incoming construction and demolition (C&D) debris was being temporarily stockpiled on Trench #4 until Trench #5 was completed. Inasmuch as we have received the construction certification for the completion of Trench #5, the Department requires you to remove all remaining C&D debris from Trench #4 and deposit it in Trench #5 by no later than July 30, 1999.

If you have any questions regarding this permit, please contact Nina M. Koger at (515) 281-8986.

Sincerely,

Lavoy Haage
Supervisor
Solid Waste Section

LH:nmf

ATTACHMENT

cc: Field Office 5

Fox Engineering Associates, Inc.
1531 Airport Road
Ames, IA 50010

IOWA DEPARTMENT OF NATURAL RESOURCES
SANITARY DISPOSAL PROJECT PERMIT

I. **Permit Number:** 85-SDP-13-91P

II. **Permitted Agency:** Ames-Story Environmental Landfill, Inc.

III. **Project Location:** Parts of NE ¼ and SE ¼ , Sec. 1, T83N, R24W; [Parcel "A"; Lot 3; the West 100 feet of Lot 2; Parcel "B"; Lot 2, Except the West 100 feet thereof; Dayton Road Development Subdivision; and Part of Lot 1, Block 5, Landfill Addition, Watts Street, Ames], Story County, Iowa

IV. **Responsible Official**

Name: William K. Fedeler
Address: P.O. Box 2483
Ames, Iowa 50010
Phone: 515/232-5864

V. **Licensed Design Engineer**

Name: Douglas J. Luzbetak, P.E.
Address: Fox Engineering Associates, Inc.
1531 Airport Road
Ames, Iowa 50010
Phone: 515/233-0000

Iowa License Number: 12654

VI. **Date Permit Issued:** July 12, 1999

VII. **Permit Expiration Date:** July 12, 2002

VIII. **Issued by:** _____
Environmental Protection Division
for the Director

LICENSED PROFESSIONAL ENGINEER
FRANCIS L. HALLADA
7527
IOWA

IX. **General Provisions**

The above named permitted agency is hereby authorized to operate a sanitary landfill at the described location in conformance with Chapter 455B of the Code, the rules pursuant thereto existing at the time of issuance, and any subsequent new rules which may be duly adopted, and any provisions contained in Section X of this permit.

The project shall be operated according to the engineering plans and specifications approved by the Department of Natural Resources and these shall become a part of this permit. Any modifications or deviations from the engineering plans and specifications must have prior approval by the Department and an amendment to this permit issued.

The permitted service areas and conditions are specified in Special Provision #1 in Section X. Any deviations from the specified comprehensive planning documents, including changes in waste accepted from outside the permitted service areas, any special wastes from outside the permitted service areas, or any changes in the amount of waste, or changes in the waste stream shall have prior comprehensive planning approval by the Department. All special wastes disposed of at the permitted facility shall be subject to Special Waste Authorization (SWA) from the Department prior to acceptance.

The issuance of this permit in no way relieves the applicant of the responsibility for complying with all other local, state, and federal statutes, ordinances, and rules or other requirements applicable to the establishment and operation of this sanitary landfill.

No legal or financial responsibility arising from the construction or operation of the approved project shall attach to the State of Iowa or the Department of Natural Resources due to the issuance of this permit.

If title to this project is transferred, the new owner must apply to the Department for a transfer of this permit within thirty days of the date of title transfer. This permit is void sixty days after the date of title transfer unless the Department has transferred the permit.

The permit holder shall file a quarterly Solid Waste Fee Schedule utilizing the Department's Form 542-327 and all tonnage fee payment, as applicable, for all wastes received and disposed at the sanitary landfill in accordance with Chapter 455B.310 of the Iowa Code. If all disposed wastes are fee exempted, a fee schedule need not be submitted. A supplement to the quarterly Solid Waste Fee Schedule shall be included that provides a detailed breakdown of all accepted fee exempt solid waste authorized under this permit. The supplement shall provide identification of the permitted facility, permit number and the quarterly period reported. A copy of the submitted schedule and supplement shall be provided to the Department's Waste Management Assistance Division. Notice of submission shall be provided to the Department's Field office.

No yard waste as defined by Chapter 567-100 of the Iowa Administrative Code (IAC) may be buried at this sanitary landfill. Source separated yard waste may be accepted by a sanitary landfill for the purposes of soil conditioning or composting if authorized in Section X of this permit or after obtaining the necessary permit amendments.

Solid waste disposed at this site shall not exhibit free liquids, toxic or hazardous properties. No hazardous wastes as defined by Chapter 455B.411 of the Iowa Code may be disposed at this landfill. Any wastes other than household solid waste which may potentially exhibit such characteristics may be accepted for disposal only as an authorized special waste under the provisions of an SWA issued by the Department. An SWA must be obtained in advance of acceptance of any special waste. Asbestos and nonhazardous petroleum-contaminated soil wastes are considered special wastes and are SWA approved under this permit section and are not subject to additional SWA issuance.

Semiannual reports summarizing the disposals for the reporting period shall be submitted for any SWA wastes received, including asbestos and nonhazardous petroleum-contaminated soil wastes. The reporting periods shall be January 1 through June 30 and July 1 through December 31 each year, with reports due within 30 days of the end of the reporting period. The reports shall include identification of the wastes and volumes authorized, the waste generator, the period of disposal and copies of the disposal records. Petroleum contaminated soil quarterly testing results shall be submitted with semiannual special waste reports. If an approved authorized waste is not received, a statement to that effect shall be included in the semiannual special wastes reports. Copies of this report shall be sent to both the Main and Field offices of the Department.

The permit holder is authorized to accept asbestos waste. This provision should not be interpreted as requiring the landfill to accept asbestos wastes.

The following conditions and requirements shall be met by the sanitary landfill operator and/or the certified asbestos contractor whenever asbestos waste is disposed in this sanitary landfill:

1. Prior to delivery, the asbestos and any asbestos contaminated wastes shall be wetted and placed into a container system which will prevent it from becoming airborne. The exception is cardboard boxes which have contained asbestos parts.

2. If the asbestos wastes become dry prior to disposal, rewetting will be necessary to prevent dust evolution. Asbestos is carcinogenic if inhaled. This must be done prior to acceptance at the landfill. When disposed the wet asbestos must be properly covered before it can dry again.

3. Respirators and goggles shall be used in all instances of asbestos handling operations when dust evolution is unavoidable or when wetting operations are not effective in controlling dust evolution.

4. The hauler shall identify the waste to the landfill operator upon arrival at the sanitary landfill.

5. Containers of asbestos shall be deposited at a working face separate from the regular working face, covered and compacted taking extreme care not to rupture asbestos containers.

6. Maintain daily records of the horizontal and vertical location, depth, area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site.

7. Strict adherence to EPA regulations under 40 CFR Part 61 is mandatory. Questions on EPA regulations should be addressed to Greg Crable at (913) 551-7391. Questions regarding asbestos abatement certification should be addressed to Walter Johnson, Iowa Division of Labor, at (515) 281-3606.

The permit holder is authorized to accept petroleum-contaminated soil. This provision should not be interpreted as requiring the landfill to accept petroleum-contaminated soil.

The following conditions and requirements shall be met by the sanitary landfill operator and/or the generator and hauler whenever petroleum contaminated soil is disposed in this sanitary landfill:

1. The waste cannot be a hazardous waste.

2. The waste cannot contain free liquids as determined by the paint filter liquids test.

3. The hauler shall identify the waste to the landfill attendant upon arrival at the landfill.

4. The landfill operator shall direct the hauler to the evaporation area. The soil borrow area or an area with intermediate cover may be used.

5. Spread the contaminated soil to 4 inches or less. The contaminated soil should be allowed to aerate for at least 14 days, and until the hydrocarbon level is less than 100 ppm. Fourteen days is a minimum. Longer times may be needed if weather conditions are unfavorable or if contamination levels are unusually high.

6. The soil will be turned or disked at least 3 times per week.

7. Alternative procedures than those defined in conditions 5 and 6 may be used if it can be demonstrated that soil treatment meeting the requirements of condition 8 can be consistently achieved and if approved under permit amendment.

8. After the contaminant has evaporated and the total hydrocarbon content is less than 100 ppm, the soil may be used as daily cover material or incorporated into the working face. The soil may not be used for capping or lining.

9. Once every three months petroleum contaminated soil that has been treated at the evaporation area shall be sampled and analyzed for total hydrocarbon content. This sampling can be done at any time during the three month period depending on availability of treated soil.

The permit holder is prohibited from disposing of nickel-cadmium, mercuric oxide, and sealed lead-acid household batteries, as specified in Subrule 145.1 IAC, effective beginning September 20, 1995.

The permit holder shall comply with all provisions defined in Chapter 567-118 of the IAC relative to the removal and disposal of polychlorinated biphenyls (PCBs) from white goods received at the sanitary landfill for disposal, processing and recycling.

1. All white goods shall be inspected in accordance with Subrule 118.3(2)a IAC for the presence of capacitors by the permit holder's authorized representative and the capacitors and PCBs removed before they are disposed of or processed at the landfill.

2. Any party that processes or disposes of white goods shall be registered in accordance with Subrule 118.3(1) IAC. Processing includes crushing, compacting, smashing and shredding. Registration requirements do not apply to preprocessing storage at the landfill.

3. The permit holder shall be responsible to assure that any salvage dealer or processing operator that processes the white goods at the landfill site or removes the white goods from the landfill for processing be registered.

4. All capacitor and PCB inspection, removal, storage and management activities shall be conducted in strict compliance with all applicable and current EPA regulations specified in 40 CFR, Part 761. Under no circumstances shall white goods be disposed, processed or baled at the landfill site without the PCBs and PCB containing devices being first removed.

The permit holder shall comply with all applicable and current EPA regulations specified in 40 CFR, Part 82, relative to white goods refrigerant recycling and emissions control, and 40 CFR, Part 273, relative to free mercury and mercury switch devices removal.

1. Under no circumstances shall white goods be disposed, processed or baled at the landfill site without refrigerants and all free mercury and mercury switch devices being first removed and recovered.

2. All mercury and mercury switch devices shall be managed as hazardous wastes in accordance with EPA regulations.

3. Questions on EPA regulations should be addressed to Alice Law, EPA Region VII, at (913) 551-7623.

The permit holder shall comply with the provisions of IAC Chapter 118; federal regulations under 40 CFR Parts 82, 273 and 761; and the General Provisions of this permit to assure that all white goods and scrap metals preprocessing storage and salvaging management operations at the landfill site are conducted to prevent PCBs, refrigerants and mercury contaminants from being released to the environment.

Municipal Solid Waste Landfills, both existing and new, shall comply with the provisions of 567 IAC Chapters 20 through 31, including 567 IAC Paragraph 23.1(2) "rrr" for the New Source Performance Standards and 567 IAC Paragraph 23.1(5) "a" for the Emission Guidelines.

This facility shall be staked as necessary and inspected on a semiannual basis by a professional engineer registered in the State of Iowa. The engineer shall prepare a brief report describing the site's conformance and nonconformance with the permit and the approved plans and specifications during the inspections. These reports shall be submitted by May 1 and November 1 each year to

both the Field and Main offices of the Department. The Department shall be notified if any inspection reveals any nonconformance with the permit and approved plans and specifications.

Failure to comply with Chapter 455B of the Code, or any rule of order promulgated pursuant thereto, or any or all provisions of this permit may result in 1) a civil penalty of up to $5000 for each day of violation, pursuant to Section 455B.307 of the Code, or 2) the suspension or revocation of this permit, pursuant to Section 455B.305 of the Code.

X. Special Provisions

1. The permit holder is authorized to accept construction and demolition wastes, diseased trees, tree stumps, hydrocarbon contaminated soils, and asbestos for disposal in accordance with the approved Central Iowa Waste Management Association Subsequent Comprehensive Plan, Part I. The Subsequent Comprehensive Plan, Part I as approved by the Waste Management Assistance Division on May 28, 1999; any approved amendments to the plan; and the latest subsequent plan update, are hereby incorporated as permit plan documents.

2. The permit holder shall develop and operate the site in accordance with the Revised Development Plan (RDP), dated March 29, 1996 and approved on May 14, 1996; Revised Figure 20, dated September 1998; Revised Figure 28, dated July 2, 1998; and Plan Sheet 4, dated September 24, 1998, all as approved on September 29, 1998, all as submitted by Fox Engineering Associates, Inc (Fox)

   a. The approved site vertical height shall not exceed a maximum waste elevation of 974 in the North central waste area and 970 feet in the South central waste area.

   b. The approved horizontal site development is limited to Trenches #1, #2, #3, and #4 in the north waste area; and to Trenches #5 and #6 in the south waste area.

      Revised Figures 20 and 28 and Plan Sheet 4 of the RDP have been revised to show the omission of previously designated Trench #7 due to a change in fill excavation to accommodate the direct connection of the leachate control system to the City of Ames sanitary sewer.

   c. The permit holder is authorized to increase the liner side slope from a maximum of 4:1 to a 3:1 side

slope on the north perimeter slope of the Trench 5 expansion area. The attached Plan Sheet 4 of the approved Revised Development Plan (RDP) has been revised to show the location of the increased side slope.

Authorization for the increased side slope is in accordance with the approved variance for the same from the Department, dated February 19, 1999.

d. The June 6, 1996 documentation, as submitted by FOX Engineering Associates, Inc. relative to the detailed soils inventory for the liner system, and weekly, intermediate, and final cover usage is incorporated as part of the permit documents.

e. The Department acknowledges the deviation from subrule 103.2(1)m6 IAC relative to the separation distance from the adjacent property line, as documented by an agreement with the adjacent property owner in the February 14, 1996 letter from Fox.

f. The Construction Certification for Trench #5, dated June 11, 1999, as submitted by Fox, is incorporated as part of permit documents.

3. Solid waste shall be deposited at the toe of the working face, spread in two foot layers, and compacted on a 3:1 slope.

4. Litter fences shall be used when needed to confine windblown materials to the operating area.

5. Surface water shall be diverted around the fill area and surface drainage shall be provided at the toe of the working face.

6. An all weather fill area accessible during all weather conditions under which solid waste is received and disposed at the site shall be provided at all times.

7. Hydrologic monitoring at the site shall be conducted in accordance with the approved Hydrologic Monitoring System Plan (HMSP) dated March 29, 1996, as submitted by Fox, and the following provisions:

a. The HMSP for the North and South waste areas shall include the following:

Water table monitoring points, consisting of upgradient groundwater monitoring point MW-37; and

downgradient groundwater monitoring points MW-6, MW-23, MW-24, MW-25, MW-28, MW-31, MW-34*, MW-35*, MW-39, MW-40, MW-43.

Uppermost Aquifer monitoring points, consisting of upgradient groundwater monitoring point MW-36; and downgradient groundwater monitoring points MW-7, MW-8, MW-29, MW-30, MW-32, MW-33, MW-34*, MW-35*, MW-38, MW-41, and MW-42.

Surface Water monitoring points, consisting of upgradient surface water monitoring points SW-1 and SW-4; and downgradient surface water monitoring point SW-2, SW-3, SW-5, SW-6.

* Screened across both the water table and the uppermost aquifer.

b. Monitoring points not designated for water quality monitoring shall be retained as water level measuring points.

c. Department construction documentation form 542-1277 and boring logs for all monitoring wells and piezometers shall be submitted within 30 days of installation. Department construction documentation form 542-1323 shall be submitted within 30 days of establishing surface water monitoring points.

d. Water quality sampling and analysis for approved monitoring points MW-6, MW-7, MW-8, MW-38, MW-39, MW-40, MW-41, MW-42, MW-43, SW-4, SW-5, and SW-6 shall begin 1 year following the commencement of waste disposal in Trenches 5, 6, and 7 in the South waste area. The permit holder shall submit a sampling schedule 30 days prior to the first scheduled sampling event.

Quarterly sampling of approved monitoring points MW-23, MW-24, MW-25, MW-28, MW-29, MW-30, MW-31, MW-32, MW-33, MW-34, MW-35, MW-36, MW-37, SW-1, SW-2, and SW-3, has been completed.

Continued semiannual sampling shall take place in **March** and **September** of each year for analysis of the parameters listed in Subrule 103.2(4)e IAC. Routine annual testing for the parameters listed in Subrule 103.2(4)f IAC shall be conducted during **September** of each year.

e. The Method Detection Limit (MDL) for the test parameters shall not exceed action levels as defined in IAC Chapter 133. If the action levels cannot be feasibly achieved using procedures described in IAC

Subrule 103.2(5), then the MDL shall not exceed the lowest feasible level.

f. Samples collected for dissolved metals analysis shall be field filtered, preserved, and promptly transferred to a certified laboratory for analysis.

g. If laboratory results exceed the upgradient mean plus two standard deviations or the Maximum Contaminant Level (MCL) for any parameter, the Department shall be notified within 30 days of receipt of the analytical results.

h. Surface monitoring points must be clearly marked in the field and a method for measuring the flow rate at each sampling point shall be devised.

i. Results of all analysis and the associated Department sampling forms 542-1322 and 542-1324 shall be submitted to both the Department's Main and Field office within 45 days of the sample collection.

j. An annual report summarizing the effects the facility is having on groundwater and surface water quality shall be submitted to the Department's Main and Field office by November 30 each year. This report shall be prepared in accordance with Subrule 103.2(8)d IAC by a Professional Engineer registered in the State of Iowa. This report shall include the results of the semiannual groundwater measurements conducted at the monitoring points.

8. In accordance with the variance approval of November 10, 1998 the permit holder is authorized to reduce the frequency of groundwater level measurements from monthly, as required by Subrule 103.2(4)b IAC, to semi-annually. The measurements shall be taken during the semi-annual sampling events, with the results submitted in the corresponding semiannual monitoring reports and the annual water quality report.

9. The permit holder is authorized to construct and operate the leachate control system in accordance with the Leachate Control Plan (LCP), as provided in the approved RDP, dated March 15, 1996, and approved on May 14, 1996, and the revisions as noted in item #2 above, as prepared by Fox:

a. Leachate collected from the leachate control system shall be treated and disposed of at an approved on-site facility with an NPDES permit or at an approved publicly owned treatment works (POTW) under a user agreement with the City of Ames. If the discharge

is to a POTW with a pretreatment program approved by the Department, the discharge must comply with the terms and conditions of a local permit issued for the discharge by the POTW. If the discharge is to a POTW without an approved pretreatment program a completed treatment agreement form shall be submitted to the Department's Wastewater Section. Copies of the local permit or treatment agreement shall be provided to the Solid Waste Section and the local Field Office. The treatment agreement must be on DNR Form 31 (542-3221) and must comply with the requirements of Iowa Administrative Code 567-64.3(5).

The permit holder shall submit a copy of the revised wastewater treatment agreement at the time of development in the South waste area when collected leachate is characterized.

b. In accordance with Subrule 103.2(11)d IAC, the Department shall be notified and the site inspected when the initial construction of the leachate control system has been completed. Prior to the inspection, construction certification reports shall be submitted to the Department's Main and Field offices.

c. The leachate control system shall be operated and maintained in accordance with the approved permit documents. After implementation of the leachate control system, the permit holder shall routinely collect the necessary information and evaluate the effectiveness of the system in controlling the leachate. All documentation shall be summarized in a Leachate Control System Performance Evaluation (LCSPE) Report. Effective control shall be considered as maintaining compliance with maximum leachate head as defined in Subrule 103.2(11)a(1) IAC, achieving the lowest possible leachate head as required in Subrule 103.2(12)b(2) IAC, and maintaining surface and groundwater quality standards at compliance monitoring points.

d. Leachate head levels and elevations shall be measured monthly at all piezometers and the volume of leachate collected and transported to the treatment works recorded. Records of leachate contaminants testing required by the treatment works and any NPDES permit for on-site treated leachate discharges shall be maintained.

c. The permit holder shall annually submit the LCSPE Report, including record data, as a supplement to the facility Annual Water Quality Report, as defined

in Subrule 103.2(8) IAC. The performance evaluation shall include proposed additional leachate control measures and an implementation schedule in the event that the constructed system is not performing effectively.

d. In accordance with the variance approval of April 12, 1991, on-site leachate storage is waived at this time. An on-site leachate storage system shall be required upon the event that any complications arise or if the City of Ames can no longer accommodate direct discharge from the landfill.

10. The permit holder shall quarterly monitor and annually report site methane concentrations in accordance with Subrule 103.2(15) IAC after May 18, 1994. Specific actions, as defined in the rules, shall be taken in the event of methane gas level limit exceedances.

    The annual report summarizing the methane gas monitoring results and any action taken resulting from gas levels exceeding the specified limits during the previous 12 months shall be submitted by November 30 of each year.

11. The permit holder is exempt from the financial assurance requirements relative to closure, postclosure care, and any required corrective action in accordance with Subrule 103.2(16) IAC and Chapter 111 IAC after August 24, 1994, as long as only the wastes as defined in Special Provision #1 are accepted.

12. The permit holder shall submit a copy of the weighing scale facility licensing certificate issued by the Iowa Department of Agriculture and Land Stewardship when weighing facilities are provided, but no later than the effective date required under promulgated rules. In either case, certification shall be maintained current at all times and a copy of renewals shall be provided to the Department's Main and Field offices.

13. The permit holder shall close the landfill site in accordance with the Closure Postclosure Plan (CPCP), dated March 15, 1996, as prepared by Fox and approved on May 14, 1996.

ATTACHMENT B
Analytical Data & Summary Tables

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

SAMPLING DATE: September 29, 2003

PARAMETER	ACTION LEVEL	U.G.W MW 22	U.G.W MW 28	U.A.W MW 27	U.A.W MW 29	D.G.W MW 23	D.G.W MW 24	D.G.W MW 26	D.G.W MW 31	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	SURFACE MONITORING PTS. SW 1	SW 2	SW 3
ug/L																	
Benzene *	5	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Carbon tetrachloride *	5	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
1,4-Dichlorobenzene *	75	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
1,2-Dichloroethane *	5	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
1,1-Dichloroethene *	7	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
1,1,1-Trichloroethane *	200	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Trichloroethene *	5	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
mg/L																	
Arsenic, dissolved	0.05	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Barium, dissolved	2.0	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Cadmium, dissolved	0.005	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Chromium, dissolved	0.1	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Lead, dissolved	0.015	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Mercury, dissolved	0.002	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Magnesium, dissolved	--	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Zinc, dissolved	2	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Iron, dissolved	--	Plugged	<0.03	Plugged	<0.030	<0.030	DRY	Plugged	3.44	0.296	1.29	<0.030	0.556	5.63	<0.030	<0.030	dry
Copper, dissolved	1.3	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Chloride	--	Plugged	103	Plugged	<10	22	DRY	Plugged	41	<10	<10	165	30	23	58	77	dry
Nitrogen, Ammonia	--	Plugged	<1.0	Plugged	<1.0	<1.0	DRY	Plugged	<1.0	<1.0	<1.0	<1.0	1.6	1.2	<1.0	<1.0	dry
Chemical Oxygen Demand	--	Plugged	23	Plugged	<10	<10	DRY	Plugged	25	<10	<10	<10	18	17	17	18	dry
Total Organic Halogens	--	Plugged	<0.010	Plugged	<0.010	0.025	DRY	Plugged	0.075	<0.010	<0.010	<0.010	<0.010	0.012	0.198	0.119	dry
Phenols	--	Plugged	<0.100	Plugged	<0.100	<0.100	DRY	Plugged	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	dry
pH	--	Plugged	7.4	Plugged	7.7	7.2	DRY	Plugged	7.3	7.7	7.5	7.4	7.8	7.4	7.4	7.3	dry
Temperature, celsius	--	Plugged	15	Plugged	15	14	DRY	Plugged	14	14	17	15	14	19	18	18	dry
Conductivity, mv	--	Plugged	890	Plugged	615	1159	DRY	Plugged	1328	724	886	1241	890	1055	468	675	dry

U.A.W - Upgradient aquifer well

NT - Not tested

D.G.W. - Downgradient groundwater well

D.A.W. - Downgradient aquifer well

U.G.W - Upgradient groundwater well

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

SAMPLING DATE: September 29, 2003

PARAMETER	ACTION LEVEL	FIELD	TRIP	BOTH MW 35	U.A.W MW 36	U.G.W MW37	MW 6	MW 7	MW 8	MW 38	MW 39	MW 40	MW 41	MW 42	MW 43	SW 4	SW 5	SW 6
ug/L																		
Benzene *	5	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<1	NT
Carbon tetrachloride *	5	NT	<0.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.3	NT
1,4-Dichlorobenzene *	75	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<1	NT
1,2-Dichloroethane *	5	NT	<0.4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.4	NT
1,1-Dichloroethene *	7	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<1	NT
1,1,1-Trichloroethane *	200	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<1	NT
Trichloroethene *	5	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<1	NT
mg/L																		
Arsenic, dissolved	0.05	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.004	NT
Barium, dissolved	2.0	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.065	NT
Cadmium, dissolved	0.005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.001	NT
Chromium, dissolved	0.1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.005	NT
Lead, dissolved	0.015	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.005	NT
Mercury, dissolved	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.0005	NT
Magnesium, dissolved	--	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	12	NT
Zinc, dissolved	2	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.023	NT
Iron, dissolved	--	NT	NT	0.078	<0.030	1.02	<0.030	0.178	1.28	0.536	0.041	<0.030	0.450	1.37	<0.030	0.108	0.051	4.09
Copper, dissolved	1.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.007	NT
Chloride	--	NT	NT	141	<10	10	52	13	<10	31	45	25	10	11	81	108	143	68
Nitrogen, Ammonia	--	NT	NT	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1	<1.0	<1.0	<1	2.6	164	44.8	<1.0
Chemical Oxygen Demand	--	NT	NT	<10	<10	<10	12	<10	<10	<10	<10	<10	<10	<10	16	38	24	14
Total Organic Halogens	--	NT	NT	<0.010	<0.010	<0.010	0.057	<0.010	<0.010	<0.010	NT	<0.010	<0.010	NT	<0.010	NT	NT	0.014
Phenols	--	NT	NT	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	NT	<0.100	<0.100	NT	<0.100	NT	NT	<0.100
pH	--	NT	NT	7.5	7.8	7.5	6.9	7.4	7.4	7.8	7.2	7.5	7.7	7.5	6.8	7.2	7.3	7.2
Temperature, celsius	--	NT	NT	17	14	17	18	14	14	14	15	16	13	15	16	2	5	18
Conductivity, mv	--	NT	NT	886	584	1185	1018	606	593	844	1035	819	588	708	1142	1260	860	1262

6000 / 6004 / [illegible]

Keystone LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Accreditations:
Iowa DNR: 095
New Jersey DEP: IA001
Kansas DHE: E-10287

ANALYTICAL REPORT

October 13, 2003

Work Order: 13I1301

Report To

Todd Whipple
Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

Work Order Information

Date Received: 09/29/2003 10:55AM
Collector: Orr, Steve
Phone: 515-233-0000
PO Number:

Project: Landfill
Project Number: 6004-03A.950

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13I1301-01 MW-~~A~~28 Ames C&D			Matrix:Water		Collected: 09/25/03 18:26	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**23 mg/l**	**10**	EPA 410.4	LKM	10/02/03 7:53	
Chloride	**103 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:48	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	10/01/03 18:18	
13I1301-02 MW-~~B~~29 Ames C&D			Matrix:Water		Collected: 09/25/03 18:50	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	LKM	10/02/03 7:53	
Chloride	<10 mg/l	10	EPA 9252	SAA	09/30/03 15:48	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	10/01/03 18:18	
13I1301-03 MW-6 Ames C&D			Matrix:Water		Collected: 09/26/03 10:26	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**12 mg/l**	**10**	EPA 410.4	LKM	10/02/03 7:53	
Chloride	**52 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:48	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	**0.057 mg/l**	**0.010**	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	10/01/03 18:18	
13I1301-04 MW-7 Ames C&D			Matrix:Water		Collected: 09/26/03 10:57	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

October 13, 2003

Work Order: 13I1301

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13I1301-04 MW-7 Ames C&D			Matrix:Water		Collected: 09/26/03 10:57	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	LKM	10/02/03 7:53	
Chloride	**13 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:48	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	**0.178 mg/l**	**0.030**	EPA 6010B	LAR	10/01/03 18:18	
13I1301-05 MW-8 Ames C&D			Matrix:Water		Collected: 09/26/03 11:32	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	LKM	10/02/03 7:53	
Chloride	<10 mg/l	10	EPA 9252	SAA	09/30/03 15:48	
Nitrogen, Ammonia	**1.0 mg/l**	**1.0**	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 16:24	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	**1.28 mg/l**	**0.030**	EPA 6010B	LAR	10/01/03 18:20	
13I1301-06 SW-1			Matrix:Water		Collected: 09/28/03 15:18	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**12 mg/l**	**10**	EPA 410.4	LKM	10/02/03 7:53	
Chloride	**45 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:48	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 16:24	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	10/01/03 18:20	
13I1301-07 SW-2			Matrix:Water		Collected: 09/28/03 14:20	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**19 mg/l**	**10**	EPA 410.4	LKM	10/02/03 7:53	
Chloride	**53 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:48	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 16:24	
Total Organic Halogens (TOX)	**0.012 mg/l**	**0.010**	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	10/01/03 18:20	

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Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

Work Order: 13I1301

October 13, 2003
Page 3 of 3

End of Report

Keystone Laboratories, Inc.
Jim Eggers For Jeffrey King, Ph.D.
Laboratory Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

☐ 600 E. 17th St. S.
Newton, IA 50208
Phone: 641-792-8451
Fax: 641-792-7989

☐ 3012 Ansborough Ave.
Waterloo, IA 50701
Phone: 319-235-4440
Fax: 319-235-2480

☐ 1304 Adams
Kansas City, KS 66103
Phone: 913-321-7856
Fax: 913-321-7937

PRINT OR TYPE INFORMATION BELOW

SAMPLER: Steve Orr
SITE NAME: 6001-03A. 950
ADDRESS:
CITY/ST/ZIP: Ames, IA
PHONE:

REPORT TO:
NAME: Todd Whipple, CPG
COMPANY NAME: FOX Engineering
ADDRESS: 1601 Golden Aspen Dr, Suite 103
CITY/ST/ZIP: Ames, IA 50010
PHONE: 800-433-3469
FAX: 515-233-0103

BILL TO:
NAME: Mr. Paul Wiegand, P.E.
COMPANY NAME: City of Ames
ADDRESS: 515 Clark Av
CITY/ST/ZIP: Ames, IA 50010
PHONE:

Keystone Quote No.: (If Applicable)

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	ANALYSES REQUIRED: VOC								SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
MW 4	9-25-03	18:26	MW 4	5	W	G	X									01
MW 5	9-25-03	18:50	MW 5	5	W	G	X									02
MW 6	9-26-03	10:26	MW 6	5	W	G	X									03
MW 7	9-26-03	10:57	MW 7	5	W	G	X									04
MW 8	9-26-03	11:32	MW 8	5	W	G	X									05
SW 1	9-28-03	15:18	SW 1	5	W	G	X									06
SW 2	9-28-03	14:20	SW 2	5	W	G	X									07

LAB USE ONLY

LABORATORY WORK ORDER NO.: 13F1301

SAMPLE TEMPERATURE UPON RECEIPT: °C

Relinquished by: (Signature)	Date	Received by: (Signature)	Date	Turn-Around:
Stephen L Orr	9-27-03			☒ Standard ☐ Rush _____ Contact Lab Prior to Submission
	Time 7:53		Time	
Relinquished by: (Signature)	Date	Received for Lab by: (Signature)	Date	Remarks:
Stephen L Orr	9-28-03	[illegible]	9/29/03	Metals Samples Field Filtered
	Time 16:37		Time 10:55 AM	

FORM: CCR 7-97

Keystone LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Accreditations:
Iowa DNR: 095
New Jersey DEP: IA001
Kansas DHE: E-10287

ANALYTICAL REPORT

October 03, 2003

Work Order: 13I0980

Report To:

Todd Whipple
Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

Work Order Information

Date Received: 09/22/2003 10:40AM
Collector: Orr, Steve
Phone: 515-233-0000
PO Number:

Project: Landfill
Project Number: 6004-99A.950

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13I0980-01 SW-6			Matrix:Water		Collected: 09/19/03 17:34	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**14 mg/l**	**10**	EPA 410.4	LKM	09/23/03 10:43	
Chloride	**68 mg/l**	**10**	EPA 9252	SNT	09/23/03 15:08	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	09/26/03 12:24	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	09/24/03 16:37	
Total Organic Halogens (TOX)	**0.014 mg/l**	**0.010**	EPA 9020	DES	10/01/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	**4.09 mg/l**	**0.030**	EPA 6010B	LAR	09/22/03 17:49	
13I0980-02 SW-1			Matrix:Water		Collected: 09/19/03 18:28	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**17 mg/l**	**10**	EPA 410.4	LKM	09/23/03 10:43	
Chloride	**58 mg/l**	**10**	EPA 9252	SNT	09/23/03 15:08	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	09/26/03 12:24	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	09/24/03 16:37	
Total Organic Halogens (TOX)	**0.198 mg/l**	**0.010**	EPA 9020	DES	10/02/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	09/22/03 17:49	
13I0980-03 SW-2			Matrix:Water		Collected: 09/19/03 19:13	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**18 mg/l**	**10**	EPA 410.4	LKM	09/23/03 10:43	
Chloride	**77 mg/l**	**10**	EPA 9252	SNT	09/23/03 15:08	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	09/26/03 12:24	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	09/26/03 15:11	
Total Organic Halogens (TOX)	**0.119 mg/l**	**0.010**	EPA 9020	DES	10/01/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	09/22/03 17:49	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

Work Order: 13I0980

October 03, 2003
Page 2 of 2

End of Report

Jeffrey King

Keystone Laboratories, Inc.
Jeffrey King, Ph.D.
Laboratory Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

☐ 600 E. 17th St. S.
Newton, IA 50208
Phone: 641-792-8451
Fax: 641-792-7989

☐ 3012 Ansborough Ave.
Waterloo, IA 50701
Phone: 319-235-4440
Fax: 319-235-2480

☐ 1304 Adams
Kansas City, KS 66103
Phone: 913-321-7856
Fax: 913-321-7937

PAGE 1 OF 1

PRINT OR TYPE INFORMATION BELOW
SAMPLER: Steve Orr
SITE NAME: 6004-99A, 950
ADDRESS:
CITY/ST/ZIP:
PHONE:

REPORT TO:
NAME: Todd Whipple, CPG
COMPANY NAME: FOX Engineering
ADDRESS: 1601 Golden Aspen Dr, Suite 103
CITY/ST/ZIP: Ames, IA 50010
PHONE: 800-433-3469
FAX: 515-233-0103

BILL TO:
NAME: Mr. Bill Fideler
COMPANY NAME: Ames-Story C&D LF
ADDRESS: PO Box 2483
CITY/ST/ZIP: Ames, IA 50010
PHONE: 515-232-3469
Keystone Quote No.: (If Applicable)

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	ANALYSES REQUIRED: e+f								LAB USE ONLY: LABORATORY WORK ORDER NO. 13I0980; SAMPLE TEMPERATURE UPON RECEIPT: °C; SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
SW 6	9-19-03	17:34	SW 6	5	W	G	X									01
SW 1	↓	18:28	SW 1	↓	↓	↓	X									02
SW 2	↓	19:13	SW 2	↓	↓	↓	X									03

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Turn-Around:
Stephen L Orr	Date 9-19-03 Time 20:18		Date Time	☒ Standard ☐ Rush Contact Lab Prior to Submission
Relinquished by: (Signature)	Date Time	Received for Lab by: (Signature) Bill	Date 9/22/03 Time 10:40 A.M	Remarks: Metals Samples Field Filtered

Original Return with Report Yellow Lab Copy Pink Sampler Copy FORM SCR 7-

Keystone LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Accreditations:
Iowa DNR: 095
New Jersey DEP: IA001
Kansas DHE: E-10287

ANALYTICAL REPORT

October 13, 2003

Work Order: 13I1300

Report To

Todd Whipple
Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

Work Order Information

Date Received: 09/29/2003 10:55AM
Collector: Orr, Steve
Phone: 515-233-0000
PO Number:

Project: Landfill
Project Number: 6004-99A.950

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13I1300-01 MW-36			Matrix:Water		Collected: 09/26/03 14:06	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	MAQ	10/01/03 10:30	
Chloride	<10 mg/l	10	EPA 9252	SAA	09/30/03 15:52	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	10/01/03 11:20	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/09/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	10/01/03 18:18	
13I1300-02 MW-37			Matrix:Water		Collected: 09/26/03 14:32	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	MAQ	10/01/03 10:30	
Chloride	**10 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:52	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	10/01/03 11:20	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/09/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	**1.02 mg/l**	**0.030**	EPA 6010B	LAR	10/01/03 18:18	
13I1300-03 MW-35			Matrix:Water		Collected: 09/26/03 15:05	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	MAQ	10/01/03 10:30	
Chloride	**141 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:52	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	10/01/03 11:20	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	**0.078 mg/l**	**0.030**	EPA 6010B	LAR	10/01/03 18:18	
13I1300-04 MW-34			Matrix:Water		Collected: 09/26/03 15:43	

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Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

October 13, 2003

Work Order: 13I1300

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13I1300-04 MW-34			Matrix:Water		Collected: 09/26/03 15:43	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**17 mg/l**	**10**	EPA 410.4	MAQ	10/01/03 10:30	
Chloride	**23 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:52	
Nitrogen, Ammonia	**1.2 mg/l**	**1.0**	SM 4500-NH3 F	SAA	10/01/03 11:20	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	**0.012 mg/l**	**0.010**	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	**5.63 mg/l**	**0.030**	EPA 6010B	LAR	10/01/03 18:18	
13I1300-05 MW-33			Matrix:Water		Collected: 09/26/03 16:59	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**18 mg/l**	**10**	EPA 410.4	MAQ	10/01/03 10:30	
Chloride	**30 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:52	
Nitrogen, Ammonia	**1.6 mg/l**	**1.0**	SM 4500-NH3 F	SAA	10/01/03 11:20	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	**0.556 mg/l**	**0.030**	EPA 6010B	LAR	10/01/03 18:18	
13I1300-06 MW-25			Matrix:Water		Collected: 09/26/03 16:29	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	MAQ	10/01/03 10:30	
Chloride	**165 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:52	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	10/01/03 11:20	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	10/01/03 18:18	
13I1300-07 MW-32			Matrix:Water		Collected: 09/26/03 17:29	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	MAQ	10/01/03 10:30	
Chloride	<10 mg/l	10	EPA 9252	SAA	09/30/03 15:52	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	**1.29 mg/l**	**0.030**	EPA 6010B	LAR	10/01/03 18:18	

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Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

October 13, 2003

Work Order: 13I1300

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13I1300-08 MW-31			Matrix:Water		Collected: 09/26/03 18:06	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**25 mg/l**	**10**	EPA 410.4	MAQ	10/01/03 10:30	
Chloride	**41 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:52	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	**0.075 mg/l**	**0.010**	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	**3.44 mg/l**	**0.030**	EPA 6010B	LAR	10/01/03 18:18	
13I1300-09 MW-23			Matrix:Water		Collected: 09/28/03 09:10	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	MAQ	10/01/03 10:30	
Chloride	**22 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:52	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	**0.025 mg/l**	**0.010**	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	10/01/03 18:18	
13I1300-10 MW-30			Matrix:Water		Collected: 09/28/03 09:39	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	MAQ	10/01/03 10:30	
Chloride	<10 mg/l	10	EPA 9252	SAA	09/30/03 15:52	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	**0.296 mg/l**	**0.030**	EPA 6010B	LAR	10/01/03 18:18	
13I1300-11 MW-42			Matrix:Water		Collected: 09/28/03 10:13	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	MAQ	10/01/03 10:30	
Chloride	**13 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:48	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	**0.012 mg/l**	**0.010**	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	**1.63 mg/l**	**0.030**	EPA 6010B	LAR	10/01/03 18:18	

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Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

October 13, 2003

Work Order: 13I1300

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13I1300-12 MW-43			Matrix:Water		Collected: 09/28/03 10:31	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**16 mg/l**	**10**	EPA 410.4	MAQ	10/01/03 10:30	
Chloride	**81 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:48	
Nitrogen, Ammonia	**2.6 mg/l**	**1.0**	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	10/01/03 18:18	
13I1300-13 MW-38			Matrix:Water		Collected: 09/28/03 12:17	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	MAQ	10/01/03 10:30	
Chloride	**31 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:48	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	**0.536 mg/l**	**0.030**	EPA 6010B	LAR	10/01/03 18:18	
13I1300-14 MW-39			Matrix:Water		Collected: 09/28/03 12:42	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	MAQ	10/01/03 10:30	
Chloride	**45 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:48	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	**0.045 mg/l**	**0.030**	EPA 6010B	LAR	10/01/03 18:18	
13I1300-15 MW-40			Matrix:Water		Collected: 09/28/03 13:14	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	LKM	10/02/03 7:53	
Chloride	**25 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:48	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	10/01/03 18:18	

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Keystone LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

October 13, 2003

Work Order: 13I1300

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13I1300-16 MW-41			Matrix:Water		Collected: 09/28/03 13:38	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	LKM	10/02/03 7:53	
Chloride	**10 mg/l**	**10**	EPA 9252	SAA	09/30/03 15:48	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SNT	10/03/03 13:13	
Phenols, total	<0.100 mg/l	0.100	EPA 9065	KRV	10/03/03 15:28	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	EPA 9020	DES	10/10/03 0:00	
Determination of Dissolved Metals						
Iron, dissolved	**0.450 mg/l**	**0.030**	EPA 6010B	LAR	10/01/03 18:18	
13I1300-17 Trip Blank 8-11-03 2:20 JRF Sealed			Matrix:Water		Collected: 09/29/03 00:00	
Determination of Volatile Organic Compounds						
1,1-Dichloroethylene	<1.0 ug/l	1.0	EPA 8260B	TVK	10/03/03 12:01	
1,1,1-Trichloroethane	<1.0 ug/l	1.0	EPA 8260B	TVK	10/03/03 12:01	
Carbon Tetrachloride	<0.3 ug/l	0.3	EPA 8260B	TVK	10/03/03 12:01	
Benzene	<1.0 ug/l	1.0	EPA 8260B	TVK	10/03/03 12:01	
1,2-Dichloroethane	<0.4 ug/l	0.4	EPA 8260B	TVK	10/03/03 12:01	
Trichloroethylene	<1.0 ug/l	1.0	EPA 8260B	TVK	10/03/03 12:01	
1,4-Dichlorobenzene	<1.0 ug/l	1.0	EPA 8260B	TVK	10/03/03 12:01	
Surrogate: Dibromofluoromethane	*99.1 %*		*78-124*	TVK	10/03/03 12:01	
Surrogate: 1,2-Dichloroethane-d4	*101 %*		*72-122*	TVK	10/03/03 12:01	
Surrogate: Toluene-d8	*98.4 %*		*84-120*	TVK	10/03/03 12:01	
Surrogate: 4-Bromofluorobenzene	*99.1 %*		*80-124*	TVK	10/03/03 12:01	

End of Report

Keystone Laboratories, Inc.
Jim Eggers For Jeffrey King, Ph.D.
Laboratory Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Phone 641-792-8451 | 600 East 17th Street South, Newton, IA 50208 | Fax 641-792-7989

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

☐ 600 E. 17th St. S.
Newton, IA 50208
Phone: 641-792-8451
Fax: 641-792-7989

☐ 3012 Ansborough Ave.
Waterloo, IA 50701
Phone: 319-235-4440
Fax: 319-235-2480

☐ 1304 Adams
Kansas City, KS 66103
Phone: 913-321-7856
Fax: 913-321-7937

PRINT OR TYPE INFORMATION BELOW
SAMPLER: Steve Onr
SITE NAME: 6004-99A, 950
ADDRESS:
CITY/ST/ZIP: Ames, IA
PHONE:

REPORT TO:
NAME: Todd Whipple, CPG
COMPANY NAME: FOX Engineering
ADDRESS: 1601 Golden Aspen Dr., Suite 103
CITY/ST/ZIP: Ames, IA 50010
PHONE: 800-433-3469
FAX: 515-233-0103

BILL TO:
NAME: Mr. Bill Fideler
COMPANY NAME: Ames-Story C&D LF
ADDRESS: PO Box 2483
CITY/ST/ZIP: Ames, IA 50010
PHONE: 515-232-3469
Keystone Quote No.: (If Applicable)

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	ANALYSES REQUIRED: C+F	LAB USE ONLY: LABORATORY WORK ORDER NO. 13I1300; SAMPLE TEMPERATURE UPON RECEIPT: °C; SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
MW36	9-26	14:06	MW36	5	W	G	X		01
MW37		14:32	MW37				X		02
MW35		15:05	MW35				X		03
MW34		15:43	MW34				X		04
MW33		16:59	MW33				X		05
MW25		16:29	MW25				X		06
MW32		17:29	MW32				X		07
MW 31		18:06	MW31				X		08

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Turn-Around:
Steph L Onr	Date 9-27-03 Time 8:17		Date Time	☒ Standard ☐ Rush Contact Lab Prior to Submission
Relinquished by: (Signature)	Date Time	Received for Lab by: (Signature) Bell	Date 9/29/03 Time 10:55 A.M.	Remarks: Metals [illegible]les Field Filtered

FORM: CCR 7-97

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

☐ 600 E. 17th St. S.
Newton, IA 50208
Phone: 641-792-8451
Fax: 641-792-7989

☐ 3012 Ansborough Ave.
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Kansas City, KS 66103
Phone: 913-321-7856
Fax: 913-321-7937

PAGE 1 OF 1

PRINT OR TYPE INFORMATION BELOW
SAMPLER: Steve Orr
SITE NAME: 6004-99A.950
ADDRESS:
CITY/ST/ZIP: Ames, IA
PHONE:

REPORT TO:
NAME: Todd Whipple, CPG
COMPANY NAME: Fox Engineering
ADDRESS: 1601 Golden Aspen Dr., Suite 103
CITY/ST/ZIP: Ames, IA 50010
PHONE: 800-433-3469
FAX: 515-233-0103

BILL TO:
NAME: Mr. Bill Fidler
COMPANY NAME: Ames-Story C&D LF
ADDRESS: PO Box 2483
CITY/ST/ZIP: Ames, IA 50010
PHONE: 515-232-3469

Keystone Quote No.: (If Applicable)

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	ANALYSES REQUIRED: etf	ANALYSES REQUIRED: VOCs							SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
MW 23	9-28-03	9:10	MW 23	5	W	G	X									09
MW 30		9:39	MW 30				X									10
MW 42		10:13	MW 42				X									11
MW 43		10:31	MW 43				X									12
MW 38		12:17	MW 38				X									13
MW 39		12:42	MW 39				X									14
MW 40		13:14	MW 40				X									15
MW 41		13:38	MW 41				X									16
Trip Blank	8-11-03	14:20	by JRF					X							Sealed	17

LAB USE ONLY
LABORATORY WORK ORDER NO.: 13I1300
SAMPLE TEMPERATURE UPON RECEIPT: °C

Relinquished by: (Signature)	Date	Received by: (Signature)	Date	Turn-Around:
Steve L Orr	9-28-03			☒ Standard ☐ Rush
	Time 16:28		Time	Contact Lab Prior to Submission
Relinquished by: (Signature)	Date	Received for Lab by: (Signature)	Date 9/29/03	Remarks: Metals Samples Field Filtered
	Time	Bell	Time 10:55 A.M.	

Original - Return with Report • Yellow - Lab Copy • Pink - Sampler Copy

FORM: CCR 7-97

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-6 Upgradient ✓
Downgradient

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain If yes, explain

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 942.88 Ground Elevation 940.65
Depth of Well 21.7 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/29/03 8:36	9.28	
*After Purging		13.11	
*Before Sampling	9/29/03 10:26	9.3	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 6.23
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type Disposable Poly *Dedicated Bailer
Pump type *Dedicated Bailer
If not dedicated, method of cleaning

D.) FIELD MEASUREMENT

Weather Conditions P. CLOUDY 60°'s
Field Measurments (after stabilization):
Temperature 18 Units
Equipment Used HACH COMPANY POCKET PAL
pH 6.9
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1018 Units
Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-7 Upgradient ✓
Downgradient

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain If yes, explain

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 943.21 Ground Elevation 940.65
Depth of Well 53' Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/24/03 9:00	23.16	
*After Purging		52.25	
*Before Sampling	9/24/03 10:57	23.81	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 4.67
No.of Well Volumes (based on current water level) 0.92
Was well pumped/bailed dry? YES

Equipment used:
Bailer type disposable poly *Dedicated Bailer
Pump type *Dedicated Bailer
If not dedicated, method of cleaning

D.) FIELD MEASUREMENT

Weather Conditions P.cloudy 60°'s
Field Measurments (after stabilization):
Temperature 14 Units
Equipment Used HACH COMPANY POCKET PAL
pH 7.4
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 606 Units
Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Ames-Story Environmental Landfill Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-8 Upgradient ✓
Downgradient

Name of person sampling Richard Freeman

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? Yes Standing Water or Litter? No
If no, explain If yes, explain

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 942.76 Ground Elevation 940.65
Depth of Well 71.7 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/24/03 10:06	35.85	
*After Purging		40.65	
*Before Sampling	9/24/03 11:32	35.8	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 17.87
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type disposable Poly *Dedicated Bailer
Pump type *Dedicated Bailer
If not dedicated, method of cleaning

D.) FIELD MEASUREMENT

Weather Conditions p.cloudy 40°s
Field Measurments (after stabilization):
Temperature 14 Units
Equipment Used HACH Company Pocket Pal
pH 7.4
Equipment Used HACH Company Pocket Pal
Specific Conditions 593 Units
Equipment Used HACH Company Pocket Pal

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-23 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 945.98 Ground Elevation 943.62
Depth of Well 27.86 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9-27-03 16:09	18.11	
*After Purging		25.32	
*Before Sampling	9-28-03 9:10	19.36	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 5
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? NO

Equipment used:
Bailer type disposable Poly 'Dedicated Bailer ____
Pump type ____ 'Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions overcast 60°'s
Field Measurments (after stabilization):
Temperature 14 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 7.2
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1159 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-24 Upgradient _____
Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain _____ If yes, explain _____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 939.44 Ground Elevation 936.94
Depth of Well 20.60 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/25/03	Dry	
*After Purging			
*Before Sampling			

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) _____
No.of Well Volumes (based on current water level) _____
Was well pumped/bailed dry? _____

Equipment used:
Bailer type _____ *Dedicated Bailer _____
Pump type _____ *Dedicated Bailer _____
If not dedicated, method of cleaning _____

D.) FIELD MEASUREMENT

Weather Conditions _____
Field Measurments (after stabilization):
Temperature _____ Units _____
Equipment Used HACH COMPANY POCKET PAL
pH _____
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions _____ Units _____
Equipment Used HACH COMPANY POCKET PAL

Comments _____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-25 Upgradient _____
Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain _____ If yes, explain _____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 906.34 Ground Elevation 903.94
Depth of Well 19.5 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/25/03 15:45	9.89	
*After Purging		9.8	
*Before Sampling	9/25/03 16:29	9.9	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 5
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type disposable poly 'Dedicated Bailer _____
Pump type _____ 'Dedicated Bailer _____
If not dedicated, method of cleaning _____

D.) FIELD MEASUREMENT

Weather Conditions overcast 60°'s
Field Measurments (after stabilization):
Temperature 15 Units
Equipment Used HACH COMPANY POCKET PAL
pH 7.4
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1241 Units
Equipment Used HACH COMPANY POCKET PAL

Comments _____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-28 Upgradient _____
Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain _____ If yes, explain _____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 946.02 Ground Elevation 942.55
Depth of Well 22.7 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/24/03	7.4	
*After Purging		13.4	
*Before Sampling	9/24/03	7.4	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 7.95
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type disposable Poly 'Dedicated Bailer _____
Pump type _____ 'Dedicated Bailer _____
If not dedicated, method of cleaning _____

D.) FIELD MEASUREMENT

Weather Conditions P. cloudy 60°'s
Field Measurments (after stabilization):
Temperature 15 Units _____
Equipment Used HACH COMPANY POCKET PAL
pH 7.7
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1227 Units _____
Equipment Used HACH COMPANY POCKET PAL

Comments _____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-29 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 945.61 Ground Elevation 942.55
Depth of Well 53.5 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/24/03 19:11	13.22	
*After Purging		52.67	
*Before Sampling	9/25/03 18:50	13.97	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 13.53
No.of Well Volumes (based on current water level) 1.96
Was well pumped/bailed dry? dry

Equipment used:
Bailer type disposable poly 'Dedicated Bailer ____
Pump type ____ 'Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions P. Cloudy 60's
Field Measurments (after stabilization):
Temperature 15 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 7.7
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 615 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-30 Upgradient _____
Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain _____ If yes, explain _____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 945.54 Ground Elevation 943.62
Depth of Well 58 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/27/03 16:45	38.06	
*After Purging		55.73	
*Before Sampling	9/28/03 9:39	40.50	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 10.2
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type disposable poly *Dedicated Bailer _____
Pump type _____ *Dedicated Bailer _____
If not dedicated, method of cleaning _____

D.) FIELD MEASUREMENT

Weather Conditions overcast 60°'s
Field Measurments (after stabilization):
Temperature 14 Units
Equipment Used HACH COMPANY POCKET PAL
pH 7.7
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 724 Units
Equipment Used HACH COMPANY POCKET PAL

Comments _____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Ames-Story Environmental Landfill Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-31 Upgradient ____
Downgradient ✓

Name of person sampling Richard Freeman

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? Yes Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 941.43 Ground Elevation 938.21
Depth of Well 36' Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/25/03 17:03	23.25	
*After Purging		35.05	
*Before Sampling	9/25/03 18:06	27.3	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 5.3
No.of Well Volumes (based on current water level) 2.5
Was well pumped/bailed dry? yes

Equipment used:
Bailer type disposable Poly 'Dedicated Bailer ____
Pump type ____ 'Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions overcast 60°'s
Field Measurments (after stabilization):
Temperature 14 Units
Equipment Used HACH Company Pocket Pal
pH 7.3
Equipment Used HACH Company Pocket Pal
Specific Conditions 1328 Units
Equipment Used HACH Company Pocket Pal

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-32 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 939.86 Ground Elevation 937.39
Depth of Well 50.5 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/25/03 16:35	35.55	
*After Purging		48.65	
*Before Sampling	9/25/03 17:29	35.50	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 7.57
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type disposable Poly *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions Overcast 60°F
Field Measurments (after stabilization):
Temperature 17 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 7.5
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 886 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Ames-Story Environmental Landfill Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-33 Upgradient ____
Downgradient ✓

Name of person sampling Richard Freeman

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? Yes Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 906.32 Ground Elevation 904.06
Depth of Well 28.2 Inside Casing Diameter (in inches) 2.0"
Equipment Used Solinst

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/25/03 15:03	10.04	____
*After Purging	____	13.54	____
*Before Sampling	9/25/03 16:59	10.0	____

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 7.88
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type disposable Poly *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions Clear 60°'s
Field Measurments (after stabilization):
Temperature 14 Units ____
Equipment Used Hach Company Pocket Pal
pH 7.8
Equipment Used Hach Company Pocket Pal
Specific Conditions 890 Units ____
Equipment Used Hach Company Pocket Pal

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-34 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 909.5 Ground Elevation 906.85
Depth of Well 17.3 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/25/03 14:52	7.64	
*After Purging		16.65	
*Before Sampling	9/25/03 15:43	7.6	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 42
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type disposable Poly *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions clear 60°'s
Field Measurments (after stabilization):
Temperature 19 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 7.4
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1055 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-35 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 916.19 Ground Elevation 914.04
Depth of Well 20.6 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/25/03 19:07	13.4	
*After Purging		13.7	
*Before Sampling	9/25/03 15:05	13.4	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 2.1
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type disposable poly *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions Clear 60's
Field Measurments (after stabilization):
Temperature 17 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 7.5
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 886 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-36 Upgradient ✓
Downgradient

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain If yes, explain

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 948.97 Ground Elevation 947.30
Depth of Well 53.5 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/25/03 11:27	16.36	
*After Purging		51.45	
*Before Sampling	9/25/03 14:06	23.11	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 13.53
No.of Well Volumes (based on current water level) 2.16
Was well pumped/bailed dry? yes

Equipment used:
Bailer type disposable Poly 'Dedicated Bailer
Pump type 'Dedicated Bailer
If not dedicated, method of cleaning

D.) FIELD MEASUREMENT

Weather Conditions Clear 60's
Field Measurments (after stabilization):
Temperature 14 Units
Equipment Used HACH COMPANY POCKET PAL
pH 7.8
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 584 Units
Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-37 Upgradient ✓
Downgradient

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain If yes, explain

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 949.49 Ground Elevation 947.43
Depth of Well 30.6 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/25/03 11:53	8.6	
*After Purging		29.5	
*Before Sampling	9/25/03 14:32	8.6	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 10.91
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type disposable Poly *Dedicated Bailer
Pump type *Dedicated Bailer
If not dedicated, method of cleaning

D.) FIELD MEASUREMENT

Weather Conditions clear 60's
Field Measurments (after stabilization):
Temperature 17 Units
Equipment Used HACH COMPANY POCKET PAL
pH 7.5
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1185 Units
Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-38 Upgradient _____
Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain _____ If yes, explain _____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 936.59 Ground Elevation 934.05
Depth of Well 95.2 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/27/03 18:37	19.89	
*After Purging		53.2	
*Before Sampling	9/28/03 12:17	24.47	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 6.97
No.of Well Volumes (based on current water level) 1.16
Was well pumped/bailed dry? Yes

Equipment used:
Bailer type disposable poly *Dedicated Bailer _____
Pump type _____ *Dedicated Bailer _____
If not dedicated, method of cleaning _____

D.) FIELD MEASUREMENT

Weather Conditions overcast 60's
Field Measurments (after stabilization):
Temperature 14 Units _____
Equipment Used HACH COMPANY POCKET PAL
pH 7.8
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 844 Units _____
Equipment Used HACH COMPANY POCKET PAL

Comments _____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-39 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 935.93 Ground Elevation 933.96
Depth of Well 30.2 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/27/03 18:53	18.32	
*After Purging		24.23	
*Before Sampling	9/28/03 12:42	18.30	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 5.85
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type disposable Poly *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions overcast 60°15
Field Measurments (after stabilization):
Temperature 15 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 7.2
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1035 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-40 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 933.07 Ground Elevation 931.11
Depth of Well 20' Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	7/22/03 8:35	10.89	
*After Purging		18.88	
*Before Sampling	9/28/03 13:14	10.9	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 4.54
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type disposable Poly *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions overcast 60's
Field Measurments (after stabilization):
Temperature 16 Units
Equipment Used HACH COMPANY POCKET PAL
pH 7.5
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 819 Units
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Ames-Story Environmental Landfill Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-41 Upgradient _____
Downgradient /

Name of person sampling Richard Freeman

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? Yes Standing Water or Litter? No
If no, explain _____ If yes, explain _____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 933.46 Ground Elevation 931.44
Depth of Well 45.58 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/28/03 8:17	17.69	
*After Purging		39.45	
*Before Sampling	9/28/03 13:38	20.44	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 13.52
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type disposable Poly *Dedicated Bailer _____
Pump type _____ *Dedicated Bailer _____
If not dedicated, method of cleaning _____

D.) FIELD MEASUREMENT

Weather Conditions Overcast 60°'s
Field Measurments (after stabilization):
Temperature 13 Units _____
Equipment Used HACH Company Pocket Pal
pH 7.7
Equipment Used HACH Company Pocket Pal
Specific Conditions 588 Units _____
Equipment Used HACH Company Pocket Pal

Comments _____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-42 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 940.64 Ground Elevation 938.58
Depth of Well 48.37. Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/27/03 17:12	21.59	
*After Purging		44.5	
*Before Sampling	9/28/03 10:13	21.84	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 12.94
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type disposable Poly *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions Overcast 60°'s
Field Measurments (after stabilization):
Temperature 15 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 7.5
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 708 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-43 Upgradient _____
Downgradient _____

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain _____ If yes, explain _____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 940.83 Ground Elevation 938.62
Depth of Well 28.13 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	9/27/03 17:56	19.68	
*After Purging		26.7	
*Before Sampling	9/28/03 10:31	19.7	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 2.99
No.of Well Volumes (based on current water level) 2.12
Was well pumped/bailed dry? YES

Equipment used:
Bailer type disposable Poly *Dedicated Bailer _____
Pump type _____ *Dedicated Bailer _____
If not dedicated, method of cleaning _____

D.) FIELD MEASUREMENT

Weather Conditions Overcast 60's
Field Measurments (after stabilization):
Temperature 16 Units _____
Equipment Used HACH COMPANY POCKET PAL
pH 6.8
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1142 Units _____
Equipment Used HACH COMPANY POCKET PAL

Comments _____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
SURFACE WATER SAMPLING

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. SW-1 Date/Time 9/19/03 18:28

Name of person sampling RICHARD FREEMAN

A.) TYPE OF MONITORING POINT

Stream	✓	Open Tile	
Road Ditch		Tile with Riser	
Drainage Ditch		Other	

B.) PURPOSE OF MONITORING POINT

Upstream	✓	Downstream	
Within Landfill		Other	

C.) MONITORING POINT CONDITIONS

General description/condition of monitoring point

Was monitoring point dry? No Too little water to sample? No

Was water flowing? No If yes, estimate quantity good flow

If yes, estimate depth

Was water discolored? No If yes, descibe below.

Does water have odor? No If yes, descibe below.

Was ground discolored? No If yes, descibe below.

Litter present? No If yes, descibe below.

Comments

D.) FIELD MEASUREMENT

Weather Conditions Clear 60°'s

Field Measurments (after stabilization):

Temperature 18 Units

Equipment Used HACH COMPANY POCKET PAL

pH 7.4

Equipment Used HACH COMPANY POCKET PAL

Specific Conditions 468 Units

Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

542-1324

FORM FOR
SURFACE WATER SAMPLING

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. SW-2 Date/Time 9/19/03 1913

Name of person sampling RICHARD FREEMAN

A.) TYPE OF MONITORING POINT

Stream	✓	Open Tile	
Road Ditch		Tile with Riser	
Drainage Ditch		Other	

B.) PURPOSE OF MONITORING POINT

Upstream		Downstream	✓
Within Landfill		Other	

C.) MONITORING POINT CONDITIONS

General description/condition of monitoring point

Was monitoring point dry? No Too little water to sample? No

Was water flowing? No If yes, estimate quantity good flow

If yes, estimate depth

Was water discolored? No If yes, descibe below.

Does water have odor? No If yes, descibe below.

Was ground discolored? No If yes, descibe below.

Litter present? No If yes, descibe below.

Comments

D.) FIELD MEASUREMENT

Weather Conditions clear 60°'s

Field Measurments (after stabilization):

Temperature 18 Units

Equipment Used HACH COMPANY POCKET PAL

pH 7.3

Equipment Used HACH COMPANY POCKET PAL

Specific Conditions 675 Units

Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

542-1324

FORM FOR
SURFACE WATER SAMPLING

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. SW-3 Date/Time 9/19/03

Name of person sampling RICHARD FREEMAN

A.) TYPE OF MONITORING POINT

Stream _____ Open Tile ✓
Road Ditch _____ Tile with Riser _____
Drainage Ditch _____ Other _____

B.) PURPOSE OF MONITORING POINT

Upstream _____ Downstream ✓
Within Landfill _____ Other _____

C.) MONITORING POINT CONDITIONS

General description/condition of monitoring point _____

Was monitoring point dry? DRY Too little water to sample? _____
Was water flowing? _____ If yes, estimate quantity _____
If yes, estimate depth _____

Was water discolored? _____ If yes, descibe below.
Does water have odor? _____ If yes, descibe below.
Was ground discolored? _____ If yes, descibe below.
Litter present? _____ If yes, descibe below.

Comments _____

D.) FIELD MEASUREMENT

Weather Conditions _____

Field Measurments (after stabilization):
Temperature _____ Units _____
Equipment Used HACH COMPANY POCKET PAL
pH _____
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions _____ Units _____
Equipment Used HACH COMPANY POCKET PAL

Comments _____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

542-1324

FORM FOR
SURFACE WATER SAMPLING

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. SW-4 Date/Time 9/19/03

Name of person sampling RICHARD FREEMAN

A.) TYPE OF MONITORING POINT

Stream		Open Tile	
Road Ditch		Tile with Riser	
Drainage Ditch	✓	Other	

B.) PURPOSE OF MONITORING POINT

Upstream	✓	Downstream	
Within Landfill		Other	

C.) MONITORING POINT CONDITIONS

General description/condition of monitoring point

Was monitoring point dry? DRY Too little water to sample?
Was water flowing? If yes, estimate quantity
If yes, estimate depth

Was water discolored? If yes, descibe below.
Does water have odor? If yes, descibe below.
Was ground discolored? If yes, descibe below.
Litter present? If yes, descibe below.

Comments

D.) FIELD MEASUREMENT

Weather Conditions

Field Measurments (after stabilization):
Temperature Units
Equipment Used HACH COMPANY POCKET PAL
pH
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions Units
Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

542-1324

FORM FOR
SURFACE WATER SAMPLING

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. SW-5 Date/Time 9/19/03

Name of person sampling RICHARD FREEMAN

A.) TYPE OF MONITORING POINT

Stream		Open Tile	
Road Ditch		Tile with Riser	
Drainage Ditch	✓	Other	

B.) PURPOSE OF MONITORING POINT

Upstream		Downstream	✓
Within Landfill		Other	

C.) MONITORING POINT CONDITIONS

General description/condition of monitoring point

Was monitoring point dry? DRY Too little water to sample?

Was water flowing? If yes, estimate quantity

If yes, estimate depth

Was water discolored? If yes, descibe below.

Does water have odor? If yes, descibe below.

Was ground discolored? If yes, descibe below.

Litter present? If yes, descibe below.

Comments

D.) FIELD MEASUREMENT

Weather Conditions

Field Measurments (after stabilization):

Temperature Units

Equipment Used HACH COMPANY POCKET PAL

pH

Equipment Used HACH COMPANY POCKET PAL

Specific Conditions Units

Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

542-1324

FORM FOR
SURFACE WATER SAMPLING

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. SW-6 Date/Time 9/19/03 17:34

Name of person sampling RICHARD FREEMAN

A.) TYPE OF MONITORING POINT

Stream _____ Open Tile ✓
Road Ditch _____ Tile with Riser _____
Drainage Ditch _____ Other _____

B.) PURPOSE OF MONITORING POINT

Upstream _____ Downstream ✓
Within Landfill _____ Other _____

C.) MONITORING POINT CONDITIONS

General description/condition of monitoring point _____

Was monitoring point dry? NO Too little water to sample? NO
Was water flowing? YES If yes, estimate quantity Good Flow
If yes, estimate depth _____

Was water discolored? NO If yes, descibe below.
Does water have odor? NO If yes, descibe below.
Was ground discolored? red If yes, descibe below.
Litter present? NO If yes, descibe below.

Comments _____

D.) FIELD MEASUREMENT

Weather Conditions clear 60°'s

Field Measurments (after stabilization):
Temperature 18 Units _____
Equipment Used HACH COMPANY POCKET PAL
pH 7.2
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1262 Units _____
Equipment Used HACH COMPANY POCKET PAL

Comments _____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

542-1324

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

SAMPLING DATE: March 14, 2003

PARAMETER	ACTION LEVEL	FIELD	TRIP	BOTH MW 35	U.A.W MW 36	U.G.W MW37	MW 6	MW 7	MW 8	MW 38	MW 39	MW 40	MW 41	MW 42	MW 43	SW 4	SW 5	SW 6
ug/L																		
Benzene *	5	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<1	NT
Carbon tetrachloride *	5	NT	<0.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.3	NT
1,4-Dichlorobenzene *	75	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<1	NT
1,2-Dichloroethane *	5	NT	<0.4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.4	NT
1,1-Dichloroethene *	7	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<1	NT
1,1,1-Trichloroethane *	200	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<1	NT
Trichloroethene *	5	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<1	NT
mg/L																		
Arsenic, dissolved	0.05	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.004	NT
Barium, dissolved	2.0	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.065	NT
Cadmium, dissolved	0.005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.001	NT
Chromium, dissolved	0.1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.005	NT
Lead, dissolved	0.015	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.005	NT
Mercury, dissolved	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.0005	NT
Magnesium, dissolved	--	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	12	NT
Zinc, dissolved	2	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.023	NT
Iron, dissolved	--	NT	NT	<0.03	<0.03	3.64	0.035	1.31	4.11	0.795	0.041	<0.03	0.103	1.37	<0.03	0.108	0.051	4.42
Copper, dissolved	1.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.007	NT
Chloride	--	NT	NT	181	<10	<10	85	12	<10	31	53	30	<10	11	129	108	143	60
Nitrogen, Ammonia	--	NT	NT	<1	<1	<1	1.2	<1	<1	<1	<1	<1	<1	<1	5.5	164	44.8	<1
Chemical Oxygen Demand	--	NT	NT	54	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	32	38	24	<10
Total Organic Halogens	--	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Phenols	--	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
pH	--	NT	NT	7.1	7.6	7.5	6.6	7	7.1	8	8	8.1	7.8	8	7.8	7.2	7.3	7.1
Temperature, celsius	--	NT	NT	10	13	12	6	10	11	14	13	10	13	14	14	2	5	14
Conductivity, mv	--	NT	NT	709	499	1129	1379	731	710	944	1201	926	614	798	1612	1260	860	625

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

SAMPLING DATE: March 14, 2003

PARAMETER	ACTION LEVEL	U.G.W MW 22	U.G.W MW 28	U.A.W MW 27	U.A.W MW 29	D.G.W MW 23	D.G.W MW 24	D.G.W MW 26	D.G.W MW 31	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	SURFACE MONITORING PTS. SW 1	SW 2	SW 3
ug/L																	
Benzene *	5	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Carbon tetrachloride *	5	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
1,4-Dichlorobenzene *	75	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
1,2-Dichloroethane *	5	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
1,1-Dichloroethene *	7	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
1,1,1-Trichloroethane *	200	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Trichloroethene *	5	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
mg/L																	
Arsenic, dissolved	0.05	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Barium, dissolved	2.0	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Cadmium, dissolved	0.005	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Chromium, dissolved	0.1	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Lead, dissolved	0.015	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Mercury, dissolved	0.002	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Magnesium, dissolved	--	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Zinc, dissolved	2	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Iron, dissolved	--	Plugged	<0.03	Plugged	0.153	<0.03	DRY	Plugged	<0.03	0.192	1.26	<0.03	4.95	4.67	0.162	0.117	dry
Copper, dissolved	1.3	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Chloride	--	Plugged	102	Plugged	<10	30	DRY	Plugged	25	<10	<10	163	383	34	263	238	dry
Nitrogen, Ammonia	--	Plugged	<1	Plugged	<1	<1	DRY	Plugged	<1	<1	1.1	<1	1.4	<1	<1	<1	dry
Chemical Oxygen Demand	--	Plugged	13	Plugged	<10	<10	DRY	Plugged	20	<10	<10	<10	28	55	44	57	dry
Total Organic Halogens	--	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
Phenols	--	Plugged	NT	Plugged	NT	NT	DRY	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	dry
pH	--	Plugged	6.7	Plugged	7	8.1	DRY	Plugged	7.4	8	7.3	7.1	7.4	7.3	7.8	7.6	dry
Temperature, celsius	--	Plugged	7	Plugged	5	13	DRY	Plugged	14	13	13	9	10	10	7	8	dry
Conductivity, mv	--	Plugged	1358	Plugged	658	1060	DRY	Plugged	928	795	1056	833	732	1020	750	780	dry

U.A.W - Upgradient aquifer well

NT - Not tested

D.G.W. - Downgradient groundwater well

D.A.W. - Downgradient aquifer well

U.G.W - Upgradient groundwater well

Keystone LABORATORIES, INC.

RECEIVED MAR 27 2003

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Accreditations:
Iowa DNR: 095
New Jersey DEP: IA001
Kansas DHE: E-10287

ANALYTICAL REPORT

March 26, 2003

Work Order: 13C0568

Report To

Todd Whipple
Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

Work Order Information

Date Received: 03/14/2003 9:45AM
Collector: Orr, Steve
Phone: 515-233-0000
PO Number:

Project: Ames/Story C&D SLF
Project Number: Ames C & D

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13C0568-01 SW-5			Matrix:Water		Collected: 03/12/03 15:20	
Determination of Volatile Organic Compounds						
1,1-Dichloroethylene	<1.0 ug/l	1.0	EPA 8260B	TVK	03/17/03 23:12	
1,1,1-Trichloroethane	<1.0 ug/l	1.0	EPA 8260B	TVK	03/17/03 23:12	
Carbon Tetrachloride	<0.3 ug/l	0.3	EPA 8260B	TVK	03/17/03 23:12	
Benzene	<1.0 ug/l	1.0	EPA 8260B	TVK	03/17/03 23:12	
1,2-Dichloroethane	<0.4 ug/l	0.4	EPA 8260B	TVK	03/17/03 23:12	
Trichloroethylene	<1.0 ug/l	1.0	EPA 8260B	TVK	03/17/03 23:12	
1,4-Dichlorobenzene	<1.0 ug/l	1.0	EPA 8260B	TVK	03/17/03 23:12	
Surrogate: Dibromofluoromethane	*108 %*		*81-130*	TVK	03/17/03 23:12	
Surrogate: 1,2-Dichloroethane-d4	*99.9 %*		*71-124*	TVK	03/17/03 23:12	
Surrogate: Toluene-d8	*109 %*		*76-124*	TVK	03/17/03 23:12	
Surrogate: 4-Bromofluorobenzene	*104 %*		*79-123*	TVK	03/17/03 23:12	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**24 mg/l**	**10**	EPA 410.4	MAQ	03/19/03 16:34	
Chloride	**143 mg/l**	**10**	EPA 9252	SAA	03/17/03 15:02	
Nitrogen, Ammonia	**44.8 mg/l**	**1.0**	SM 4500-NH3 F	SAA	03/17/03 11:17	
Determination of Dissolved Metals						
Arsenic, dissolved	**0.004 mg/l**	**0.001**	EPA 7060A	LAR	03/24/03 23:43	
Barium, dissolved	**0.065 mg/l**	**0.010**	EPA 6010B	RVV	03/20/03 11:47	
Cadmium, dissolved	<0.00100 mg/l	0.00100	EPA 7131A	LAR	03/17/03 15:21	
Chromium, dissolved	<0.005 mg/l	0.005	EPA 6010B	RVV	03/20/03 11:47	
Copper, dissolved	**0.007 mg/l**	**0.005**	EPA 6010B	RVV	03/20/03 11:47	
Iron, dissolved	**0.051 mg/l**	**0.030**	EPA 6010B	LAR	03/17/03 16:57	
Lead, dissolved	<0.005 mg/l	0.005	EPA 6010B	RVV	03/20/03 11:47	
Magnesium, dissolved	**12.0 mg/l**	**0.10**	EPA 6010B	RVV	03/20/03 11:47	
Mercury, dissolved	<0.00050 mg/l	0.00050	EPA 7470A	MAQ	03/21/03 12:28	
Zinc, dissolved	**0.023 mg/l**	**0.010**	EPA 6010B	RVV	03/20/03 11:47	
13C0568-02 SW-4			Matrix:Water		Collected: 03/12/03 16:00	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**38 mg/l**	**10**	EPA 410.4	MAQ	03/19/03 16:34	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

March 26, 2003

Work Order: 13C0568

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13C0568-02 SW-4			Matrix:Water		Collected: 03/12/03 16:00	
Determination of Conventional Chemistry Parameters						
Chloride	**108 mg/l**	**10**	EPA 9252	SAA	03/17/03 15:02	
Nitrogen, Ammonia	**164 mg/l**	**2.0**	SM 4500-NH3 F	SAA	03/19/03 11:26	
Determination of Dissolved Metals						
Iron, dissolved	**0.108 mg/l**	**0.030**	EPA 6010B	LAR	03/17/03 16:57	
13C0568-03 SW-6			Matrix:Water		Collected: 03/12/03 16:50	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	MAQ	03/19/03 16:34	
Chloride	**60 mg/l**	**10**	EPA 9252	SAA	03/17/03 15:02	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/19/03 11:26	
Determination of Dissolved Metals						
Iron, dissolved	**4.42 mg/l**	**0.030**	EPA 6010B	LAR	03/17/03 16:57	
13C0568-04 SW-1			Matrix:Water		Collected: 03/13/03 12:00	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**44 mg/l**	**10**	EPA 410.4	MAQ	03/19/03 16:34	
Chloride	**263 mg/l**	**10**	EPA 9252	SAA	03/17/03 15:02	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/19/03 11:26	
Determination of Dissolved Metals						
Iron, dissolved	**0.162 mg/l**	**0.030**	EPA 6010B	LAR	03/17/03 16:57	
13C0568-05 SW-2			Matrix:Water		Collected: 03/13/03 14:45	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**57 mg/l**	**10**	EPA 410.4	MAQ	03/19/03 16:34	
Chloride	**238 mg/l**	**10**	EPA 9252	SAA	03/17/03 15:02	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/19/03 11:26	
Determination of Dissolved Metals						
Iron, dissolved	**0.117 mg/l**	**0.030**	EPA 6010B	LAR	03/17/03 16:57	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Phone 641-792-8451 | 600 East 17th Street South, Newton, IA 50208 | Fax 641-792-7989

Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

Work Order: 13C0568

March 26, 2003

End of Report

Ericka Weintz

Keystone Laboratories, Inc.
Ericka Weintz
Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

☐ 600 E. 17th St. S.
Newton, IA 50208
Phone: 641-792-8451
Fax: 641-792-7989

☐ 3012 Ansborough Ave.
Waterloo, IA 50701
Phone: 319-235-4440
Fax: 319-235-2480

☐ 1304 Adams
Kansas City, KS 66103
Phone: 913-321-7856
Fax: 913-321-7937

PAGE 1 OF 1

PRINT OR TYPE INFORMATION BELOW

SAMPLER: Steve Orn
SITE NAME: 6004-99A. 950
ADDRESS: Ames C+D L.F.
CITY/ST/ZIP:
PHONE:

REPORT TO:
NAME: Todd Whipple
COMPANY NAME: Fox Engineering
ADDRESS: 1601 Golden Aspen Dr, Suite 103
CITY/ST/ZIP: Ames, IA 50010
PHONE: 800-433-3469
FAX: 515-233-0103

BILL TO:
NAME: Mr. William Fedeler
COMPANY NAME:
ADDRESS: P.O. Box 2483
CITY/ST/ZIP: Ames, IA 50010
PHONE:

Keystone Quote No.: (If Applicable)

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	ANALYSES REQUIRED: f+e	ANALYSES REQUIRED: e	LAB USE ONLY: SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
SW 5	3-12-03	15:20	SW5	6	W	G	X			01
SW 4	3-12-03	16:00	SW4	3	W	G		X		02
SW 6	3-12-03	16:50	SW6	3	W	G		X		03
SW 1	3-13-03	12:00	SW1	3	W	G		X		04
SW 2	3-13-03	14:45	SW2	3	W	G		X		05

LABORATORY WORK ORDER NO.: 13C0568

SAMPLE TEMPERATURE UPON RECEIPT: °C

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Turn-Around
Stephen L Orn	Date 3-13-03 Time 15:46			☒ Standard ☐ Rush ____ Contact Lab Prior to Submission
Relinquished by: (Signature)	Date / Time	Received for Lab by: (Signature)	Date / Time	Remarks
		Bell	Date 3/14/03 Time 9:45 A.M.	Metals Field Filtered

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Keystone LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Accreditations:
Iowa DNR: 095
New Jersey DEP: IA001
Kansas DHE: E-10287

ANALYTICAL REPORT

April 07, 2003

Work Order: 13C0684

Report To

Todd Whipple
Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

Work Order Information

Date Received: 03/19/2003 11:40AM
Collector: Orr, Steve
Phone: 515-233-0000
PO Number:

Project: Ames/Story C&D SLF
Project Number: Landfill

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13C0684-01 Trip Blank 2-25-03 TVK 14:00 Sealed			Matrix:Water		Collected: 03/18/03 00:00	
Determination of Volatile Organic Compounds						
1,1-Dichloroethylene	<1.0 ug/l	1.0	EPA 8260B	TVK	04/01/03 15:06	
1,1,1-Trichloroethane	<1.0 ug/l	1.0	EPA 8260B	TVK	04/01/03 15:06	
Carbon Tetrachloride	<0.3 ug/l	0.3	EPA 8260B	TVK	04/01/03 15:06	
Benzene	<1.0 ug/l	1.0	EPA 8260B	TVK	04/01/03 15:06	
1,2-Dichloroethane	<0.4 ug/l	0.4	EPA 8260B	TVK	04/01/03 15:06	
Trichloroethylene	<1.0 ug/l	1.0	EPA 8260B	TVK	04/01/03 15:06	
1,4-Dichlorobenzene	<1.0 ug/l	1.0	EPA 8260B	TVK	04/01/03 15:06	
Surrogate: Dibromofluoromethane	*110 %*		*81-130*	TVK	04/01/03 15:06	
Surrogate: 1,2-Dichloroethane-d4	*101 %*		*71-124*	TVK	04/01/03 15:06	
Surrogate: Toluene-d8	*111 %*		*76-124*	TVK	04/01/03 15:06	
Surrogate: 4-Bromofluorobenzene	*103 %*		*79-123*	TVK	04/01/03 15:06	
13C0684-02 MW 30			Matrix:Water		Collected: 03/18/03 09:10	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	RVV	03/24/03 14:11	
Chloride	<10 mg/l	10	EPA 9252	SAA	03/25/03 12:01	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/24/03 15:55	
Determination of Dissolved Metals						
Iron, dissolved	**0.192 mg/l**	**0.030**	EPA 6010B	LAR	03/20/03 16:47	
13C0684-03 MW 23			Matrix:Water		Collected: 03/18/03 08:50	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	RVV	03/24/03 14:11	
Chloride	**30 mg/l**	**10**	EPA 9252	SAA	03/25/03 12:01	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/24/03 15:55	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	03/20/03 16:47	
13C0684-04 MW 42			Matrix:Water		Collected: 03/18/03 09:35	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

Work Order: 13C0684

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13C0684-04 MW 42			Matrix:Water		Collected: 03/18/03 09:35	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	RVV	03/24/03 14:11	
Chloride	**11 mg/l**	**10**	EPA 9252	SAA	03/25/03 12:01	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/24/03 15:55	
Determination of Dissolved Metals						
Iron, dissolved	**1.37 mg/l**	**0.030**	EPA 6010B	LAR	03/20/03 16:47	
13C0684-05 MW 43			Matrix:Water		Collected: 03/18/03 09:55	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**32 mg/l**	**10**	EPA 410.4	RVV	03/24/03 14:11	
Chloride	**129 mg/l**	**10**	EPA 9252	SAA	03/25/03 12:01	
Nitrogen, Ammonia	**5.5 mg/l**	**1.0**	SM 4500-NH3 F	SAA	03/25/03 16:31	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	03/20/03 16:47	
13C0684-06 MW 32			Matrix:Water		Collected: 03/18/03 08:15	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	RVV	03/24/03 14:11	
Chloride	<10 mg/l	10	EPA 9252	SAA	03/25/03 12:01	
Nitrogen, Ammonia	**1.1 mg/l**	**1.0**	SM 4500-NH3 F	SAA	03/25/03 16:31	
Determination of Dissolved Metals						
Iron, dissolved	**1.26 mg/l**	**0.030**	EPA 6010B	LAR	03/20/03 16:47	
13C0684-07 MW 38			Matrix:Water		Collected: 03/18/03 10:20	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	RVV	03/24/03 14:11	
Chloride	**31 mg/l**	**10**	EPA 9252	SAA	03/25/03 12:01	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/25/03 16:31	
Determination of Dissolved Metals						
Iron, dissolved	**0.795 mg/l**	**0.030**	EPA 6010B	LAR	03/20/03 16:47	
13C0684-08 MW 39			Matrix:Water		Collected: 03/18/03 10:55	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	RVV	03/24/03 14:11	
Chloride	**53 mg/l**	**10**	EPA 9252	SAA	03/25/03 12:01	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/25/03 16:31	
Determination of Dissolved Metals						
Iron, dissolved	**0.041 mg/l**	**0.030**	EPA 6010B	LAR	03/20/03 16:47	

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Keystone LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

April 07, 2003

Work Order: 13C0684

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13C0684-09 MW 40			Matrix:Water		Collected: 03/18/03 11:15	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	RVV	03/24/03 14:11	
Chloride	**30 mg/l**	**10**	EPA 9252	SAA	03/25/03 12:01	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/25/03 16:31	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	03/20/03 16:47	
13C0684-10 MW 41			Matrix:Water		Collected: 03/18/03 11:40	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	RVV	03/24/03 14:11	
Chloride	<10 mg/l	10	EPA 9252	SAA	03/25/03 12:01	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/25/03 16:31	
Determination of Dissolved Metals						
Iron, dissolved	**0.103 mg/l**	**0.030**	EPA 6010B	LAR	03/20/03 16:47	

End of Report

Ericka Weintz

Keystone Laboratories, Inc.
Ericka Weintz
Project Manager

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Phone 641-792-8451 600 East 17th Street South Newton, IA 50208 Fax 641-792-7989

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

☐ 600 E. 17th St. S.
Newton, IA 50208
Phone: 641-792-8451
Fax: 641-792-7989

☐ 3012 Ansborough Ave.
Waterloo, IA 50701
Phone: 319-235-4440
Fax: 319-235-2480

☐ 1304 Adams
Kansas City, KS 66103
Phone: 913-321-7856
Fax: 913-321-7937

PAGE 1 OF 1

PRINT OR TYPE INFORMATION BELOW

SAMPLER: Steve Orr
SITE NAME: 6004-99A. 950
ADDRESS: Ames C&D L.F.
CITY/ST/ZIP:
PHONE:

REPORT TO:
NAME: Todd Whipple
COMPANY NAME: FOX Engineering
ADDRESS: 1601 Golden Aspen Dr. Suite 103
CITY/ST/ZIP: Ames, IA 50010
PHONE: 800-433-3469
FAX: 515-233-0103

BILL TO:
NAME: Mr. William Fedeler
COMPANY NAME:
ADDRESS: P.O. Box 2483
CITY/ST/ZIP: Ames, IA 50010
PHONE:

Keystone Quote No.: (If Applicable)

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	VOC	"							SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
Trip (JMP)	~~3-24-03~~	~~11:30~~	Trip (JMP)	2	W		X			2-25-03			TVK		Sealed 14:00	01
MW 30	3-18-03	9:10	MW 30	3	W	G		X						050		02
MW 23		8:50	MW 23													03
MW 42		9:35	MW 42													04
MW 43		9:55	MW 43													05
MW 32		8:15	MW 32													06
MW 38		10:20	MW 38													07
MW 39		10:55	MW 39													08
MW 40		11:15	MW 40													09
MW 41		11:40	MW 41													10

LAB USE ONLY

LABORATORY WORK ORDER NO.: 13C0684

SAMPLE TEMPERATURE UPON RECEIPT: °C

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Turn-Around:
Stephen L Orr	Date 3-18-03 Time 13:06			☒ Standard ☐ Rush ____ Contact Lab Prior to Submission
Relinquished by: (Signature)	Date / Time	Received for Lab by: (Signature)	Date / Time	Remarks:
		Bill	Date 3/19/03 Time 11:40 A.M.	Metals Field Filtered

RECEIVED MAR 2 1 2003

Keystone LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Accreditations:
Iowa DNR: 095
New Jersey DEP: IA001
Kansas DHE: E-10287

ANALYTICAL REPORT

March 20, 2003

Work Order: 13C0588

Report To

Todd Whipple
Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

Work Order Information

Date Received: 03/17/2003 10:45AM
Collector: Orr, Steve
Phone: 515-233-0000
PO Number:

Project: Ames/Story C&D SLF
Project Number: 6004-99A. 950

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13C0588-01 MW 35			Matrix:Water		Collected: 03/14/03 08:20	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**54 mg/l**	**10**	EPA 410.4	MAQ	03/19/03 16:34	
Chloride	**181 mg/l**	**10**	EPA 9252	BNS	03/18/03 15:27	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/19/03 11:26	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	03/19/03 18:23	
13C0588-02 MW 34			Matrix:Water		Collected: 03/14/03 08:50	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**55 mg/l**	**10**	EPA 410.4	MAQ	03/19/03 16:34	
Chloride	**34 mg/l**	**10**	EPA 9252	BNS	03/18/03 15:27	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/19/03 11:26	
Determination of Dissolved Metals						
Iron, dissolved	**4.67 mg/l**	**0.030**	EPA 6010B	LAR	03/19/03 18:23	
13C0588-03 MW 33			Matrix:Water		Collected: 03/14/03 09:40	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**28 mg/l**	**10**	EPA 410.4	MAQ	03/19/03 16:34	
Chloride	**383 mg/l**	**10**	EPA 9252	BNS	03/18/03 15:27	
Nitrogen, Ammonia	**1.4 mg/l**	**1.0**	SM 4500-NH3 F	SAA	03/19/03 11:26	
Determination of Dissolved Metals						
Iron, dissolved	**4.95 mg/l**	**0.030**	EPA 6010B	LAR	03/19/03 18:23	
13C0588-04 MW 25			Matrix:Water		Collected: 03/14/03 10:15	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	MAQ	03/19/03 16:34	
Chloride	**163 mg/l**	**10**	EPA 9252	BNS	03/18/03 15:27	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/19/03 11:26	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	03/19/03 18:23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. Samples were preserved in accordance with 40 CFR for pH adjustment unless otherwise noted. MRL= Method Reporting Limit.

Keystone LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

March 20, 2003

Work Order: 13C0588

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13C0588-05 MW 36			Matrix:Water		Collected: 03/14/03 14:05	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	MAQ	03/19/03 16:34	
Chloride	<10 mg/l	10	EPA 9252	BNS	03/18/03 15:27	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/19/03 11:26	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	03/19/03 18:23	
13C0588-06 MW 37			Matrix:Water		Collected: 03/14/03 14:30	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	MAQ	03/19/03 16:34	
Chloride	<10 mg/l	10	EPA 9252	BNS	03/18/03 15:27	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/19/03 11:26	
Determination of Dissolved Metals						
Iron, dissolved	**3.64 mg/l**	**0.030**	EPA 6010B	LAR	03/19/03 18:23	
13C0588-07 MW 31			Matrix:Water		Collected: 03/14/03 15:10	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**20 mg/l**	**10**	EPA 410.4	MAQ	03/19/03 16:34	
Chloride	**25 mg/l**	**10**	EPA 9252	BNS	03/18/03 15:27	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/19/03 11:26	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	03/19/03 18:23	

End of Report

Ericka Weintz

Keystone Laboratories, Inc.
Ericka Weintz
Project Manager

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CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

- ☐ 600 E. 17th St. S. Newton, IA 50208 Phone: 641-792-8451 Fax: 641-792-7989
- ☐ 3012 Ansborough Ave. Waterloo, IA 50701 Phone: 319-235-4440 Fax: 319-235-2480
- ☐ 1304 Adams Kansas City, KS 66103 Phone: 913-321-7856 Fax: 913-321-7937

PAGE 1 OF 1

PRINT OR TYPE INFORMATION BELOW

SAMPLER: Steve Orr
SITE NAME: 6004-99A. 950
ADDRESS: Ames C+D L.F.
CITY/ST/ZIP:
PHONE:

REPORT TO:
NAME: Todd Whipple
COMPANY NAME: Fox Engineering
ADDRESS: 1601 Golden Aspen Dr, Suite 103
CITY/ST/ZIP: Ames, IA 50010
PHONE: 800-433-3469
FAX: 515-233-0103

BILL TO:
NAME: Mr. William Fedeler
COMPANY NAME:
ADDRESS: P.O. Box 2483
CITY/ST/ZIP: Ames, IA 50010
PHONE:

Keystone Quote No.: (If Applicable)

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	ANALYSES REQUIRED: "C"	LAB USE ONLY: SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
MW 35	3-14-03	8:20	MW35	3	W	G	X		01
MW 34	↓	8:50	MW 34	↓	↓	↓	↓		02
MW 33		9:40	MW 33						03
MW 25		10:15	MW 25						04
MW 36		14:05	MW 36						05
MW 37		14:30	MW 37						06
MW 31	↓	15:10	MW 31	↓	↓	↓	↓		07

LABORATORY WORK ORDER NO.: 13C0588

SAMPLE TEMPERATURE UPON RECEIPT: °C

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Turn-Around:
Stephen L Orr	3-14-03 / 16:28			☒ Standard ☐ Rush ____ Contact Lab Prior to Submission
Relinquished by: (Signature)	**Date / Time**	**Received for Lab by: (Signature)**	**Date / Time**	**Remarks:**
		Bull	3/17/03 / 10:45 A.m.	Metals Samples Field Filtered

RECEIVED MAR 1 4 2003

Keystone LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Accreditations:
Iowa DNR: 095
New Jersey DEP: IA001
Kansas DHE: E-10287

ANALYTICAL REPORT

March 13, 2003

Work Order: 13C0283

Report To

Todd Whipple
Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

Work Order Information

Date Received: 03/10/2003 10:45AM
Collector:
Phone: 515-233-0000
PO Number:

Project: Landfill
Project Number: Ames SLF/Ames C&D

Analyte	Result	MRL	Method	Analyst	Analyzed	Qualifier
13C0283-01 MW-4/28			Matrix:Water		Collected: 03/06/03 12:15	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	**13 mg/l**	**10**	EPA 410.4	SNT	03/12/03 15:50	
Chloride	**102 mg/l**	**10**	EPA 9252	MAQ	03/12/03 9:36	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/12/03 12:04	
Determination of Dissolved Metals						
Iron, dissolved	<0.030 mg/l	0.030	EPA 6010B	LAR	03/12/03 14:31	
13C0283-02 MW-5/29			Matrix:Water		Collected: 03/06/03 12:35	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	SNT	03/12/03 15:50	
Chloride	<10 mg/l	10	EPA 9252	MAQ	03/12/03 9:36	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/12/03 12:04	
Determination of Dissolved Metals						
Iron, dissolved	**0.153 mg/l**	**0.030**	EPA 6010B	LAR	03/12/03 14:31	
13C0283-03 MW-6			Matrix:Water		Collected: 03/06/03 13:11	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	SNT	03/12/03 15:50	
Chloride	**85 mg/l**	**10**	EPA 9252	MAQ	03/12/03 9:36	
Nitrogen, Ammonia	**1.2 mg/l**	**1.0**	SM 4500-NH3 F	SAA	03/12/03 12:04	
Determination of Dissolved Metals						
Iron, dissolved	**0.035 mg/l**	**0.030**	EPA 6010B	LAR	03/12/03 14:31	
13C0283-04 MW-7			Matrix:Water		Collected: 03/06/03 13:29	
Determination of Conventional Chemistry Parameters						
Chemical Oxygen Demand	<10 mg/l	10	EPA 410.4	SNT	03/12/03 15:50	
Chloride	**12 mg/l**	**10**	EPA 9252	MAQ	03/12/03 9:36	
Nitrogen, Ammonia	<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/12/03 12:04	
Determination of Dissolved Metals						
Iron, dissolved	**1.31 mg/l**	**0.030**	EPA 6010B	LAR	03/12/03 14:31	

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Keystone
LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

Fox Engineering Associates, Inc.
1601 Golden Aspen Drive, Suite 103
Ames, IA 50010

March 13, 2003

Work Order: 13C0283

Analyte		Result	MRL	Method	Analyst	Analyzed	Qualifier
3C0283-04	MW-7			Matrix:Water		Collected: 03/06/03 13:29	
3C0283-05	MW-8			Matrix:Water		Collected: 03/06/03 13:52	
Determination of Conventional Chemistry Parameters							
Chemical Oxygen Demand		<10 mg/l	10	EPA 410.4	SNT	03/12/03 15:50	
Chloride		<10 mg/l	10	EPA 9252	MAQ	03/12/03 9:36	
Nitrogen, Ammonia		<1.0 mg/l	1.0	SM 4500-NH3 F	SAA	03/12/03 12:04	
Determination of Dissolved Metals							
Iron, dissolved		**4.11 mg/l**	**0.030**	EPA 6010B	LAR	03/12/03 14:31	

End of Report

Ericka Weintz

Keystone Laboratories, Inc.
Ericka Weintz
Project Manager

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CHAIN OF CUSTODY RECORD

Keystone LABORATORIES, INC.

☐ 600 E. 17th St. S.
Newton, IA 50208
Phone: 641-792-8451
Fax: 641-792-7989

☐ 3012 Ansborough Ave.
Waterloo, IA 50701
Phone: 319-235-4440
Fax: 319-235-2480

☐ 1304 Adams
Kansas City, KS 66103
Phone: 913-321-7856
Fax: 913-321-7937

PAGE 1 OF 1

PRINT OR TYPE INFORMATION BELOW

SAMPLER: SLO
SITE NAME: Ames ~~[illegible]~~ SLF
ADDRESS: Ames Iowa
CITY/ST/ZIP:
PHONE:

REPORT TO:
NAME: Todd Whipple
COMPANY NAME: Fox Engineering Assoc
ADDRESS: 1601 Golden Aspen Drive
CITY/ST/ZIP: Ames Iowa 50010
PHONE: (515)233-0000
FAX:

BILL TO:
NAME: ~~[illegible]~~ Mr. Paul Wiegand
COMPANY NAME: City of Ames
ADDRESS: 515 Clark
CITY/ST/ZIP: Ames Iowa 50010
PHONE: (515)239-5160

Keystone Quote No.: (If Applicable)

CLIENT SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	NO. OF CONTAINERS	MATRIX	GRAB/COMPOSITE	VOC								SAMPLE CONDITION/COMMENTS	LABORATORY SAMPLE NUMBER
MW 4	3-6-03	12:15pm	MW 4	3	W	G	X									01
MW 5		12:35pm	MW 5	↓	↓	↓	X									02
MW 6		13:11	MW 6				X									03
MW 7		13:29	MW 7				X									04
MW 8		13:52	MW 8				X									05

ANALYSES REQUIRED

LAB USE ONLY

LABORATORY WORK ORDER NO.: 13C0283

SAMPLE TEMPERATURE UPON RECEIPT: °C

Relinquished by: (Signature)	Date	Received by: (Signature)	Date	Turn-Around:
Todd Whipple	3/10/03			☐ Standard ☐ Rush _____ Contact Lab Prior to Submission
	Time 10:35am		Time	
Relinquished by: (Signature)	Date	Received for Lab by: (Signature)	Date	Remarks: Metals containers are field filtered
	Time	Bill	3/10/03 Time 10:45 A.M.	

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-6 Upgradient ✓
Downgradient

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain If yes, explain

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 942.88 Ground Elevation 940.65
Depth of Well 21.7 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/5/03 14:30	10.42	
*After Purging		15.5	
*Before Sampling		10.4	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 5.65
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type *Dedicated Bailer
Pump type *Dedicated Bailer
If not dedicated, method of cleaning

D.) FIELD MEASUREMENT

Weather Conditions 20°
Field Measurments (after stabilization):
Temperature 6 Units
Equipment Used HACH COMPANY POCKET PAL
pH 6.6
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1379 Units
Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-7 Upgradient ✓
Downgradient

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain If yes, explain

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 943.21 Ground Elevation 940.65
Depth of Well 53' Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/5/03 1500	24.12	
*After Purging		51.0	
*Before Sampling	3/6/03 13:29	25.7	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 4.5
No.of Well Volumes (based on current water level) 1.5
Was well pumped/bailed dry? YES

Equipment used:
Bailer type *Dedicated Bailer
Pump type *Dedicated Bailer
If not dedicated, method of cleaning

D.) FIELD MEASUREMENT

Weather Conditions 70°
Field Measurments (after stabilization):
Temperature 10 Units
Equipment Used HACH COMPANY POCKET PAL
pH 7.0
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 731 Units
Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-8 Upgradient ✓
Downgradient

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain If yes, explain

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 942.76 Ground Elevation 940.65
Depth of Well 71.7 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/5/03 15:20	36.53	
*After Purging		51.9	
*Before Sampling	3/6/03 13:52	36.7	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 17.53
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type *Dedicated Bailer
Pump type *Dedicated Bailer
If not dedicated, method of cleaning

D.) FIELD MEASUREMENT

Weather Conditions 20°
Field Measurments (after stabilization):
Temperature 11 Units
Equipment Used HACH COMPANY POCKET PAL
pH 7.1
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 710 Units
Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-23 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 945.98 Ground Elevation 943.62
Depth of Well 27.86 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/17/03 10:45	21.08	
*After Purging		27.35	
*Before Sampling	3/18/03 8:50	21.92	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 3.45
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type Disposable PVC *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions 40°'s
Field Measurments (after stabilization):
Temperature 13 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 8.1
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1060 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-24 Upgradient ____
Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 939.44 Ground Elevation 936.94
Depth of Well 20.60 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging		DRY	
*After Purging			
*Before Sampling			

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) ____
No.of Well Volumes (based on current water level) ____
Was well pumped/bailed dry? ____

Equipment used:
Bailer type ____ *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions ____
Field Measurments (after stabilization):
Temperature ____ Units ____
Equipment Used HACH COMPANY POCKET PAL
pH ____
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions ____ Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-25 Upgradient ____
Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 906.34 Ground Elevation 903.94
Depth of Well 19.5 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/13/03 14:30	9.77	
*After Purging		9.7	
*Before Sampling	3/19/03 10:15	9.7	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 5.01
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type Disposable PVC 'Dedicated Bailer ____
Pump type ____ 'Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions 20°'s
Field Measurments (after stabilization):
Temperature 9 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 7.1
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 833 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-28 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 946.02 Ground Elevation 942.55
Depth of Well 22.7 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/5/03 14:00	9.73	
*After Purging		17.13	
*Before Sampling	3/6/03 12:15	9.7	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 6.26
No.of Well Volumes (based on current water level) 3.0
Was well pumped/bailed dry? No

Equipment used:
Bailer type ____ *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions 20°
Field Measurments (after stabilization):
Temperature 7 Units
Equipment Used HACH COMPANY POCKET PAL
pH 6.7
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1358 Units
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-29 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 945.61 Ground Elevation 942.55
Depth of Well 53.5 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/5/03 13:30	14.79	
*After Purging		49.5	
*Before Sampling	3/6/03 12:35	15.6	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 8.16
No.of Well Volumes (based on current water level) 1.24
Was well pumped/bailed dry? YES

Equipment used:
Bailer type ____ *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions 20°
Field Measurments (after stabilization):
Temperature 5.0 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 7.0
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 658 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-30 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 945.54 Ground Elevation 943.62
Depth of Well 58 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/17/03 10:15	39.2	
*After Purging		54.95	
*Before Sampling	3/18/03 9:10	40.68	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 9.59
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type Disposable PVC *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions 40° 15
Field Measurments (after stabilization):
Temperature 13 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 8.0
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 795 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-31 Upgradient ____
Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? NO
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 941.43 Ground Elevation 938.21
Depth of Well 36' Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/14/03 12:50	24.51	
*After Purging		35.6	
*Before Sampling	3/14/03 15:10	32.31	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 4.49
No.of Well Volumes (based on current water level) 2.04
Was well pumped/bailed dry? DRY

Equipment used:
Bailer type Disposable PVC *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions 20°'s
Field Measurments (after stabilization):
Temperature 14 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 7.4
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 928 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-32 Upgradient ____
Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 939.86 Ground Elevation 937.39
Depth of Well 50.5 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/17/03 13:00	35.18	
*After Purging		48.24	
*Before Sampling	3/18/03 8:15	35.5	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 7.58
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type Disposable PVC *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions 40°15
Field Measurments (after stabilization):
Temperature 13 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 7.3
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1056 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-33 Upgradient ____
Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 906.32 Ground Elevation 904.06
Depth of Well 28.2 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/13/03 14:00	9.91	
*After Purging		15.36	
*Before Sampling	3/14/03 9:40	9.9	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 9.38
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type Disposable PVC 'Dedicated Bailer ____
Pump type ____ 'Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions 20°C
Field Measurments (after stabilization):
Temperature 10 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 7.4
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 732 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-34 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 909.5 Ground Elevation 906.85
Depth of Well 17.3 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/13/03 13:15	8.13	
*After Purging		15.1	
*Before Sampling	3/14/03 8:50	9.9	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 3.96
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type Disposable PVC *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions 20° 19
Field Measurments (after stabilization):
Temperature 10 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 7.3
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1020 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-35 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 916.19 Ground Elevation 914.04
Depth of Well 20.6 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/13/03 12:30	13.28	
*After Purging		13.28	
*Before Sampling	3/14/03 8:20	13.3	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 3.73
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type Disposable PVC *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions 20° 15
Field Measurments (after stabilization):
Temperature 10 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 7.1
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 709 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-36 Upgradient ✓
Downgradient

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain If yes, explain

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 948.97 Ground Elevation 947.30
Depth of Well 53.5 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/14/03 11:45	18.18	
*After Purging		51.6	
*Before Sampling	3/14/03 14:05	44.43	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 13.66
No.of Well Volumes (based on current water level) 2.33
Was well pumped/bailed dry? yes

Equipment used:
Bailer type Disposable PVC 'Dedicated Bailer
Pump type 'Dedicated Bailer
If not dedicated, method of cleaning

D.) FIELD MEASUREMENT

Weather Conditions 20's
Field Measurments (after stabilization):
Temperature 13 Units
Equipment Used HACH COMPANY POCKET PAL
pH 7.6
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 499 Units
Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-37 Upgradient ✓
Downgradient

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain If yes, explain

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 949.49 Ground Elevation 947.43
Depth of Well 30.6 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/14/03 12:08	10.6	
*After Purging		27.35	
*Before Sampling	3/14/03 14:30	11.25	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 9.89
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type Disposable PVC *Dedicated Bailer
Pump type *Dedicated Bailer
If not dedicated, method of cleaning

D.) FIELD MEASUREMENT

Weather Conditions 20° 15
Field Measurments (after stabilization):
Temperature 12 Units
Equipment Used HACH COMPANY POCKET PAL
pH 7.5
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1129 Units
Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-38 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 936.59 Ground Elevation 934.05
Depth of Well 35.2 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/17/03 15:15	18.35	
*After Purging		54.15	
*Before Sampling	3/18/03 10:20	26.9	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 6.97
No.of Well Volumes (based on current water level) 1.11
Was well pumped/bailed dry? YES

Equipment used:
Bailer type Disposable PVC *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions 40°'s
Field Measurments (after stabilization):
Temperature 14 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 8.0
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 944 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-39 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 935.93 Ground Elevation 933.96
Depth of Well 30.2 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/17/03 15:30	16.97	
*After Purging		24.30	
*Before Sampling	3/18/03 10:55	16.5	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 7
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type Disposable PVC *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions 40°15
Field Measurments (after stabilization):
Temperature 13 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 8.0
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1201 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-40 Upgradient ____
Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 933.07 Ground Elevation 931.11
Depth of Well 20' Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/17/03 16:50	10.7	
*After Purging		18.0	
*Before Sampling	3/18/03 11:15	10.7	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 4.74
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type Disposable PVC *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions 40°'s
Field Measurments (after stabilization):
Temperature 10 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 8.1
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 926 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Ames-Story Environmental Landfill Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-41 Upgradient _____
Downgradient ✓

Name of person sampling Richard Freeman

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? Yes Standing Water or Litter? No
If no, explain _____ If yes, explain _____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 933.46 Ground Elevation 931.44
Depth of Well 45.58 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/17/03 16:00	18.48	
*After Purging		41.23	
*Before Sampling	3/18/03 11:40	18.7	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 13.82
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type Disposable PVC *Dedicated Bailer _____
Pump type _____ *Dedicated Bailer _____
If not dedicated, method of cleaning _____

D.) FIELD MEASUREMENT

Weather Conditions 40°'s
Field Measurments (after stabilization):
Temperature 13 Units _____
Equipment Used HACH Company Pocket Pal
pH 7.8
Equipment Used HACH Company Pocket Pal
Specific Conditions 614 Units _____
Equipment Used HACH Company Pocket Pal

Comments _____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-42 Upgradient ____ Downgradient ✓

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain ____ If yes, explain ____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 940.64 Ground Elevation 938.58
Depth of Well 48.37. Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/17/03 11:50	21.5	
*After Purging		46.49	
*Before Sampling	3/18/03 9:35	21.5	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 13.7
No.of Well Volumes (based on current water level) 3
Was well pumped/bailed dry? No

Equipment used:
Bailer type Disposable PVC *Dedicated Bailer ____
Pump type ____ *Dedicated Bailer ____
If not dedicated, method of cleaning ____

D.) FIELD MEASUREMENT

Weather Conditions 40° F
Field Measurments (after stabilization):
Temperature 14 Units ____
Equipment Used HACH COMPANY POCKET PAL
pH 8.0
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 798 Units ____
Equipment Used HACH COMPANY POCKET PAL

Comments ____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. MW-43 Upgradient _____
Downgradient _____

Name of person sampling RICHARD FREEMAN

A.) MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? YES Standing Water or Litter? No
If no, explain _____ If yes, explain _____

B.) GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

Elevation: Top of inner well casing 940.83 Ground Elevation 938.62
Depth of Well 28.13 Inside Casing Diameter (in inches) 2.0"
Equipment Used SOLINST

Groundwater Level (+/- 0.01 foot below top of inner casing, MSL):

	Date/Time	Depth to Groundwater	Groundwater Elevation
Before Purging	3/17/03 12:15	19.24	
*After Purging		27.1	
*Before Sampling	3/18/03 9:55	19.32	

C.) WELL PURGING

Quantity of Water Removed from Well (gallons) 3.29
No.of Well Volumes (based on current water level) 2.18
Was well pumped/bailed dry? Yes

Equipment used:
Bailer type Disposable PVC *Dedicated Bailer _____
Pump type _____ *Dedicated Bailer _____
If not dedicated, method of cleaning _____

D.) FIELD MEASUREMENT

Weather Conditions 40°'s
Field Measurments (after stabilization):
Temperature 14 Units _____
Equipment Used HACH COMPANY POCKET PAL
pH 7.8
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions 1612 Units _____
Equipment Used HACH COMPANY POCKET PAL

Comments _____

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

*Omit if only measuring groundwater elevations.

542-1322

FORM FOR
SURFACE WATER SAMPLING

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. SW-1 Date/Time 3/13/03 12:00

Name of person sampling RICHARD FREEMAN

A.) TYPE OF MONITORING POINT

Stream	✓	Open Tile	
Road Ditch		Tile with Riser	
Drainage Ditch		Other	

B.) PURPOSE OF MONITORING POINT

Upstream	✓	Downstream	
Within Landfill		Other	

C.) MONITORING POINT CONDITIONS

General description/condition of monitoring point

Was monitoring point dry? No Too little water to sample? No

Was water flowing? yes If yes, estimate quantity good flow

If yes, estimate depth

Was water discolored? No If yes, descibe below.

Does water have odor? No If yes, descibe below.

Was ground discolored? No If yes, descibe below.

Litter present? No If yes, descibe below.

Comments

D.) FIELD MEASUREMENT

Weather Conditions 30°'s

Field Measurments (after stabilization):

Temperature 7 Units

Equipment Used HACH COMPANY POCKET PAL

pH 7.8

Equipment Used HACH COMPANY POCKET PAL

Specific Conditions 750 Units

Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

542-1324

FORM FOR
SURFACE WATER SAMPLING

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. SW-2 Date/Time 3/13/03

Name of person sampling RICHARD FREEMAN

A.) TYPE OF MONITORING POINT

Stream	✓	Open Tile	
Road Ditch		Tile with Riser	
Drainage Ditch		Other	

B.) PURPOSE OF MONITORING POINT

Upstream		Downstream	✓
Within Landfill		Other	

C.) MONITORING POINT CONDITIONS

General description/condition of monitoring point

Was monitoring point dry? No Too little water to sample? No

Was water flowing? yes If yes, estimate quantity good Flow

If yes, estimate depth

Was water discolored? No If yes, descibe below.

Does water have odor? No If yes, descibe below.

Was ground discolored? No If yes, descibe below.

Litter present? No If yes, descibe below.

Comments

D.) FIELD MEASUREMENT

Weather Conditions 30° F

Field Measurments (after stabilization):

Temperature 8 Units

Equipment Used HACH COMPANY POCKET PAL

pH 7.6

Equipment Used HACH COMPANY POCKET PAL

Specific Conditions 780 Units

Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

542-1324

FORM FOR
SURFACE WATER SAMPLING

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. SW-3 Date/Time 3/13/03

Name of person sampling RICHARD FREEMAN

A.) TYPE OF MONITORING POINT

Stream		Open Tile	✓
Road Ditch		Tile with Riser	
Drainage Ditch		Other	

B.) PURPOSE OF MONITORING POINT

Upstream		Downstream	✓
Within Landfill		Other	

C.) MONITORING POINT CONDITIONS

General description/condition of monitoring point

Was monitoring point dry? No sample Too little water to sample?
Was water flowing? If yes, estimate quantity
If yes, estimate depth

Was water discolored? If yes, descibe below.
Does water have odor? If yes, descibe below.
Was ground discolored? If yes, descibe below.
Litter present? If yes, descibe below.

Comments

D.) FIELD MEASUREMENT

Weather Conditions

Field Measurments (after stabilization):
Temperature Units
Equipment Used HACH COMPANY POCKET PAL
pH
Equipment Used HACH COMPANY POCKET PAL
Specific Conditions Units
Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

542-1324

FORM FOR
SURFACE WATER SAMPLING

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. SW-4 Date/Time 3/12/03 1600

Name of person sampling RICHARD FREEMAN

A.) TYPE OF MONITORING POINT

Stream		Open Tile	
Road Ditch		Tile with Riser	
Drainage Ditch	✓	Other	

B.) PURPOSE OF MONITORING POINT

Upstream	✓	Downstream	
Within Landfill		Other	

C.) MONITORING POINT CONDITIONS

General description/condition of monitoring point

Was monitoring point dry? No Too little water to sample? No

Was water flowing? yes If yes, estimate quantity good flow

If yes, estimate depth

Was water discolored? No If yes, descibe below.

Does water have odor? No If yes, descibe below.

Was ground discolored? No If yes, descibe below.

Litter present? No If yes, descibe below.

Comments Snow melt
Flow line is diverted to RR ballast

D.) FIELD MEASUREMENT

Weather Conditions 40°'s

Field Measurments (after stabilization):

Temperature 2 Units

Equipment Used HACH COMPANY POCKET PAL

pH 7.2

Equipment Used HACH COMPANY POCKET PAL

Specific Conditions 1260 Units

Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

542-1324

FORM FOR
SURFACE WATER SAMPLING

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. SW-5 Date/Time 3/12/03 15:20

Name of person sampling RICHARD FREEMAN

A.) TYPE OF MONITORING POINT

Stream		Open Tile	
Road Ditch		Tile with Riser	
Drainage Ditch	✓	Other	

B.) PURPOSE OF MONITORING POINT

Upstream		Downstream	✓
Within Landfill		Other	

C.) MONITORING POINT CONDITIONS

General description/condition of monitoring point

Was monitoring point dry? No Too little water to sample? No

Was water flowing? YES If yes, estimate quantity good flow

If yes, estimate depth

Was water discolored? No If yes, descibe below.

Does water have odor? No If yes, descibe below.

Was ground discolored? No If yes, descibe below.

Litter present? No If yes, descibe below.

Comments

D.) FIELD MEASUREMENT

Weather Conditions 40°'s

Field Measurments (after stabilization):

Temperature 5 Units

Equipment Used HACH COMPANY POCKET PAL

pH 7.3

Equipment Used HACH COMPANY POCKET PAL

Specific Conditions 860 Units

Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

542-1324

FORM FOR
SURFACE WATER SAMPLING

Site Name AMES-STORY ENVIRONMENTAL LANDFILL Permit No. 85-SDP-13-91P

Monitoring Well/Piezometer No. SW-6 Date/Time 3/12/03 16:56

Name of person sampling RICHARD FREEMAN

A.) TYPE OF MONITORING POINT

Stream		Open Tile	✓
Road Ditch		Tile with Riser	
Drainage Ditch		Other	

B.) PURPOSE OF MONITORING POINT

Upstream		Downstream	✓
Within Landfill		Other	

C.) MONITORING POINT CONDITIONS

General description/condition of monitoring point

Was monitoring point dry? No Too little water to sample? No

Was water flowing? yes If yes, estimate quantity good Flow

If yes, estimate depth

Was water discolored? No If yes, descibe below.

Does water have odor? slight If yes, descibe below.

Was ground discolored? slight If yes, descibe below.

Litter present? No If yes, descibe below.

Comments

D.) FIELD MEASUREMENT

Weather Conditions 30'

Field Measurments (after stabilization):

Temperature 14 Units

Equipment Used HACH COMPANY POCKET PAL

pH 7.1

Equipment Used HACH COMPANY POCKET PAL

Specific Conditions 625 Units

Equipment Used HACH COMPANY POCKET PAL

Comments

NOTE: Attach Laboratory Report and 8-12" x 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

542-1324

ATTACHMENT C
Concentration Versus Time Tables & Graphs
Water Table System

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER ug/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	1,1-Dichloroethene *	7	1			<1	<1	<1	<1	<1	---	<1				
10/15/91	1,1-Dichloroethene *	7	1			<1	<1	---	<1	<1	---	<1				
01/23/92	1,1-Dichloroethene *	7	1			<1	<1	---	<1	<1	<1	<1				
03/23/92	1,1-Dichloroethene *	7	1			<1	<1	<1	<1	<1	<1	<1				
09/30/92	1,1-Dichloroethene *	7	1			NT	NT	NT	NT	NT	NT	NT				
03/05/93	1,1-Dichloroethene *	7	1			NT	NT	NT	NT	NT	NT	NT				
09/21/93	1,1-Dichloroethene *	7	1			NT	NT	NT	NT	NT	NT	NT				
03/23/94	1,1-Dichloroethene *	7	1			NT	NT	NT	NT	NT	NT	NT				
09/16/94	1,1-Dichloroethene *	7	1			NT	NT	NT	NT	NT	NT	NT				
03/16/95	1,1-Dichloroethene *	7	1			NT	NT	NT	NT	NT	NT	NT				
09/13/95	1,1-Dichloroethene *	7	1			NT	NT	NT	NT	NT	NT	NT				
03/28/96	1,1-Dichloroethene *	7	1	<1		NT	NT	NT	NT	NT	NT	NT	<1			
06/20/96	1,1-Dichloroethene *	7	1	<1		NT	NT	NT	NT	NT	NT	NT	<1			
09/13/96	1,1-Dichloroethene *	7	1	<1		NT	NT	Dry	NT	NT	NT	NT	<1			
03/19/97	1,1-Dichloroethene *	7	1	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	1,1-Dichloroethene *	7	1	<1		<1	NT	NT	NT	NT	NT	NT	<1			
08/30/97	1,1-Dichloroethene *	7	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	1,1-Dichloroethene *	7	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	1,1-Dichloroethene *	7	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/19/99	1,1-Dichloroethene *	7	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	1,1-Dichloroethene *	7	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/2000	1,1-Dichloroethene *	7	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	1,1-Dichloroethene *	7	1	NT	<1	NT	NT	DRY	NT	NT	NT	NT	NT	<1	<1	<1
09/28/2000	1,1-Dichloroethene *	7	1	NT	NT	<1	NT	DRY	NT	NT	NT	NT	DRY	<1	<1	<1
12/27/2000	1,1-Dichloroethene *	7	1	NT	<1	NT	NT	DRY	NT	NT	NT	NT	NT	<1	<1	<1
03/28/2001	1,1-Dichloroethene *	7	1	NT	<1	<1	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
09/02/2001	1,1-Dichloroethene *	7	1	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	1,1-Dichloroethene *	7	1	NT	NT	<1	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	1,1-Dichloroethene *	7	1	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	1,1-Dichloroethene *	7	1	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	1,1-Dichloroethene *	7	1	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER ug/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	1,1,1-Trichloroethane *	200	1			<1	<1	<1	<1	<1	---	<1				
10/15/91	1,1,1-Trichloroethane *	200	1			<1	<1	---	<1	<1	---	<1				
01/23/92	1,1,1-Trichloroethane *	200	1			<1	<1	---	<1	<1	<1	<1				
03/23/92	1,1,1-Trichloroethane *	200	1			<1	<1	<1	<1	<1	<1	<1				
09/30/92	1,1,1-Trichloroethane *	200	1			NT	NT	NT	NT	NT	NT	NT				
03/05/93	1,1,1-Trichloroethane *	200	1			NT	NT	NT	NT	NT	NT	NT				
09/21/93	1,1,1-Trichloroethane *	200	1			NT	NT	NT	NT	NT	NT	NT				
03/23/94	1,1,1-Trichloroethane *	200	1			NT	NT	NT	NT	NT	NT	NT				
09/16/94	1,1,1-Trichloroethane *	200	1			NT	NT	NT	NT	NT	NT	NT				
03/16/95	1,1,1-Trichloroethane *	200	1			NT	NT	NT	NT	NT	NT	NT				
09/13/95	1,1,1-Trichloroethane *	200	1			NT	NT	NT	NT	NT	NT	NT				
03/28/96	1,1,1-Trichloroethane *	200	1	<1		NT	NT	NT	NT	NT	NT	NT	<1			
06/20/96	1,1,1-Trichloroethane *	200	1	<1		NT	NT	NT	NT	NT	NT	NT	<1			
09/13/96	1,1,1-Trichloroethane *	200	1	<1		NT	NT	Dry	NT	NT	NT	NT	<1			
03/19/97	1,1,1-Trichloroethane *	200	1	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	1,1,1-Trichloroethane *	200	1	<1		<1	NT	NT	NT	NT	NT	NT	<1			
08/30/97	1,1,1-Trichloroethane *	200	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	1,1,1-Trichloroethane *	200	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	1,1,1-Trichloroethane *	200	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/18/99	1,1,1-Trichloroethane *	200	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	1,1,1-Trichloroethane *	200	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/2000	1,1,1-Trichloroethane *	200	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	1,1,1-Trichloroethane *	200	1	NT	<1	NT	NT	DRY	NT	NT	NT	NT	NT	<1	<1	<1
09/28/2000	1,1,1-Trichloroethane *	200	1	NT	NT	<1	NT	DRY	NT	NT	NT	NT	DRY	<1	<1	<1
12/27/2000	1,1,1-Trichloroethane *	200	1	NT	<1	NT	NT	Dry	NT	NT	NT	NT	NT	<1	<1	<1
03/28/2001	1,1,1-Trichloroethane *	200	1	NT	<1	<1	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
09/02/2001	1,1,1-Trichloroethane *	200	1	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	1,1,1-Trichloroethane *	200	1	NT	NT	<1	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	1,1,1-Trichloroethane *	200	1	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	1,1,1-Trichloroethane *	200	1	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	1,1,1-Trichloroethane *	200	1	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

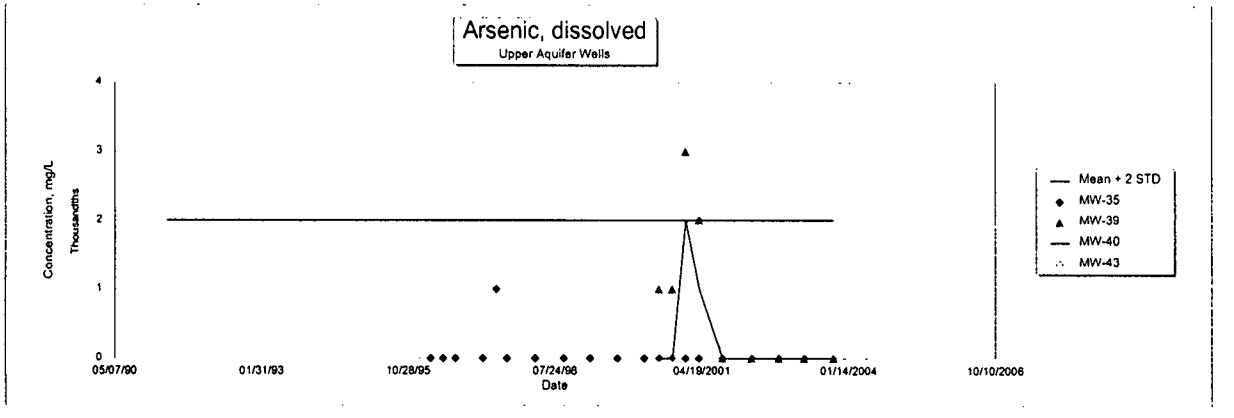
DATE	PARAMETER ug/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	1,2-Dichloroethane *	5	0.4			<1	<1	<1	<1	<1	---	<1				
10/15/91	1,2-Dichloroethane *	5	0.4			<1	<1	---	<1	<1	---	<1				
01/23/92	1,2-Dichloroethane *	5	0.4			<1	<1	---	<1	<1	<1	<1				
03/23/92	1,2-Dichloroethane *	5	0.4			<1	<1	<1	<1	<1	<1	<1				
09/30/92	1,2-Dichloroethane *	5	0.4			NT	NT	NT	NT	NT	NT	NT				
03/05/93	1,2-Dichloroethane *	5	0.4			NT	NT	NT	NT	NT	NT	NT				
09/21/93	1,2-Dichloroethane *	5	0.4			NT	NT	NT	NT	NT	NT	NT				
03/23/94	1,2-Dichloroethane *	5	0.4			NT	NT	NT	NT	NT	NT	NT				
09/16/94	1,2-Dichloroethane *	5	0.4			NT	NT	NT	NT	NT	NT	NT				
03/16/95	1,2-Dichloroethane *	5	0.4			NT	NT	NT	NT	NT	NT	NT				
09/13/95	1,2-Dichloroethane *	5	0.4			NT	NT	NT	NT	NT	NT	NT				
03/28/96	1,2-Dichloroethane *	5	0.4	<0.4		NT	NT	NT	NT	NT	NT	NT	<0.4			
06/20/96	1,2-Dichloroethane *	5	0.4	<0.4		NT	NT	NT	NT	NT	NT	NT	<0.4			
09/13/96	1,2-Dichloroethane *	5	0.4	<0.4		NT	NT	Dry	NT	NT	NT	NT	<0.4			
03/19/97	1,2-Dichloroethane *	5	0.4	<0.4		NT	NT	DRY	NT	NT	NT	NT	<0.4			
06/18/97	1,2-Dichloroethane *	5	0.4	<0.4		<0.4	NT	NT	NT	NT	NT	NT	<0.4			
08/30/97	1,2-Dichloroethane *	5	0.4	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	1,2-Dichloroethane *	5	0.4	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	1,2-Dichloroethane *	5	0.4	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/18/99	1,2-Dichloroethane *	5	0.4	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/99	1,2-Dichloroethane *	5	0.4	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/2000	1,2-Dichloroethane *	5	0.4	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	1,2-Dichloroethane *	5	0.4	NT	<0.4	NT	NT	DRY	NT	NT	NT	NT	NT	<0.4	<0.4	<0.4
09/28/2000	1,2-Dichloroethane *	5	0.4	NT	NT	<0.4	NT	DRY	NT	NT	NT	NT	DRY	<0.4	<0.4	<0.4
12/27/2000	1,2-Dichloroethane *	5	0.4	NT	<0.4	NT	NT	Dry	NT	NT	NT	NT	NT	<0.4	<0.4	<0.4
03/28/2001	1,2-Dichloroethane *	5	0.4	NT	<0.4	<0.4	NT	NT	NT	NT	NT	NT	NT	<0.4	<0.4	<0.4
09/02/2001	1,2-Dichloroethane *	5	0.4	NT	NT	<0.4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	1,2-Dichloroethane *	5	0.4	NT	NT	<0.4	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	1,2-Dichloroethane *	5	0.4	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	1,2-Dichloroethane *	5	0.4	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	1,2-Dichloroethane *	5	0.4	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER ug/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	1,4-Dichlorobenzene *	75	1			<1	<1	<1	<1	<1	---	<1				
10/15/91	1,4-Dichlorobenzene *	75	1			<1	<1	---	<1	<1	---	<1				
01/23/92	1,4-Dichlorobenzene *	75	1			<1	<1	---	<1	<1	<1	<1				
03/23/92	1,4-Dichlorobenzene *	75	1			<1	<1	<1	<1	<1	<1	<1				
09/30/92	1,4-Dichlorobenzene *	75	1			NT	NT	NT	NT	NT	NT	NT				
03/05/93	1,4-Dichlorobenzene *	75	1			NT	NT	NT	NT	NT	NT	NT				
09/21/93	1,4-Dichlorobenzene *	75	1			NT	NT	NT	NT	NT	NT	NT				
03/23/94	1,4-Dichlorobenzene *	75	1			NT	NT	NT	NT	NT	NT	NT				
09/16/94	1,4-Dichlorobenzene *	75	1			NT	NT	NT	NT	NT	NT	NT				
03/16/95	1,4-Dichlorobenzene *	75	1			NT	NT	NT	NT	NT	NT	NT				
09/13/95	1,4-Dichlorobenzene *	75	1			NT	NT	NT	NT	NT	NT	NT				
03/28/96	1,4-Dichlorobenzene *	75	1	<1		NT	NT	NT	NT	NT	NT	NT	<1			
06/20/96	1,4-Dichlorobenzene *	75	1	<1		NT	NT	NT	NT	NT	NT	NT	<1			
09/13/96	1,4-Dichlorobenzene *	75	1	<1		NT	NT	Dry	NT	NT	NT	NT	<1			
03/19/97	1,4-Dichlorobenzene *	75	1	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	1,4-Dichlorobenzene *	75	1	<1		<1	NT	NT	NT	NT	NT	NT	<1			
08/30/97	1,4-Dichlorobenzene *	75	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	1,4-Dichlorobenzene *	75	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	1,4-Dichlorobenzene *	75	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/18/99	1,4-Dichlorobenzene *	75	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	1,4-Dichlorobenzene *	75	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/2000	1,4-Dichlorobenzene *	75	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	1,4-Dichlorobenzene *	75	1	NT	<1	NT	NT	DRY	NT	NT	NT	NT	NT	<1	<1	<1
09/28/2000	1,4-Dichlorobenzene *	75	1	NT	NT	<1	NT	DRY	NT	NT	NT	NT	DRY	<1	<1	<1
12/27/2000	1,4-Dichlorobenzene *	75	1	NT	<1	NT	NT	Dry	NT	NT	NT	NT	NT	<1	<1	<1
03/28/2001	1,4-Dichlorobenzene *	75	1	NT	<1	<1	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
09/02/2001	1,4-Dichlorobenzene *	75	1	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	1,4-Dichlorobenzene *	75	1	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	1,4-Dichlorobenzene *	75	1	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	1,4-Dichlorobenzene *	75	1	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	1,4-Dichlorobenzene *	75	1	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

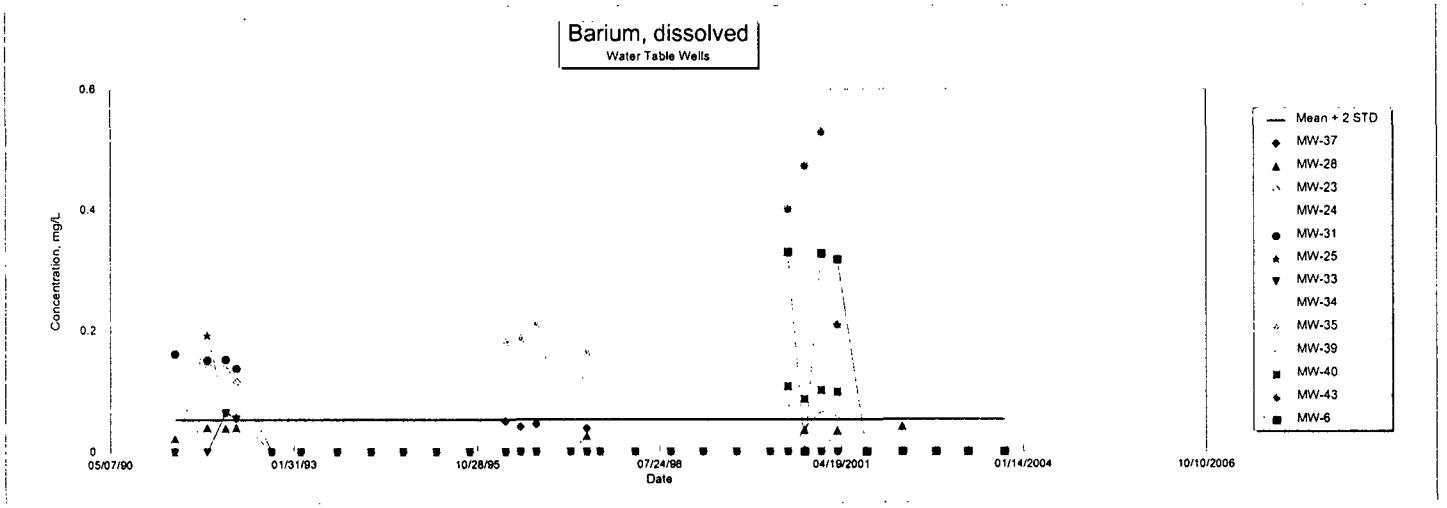
AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Arsenic, dissolved	0.05	0.002			<0.005	<0.005	<0.005	<0.005	<0.005	---	<0.005				
10/15/91	Arsenic, dissolved	0.05	0.002			<0.005	<0.005	---	<0.005	<0.005	---	<0.005				
01/23/92	Arsenic, dissolved	0.05	0.002			<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005				
03/23/92	Arsenic, dissolved	0.05	0.002			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005				
09/30/92	Arsenic, dissolved	0.05	0.002			NT	NT	NT	NT	NT	NT	NT				
03/05/93	Arsenic, dissolved	0.05	0.002			NT	NT	NT	NT	NT	NT	NT				
09/21/93	Arsenic, dissolved	0.05	0.002			NT	NT	NT	NT	NT	NT	NT				
03/23/94	Arsenic, dissolved	0.05	0.002			NT	NT	NT	NT	NT	NT	NT				
09/16/94	Arsenic, dissolved	0.05	0.002			NT	NT	NT	NT	NT	NT	NT				
03/16/95	Arsenic, dissolved	0.05	0.002			NT	NT	NT	NT	NT	NT	NT				
09/13/95	Arsenic, dissolved	0.05	0.002			NT	NT	NT	NT	NT	NT	NT				
03/28/96	Arsenic, dissolved	0.05	0.002	<0.005		NT	NT	NT	NT	NT	NT	NT	<0.005			
06/20/96	Arsenic, dissolved	0.05	0.002	<0.005		NT	NT	NT	NT	NT	NT	NT	<0.005			
09/13/96	Arsenic, dissolved	0.05	0.002	<0.005		NT	NT	Dry	NT	NT	NT	NT	<0.005			
03/19/97	Arsenic, dissolved	0.05	0.002	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	Arsenic, dissolved	0.05	0.002	0.002		<0.001	NT	NT	NT	NT	NT	NT	0.001			
08/30/97	Arsenic, dissolved	0.05	0.002	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	Arsenic, dissolved	0.05	0.002	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	Arsenic, dissolved	0.05	0.002	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/18/99	Arsenic, dissolved	0.05	0.002	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	Arsenic, dissolved	0.05	0.002	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/2000	Arsenic, dissolved	0.05	0.002	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Arsenic, dissolved	0.05	0.002	NT	<0.001	NT	NT	DRY	NT	NT	NT	NT	NT	0.001	<0.001	<0.001
09/28/2000	Arsenic, dissolved	0.05	0.002	NT	NT	<0.001	NT	DRY	NT	NT	NT	NT	DRY	0.001	<0.001	<0.001
12/27/2000	Arsenic, dissolved	0.05	0.002	NT	0.002	NT	NT	Dry	NT	NT	NT	NT	NT	0.003	0.002	0.002
03/28/2001	Arsenic, dissolved	0.05	0.002	NT	<0.001	<0.001	NT	NT	NT	NT	NT	NT	NT	0.002	0.001	0.002
09/02/2001	Arsenic, dissolved	0.05	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Arsenic, dissolved	0.01	0.002	NT	NT	<0.001	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Arsenic, dissolved	0.01	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Arsenic, dissolved	0.01	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Arsenic, dissolved	0.01	0.002	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			0.002	0.002	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.001	0.00175	0.0015	0.002
	Standard Deviation (STD)			0	0	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0	0.000829	0.0005	0
	Mean + 2 STD			0.002	0.002	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.001	0.003408	0.0025	0.002



AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Barium, dissolved	2.000	0.054			0.022	0.156	0.109	0.162	0.14	---	0.098				
10/15/91	Barium, dissolved	2.000	0.054			0.040	0.144	---	0.152	0.193	---	0.200				
01/23/92	Barium, dissolved	2.000	0.054			0.039	0.142	---	0.153	0.066	0.065	0.063				
03/23/92	Barium, dissolved	2.000	0.054			0.040	0.116	0.188	0.138	0.058	0.055	0.055				
09/30/92	Barium, dissolved	2.000	0.054			NT	NT	NT	NT	NT	NT	NT				
03/05/93	Barium, dissolved	2.000	0.054			NT	NT	NT	NT	NT	NT	NT				
09/21/93	Barium, dissolved	2.000	0.054			NT	NT	NT	NT	NT	NT	NT				
03/23/94	Barium, dissolved	2.000	0.054			NT	NT	NT	NT	NT	NT	NT				
09/16/94	Barium, dissolved	2.000	0.054			NT	NT	NT	NT	NT	NT	NT				
03/16/95	Barium, dissolved	2.000	0.054			NT	NT	NT	NT	NT	NT	NT				
09/13/95	Barium, dissolved	2.000	0.054			NT	NT	NT	NT	NT	NT	NT				
03/28/96	Barium, dissolved	2.000	0.054	0.051		NT	NT	NT	NT	NT	NT	NT	0.182			
06/20/96	Barium, dissolved	2.000	0.054	0.042		NT	NT	NT	NT	NT	NT	NT	0.187			
09/13/96	Barium, dissolved	2.000	0.054	0.046		NT	NT	Dry	NT	NT	NT	NT	0.211			
03/19/97	Barium, dissolved	2.000	0.054	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	Barium, dissolved	2.000	0.054	0.039		0.026	NT	NT	NT	NT	NT	NT	0.166			
08/30/97	Barium, dissolved	2.000	0.054	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	Barium, dissolved	2.000	0.054	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	Barium, dissolved	2.000	0.054	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/18/99	Barium, dissolved	2.000	0.054	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	Barium, dissolved	2.000	0.054	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/2000	Barium, dissolved	2.000	0.054	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Barium, dissolved	2.000	0.054	NT	0.330	NT	NT	DRY	NT	NT	NT	NT	NT	0.079	0.109	0.402
09/28/2000	Barium, dissolved	2.000	0.054	NT	NT	0.036	NT	DRY	NT	NT	NT	NT	DRY	0.039	0.088	0.473
12/27/2000	Barium, dissolved	2.000	0.054	NT	0.328	NT	NT	dry	NT	NT	NT	NT	NT	0.067	0.103	0.530
03/28/2001	Barium, dissolved	2.000	0.054	NT	0.318	0.035	NT	NT	NT	NT	NT	NT	NT	0.058	0.100	0.210
09/02/2001	Barium, dissolved	2.000	0.054	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Barium, dissolved	2.000	0.054	NT	NT	0.042	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Barium, dissolved	2.000	0.054	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Barium, dissolved	2.000	0.054	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Barium, dissolved	2.000	0.054	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			0.0445	0.325333	0.035	0.1395	0.1485	0.15125	0.105667	0.06	0.104	0.1865	0.06075	0.1	0.40375
	Standard Deviation (STD)			0.0045	0.005249	0.006764	0.014586	0.0395	0.008584	0.06184	0.005	0.057736	0.016132	0.014601	0.007649	0.120703
	Mean + 2 STD			0.0535	0.335832	0.048528	0.168672	0.2275	0.168418	0.229347	0.07	0.219473	0.218765	0.089952	0.115297	0.645156



AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER ug/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Benzene *	5	1			<1	<1	<1	<1	<1	---	<1				
10/15/91	Benzene *	5	1			<1	<1	---	<1	<1	---	<1				
01/23/92	Benzene *	5	1			<1	<1	---	<1	<1	<1	<1				
03/23/92	Benzene *	5	1			<1	<1	<1	<1	<1	<1	<1				
09/30/92	Benzene *	5	1			NT	NT	NT	NT	NT	NT	NT				
03/05/93	Benzene *	5	1			NT	NT	NT	NT	NT	NT	NT				
09/21/93	Benzene *	5	1			NT	NT	NT	NT	NT	NT	NT				
03/23/94	Benzene *	5	1			NT	NT	NT	NT	NT	NT	NT				
09/16/94	Benzene *	5	1			NT	NT	NT	NT	NT	NT	NT				
03/16/95	Benzene *	5	1			NT	NT	NT	NT	NT	NT	NT				
09/13/95	Benzene *	5	1			NT	NT	NT	NT	NT	NT	NT				
03/28/96	Benzene *	5	1	<1		NT	NT	NT	NT	NT	NT	NT	<1			
06/20/96	Benzene *	5	1	<1		NT	NT	NT	NT	NT	NT	NT	<1			
09/13/96	Benzene *	5	1	<1		NT	NT	Dry	NT	NT	NT	NT	<1			
03/19/97	Benzene *	5	1	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	Benzene *	5	1	<1		<1	NT	NT	NT	NT	NT	NT	<1			
08/30/97	Benzene *	5	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	Benzene *	5	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	Benzene *	5	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/18/99	Benzene *	5	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	Benzene *	5	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/2000	Benzene *	5	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Benzene *	5	1	NT	<1	NT	NT	DRY	NT	NT	NT	NT	NT	<1	<1	<1
09/28/2000	Benzene *	5	1	NT	<1	<1	NT	DRY	NT	NT	NT	NT	DRY	<1	<1	<1
12/27/2000	Benzene *	5	1	NT	<1	NT	NT	Dry	NT	NT	NT	NT	NT	<1	<1	<1
03/28/2001	Benzene *	5	1	NT	<1	<1	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
09/02/2001	Benzene *	5	1	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Benzene *	5	1	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Benzene *	5	1													
03/14/2003	Benzene *	5	1													
09/29/2003	Benzene *	5	1													
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

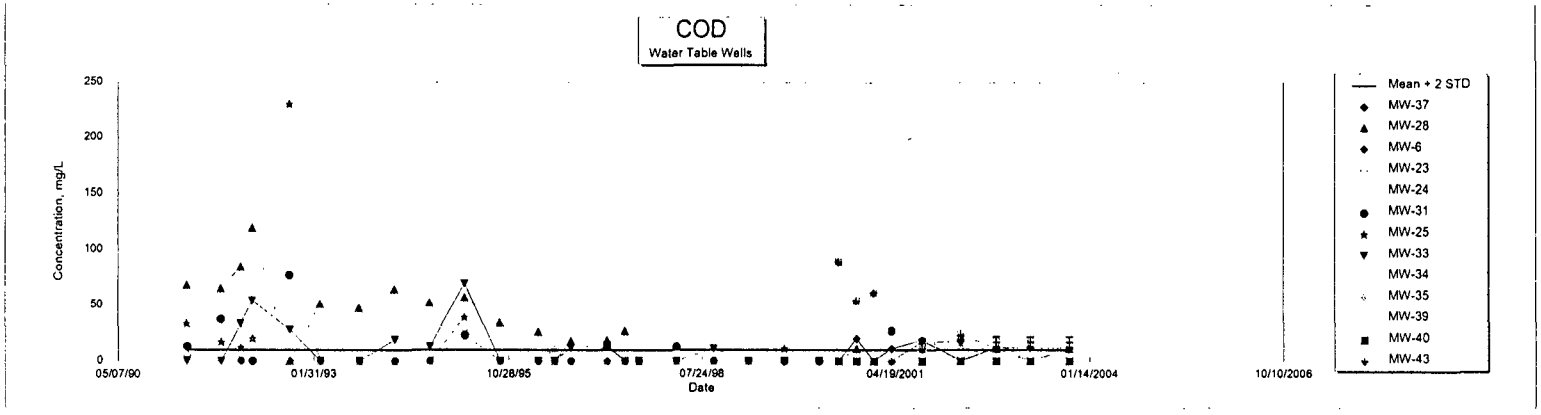
DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Cadmium, dissolved	0.005	0.001			<0.001	<0.001	<0.001	<0.001	<0.001	---	<0.001				
10/15/91	Cadmium, dissolved	0.005	0.001			<0.001	<0.001	---	<0.001	<0.001	---	<0.001				
01/23/92	Cadmium, dissolved	0.005	0.001			<0.001	<0.001	---	<0.001	<0.001	<0.001	<0.001				
03/23/92	Cadmium, dissolved	0.005	0.001			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001				
09/30/92	Cadmium, dissolved	0.005	0.001			NT	NT	NT	NT	NT	NT	NT				
03/05/93	Cadmium, dissolved	0.005	0.001			NT	NT	NT	NT	NT	NT	NT				
09/21/93	Cadmium, dissolved	0.005	0.001			NT	NT	NT	NT	NT	NT	NT				
03/23/94	Cadmium, dissolved	0.005	0.001			NT	NT	NT	NT	NT	NT	NT				
09/16/94	Cadmium, dissolved	0.005	0.001			NT	NT	NT	NT	NT	NT	NT				
03/16/95	Cadmium, dissolved	0.005	0.001			NT	NT	NT	NT	NT	NT	NT				
09/13/95	Cadmium, dissolved	0.005	0.001			NT	NT	NT	NT	NT	NT	NT				
03/28/96	Cadmium, dissolved	0.005	0.001	<0.001		NT	NT	NT	NT	NT	NT	NT	<0.001			
06/20/96	Cadmium, dissolved	0.005	0.001	<0.001		NT	NT	NT	NT	NT	NT	NT	<0.001			
09/13/96	Cadmium, dissolved	0.005	0.001	<0.001		NT	NT	Dry	NT	NT	NT	NT	<0.001			
03/19/97	Cadmium, dissolved	0.005	0.001	<0.001		NT	NT	DRY	NT	NT	NT	NT	<0.001			
06/18/97	Cadmium, dissolved	0.005	0.001	<0.001		<0.001	NT	NT	NT	NT	NT	NT	<0.001			
08/30/97	Cadmium, dissolved	0.005	0.001	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	Cadmium, dissolved	0.005	0.001	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	Cadmium, dissolved	0.005	0.001	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/18/99	Cadmium, dissolved	0.005	0.001	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	Cadmium, dissolved	0.005	0.001	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/2000	Cadmium, dissolved	0.005	0.001	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Cadmium, dissolved	0.005	0.001	NT	<0.001	NT	NT	DRY	NT	NT	NT	NT	NT	<0.001	<0.001	<0.001
09/28/2000	Cadmium, dissolved	0.005	0.001	NT	<0.001	<0.001	NT	DRY	NT	NT	NT	NT	NT	<0.001	<0.001	<0.001
12/27/2000	Cadmium, dissolved	0.005	0.001	NT	<0.001	NT	NT	Dry	NT	NT	NT	NT	NT	<0.001	<0.001	<0.001
03/28/2001	Cadmium, dissolved	0.005	0.001	NT	<0.001	<0.001	NT	NT	NT	NT	NT	NT	NT	<0.001	<0.001	<0.001
09/02/2001	Cadmium, dissolved	0.005	0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Cadmium, dissolved	0.005	0.001	NT	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Cadmium, dissolved	0.005	0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Cadmium, dissolved	0.005	0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Cadmium, dissolved	0.005	0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER ug/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Carbon tetrachloride *	5	0.3			<1	<1	<1	<1	<1	---	<1				
10/15/91	Carbon tetrachloride *	5	0.3			<1	<1	---	<1	<1	---	<1				
01/23/92	Carbon tetrachloride *	5	0.3			<1	<1	---	<1	<1	<1	<1				
03/23/92	Carbon tetrachloride *	5	0.3			<1	<1	<1	<1	<1	<1	<1				
09/30/92	Carbon tetrachloride *	5	0.3			NT	NT	NT	NT	NT	NT	NT				
03/05/93	Carbon tetrachloride *	5	0.3			NT	NT	NT	NT	NT	NT	NT				
09/21/93	Carbon tetrachloride *	5	0.3			NT	NT	NT	NT	NT	NT	NT				
03/23/94	Carbon tetrachloride *	5	0.3			NT	NT	NT	NT	NT	NT	NT				
09/16/94	Carbon tetrachloride *	5	0.3			NT	NT	NT	NT	NT	NT	NT				
03/16/95	Carbon tetrachloride *	5	0.3			NT	NT	NT	NT	NT	NT	NT				
09/13/95	Carbon tetrachloride *	5	0.3			NT	NT	NT	NT	NT	NT	NT				
03/28/96	Carbon tetrachloride *	5	0.3	<0.3		NT	NT	NT	NT	NT	NT	NT	<0.3			
06/20/96	Carbon tetrachloride *	5	0.3	<0.3		NT	NT	NT	NT	NT	NT	NT	<0.3			
09/13/96	Carbon tetrachloride *	5	0.3	<0.3		NT	NT	Dry	NT	NT	NT	NT	<0.3			
03/19/97	Carbon tetrachloride *	5	0.3	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	Carbon tetrachloride *	5	0.3	<0.3		<0.3	NT	NT	NT	NT	NT	NT	<0.3			
08/30/97	Carbon tetrachloride *	5	0.3	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	Carbon tetrachloride *	5	0.3	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	Carbon tetrachloride *	5	0.3	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/18/99	Carbon tetrachloride *	5	0.3	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	Carbon tetrachloride *	5	0.3	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/2000	Carbon tetrachloride *	5	0.3	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Carbon tetrachloride *	5	0.3	NT	<0.3	NT	NT	DRY	NT	NT	NT	NT	NT	<0.3	<0.3	<0.3
09/28/2000	Carbon tetrachloride *	5	0.3	NT	<0.3	<0.3	NT	DRY	NT	NT	NT	NT	DRY	<0.3	<0.3	<0.3
12/27/2000	Carbon tetrachloride *	5	0.3	NT	<0.3	NT	NT	Dry	NT	NT	NT	NT	NT	<0.3	<0.3	<0.3
03/28/2001	Carbon tetrachloride *	5	0.3	NT	<0.3	<0.3	NT	NT	NT	NT	NT	NT	NT	<0.3	<0.3	<0.3
09/02/2001	Carbon tetrachloride *	5	0.3	NT	NT	<0.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Carbon tetrachloride *	5	0.3	NT	NT	<0.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Carbon tetrachloride *	5	0.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Carbon tetrachloride *	5	0.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Carbon tetrachloride *	5	0.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

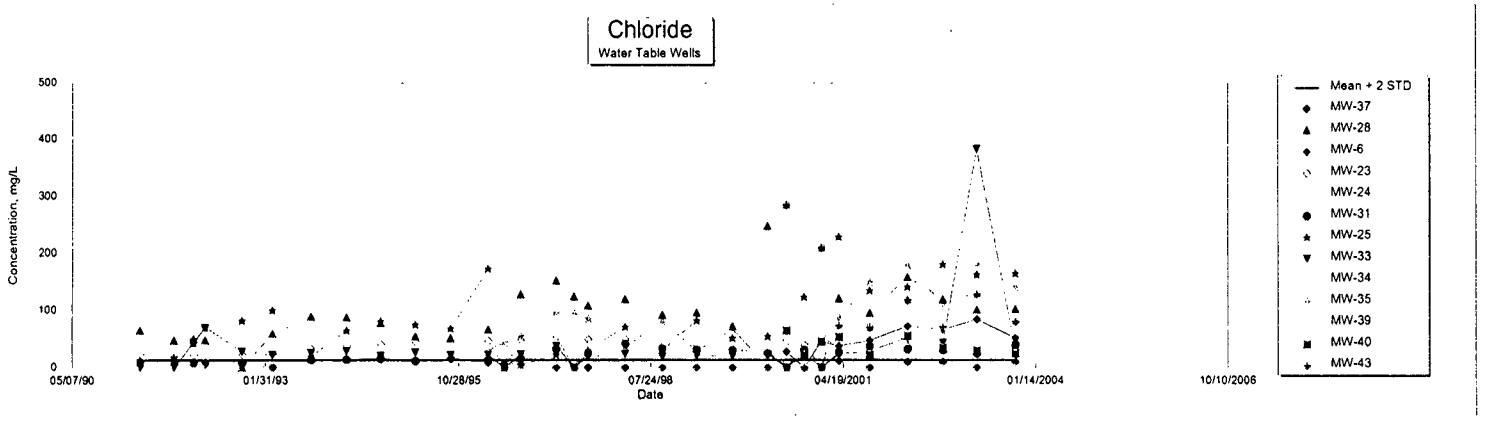
AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Chemical Oxygen Demand	--	10			67.8	5.2	7.5	12.8	33.4	---	120.1				
10/15/91	Chemical Oxygen Demand	--	10			64.8	<10	---	37.2	17.2	---	14.3				
01/23/92	Chemical Oxygen Demand	--	10			84.1	<10	---	<10	12	33.4	<10				
03/23/92	Chemical Oxygen Demand	--	10			119	<10	<10	<10	20	54	10				
09/30/92	Chemical Oxygen Demand	--	10			---	<10	24	77	230	28	107				
03/05/93	Chemical Oxygen Demand	--	10			50.8	<10	---	<10	<10	<10	<10				
09/21/93	Chemical Oxygen Demand	--	10			47.3	<10	<10	<10	<10	<10	<10				
03/23/94	Chemical Oxygen Demand	--	10			64	<10	<10	<10	<10	19	<10				
09/16/94	Chemical Oxygen Demand	--	10			52	<10	NT	<10	<10	13	<10				
03/16/95	Chemical Oxygen Demand	--	10			57	29	NT	23	39	69	29				
09/13/95	Chemical Oxygen Demand	--	10			34	<10	NT	<10	<10	<10	<10				
03/28/96	Chemical Oxygen Demand	--	10	<10		26	<10	NT	<10	<10	<10	<10	<10			
06/20/96	Chemical Oxygen Demand	--	10	<10		NT	NT	NT	NT	NT	NT	NT	10			
09/13/96	Chemical Oxygen Demand	--	10	<10		18	<10	Dry	<10	<10	12	<10	<10			
03/19/97	Chemical Oxygen Demand	--	10	<10		19	<10	<10	13	<10	14	<10	<10			
06/18/97	Chemical Oxygen Demand	--	10	<10		27	NT	NT	NT	NT	NT	NT	<10			
08/30/97	Chemical Oxygen Demand	--	10	<10		<10	<10	DRY	<10	<10	<10	<10	<10			
03/10/98	Chemical Oxygen Demand	--	10	<10		<10	<10	DRY	13	<10	<10	<10	<10			
09/21/98	Chemical Oxygen Demand	--	10	<10		<10	<10	DRY	<10	<10	11	<10	<10			
03/18/99	Chemical Oxygen Demand	--	10	<10		<10	<10	DRY	<10	<10	<10	<10	<10			
09/21/99	Chemical Oxygen Demand	--	10	<10		<10	<10	DRY	<10	11	<10	16	<10			
03/21/2000	Chemical Oxygen Demand	--	10	NT		<10	<10	DRY	<10	<10	<10	55	NT			
06/28/2000	Chemical Oxygen Demand	--	10	NT	<10	NT	NT	DRY	NT	NT	NT	NT	NT	11	<10	89
09/28/2000	Chemical Oxygen Demand	--	10	<10	20	11	<10	DRY	<10	<10	<10	<10	DRY	<10	<10	54
12/27/2000	Chemical Oxygen Demand	--	10	NT	<10	NT	NT	Dry	NT	NT	NT	NT	NT	<10	<10	61
03/28/2001	Chemical Oxygen Demand	--	10	<10	11	<10	<10	<10	27	<10	<10	28	<10	<10	<10	<10
09/02/2001	Chemical Oxygen Demand	--	10	<10	19	11	<10	NT	14	<10	17	19	11	<10	<10	11
03/19/2002	Chemical Oxygen Demand	--	10	<10	<10	24	<10	Dry	19	<10	17	36	14	<10	<10	23
09/19/2002	Chemical Oxygen Demand	--	10	<10	12	11	10	Dry	16	<10	19	15	<10	18	<10	17
03/14/2003	Chemical Oxygen Demand	--	10	<10	12	28	<10	Dry	20	<10	19	15	<10	18	<10	17
09/29/2003	Chemical Oxygen Demand	--	10	<10	12	11	10	Dry	16	<10	19	15	<10	18	<10	17
	Mean			ERR	14.33333	42.04211	13.55	15.75	24.36364	51.8	24.6	36.87692	11.66667	16.25	ERR	36.125
	Standard Deviation (STD)			ERR	3.681787	28.67181	9.132771	8.25	18.12137	73.40175	16.38013	34.79247	1.699673	3.031089	ERR	26.53977
	Mean + 2 STD			ERR	21.69691	99.38573	31.81554	32.25	60.60638	198.6035	57.36025	106.4619	15.06601	22.31218	ERR	89.20454



AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Chloride	--	13.28051			65	23.5	2.5	9	13.5	---	6				
10/15/91	Chloride	--	13.28051			47.6	19.33	---	6.6	17.4	---	6.6				
01/23/92	Chloride	--	13.28051			50.9	21.5	---	8.9	43.5	44.6	10				
03/23/92	Chloride	--	13.28051			48.1	23.2	8.5	8.5	70.8	70.8	9				
09/30/92	Chloride	--	13.28051			---	23	5	8	83	28	3				
03/05/93	Chloride	--	13.28051			59.2	23.5	---	<10	101	22.5	<10				
09/21/93	Chloride	--	13.28051			90	31.8	13.7	13.7	20	26	<10				
03/23/94	Chloride	--	13.28051			88.6	38.7	10.4	14.1	65.1	29.2	<10				
09/16/94	Chloride	--	13.28051			79	41	NT	16	82	21	<10				
03/16/95	Chloride	--	13.28051			55	45	NT	12	76	27	<10				
09/13/95	Chloride	--	13.28051			52	42	NT	15	69	22	15				
03/28/96	Chloride	--	13.28051	9		67	47	NT	13	173	22	8.9	30			
06/20/96	Chloride	--	13.28051	6.7		NT	NT	NT	NT	NT	NT	NT	44			
09/13/96	Chloride	--	13.28051	5.1		129	48.6	Dry	14.9	5.3	23.6	7.1	54.2			
03/19/97	Chloride	--	13.28051	<10		153	53	<10	32	23	38	17	96			
06/18/97	Chloride	--	13.28051	<10		125	NT	NT	NT	NT	NT	NT	95			
08/30/97	Chloride	--	13.28051	<10		109	49	DRY	25	30	19	<10	86			
03/10/98	Chloride	--	13.28051	<10		120	49	DRY	41	72	24	10	37			
09/21/98	Chloride	--	13.28051	<10		93	38	DRY	33	31	19	10	81			
03/18/99	Chloride	--	13.28051	<10		97	38	DRY	31	83	21	15	29			
09/21/99	Chloride	--	13.28051	<10		73	31	DRY	31	52	20	26	67			
03/21/2000	Chloride	--	13.28051	NT		249	28	DRY	25	55	23	45	NT			
06/28/2000	Chloride	--	13.28051	NT	28	NT	NT	DRY	NT	NT	NT	NT	NT	42	65	285
09/28/2000	Chloride	--	13.28051	<10	59	78	39	DRY	31	124	24	13	DRY	36	22	226
12/27/2000	Chloride	--	13.28051	NT	46	NT	NT	Dry	NT	NT	NT	NT	NT	49	46	210
03/28/2001	Chloride	--	13.28051	12	38	122	26	12	27	229	24	105	87	40	54	74
09/02/2001	Chloride	--	13.28051	<10	48	96	26	NT	38	135	29	56	150	45	23	71
03/19/2002	Chloride	--	13.28051	10	73	159	37	Dry	32	142	53	52	179	49	56	119
09/19/2002	Chloride	--	13.28051	10	67	120	26	Dry	31	181	44	25	111	43	35	72
03/14/2003	Chloride	--	13.28051	<10	85	102	30	Dry	25	163	383	34	181	53	30	129
09/29/2003	Chloride	--	13.28051	10	52	103	22	Dry	41	165	30	23	141	45	25	81
	Mean			8.971429	54.625	98.16923	34.07889	8.683333	22.41154	85.35556	43.508	23.64762	91.7625	44.66667	39.55556	130.125
	Standard Deviation (STD)			2.15454	17.76188	43.35881	10.08578	3.893335	10.87397	58.55627	70.3224	23.54304	48.10012	4.876246	15.18121	73.25373
	Mean + 2 STD			13.28051	90.14876	184.8868	54.25045	16.47	44.15949	202.4681	184.1528	70.73371	187.9627	54.41916	69.91798	276.6325

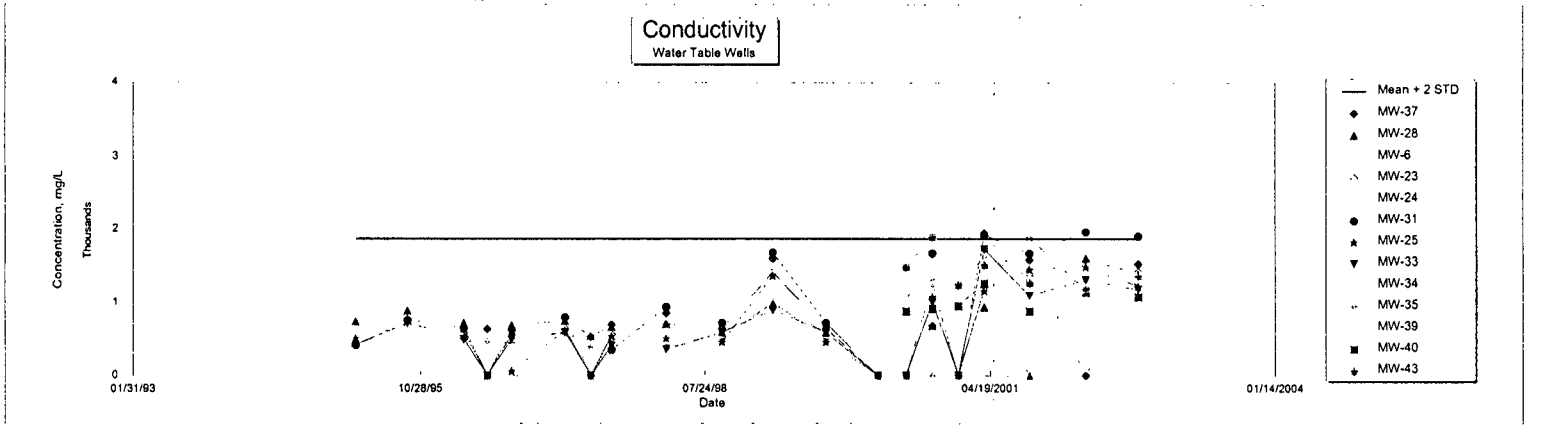


AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Chromium, dissolved	0.1	0.03			<0.03	<0.03	<0.03	<0.03	<0.03	---	<0.03				
10/15/91	Chromium, dissolved	0.1	0.03			<0.03	<0.03	---	<0.03	<0.03	---	<0.03				
01/23/92	Chromium, dissolved	0.1	0.03			<0.03	<0.03	---	<0.03	<0.03	<0.03	<0.03				
03/23/92	Chromium, dissolved	0.1	0.03			<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03				
09/30/92	Chromium, dissolved	0.1	0.03			NT	NT	NT	NT	NT	NT	NT				
03/05/93	Chromium, dissolved	0.1	0.03			NT	NT	NT	NT	NT	NT	NT				
09/21/93	Chromium, dissolved	0.1	0.03			NT	NT	NT	NT	NT	NT	NT				
03/23/94	Chromium, dissolved	0.1	0.03			NT	NT	NT	NT	NT	NT	NT				
09/16/94	Chromium, dissolved	0.1	0.03			NT	NT	NT	NT	NT	NT	NT				
03/16/95	Chromium, dissolved	0.1	0.03			NT	NT	NT	NT	NT	NT	NT				
09/13/95	Chromium, dissolved	0.1	0.03			NT	NT	NT	NT	NT	NT	NT				
03/28/96	Chromium, dissolved	0.1	0.03	<0.03		NT	NT	NT	NT	NT	NT	NT	<0.03			
06/20/96	Chromium, dissolved	0.1	0.03	<0.03		NT	NT	NT	NT	NT	NT	NT	<0.03			
09/13/96	Chromium, dissolved	0.1	0.03	<0.03		NT	NT	Dry	NT	NT	NT	NT	<0.03			
03/19/97	Chromium, dissolved	0.1	0.03	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	Chromium, dissolved	0.1	0.03	<0.03		<0.03	NT	NT	NT	NT	NT	NT	<0.03			
08/30/97	Chromium, dissolved	0.1	0.03	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	Chromium, dissolved	0.1	0.03	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	Chromium, dissolved	0.1	0.03	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/18/99	Chromium, dissolved	0.1	0.03	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	Chromium, dissolved	0.1	0.03	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/2000	Chromium, dissolved	0.1	0.03	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Chromium, dissolved	0.1	0.03	NT	<0.03	NT	NT	DRY	NT	NT	NT	NT	NT	<0.03	<0.03	<0.03
09/28/2000	Chromium, dissolved	0.1	0.03	NT	NT	<0.03	NT	DRY	NT	NT	NT	NT	DRY	<0.03	<0.03	<0.03
12/27/2000	Chromium, dissolved	0.1	0.03	NT	<0.03	NT	NT	Dry	NT	NT	NT	NT	NT	<0.03	<0.03	<0.03
03/28/2001	Chromium, dissolved	0.1	0.03	NT	<0.03	<0.03	NT	NT	NT	NT	NT	NT	NT	<0.03	<0.03	<0.03
09/02/2001	Chromium, dissolved	0.1	0.03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Chromium, dissolved	0.1	0.03	NT	NT	<0.005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Chromium, dissolved	0.1	0.03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Chromium, dissolved	0.1	0.03	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Chromium, dissolved	0.1	0.03	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
03/16/95	Conductivity, mv	--	1867.372			740	390	DRY	420	510	420	550				
09/13/95	Conductivity, mv	--	1867.372			890	690	DRY	760	770	720	660				
03/28/96	Conductivity, mv	--	1867.372	500		720	590	DRY	650	640	500	460	520			
06/20/96	Conductivity, mv	--	1867.372	640		NT	NT	NT	NT	NT	NT	NT	460			
09/13/96	Conductivity, mv	--	1867.372	560		690	560	Dry	630	60	500	570	440			
03/19/97	Conductivity, mv	--	1867.372	800		750	640	500	800	620	590	580	600			
06/18/97	Conductivity, mv	--	1867.372	530		540	NT	NT	NT	NT	NT	NT	380			
08/30/97	Conductivity, mv	--	1867.372	700		670	560	DRY	350	540	410	490	490			
03/10/98	Conductivity, mv	--	1867.372	860		710	710	DRY	940	510	360	470	390			
09/21/98	Conductivity, mv	--	1867.372	650		590	640	DRY	720	460	590	540	490			
03/18/99	Conductivity, mv	--	1867.372	1600		976	1414	DRY	1683	1370	902	1438	1005			
09/21/99	Conductivity, mv	--	1867.372	650		590	640	DRY	720	460	590	540	490			
03/21/2000	Conductivity, mv	--	1867.372	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Conductivity, mv	--	1867.372	NT	1138	NT	NT	DRY	NT	NT	NT	NT	NT	1074	884	1487
09/28/2000	Conductivity, mv	--	1867.372	688	466	686	1268	DRY	1673	1083	1009	1209	DRY	1324	923	1895
12/27/2000	Conductivity, mv	--	1867.372	NT	1252	NT	NT	Dry	NT	NT	NT	NT	NT	1224	960	1246
03/28/2001	Conductivity, mv	--	1867.372	1949	1532	938	1730	1190	1919	1161	1730	3000	1246	1622	1266	1520
09/02/2001	Conductivity, mv	--	1867.372	1583	1446	NT	1404	NT	1670	1455	1098	1455	1889	1354	885	1277
03/19/2002	Conductivity, mv	--	1867.372	NT	1590	1607	1570	Dry	1966	1490	1313	NT	1167	1470	1146	1190
09/19/2002	Conductivity, mv	--	1867.372	1530	1521	1395	1420	Dry	1903	1225	1182	1287	1209	1235	1081	1368
03/14/2003	Conductivity, mv	--	1867.372	1129	1379	1358	1060	Dry	928	833	732	1020	709	1201	926	
09/29/2003	Conductivity, mv	--	1867.372	1185	1018	890	1159	Dry	1328	1241	890	1055	886	1035	819	1142
	Mean			972.125	1260.222	867.0588	967.3529	845	1121.176	848.7059	796.2353	957.75	773.1875	1282.111	987.7778	1390.625
	Standard Deviation (STD)			447.6234	333.951	299.4904	416.4131	345	547.7703	409.433	362.8454	634.1817	413.0229	174.5785	137.3299	228.2608
	Mean + 2 STD			1867.372	1928.124	1466.04	1800.179	1535	2216.717	1667.572	1521.926	2226.113	1599.233	1631.268	1262.438	1847.147

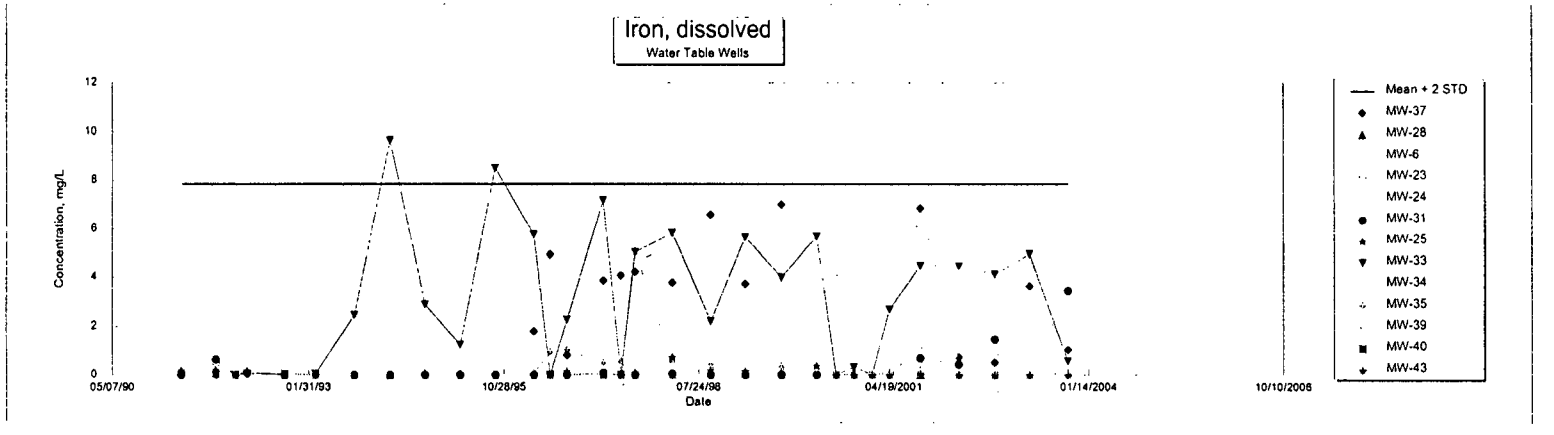


AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Copper, dissolved	1.3	0.03			<0.03	<0.03	<0.03	<0.03	<0.03	---	<0.03				
10/15/91	Copper, dissolved	1.3	0.03			<0.03	<0.03	---	<0.03	<0.03	---	<0.03				
01/23/92	Copper, dissolved	1.3	0.03			<0.03	<0.03	---	<0.03	<0.03	<0.03	<0.03				
03/23/92	Copper, dissolved	1.3	0.03			<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03				
09/30/92	Copper, dissolved	1.3	0.03			NT	NT	NT	NT	NT	NT	NT				
03/05/93	Copper, dissolved	1.3	0.03			NT	NT	NT	NT	NT	NT	NT				
09/21/93	Copper, dissolved	1.3	0.03			NT	NT	NT	NT	NT	NT	NT				
03/23/94	Copper, dissolved	1.3	0.03			NT	NT	NT	NT	NT	NT	NT				
09/16/94	Copper, dissolved	1.3	0.03			NT	NT	NT	NT	NT	NT	NT				
03/16/95	Copper, dissolved	1.3	0.03			NT	NT	NT	NT	NT	NT	NT				
09/13/95	Copper, dissolved	1.3	0.03			NT	NT	NT	NT	NT	NT	NT				
03/28/96	Copper, dissolved	1.3	0.03	<0.03		NT	NT	NT	NT	NT	NT	NT	<0.03			
06/20/96	Copper, dissolved	1.3	0.03	<0.03		NT	NT	NT	NT	NT	NT	NT	<0.03			
09/13/96	Copper, dissolved	1.3	0.03	<0.03		NT	NT	Dry	NT	NT	NT	NT	<0.03			
03/19/97	Copper, dissolved	1.3	0.03	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	Copper, dissolved	1.3	0.03	<0.03		<0.03	NT	NT	NT	NT	NT	NT	<0.03			
08/30/97	Copper, dissolved	1.3	0.03	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	Copper, dissolved	1.3	0.03	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	Copper, dissolved	1.3	0.03	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/18/99	Copper, dissolved	1.3	0.03	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	Copper, dissolved	1.3	0.03	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/2000	Copper, dissolved	1.3	0.03	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Copper, dissolved	1.3	0.03	NT	<0.03	NT	NT	DRY	NT	NT	NT	NT	NT	<0.03	<0.03	<0.03
09/28/2000	Copper, dissolved	1.3	0.03	NT	NT	<0.03	NT	DRY	NT	NT	NT	NT	DRY	<0.03	<0.03	<0.03
12/27/2000	Copper, dissolved	1.3	0.03	NT	<0.03	NT	NT	Dry	NT	NT	NT	NT	NT	<0.03	<0.03	<0.03
03/28/2001	Copper, dissolved	1.3	0.03	NT	<0.03	<0.03	NT	NT	NT	NT	NT	NT	NT	<0.03	<0.03	<0.03
09/02/2001	Copper, dissolved	1.3	0.03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Copper, dissolved	1.3	0.03	NT	NT	<0.005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Copper, dissolved	1.3	0.03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Copper, dissolved	1.3	0.03	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Copper, dissolved	1.3	0.03	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

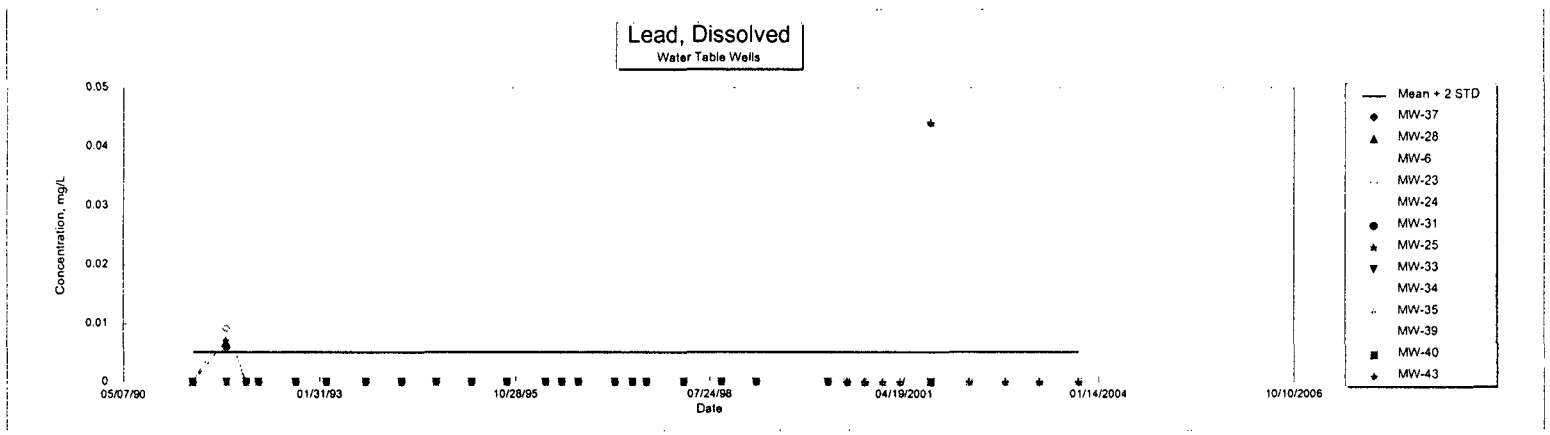
AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Iron, dissolved	--	7.845901			0.159	<0.03	<0.03	<0.03	0.177	---	0.133				
10/15/91	Iron, dissolved	--	7.845901			0.035	0.452	---	0.636	0.205	---	0.767				
01/23/92	Iron, dissolved	--	7.845901			<0.03	<0.03	---	<0.03	<0.03	<0.03	<0.03				
03/23/92	Iron, dissolved	--	7.845901			0.164	<0.03	0.076	0.068	0.121	0.052	<0.03				
09/30/92	Iron, dissolved	--	7.845901			---	<0.03	<0.03	<0.03	<0.03	0.033	0.043				
03/05/93	Iron, dissolved	--	7.845901			<0.03	<0.03	---	<0.03	<0.03	0.035	<0.03				
09/21/93	Iron, dissolved	--	7.845901			<0.03	<0.03	<0.03	<0.03	<0.03	2.46	0.05				
03/23/94	Iron, dissolved	--	7.845901			<0.03	<.03	0.058	<0.03	<0.03	9.65	0.084				
09/16/94	Iron, dissolved	--	7.845901			<0.03	<.03	NT	<0.03	0.05	2.9	0.55				
03/16/95	Iron, dissolved	--	7.845901			<0.03	<.03	NT	<0.03	0.038	1.24	0.47				
09/13/95	Iron, dissolved	--	7.845901			<0.03	<.03	NT	<0.03	<0.03	8.5	0.317				
03/28/96	Iron, dissolved	--	7.845901	1.8		<0.03	<0.03	NT	<0.03	<0.03	5.77	0.386	0.067			
06/20/96	Iron, dissolved	--	7.845901	4.94		NT	NT	NT	NT	NT	NT	NT	0.927			
09/13/96	Iron, dissolved	--	7.845901	0.793		<0.03	<0.03	Dry	<0.03	0.134	2.27	1.3	1.02			
03/19/97	Iron, dissolved	--	7.845901	3.87		0.032	<0.03	<0.03	0.072	<0.03	7.18	<0.03	0.484			
06/18/97	Iron, dissolved	--	7.845901	4.07		<0.03	NT	NT	NT	NT	NT	NT	0.523			
08/30/97	Iron, dissolved	--	7.845901	4.22		<0.03	<0.03	DRY	<0.03	0.076	5.02	1.93	5.05			
03/10/98	Iron, dissolved	--	7.845901	3.78		<0.03	<0.03	DRY	0.033	0.717	5.83	1.52	0.5			
09/21/98	Iron, dissolved	--	7.845901	6.59		<0.03	<0.03	DRY	<0.03	0.166	2.2	3.09	0.415			
03/18/99	Iron, dissolved	--	7.845901	3.73		0.044	<0.03	DRY	<0.03	0.131	5.64	4.78	0.162			
09/21/99	Iron, dissolved	--	7.845901	7.01		<0.03	<0.03	DRY	<0.03	0.076	3.99	5.53	0.337			
03/21/2000	Iron, dissolved	--	7.845901	NT		<0.03	<0.03	DRY	<0.03	0.371	5.69	4.15	NT			
06/28/2000	Iron, dissolved	--	7.845901	NT	<0.03	NT	NT	DRY	NT	NT	NT	NT	NT	0.033	<0.03	<0.03
09/28/2000	Iron, dissolved	--	7.845901	0.067	<0.03	<0.03	<0.03	DRY	<0.03	<0.03	0.303	3.3	DRY	<0.03	<0.03	<0.03
12/27/2000	Iron, dissolved	--	7.845901	NT	<0.03	NT	NT	Dry	NT	NT	NT	NT	NT	0.109	<0.03	<0.03
03/28/2001	Iron, dissolved	--	7.845901	<0.03	<0.03	0.039	<0.03	<0.03	<0.03	<0.03	2.7	<0.03	0.108	<0.03	<0.03	<0.03
09/02/2001	Iron, dissolved	--	7.845901	6.85	<0.03	<0.03	<0.03	NT	0.672	<0.03	4.47	6.97	0.168	1.15	<0.03	0.044
03/19/2002	Iron, dissolved	--	7.845901	0.713	<0.03	<0.03	<0.03	Dry	0.41	<0.03	4.46	0.654	<0.03	0.04	<0.03	<0.03
09/19/2002	Iron, dissolved	--	7.845901	0.496	<0.03	<0.03	<0.03	Dry	1.46	<0.03	4.12	5.65	<0.03	0.087	<0.03	<0.03
03/14/2003	Iron, dissolved	--	7.845901	3.64	0.035	<0.03	<0.03	Dry	<0.03	<0.03	4.95	4.67	<0.03	0.041	<0.03	<0.03
09/29/2003	Iron, dissolved	--	7.845901	1.02	<0.030	<0.03	<0.030	Dry	3.44	<0.030	0.556	5.63	0.078	0.041	<0.030	<0.030
	Mean			3.349313	0.035	0.078833	0.452	0.067	0.848875	0.1885	3.750792	2.362455	0.756846	0.214429	ERR	0.044
	Standard Deviation (STD)			2.248294	0	0.058587	0	0.009	1.074451	0.180626	2.637137	2.254855	1.273273	0.382873	ERR	0
	Mean + 2 STD			7.845901	0.035	0.196008	0.452	0.085	2.997778	0.549751	9.025066	6.872165	3.303392	0.980175	ERR	0.044



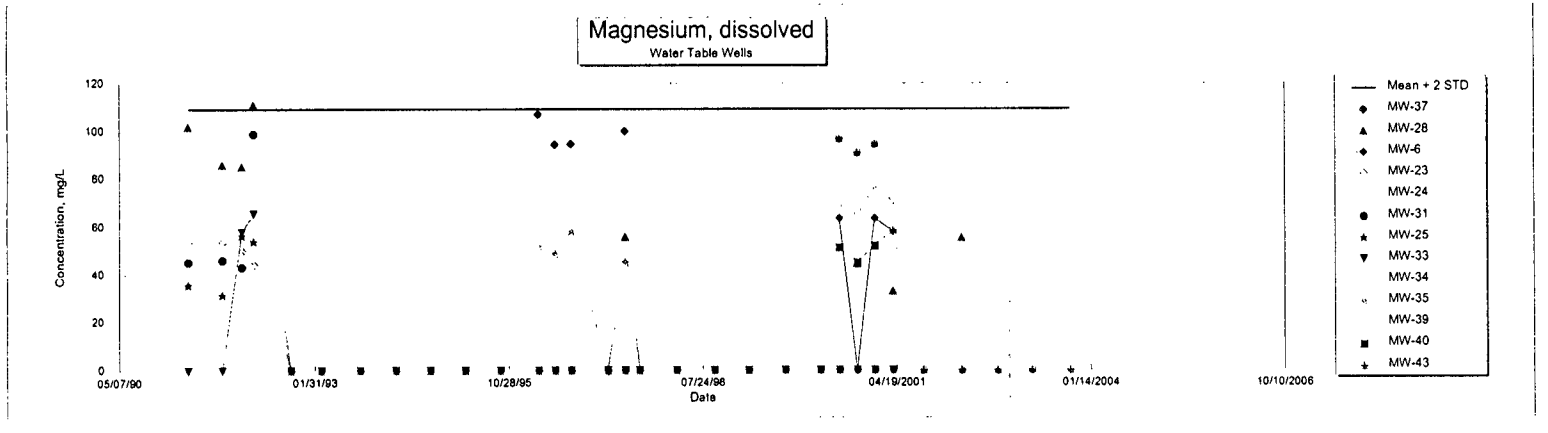
AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Lead, dissolved	0.015	0.005			<0.005	<0.005	0.012	<0.005	<0.005	---	<0.005				
10/15/91	Lead, dissolved	0.015	0.005			<0.005	0.009	---	0.006	0.007	---	0.01				
01/23/92	Lead, dissolved	0.015	0.005			<0.005	<0.005	---	<0.005	<0.005	<0.005	<0.005				
03/23/92	Lead, dissolved	0.015	0.005			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005				
09/30/92	Lead, dissolved	0.015	0.005			NT	NT	NT	NT	NT	NT	NT				
03/05/93	Lead, dissolved	0.015	0.005			NT	NT	NT	NT	NT	NT	NT				
09/21/93	Lead, dissolved	0.015	0.005			NT	NT	NT	NT	NT	NT	NT				
03/23/94	Lead, dissolved	0.015	0.005			NT	NT	NT	NT	NT	NT	NT				
09/16/94	Lead, dissolved	0.015	0.005			NT	NT	NT	NT	NT	NT	NT				
03/16/95	Lead, dissolved	0.015	0.005			NT	NT	NT	NT	NT	NT	NT				
09/13/95	Lead, dissolved	0.015	0.005			NT	NT	NT	NT	NT	NT	NT				
03/28/96	Lead, dissolved	0.015	0.005	<0.005		NT	NT	NT	NT	NT	NT	NT	<0.005			
06/20/96	Lead, dissolved	0.015	0.005	<0.005		NT	NT	NT	NT	NT	NT	NT	<0.005			
09/13/96	Lead, dissolved	0.015	0.005	<0.005		NT	NT	Dry	NT	NT	NT	NT	<0.005			
03/19/97	Lead, dissolved	0.015	0.005	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	Lead, dissolved	0.015	0.005	<0.005		<0.005	NT	NT	NT	NT	NT	NT	<0.005			
08/30/97	Lead, dissolved	0.015	0.005	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	Lead, dissolved	0.015	0.005	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	Lead, dissolved	0.015	0.005	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/18/99	Lead, dissolved	0.015	0.005	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/99	Lead, dissolved	0.015	0.005	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/2000	Lead, dissolved	0.015	0.005	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Lead, dissolved	0.015	0.005	NT	<0.005	NT	NT	DRY	NT	NT	NT	NT	NT	<0.005	<0.005	<0.005
09/28/2000	Lead, dissolved	0.015	0.005	NT	NT	<0.005	NT	DRY	NT	NT	NT	NT	DRY	<0.005	<0.005	<0.005
12/27/2000	Lead, dissolved	0.015	0.005	NT	<0.005	NT	NT	Dry	NT	NT	NT	NT	NT	<0.005	<0.005	<0.005
03/28/2001	Lead, dissolved	0.015	0.005	NT	<0.005	<0.005	NT	NT	NT	NT	NT	NT	NT	<0.005	<0.005	<0.005
09/02/2001	Lead, dissolved	0.015	0.005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Lead, dissolved	0.015	0.005	NT	NT	<0.005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Lead, dissolved	0.015	0.005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Lead, dissolved	0.015	0.005	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Lead, dissolved	0.015	0.005	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	0.009	0.012	0.006	0.007	ERR	0.01	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	0	0	0	0	ERR	0	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	0.009	0.012	0.006	0.007	ERR	0.01	ERR	ERR	ERR	ERR



AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Magnesium, dissolved	--	109.2752			102	53.2	75.1	45.2	35.6	---	29.5				
10/15/91	Magnesium, dissolved	--	109.2752			85.9	53.4	---	46.1	31.4	---	31.7				
01/23/92	Magnesium, dissolved	--	109.2752			85.2	49.8	---	43.1	56.4	58	68				
03/23/92	Magnesium, dissolved	--	109.2752			111	44.1	76.6	98.9	53.9	65.7	65.7				
09/30/92	Magnesium, dissolved	--	109.2752			NT	NT	NT	NT	NT	NT	NT				
03/05/93	Magnesium, dissolved	--	109.2752			NT	NT	NT	NT	NT	NT	NT				
09/21/93	Magnesium, dissolved	--	109.2752			NT	NT	NT	NT	NT	NT	NT				
03/23/94	Magnesium, dissolved	--	109.2752			NT	NT	NT	NT	NT	NT	NT				
09/16/94	Magnesium, dissolved	--	109.2752			NT	NT	NT	NT	NT	NT	NT				
03/16/95	Magnesium, dissolved	--	109.2752			NT	NT	NT	NT	NT	NT	NT				
09/13/95	Magnesium, dissolved	--	109.2752			NT	NT	NT	NT	NT	NT	NT				
03/28/96	Magnesium, dissolved	--	109.2752	107		NT	NT	NT	NT	NT	NT	NT	51.8			
06/20/96	Magnesium, dissolved	--	109.2752	94.3		NT	NT	NT	NT	NT	NT	NT	48.6			
09/13/96	Magnesium, dissolved	--	109.2752	94.7		NT	NT	Dry	NT	NT	NT	NT	58.1			
03/19/97	Magnesium, dissolved	--	109.2752	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	Magnesium, dissolved	--	109.2752	100		55.7	NT	NT	NT	NT	NT	NT	45			
08/30/97	Magnesium, dissolved	--	109.2752	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	Magnesium, dissolved	--	109.2752	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	Magnesium, dissolved	--	109.2752	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/18/99	Magnesium, dissolved	--	109.2752	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	Magnesium, dissolved	--	109.2752	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/2000	Magnesium, dissolved	--	109.2752	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Magnesium, dissolved	--	109.2752	NT	63.7	NT	NT	DRY	NT	NT	NT	NT	NT	68.7	51.1	96.7
09/28/2000	Magnesium, dissolved	--	109.2752	NT	NT	44.6	NT	DRY	NT	NT	NT	NT	DRY	64.9	44.9	90.9
12/27/2000	Magnesium, dissolved	--	109.2752	NT	63.7	NT	NT	Dry	NT	NT	NT	NT	NT	76.4	51.9	94.7
03/28/2001	Magnesium, dissolved	--	109.2752	NT	58.1	32.9	NT	NT	NT	NT	NT	NT	NT	70.2	58.4	58.4
09/02/2001	Magnesium, dissolved	--	109.2752	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Magnesium, dissolved	--	109.2752	NT	NT	55.4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Magnesium, dissolved	--	109.2752	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Magnesium, dissolved	--	109.2752	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Magnesium, dissolved	--	109.2752	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			99	61.83333	71.5875	50.125	75.85	58.325	44.325	61.85	48.725	50.875	70.05	51.575	85.175
	Standard Deviation (STD)			5.137606	2.639865	26.47619	3.761233	0.75	23.45127	10.96207	3.85	18.1599	4.815275	4.143972	4.781932	15.5983
	Mean + 2 STD			109.2752	67.11306	124.5399	57.64747	77.35	105.2275	66.24913	69.55	85.04479	60.50555	78.33794	61.13886	116.3716

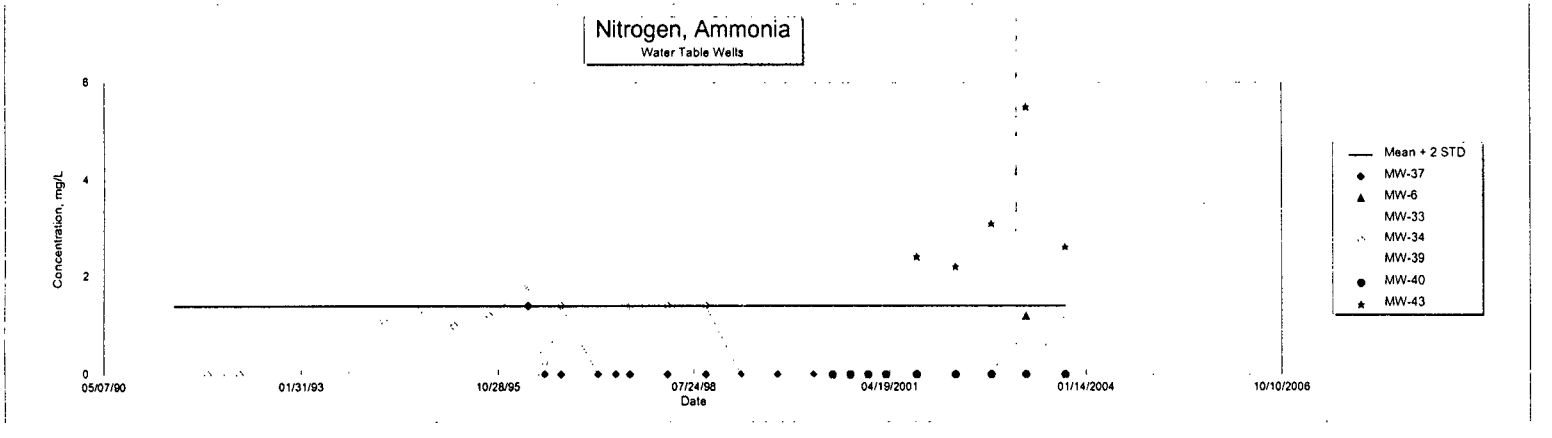


AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Mercury, dissolved	0.002	0.0005			<0.001	<0.001	<0.001	<0.001	<0.001	---	<0.001				
10/15/91	Mercury, dissolved	0.002	0.0005			<0.0005	<0.0005	---	<0.0005	<0.0005	---	<0.0005				
01/23/92	Mercury, dissolved	0.002	0.0005			<0.0005	<0.0005	---	<0.0005	<0.0005	<0.0005	<0.0005				
03/23/92	Mercury, dissolved	0.002	0.0005			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005				
09/30/92	Mercury, dissolved	0.002	0.0005			NT	NT	NT	NT	NT	NT	NT				
03/05/93	Mercury, dissolved	0.002	0.0005			NT	NT	NT	NT	NT	NT	NT				
09/21/93	Mercury, dissolved	0.002	0.0005			NT	NT	NT	NT	NT	NT	NT				
03/23/94	Mercury, dissolved	0.002	0.0005			NT	NT	NT	NT	NT	NT	NT				
09/16/94	Mercury, dissolved	0.002	0.0005			NT	NT	NT	NT	NT	NT	NT				
03/16/95	Mercury, dissolved	0.002	0.0005			NT	NT	NT	NT	NT	NT	NT				
09/13/95	Mercury, dissolved	0.002	0.0005			NT	NT	NT	NT	NT	NT	NT				
03/28/96	Mercury, dissolved	0.002	0.0005	<0.0005		NT	NT	NT	NT	NT	NT	NT	<0.0005			
06/20/96	Mercury, dissolved	0.002	0.0005	<0.0005		NT	NT	NT	NT	NT	NT	NT	<0.0005			
09/13/96	Mercury, dissolved	0.002	0.0005	<0.0005		NT	NT	Dry	NT	NT	NT	NT	<0.0005			
03/19/97	Mercury, dissolved	0.002	0.0005	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	Mercury, dissolved	0.002	0.0005	<0.0005		<0.0005	NT	NT	NT	NT	NT	NT	<0.0005			
08/30/97	Mercury, dissolved	0.002	0.0005	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	Mercury, dissolved	0.002	0.0005	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	Mercury, dissolved	0.002	0.0005	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/18/99	Mercury, dissolved	0.002	0.0005	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	Mercury, dissolved	0.002	0.0005	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/28/2000	Mercury, dissolved	0.002	0.0005	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Mercury, dissolved	0.002	0.0005	NT	<0.0005	NT	NT	DRY	NT	NT	NT	NT	NT	<0.0005	<0.0005	<0.0005
09/28/2000	Mercury, dissolved	0.002	0.0005	NT	NT	<0.0005	NT	DRY	NT	NT	NT	NT	DRY	<0.0005	<0.0005	<0.0005
12/27/2000	Mercury, dissolved	0.002	0.0005	NT	<0.0005	NT	NT	Dry	NT	NT	NT	NT	NT	<0.0005	<0.0005	<0.0005
03/28/2001	Mercury, dissolved	0.002	0.0005	NT	<0.0005	<0.0005	NT	NT	NT	NT	NT	NT	NT	<0.0005	<0.0005	<0.0005
09/02/2001	Mercury, dissolved	0.002	0.0005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Mercury, dissolved	0.002	0.0005	NT	NT	<0.0005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Mercury, dissolved	0.002	0.0005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Mercury, dissolved	0.002	0.0005	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Mercury, dissolved	0.002	0.0005	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

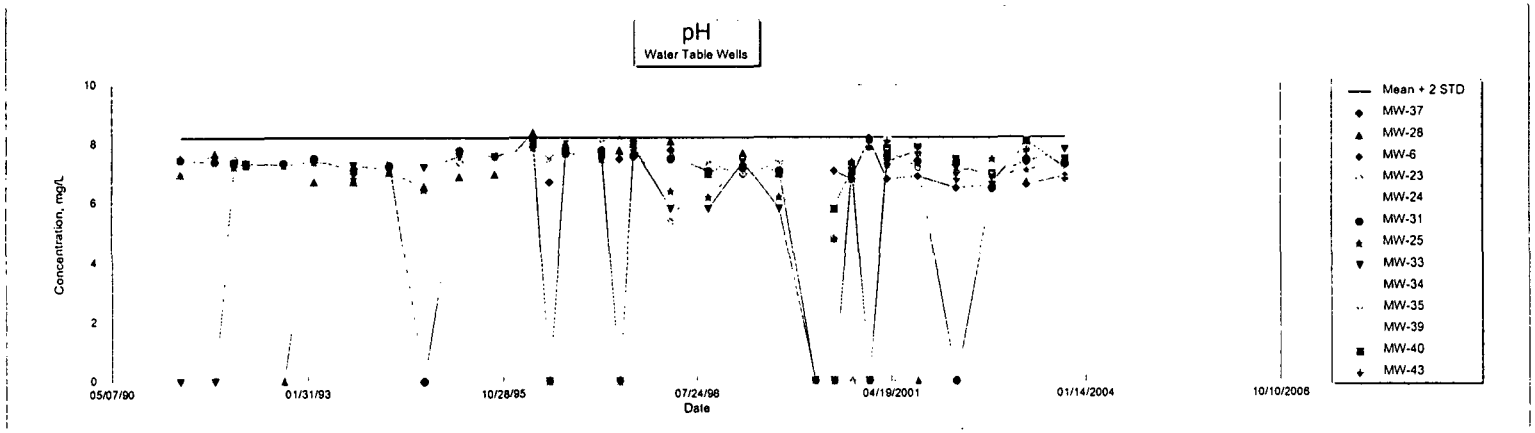
AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Nitrogen, Ammonia	--	1.4			<0.5	<0.5	<0.5	<0.5	<0.5	---	<0.5				
10/15/91	Nitrogen, Ammonia	--	1.4			<0.5	<0.5	---	<0.5	<0.5	---	<0.5				
01/23/92	Nitrogen, Ammonia	--	1.4			<1.0	<1.0	---	<1.0	<1.0	<1.0	<1.0				
03/23/92	Nitrogen, Ammonia	--	1.4			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0				
09/30/92	Nitrogen, Ammonia	--	1.4			---	<1	<1	<1	<1	<1	<1				
03/05/93	Nitrogen, Ammonia	--	1.4			<1	<1	---	<1	<1	1.7	<1				
09/21/93	Nitrogen, Ammonia	--	1.4			<1	<1	<1	<1	<1	1.7	<1				
03/23/94	Nitrogen, Ammonia	--	1.4			<1	<1	<1	<1	<1	1.8	1.1				
09/16/94	Nitrogen, Ammonia	--	1.4			<1	<1	NT	<1	<1	1.8	1.3				
03/16/95	Nitrogen, Ammonia	--	1.4			<1	<1	NT	<1	<1	1.6	1				
09/13/95	Nitrogen, Ammonia	--	1.4			<1	<1	NT	<1	<1	1.5	1.2				
03/28/96	Nitrogen, Ammonia	--	1.4	1.4		<1	<1	NT	<1	<1	1.4	1.8	<1			
06/20/96	Nitrogen, Ammonia	--	1.4	<1		NT	NT	NT	NT	NT	NT	NT	<1			
09/13/96	Nitrogen, Ammonia	--	1.4	<1		<1	<1	Dry	<1	<1	1.6	1.4	<1			
03/19/97	Nitrogen, Ammonia	--	1.4	<1		<1	<1	<1	<1	<1	1.5	<1	<1			
06/18/97	Nitrogen, Ammonia	--	1.4	<1		<1	NT	NT	NT	NT	NT	NT	<1			
08/30/97	Nitrogen, Ammonia	--	1.4	<1		<1	<1	DRY	<1	<1	1.4	1.4	<1			
03/10/98	Nitrogen, Ammonia	--	1.4	<1		<1	<1	DRY	<1	<1	1.6	1.4	<1			
09/21/98	Nitrogen, Ammonia	--	1.4	<1		<1	<1	DRY	<1	<1	1.6	1.4	<1			
03/18/99	Nitrogen, Ammonia	--	1.4	<1		<1	<1	DRY	<1	<1	1.4	<1	<1			
09/21/99	Nitrogen, Ammonia	--	1.4	<1		<1	<1	DRY	<1	<1	1.5	<1	<1			
03/21/2000	Nitrogen, Ammonia	--	1.4	NT		<1	<1	DRY	<1	<1	1.6	<1	NT			
06/28/2000	Nitrogen, Ammonia	--	1.4	NT	<1	NT	NT	DRY	NT	NT	NT	NT	NT	<1	<1	<1
09/28/2000	Nitrogen, Ammonia	--	1.4	<1	<1	<1	<1	DRY	<1	<1	1.35	<1	DRY	<1	<1	<1
12/27/2000	Nitrogen, Ammonia	--	1.4	NT	<1	NT	NT	Dry	NT	NT	NT	NT	NT	<1	<1	<1
03/28/2001	Nitrogen, Ammonia	--	1.4	<1	<1	<1	<1	<1	<1	<1	1.8	<1	<1	<1	<1	<1
09/02/2001	Nitrogen, Ammonia	--	1.4	<1	<1	<1	<1	NT	<1	<1	1.6	<1	<1	<1	<1	2.4
03/19/2002	Nitrogen, Ammonia	--	1.4	<1	<1	<1	<1	Dry	<1	<1	2.2	<1	<1	<1	<1	2.2
09/19/2002	Nitrogen, Ammonia	--	1.4	<1	<1	<1	<1	Dry	<1	<1	<1	<1	<1	<1	<1	3.1
03/14/2003	Nitrogen, Ammonia	--	1.4	<1	1.2	<1	<1	Dry	<1	<1	1.4	<1	<1	<1	<1	5.5
09/29/2003	Nitrogen, Ammonia	--	1.4	<1.0	<1.0	<1.0	<1.0	Dry	<1.0	<1.0	1.6	1.2	<1.0	<1	<1.0	2.6
	Mean			1.4	1.2	ERR	ERR	ERR	ERR	ERR	1.602381	1.32	ERR	ERR	ERR	3.16
	Standard Deviation (STD)			0	0	ERR	ERR	ERR	ERR	ERR	0.189282	0.208806	ERR	ERR	ERR	1.207642
	Mean + 2 STD			1.4	1.2	ERR	ERR	ERR	ERR	ERR	1.980945	1.737612	ERR	ERR	ERR	5.575285



AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	pH	--	8.223996			6.99	7.45	7.25	7.48	7.55	---	7.01				
10/15/91	pH	--	8.223996			7.71	7.42	---	7.42	7.60	---	7.03				
01/23/92	pH	--	8.223996			7.41	7.52	---	7.41	7.27	7.26	7.31				
03/23/92	pH	--	8.223996			7.32	7.33	7.30	7.30	7.39	7.37	7.32				
09/30/92	pH	--	8.223996			---	7.28	---	7.37	7.31	7.3	7.13				
03/05/93	pH	--	8.223996			6.72	7.43	---	7.54	7.41	7.42	7.34				
09/21/93	pH	--	8.223996			6.73	7.19	7.09	7.08	6.85	7.29	7.12				
03/23/94	pH	--	8.223996			7.05	7.4	7.45	7.29	7.16	7.18	7.4				
09/16/94	pH	--	8.223996			6.57				6.46	7.22	6.99				
03/16/95	pH	--	8.223996			6.9	7.4	DRY	7.8	7.7	7.6	7.7				
09/13/95	pH	--	8.223996			7	7.6	DRY	7.6	7.6	7.6	7.6				
03/28/96	pH	--	8.223996	7.9		8.4	8.1	DRY	8.1	7.9	7.9	8	8			
06/20/96	pH	--	8.223996	6.7		NT	NT	NT	NT	NT	NT	NT	7.5			
09/13/96	pH	--	8.223996	7.8		8	7.7	Dry	7.7	7.7	7.7	8	8.1			
03/19/97	pH	--	8.223996	7.7		7.7	7.6	7.7	7.8	7.5	7.5	7.7	8.1			
06/18/97	pH	--	8.223996	7.5		7.8	NT	NT	NT	NT	NT	NT	8.2			
08/30/97	pH	--	8.223996	8.1		8	7.6	DRY	7.6	7.8	7.9	8	8			
03/10/98	pH	--	8.223996	7.8		8.1	7.6	DRY	7.5	6.4	5.8	5.8	5.4			
09/21/98	pH	--	8.223996	7		7	7.1	DRY	7.1	6.2	5.8	7.4	7.4			
03/18/99	pH	--	8.223996	7.3		7.7	7	DRY	7.2	7.3	7.4	7.7	6.9			
09/21/99	pH	--	8.223996	7		7	7.1	DRY	7.1	6.2	5.8	7.4	7.4			
03/21/2000	pH	--	8.223996	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	pH	--	8.223996	NT	7.1	NT	NT	DRY	NT	NT	NT	NT	NT	5.9	5.8	4.8
09/28/2000	pH	--	8.223996	7	6.8	7.4	7	DRY	6.9	7.2	7.3	7.2	NT	7.1	7.1	6.8
12/27/2000	pH	--	8.223996	NT	8.2	NT	NT	Dry	NT	NT	NT	NT	NT	8	8.1	7.9
03/28/2001	pH	--	8.223996	7.3	6.8	7.8	7.8	7.7	7.9	7.5	7.4	7.5	7.5	7.2	7.7	8.1
09/02/2001	pH	--	8.223996	7.7	6.9	NT	7.2	NT	7.4	7.7	7.8	7.3	7.3	7.1	7.9	7.7
03/19/2002	pH	--	8.223996	6.8	6.5	7.4	NT	Dry	NT	7	7.2	7	7.1	6.9	7.5	6.8
09/19/2002	pH	--	8.223996	6.7	6.6	6.8	6.7	Dry	6.5	7.5	7	6.7	6.9	6.7	6.9	6.7
03/14/2003	pH	--	8.223996	7.5	6.6	6.7	8.1	Dry	7.4	7.1	7.4	7.3	7.1	8	8.1	7.8
09/29/2003	pH	--	8.223996	7.5	6.9	7.4	7.2	Dry	7.3	7.4	7.8	7.4	7.5	7.2	7.5	6.8
Mean				7.370588	6.933333	7.344	7.414783	7.415	7.407917	7.257692	7.2475	7.321154	7.4	7.122222	7.4	7.044444
Standard Deviation (STD)				0.426704	0.48074	0.498197	0.331149	0.227211	0.33419	0.469651	0.593564	0.444404	0.664267	0.603283	0.686375	0.953486
Mean + 2 STD				8.223996	7.894814	8.340393	8.077081	7.869423	8.076297	8.196993	8.434629	8.209962	8.728533	8.328789	8.772751	8.951417

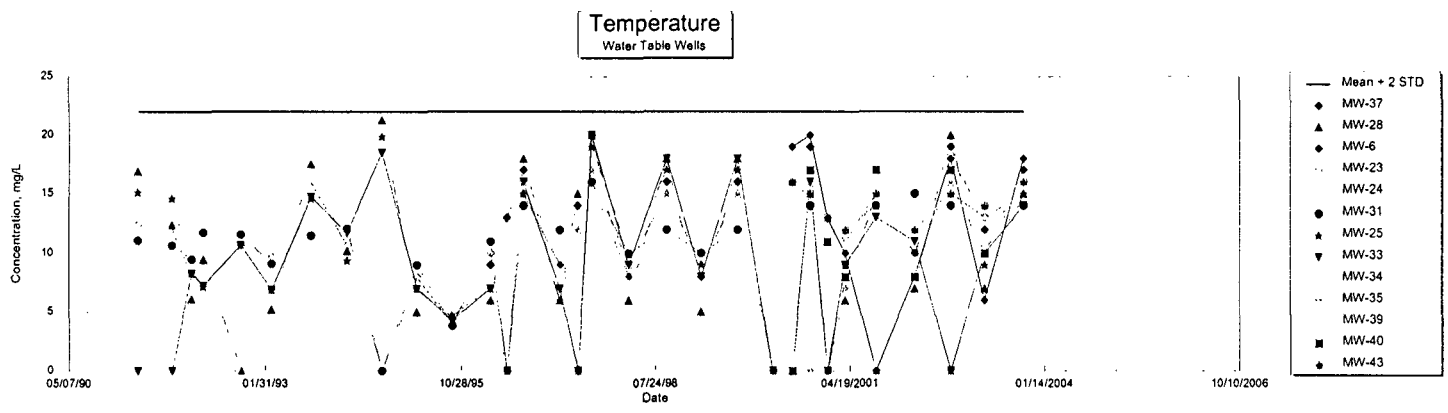


AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Phenols	--	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	---	<0.1				
10/15/91	Phenols	--	0.1			<0.1	<0.1	---	<0.1	<0.1	---	<0.1				
01/23/92	Phenols	--	0.1			<0.1	<0.1	---	<0.1	<0.1	<0.1	<0.1				
03/23/92	Phenols	--	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				
09/30/92	Phenols	--	0.1			---	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				
03/05/93	Phenols	--	0.1			NT	NT	NT	NT	NT	NT	NT				
09/21/93	Phenols	--	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				
03/23/94	Phenols	--	0.1			NT	NT	NT	NT	NT	NT	NT				
09/16/94	Phenols	--	0.1			<0.1	<0.1	NT	<0.1	<0.1	<0.1	<0.1				
03/16/95	Phenols	--	0.1			<0.1	<0.1	NT	<0.1	<0.1	<0.1	<0.1				
09/13/95	Phenols	--	0.1			NT	NT	NT	NT	NT	NT	NT				
03/28/96	Phenols	--	0.1	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/20/96	Phenols	--	0.1	NT		NT	NT	NT	NT	NT	NT	NT	NT			
09/13/96	Phenols	--	0.1	<0.1		<0.1	<0.1	Dry	<0.1	<0.1	<0.1	<0.1	<0.1			
03/19/97	Phenols	--	0.1	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	Phenols	--	0.1	NT		NT	NT	NT	NT	NT	NT	NT	NT			
08/30/97	Phenols	--	0.1	<0.1		<0.1	<0.1	DRY	<0.1	<0.1	<0.1	<0.1	<0.1			
03/10/98	Phenols	--	0.1	NT		NT	NT	NT	NT	NT	NT	NT	NT			
09/21/98	Phenols	--	0.1	<0.1		<0.1	<0.1	DRY	<0.1	<0.1	<0.1	<0.1	<0.1			
03/18/99	Phenols	--	0.1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	Phenols	--	0.1	<0.1		<0.1	<0.1	DRY	<0.1	<0.1	<0.1	<0.1	<0.1			
03/21/2000	Phenols	--	0.1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Phenols	--	0.1	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
09/28/2000	Phenols	--	0.1	<0.1	<0.1	<0.1	<0.1	DRY	<0.1	<0.1	<0.1	<0.1	DRY	<0.1	<0.1	<0.1
12/27/2000	Phenols	--	0.1	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
03/28/2001	Phenols	--	0.1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/02/2001	Phenols	--	0.1	<0.1	<0.1	<0.1	<0.1	NT	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
03/19/2002	Phenols	--	0.1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Phenols	--	0.1	<0.1	<0.1	<0.1	<0.1	Dry	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
03/14/2003	Phenols	--	0.1	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Phenols	--	0.1	<0.100	<0.100	<0.100	<0.100	Dry	<0.100	<0.100	<0.100	<0.100	<0.100	NT	<0.100	<0.100
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

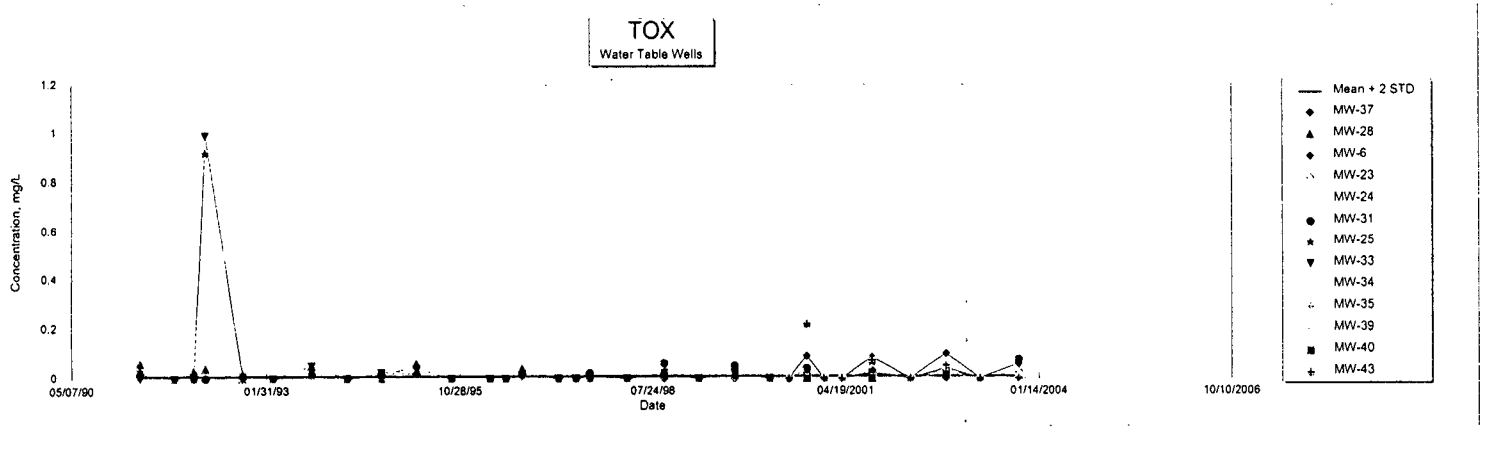
AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Temperature, celsius	--	22.01903			16.9	12.4	11.2	11.1	15.1	---	12.4				
10/15/91	Temperature, celsius	--	22.01903			12.4	12.1	---	10.7	14.6	---	16.2				
01/23/92	Temperature, celsius	--	22.01903			6.1	8.1	---	9.5	8.3	8.3	6.2				
03/23/92	Temperature, celsius	--	22.01903			9.5	11.8	9.2	11.8	7.2	7.3	6.5				
09/30/92	Temperature, celsius	--	22.01903			---	10.7	---	11.6	10.7	10.7	10.1				
03/05/93	Temperature, celsius	--	22.01903			5.2	9.7	---	9.1	6.9	6.9	6.1				
09/21/93	Temperature, celsius	--	22.01903			17.5	15.9	13	11.5	14.6	14.7	14.8				
03/23/94	Temperature, celsius	--	22.01903			10.2	10.7	10	12.1	9.4	11.7	12				
09/16/94	Temperature, celsius	--	22.01903			21.3				19.9	18.5	2.11				
03/16/95	Temperature, celsius	--	22.01903			5	8	DRY	9	7	7	6				
09/13/95	Temperature, celsius	--	22.01903			4.72	3.89	DRY	3.8	4.63	4.24	4.66				
03/28/96	Temperature, celsius	--	22.01903	9		6	10	DRY	11	7	7	7	6			
06/20/96	Temperature, celsius	--	22.01903	13		NT	NT	NT	NT	NT	NT	NT	13			
09/13/96	Temperature, celsius	--	22.01903	17		18	15	Dry	14	15	16	16	16			
03/19/97	Temperature, celsius	--	22.01903	9		6	9	9	12	6	7	6	6			
06/18/97	Temperature, celsius	--	22.01903	14		15	NT	NT	NT	NT	NT	NT	12			
08/30/97	Temperature, celsius	--	22.01903	20		20	16	DRY	16	19	20	21	17			
03/10/98	Temperature, celsius	--	22.01903	8		6	8	DRY	10	10	9	9	9			
09/21/98	Temperature, celsius	--	22.01903	16		18	12	DRY	12	17	18	17	15			
03/18/99	Temperature, celsius	--	22.01903	8		5	10	DRY	10	9	8	9	9			
09/21/99	Temperature, celsius	--	22.01903	16		18	12	DRY	12	17	18	17	15			
03/21/2000	Temperature, celsius	--	22.01903	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Temperature, celsius	--	22.01903	NT	19	NT	NT	DRY	NT	NT	NT	NT	NT	14	NT	16
09/28/2000	Temperature, celsius	--	22.01903	19	20	17	14	DRY	14	17	16	17	NT	16	17	15
12/27/2000	Temperature, celsius	--	22.01903	NT	13	NT	NT	Dry	NT	NT	NT	NT	NT	13	11	13
03/28/2001	Temperature, celsius	--	22.01903	8	10	6	10	9	12	9	9	6	7	11	8	12
09/02/2001	Temperature, celsius	--	22.01903	17	NT	NT	15	NT	14	14	13	17	15	15	17	15
03/19/2002	Temperature, celsius	--	22.01903	10	8	7	15	Dry	15	10	11	10	10	10	8	12
09/19/2002	Temperature, celsius	--	22.01903	19	18	20	15	Dry	14	NT	NT	19	16	18	17	15
03/14/2003	Temperature, celsius	--	22.01903	12	6	7	13	Dry	14	9	10	10	10	13	10	14
09/29/2003	Temperature, celsius	--	22.01903	17	18	15	14	Dry	14	15	14	19	17	15	16	16
	Mean			13.64706	14	11.7128	11.6516	10.23333	11.768	11.6932	11.53652	11.42577	12.0625	13.88889	13	14.22222
	Standard Deviation (STD)			4.185987	5.123475	5.842555	2.939643	1.457929	2.453686	4.362081	4.449655	5.280823	3.815573	2.330686	3.872983	1.474055
	Mean + 2 STD			22.01903	24.24695	23.39791	17.53089	13.14919	16.67537	20.41736	20.43583	21.98742	19.69365	18.55026	20.74597	17.17033



AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Total Organic Halogens	--	0.01			0.06	<0.01	<0.01	0.016	0.033	---	0.05				
10/15/91	Total Organic Halogens	--	0.01			<0.01	<0.01	---	<0.01	<0.01	---	<0.01				
01/23/92	Total Organic Halogens	--	0.01			0.03	0.02	---	<0.01	<0.01	<0.01	<0.01				
03/23/92	Total Organic Halogens	--	0.01			0.04	<0.01	<0.01	<0.01	0.92	0.99	0.01				
09/30/92	Total Organic Halogens	--	0.01			---	<0.01	0.01	0.01	0.02	<0.01	0.01				
03/05/93	Total Organic Halogens	--	0.01			NT	NT	NT	NT	NT	NT	NT				
09/21/93	Total Organic Halogens	--	0.01			0.05	0.01	0.02	0.02	0.02	0.05	0.02				
03/23/94	Total Organic Halogens	--	0.01			NT	NT	NT	NT	NT	NT	NT				
09/16/94	Total Organic Halogens	--	0.01			<0.05	<0.01	NT	0.015	0.024	0.024	<0.01				
03/16/95	Total Organic Halogens	--	0.01			0.06	<0.01	NT	0.02	0.02	0.04	0.02				
09/13/95	Total Organic Halogens	--	0.01			NT	NT	NT	NT	NT	NT	NT				
03/28/96	Total Organic Halogens	--	0.01	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/20/96	Total Organic Halogens	--	0.01	NT		NT	NT	NT	NT	NT	NT	NT	NT			
09/13/96	Total Organic Halogens	--	0.01	0.01		0.04	0.01	Dry	0.02	0.02	0.01	0.01	0.03			
03/19/97	Total Organic Halogens	--	0.01	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	Total Organic Halogens	--	0.01	NT		NT	NT	NT	NT	NT	NT	NT	NT			
08/30/97	Total Organic Halogens	--	0.01	<0.01		0.02	0.01	DRY	0.02	<0.01	<0.01	<0.01	<0.01			
03/10/98	Total Organic Halogens	--	0.01	NT		NT	NT	NT	NT	NT	NT	NT	NT			
09/21/98	Total Organic Halogens	--	0.01	<0.01		0.03	0.01	DRY	0.06	0.02	0.02	<0.01	0.03			
03/18/99	Total Organic Halogens	--	0.01	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	Total Organic Halogens	--	0.01	<0.01		0.03	0.03	DRY	0.05	0.02	0.02	0.01	0.02			
03/21/2000	Total Organic Halogens	--	0.01	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Total Organic Halogens	--	0.01	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
09/28/2000	Total Organic Halogens	--	0.01	<0.01	0.09	0.03	0.01	DRY	0.04	0.02	0.02	0.02	DRY	0.02	<0.01	0.22
12/27/2000	Total Organic Halogens	--	0.01	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
03/28/2001	Total Organic Halogens	--	0.01	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/02/2001	Total Organic Halogens	--	0.01	<0.01	0.085	0.022	0.03	NT	0.074	0.065	0.021	0.03	0.028	0.017	<0.01	0.072
03/19/2002	Total Organic Halogens	--	0.01	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Total Organic Halogens	--	0.01	<0.01	0.099	0.033	0.04	Dry	0.043	0.019	0.02	0.021	0.034	<0.01	0.015	0.052
03/14/2003	Total Organic Halogens	--	0.01	NT	NT	NT	NT	Dry	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Total Organic Halogens	--	0.01	<0.010	0.057	<0.010	0.025	Dry	0.075	<0.010	<0.010	0.012	<0.010	NT	<0.010	<0.010
	Mean			0.01	0.08275	0.037083	0.0195	0.015	0.035615	0.100083	0.1215	0.019364	0.0284	0.0185	0.015	0.114667
	Standard Deviation (STD)			0	0.01569	0.012816	0.010595	0.005	0.022086	0.24753	0.289706	0.011523	0.00463	0.0015	0	0.074928
	Mean + 2 STD			0.01	0.114131	0.062715	0.04069	0.025	0.079787	0.595143	0.700912	0.042409	0.037661	0.0215	0.015	0.264523

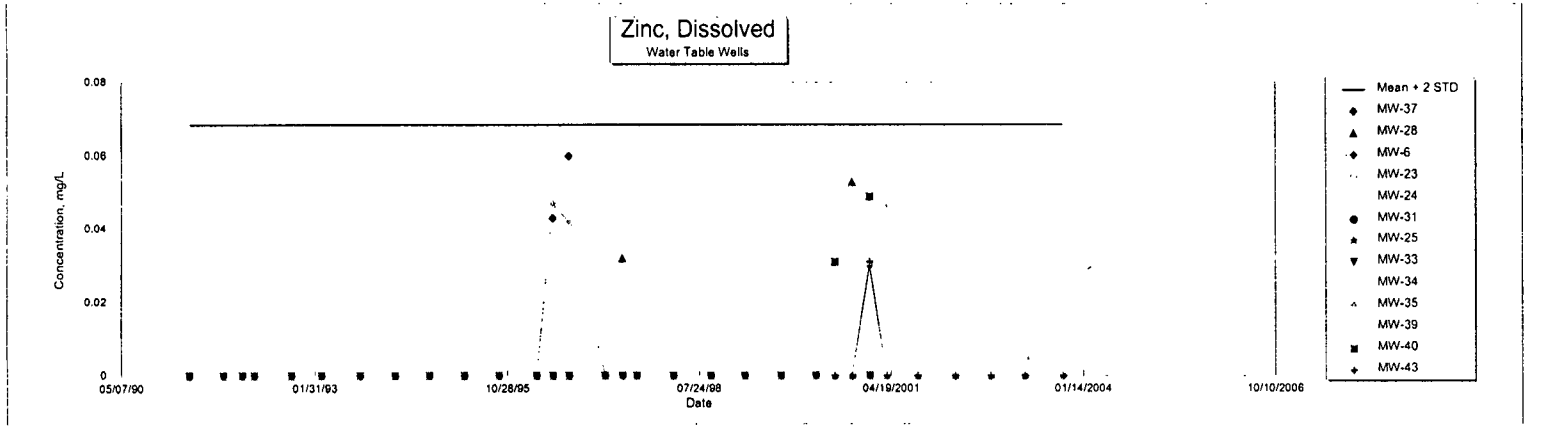


AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER ug/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Trichloroethene *	5	1			<1	<1	<1	<1	<1	---	<1				
10/15/91	Trichloroethene *	5	1			<1	<1	---	<1	<1	---	<1				
01/23/92	Trichloroethene *	5	1			<1	<1	---	<1	<1	<1	<1				
03/23/92	Trichloroethene *	5	1			<1	<1	<1	<1	<1	<1	<1				
09/30/92	Trichloroethene *	5	1			NT	NT	NT	NT	NT	NT	NT				
03/05/93	Trichloroethene *	5	1			NT	NT	NT	NT	NT	NT	NT				
09/21/93	Trichloroethene *	5	1			NT	NT	NT	NT	NT	NT	NT				
03/23/94	Trichloroethene *	5	1			NT	NT	NT	NT	NT	NT	NT				
09/16/94	Trichloroethene *	5	1			NT	NT	NT	NT	NT	NT	NT				
03/16/95	Trichloroethene *	5	1			NT	NT	NT	NT	NT	NT	NT				
09/13/95	Trichloroethene *	5	1			NT	NT	NT	NT	NT	NT	NT				
03/28/96	Trichloroethene *	5	1	<1		NT	NT	NT	NT	NT	NT	NT	<1			
06/20/96	Trichloroethene *	5	1	<1		NT	NT	NT	NT	NT	NT	NT	<1			
09/13/96	Trichloroethene *	5	1	<1		NT	NT	Dry	NT	NT	NT	NT	<1			
03/19/97	Trichloroethene *	5	1	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	Trichloroethene *	5	1	<1		<1	NT	NT	NT	NT	NT	NT	<1			
08/30/97	Trichloroethene *	5	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	Trichloroethene *	5	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	Trichloroethene *	5	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/18/99	Trichloroethene *	5	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	Trichloroethene *	5	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/2000	Trichloroethene *	5	1	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Trichloroethene *	5	1	NT	<1	NT	NT	DRY	NT	NT	NT	NT	NT	<1	<1	<1
09/28/2000	Trichloroethene *	5	1	NT	NT	<1	NT	DRY	NT	NT	NT	NT	DRY	<1	<1	<1
12/27/2000	Trichloroethene *	5	1	NT	<1	NT	NT	Dry	NT	NT	NT	NT	NT	<1	<1	<1
03/28/2001	Trichloroethene *	5	1	NT	<1	<1	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
09/02/2001	Trichloroethene *	5	1	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Trichloroethene *	5	1	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Trichloroethene *	5	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Trichloroethene *	5	1	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Trichloroethene *	5	1	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE WELLS U.G.W MW-37	D.G.W MW 6	D.G.W MW 28	D.G.W MW 23	D.G.W MW 24	D.G.W MW 31	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.G.W MW 39	D.G.W MW 40	D.G.W MW 43
04/23/91	Zinc, dissolved	2	0.0685			<0.03	<0.03	<0.03	<0.03	<0.03	---	<0.03				
10/15/91	Zinc, dissolved	2	0.0685			<0.03	<0.03	---	<0.03	<0.03	---	<0.03				
01/23/92	Zinc, dissolved	2	0.0685			<0.03	<0.03	---	<0.03	<0.03	<0.03	<0.03				
03/23/92	Zinc, dissolved	2	0.0685			<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03				
09/30/92	Zinc, dissolved	2	0.0685			NT	NT	NT	NT	NT	NT	NT				
03/05/93	Zinc, dissolved	2	0.0685			NT	NT	NT	NT	NT	NT	NT				
09/21/93	Zinc, dissolved	2	0.0685			NT	NT	NT	NT	NT	NT	NT				
03/23/94	Zinc, dissolved	2	0.0685			NT	NT	NT	NT	NT	NT	NT				
09/16/94	Zinc, dissolved	2	0.0685			NT	NT	NT	NT	NT	NT	NT				
03/16/95	Zinc, dissolved	2	0.0685			NT	NT	NT	NT	NT	NT	NT				
09/13/95	Zinc, dissolved	2	0.0685			NT	NT	NT	NT	NT	NT	NT				
03/28/96	Zinc, dissolved	2	0.0685	<0.03		NT	NT	NT	NT	NT	NT	NT	<0.03			
06/20/96	Zinc, dissolved	2	0.0685	0.043		NT	NT	NT	NT	NT	NT	NT	0.047			
09/13/96	Zinc, dissolved	2	0.0685	0.06		NT	NT	Dry	NT	NT	NT	NT	0.042			
03/19/97	Zinc, dissolved	2	0.0685	NT		NT	NT	NT	NT	NT	NT	NT	NT			
06/18/97	Zinc, dissolved	2	0.0685	<0.03		0.032	NT	NT	NT	NT	NT	NT	<0.03			
08/30/97	Zinc, dissolved	2	0.0685	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/10/98	Zinc, dissolved	2	0.0685	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/98	Zinc, dissolved	2	0.0685	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/18/99	Zinc, dissolved	2	0.0685	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
09/21/99	Zinc, dissolved	2	0.0685	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
03/21/2000	Zinc, dissolved	2	0.0685	NT		NT	NT	DRY	NT	NT	NT	NT	NT			
06/28/2000	Zinc, dissolved	2	0.0685	NT	<0.03	NT	NT	DRY	NT	NT	NT	NT	NT	<0.03	0.031	<0.03
09/28/2000	Zinc, dissolved	2	0.0685	NT	NT	0.053	NT	DRY	NT	NT	NT	NT	DRY	<0.03	<0.03	<0.03
12/27/2000	Zinc, dissolved	2	0.0685	NT	0.03	NT	NT	Dry	NT	NT	NT	NT	NT	0.033	0.049	0.031
03/28/2001	Zinc, dissolved	2	0.0685	NT	<0.03	<0.03	NT	NT	NT	NT	NT	NT	NT	0.047	<0.03	<0.03
09/02/2001	Zinc, dissolved	2	0.0685	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Zinc, dissolved	2	0.0685	NT	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Zinc, dissolved	2	0.0685	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Zinc, dissolved	2	0.0685	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Zinc, dissolved	2	0.0685	NT	NT	NT	NT	DRY	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			0.0515	0.03	0.0425	ERR	ERR	ERR	ERR	ERR	ERR	0.0445	0.04	0.04	0.031
	Standard Deviation (STD)			0.0085	0	0.0105	ERR	ERR	ERR	ERR	ERR	ERR	0.0025	0.007	0.009	0
	Mean + 2 STD			0.0685	0.03	0.0635	ERR	ERR	ERR	ERR	ERR	ERR	0.0495	0.054	0.058	0.031



ATTACHMENT D
Concentration Versus Time Tables & Graphs
Upper Aquifer System

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
	ug/L															
04/23/91	1,1-Dichloroethene *	7	1				<1	<1	<1	<1	---	<1				
10/15/91	1,1-Dichloroethene *	7	1				<1	<1	<1	<1	---	<1				
01/23/92	1,1-Dichloroethene *	7	1				---	<1	<1	<1	<1	<1				
03/23/92	1,1-Dichloroethene *	7	1				<1	<1	<1	<1	<1	<1				
09/30/92	1,1-Dichloroethene *	7	1				NT	NT	NT	NT	NT	NT				
03/05/93	1,1-Dichloroethene *	7	1				NT	NT	NT	NT	NT	NT				
09/21/93	1,1-Dichloroethene *	7	1				NT	NT	NT	NT	NT	NT				
03/23/94	1,1-Dichloroethene *	7	1				NT	NT	NT	NT	NT	NT				
09/16/94	1,1-Dichloroethene *	7	1				NT	NT	NT	NT	NT	NT				
03/16/95	1,1-Dichloroethene *	7	1				NT	NT	NT	NT	NT	NT				
09/13/95	1,1-Dichloroethene *	7	1				NT	NT	NT	NT	NT	NT				
03/28/96	1,1-Dichloroethene *	7	1	<1			NT	NT	NT	NT	NT	NT	<1			
06/20/96	1,1-Dichloroethene *	7	1	<1			NT	NT	NT	NT	NT	NT	<1			
09/13/96	1,1-Dichloroethene *	7	1	<1			NT	NT	NT	NT	NT	NT	<1			
03/19/97	1,1-Dichloroethene *	7	1	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	1,1-Dichloroethene *	7	1	<1			<1	NT	NT	NT	NT	NT	<1			
08/30/97	1,1-Dichloroethene *	7	1	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	1,1-Dichloroethene *	7	1	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	1,1-Dichloroethene *	7	1	NT			NT	NT	NT	NT	NT	NT	NT			
03/19/99	1,1-Dichloroethene *	7	1	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	1,1-Dichloroethene *	7	1	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/2000	1,1-Dichloroethene *	7	1	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	1,1-Dichloroethene *	7	1	NT	<1	<1	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
09/28/2000	1,1-Dichloroethene *	7	1	NT	<1	<1	<1	NT	NT	NT	NT	NT	DRY	<1	<1	<1
12/27/2000	1,1-Dichloroethene *	7	1	NT	<1	<1	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
03/28/2001	1,1-Dichloroethene *	7	1	NT	<1	<1	<1	NT	NT	NT	NT	NT	NT	<1	<1	<1
09/02/2001	1,1-Dichloroethene *	7	1	NT	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	1,1-Dichloroethene *	7	1	NT	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	1,1-Dichloroethene *	7	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	1,1-Dichloroethene *	7	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	1,1-Dichloroethene *	7	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER ug/L	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	1,1,1-Trichloroethane *	200	1				<1	<1	<1	<1	---	<1				
10/15/91	1,1,1-Trichloroethane *	200	1				<1	<1	<1	<1	---	<1				
01/23/92	1,1,1-Trichloroethane *	200	1				---	<1	<1	<1	<1	<1				
03/23/92	1,1,1-Trichloroethane *	200	1				<1	<1	<1	<1	<1	<1				
09/30/92	1,1,1-Trichloroethane *	200	1				NT	NT	NT	NT	NT	NT				
03/05/93	1,1,1-Trichloroethane *	200	1				NT	NT	NT	NT	NT	NT				
09/21/93	1,1,1-Trichloroethane *	200	1				NT	NT	NT	NT	NT	NT				
03/23/94	1,1,1-Trichloroethane *	200	1				NT	NT	NT	NT	NT	NT				
09/16/94	1,1,1-Trichloroethane *	200	1				NT	NT	NT	NT	NT	NT				
03/16/95	1,1,1-Trichloroethane *	200	1				NT	NT	NT	NT	NT	NT				
09/13/95	1,1,1-Trichloroethane *	200	1				NT	NT	NT	NT	NT	NT				
03/28/96	1,1,1-Trichloroethane *	200	1	<1			NT	NT	NT	NT	NT	NT	<1			
06/20/96	1,1,1-Trichloroethane *	200	1	<1			NT	NT	NT	NT	NT	NT	<1			
09/13/96	1,1,1-Trichloroethane *	200	1	<1			NT	NT	NT	NT	NT	NT	<1			
03/19/97	1,1,1-Trichloroethane *	200	1	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	1,1,1-Trichloroethane *	200	1	<1			<1	NT	NT	NT	NT	NT	<1			
08/30/97	1,1,1-Trichloroethane *	200	1	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	1,1,1-Trichloroethane *	200	1	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	1,1,1-Trichloroethane *	200	1	NT			NT	NT	NT	NT	NT	NT	NT			
03/18/99	1,1,1-Trichloroethane *	200	1	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	1,1,1-Trichloroethane *	200	1	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/2000	1,1,1-Trichloroethane *	200	1	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	1,1,1-Trichloroethane *	200	1	NT	<1	<1	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
09/28/2000	1,1,1-Trichloroethane *	200	1	NT	<1	<1	<1	NT	NT	NT	NT	NT	DRY	<1	<1	<1
12/27/2000	1,1,1-Trichloroethane *	200	1	NT	<1	<1	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
03/28/2001	1,1,1-Trichloroethane *	200	1	NT	<1	<1	<1	NT	NT	NT	NT	NT	NT	<1	<1	<1
09/02/2001	1,1,1-Trichloroethane *	200	1	NT	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	1,1,1-Trichloroethane *	200	1	NT	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	1,1,1-Trichloroethane *	200	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	1,1,1-Trichloroethane *	200	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	1,1,1-Trichloroethane *	200	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER ug/L	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	1,2-Dichloroethane *	5	0.4				<1	<1	<1	<1	---	<1				
10/15/91	1,2-Dichloroethane *	5	0.4				<1	<1	<1	<1	---	<1				
01/23/92	1,2-Dichloroethane *	5	0.4				---	<1	<1	<1	<1	<1				
03/23/92	1,2-Dichloroethane *	5	0.4				<1	<1	<1	<1	<1	<1				
09/30/92	1,2-Dichloroethane *	5	0.4				NT	NT	NT	NT	NT	NT				
03/05/93	1,2-Dichloroethane *	5	0.4				NT	NT	NT	NT	NT	NT				
09/21/93	1,2-Dichloroethane *	5	0.4				NT	NT	NT	NT	NT	NT				
03/23/94	1,2-Dichloroethane *	5	0.4				NT	NT	NT	NT	NT	NT				
09/16/94	1,2-Dichloroethane *	5	0.4				NT	NT	NT	NT	NT	NT				
03/16/95	1,2-Dichloroethane *	5	0.4				NT	NT	NT	NT	NT	NT				
09/13/95	1,2-Dichloroethane *	5	0.4				NT	NT	NT	NT	NT	NT				
03/28/96	1,2-Dichloroethane *	5	0.4	<0.4			NT	NT	NT	NT	NT	NT	<0.4			
06/20/96	1,2-Dichloroethane *	5	0.4	<0.4			NT	NT	NT	NT	NT	NT	<0.4			
09/13/96	1,2-Dichloroethane *	5	0.4	<0.4			NT	NT	NT	NT	NT	NT	<0.4			
03/19/97	1,2-Dichloroethane *	5	0.4	<0.4			NT	NT	NT	NT	NT	NT	<0.4			
06/18/97	1,2-Dichloroethane *	5	0.4	<0.4			<0.4	NT	NT	NT	NT	NT	<0.4			
08/30/97	1,2-Dichloroethane *	5	0.4	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	1,2-Dichloroethane *	5	0.4	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	1,2-Dichloroethane *	5	0.4	NT			NT	NT	NT	NT	NT	NT	NT			
03/18/99	1,2-Dichloroethane *	5	0.4	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/99	1,2-Dichloroethane *	5	0.4	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/2000	1,2-Dichloroethane *	5	0.4	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	1,2-Dichloroethane *	5	0.4	NT	<0.4	<0.4	NT	NT	NT	NT	NT	NT	NT	<0.4	<0.4	<0.4
09/28/2000	1,2-Dichloroethane *	5	0.4	NT	<0.4	<0.4	<0.4	NT	NT	NT	NT	NT	DRY	<0.4	<0.4	<0.4
12/27/2000	1,2-Dichloroethane *	5	0.4	NT	<0.4	<0.4	NT	NT	NT	NT	NT	NT	NT	<0.4	<0.4	<0.4
03/28/2001	1,2-Dichloroethane *	5	0.4	NT	<0.4	<0.4	<0.4	NT	NT	NT	NT	NT	NT	<0.4	<0.4	<0.4
09/02/2001	1,2-Dichloroethane *	5	0.4	NT	NT	NT	<0.4	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	1,2-Dichloroethane *	5	0.4	NT	NT	NT	<0.4	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	1,2-Dichloroethane *	5	0.4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	1,2-Dichloroethane *	5	0.4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	1,2-Dichloroethane *	5	0.4	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

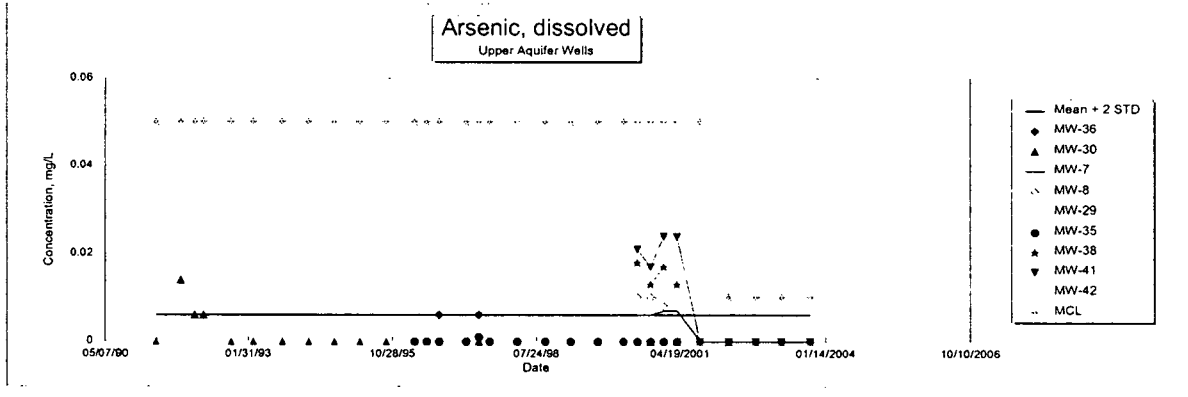
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER ug/L	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	1,4-Dichlorobenzene *	75	1				<1	<1	<1	<1	---	<1				
10/15/91	1,4-Dichlorobenzene *	75	1				<1	<1	<1	<1	---	<1				
01/23/92	1,4-Dichlorobenzene *	75	1				---	<1	<1	<1	<1	<1				
03/23/92	1,4-Dichlorobenzene *	75	1				<1	<1	<1	<1	<1	<1				
09/30/92	1,4-Dichlorobenzene *	75	1				NT	NT	NT	NT	NT	NT				
03/05/93	1,4-Dichlorobenzene *	75	1				NT	NT	NT	NT	NT	NT				
09/21/93	1,4-Dichlorobenzene *	75	1				NT	NT	NT	NT	NT	NT				
03/23/94	1,4-Dichlorobenzene *	75	1				NT	NT	NT	NT	NT	NT				
09/16/94	1,4-Dichlorobenzene *	75	1				NT	NT	NT	NT	NT	NT				
03/16/95	1,4-Dichlorobenzene *	75	1				NT	NT	NT	NT	NT	NT				
09/13/95	1,4-Dichlorobenzene *	75	1				NT	NT	NT	NT	NT	NT				
03/28/96	1,4-Dichlorobenzene *	75	1	<1			NT	NT	NT	NT	NT	NT	<1			
06/20/96	1,4-Dichlorobenzene *	75	1	<1			NT	NT	NT	NT	NT	NT	<1			
09/13/96	1,4-Dichlorobenzene *	75	1	<1			NT	NT	NT	NT	NT	NT	<1			
03/19/97	1,4-Dichlorobenzene *	75	1	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	1,4-Dichlorobenzene *	75	1	<1			<1	NT	NT	NT	NT	NT	<1			
08/30/97	1,4-Dichlorobenzene *	75	1	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	1,4-Dichlorobenzene *	75	1	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	1,4-Dichlorobenzene *	75	1	NT			NT	NT	NT	NT	NT	NT	NT			
03/18/99	1,4-Dichlorobenzene *	75	1	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	1,4-Dichlorobenzene *	75	1	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/2000	1,4-Dichlorobenzene *	75	1	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	1,4-Dichlorobenzene *	75	1	NT	<1	<1	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
09/28/2000	1,4-Dichlorobenzene *	75	1	NT	<1	<1	<1	NT	NT	NT	NT	NT	DRY	<1	<1	<1
12/27/2000	1,4-Dichlorobenzene *	75	1	NT	<1	<1	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
03/28/2001	1,4-Dichlorobenzene *	75	1	NT	<1	<1	<1	NT	NT	NT	NT	NT	NT	<1	<1	<1
09/02/2001	1,4-Dichlorobenzene *	75	1	NT	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	1,4-Dichlorobenzene *	75	1	NT	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	1,4-Dichlorobenzene *	75	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	1,4-Dichlorobenzene *	75	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	1,4-Dichlorobenzene *	75	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

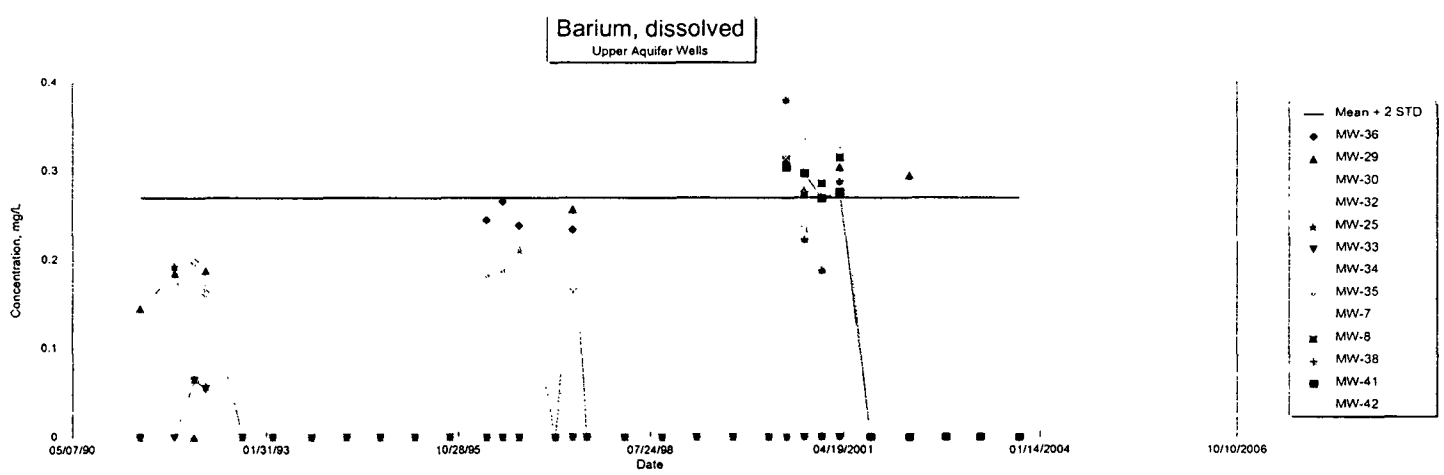
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
	mg/L															
04/23/91	Arsenic, dissolved	0.05	0.006				<0.005	<0.023	<0.005	<0.005	---	<0.005				
10/15/91	Arsenic, dissolved	0.05	0.006				<0.005	0.014	<0.005	<0.005	---	<0.005				
01/23/92	Arsenic, dissolved	0.05	0.006				---	0.006	<0.005	<0.005	<0.005	<0.005				
03/23/92	Arsenic, dissolved	0.05	0.006				<0.005	0.006	<0.005	<0.005	<0.005	<0.005				
09/30/92	Arsenic, dissolved	0.05	0.006				NT	NT	NT	NT	NT	NT				
03/05/93	Arsenic, dissolved	0.05	0.006				NT	NT	NT	NT	NT	NT				
09/21/93	Arsenic, dissolved	0.05	0.006				NT	NT	NT	NT	NT	NT				
03/23/94	Arsenic, dissolved	0.05	0.006				NT	NT	NT	NT	NT	NT				
09/16/94	Arsenic, dissolved	0.05	0.006				NT	NT	NT	NT	NT	NT				
03/16/95	Arsenic, dissolved	0.05	0.006				NT	NT	NT	NT	NT	NT				
09/13/95	Arsenic, dissolved	0.05	0.006				NT	NT	NT	NT	NT	NT				
03/28/96	Arsenic, dissolved	0.05	0.006	<0.005			NT	NT	NT	NT	NT	NT	<0.005			
06/20/96	Arsenic, dissolved	0.05	0.006	<0.005			NT	NT	NT	NT	NT	NT	<0.005			
09/13/96	Arsenic, dissolved	0.05	0.006	0.006			NT	NT	NT	NT	NT	NT	<0.005			
03/19/97	Arsenic, dissolved	0.05	0.006	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	Arsenic, dissolved	0.05	0.006	0.006			0.007	NT	NT	NT	NT	NT	0.001			
08/30/97	Arsenic, dissolved	0.05	0.006	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	Arsenic, dissolved	0.05	0.006	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	Arsenic, dissolved	0.05	0.006	NT			NT	NT	NT	NT	NT	NT	NT			
03/18/99	Arsenic, dissolved	0.05	0.006	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	Arsenic, dissolved	0.05	0.006	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/2000	Arsenic, dissolved	0.05	0.006	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Arsenic, dissolved	0.05	0.006	NT	0.006	0.01	NT	NT	NT	NT	NT	NT	NT	0.018	0.021	0.023
09/28/2000	Arsenic, dissolved	0.05	0.006	NT	0.006	0.01	0.009	NT	NT	NT	NT	NT	DRY	0.013	0.017	0.031
12/27/2000	Arsenic, dissolved	0.05	0.006	NT	0.007	0.008	NT	NT	NT	NT	NT	NT	NT	0.017	0.024	0.025
03/28/2001	Arsenic, dissolved	0.05	0.006	NT	0.007	0.009	0.009	NT	NT	NT	NT	NT	NT	0.013	0.024	0.028
09/02/2001	Arsenic, dissolved	0.05	0.006	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Arsenic, dissolved	0.01	0.006	NT	NT	NT	0.008	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Arsenic, dissolved	0.01	0.006		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Arsenic, dissolved	0.01	0.006		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Arsenic, dissolved	0.01	0.006		NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			0.006	0.0065	0.00925	0.00825	0.008667	ERR	ERR	ERR	ERR	0.001	0.01525	0.0215	0.02675
	Standard Deviation (STD)			0	0.0005	0.000829	0.000829	0.003771	ERR	ERR	ERR	ERR	0	0.002278	0.002872	0.003031
	Mean + 2 STD			0.006	0.0075	0.010908	0.009908	0.016209	ERR	ERR	ERR	ERR	0.001	0.019805	0.027245	0.032812



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
	mg/L															
04/23/91	Barium, dissolved	2.000	0.270				0.145	0.284	0.251	0.140	---	0.098				
10/15/91	Barium, dissolved	2.000	0.270				0.185	0.183	0.164	0.193	---	0.200				
01/23/92	Barium, dissolved	2.000	0.270				---	0.198	0.236	0.066	0.065	0.063				
03/23/92	Barium, dissolved	2.000	0.270				0.188	0.162	0.170	0.058	0.055	0.055				
09/30/92	Barium, dissolved	2.000	0.270				NT	NT	NT	NT	NT	NT				
03/05/93	Barium, dissolved	2.000	0.270				NT	NT	NT	NT	NT	NT				
09/21/93	Barium, dissolved	2.000	0.270				NT	NT	NT	NT	NT	NT				
03/23/94	Barium, dissolved	2.000	0.270				NT	NT	NT	NT	NT	NT				
09/16/94	Barium, dissolved	2.000	0.270				NT	NT	NT	NT	NT	NT				
03/16/95	Barium, dissolved	2.000	0.270				NT	NT	NT	NT	NT	NT				
09/13/95	Barium, dissolved	2.000	0.270				NT	NT	NT	NT	NT	NT				
03/28/96	Barium, dissolved	2.000	0.270	0.245			NT	NT	NT	NT	NT	NT	0.182			
06/20/96	Barium, dissolved	2.000	0.270	0.266			NT	NT	NT	NT	NT	NT	0.187			
09/13/96	Barium, dissolved	2.000	0.270	0.239			NT	NT	NT	NT	NT	NT	0.211			
03/19/97	Barium, dissolved	2.000	0.270	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	Barium, dissolved	2.000	0.270	0.234			0.257	NT	NT	NT	NT	NT	0.166			
08/30/97	Barium, dissolved	2.000	0.270	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	Barium, dissolved	2.000	0.270	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	Barium, dissolved	2.000	0.270	NT			NT	NT	NT	NT	NT	NT	NT			
03/18/99	Barium, dissolved	2.000	0.270	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	Barium, dissolved	2.000	0.270	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/2000	Barium, dissolved	2.000	0.270	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Barium, dissolved	2.000	0.270	NT	0.307	0.313	NT	NT	NT	NT	NT	NT	NT	0.380	0.304	0.315
09/28/2000	Barium, dissolved	2.000	0.270	NT	0.228	0.273	0.278	NT	NT	NT	NT	NT	DRY	0.223	0.297	0.335
12/27/2000	Barium, dissolved	2.000	0.270	NT	0.277	0.286	NT	NT	NT	NT	NT	NT	NT	0.188	0.269	0.326
03/28/2001	Barium, dissolved	2.000	0.270	NT	0.282	0.315	0.304	NT	NT	NT	NT	NT	NT	0.288	0.276	0.325
09/02/2001	Barium, dissolved	2.000	0.270	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Barium, dissolved	2.000	0.270	NT	NT	NT	0.295	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Barium, dissolved	2.000	0.270	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Barium, dissolved	2.000	0.270	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Barium, dissolved	2.000	0.270	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			0.246	0.2735	0.29675	0.236	0.20675	0.20525	0.11425	0.06	0.104	0.1865	0.26975	0.2865	0.32525
	Standard Deviation (STD)			0.012186	0.028623	0.017866	0.057936	0.046397	0.038674	0.05558	0.005	0.057736	0.016132	0.07307	0.014431	0.007084
	Mean + 2 STD			0.270372	0.330745	0.332482	0.351872	0.299544	0.282598	0.225411	0.07	0.219473	0.218765	0.415889	0.315362	0.339419



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER ug/L	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	Benzene *	5	1				<1	<1	<1	<1	---	<1				
10/15/91	Benzene *	5	1				<1	<1	<1	<1	---	<1				
01/23/92	Benzene *	5	1				---	<1	<1	<1	<1	<1				
03/23/92	Benzene *	5	1				<1	<1	<1	<1	<1	<1				
09/30/92	Benzene *	5	1				NT	NT	NT	NT	NT	NT				
03/05/93	Benzene *	5	1				NT	NT	NT	NT	NT	NT				
09/21/93	Benzene *	5	1				NT	NT	NT	NT	NT	NT				
03/23/94	Benzene *	5	1				NT	NT	NT	NT	NT	NT				
09/16/94	Benzene *	5	1				NT	NT	NT	NT	NT	NT				
03/16/95	Benzene *	5	1				NT	NT	NT	NT	NT	NT				
09/13/95	Benzene *	5	1				NT	NT	NT	NT	NT	NT				
03/28/96	Benzene *	5	1	<1			NT	NT	NT	NT	NT	NT	<1			
06/20/96	Benzene *	5	1	<1			NT	NT	NT	NT	NT	NT	<1			
09/13/96	Benzene *	5	1	<1			NT	NT	NT	NT	NT	NT	<1			
03/19/97	Benzene *	5	1	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	Benzene *	5	1	<1			<1	NT	NT	NT	NT	NT	<1			
08/30/97	Benzene *	5	1	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	Benzene *	5	1	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	Benzene *	5	1	NT			NT	NT	NT	NT	NT	NT	NT			
03/18/99	Benzene *	5	1	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	Benzene *	5	1	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/2000	Benzene *	5	1	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Benzene *	5	1	NT	<1	<1	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
09/28/2000	Benzene *	5	1	NT	<1	<1	<1	NT	NT	NT	NT	NT	DRY	<1	<1	<1
12/27/2000	Benzene *	5	1	NT	<1	<1	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
03/28/2001	Benzene *	5	1	NT	<1	<1	<1	NT	NT	NT	NT	NT	NT	<1	<1	<1
09/02/2001	Benzene *	5	1	NT	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Benzene *	5	1	NT	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Benzene *	5	1													
03/14/2003	Benzene *	5	1													
09/29/2003	Benzene *	5	1													
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
	mg/L															
04/23/91	Cadmium, dissolved	0.005	0.001				<0.001	<0.001	<0.001	<0.001	---	<0.001				
10/15/91	Cadmium, dissolved	0.005	0.001				<0.001	<0.001	<0.001	<0.001	---	<0.001				
01/23/92	Cadmium, dissolved	0.005	0.001				---	<0.001	<0.001	<0.001	<0.001	<0.001				
03/23/92	Cadmium, dissolved	0.005	0.001				<0.001	<0.001	<0.001	<0.001	<0.001	<0.001				
09/30/92	Cadmium, dissolved	0.005	0.001				NT	NT	NT	NT	NT	NT				
03/05/93	Cadmium, dissolved	0.005	0.001				NT	NT	NT	NT	NT	NT				
09/21/93	Cadmium, dissolved	0.005	0.001				NT	NT	NT	NT	NT	NT				
03/23/94	Cadmium, dissolved	0.005	0.001				NT	NT	NT	NT	NT	NT				
09/16/94	Cadmium, dissolved	0.005	0.001				NT	NT	NT	NT	NT	NT				
03/16/95	Cadmium, dissolved	0.005	0.001				NT	NT	NT	NT	NT	NT				
09/13/95	Cadmium, dissolved	0.005	0.001				NT	NT	NT	NT	NT	NT				
03/28/96	Cadmium, dissolved	0.005	0.001	<0.001			NT	NT	NT	NT	NT	NT	<0.001			
06/20/96	Cadmium, dissolved	0.005	0.001	<0.001			NT	NT	NT	NT	NT	NT	<0.001			
09/13/96	Cadmium, dissolved	0.005	0.001	<0.001			NT	NT	NT	NT	NT	NT	<0.001			
03/19/97	Cadmium, dissolved	0.005	0.001	<0.001			NT	NT	NT	NT	NT	NT	<0.001			
06/18/97	Cadmium, dissolved	0.005	0.001	<0.001			<0.001	NT	NT	NT	NT	NT	<0.001			
08/30/97	Cadmium, dissolved	0.005	0.001	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	Cadmium, dissolved	0.005	0.001	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	Cadmium, dissolved	0.005	0.001	NT			NT	NT	NT	NT	NT	NT	NT			
03/18/99	Cadmium, dissolved	0.005	0.001	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	Cadmium, dissolved	0.005	0.001	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/2000	Cadmium, dissolved	0.005	0.001	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Cadmium, dissolved	0.005	0.001	NT	<0.001	<0.001	NT	NT	NT	NT	NT	NT	NT	<0.001	<0.001	<0.001
09/28/2000	Cadmium, dissolved	0.005	0.001	NT	<0.001	<0.001	<0.001	NT	NT	NT	NT	NT	NT	<0.001	<0.001	<0.001
12/27/2000	Cadmium, dissolved	0.005	0.001	NT	<0.001	<0.001	NT	NT	NT	NT	NT	NT	NT	<0.001	<0.001	<0.001
03/28/2001	Cadmium, dissolved	0.005	0.001	NT	<0.001	<0.001	<0.001	NT	NT	NT	NT	NT	NT	<0.001	<0.001	<0.001
09/02/2001	Cadmium, dissolved	0.005	0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Cadmium, dissolved	0.005	0.001	NT	NT	NT	<0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Cadmium, dissolved	0.005	0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Cadmium, dissolved	0.005	0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Cadmium, dissolved	0.005	0.001	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

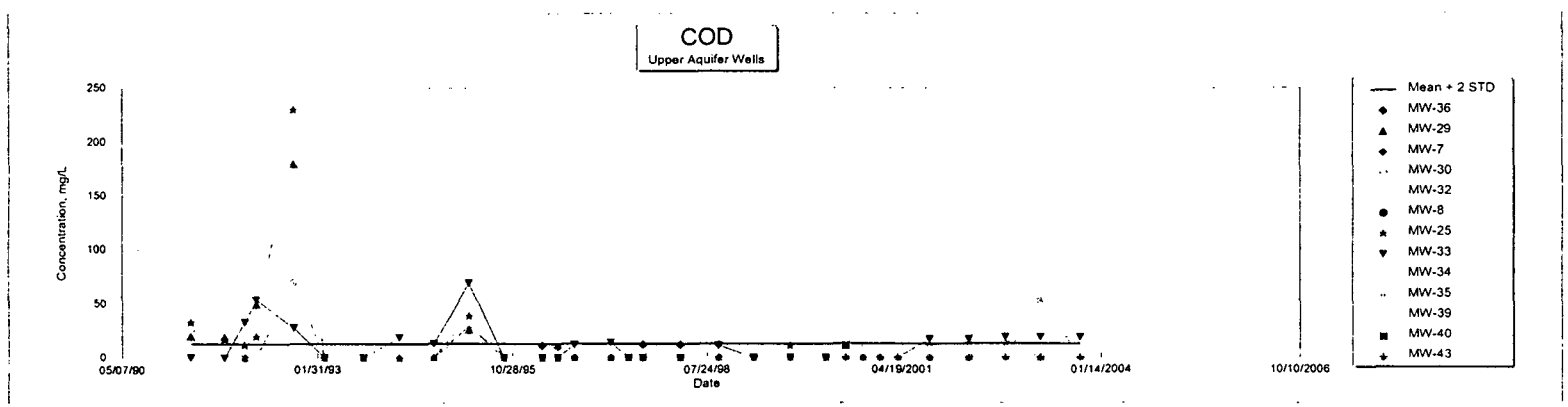
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER ug/L	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	Carbon tetrachloride *	5	0.3				<1	<1	<1	<1	---	<1				
10/15/91	Carbon tetrachloride *	5	0.3				<1	<1	<1	<1	---	<1				
01/23/92	Carbon tetrachloride *	5	0.3				---	<1	<1	<1	<1	<1				
03/23/92	Carbon tetrachloride *	5	0.3				<1	<1	<1	<1	<1	<1				
09/30/92	Carbon tetrachloride *	5	0.3				NT	NT	NT	NT	NT	NT				
03/05/93	Carbon tetrachloride *	5	0.3				NT	NT	NT	NT	NT	NT				
09/21/93	Carbon tetrachloride *	5	0.3				NT	NT	NT	NT	NT	NT				
03/23/94	Carbon tetrachloride *	5	0.3				NT	NT	NT	NT	NT	NT				
09/16/94	Carbon tetrachloride *	5	0.3				NT	NT	NT	NT	NT	NT				
03/16/95	Carbon tetrachloride *	5	0.3				NT	NT	NT	NT	NT	NT				
09/13/95	Carbon tetrachloride *	5	0.3				NT	NT	NT	NT	NT	NT				
03/28/96	Carbon tetrachloride *	5	0.3	<0.3			NT	NT	NT	NT	NT	NT	<0.3			
06/20/96	Carbon tetrachloride *	5	0.3	<0.3			NT	NT	NT	NT	NT	NT	<0.3			
09/13/96	Carbon tetrachloride *	5	0.3	<0.3			NT	NT	NT	NT	NT	NT	<0.3			
03/19/97	Carbon tetrachloride *	5	0.3	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	Carbon tetrachloride *	5	0.3	<0.3			<0.3	NT	NT	NT	NT	NT	<0.3			
08/30/97	Carbon tetrachloride *	5	0.3	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	Carbon tetrachloride *	5	0.3	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	Carbon tetrachloride *	5	0.3	NT			NT	NT	NT	NT	NT	NT	NT			
03/18/99	Carbon tetrachloride *	5	0.3	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	Carbon tetrachloride *	5	0.3	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/2000	Carbon tetrachloride *	5	0.3	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Carbon tetrachloride *	5	0.3	NT	<0.3	<0.3	NT	NT	NT	NT	NT	NT	NT	<0.3	<0.3	<0.3
09/28/2000	Carbon tetrachloride *	5	0.3	NT	<0.3	<0.3	<0.3	NT	NT	NT	NT	NT	DRY	<0.3	<0.3	<0.3
12/27/2000	Carbon tetrachloride *	5	0.3	NT	<0.3	<0.3	NT	NT	NT	NT	NT	NT	NT	<0.3	<0.3	<0.3
03/28/2001	Carbon tetrachloride *	5	0.3	NT	<0.3	<0.3	<0.3	NT	NT	NT	NT	NT	NT	<0.3	<0.3	<0.3
09/02/2001	Carbon tetrachloride *	5	0.3	NT	NT	NT	<0.3	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Carbon tetrachloride *	5	0.3	NT	NT	NT	<0.3	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Carbon tetrachloride *	5	0.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Carbon tetrachloride *	5	0.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Carbon tetrachloride *	5	0.3	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

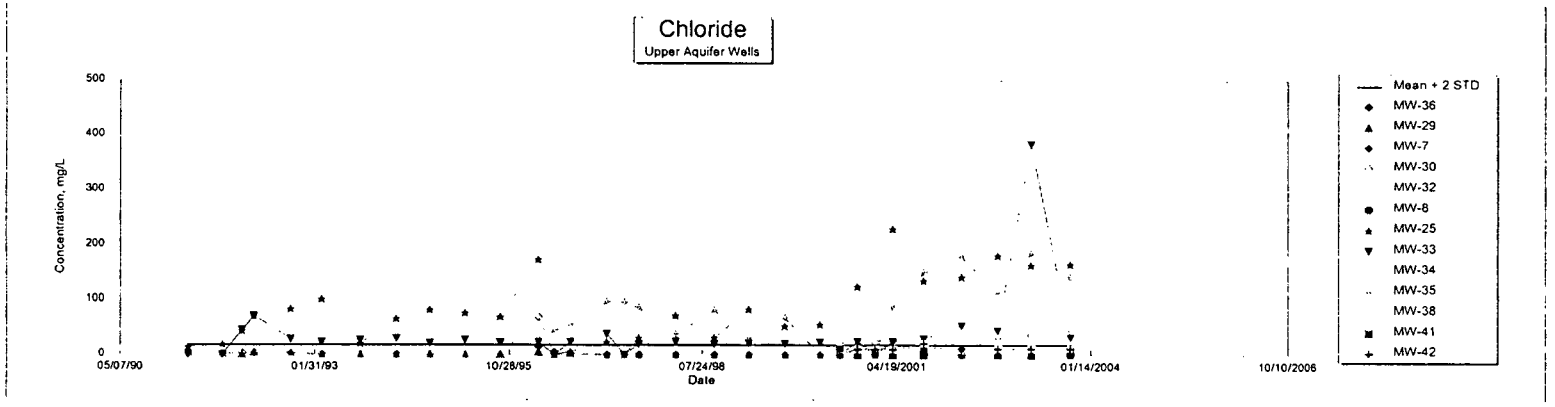
DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	Chemical Oxygen Demand	--	13				20.1	26.3	18	33.4	---	120.1				
10/15/91	Chemical Oxygen Demand	--	13				19.4	13.5	<10	17.2	---	14.3				
01/23/92	Chemical Oxygen Demand	--	13				---	<10	<10	12	33.4	<10				
03/23/92	Chemical Oxygen Demand	--	13				50	<10	<10	20	54	10				
09/30/92	Chemical Oxygen Demand	--	13				180	70	74	230	28	107				
03/05/93	Chemical Oxygen Demand	--	13				---	<10	<10	<10	<10	<10				
09/21/93	Chemical Oxygen Demand	--	13				<10	<10	<10	<10	<10	<10				
03/23/94	Chemical Oxygen Demand	--	13				<10	<10	<10	<10	19	<10				
09/16/94	Chemical Oxygen Demand	--	13				<10	<10	<10	<10	13	<10				
03/16/95	Chemical Oxygen Demand	--	13				26	30	46	39	69	29				
09/13/95	Chemical Oxygen Demand	--	13				<10	<10	<10	<10	<10	<10				
03/28/96	Chemical Oxygen Demand	--	13	11			<10	<10	<10	<10	<10	<10	<10			
06/20/96	Chemical Oxygen Demand	--	13	10			NT	NT	NT	NT	NT	NT	10			
09/13/96	Chemical Oxygen Demand	--	13	<10			<10	<10	<10	<10	12	<10	<10			
03/19/97	Chemical Oxygen Demand	--	13	<10			<10	<10	<10	<10	14	<10	<10			
06/18/97	Chemical Oxygen Demand	--	13	<10			<10	NT	NT	NT	NT	NT	<10			
08/30/97	Chemical Oxygen Demand	--	13	12			<10	<10	<10	<10	<10	<10	<10			
03/10/98	Chemical Oxygen Demand	--	13	12			<10	<10	<10	<10	<10	<10	<10			
09/21/98	Chemical Oxygen Demand	--	13	12			<10	<10	<10	<10	<10	<10	<10			
03/18/99	Chemical Oxygen Demand	--	13	<10			<10	<10	<10	<10	<10	<10	<10			
09/21/99	Chemical Oxygen Demand	--	13	<10			<10	<10	<10	<10	<10	<10	<10			
03/21/2000	Chemical Oxygen Demand	--	13	NT			<10	<10	<10	<10	<10	55	NT			
06/28/2000	Chemical Oxygen Demand	--	13	NT	<10	11	NT	NT	NT	NT	NT	NT	NT	<10	11	<10
09/28/2000	Chemical Oxygen Demand	--	13	<10	<10	<10	<10	<10	<10	<10	<10	<10	DRY	11	<10	<10
12/27/2000	Chemical Oxygen Demand	--	13	NT	<10	<10	NT	NT	NT	NT	NT	NT	NT	<10	<10	<10
03/28/2001	Chemical Oxygen Demand	--	13	<10	<10	<10	<10	<10	<10	<10	<10	28	<10	<10	<10	<10
09/02/2001	Chemical Oxygen Demand	--	13	<10	<10	<10	<10	<10	<10	<10	17	19	11	<10	<10	<10
03/19/2002	Chemical Oxygen Demand	--	13	<10	<10	<10	<10	<10	<10	<10	17	36	14	<10	<10	<10
09/19/2002	Chemical Oxygen Demand	--	13	<10	<10	<10	<10	<10	14	<10	19	15	<10	11	<10	<10
03/14/2003	Chemical Oxygen Demand	--	13	<10	<10	<10	<10	<10	<10	<10	28	55	54	<10	<10	<10
09/29/2003	Chemical Oxygen Demand	--	13	<10	<10	<10	<10	<10	<10	<10	18	17	<10	<10	<10	<10
	Mean			11.4	ERR	11	59.1	34.95	38	58.6	26.11667	44.04	22.25	11	11	ERR
	Standard Deviation (STD)			0.8	ERR	0	61.46921	21.14196	24.16609	77.21468	17.13816	36.74681	18.38987	0	0	ERR
	Mean + 2 STD			13	ERR	11	182.0384	77.23392	86.33218	213.0294	60.39298	117.5336	59.02975	11	11	ERR



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	Chloride	--	17.2443				4	2	6.5	13.5	---	6				
10/15/91	Chloride	--	17.2443				1.89	1.41	4.24	17.4	---	6.6				
01/23/92	Chloride	--	17.2443				---	2.6	42.4	43.5	44.6	10				
03/23/92	Chloride	--	17.2443				3.7	2.6	8.5	70.8	70.8	9				
09/30/92	Chloride	--	17.2443				3	2	4	83	28	3				
03/05/93	Chloride	--	17.2443				---	<10	<10	101	22.5	<10				
09/21/93	Chloride	--	17.2443				<10	<10	<10	20	26	<10				
03/23/94	Chloride	--	17.2443				<10	<10	<10	65.1	29.2	<10				
09/16/94	Chloride	--	17.2443				<10	<10	<10	82	21	<10				
03/16/95	Chloride	--	17.2443				<10	<10	<10	76	27	<10				
09/13/95	Chloride	--	17.2443				<10	<10	10	69	22	15				
03/28/96	Chloride	--	17.2443	14			4.2	68	8.2	173	22	8.9	30			
06/20/96	Chloride	--	17.2443	3.8			NT	NT	NT	NT	NT	NT	44			
09/13/96	Chloride	--	17.2443	1.7			2.2	2.6	7.3	5.3	23.6	7.1	54.2			
03/19/97	Chloride	--	17.2443	<10			<10	<10	<10	23	38	17	96			
06/18/97	Chloride	--	17.2443	<10			<10	NT	NT	NT	NT	NT	95			
08/30/97	Chloride	--	17.2443	<10			<10	<10	<10	30	19	<10	86			
03/10/98	Chloride	--	17.2443	<10			<10	<10	<10	72	24	10	37			
09/21/98	Chloride	--	17.2443	<10			<10	<10	<10	31	19	10	81			
03/18/99	Chloride	--	17.2443	<10			<10	<10	<10	83	21	15	29			
09/21/99	Chloride	--	17.2443	<10			<10	<10	<10	52	20	26	67			
03/21/2000	Chloride	--	17.2443	NT			<10	<10	<10	55	23	45	NT			
06/28/2000	Chloride	--	17.2443	NT	<10	<10	NT	NT	NT	NT	NT	NT	NT	15	11	<10
09/28/2000	Chloride	--	17.2443	<10	11	<10	<10	<10	<10	124	24	13	DRY	18	<10	10
12/27/2000	Chloride	--	17.2443	NT	10	<10	NT	NT	NT	NT	NT	NT	NT	19	10	10
03/28/2001	Chloride	--	17.2443	<10	13	<10	<10	<10	<10	229	24	105	87	21	<10	10
09/02/2001	Chloride	--	17.2443	<10	14	<10	<10	<10	10	135	29	56	150	23	10	21
03/19/2002	Chloride	--	17.2443	<10	11	<10	<10	<10	<10	142	53	52	179	26	<10	<10
09/19/2002	Chloride	--	17.2443	<10	11	<10	<10	<10	<10	181	44	25	111	29	<10	11
03/14/2003	Chloride	--	17.2443	<10	12	<10	<10	<10	<10	163	383	34	185	31	<10	11
09/29/2003	Chloride	--	17.2443	<10	13	<10	<10	<10	<10	165	30	23	141	31	10	11
Mean				6.5	11.875	ERR	3.165	11.60143	11.23778	85.35556	43.508	23.64762	92.0125	23.66667	10.25	12
Standard Deviation (STD)				5.37215	1.268611	ERR	0.879275	23.02829	11.20604	58.55627	70.3224	23.54304	48.57136	5.557777	0.433013	3.70328
Mean + 2 STD				17.2443	14.41222	ERR	4.923551	57.65802	33.64987	202.4681	184.1528	70.73371	189.1552	34.78222	11.11603	19.40656



AMES-STORY ENVIRONMENTAL LANDFILL

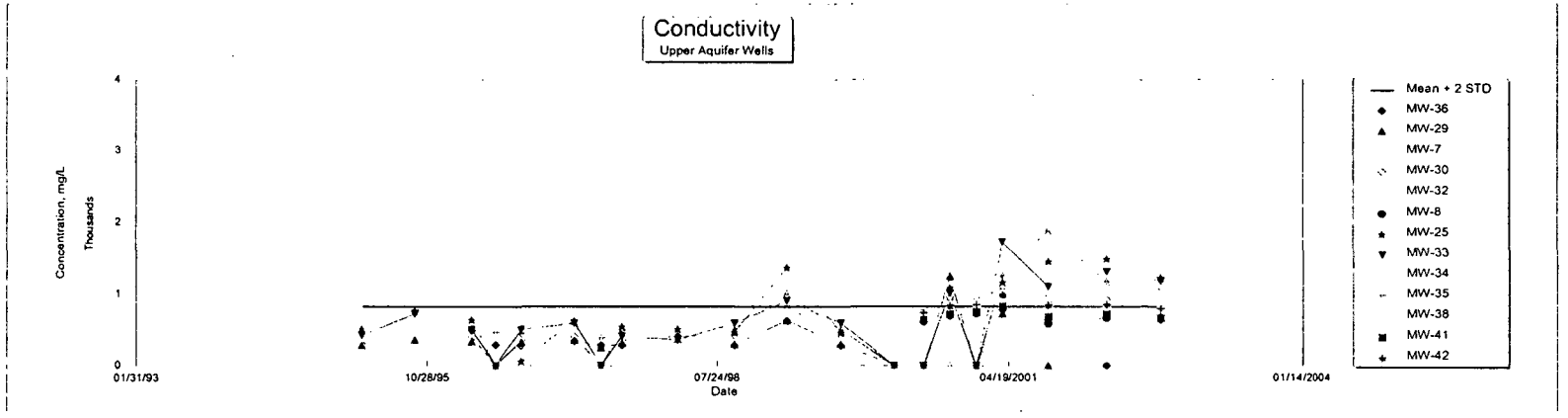
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
	mg/L															
04/23/91	Chromium, dissolved	0.1	0.03				<0.03	<0.03	<0.03	<0.03	---	<0.03				
10/15/91	Chromium, dissolved	0.1	0.03				<0.03	<0.03	<0.03	<0.03	---	<0.03				
01/23/92	Chromium, dissolved	0.1	0.03				---	<0.03	<0.03	<0.03	<0.03	<0.03				
03/23/92	Chromium, dissolved	0.1	0.03				<0.03	<0.03	<0.03	<0.03	<0.03	<0.03				
09/30/92	Chromium, dissolved	0.1	0.03				NT	NT	NT	NT	NT	NT				
03/05/93	Chromium, dissolved	0.1	0.03				NT	NT	NT	NT	NT	NT				
09/21/93	Chromium, dissolved	0.1	0.03				NT	NT	NT	NT	NT	NT				
03/23/94	Chromium, dissolved	0.1	0.03				NT	NT	NT	NT	NT	NT				
09/16/94	Chromium, dissolved	0.1	0.03				NT	NT	NT	NT	NT	NT				
03/16/95	Chromium, dissolved	0.1	0.03				NT	NT	NT	NT	NT	NT				
09/13/95	Chromium, dissolved	0.1	0.03				NT	NT	NT	NT	NT	NT				
03/28/96	Chromium, dissolved	0.1	0.03	<0.03			NT	NT	NT	NT	NT	NT	<0.03			
06/20/96	Chromium, dissolved	0.1	0.03	<0.03			NT	NT	NT	NT	NT	NT	<0.03			
09/13/96	Chromium, dissolved	0.1	0.03	<0.03			NT	NT	NT	NT	NT	NT	<0.03			
03/19/97	Chromium, dissolved	0.1	0.03	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	Chromium, dissolved	0.1	0.03	<0.03			<0.03	NT	NT	NT	NT	NT	<0.03			
08/30/97	Chromium, dissolved	0.1	0.03	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	Chromium, dissolved	0.1	0.03	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	Chromium, dissolved	0.1	0.03	NT			NT	NT	NT	NT	NT	NT	NT			
03/18/99	Chromium, dissolved	0.1	0.03	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	Chromium, dissolved	0.1	0.03	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/2000	Chromium, dissolved	0.1	0.03	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Chromium, dissolved	0.1	0.03	NT	<0.03	<0.03	NT	NT	NT	NT	NT	NT	NT	<0.03	<0.03	<0.03
09/28/2000	Chromium, dissolved	0.1	0.03	NT	<0.03	<0.03	<0.03	NT	NT	NT	NT	NT	DRY	<0.03	<0.03	<0.03
12/27/2000	Chromium, dissolved	0.1	0.03	NT	<0.03	<0.03	NT	NT	NT	NT	NT	NT	NT	<0.03	<0.03	<0.03
03/28/2001	Chromium, dissolved	0.1	0.03	NT	<0.03	<0.03	<0.03	NT	NT	NT	NT	NT	NT	<0.03	<0.03	<0.03
09/02/2001	Chromium, dissolved	0.1	0.03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Chromium, dissolved	0.1	0.03	NT	NT	NT	<0.005	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Chromium, dissolved	0.1	0.03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Chromium, dissolved	0.1	0.03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Chromium, dissolved	0.1	0.03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
03/16/95	Conductivity, mv	--	824.3159				280	300	390	510	420	550				
09/13/95	Conductivity, mv	--	824.3159				360	400	740	770	720	660				
03/28/96	Conductivity, mv	--	824.3159	490			340	400	580	640	500	460	520			
06/20/96	Conductivity, mv	--	824.3159	290			NT	NT	NT	NT	NT	NT	460			
09/13/96	Conductivity, mv	--	824.3159	280			330	350	510	60	500	570	440			
03/19/97	Conductivity, mv	--	824.3159	340			350	400	570	620	590	580	600			
06/18/97	Conductivity, mv	--	824.3159	280			250	NT	NT	NT	NT	NT	380			
08/30/97	Conductivity, mv	--	824.3159	280			310	350	430	540	410	490	490			
03/10/98	Conductivity, mv	--	824.3159	410			370	410	630	510	360	470	390			
09/21/98	Conductivity, mv	--	824.3159	280			300	420	500	460	590	540	490			
03/18/99	Conductivity, mv	--	824.3159	625			628	812	1208	1370	902	1438	1005			
09/21/99	Conductivity, mv	--	824.3159	280			300	420	500	460	590	540	490			
03/21/2000	Conductivity, mv	--	824.3159	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Conductivity, mv	--	824.3159	NT	621	617	NT	NT	NT	NT	NT	NT	NT	782	656	737
09/28/2000	Conductivity, mv	--	824.3159	688	680	700	1245	857	1218	1083	1009	1209	DRY	909	716	837
12/27/2000	Conductivity, mv	--	824.3159	NT	717	728	NT	NT	NT	NT	NT	NT	NT	923	744	848
03/28/2001	Conductivity, mv	--	824.3159	812	764	794	725	1000	1304	1161	1730	3000	1246	1080	826	986
09/02/2001	Conductivity, mv	--	824.3159	687	674	586	NT	845	1137	1455	1098	1455	1889	960	681	844
03/19/2002	Conductivity, mv	--	824.3159	NT	684	663	724	914	1180	1490	1313	NT	1167	1048	722	854
09/19/2002	Conductivity, mv	--	824.3159	640	703	673	686	805	1050	1225	1182	1287	1209	1074	665	800
03/14/2003	Conductivity, mv	--	824.3159	499	731	710	658	795	1056	833	732	1020	709	944	614	798
09/29/2003	Conductivity, mv	--	824.3159	584	606	593	615	724	886	1241	890	1055	886	844	588	708
	Mean			466.5625	686.6667	673.7778	498.2941	600.1176	817	848.7059	796.2353	957.75	773.1875	951.5556	690.2222	823.5556
	Standard Deviation (STD)			178.8767	47.33333	64.08636	252.6851	237.7517	314.9782	409.433	362.8454	634.1817	413.0229	96.53107	67.62113	74.95497
	Mean + 2 STD			824.3159	781.3333	801.9505	1003.664	1075.621	1446.956	1667.572	1521.926	2226.113	1599.233	1144.618	825.4645	973.4655



AMES-STORY ENVIRONMENTAL LANDFILL

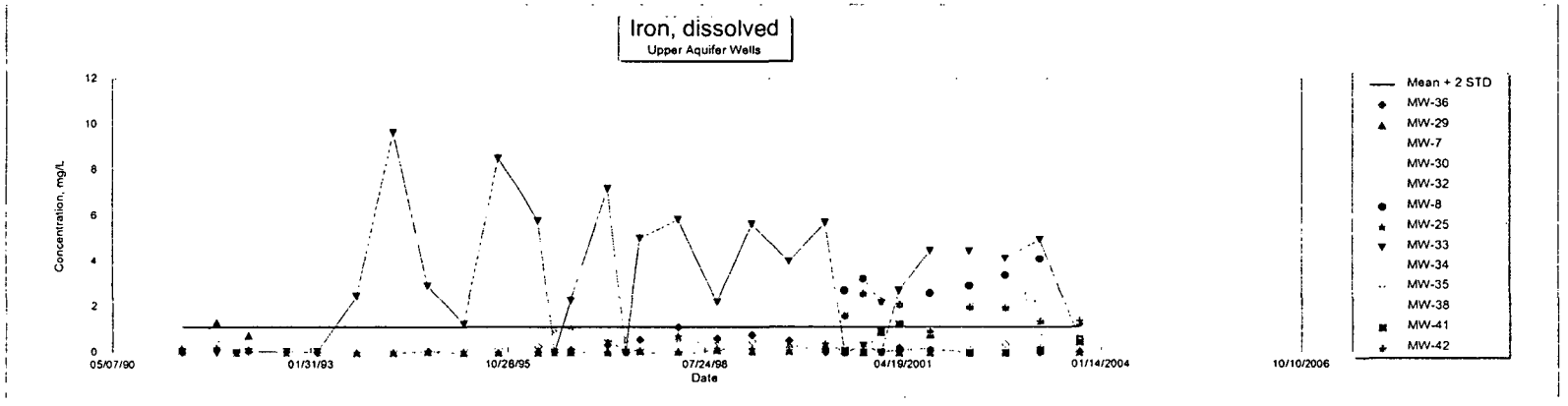
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	Copper, dissolved	1.3	0.03				<0.03	<0.03	<0.03	<0.03	---	<0.03				
10/15/91	Copper, dissolved	1.3	0.03				<0.03	<0.03	<0.03	<0.03	---	<0.03				
01/23/92	Copper, dissolved	1.3	0.03				---	<0.03	<0.03	<0.03	<0.03	<0.03				
03/23/92	Copper, dissolved	1.3	0.03				<0.03	<0.03	<0.03	<0.03	<0.03	<0.03				
09/30/92	Copper, dissolved	1.3	0.03				NT	NT	NT	NT	NT	NT				
03/05/93	Copper, dissolved	1.3	0.03				NT	NT	NT	NT	NT	NT				
09/21/93	Copper, dissolved	1.3	0.03				NT	NT	NT	NT	NT	NT				
03/23/94	Copper, dissolved	1.3	0.03				NT	NT	NT	NT	NT	NT				
09/16/94	Copper, dissolved	1.3	0.03				NT	NT	NT	NT	NT	NT				
03/16/95	Copper, dissolved	1.3	0.03				NT	NT	NT	NT	NT	NT				
09/13/95	Copper, dissolved	1.3	0.03				NT	NT	NT	NT	NT	NT				
03/28/96	Copper, dissolved	1.3	0.03	<0.03			NT	NT	NT	NT	NT	NT	<0.03			
06/20/96	Copper, dissolved	1.3	0.03	<0.03			NT	NT	NT	NT	NT	NT	<0.03			
09/13/96	Copper, dissolved	1.3	0.03	<0.03			NT	NT	NT	NT	NT	NT	<0.03			
03/19/97	Copper, dissolved	1.3	0.03	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	Copper, dissolved	1.3	0.03	<0.03			<0.03	NT	NT	NT	NT	NT	<0.03			
08/30/97	Copper, dissolved	1.3	0.03	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	Copper, dissolved	1.3	0.03	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	Copper, dissolved	1.3	0.03	NT			NT	NT	NT	NT	NT	NT	NT			
03/18/99	Copper, dissolved	1.3	0.03	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	Copper, dissolved	1.3	0.03	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/2000	Copper, dissolved	1.3	0.03	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Copper, dissolved	1.3	0.03	NT	<0.03	<0.03	NT	NT	NT	NT	NT	NT	NT	<0.03	<0.03	<0.03
09/28/2000	Copper, dissolved	1.3	0.03	NT	<0.03	<0.03	<0.03	NT	NT	NT	NT	NT	DRY	<0.03	<0.03	<0.03
12/27/2000	Copper, dissolved	1.3	0.03	NT	<0.03	<0.03	NT	NT	NT	NT	NT	NT	NT	<0.03	0.03	0.03
03/28/2001	Copper, dissolved	1.3	0.03	NT	<0.03	<0.03	NT	NT	NT	NT	NT	NT	NT	<0.03	<0.03	<0.03
09/02/2001	Copper, dissolved	1.3	0.03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Copper, dissolved	1.3	0.03	NT	NT	NT	<0.005	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Copper, dissolved	1.3	0.03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Copper, dissolved	1.3	0.03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Copper, dissolved	1.3	0.03	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

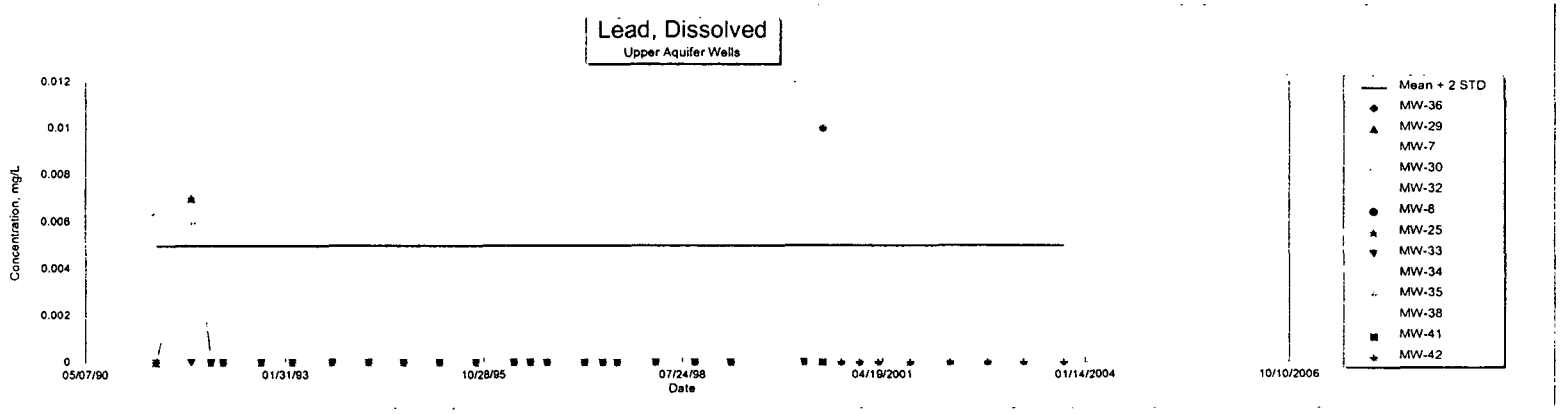
DATE	PARAMETER .mg/L	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	Iron, dissolved	--	1.117803				0.05	<0.03	<0.09	0.177	---	0.133				
10/15/91	Iron, dissolved	--	1.117803				1.3	0.546	0.116	0.205	---	0.767				
01/23/92	Iron, dissolved	--	1.117803				---	<0.03	<0.03	<0.03	<0.03	<0.03				
03/23/92	Iron, dissolved	--	1.117803				0.743	<0.03	0.048	0.121	0.052	<0.03				
09/30/92	Iron, dissolved	--	1.117803				<0.03	<0.03	<0.03	<0.03	0.033	0.043				
03/05/93	Iron, dissolved	--	1.117803				---	<0.03	<0.03	<0.03	0.035	<0.03				
09/21/93	Iron, dissolved	--	1.117803				<0.03	<0.03	1.07	<0.03	2.46	0.05				
03/23/94	Iron, dissolved	--	1.117803				<0.03	0.072	2.29	<0.03	9.65	0.084				
09/16/94	Iron, dissolved	--	1.117803				0.037	0.059	4.3	0.05	2.9	0.55				
03/16/95	Iron, dissolved	--	1.117803				<0.03	0.111	2.55	0.038	1.24	0.47				
09/13/95	Iron, dissolved	--	1.117803				<0.03	0.131	2.2	<0.03	8.5	0.317				
03/28/96	Iron, dissolved	--	1.117803	<0.03			<0.03	0.228	2.68	<0.03	5.77	0.386	0.067			
06/20/96	Iron, dissolved	--	1.117803	<0.03			NT	NT	NT	NT	NT	NT	0.927			
09/13/96	Iron, dissolved	--	1.117803	<0.03			<0.03	0.112	2.37	0.134	2.27	1.3	1.02			
03/19/97	Iron, dissolved	--	1.117803	0.329			0.032	0.573	4.65	<0.03	7.18	<0.03	0.484			
06/18/97	Iron, dissolved	--	1.117803	<0.03			0.086	NT	NT	NT	NT	NT	0.523			
08/30/97	Iron, dissolved	--	1.117803	0.559			0.064	0.144	6.19	0.076	5.02	1.93	5.05			
03/10/98	Iron, dissolved	--	1.117803	1.09			0.041	0.057	4.41	0.717	5.83	1.52	0.5			
09/21/98	Iron, dissolved	--	1.117803	0.61			0.085	0.059	1.63	0.166	2.2	3.09	0.415			
03/18/99	Iron, dissolved	--	1.117803	0.767			0.052	0.48	6.08	0.131	5.64	4.78	0.162			
09/21/99	Iron, dissolved	--	1.117803	0.519			0.043	0.197	2.99	0.076	3.99	5.53	0.337			
03/21/2000	Iron, dissolved	--	1.117803	NT			0.252	0.447	2.1	0.371	5.69	4.15	NT			
06/28/2000	Iron, dissolved	--	1.117803	NT	0.146	2.71	NT	NT	NT	NT	NT	NT	NT	0.904	0.073	1.61
09/28/2000	Iron, dissolved	--	1.117803	<0.03	0.533	3.23	0.031	0.175	0.035	<0.03	0.303	3.3	DRY	0.198	<0.03	2.58
12/27/2000	Iron, dissolved	--	1.117803	NT	0.412	2.22	NT	NT	NT	NT	NT	NT	NT	0.138	0.909	2.3
03/28/2001	Iron, dissolved	--	1.117803	0.196	0.094	2.1	<0.03	0.08	0.493	<0.03	2.7	<0.03	0.108	0.049	1.24	2.12
09/02/2001	Iron, dissolved	--	1.117803	0.103	0.244	2.6	<0.03	0.088	3.07	<0.03	4.47	6.97	0.168	0.197	0.783	0.923
03/19/2002	Iron, dissolved	--	1.117803	<0.03	0.178	2.91	<0.03	0.074	1.14	<0.03	4.46	0.654	<0.03	0.292	<0.03	1.99
09/19/2002	Iron, dissolved	--	1.117803	<0.03	0.184	3.4	<0.03	0.351	1.11	<0.03	4.12	5.65	<0.03	0.041	<0.03	1.96
03/14/2003	Iron, dissolved	--	1.117803	<0.03	1.31	4.11	0.153	0.192	1.26	<0.03	4.95	4.67	<0.03	0.795	0.103	1.37
09/29/2003	Iron, dissolved	--	1.117803	<0.030	0.178	1.28	<0.030	0.296	1.29	<0.030	0.556	5.63	0.078	0.536	0.45	1.37
	Mean			0.521625	0.364333	2.728889	0.212071	0.212952	2.350957	0.1885	3.750792	2.362455	0.756846	0.35	0.593	1.802556
	Standard Deviation (STD)			0.298089	0.359351	0.775492	0.35154	0.164925	1.741168	0.180626	2.637137	2.254855	1.273273	0.301927	0.425346	0.494129
	Mean + 2 STD			1.117803	1.083035	4.279873	0.915152	0.542803	5.833292	0.549751	9.025066	6.872165	3.303392	0.953854	1.443691	2.790813



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

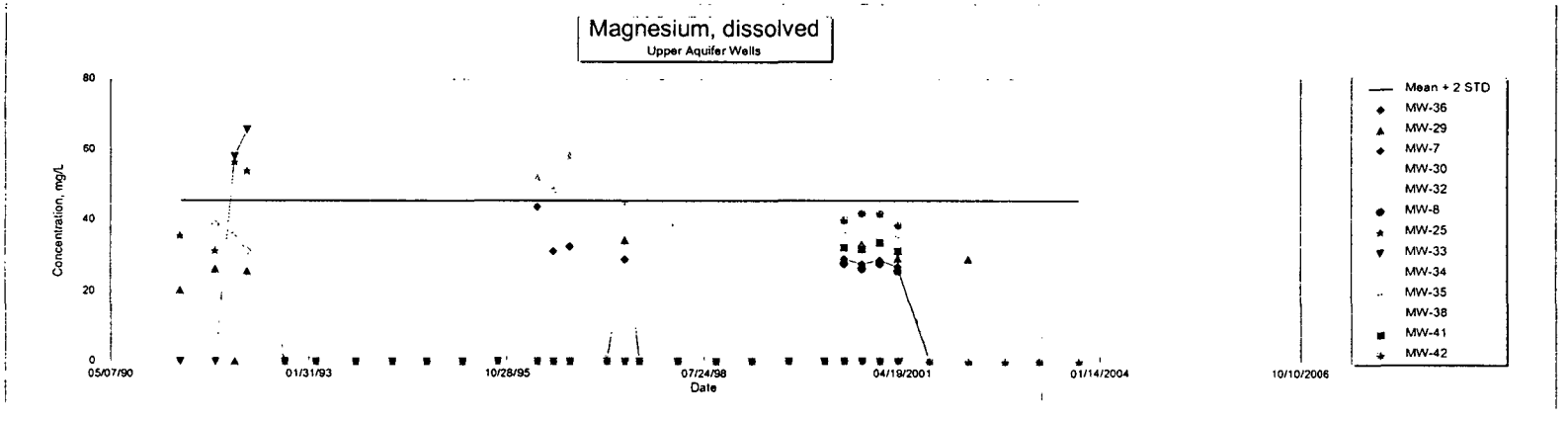
DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	Lead, dissolved	0.015	0.005				<0.005	<0.005	0.011	<0.005	---	<0.005				
10/15/91	Lead, dissolved	0.015	0.005				0.007	0.006	0.008	0.007	---	0.01				
01/23/92	Lead, dissolved	0.015	0.005				---	<0.005	<0.005	<0.005	<0.005	<0.005				
03/23/92	Lead, dissolved	0.015	0.005				<0.005	<0.005	<0.005	<0.005	<0.005	<0.005				
09/30/92	Lead, dissolved	0.015	0.005				NT	NT	NT	NT	NT	NT				
03/05/93	Lead, dissolved	0.015	0.005				NT	NT	NT	NT	NT	NT				
09/21/93	Lead, dissolved	0.015	0.005				NT	NT	NT	NT	NT	NT				
03/23/94	Lead, dissolved	0.015	0.005				NT	NT	NT	NT	NT	NT				
09/16/94	Lead, dissolved	0.015	0.005				NT	NT	NT	NT	NT	NT				
03/16/95	Lead, dissolved	0.015	0.005				NT	NT	NT	NT	NT	NT				
09/13/95	Lead, dissolved	0.015	0.005				NT	NT	NT	NT	NT	NT				
03/28/96	Lead, dissolved	0.015	0.005	<0.005			NT	NT	NT	NT	NT	NT	<0.005			
06/20/96	Lead, dissolved	0.015	0.005	<0.005			NT	NT	NT	NT	NT	NT	<0.005			
09/13/96	Lead, dissolved	0.015	0.005	<0.005			NT	NT	NT	NT	NT	NT	<0.005			
03/19/97	Lead, dissolved	0.015	0.005	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	Lead, dissolved	0.015	0.005	<0.005			<0.005	NT	NT	NT	NT	NT	<0.005			
08/30/97	Lead, dissolved	0.015	0.005	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	Lead, dissolved	0.015	0.005	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	Lead, dissolved	0.015	0.005	NT			NT	NT	NT	NT	NT	NT	NT			
03/18/99	Lead, dissolved	0.015	0.005	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/99	Lead, dissolved	0.015	0.005	NT			NT	NT	NT	NT	NT	NT	NT.			
03/21/2000	Lead, dissolved	0.015	0.005	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Lead, dissolved	0.015	0.005	NT	<0.005	<0.005	NT	NT	NT	NT	NT	NT	NT	<0.005	<0.005	0.01
09/28/2000	Lead, dissolved	0.015	0.005	NT	<0.005	<0.005	<0.005	NT	NT	NT	NT	NT	DRY	<0.005	<0.005	<0.005
12/27/2000	Lead, dissolved	0.015	0.005	NT	<0.005	<0.005	NT	NT	NT	NT	NT	NT	NT	<0.005	<0.005	<0.005
03/28/2001	Lead, dissolved	0.015	0.005	NT	<0.005	<0.005	<0.005	NT	NT	NT	NT	NT	NT	<0.005	<0.005	<0.005
09/02/2001	Lead, dissolved	0.015	0.005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Lead, dissolved	0.015	0.005	NT	NT	NT	<0.005	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Lead, dissolved	0.015	0.005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Lead, dissolved	0.015	0.005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Lead, dissolved	0.015	0.005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	0.007	0.006	0.0095	0.007	ERR	0.01	ERR	ERR	ERR	0.01
	Standard Deviation (STD)			ERR	ERR	ERR	0	0	0.0015	0	ERR	0	ERR	ERR	ERR	0
	Mean + 2 STD			ERR	ERR	ERR	0.007	0.006	0.0125	0.007	ERR	0.01	ERR	ERR	ERR	0.01



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	Magnesium, dissolved	--	45.47475				20.2	41.1	67.2	35.6	---	29.5				
10/15/91	Magnesium, dissolved	--	45.47475				26.3	38.6	57	31.4	---	31.7				
01/23/92	Magnesium, dissolved	--	45.47475				---	35.8	59.6	56.4	58	68				
03/23/92	Magnesium, dissolved	--	45.47475				25.7	31.3	62.8	53.9	65.7	65.7				
09/30/92	Magnesium, dissolved	--	45.47475				NT	NT	NT	NT	NT	NT				
03/05/93	Magnesium, dissolved	--	45.47475				NT	NT	NT	NT	NT	NT				
09/21/93	Magnesium, dissolved	--	45.47475				NT	NT	NT	NT	NT	NT				
03/23/94	Magnesium, dissolved	--	45.47475				NT	NT	NT	NT	NT	NT				
09/16/94	Magnesium, dissolved	--	45.47475				NT	NT	NT	NT	NT	NT				
03/16/95	Magnesium, dissolved	--	45.47475				NT	NT	NT	NT	NT	NT				
09/13/95	Magnesium, dissolved	--	45.47475				NT	NT	NT	NT	NT	NT				
03/28/96	Magnesium, dissolved	--	45.47475	43.7			NT	NT	NT	NT	NT	NT	51.8			
06/20/96	Magnesium, dissolved	--	45.47475	31.3			NT	NT	NT	NT	NT	NT	48.6			
09/13/96	Magnesium, dissolved	--	45.47475	32.6			NT	NT	NT	NT	NT	NT	58.1			
03/19/97	Magnesium, dissolved	--	45.47475	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	Magnesium, dissolved	--	45.47475	29			34.4	NT	NT	NT	NT	NT	45			
08/30/97	Magnesium, dissolved	--	45.47475	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	Magnesium, dissolved	--	45.47475	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	Magnesium, dissolved	--	45.47475	NT			NT	NT	NT	NT	NT	NT	NT			
03/18/99	Magnesium, dissolved	--	45.47475	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	Magnesium, dissolved	--	45.47475	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/2000	Magnesium, dissolved	--	45.47475	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Magnesium, dissolved	--	45.47475	NT	29.1	27.8	NT	NT	NT	NT	NT	NT	NT	36.7	32.4	40
09/28/2000	Magnesium, dissolved	--	45.47475	NT	27.7	26.4	33.2	NT	NT	NT	NT	NT	DRY	31.6	32	41.9
12/27/2000	Magnesium, dissolved	--	45.47475	NT	28.8	27.8	NT	NT	NT	NT	NT	NT	NT	33.6	33.8	41.8
03/28/2001	Magnesium, dissolved	--	45.47475	NT	26.9	25.7	29.2	NT	NT	NT	NT	NT	NT	35.6	31.4	38.5
09/02/2001	Magnesium, dissolved	--	45.47475	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Magnesium, dissolved	--	45.47475	NT	NT	NT	29.1	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Magnesium, dissolved	--	45.47475	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Magnesium, dissolved	--	45.47475	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Magnesium, dissolved	--	45.47475	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			34.15	28.125	26.925	28.3	36.7	61.65	44.325	61.85	48.725	50.875	34.375	32.4	40.55
	Standard Deviation (STD)			5.662376	0.878564	0.909327	4.456777	3.637994	3.806245	10.96207	3.85	18.1599	4.815275	1.94984	0.883176	1.404457
	Mean + 2 STD			45.47475	29.88213	28.74365	37.21355	43.97599	69.26249	66.24913	69.55	85.04479	60.50555	38.27468	34.16635	43.35891



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MONITORING WELL SAMPLING RESULTS

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	mg/L															
04/23/91	Mercury, dissolved	0.002	0.0005				<0.001	<0.001	<0.001	<0.001	---	<0.001				
10/15/91	Mercury, dissolved	0.002	0.0005				<0.0005	<0.0005	<0.0005	<0.0005	---	<0.0005				
01/23/92	Mercury, dissolved	0.002	0.0005				---	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005				
03/23/92	Mercury, dissolved	0.002	0.0005				<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005				
09/30/92	Mercury, dissolved	0.002	0.0005				NT	NT	NT	NT	NT	NT				
03/05/93	Mercury, dissolved	0.002	0.0005				NT	NT	NT	NT	NT	NT				
09/21/93	Mercury, dissolved	0.002	0.0005				NT	NT	NT	NT	NT	NT				
03/23/94	Mercury, dissolved	0.002	0.0005				NT	NT	NT	NT	NT	NT				
09/16/94	Mercury, dissolved	0.002	0.0005				NT	NT	NT	NT	NT	NT				
03/16/95	Mercury, dissolved	0.002	0.0005				NT	NT	NT	NT	NT	NT				
09/13/95	Mercury, dissolved	0.002	0.0005				NT	NT	NT	NT	NT	NT				
03/28/96	Mercury, dissolved	0.002	0.0005	<0.0005			NT	NT	NT	NT	NT	NT	<0.0005			
06/20/96	Mercury, dissolved	0.002	0.0005	<0.0005			NT	NT	NT	NT	NT	NT	<0.0005			
09/13/96	Mercury, dissolved	0.002	0.0005	<0.005			NT	NT	NT	NT	NT	NT	<0.0005			
03/19/97	Mercury, dissolved	0.002	0.0005	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	Mercury, dissolved	0.002	0.0005	<0.0005			<0.0005	NT	NT	NT	NT	NT	<0.0005			
08/30/97	Mercury, dissolved	0.002	0.0005	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	Mercury, dissolved	0.002	0.0005	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	Mercury, dissolved	0.002	0.0005	NT			NT	NT	NT	NT	NT	NT	NT			
03/18/99	Mercury, dissolved	0.002	0.0005	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	Mercury, dissolved	0.002	0.0005	NT			NT	NT	NT	NT	NT	NT	NT			
03/28/2000	Mercury, dissolved	0.002	0.0005	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Mercury, dissolved	0.002	0.0005	NT	<0.0005	<0.0005	NT	NT	NT	NT	NT	NT	NT	<0.0005	<0.0005	<0.0005
09/28/2000	Mercury, dissolved	0.002	0.0005	NT	<0.0005	<0.0005	<0.0005	NT	NT	NT	NT	NT	DRY	<0.0005	<0.0005	<0.0005
12/27/2000	Mercury, dissolved	0.002	0.0005	NT	<0.0005	<0.0005	NT	NT	NT	NT	NT	NT	NT	<0.0005	<0.0005	<0.0005
03/28/2001	Mercury, dissolved	0.002	0.0005	NT	<0.0005	<0.0005	<0.0005	NT	NT	NT	NT	NT	NT	<0.0005	<0.0005	<0.0005
09/02/2001	Mercury, dissolved	0.002	0.0005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Mercury, dissolved	0.002	0.0005	NT	NT	NT	<0.0005	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Mercury, dissolved	0.002	0.0005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Mercury, dissolved	0.002	0.0005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Mercury, dissolved	0.002	0.0005	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

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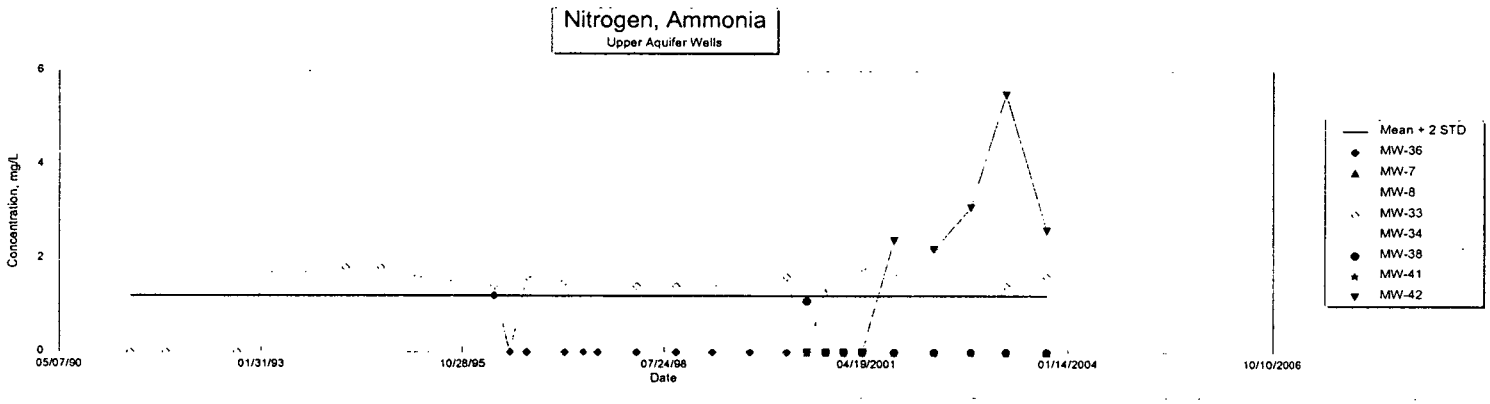
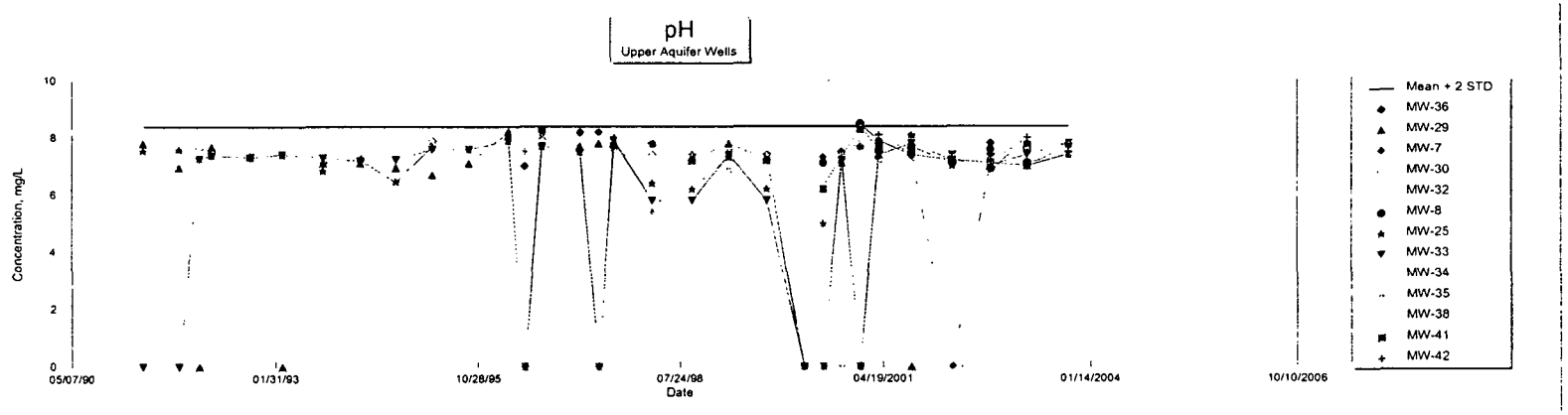
04/23/91	Nitrogen, Ammonia	--	1.2				<0.5	<0.5	<0.5	<0.5	---	<0.5				
10/15/91	Nitrogen, Ammonia	--	1.2				<0.5	<0.5	<0.5	<0.5	---	<0.5				
01/23/92	Nitrogen, Ammonia	--	1.2				---	<1.0	<1.0	<1.0	<1.0	<1.0				
03/23/92	Nitrogen, Ammonia	--	1.2				<1.0	<1.0	<1.0	<1.0	<1.0	<1.0				
09/30/92	Nitrogen, Ammonia	--	1.2				<1	<1	<1	<1	<1	<1				
03/05/93	Nitrogen, Ammonia	--	1.2				---	<1	<1	<1	1.7	<1				
09/21/93	Nitrogen, Ammonia	--	1.2				<1	<1	<1	<1	1.7	<1				
03/23/94	Nitrogen, Ammonia	--	1.2				<1	<1	<1	<1	1.8	1.1				
09/16/94	Nitrogen, Ammonia	--	1.2				<1	<1	<1	<1	1.8	1.3				
03/16/95	Nitrogen, Ammonia	--	1.2				<1	<1	<1	<1	1.6	1				
09/13/95	Nitrogen, Ammonia	--	1.2				<1	<1	<1	<1	1.5	1.2				
03/28/96	Nitrogen, Ammonia	--	1.2	1.2			<1	<1	<1	<1	1.4	1.8	<1			
06/20/96	Nitrogen, Ammonia	--	1.2	<1			NT	NT	NT	NT	NT	NT	<1			
09/13/96	Nitrogen, Ammonia	--	1.2	<1			<1	<1	<1	<1	1.6	1.4	<1			
03/19/97	Nitrogen, Ammonia	--	1.2	<1			<1	<1	<1	<1	1.5	<1	<1			
06/18/97	Nitrogen, Ammonia	--	1.2	<1			<1	NT	NT	NT	NT	NT	<1			
08/30/97	Nitrogen, Ammonia	--	1.2	<1			<1	<1	<1	<1	1.4	1.4	<1			
03/10/98	Nitrogen, Ammonia	--	1.2	<1			<1	<1	<1	<1	1.4	1.4	<1			
09/21/98	Nitrogen, Ammonia	--	1.2	<1			<1	<1	<1	<1	1.4	1.4	<1			
03/18/99	Nitrogen, Ammonia	--	1.2	<1			<1	<1	<1	<1	1.4	<1	<1			
09/21/99	Nitrogen, Ammonia	--	1.2	<1			<1	<1	<1	<1	1.5	<1	<1			
03/21/2000	Nitrogen, Ammonia	--	1.2	NT			<1	<1	<1	<1	1.6	<1	NT			
06/28/2000	Nitrogen, Ammonia	--	1.2	NT	<1	1.13	NT	NT	NT	NT	NT	NT	NT	1.08	<1	<1
09/28/2000	Nitrogen, Ammonia	--	1.2	<1	<1	1.1	<1	<1	<1	<1	1.35	<1	DRY	<1	<1	<1
12/27/2000	Nitrogen, Ammonia	--	1.2	NT	<1	1.08	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
03/28/2001	Nitrogen, Ammonia	--	1.2	<1	<1	1.1	<1	<1	<1	<1	1.8	<1	<1	<1	<1	<1
09/02/2001	Nitrogen, Ammonia	--	1.2	<1	<1	1.3	<1	<1	<1	<1	1.6	<1	<1	<1	<1	<1
03/19/2002	Nitrogen, Ammonia	--	1.2	<1	<1	1.1	<1	<1	<1	<1	2.2	<1	<1	<1	<1	<1
09/19/2002	Nitrogen, Ammonia	--	1.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<	<1
03/14/2003	Nitrogen, Ammonia	--	1.2	<1	<1	<1	<1	<1	1.1	<1	1.4	<1	<1	<1	<	<1
09/29/2003	Nitrogen, Ammonia	--	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6	1.2	<1.0	<1.0	<1.0	<1
	Mean			1.2	ERR	1.135	ERR	ERR	1.1	ERR	1.583333	1.32	ERR	1.08	ERR	ERR
	Standard Deviation (STD)			0	ERR	0.075222	ERR	ERR	0	ERR	0.198406	0.208806	ERR	0	ERR	ERR
	Mean + 2 STD			1.2	ERR	1.285444	ERR	ERR	1.1	ERR	1.980146	1.737612	ERR	1.08	ERR	ERR



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	pH	--	8.406038				7.80	7.51	7.18	7.55	---	7.01				
10/15/91	pH	--	8.406038				6.96	7.54	7.21	7.60	---	7.03				
01/23/92	pH	--	8.406038				---	7.65	7.58	7.27	7.26	7.31				
03/23/92	pH	--	8.406038				7.68	7.50	7.27	7.39	7.37	7.32				
09/30/92	pH	--	8.406038				7.36	7.49	7.44	7.31	7.3	7.13				
03/05/93	pH	--	8.406038				---	7.28	7.41	7.41	7.42	7.34				
09/21/93	pH	--	8.406038				7.1	7.11	7.3	6.85	7.29	7.12				
03/23/94	pH	--	8.406038				7.1	7.24	7.33	7.16	7.18	7.4				
09/16/94	pH	--	8.406038				6.95	6.42		6.46	7.22	6.99				
03/16/95	pH	--	8.406038				6.7	7.9	7.9	7.7	7.6	7.7				
09/13/95	pH	--	8.406038				7.1	7.7	7.4	7.6	7.6	7.6				
03/28/96	pH	--	8.406038	8			8.2	8.2	8.1	7.9	7.9	8	8			
06/20/96	pH	--	8.406038	7			NT	NT	NT	NT	NT	NT	7.5			
09/13/96	pH	--	8.406038	8.3			8.3	7.9	7.7	7.7	7.7	8	8.1			
03/19/97	pH	--	8.406038	8.2			7.7	8.2	7.6	7.5	7.5	7.7	8.1			
06/18/97	pH	--	8.406038	8.2			7.8	NT	NT	NT	NT	NT	8.2			
08/30/97	pH	--	8.406038	7.7			7.8	7.6	8.1	7.8	7.9	8	8			
03/10/98	pH	--	8.406038	7.8			7.8	7.4	7.8	6.4	5.8	5.8	5.4			
09/21/98	pH	--	8.406038	7.2			7.2	7.4	7	6.2	5.8	7.4	7.4			
03/18/99	pH	--	8.406038	7.4			7.8	7.6	7.5	7.3	7.4	7.7	6.9			
09/21/99	pH	--	8.406038	7.2			7.2	7.4	7	6.2	5.8	7.4	7.4			
03/21/2000	pH	--	8.406038	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	pH	--	8.406038	NT	7.3	7.1	NT	NT	NT	NT	NT	NT	NT	6.3	6.2	5
09/28/2000	pH	--	8.406038	7.5	7.3	7.3	7.1	7.3	7.1	7.2	7.3	7.2	NT	7.3	7.3	7.3
12/27/2000	pH	--	8.406038	NT	8.5	8.5	NT	NT	NT	NT	NT	NT	NT	7.9	8.3	7.7
03/28/2001	pH	--	8.406038	7.5	7.9	7.5	7.4	8.2	7.7	7.5	7.4	7.5	7.5	7.1	7.7	8.1
09/02/2001	pH	--	8.406038	7.5	7.4	7.7	NT	7.4	7.5	7.7	7.8	7.3	7.3	7.6	7.5	8.1
03/19/2002	pH	--	8.406038	NT	7.2	7.1	7.2	NT	NT	7	7.2	7	7.1	7.2	7.4	7.3
09/19/2002	pH	--	8.406038	7.8	7.1	6.9	7.7	7.1	7.2	7.5	7	6.7	6.9	6.8	7.3	7.2
03/14/2003	pH	--	8.406038	7.6	7	7.1	7	8	7.3	7.1	7.4	7.3	7.1	8	7.8	8
09/29/2003	pH	--	8.406038	7.8	7.4	7.4	7.7	7.7	7.5	7.4	7.8	7.4	7.5	7.8	7.7	7.5
Mean				7.66875	7.455556	7.4	7.44375	7.5496	7.463333	7.257692	7.2475	7.321154	7.4	7.333333	7.466667	7.355556
Standard Deviation (STD)				0.368644	0.439978	0.452155	0.412319	0.388705	0.299592	0.469651	0.593564	0.444404	0.664267	0.524934	0.535413	0.897046
Mean + 2 STD				8.406038	8.335511	8.304311	8.268388	8.327011	8.062518	8.196993	8.434629	8.209962	8.728533	8.383201	8.537492	9.149647



AMES-STORY ENVIRONMENTAL LANDFILL

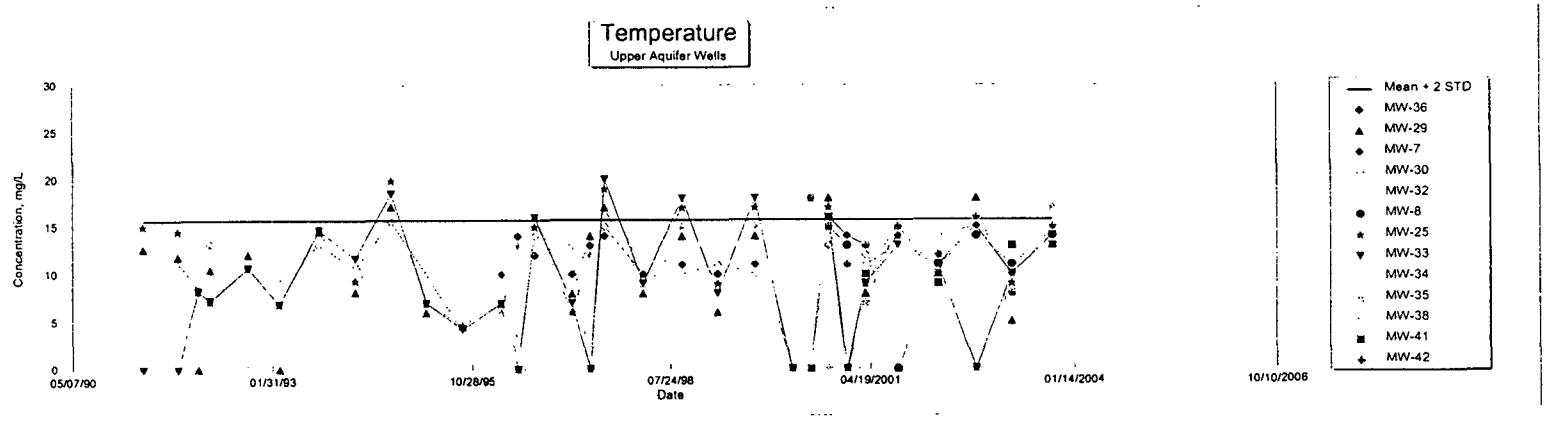
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	Phenols	--	0.1				<0.1	<0.1	<0.1	<0.1	---	<0.1				
10/15/91	Phenols	--	0.1				<0.1	0.1	<0.1	<0.1	---	<0.1				
01/23/92	Phenols	--	0.1				---	<0.1	<0.1	<0.1	<0.1	<0.1				
03/23/92	Phenols	--	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				
09/30/92	Phenols	--	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				
03/05/93	Phenols	--	0.1				NT	NT	NT	NT	NT	NT				
09/21/93	Phenols	--	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				
03/23/94	Phenols	--	0.1				NT	NT	NT	NT	NT	NT				
09/16/94	Phenols	--	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				
03/16/95	Phenols	--	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				
09/13/95	Phenols	--	0.1				NT	NT	NT	NT	NT	NT				
03/28/96	Phenols	--	0.1	NT			<0.1	NT	NT	NT	NT	NT	NT			
06/20/96	Phenols	--	0.1	NT			NT	NT	NT	NT	NT	NT	NT			
09/13/96	Phenols	--	0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
03/19/97	Phenols	--	0.1	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	Phenols	--	0.1	NT			NT	NT	NT	NT	NT	NT	NT			
08/30/97	Phenols	--	0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
03/10/98	Phenols	--	0.1	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	Phenols	--	0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
03/18/99	Phenols	--	0.1	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	Phenols	--	0.1	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
03/21/2000	Phenols	--	0.1	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Phenols	--	0.1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/28/2000	Phenols	--	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	DRY	<0.1	<0.1	<0.1
12/27/2000	Phenols	--	0.1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/28/2001	Phenols	--	0.1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/02/2001	Phenols	--	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
03/19/2002	Phenols	--	0.1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Phenols	--	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
03/14/2003	Phenols	--	0.1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Phenols	--	0.1	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	NT
	Mean			ERR	ERR	ERR	ERR	0.1	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	0	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	0.1	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

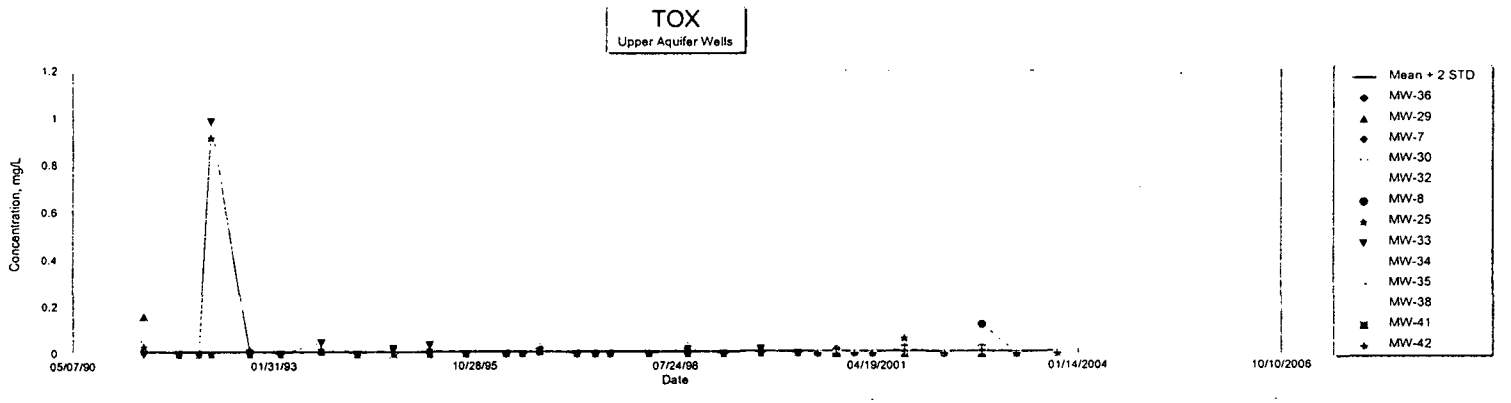
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	Temperature, celsius	--	15.69016				12.7	11.6	11.3	15.1	---	12.4				
10/15/91	Temperature, celsius	--	15.69016				11.9	11.3	11.0	14.6	---	16.2				
01/23/92	Temperature, celsius	--	15.69016				---	8.5	8.4	8.3	8.3	6.2				
03/23/92	Temperature, celsius	--	15.69016				10.5	13.2	11.8	7.2	7.3	6.5				
09/30/92	Temperature, celsius	--	15.69016				12.1	11.3	11	10.7	10.7	10.1				
03/05/93	Temperature, celsius	--	15.69016				---	9.8	9.2	6.9	6.9	6.1				
09/21/93	Temperature, celsius	--	15.69016				14.6	13.1	10.4	14.6	14.7	14.8				
03/23/94	Temperature, celsius	--	15.69016				8.2	10.7	12.1	9.4	11.7	12				
09/16/94	Temperature, celsius	--	15.69016				17.1	15.5		19.9	18.5	2.11				
03/16/95	Temperature, celsius	--	15.69016				6	10	8	7	7	6				
09/13/95	Temperature, celsius	--	15.69016				4.62	4.05	3.88	4.63	4.24	4.66				
03/28/96	Temperature, celsius	--	15.69016	10			7	10	11	7	7	7	6			
06/20/96	Temperature, celsius	--	15.69016	14			NT	NT	NT	NT	NT	NT	13			
09/13/96	Temperature, celsius	--	15.69016	12			16	14	13	15	16	16	16			
03/19/97	Temperature, celsius	--	15.69016	10			8	13	12	6	7	6	6			
06/18/97	Temperature, celsius	--	15.69016	13			14	NT	NT	NT	NT	NT	12			
08/30/97	Temperature, celsius	--	15.69016	14			17	15	24	19	20	21	17			
03/10/98	Temperature, celsius	--	15.69016	10			8	10	10	10	9	9	9			
09/21/98	Temperature, celsius	--	15.69016	11			14	10	11	17	18	17	15			
03/18/99	Temperature, celsius	--	15.69016	10			6	11	11	9	8	9	9			
09/21/99	Temperature, celsius	--	15.69016	11			14	10	11	17	18	17	15			
03/21/2000	Temperature, celsius	--	15.69016	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Temperature, celsius	--	15.69016	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	18
09/28/2000	Temperature, celsius	--	15.69016	15	16	15	18	13	14	17	16	17	NT	15	16	15
12/27/2000	Temperature, celsius	--	15.69016	NT	14	13	NT	NT	NT	NT	NT	NT	NT	12	11	11
03/28/2001	Temperature, celsius	--	15.69016	10	13	13	8	12	12	9	9	6	7	11	10	13
09/02/2001	Temperature, celsius	--	15.69016	14	NT	NT	NT	14	14	14	13	17	15	13	15	15
03/19/2002	Temperature, celsius	--	15.69016	12	11	11	10	14	14	10	11	10	10	11	9	12
09/19/2002	Temperature, celsius	--	15.69016	14	15	14	18	15	14	NT	NT	19	16	15	16	16
03/14/2003	Temperature, celsius	--	15.69016	13	10	11	5	13	13	9	10	10	10	14	13	8
09/29/2003	Temperature, celsius	--	15.69016	14	14	14	15	14	17	15	14	19	17	14	13	15
	Mean			12.17647	13.28571	13	11.48833	11.83	11.9232	11.6932	11.53652	11.42577	12.0625	13.125	12.875	13.66667
	Standard Deviation (STD)			1.756845	1.979487	1.414214	4.233552	2.488453	3.47958	4.362081	4.449655	5.280823	3.815573	1.536026	2.52178	2.828427
	Mean + 2 STD			15.69016	17.24469	15.82843	19.95544	16.80691	18.88236	20.41736	20.43583	21.98742	19.69365	16.19705	17.91856	19.32352



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	Total Organic Halogens	--	0.01				0.16	0.05	0.01	0.033	---	0.05				
10/15/91	Total Organic Halogens	--	0.01				<0.01	<0.01	<0.01	<0.01	---	<0.01				
01/23/92	Total Organic Halogens	--	0.01				---	<0.01	<0.01	<0.01	<0.01	<0.01				
03/23/92	Total Organic Halogens	--	0.01				<0.01	<0.01	<0.01	0.92	0.99	0.01				
09/30/92	Total Organic Halogens	--	0.01				<0.01	<0.01	<0.01	0.02	<0.01	0.01				
03/05/93	Total Organic Halogens	--	0.01				NT	NT	NT	NT	NT	NT				
09/21/93	Total Organic Halogens	--	0.01				0.01	0.01	0.01	0.02	0.05	0.02				
03/23/94	Total Organic Halogens	--	0.01				NT	NT	NT	NT	NT	NT				
09/16/94	Total Organic Halogens	--	0.01				<0.01	<0.01	0.014	0.024	0.024	<0.01				
03/16/95	Total Organic Halogens	--	0.01				<0.01	<0.01	<0.01	0.02	0.04	0.02				
09/13/95	Total Organic Halogens	--	0.01				NT	NT	NT	NT	NT	NT				
03/28/96	Total Organic Halogens	--	0.01	NT			<0.01	NT	NT	NT	NT	NT	NT			
06/20/96	Total Organic Halogens	--	0.01	NT			NT	NT	NT	NT	NT	NT	NT			
09/13/96	Total Organic Halogens	--	0.01	0.01			0.01	<0.01	0.01	0.02	0.01	0.01	0.03			
03/19/97	Total Organic Halogens	--	0.01	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	Total Organic Halogens	--	0.01	NT			NT	NT	NT	NT	NT	NT	NT			
08/30/97	Total Organic Halogens	--	0.01	<0.01			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			
03/10/98	Total Organic Halogens	--	0.01	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	Total Organic Halogens	--	0.01	<0.01			<0.01	<0.01	<0.01	0.02	0.02	<0.01	0.03			
03/18/99	Total Organic Halogens	--	0.01	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	Total Organic Halogens	--	0.01	<0.01			<0.01	<0.01	<0.01	0.02	0.02	0.01	0.02			
03/21/2000	Total Organic Halogens	--	0.01	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Total Organic Halogens	--	0.01	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/28/2000	Total Organic Halogens	--	0.01	<0.01	0.02	0.02	0.02	<0.01	0.01	0.02	0.02	0.02	DRY	<0.01	<0.01	0.02
12/27/2000	Total Organic Halogens	--	0.01	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/28/2001	Total Organic Halogens	--	0.01	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/02/2001	Total Organic Halogens	--	0.01	<0.01	<0.01	<0.01	<0.01	0.013	0.02	0.065	0.021	0.03	0.028	<0.01	<0.01	0.011
03/19/2002	Total Organic Halogens	--	0.01	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Total Organic Halogens	--	0.01	<0.01	<0.01	0.124	<0.01	0.015	0.077	0.019	0.02	0.021	0.034	<0.01	<0.01	0.014
03/14/2003	Total Organic Halogens	--	0.01	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Total Organic Halogens	--	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.012	<0.010	<0.010	<0.010	NT
	Mean			0.01	0.02	0.072	0.05	0.026	0.021571	0.100083	0.1215	0.019364	0.0284	ERR	ERR	0.015
	Standard Deviation (STD)			0	0	0.052	0.06364	0.01699	0.02289	0.24753	0.289706	0.011523	0.00463	ERR	ERR	0.003742
	Mean + 2 STD			0.01	0.02	0.176	0.177279	0.05998	0.067352	0.595143	0.700912	0.042409	0.037661	ERR	ERR	0.022483



AMES-STORY ENVIRONMENTAL LANDFILL

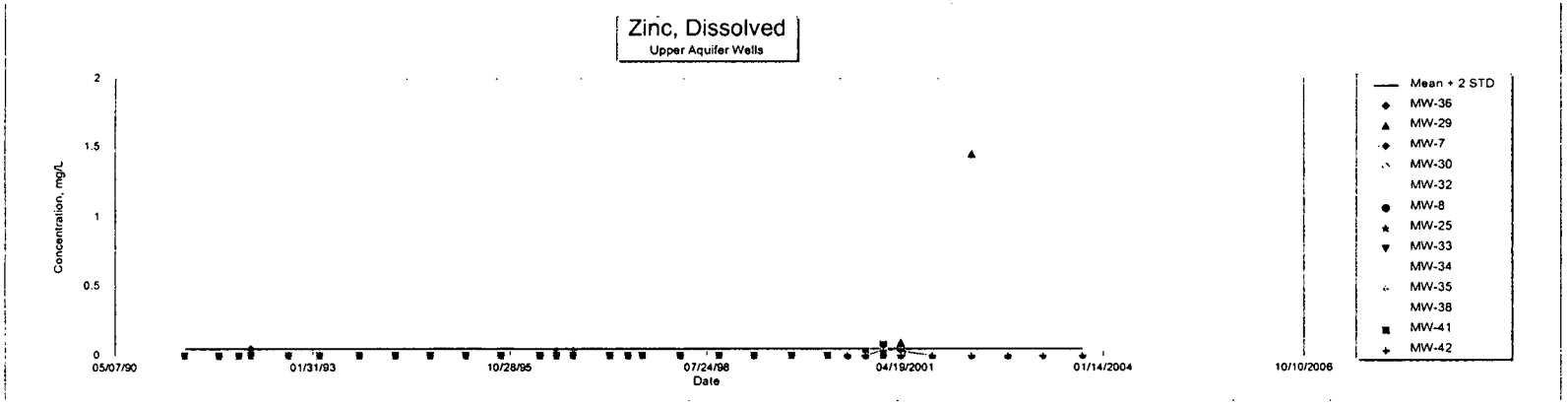
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER ug/L	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	Trichloroethene *	5	1				<1	<1	<1	<1	---	<1				
10/15/91	Trichloroethene *	5	1				<1	<1	<1	<1	---	<1				
01/23/92	Trichloroethene *	5	1				---	<1	<1	<1	<1	<1				
03/23/92	Trichloroethene *	5	1				<1	<1	<1	<1	<1	<1				
09/30/92	Trichloroethene *	5	1				NT	NT	NT	NT	NT	NT				
03/05/93	Trichloroethene *	5	1				NT	NT	NT	NT	NT	NT				
09/21/93	Trichloroethene *	5	1				NT	NT	NT	NT	NT	NT				
03/23/94	Trichloroethene *	5	1				NT	NT	NT	NT	NT	NT				
09/16/94	Trichloroethene *	5	1				NT	NT	NT	NT	NT	NT				
03/16/95	Trichloroethene *	5	1				NT	NT	NT	NT	NT	NT				
09/13/95	Trichloroethene *	5	1				NT	NT	NT	NT	NT	NT				
03/28/96	Trichloroethene *	5	1	<1			NT	NT	NT	NT	NT	NT	<1			
06/20/96	Trichloroethene *	5	1	<1			NT	NT	NT	NT	NT	NT	<1			
09/13/96	Trichloroethene *	5	1	<1			NT	NT	NT	NT	NT	NT	<1			
03/19/97	Trichloroethene *	5	1	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	Trichloroethene *	5	1	<1			<1	NT	NT	NT	NT	NT	<1			
08/30/97	Trichloroethene *	5	1	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	Trichloroethene *	5	1	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	Trichloroethene *	5	1	NT			NT	NT	NT	NT	NT	NT	NT			
03/18/99	Trichloroethene *	5	1	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	Trichloroethene *	5	1	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/2000	Trichloroethene *	5	1	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Trichloroethene *	5	1	NT	<1	<1	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
09/28/2000	Trichloroethene *	5	1	NT	<1	<1	<1	NT	NT	NT	NT	NT	DRY	<1	<1	<1
12/27/2000	Trichloroethene *	5	1	NT	<1	<1	NT	NT	NT	NT	NT	NT	NT	<1	<1	<1
03/28/2001	Trichloroethene *	5	1	NT	<1	<1	<1	NT	NT	NT	NT	NT	NT	<1	<1	<1
09/02/2001	Trichloroethene *	5	1	NT	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Trichloroethene *	5	1	NT	NT	NT	<1	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Trichloroethene *	5	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Trichloroethene *	5	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Trichloroethene *	5	1	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER mg/L	ACTION LEVEL	MEAN + 2 STD AW	AQUIFER WELLS U.A.W MW36	D.A.W MW 7	D.A.W MW 8	D.A.W MW 29	D.A.W MW 30	D.A.W MW 32	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35	D.A.W MW 38	D.A.W MW 41	D.A.W MW 42
04/23/91	Zinc, dissolved	2	0.05				<0.03	<0.03	<0.03	<0.03	---	<0.03				
10/15/91	Zinc, dissolved	2	0.05				<0.03	<0.03	<0.03	<0.03	---	<0.03				
01/23/92	Zinc, dissolved	2	0.05				---	<0.03	<0.03	<0.03	<0.03	<0.03				
03/23/92	Zinc, dissolved	2	0.05				<0.03	<0.03	<0.03	<0.03	<0.03	<0.03				
09/30/92	Zinc, dissolved	2	0.05				NT	NT	NT	NT	NT	NT				
03/05/93	Zinc, dissolved	2	0.05				NT	NT	NT	NT	NT	NT				
09/21/93	Zinc, dissolved	2	0.05				NT	NT	NT	NT	NT	NT				
03/23/94	Zinc, dissolved	2	0.05				NT	NT	NT	NT	NT	NT				
09/16/94	Zinc, dissolved	2	0.05				NT	NT	NT	NT	NT	NT				
03/16/95	Zinc, dissolved	2	0.05				NT	NT	NT	NT	NT	NT				
09/13/95	Zinc, dissolved	2	0.05				NT	NT	NT	NT	NT	NT				
03/28/96	Zinc, dissolved	2	0.05	<0.03			NT	NT	NT	NT	NT	NT	<0.03			
06/20/96	Zinc, dissolved	2	0.05	<0.03			NT	NT	NT	NT	NT	NT	0.047			
09/13/96	Zinc, dissolved	2	0.05	0.05			NT	NT	NT	NT	NT	NT	0.042			
03/19/97	Zinc, dissolved	2	0.05	NT			NT	NT	NT	NT	NT	NT	NT			
06/18/97	Zinc, dissolved	2	0.05	<0.03			<0.03	NT	NT	NT	NT	NT	<0.03			
08/30/97	Zinc, dissolved	2	0.05	NT			NT	NT	NT	NT	NT	NT	NT			
03/10/98	Zinc, dissolved	2	0.05	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/98	Zinc, dissolved	2	0.05	NT			NT	NT	NT	NT	NT	NT	NT			
03/18/99	Zinc, dissolved	2	0.05	NT			NT	NT	NT	NT	NT	NT	NT			
09/21/99	Zinc, dissolved	2	0.05	NT			NT	NT	NT	NT	NT	NT	NT			
03/21/2000	Zinc, dissolved	2	0.05	NT			NT	NT	NT	NT	NT	NT	NT			
06/28/2000	Zinc, dissolved	2	0.05	NT	<0.03	<0.03	NT	NT	NT	NT	NT	NT	NT	<0.03	<0.03	<0.03
09/28/2000	Zinc, dissolved	2	0.05	NT	<0.03	<0.03	<0.03	NT	NT	NT	NT	NT	DRY	<0.03	0.035	<0.03
12/27/2000	Zinc, dissolved	2	0.05	NT	0.043	0.035	NT	NT	NT	NT	NT	NT	NT	0.032	0.081	0.036
03/28/2001	Zinc, dissolved	2	0.05	NT	0.038	0.052	0.095	NT	NT	NT	NT	NT	NT	<0.03	0.03	<0.03
09/02/2001	Zinc, dissolved	2	0.05	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Zinc, dissolved	2	0.05	NT	NT	NT	1.45	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Zinc, dissolved	2	0.05	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2004	Zinc, dissolved	2	0.05	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Zinc, dissolved	2	0.05	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	Mean			0.05	0.0405	0.0435	0.7725	ERR	ERR	ERR	ERR	ERR	0.0445	0.032	0.048667	0.036
	Standard Deviation (STD)			0	0.0025	0.0085	0.6775	ERR	ERR	ERR	ERR	ERR	0.0025	0	0.022954	0
	Mean + 2 STD			0.05	0.0455	0.0605	2.1275	ERR	ERR	ERR	ERR	ERR	0.0495	0.032	0.094575	0.036



ATTACHMENT E
Concentration Versus Time Tables & Graphs
Surface Water System

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	ug/L								
04/23/91	1,1-Dichloroethene *	7	1	<1	<1	<1			
10/15/91	1,1-Dichloroethene *	7	1	<1	<1	<1			
01/23/92	1,1-Dichloroethene *	7	1	<1	<1	<1			
03/23/92	1,1-Dichloroethene *	7	1	<1	<1	<1			
09/30/92	1,1-Dichloroethene *	7	1	NT	NT	NT			
03/05/93	1,1-Dichloroethene *	7	1	NT	NT	NT			
09/21/93	1,1-Dichloroethene *	7	1	NT	NT	NT			
03/23/94	1,1-Dichloroethene *	7	1	NT	NT	NT			
09/16/94	1,1-Dichloroethene *	7	1	NT	NT	NT			
03/16/95	1,1-Dichloroethene *	7	1	NT	NT	NT			
09/13/95	1,1-Dichloroethene *	7	1	NT	NT	NT			
03/28/96	1,1-Dichloroethene *	7	1	NT	NT	NT			
06/20/96	1,1-Dichloroethene *	7	1	NT	NT	NT			
09/13/96	1,1-Dichloroethene *	7	1	NT	NT	Dry			
03/19/97	1,1-Dichloroethene *	7	1	NT	NT	DRY			
06/18/97	1,1-Dichloroethene *	7	1	NT	NT	NT			
08/30/97	1,1-Dichloroethene *	7	1	NT	NT	DRY			
03/10/98	1,1-Dichloroethene *	7	1	NT	NT	DRY			
09/21/98	1,1-Dichloroethene *	7	1	NT	NT	DRY			
03/19/99	1,1-Dichloroethene *	7	1	NT	NT	DRY			
09/21/99	1,1-Dichloroethene *	7	1	NT	NT	DRY			
03/21/2000	1,1-Dichloroethene *	7	1	NT	NT	DRY			
06/28/2000	1,1-Dichloroethene *	7	1	NT	NT	DRY	<1	DRY	<1
09/28/2000	1,1-Dichloroethene *	7	1	NT	NT	DRY	DRY	DRY	<1
12/27/2000	1,1-Dichloroethene *	7	1	NT	NT	NT	DRY	DRY	<1
03/28/2001	1,1-Dichloroethene *	7	1	NT	NT	Dry	<1	Dry	Dry
09/02/2001	1,1-Dichloroethene *	7	1	NT	NT	Dry	NT	Dry	Dry
03/19/2002	1,1-Dichloroethene *	7	1	NT	NT	Dry	<1	Dry	<1
10/07/2002	1,1-Dichloroethene *	7	1	NT	NT	Dry	<1	<1	NT
03/14/2003	1,1-Dichloroethene *	7	1	NT	NT	Dry	NT	<1	NT
09/29/2003	1,1-Dichloroethene *	7	1	NT	NT	Dry	Dry	Dry	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER ug/L	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
04/23/91	1,1,1-Trichloroethane *	200	1	<1	<1	<1			
10/15/91	1,1,1-Trichloroethane *	200	1	<1	<1	<1			
01/23/92	1,1,1-Trichloroethane *	200	1	<1	<1	<1			
03/23/92	1,1,1-Trichloroethane *	200	1	<1	<1	<1			
09/30/92	1,1,1-Trichloroethane *	200	1	NT	NT	NT			
03/05/93	1,1,1-Trichloroethane *	200	1	NT	NT	NT			
09/21/93	1,1,1-Trichloroethane *	200	1	NT	NT	NT			
03/23/94	1,1,1-Trichloroethane *	200	1	NT	NT	NT			
09/16/94	1,1,1-Trichloroethane *	200	1	NT	NT	NT			
03/16/95	1,1,1-Trichloroethane *	200	1	NT	NT	NT			
09/13/95	1,1,1-Trichloroethane *	200	1	NT	NT	NT			
03/28/96	1,1,1-Trichloroethane *	200	1	NT	NT	NT			
06/20/96	1,1,1-Trichloroethane *	200	1	NT	NT	NT			
09/13/96	1,1,1-Trichloroethane *	200	1	NT	NT	Dry			
03/19/97	1,1,1-Trichloroethane *	200	1	NT	NT	DRY			
06/18/97	1,1,1-Trichloroethane *	200	1	NT	NT	NT			
08/30/97	1,1,1-Trichloroethane *	200	1	NT	NT	DRY			
03/10/98	1,1,1-Trichloroethane *	200	1	NT	NT	DRY			
09/21/98	1,1,1-Trichloroethane *	200	1	NT	NT	DRY			
03/18/99	1,1,1-Trichloroethane *	200	1	NT	NT	DRY			
09/21/99	1,1,1-Trichloroethane *	200	1	NT	NT	DRY			
03/21/2000	1,1,1-Trichloroethane *	200	1	NT	NT	DRY			
06/28/2000	1,1,1-Trichloroethane *	200	1	NT	NT	DRY	<1	DRY	<1
09/28/2000	1,1,1-Trichloroethane *	200	1	NT	NT	DRY	DRY	DRY	<1
12/27/2000	1,1,1-Trichloroethane *	200	1	NT	NT	NT	Dry	Dry	<1
03/28/2001	1,1,1-Trichloroethane *	200	1	NT	NT	Dry	<1	Dry	Dry
09/02/2001	1,1,1-Trichloroethane *	200	1	NT	NT	Dry	NT	Dry	Dry
03/19/2002	1,1,1-Trichloroethane *	200	1	NT	NT	Dry	<1	Dry	<1
10/07/2002	1,1,1-Trichloroethane *	200	1	NT	NT	Dry	<1	<1	NT
03/14/2003	1,1,1-Trichloroethane *	200	1	NT	NT	Dry	NT	<1	NT
09/29/2003	1,1,1-Trichloroethane *	200	1	NT	NT	Dry	Dry	Dry	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	ug/L								
04/23/91	1,2-Dichloroethane *	5	1	<1	<1	<1			
10/15/91	1,2-Dichloroethane *	5	1	<1	<1	<1			
01/23/92	1,2-Dichloroethane *	5	1	<1	<1	<1			
03/23/92	1,2-Dichloroethane *	5	1	<1	<1	<1			
09/30/92	1,2-Dichloroethane *	5	1	NT	NT	NT			
03/05/93	1,2-Dichloroethane *	5	1	NT	NT	NT			
09/21/93	1,2-Dichloroethane *	5	1	NT	NT	NT			
03/23/94	1,2-Dichloroethane *	5	1	NT	NT	NT			
09/16/94	1,2-Dichloroethane *	5	1	NT	NT	NT			
03/16/95	1,2-Dichloroethane *	5	1	NT	NT	NT			
09/13/95	1,2-Dichloroethane *	5	1	NT	NT	NT			
03/28/96	1,2-Dichloroethane *	5	1	NT	NT	NT			
06/20/96	1,2-Dichloroethane *	5	1	NT	NT	NT			
09/13/96	1,2-Dichloroethane *	5	1	NT	NT	Dry			
03/19/97	1,2-Dichloroethane *	5	1	NT	NT	DRY			
06/18/97	1,2-Dichloroethane *	5	1	NT	NT	NT			
08/30/97	1,2-Dichloroethane *	5	1	NT	NT	DRY			
03/10/98	1,2-Dichloroethane *	5	1	NT	NT	DRY			
09/21/98	1,2-Dichloroethane *	5	1	NT	NT	DRY			
03/18/99	1,2-Dichloroethane *	5	1	NT	NT	DRY			
03/21/99	1,2-Dichloroethane *	5	1	NT	NT	DRY			
03/21/2000	1,2-Dichloroethane *	5	1	NT	NT	DRY			
06/28/2000	1,2-Dichloroethane *	5	1	NT	NT	DRY	<0.4	DRY	<0.4
09/28/2000	1,2-Dichloroethane *	5	1	NT	NT	DRY	DRY	DRY	<0.4
12/27/2000	1,2-Dichloroethane *	5	1	NT	NT	NT	Dry	Dry	<0.4
03/28/2001	1,2-Dichloroethane *	5	1	NT	NT	Dry	<0.4	Dry	Dry
09/02/2001	1,2-Dichloroethane *	5	1	NT	NT	NT	NT	NT	NT
03/19/2002	1,2-Dichloroethane *	5	1	NT	NT	Dry	<0.4	Dry	<0.4
10/07/2002	1,2-Dichloroethane *	5	1	NT	NT	Dry	<0.4	<0.4	NT
03/14/2003	1,2-Dichloroethane *	5	1	NT	NT	Dry	NT	<0.4	NT
09/29/2003	1,2-Dichloroethane *	5	1	NT	NT	Dry	Dry	Dry	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

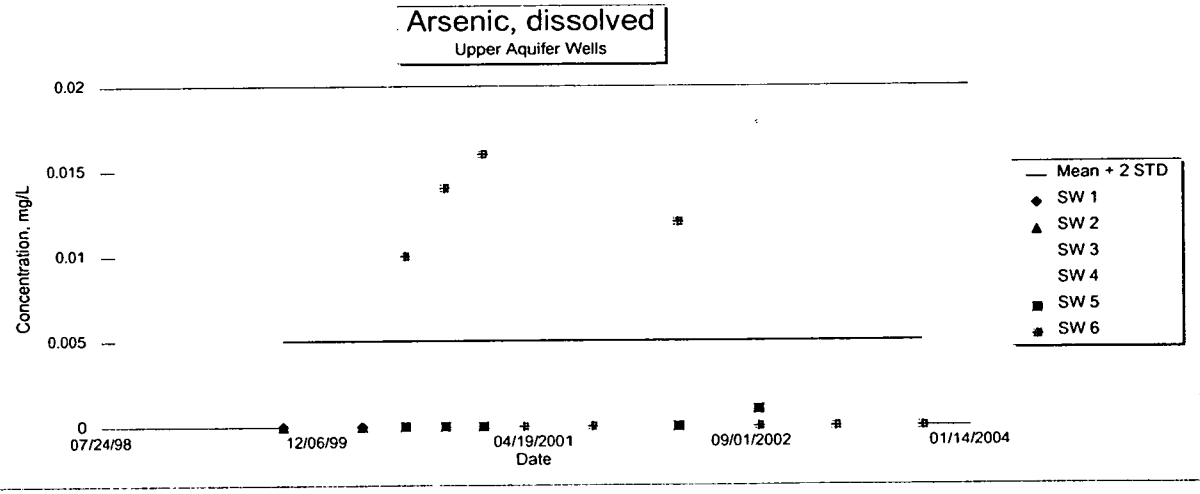
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	ug/L								
04/23/91	1,4-Dichlorobenzene *	75	1	<1	<1	<1			
10/15/91	1,4-Dichlorobenzene *	75	1	<1	<1	<1			
01/23/92	1,4-Dichlorobenzene *	75	1	<1	<1	<1			
03/23/92	1,4-Dichlorobenzene *	75	1	<1	<1	<1			
09/30/92	1,4-Dichlorobenzene *	75	1	NT	NT	NT			
03/05/93	1,4-Dichlorobenzene *	75	1	NT	NT	NT			
09/21/93	1,4-Dichlorobenzene *	75	1	NT	NT	NT			
03/23/94	1,4-Dichlorobenzene *	75	1	NT	NT	NT			
09/16/94	1,4-Dichlorobenzene *	75	1	NT	NT	NT			
03/16/95	1,4-Dichlorobenzene *	75	1	NT	NT	NT			
09/13/95	1,4-Dichlorobenzene *	75	1	NT	NT	NT			
03/28/96	1,4-Dichlorobenzene *	75	1	NT	NT	NT			
06/20/96	1,4-Dichlorobenzene *	75	1	NT	NT	NT			
09/13/96	1,4-Dichlorobenzene *	75	1	NT	NT	Dry			
03/19/97	1,4-Dichlorobenzene *	75	1	NT	NT	DRY			
06/18/97	1,4-Dichlorobenzene *	75	1	NT	NT	NT			
08/30/97	1,4-Dichlorobenzene *	75	1	NT	NT	DRY			
03/10/98	1,4-Dichlorobenzene *	75	1	NT	NT	DRY			
09/21/98	1,4-Dichlorobenzene *	75	1	NT	NT	DRY			
03/18/99	1,4-Dichlorobenzene *	75	1	NT	NT	DRY			
09/21/99	1,4-Dichlorobenzene *	75	1	NT	NT	DRY			
03/21/2000	1,4-Dichlorobenzene *	75	1	NT	NT	DRY			
06/28/2000	1,4-Dichlorobenzene *	75	1	NT	NT	DRY	<1	DRY	<1
09/28/2000	1,4-Dichlorobenzene *	75	1	NT	NT	DRY	DRY	DRY	<1
12/27/2000	1,4-Dichlorobenzene *	75	1	NT	NT	NT	Dry	Dry	<1
03/28/2001	1,4-Dichlorobenzene *	75	1	NT	NT	Dry	<1	Dry	Dry
09/02/2001	1,4-Dichlorobenzene *	75	1	NT	NT	Dry	NT	Dry	Dry
03/19/2002	1,4-Dichlorobenzene *	75	1	NT	NT	Dry	<1	Dry	<1
10/07/2002	1,4-Dichlorobenzene *	75	1	NT	NT	Dry	<1	<1	NT
03/14/2003	1,4-Dichlorobenzene *	75	1	NT	NT	Dry	NT	<1	NT
09/29/2003	1,4-Dichlorobenzene *	75	1	NT	NT	Dry	Dry	Dry	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

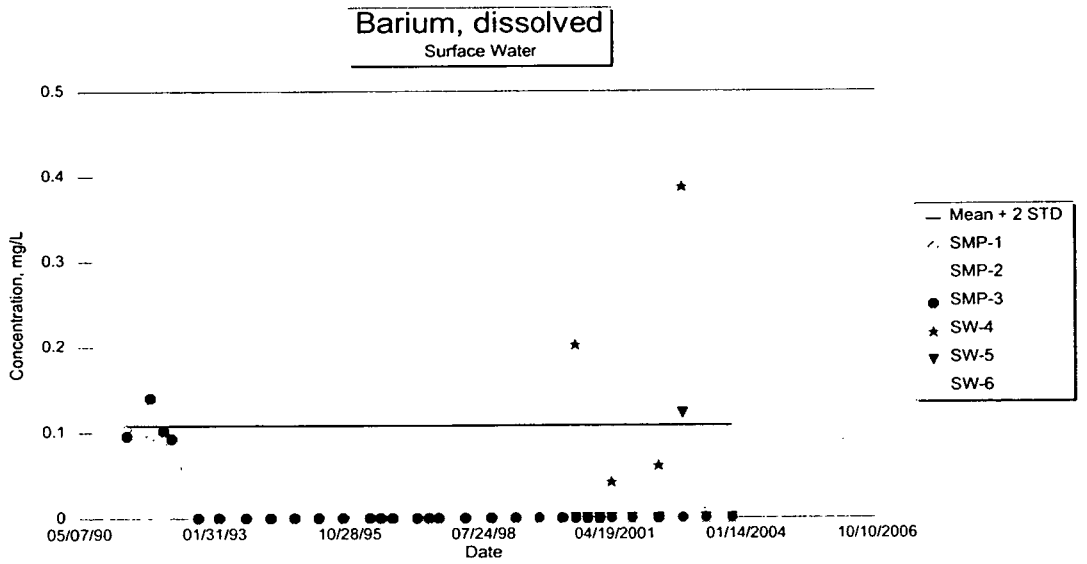
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	mg/L								
04/23/91	Arsenic, dissolved	0.05	0.005	<0.005	<0.005	<0.005			
10/15/91	Arsenic, dissolved	0.05	0.005	<0.005	<0.005	<0.005			
01/23/92	Arsenic, dissolved	0.05	0.005	<0.005	<0.005	<0.005			
03/23/92	Arsenic, dissolved	0.05	0.005	<0.005	<0.005	<0.005			
09/30/92	Arsenic, dissolved	0.05	0.005	NT	NT	NT			
03/05/93	Arsenic, dissolved	0.05	0.005	NT	NT	NT			
09/21/93	Arsenic, dissolved	0.05	0.005	NT	NT	NT			
03/23/94	Arsenic, dissolved	0.05	0.005	NT	NT	NT			
09/16/94	Arsenic, dissolved	0.05	0.005	NT	NT	NT			
03/16/95	Arsenic, dissolved	0.05	0.005	NT	NT	NT			
09/13/95	Arsenic, dissolved	0.05	0.005	NT	NT	NT			
03/28/96	Arsenic, dissolved	0.05	0.005	NT	NT	NT			
06/20/96	Arsenic, dissolved	0.05	0.005	NT	NT	NT			
09/13/96	Arsenic, dissolved	0.05	0.005	NT	NT	Dry			
03/19/97	Arsenic, dissolved	0.05	0.005	NT	NT	DRY			
06/18/97	Arsenic, dissolved	0.05	0.005	NT	NT	NT			
08/30/97	Arsenic, dissolved	0.05	0.005	NT	NT	DRY			
03/10/98	Arsenic, dissolved	0.05	0.005	NT	NT	DRY			
09/21/98	Arsenic, dissolved	0.05	0.005	NT	NT	DRY			
03/18/99	Arsenic, dissolved	0.05	0.005	NT	NT	DRY			
09/21/99	Arsenic, dissolved	0.05	0.005	NT	NT	DRY			
03/21/2000	Arsenic, dissolved	0.05	0.005	NT	NT	DRY			
06/28/2000	Arsenic, dissolved	0.05	0.005	NT	NT	DRY	0.006	DRY	0.01
09/28/2000	Arsenic, dissolved	0.05	0.005	NT	NT	DRY	DRY	DRY	0.014
12/27/2000	Arsenic, dissolved	0.05	0.005	NT	NT	NT	Dry	Dry	0.016
03/28/2001	Arsenic, dissolved	0.05	0.005	NT	NT	Dry	0.003	Dry	Dry
09/02/2001	Arsenic, dissolved	0.05	0.005	NT	NT	NT	NT	dry	Dry
03/19/2002	Arsenic, dissolved	0.01	0.005	NT	NT	Dry	0.001	Dry	0.012
09/19/2002	Arsenic, dissolved	0.01	0.005	NT	NT	Dry	0.018	0.001	NT
03/14/2003	Arsenic, dissolved	0.01	0.005	NT	NT	Dry	NT	0.004	NT
09/29/2003	Arsenic, dissolved	0.01	0.005	NT	NT	Dry	Dry	Dry	NT
	Mean			ERR	ERR	ERR	0.007	0.001	0.013
	Standard Deviation (STD)			ERR	ERR	ERR	0.006595	0	0.002236
	Mean + 2 STD			ERR	ERR	ERR	0.020191	0.001	0.017472



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	mg/L								
04/23/91	Barium, dissolved	2.000	0.108	0.104	0.089	0.096			
10/15/91	Barium, dissolved	2.000	0.108	0.094	0.090	0.140			
01/23/92	Barium, dissolved	2.000	0.108	0.084	0.085	0.102			
03/23/92	Barium, dissolved	2.000	0.108	0.090	0.091	0.093			
09/30/92	Barium, dissolved	2.000	0.108	NT	NT	NT			
03/05/93	Barium, dissolved	2.000	0.108	NT	NT	NT			
09/21/93	Barium, dissolved	2.000	0.108	NT	NT	NT			
03/23/94	Barium, dissolved	2.000	0.108	NT	NT	NT			
09/16/94	Barium, dissolved	2.000	0.108	NT	NT	NT			
03/16/95	Barium, dissolved	2.000	0.108	NT	NT	NT			
09/13/95	Barium, dissolved	2.000	0.108	NT	NT	NT			
03/28/96	Barium, dissolved	2.000	0.108	NT	NT	NT			
06/20/96	Barium, dissolved	2.000	0.108	NT	NT	NT			
09/13/96	Barium, dissolved	2.000	0.108	NT	NT	Dry			
03/19/97	Barium, dissolved	2.000	0.108	NT	NT	DRY			
06/18/97	Barium, dissolved	2.000	0.108	NT	NT	NT			
08/30/97	Barium, dissolved	2.000	0.108	NT	NT	DRY			
03/10/98	Barium, dissolved	2.000	0.108	NT	NT	DRY			
09/21/98	Barium, dissolved	2.000	0.108	NT	NT	DRY			
03/18/99	Barium, dissolved	2.000	0.108	NT	NT	DRY			
09/21/99	Barium, dissolved	2.000	0.108	NT	NT	DRY			
03/21/2000	Barium, dissolved	2.000	0.108	NT	NT	DRY			
06/28/2000	Barium, dissolved	2.000	0.108	NT	NT	DRY	0.202	DRY	0.124
09/28/2000	Barium, dissolved	2.000	0.108	NT	NT	DRY	DRY	DRY	0.136
12/27/2000	Barium, dissolved	2.000	0.108	NT	NT	NT	Dry	Dry	0.134
03/28/2001	Barium, dissolved	2.000	0.108	NT	NT	Dry	0.042	Dry	Dry
09/02/2001	Barium, dissolved	2.000	0.108	NT	NT	NT	NT	Dry	Dry
03/19/2002	Barium, dissolved	2.000	0.108	NT	NT	Dry	0.061	Dry	0.131
09/19/2002	Barium, dissolved	2.000	0.108	NT	NT	Dry	0.387	0.122	NT
03/14/2003	Barium, dissolved	2.000	0.108	NT	NT	Dry	NT	0.065	NT
09/29/2003	Barium, dissolved	2.000	0.108	NT	NT	Dry	Dry	Dry	NT
	Mean			0.093	0.08875	0.10775	0.173	0.122	0.13125
	Standard Deviation (STD)			0.00728	0.002278	0.018899	0.13815	0	0.004548
	Mean + 2 STD			0.10756	0.093305	0.145549	0.449301	0.122	0.140347



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER ug/L	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
04/23/91	Benzene *	5	1	<1	<1	<1			
10/15/91	Benzene *	5	1	<1	<1	<1			
01/23/92	Benzene *	5	1	<1	<1	<1			
03/23/92	Benzene *	5	1	<1	<1	<1			
09/30/92	Benzene *	5	1	NT	NT	NT			
03/05/93	Benzene *	5	1	NT	NT	NT			
09/21/93	Benzene *	5	1	NT	NT	NT			
03/23/94	Benzene *	5	1	NT	NT	NT			
09/16/94	Benzene *	5	1	NT	NT	NT			
03/16/95	Benzene *	5	1	NT	NT	NT			
09/13/95	Benzene *	5	1	NT	NT	NT			
03/28/96	Benzene *	5	1	NT	NT	NT			
06/20/96	Benzene *	5	1	NT	NT	NT			
09/13/96	Benzene *	5	1	NT	NT	Dry			
03/19/97	Benzene *	5	1	NT	NT	DRY			
06/18/97	Benzene *	5	1	NT	NT	NT			
08/30/97	Benzene *	5	1	NT	NT	DRY			
03/10/98	Benzene *	5	1	NT	NT	DRY			
09/21/98	Benzene *	5	1	NT	NT	DRY			
03/18/99	Benzene *	5	1	NT	NT	DRY			
09/21/99	Benzene *	5	1	NT	NT	DRY			
03/21/2000	Benzene *	5	1	NT	NT	DRY			
06/28/2000	Benzene *	5	1	NT	NT	DRY	<1	DRY	<1
09/28/2000	Benzene *	5	1	NT	NT	DRY	DRY	DRY	<1
12/27/2000	Benzene *	5	1	NT	NT	NT	Dry	Dry	<1
03/28/2001	Benzene *	5	1	NT	NT	Dry	<1	<1	Dry
09/02/2001	Benzene *	5	1	NT	NT	NT	NT	<1	Dry
03/19/2002	Benzene *	5	1	NT	NT	Dry	Dry	Dry	<1
09/19/2002	Benzene *	5	1						
03/14/2003	Benzene *	5	1						
09/29/2003	Benzene *	5	1						
	Mean			ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	mg/L								
04/23/91	Cadmium, dissolved	0.005	0.001	<0.001	<0.001	<0.001			
10/15/91	Cadmium, dissolved	0.005	0.001	<0.001	0.001	<0.001			
01/23/92	Cadmium, dissolved	0.005	0.001	<0.001	<0.001	<0.001			
03/23/92	Cadmium, dissolved	0.005	0.001	<0.001	<0.001	<0.001			
09/30/92	Cadmium, dissolved	0.005	0.001	NT	NT	NT			
03/05/93	Cadmium, dissolved	0.005	0.001	NT	NT	NT			
09/21/93	Cadmium, dissolved	0.005	0.001	NT	NT	NT			
03/23/94	Cadmium, dissolved	0.005	0.001	NT	NT	NT			
09/16/94	Cadmium, dissolved	0.005	0.001	NT	NT	NT			
03/16/95	Cadmium, dissolved	0.005	0.001	NT	NT	NT			
09/13/95	Cadmium, dissolved	0.005	0.001	NT	NT	NT			
03/28/96	Cadmium, dissolved	0.005	0.001	NT	NT	NT			
06/20/96	Cadmium, dissolved	0.005	0.001	NT	NT	NT			
09/13/96	Cadmium, dissolved	0.005	0.001	NT	NT	Dry			
03/19/97	Cadmium, dissolved	0.005	0.001	NT	NT	DRY			
06/18/97	Cadmium, dissolved	0.005	0.001	NT	NT	NT			
08/30/97	Cadmium, dissolved	0.005	0.001	NT	NT	DRY			
03/10/98	Cadmium, dissolved	0.005	0.001	NT	NT	DRY			
09/21/98	Cadmium, dissolved	0.005	0.001	NT	NT	DRY			
03/18/99	Cadmium, dissolved	0.005	0.001	NT	NT	DRY			
09/21/99	Cadmium, dissolved	0.005	0.001	NT	NT	DRY			
03/21/2000	Cadmium, dissolved	0.005	0.001	NT	NT	DRY			
06/28/2000	Cadmium, dissolved	0.005	0.001	NT	NT	DRY	<0.001	DRY	<0.001
09/28/2000	Cadmium, dissolved	0.005	0.001	NT	NT	DRY	NT	NT	<0.001
12/27/2000	Cadmium, dissolved	0.005	0.001	NT	NT	NT	Dry	Dry	<0.001
03/28/2001	Cadmium, dissolved	0.005	0.001	NT	NT	Dry	<0.001	Dry	Dry
09/02/2001	Cadmium, dissolved	0.005	0.001	NT	NT	NT	NT	Dry	Dry
03/19/2002	Cadmium, dissolved	0.005	0.001	NT	NT	NT	<0.001	NT	<0.001
09/19/2002	Cadmium, dissolved	0.005	0.001	NT	NT	NT	<0.001	<0.001	NT
03/14/2003	Cadmium, dissolved	0.005	0.001	NT	NT	NT	NT	<0.001	NT
09/29/2003	Cadmium, dissolved	0.005	0.001	NT	NT	Dry	Dry	Dry	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

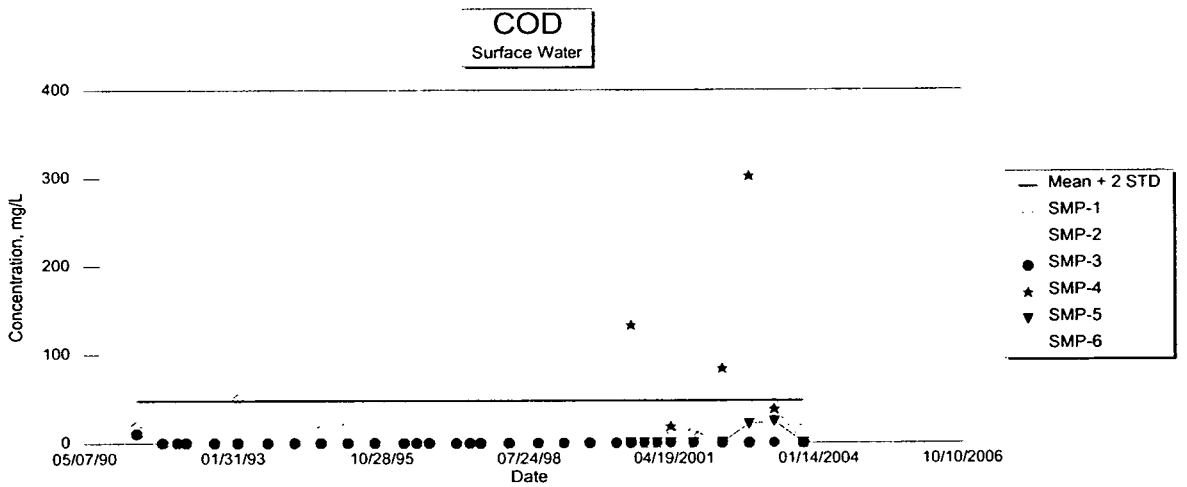
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	ug/L								
04/23/91	Carbon tetrachloride *	5	1	<1	<1	<1			
10/15/91	Carbon tetrachloride *	5	1	<1	<1	<1			
01/23/92	Carbon tetrachloride *	5	1	<1	<1	<1			
03/23/92	Carbon tetrachloride *	5	1	<1	<1	<1			
09/30/92	Carbon tetrachloride *	5	1	NT	NT	NT			
03/05/93	Carbon tetrachloride *	5	1	NT	NT	NT			
09/21/93	Carbon tetrachloride *	5	1	NT	NT	NT			
03/23/94	Carbon tetrachloride *	5	1	NT	NT	NT			
09/16/94	Carbon tetrachloride *	5	1	NT	NT	NT			
03/16/95	Carbon tetrachloride *	5	1	NT	NT	NT			
09/13/95	Carbon tetrachloride *	5	1	NT	NT	NT			
03/28/96	Carbon tetrachloride *	5	1	NT	NT	NT			
06/20/96	Carbon tetrachloride *	5	1	NT	NT	NT			
09/13/96	Carbon tetrachloride *	5	1	NT	NT	Dry			
03/19/97	Carbon tetrachloride *	5	1	NT	NT	DRY			
06/18/97	Carbon tetrachloride *	5	1	NT	NT	NT			
08/30/97	Carbon tetrachloride *	5	1	NT	NT	DRY			
03/10/98	Carbon tetrachloride *	5	1	NT	NT	DRY			
09/21/98	Carbon tetrachloride *	5	1	NT	NT	DRY			
03/18/99	Carbon tetrachloride *	5	1	NT	NT	DRY			
09/21/99	Carbon tetrachloride *	5	1	NT	NT	DRY			
03/21/2000	Carbon tetrachloride *	5	1	NT	NT	DRY			
06/28/2000	Carbon tetrachloride *	5	1	NT	NT	DRY	<0.3	DRY	<0.3
09/28/2000	Carbon tetrachloride *	5	1	NT	NT	DRY	DRY	DRY	<0.3
12/27/2000	Carbon tetrachloride *	5	1	NT	NT	NT	Dry	Dry	<0.3
03/28/2001	Carbon tetrachloride *	5	1	NT	NT	Dry	<0.3	Dry	Dry
09/02/2001	Carbon tetrachloride *	5	1	NT	NT	NT	NT	Dry	Dry
03/19/2002	Carbon tetrachloride *	5	1	NT	NT	NT	<0.3	NT	<0.3
09/19/2002	Carbon tetrachloride *	5	1	NT	NT	NT	<0.3	<0.3	NT
03/14/2003	Carbon tetrachloride *	5	1	NT	NT	NT	NT	<0.3	NT
09/29/2003	Carbon tetrachloride *	5	1	NT	NT	Dry	Dry	Dry	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

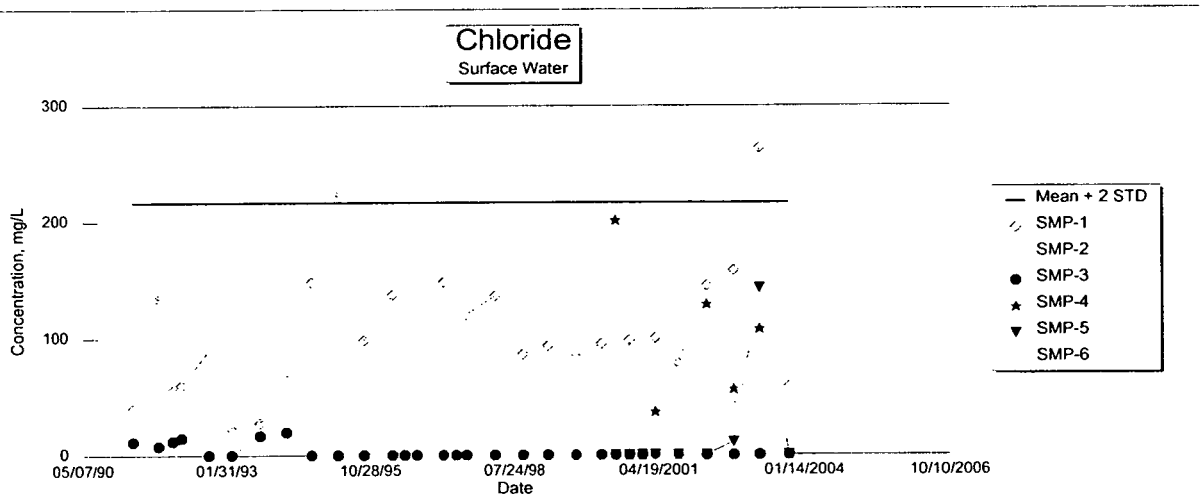
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	mg/L								
04/23/91	Chemical Oxygen Demand	--	47.56074	19.4	14.3	10.5			
10/15/91	Chemical Oxygen Demand	--	47.56074	12.8	11.3	<10			
01/23/92	Chemical Oxygen Demand	--	47.56074	14.3	<10	<10			
03/23/92	Chemical Oxygen Demand	--	47.56074	<10	<10	<10			
09/30/92	Chemical Oxygen Demand	--	47.56074	<10	<10	DRY			
03/05/93	Chemical Oxygen Demand	--	47.56074	49.6	40.8	DRY			
09/21/93	Chemical Oxygen Demand	--	47.56074	<10	<10	<10			
03/23/94	Chemical Oxygen Demand	--	47.56074	<10	<10	<10			
09/16/94	Chemical Oxygen Demand	--	47.56074	20	<10	NT			
03/16/95	Chemical Oxygen Demand	--	47.56074	21	<10	NT			
09/13/95	Chemical Oxygen Demand	--	47.56074	<10	NT	NT			
03/28/96	Chemical Oxygen Demand	--	47.56074	<10	<10	NT			
06/20/96	Chemical Oxygen Demand	--	47.56074	NT	NT	NT			
09/13/96	Chemical Oxygen Demand	--	47.56074	<10	<10	Dry			
03/19/97	Chemical Oxygen Demand	--	47.56074	<10	<10	DRY			
06/18/97	Chemical Oxygen Demand	--	47.56074	NT	NT	NT			
08/30/97	Chemical Oxygen Demand	--	47.56074	<10	<10	DRY			
03/10/98	Chemical Oxygen Demand	--	47.56074	<10	<10	DRY			
09/21/98	Chemical Oxygen Demand	--	47.56074	<10	<10	DRY			
03/18/99	Chemical Oxygen Demand	--	47.56074	<10	<10	DRY			
09/21/99	Chemical Oxygen Demand	--	47.56074	<10	<10	DRY			
03/21/2000	Chemical Oxygen Demand	--	47.56074	<10	<10	DRY			
06/28/2000	Chemical Oxygen Demand	--	47.56074	NT	NT	DRY	133	DRY	32
09/28/2000	Chemical Oxygen Demand	--	47.56074	<10	<10	DRY	DRY	DRY	<10
12/27/2000	Chemical Oxygen Demand	--	47.56074	NT	NT	NT	Dry	Dry	<10
03/28/2001	Chemical Oxygen Demand	--	47.56074	14	13	Dry	19	Dry	Dry
09/02/2001	Chemical Oxygen Demand	--	47.56074	13	14	Dry	NT	Dry	Dry
03/19/2002	Chemical Oxygen Demand	--	47.56074	<10	<10	Dry	84	Dry	10
09/19/2002	Chemical Oxygen Demand	--	47.56074	<10	<10	Dry	302	21	28
03/14/2003	Chemical Oxygen Demand	--	47.56074	44	57	Dry	38	24	<10
09/29/2003	Chemical Oxygen Demand	--	47.56074	17	18	Dry	Dry	Dry	14
	Mean			22.51	24.05714	10.5	115.2	22.5	21
	Standard Deviation (STD)			12.52537	16.40382	0	101.3892	1.5	9.219544
	Mean + 2 STD			47.56074	56.86478	10.5	317.9783	25.5	39.43909



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	mg/L								
04/23/91	Chloride	--	216.4007	39.5	39	11.5			
10/15/91	Chloride	--	216.4007	138	135	8.02			
01/23/92	Chloride	--	216.4007	55.1	60.3	12.1			
03/23/92	Chloride	--	216.4007	59.7	60.2	14.8			
09/30/92	Chloride	--	216.4007	89	88	DRY			
03/05/93	Chloride	--	216.4007	22.5	23.5	DRY			
09/21/93	Chloride	--	216.4007	27.4	28.4	16.6			
03/23/94	Chloride	--	216.4007	64.1	64.1	19.8			
09/16/94	Chloride	--	216.4007	148	130	NT			
03/16/95	Chloride	--	216.4007	226	NT	NT			
09/13/95	Chloride	--	216.4007	98	212	NT			
03/28/96	Chloride	--	216.4007	137	144	NT			
06/20/96	Chloride	--	216.4007	NT	NT	NT			
09/13/96	Chloride	--	216.4007	<1	78.9	Dry			
03/19/97	Chloride	--	216.4007	148	130	DRY			
06/18/97	Chloride	--	216.4007	NT	NT	NT			
08/30/97	Chloride	--	216.4007	120	171	DRY			
03/10/98	Chloride	--	216.4007	136	145	DRY			
09/21/98	Chloride	--	216.4007	86	116	DRY			
03/18/99	Chloride	--	216.4007	93	81	DRY			
09/21/99	Chloride	--	216.4007	84	80	DRY			
03/21/2000	Chloride	--	216.4007	95	63	DRY			
06/28/2000	Chloride	--	216.4007	NT	NT	DRY	201	DRY	29
09/28/2000	Chloride	--	216.4007	98	179	DRY	DRY	DRY	42
12/27/2000	Chloride	--	216.4007	NT	NT	NT	Dry	Dry	41
03/28/2001	Chloride	--	216.4007	100	97	Dry	37	Dry	Dry
09/02/2001	Chloride	--	216.4007	78	75	Dry	NT	Dry	Dry
03/19/2002	Chloride	--	216.4007	145	154	Dry	129	Dry	54
09/19/2002	Chloride	--	216.4007	158	194	Dry	56	11	59
03/14/2003	Chloride	--	216.4007	263	238	Dry	108	143	60
09/29/2003	Chloride	--	216.4007	58	77	Dry	Dry	Dry	68
	Mean			106.3962	110.1308	13.80333	106.2	77	50.42857
	Standard Deviation (STD)			55.00227	56.23663	3.795355	57.99793	66	12.56818
	Mean + 2 STD			216.4007	222.604	21.39404	222.1959	209	75.56493



AMES-STORY ENVIRONMENTAL LANDFILL

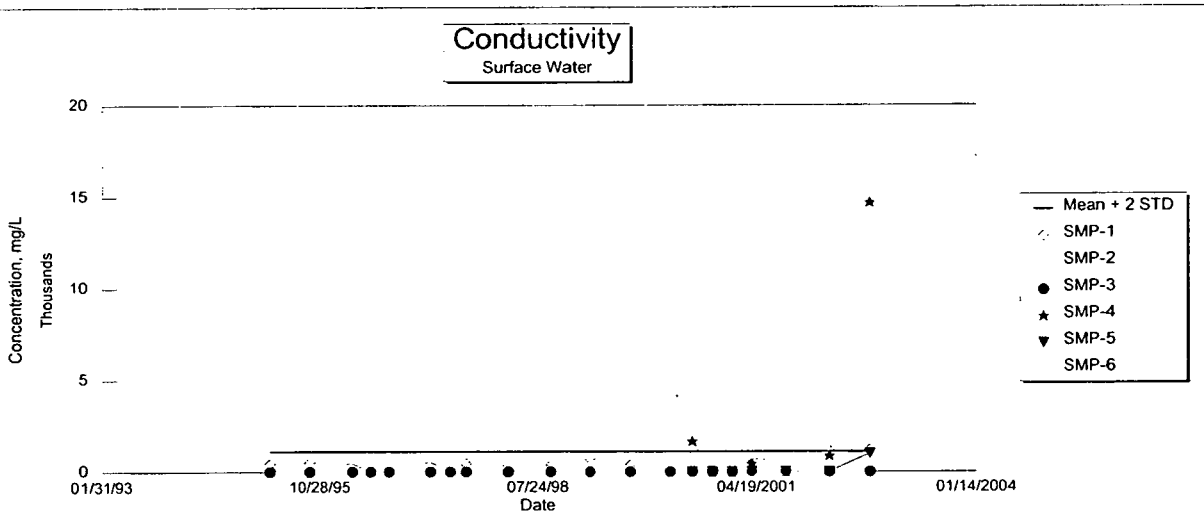
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	mg/L								
04/23/91	Chromium, dissolved	0.1	0.03	<0.03	<0.03	<0.03			
10/15/91	Chromium, dissolved	0.1	0.03	<0.03	<0.03	<0.03			
01/23/92	Chromium, dissolved	0.1	0.03	<0.03	<0.03	<0.03			
03/23/92	Chromium, dissolved	0.1	0.03	<0.03	<0.03	<0.03			
09/30/92	Chromium, dissolved	0.1	0.03	NT	NT	NT			
03/05/93	Chromium, dissolved	0.1	0.03	NT	NT	NT			
09/21/93	Chromium, dissolved	0.1	0.03	NT	NT	NT			
03/23/94	Chromium, dissolved	0.1	0.03	NT	NT	NT			
09/16/94	Chromium, dissolved	0.1	0.03	NT	NT	NT			
03/16/95	Chromium, dissolved	0.1	0.03	NT	NT	NT			
09/13/95	Chromium, dissolved	0.1	0.03	NT	NT	NT			
03/28/96	Chromium, dissolved	0.1	0.03	NT	NT	NT			
06/20/96	Chromium, dissolved	0.1	0.03	NT	NT	NT			
09/13/96	Chromium, dissolved	0.1	0.03	NT	NT	Dry			
03/19/97	Chromium, dissolved	0.1	0.03	NT	NT	DRY			
06/18/97	Chromium, dissolved	0.1	0.03	NT	NT	NT			
08/30/97	Chromium, dissolved	0.1	0.03	NT	NT	DRY			
03/10/98	Chromium, dissolved	0.1	0.03	NT	NT	DRY			
09/21/98	Chromium, dissolved	0.1	0.03	NT	NT	DRY			
03/18/99	Chromium, dissolved	0.1	0.03	NT	NT	DRY			
09/21/99	Chromium, dissolved	0.1	0.03	NT	NT	DRY			
03/21/2000	Chromium, dissolved	0.1	0.03	NT	NT	DRY			
06/28/2000	Chromium, dissolved	0.1	0.03	NT	NT	DRY	<0.03	DRY	<0.03
09/28/2000	Chromium, dissolved	0.1	0.03	NT	NT	DRY	DRY	DRY	<0.03
12/27/2000	Chromium, dissolved	0.1	0.03	NT	NT	NT	Dry	Dry	<0.03
03/28/2001	Chromium, dissolved	0.1	0.03	NT	NT	Dry	<0.03	Dry	Dry
09/02/2001	Chromium, dissolved	0.1	0.03	NT	NT	NT	NT	Dry	Dry
03/19/2002	Chromium, dissolved	0.1	0.03	NT	NT	NT	<0.005	Dry	<0.005
09/19/2002	Chromium, dissolved	0.1	0.03	NT	NT	NT	<0.005	<0.005	NT
03/14/2003	Chromium, dissolved	0.1	0.03	NT	NT	DRY	NT	<0.005	NT
09/29/2003	Chromium, dissolved	0.1	0.03	NT	NT	Dry	Dry	Dry	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

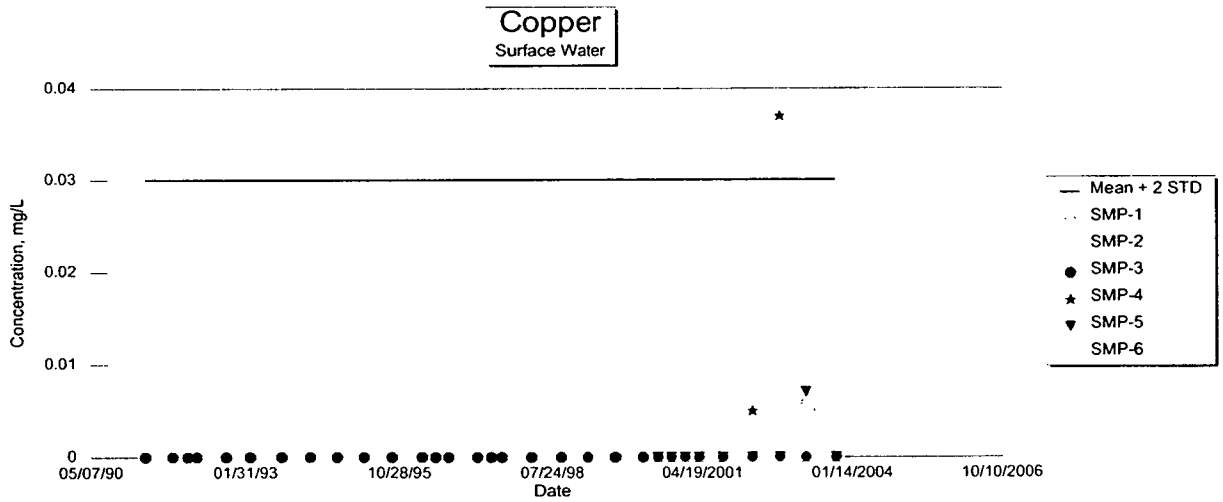
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
03/16/95	Conductivity, mv	--	1092.236	420	DRY	DRY			
09/13/95	Conductivity, mv	--	1092.236	500	540	DRY			
03/28/96	Conductivity, mv	--	1092.236	420	450	DRY			
06/20/96	Conductivity, mv	--	1092.236	NT	NT	DRY			
09/13/96	Conductivity, mv	--	1092.236	360	370	DRY			
03/19/97	Conductivity, mv	--	1092.236	520	490	DRY			
06/18/97	Conductivity, mv	--	1092.236	NT	NT	NT			
08/30/97	Conductivity, mv	--	1092.236	430	540	DRY			
03/10/98	Conductivity, mv	--	1092.236	300	350	DRY			
09/21/98	Conductivity, mv	--	1092.236	350	360	DRY			
03/18/99	Conductivity, mv	--	1092.236	702	560	DRY			
09/21/99	Conductivity, mv	--	1092.236	360	350	DRY			
03/21/2000	Conductivity, mv	--	1092.236	NT	NT	DRY			
06/28/2000	Conductivity, mv	--	1092.236	NT	NT	DRY	1670	DRY	1123
09/28/2000	Conductivity, mv	--	1092.236	NT	NT	DRY	DRY	DRY	1332
12/27/2000	Conductivity, mv	--	1092.236	NT	NT	NT	Dry	Dry	1183
03/28/2001	Conductivity, mv	--	1092.236	685	702	Dry	442	Dry	Dry
09/02/2001	Conductivity, mv	--	1092.236	586	583	Dry	NT	Dry	Dry
03/19/2002	Conductivity, mv	--	1092.236	1127	1127	Dry	880	Dry	1505
10/07/2002	Conductivity, mv	--	1092.236	1209	960	Dry	14680	990	1444
03/14/2003	Conductivity, mv	--	1092.236	750	780	Dry	1260	860	625
09/29/2003	Conductivity, mv	--	1092.236	468	675	Dry	Dry	Dry	1262
	Mean			574.1875	589.1333	ERR	3786.4	925	1210.571
	Standard Deviation (STD)			259.0244	221.0846	ERR	5461.951	65	269.8914
	Mean + 2 STD			1092.236	1031.302	ERR	14710.3	1055	1750.354



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

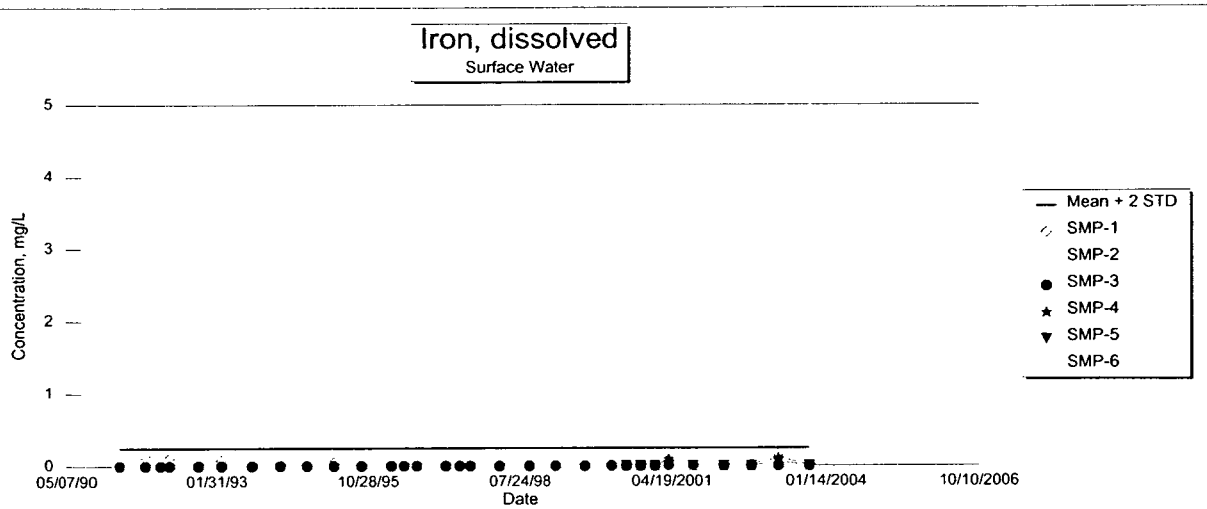
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	mg/L								
04/23/91	Copper, dissolved	1.3	0.03	<0.03	<0.03	<0.03			
10/15/91	Copper, dissolved	1.3	0.03	<0.03	<0.03	<0.03			
01/23/92	Copper, dissolved	1.3	0.03	<0.03	<0.03	<0.03			
03/23/92	Copper, dissolved	1.3	0.03	<0.03	<0.03	<0.03			
09/30/92	Copper, dissolved	1.3	0.03	NT	NT	NT			
03/05/93	Copper, dissolved	1.3	0.03	NT	NT	NT			
09/21/93	Copper, dissolved	1.3	0.03	NT	NT	NT			
03/23/94	Copper, dissolved	1.3	0.03	NT	NT	NT			
09/16/94	Copper, dissolved	1.3	0.03	NT	NT	NT			
03/16/95	Copper, dissolved	1.3	0.03	NT	NT	NT			
09/13/95	Copper, dissolved	1.3	0.03	NT	NT	NT			
03/28/96	Copper, dissolved	1.3	0.03	NT	NT	NT			
06/20/96	Copper, dissolved	1.3	0.03	NT	NT	NT			
09/13/96	Copper, dissolved	1.3	0.03	NT	NT	Dry			
03/19/97	Copper, dissolved	1.3	0.03	NT	NT	DRY			
06/18/97	Copper, dissolved	1.3	0.03	NT	NT	NT			
08/30/97	Copper, dissolved	1.3	0.03	NT	NT	DRY			
03/10/98	Copper, dissolved	1.3	0.03	NT	NT	DRY			
09/21/98	Copper, dissolved	1.3	0.03	NT	NT	DRY			
03/18/99	Copper, dissolved	1.3	0.03	NT	NT	DRY			
09/21/99	Copper, dissolved	1.3	0.03	NT	NT	DRY			
03/21/2000	Copper, dissolved	1.3	0.03	NT	NT	DRY			
06/28/2000	Copper, dissolved	1.3	0.03	NT	NT	DRY	<0.03	DRY	<0.03
09/28/2000	Copper, dissolved	1.3	0.03	NT	NT	DRY	DRY	DRY	<0.03
12/27/2000	Copper, dissolved	1.3	0.03	NT	NT	NT	Dry	Dry	<0.03
03/28/2001	Copper, dissolved	1.3	0.03	NT	NT	Dry	<0.03	Dry	Dry
09/02/2001	Copper, dissolved	1.3	0.03	NT	NT	NT	NT	Dry	Dry
03/19/2002	Copper, dissolved	1.3	0.03	NT	NT	NT	0.005	NT	<0.005
10/07/2002	Copper, dissolved	1.3	0.03	NT	NT	NT	0.037	<0.005	NT
03/14/2003	Copper, dissolved	1.3	0.03	NT	NT	DRY	NT	0.007	NT
09/29/2003	Copper, dissolved	1.3	0.03	NT	NT	Dry	Dry	Dry	NT
	Mean			ERR	ERR	ERR	0.021	0.007	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	0.016	0	ERR
	Mean + 2 STD			ERR	ERR	ERR	0.053	0.007	ERR



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

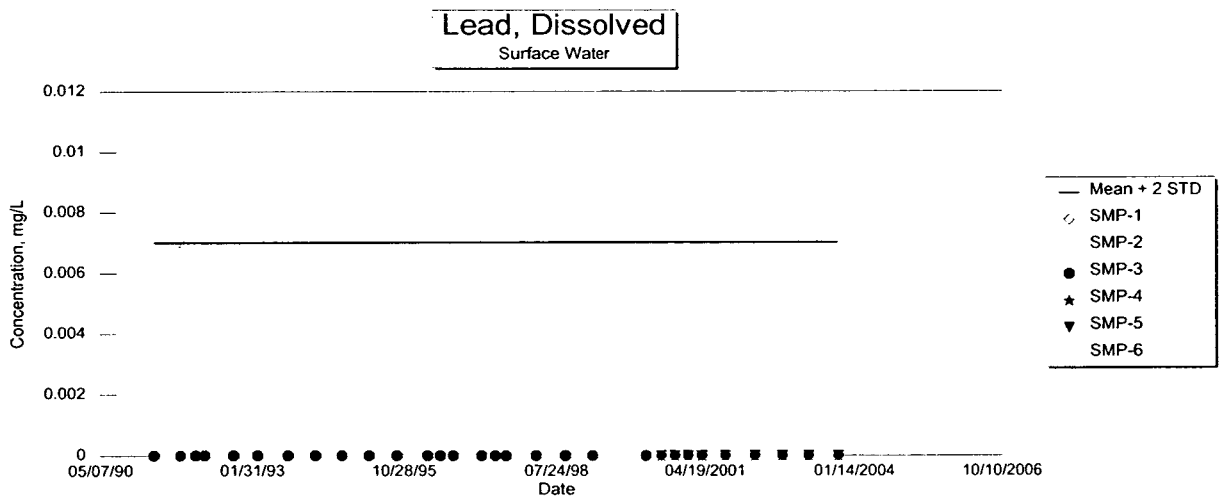
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	mg/L								
04/23/91	Iron, dissolved	--	0.244906	<0.114	<0.111	<0.03			
10/15/91	Iron, dissolved	--	0.244906	0.125	0.045	<0.03			
01/23/92	Iron, dissolved	--	0.244906	0.172	0.036	<0.03			
03/23/92	Iron, dissolved	--	0.244906	0.109	0.109	<0.03			
09/30/92	Iron, dissolved	--	0.244906	0.034	<0.03	DRY			
03/05/93	Iron, dissolved	--	0.244906	0.078	0.102	DRY			
09/21/93	Iron, dissolved	--	0.244906	<0.03	<0.03	<0.03			
03/23/94	Iron, dissolved	--	0.244906	0.035	<0.03	<0.03			
09/16/94	Iron, dissolved	--	0.244906	<0.03	<0.03	NT			
03/16/95	Iron, dissolved	--	0.244906	0.05	<0.03	NT			
09/13/95	Iron, dissolved	--	0.244906	<0.03	NT	NT			
03/28/96	Iron, dissolved	--	0.244906	<0.03	<0.03	NT			
06/20/96	Iron, dissolved	--	0.244906	NT	NT	NT			
09/13/96	Iron, dissolved	--	0.244906	<0.03	<0.03	Dry			
03/19/97	Iron, dissolved	--	0.244906	<0.03	<0.03	DRY			
06/18/97	Iron, dissolved	--	0.244906	NT	NT	NT			
08/30/97	Iron, dissolved	--	0.244906	<0.03	<0.03	DRY			
03/10/98	Iron, dissolved	--	0.244906	<0.03	<0.03	DRY			
09/21/98	Iron, dissolved	--	0.244906	<0.03	<0.03	DRY			
03/18/99	Iron, dissolved	--	0.244906	<0.03	<0.03	DRY			
09/21/99	Iron, dissolved	--	0.244906	<0.03	<0.03	DRY			
03/21/2000	Iron, dissolved	--	0.244906	<0.03	0.137	DRY			
06/28/2000	Iron, dissolved	--	0.244906	NT	NT	DRY	<0.03	DRY	2.2
09/28/2000	Iron, dissolved	--	0.244906	<0.03	<0.03	DRY	DRY	DRY	2.57
12/27/2000	Iron, dissolved	--	0.244906	NT	NT	NT	Dry	Dry	3.61
03/28/2001	Iron, dissolved	--	0.244906	0.085	0.073	Dry	0.094	Dry	Dry
09/02/2001	Iron, dissolved	--	0.244906	0.257	0.042	Dry	NT	Dry	Dry
03/19/2002	Iron, dissolved	--	0.244906	<0.03	<0.03	Dry	<0.03	Dry	4.17
10/07/2002	Iron, dissolved	--	0.244906	<0.03	<0.03	Dry	<0.03	<0.03	3.69
03/14/2003	Iron, dissolved	--	0.244906	0.162	0.117	Dry	0.108	0.051	4.42
09/29/2003	Iron, dissolved	--	0.244906	<0.030	<0.030	Dry	Dry	Dry	4.09
	Mean			0.1107	0.082625	ERR	0.101	0.051	3.535714
	Standard Deviation (STD)			0.067103	0.032749	ERR	0.007	0	0.778054
	Mean + 2 STD			0.244906	0.148123	ERR	0.115	0.051	5.091821



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

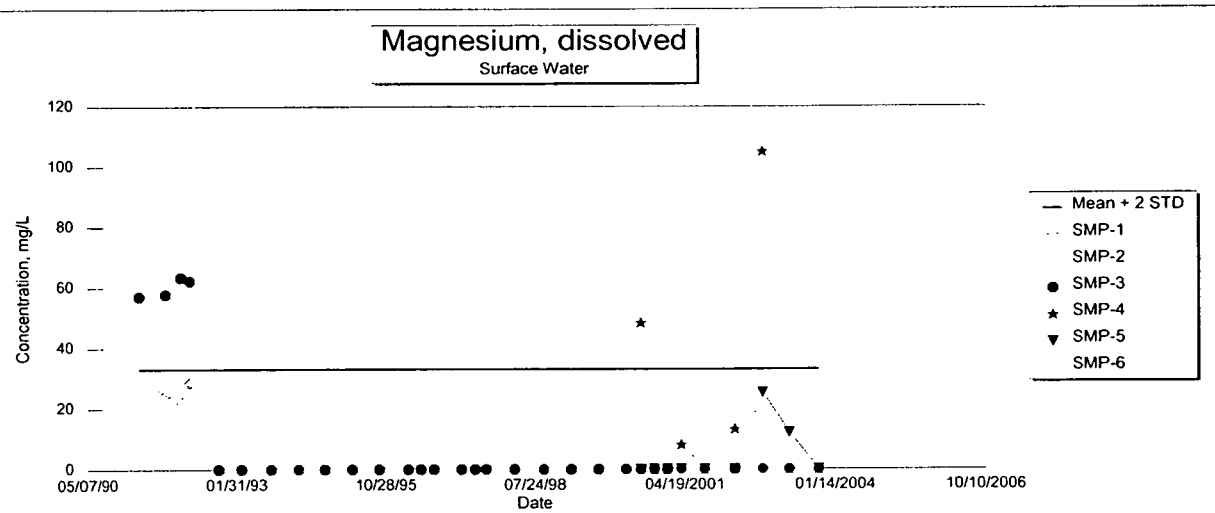
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	mg/L								
04/23/91	Lead, dissolved	0.015	0.007	<0.005	<0.005	<0.005			
10/15/91	Lead, dissolved	0.015	0.007	0.007	0.01	<0.005			
01/23/92	Lead, dissolved	0.015	0.007	<0.005	<0.005	<0.005			
03/23/92	Lead, dissolved	0.015	0.007	<0.005	<0.005	<0.005			
09/30/92	Lead, dissolved	0.015	0.007	NT	NT	NT			
03/05/93	Lead, dissolved	0.015	0.007	NT	NT	NT			
09/21/93	Lead, dissolved	0.015	0.007	NT	NT	NT			
03/23/94	Lead, dissolved	0.015	0.007	NT	NT	NT			
09/16/94	Lead, dissolved	0.015	0.007	NT	NT	NT			
03/16/95	Lead, dissolved	0.015	0.007	NT	NT	NT			
09/13/95	Lead, dissolved	0.015	0.007	NT	NT	NT			
03/28/96	Lead, dissolved	0.015	0.007	NT	NT	NT			
06/20/96	Lead, dissolved	0.015	0.007	NT	NT	NT			
09/13/96	Lead, dissolved	0.015	0.007	NT	NT	Dry			
03/19/97	Lead, dissolved	0.015	0.007	NT	NT	DRY			
06/18/97	Lead, dissolved	0.015	0.007	NT	NT	NT			
08/30/97	Lead, dissolved	0.015	0.007	NT	NT	DRY			
03/10/98	Lead, dissolved	0.015	0.007	NT	NT	DRY			
09/21/98	Lead, dissolved	0.015	0.007	NT	NT	DRY			
03/18/99	Lead, dissolved	0.015	0.007	NT	NT	DRY			
03/21/99	Lead, dissolved	0.015	0.007	NT	NT	DRY			
03/21/2000	Lead, dissolved	0.015	0.007	NT	NT	DRY			
06/28/2000	Lead, dissolved	0.015	0.007	NT	NT	DRY	<0.005	DRY	<0.005
09/28/2000	Lead, dissolved	0.015	0.007	NT	NT	DRY	DRY	DRY	<0.005
12/27/2000	Lead, dissolved	0.015	0.007	NT	NT	NT	Dry	Dry	<0.005
03/28/2001	Lead, dissolved	0.015	0.007	NT	NT	Dry	<0.005	Dry	Dry
09/02/2001	Lead, dissolved	0.015	0.007	NT	NT	NT	NT	Dry	Dry
03/19/2002	Lead, dissolved	0.015	0.007	NT	NT	NT	<0.005	NT	<0.005
10/07/2002	Lead, dissolved	0.015	0.007	NT	NT	NT	<0.005	<0.005	NT
03/14/2003	Lead, dissolved	0.015	0.007	NT	NT	DRY	NT	<0.005	NT
09/29/2003	Lead, dissolved	0.015	0.007	NT	NT	Dry	Dry	Dry	NT
	Mean			0.007	0.01	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			0	0	ERR	ERR	ERR	ERR
	Mean + 2 STD			0.007	0.01	ERR	ERR	ERR	ERR



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	mg/L								
04/23/91	Magnesium, dissolved	--	32.97694	30.6	31.3	57			
10/15/91	Magnesium, dissolved	--	32.97694	24.4	24.7	57.8			
01/23/92	Magnesium, dissolved	--	32.97694	22.5	22.5	63.3			
03/23/92	Magnesium, dissolved	--	32.97694	28.6	28.1	62.2			
09/30/92	Magnesium, dissolved	--	32.97694	NT	NT	NT			
03/05/93	Magnesium, dissolved	--	32.97694	NT	NT	NT			
09/21/93	Magnesium, dissolved	--	32.97694	NT	NT	NT			
03/23/94	Magnesium, dissolved	--	32.97694	NT	NT	NT			
09/16/94	Magnesium, dissolved	--	32.97694	NT	NT	NT			
03/16/95	Magnesium, dissolved	--	32.97694	NT	NT	NT			
09/13/95	Magnesium, dissolved	--	32.97694	NT	NT	NT			
03/28/96	Magnesium, dissolved	--	32.97694	NT	NT	NT			
06/20/96	Magnesium, dissolved	--	32.97694	NT	NT	NT			
09/13/96	Magnesium, dissolved	--	32.97694	NT	NT	Dry			
03/19/97	Magnesium, dissolved	--	32.97694	NT	NT	DRY			
06/18/97	Magnesium, dissolved	--	32.97694	NT	NT	NT			
08/30/97	Magnesium, dissolved	--	32.97694	NT	NT	DRY			
03/10/98	Magnesium, dissolved	--	32.97694	NT	NT	DRY			
09/21/98	Magnesium, dissolved	--	32.97694	NT	NT	DRY			
03/18/99	Magnesium, dissolved	--	32.97694	NT	NT	DRY			
09/21/99	Magnesium, dissolved	--	32.97694	NT	NT	DRY			
03/21/2000	Magnesium, dissolved	--	32.97694	NT	NT	DRY			
06/28/2000	Magnesium, dissolved	--	32.97694	NT	NT	DRY	48.3	DRY	64
09/28/2000	Magnesium, dissolved	--	32.97694	NT	NT	DRY	DRY	DRY	67.5
12/27/2000	Magnesium, dissolved	--	32.97694	NT	NT	NT	Dry	Dry	65.7
03/28/2001	Magnesium, dissolved	--	32.97694	NT	NT	Dry	8.2	Dry	Dry
09/02/2001	Magnesium, dissolved	--	32.97694	NT	NT	NT	NT	Dry	Dry
03/19/2002	Magnesium, dissolved	--	32.97694	NT	NT	NT	13.2	NT	62.6
10/07/2002	Magnesium, dissolved	--	32.97694	NT	NT	NT	105	25.3	NT
03/14/2003	Magnesium, dissolved	--	32.97694	NT	NT	DRY	NT	12	NT
09/29/2003	Magnesium, dissolved	--	32.97694	NT	NT	Dry	Dry	Dry	NT
	Mean			26.525	26.65	60.075	43.675	18.65	64.95
	Standard Deviation (STD)			3.225969	3.344772	2.717881	38.63078	6.65	1.836437
	Mean + 2 STD			32.97694	33.33954	65.51076	120.9366	31.95	68.62287



AMES-STORY ENVIRONMENTAL LANDFILL

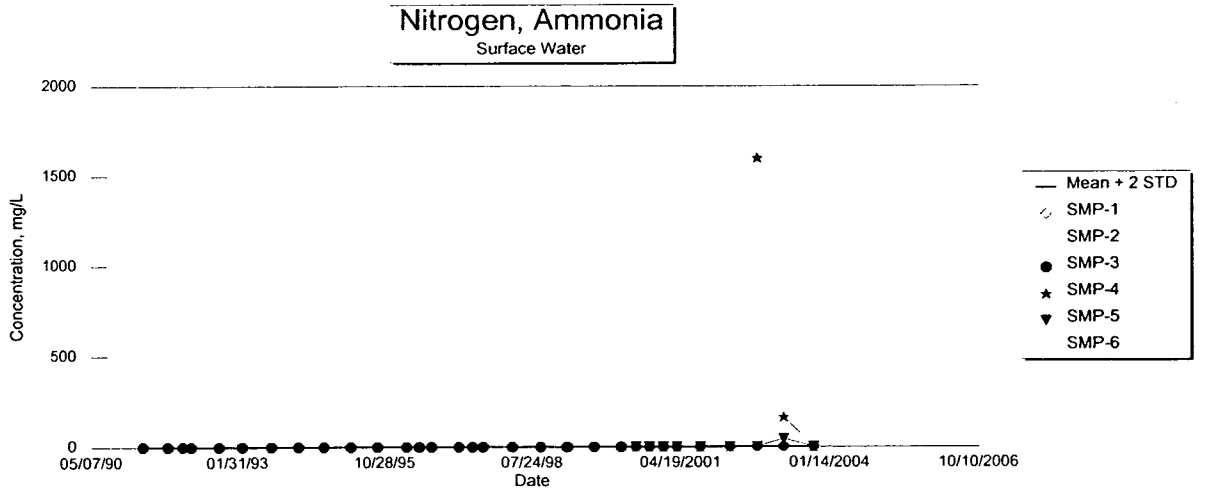
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	mg/L								
04/23/91	Mercury, dissolved	0.002	0.0005	<0.001	<0.001	<0.001			
10/15/91	Mercury, dissolved	0.002	0.0005	<0.0005	<0.0005	<0.0005			
01/23/92	Mercury, dissolved	0.002	0.0005	<0.0005	<0.0005	<0.0005			
03/23/92	Mercury, dissolved	0.002	0.0005	<0.0005	<0.0005	<0.0005			
09/30/92	Mercury, dissolved	0.002	0.0005	NT	NT	NT			
03/05/93	Mercury, dissolved	0.002	0.0005	NT	NT	NT			
09/21/93	Mercury, dissolved	0.002	0.0005	NT	NT	NT			
03/23/94	Mercury, dissolved	0.002	0.0005	NT	NT	NT			
09/16/94	Mercury, dissolved	0.002	0.0005	NT	NT	NT			
03/16/95	Mercury, dissolved	0.002	0.0005	NT	NT	NT			
09/13/95	Mercury, dissolved	0.002	0.0005	NT	NT	NT			
03/28/96	Mercury, dissolved	0.002	0.0005	NT	NT	NT			
06/20/96	Mercury, dissolved	0.002	0.0005	NT	NT	NT			
09/13/96	Mercury, dissolved	0.002	0.0005	NT	NT	Dry			
03/19/97	Mercury, dissolved	0.002	0.0005	NT	NT	DRY			
06/18/97	Mercury, dissolved	0.002	0.0005	NT	NT	NT			
08/30/97	Mercury, dissolved	0.002	0.0005	NT	NT	DRY			
03/10/98	Mercury, dissolved	0.002	0.0005	NT	NT	DRY			
09/21/98	Mercury, dissolved	0.002	0.0005	NT	NT	DRY			
03/18/99	Mercury, dissolved	0.002	0.0005	NT	NT	DRY			
09/21/99	Mercury, dissolved	0.002	0.0005	NT	NT	DRY			
03/28/2000	Mercury, dissolved	0.002	0.0005	NT	NT	DRY			
06/28/2000	Mercury, dissolved	0.002	0.0005	NT	NT	DRY	<0.0005	DRY	<0.0005
09/28/2000	Mercury, dissolved	0.002	0.0005	NT	NT	DRY	DRY	DRY	<0.0005
12/27/2000	Mercury, dissolved	0.002	0.0005	NT	NT	NT	Dry	Dry	<0.0005
03/28/2001	Mercury, dissolved	0.002	0.0005	NT	NT	Dry	<0.0005	Dry	Dry
09/02/2001	Mercury, dissolved	0.002	0.0005	NT	NT	NT	NT	Dry	Dry
03/19/2002	Mercury, dissolved	0.002	0.0005	NT	NT	NT	<0.0005	NT	<0.0005
10/07/2002	Mercury, dissolved	0.002	0.0005	NT	NT	NT	<0.0005	<0.0005	NT
03/14/2003	Mercury, dissolved	0.002	0.0005	NT	NT	DRY	NT	<0.005	NT
09/29/2003	Mercury, dissolved	0.002	0.0005	NT	NT	Dry	Dry	Dry	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

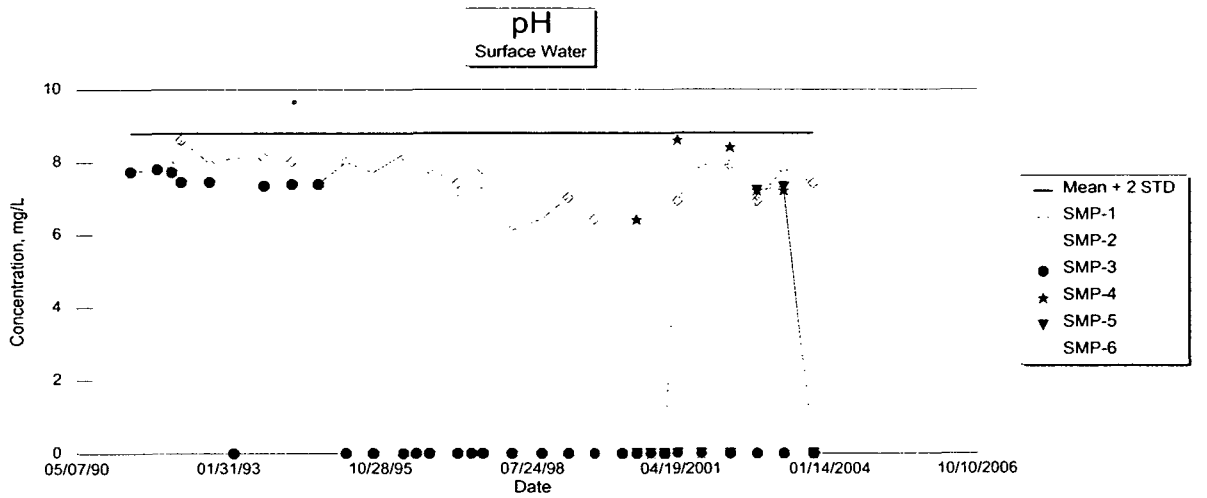
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	mg/L								
04/23/91	Nitrogen, Ammonia	--	1	<0.5	<0.5	<0.5			
10/15/91	Nitrogen, Ammonia	--	1	<0.5	<0.5	<0.5			
01/23/92	Nitrogen, Ammonia	--	1	<1.0	<1.0	<1.0			
03/23/92	Nitrogen, Ammonia	--	1	<1.0	<1.0	<1.0			
09/30/92	Nitrogen, Ammonia	--	1	<1	<1	DRY			
03/05/93	Nitrogen, Ammonia	--	1	<1	<1	DRY			
09/21/93	Nitrogen, Ammonia	--	1	<1	<1	<1			
03/23/94	Nitrogen, Ammonia	--	1	<1	<1	<1			
09/16/94	Nitrogen, Ammonia	--	1	<1	<1	NT			
03/16/95	Nitrogen, Ammonia	--	1	<1	NT	NT			
09/13/95	Nitrogen, Ammonia	--	1	<1	<1	NT			
03/28/96	Nitrogen, Ammonia	--	1	<1	<1	NT			
06/20/96	Nitrogen, Ammonia	--	1	NT	NT	NT			
09/13/96	Nitrogen, Ammonia	--	1	<1	<1	Dry			
03/19/97	Nitrogen, Ammonia	--	1	<1	<1	DRY			
06/18/97	Nitrogen, Ammonia	--	1	NT	NT	NT			
08/30/97	Nitrogen, Ammonia	--	1	<1	<1	DRY			
03/10/98	Nitrogen, Ammonia	--	1	<1	<1	DRY			
09/21/98	Nitrogen, Ammonia	--	1	<1	<1	DRY			
03/18/99	Nitrogen, Ammonia	--	1	<1	<1	DRY			
09/21/99	Nitrogen, Ammonia	--	1	<1	<1	DRY			
03/21/2000	Nitrogen, Ammonia	--	1	<1	<1	DRY			
06/28/2000	Nitrogen, Ammonia	--	1	NT	NT	DRY	<1	DRY	<1
09/28/2000	Nitrogen, Ammonia	--	1	<1	<1	DRY	DRY	DRY	<1
12/27/2000	Nitrogen, Ammonia	--	1	NT	NT	NT	Dry	Dry	<1
03/28/2001	Nitrogen, Ammonia	--	1	<1	<1	Dry	<1	Dry	Dry
09/02/2001	Nitrogen, Ammonia	--	1	<1	<1	Dry	NT	Dry	Dry
03/19/2002	Nitrogen, Ammonia	--	1	<1	<1	Dry	<1	Dry	<1
10/07/2002	Nitrogen, Ammonia	--	1	<1	<1	Dry	1600	<1	1.3
03/14/2003	Nitrogen, Ammonia	--	1	<1	<1	Dry	164	44.8	<1
09/29/2003	Nitrogen, Ammonia	--	1	<1.0	<1.0	Dry	Dry	Dry	<1.0
	Mean			ERR	ERR	ERR	882	44.8	1.3
	Standard Deviation (STD)			ERR	ERR	ERR	718	0	0
	Mean + 2 STD			ERR	ERR	ERR	2318	44.8	1.3



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
04/23/91	pH	--	8.789711	7.76	7.77	7.73			
10/15/91	pH	--	8.789711	7.74	8.08	7.80			
01/23/92	pH	--	8.789711	7.89	8.41	7.72			
03/23/92	pH	--	8.789711	8.60	8.54	7.45			
09/30/92	pH	--	8.789711	7.95	8	7.45			
03/05/93	pH	--	8.789711	8.11	8.11	DRY			
09/21/93	pH	--	8.789711	8.12	8.07	7.34			
03/23/94	pH	--	8.789711	8.01	7.83	7.39			
09/16/94	pH	--	8.789711	7.39	7.11	7.39			
03/16/95	pH	--	8.789711	8	8.2	DRY			
09/13/95	pH	--	8.789711	7.7	DRY	DRY			
03/28/96	pH	--	8.789711	8.2	8.3	Dry			
06/20/96	pH	--	8.789711	NT	NT	NT			
09/13/96	pH	--	8.789711	7.8	7.6	Dry			
03/19/97	pH	--	8.789711	7.4	7.6	DRY			
06/18/97	pH	--	8.789711	NT	NT	NT			
08/30/97	pH	--	8.789711	7.8	7.6	DRY			
03/10/98	pH	--	8.789711	6.1	6.1	DRY			
09/21/98	pH	--	8.789711	6.4	5.7	DRY			
03/18/99	pH	--	8.789711	7	7.3	DRY			
09/21/99	pH	--	8.789711	6.4	5.7	DRY			
03/21/2000	pH	--	8.789711	NT	NT	DRY			
06/28/2000	pH	--	8.789711	NT	NT	DRY	6.4	DRY	5.5
09/28/2000	pH	--	8.789711	NT	NT	DRY	NT	NT	NT
12/27/2000	pH	--	8.789711	NT	NT	NT	Dry	Dry	7.7
03/28/2001	pH	--	8.789711	6.9	8.3	Dry	8.6	Dry	Dry
09/02/2001	pH	--	8.789711	7.9	8	Dry	NT	Dry	Dry
03/19/2002	pH	--	8.789711	7.9	7.9	Dry	8.4	Dry	6.8
10/07/2002	pH	--	8.789711	6.9	8.6	Dry	7.2	7.2	7
03/14/2003	pH	--	8.789711	7.8	7.6	Dry	7.2	7.3	7.1
09/29/2003	pH	--	8.789711	7.4	7.3	Dry	Dry	Dry	7.2
Mean				7.5668	7.655	7.53375	7.56	7.25	6.883333
Standard Deviation (STD)				0.611455	0.78794	0.172115	0.82365	0.05	0.676798
Mean + 2 STD				8.789711	9.230881	7.877979	9.207301	7.35	8.236929



AMES-STORY ENVIRONMENTAL LANDFILL

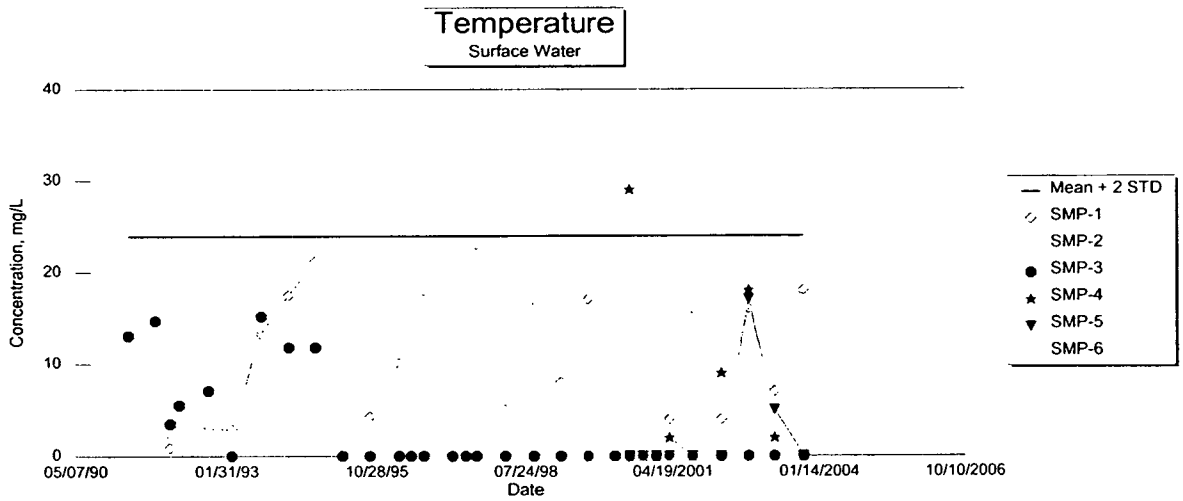
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	mg/L								
04/23/91	Phenols	--	0.1	<0.1	<0.1	<0.1			
10/15/91	Phenols	--	0.1	<0.1	<0.1	<0.1			
01/23/92	Phenols	--	0.1	<0.1	<0.1	<0.1			
03/23/92	Phenols	--	0.1	<0.1	<0.1	<0.1			
09/30/92	Phenols	--	0.1	<0.1	<0.1	DRY			
03/05/93	Phenols	--	0.1	NT	NT	NT			
09/21/93	Phenols	--	0.1	<0.1	<0.1	<0.1			
03/23/94	Phenols	--	0.1	NT	NT	NT			
09/16/94	Phenols	--	0.1	<0.1	<0.1	NT			
03/16/95	Phenols	--	0.1	<0.1	NT	NT			
09/13/95	Phenols	--	0.1	NT	NT	NT			
03/28/96	Phenols	--	0.1	NT	NT	NT			
06/20/96	Phenols	--	0.1	NT	NT	NT			
09/13/96	Phenols	--	0.1	<0.1	<0.1	Dry			
03/19/97	Phenols	--	0.1	NT	NT	NT			
06/18/97	Phenols	--	0.1	NT	NT	NT			
08/30/97	Phenols	--	0.1	<0.1	<0.1	DRY			
03/10/98	Phenols	--	0.1	NT	NT	NT			
09/21/98	Phenols	--	0.1	<0.1	<0.1	DRY			
03/18/99	Phenols	--	0.1	NT	NT	DRY			
09/21/99	Phenols	--	0.1	<0.1	<0.1	DRY			
03/21/2000	Phenols	--	0.1	NT	NT	DRY			
06/28/2000	Phenols	--	0.1	NT	NT	DRY	NT	NT	NT
09/28/2000	Phenols	--	0.1	<0.1	<0.1	DRY	DRY	DRY	<0.1
12/27/2000	Phenols	--	0.1	NT	NT	NT	Dry	Dry	NT
03/28/2001	Phenols	--	0.1	NT	NT	NT	NT	Dry	Dry
09/02/2001	Phenols	--	0.1	<0.1	<0.1	Dry	NT	Dry	Dry
03/19/2002	Phenols	--	0.1	NT	NT	NT	NT	NT	NT
10/07/2002	Phenols	--	0.1	<0.1	<0.1	Dry	<0.1	<0.1	<0.1
03/14/2003	Phenols	--	0.1	NT	NT	Dry	NT	NT	NT
09/29/2003	Phenols	--	0.1	<0.100	<0.100	Dry	Dry	Dry	<0.100
	Mean			ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

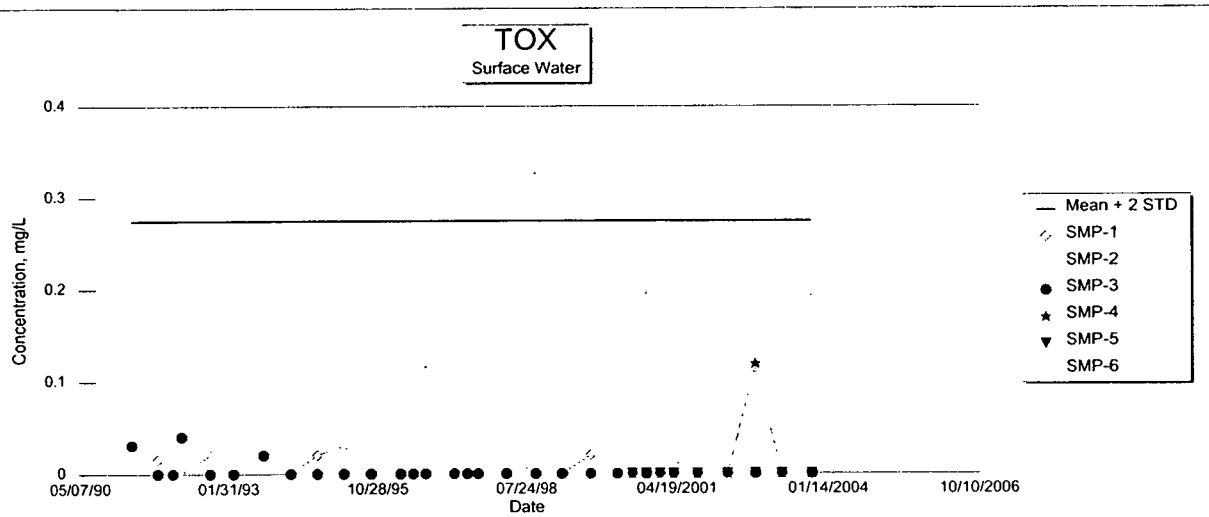
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
04/23/91	Temperature, celsius	--	23.90544	12.8	12.9	13.1			
10/15/91	Temperature, celsius	--	23.90544	7.7	9.8	14.7			
01/23/92	Temperature, celsius	--	23.90544	0.9	0.9	3.5			
03/23/92	Temperature, celsius	--	23.90544	4.1	4.6	5.5			
09/30/92	Temperature, celsius	--	23.90544	2.9	3	7.1			
03/05/93	Temperature, celsius	--	23.90544	2.9	2.9	DRY			
09/21/93	Temperature, celsius	--	23.90544	13.3	12.9	15.2			
03/23/94	Temperature, celsius	--	23.90544	17.5	15.4	11.8			
09/16/94	Temperature, celsius	--	23.90544	21.2	23.8	11.8			
03/16/95	Temperature, celsius	--	23.90544			DRY			
09/13/95	Temperature, celsius	--	23.90544	4.28	DRY	DRY			
03/28/96	Temperature, celsius	--	23.90544	10	11	Dry			
06/20/96	Temperature, celsius	--	23.90544	NT	NT	NT			
09/13/96	Temperature, celsius	--	23.90544	18	18	Dry			
03/19/97	Temperature, celsius	--	23.90544	4	4	DRY			
06/18/97	Temperature, celsius	--	23.90544	NT	NT	NT			
08/30/97	Temperature, celsius	--	23.90544	23	23	DRY			
03/10/98	Temperature, celsius	--	23.90544	5	2	DRY			
09/21/98	Temperature, celsius	--	23.90544	17	17	DRY			
03/18/99	Temperature, celsius	--	23.90544	8	9	DRY			
09/21/99	Temperature, celsius	--	23.90544	17	17	DRY			
03/21/2000	Temperature, celsius	--	23.90544	NT	NT	DRY			
06/28/2000	Temperature, celsius	--	23.90544	NT	NT	DRY	29	DRY	20
09/28/2000	Temperature, celsius	--	23.90544	NT	NT	DRY	NT	NT	NT
12/27/2000	Temperature, celsius	--	23.90544	NT	NT	NT	Dry	Dry	13
03/28/2001	Temperature, celsius	--	23.90544	4	4	Dry	2	Dry	Dry
09/02/2001	Temperature, celsius	--	23.90544	16	16	Dry	NT	Dry	Dry
03/19/2002	Temperature, celsius	--	23.90544	4	4	Dry	9	Dry	15
10/07/2002	Temperature, celsius	--	23.90544	16	15	Dry	18	17	18
03/14/2003	Temperature, celsius	--	23.90544	7	8	Dry	2	5	14
09/29/2003	Temperature, celsius	--	23.90544	18	18	Dry	Dry	Dry	18
	Mean			10.6075	10.96522	10.3375	12	11	16.33333
	Standard Deviation (STD)			6.648969	6.790057	4.111246	10.33441	6	2.494438
	Mean + 2 STD			23.90544	24.54533	18.55999	32.66882	23	21.32221



AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	mg/L								
04/23/91	Total Organic Halogens	--	0.274318	0.031	0.066	0.031			
10/15/91	Total Organic Halogens	--	0.274318	0.015	<0.01	<0.01			
01/23/92	Total Organic Halogens	--	0.274318	<0.01	<0.01	<0.01			
03/23/92	Total Organic Halogens	--	0.274318	<0.01	0.02	0.04			
09/30/92	Total Organic Halogens	--	0.274318	0.02	0.02	DRY			
03/05/93	Total Organic Halogens	--	0.274318	NT	NT	NT			
09/21/93	Total Organic Halogens	--	0.274318	0.02	0.03	0.02			
03/23/94	Total Organic Halogens	--	0.274318	NT	NT	NT			
09/16/94	Total Organic Halogens	--	0.274318	0.02	0.03	NT			
03/16/95	Total Organic Halogens	--	0.274318	0.03	NT	NT			
09/13/95	Total Organic Halogens	--	0.274318	NT	NT	NT			
03/28/96	Total Organic Halogens	--	0.274318	NT	NT	NT			
06/20/96	Total Organic Halogens	--	0.274318	NT	NT	NT			
09/13/96	Total Organic Halogens	--	0.274318	0.12	0.03	Dry			
03/19/97	Total Organic Halogens	--	0.274318	NT	NT	NT			
06/18/97	Total Organic Halogens	--	0.274318	NT	NT	NT			
08/30/97	Total Organic Halogens	--	0.274318	0.11	0.02	DRY			
03/10/98	Total Organic Halogens	--	0.274318	NT	NT	NT			
09/21/98	Total Organic Halogens	--	0.274318	0.33	0.08	DRY			
03/18/99	Total Organic Halogens	--	0.274318	NT	NT	DRY			
09/21/99	Total Organic Halogens	--	0.274318	0.02	0.01	DRY			
03/21/2000	Total Organic Halogens	--	0.274318	NT	NT	DRY			
06/28/2000	Total Organic Halogens	--	0.274318	NT	NT	DRY	NT	DRY	NT
09/28/2000	Total Organic Halogens	--	0.274318	0.2	0.07	DRY	DRY	DRY	0.03
12/27/2000	Total Organic Halogens	--	0.274318	NT	NT	NT	Dry	Dry	NT
03/28/2001	Total Organic Halogens	--	0.274318	NT	NT	NT	NT	Dry	Dry
09/02/2001	Total Organic Halogens	--	0.274318	0.058	0.052	Dry	NT	Dry	Dry
03/19/2002	Total Organic Halogens	--	0.274318	NT	NT	NT	NT	NT	NT
10/07/2002	Total Organic Halogens	--	0.274318	0.114	0.059	Dry	0.119	<0.01	0.104
03/14/2003	Total Organic Halogens	--	0.274318	NT	NT	Dry	NT	NT	NT
09/29/2003	Total Organic Halogens	--	0.274318	0.198	0.119	Dry	Dry	Dry	0.014
	Mean			0.091857	0.046615	0.030333	0.119	ERR	0.049333
	Standard Deviation (STD)			0.09123	0.030068	0.008179	0	ERR	0.039203
	Mean + 2 STD			0.274318	0.106751	0.04669	0.119	ERR	0.12774



AMES-STORY ENVIRONMENTAL LANDFILL

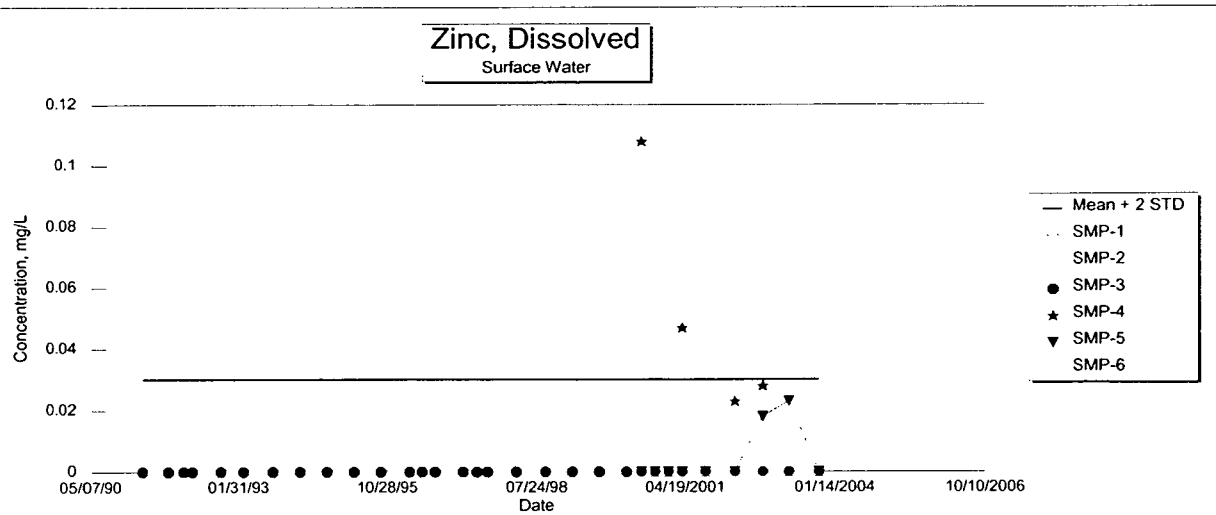
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	ug/L								
04/23/91	Trichloroethene *	5	1	<1	<1	<1			
10/15/91	Trichloroethene *	5	1	<1	<1	<1			
01/23/92	Trichloroethene *	5	1	<1	<1	<1			
03/23/92	Trichloroethene *	5	1	<1	<1	<1			
09/30/92	Trichloroethene *	5	1	NT	NT	NT			
03/05/93	Trichloroethene *	5	1	NT	NT	NT			
09/21/93	Trichloroethene *	5	1	NT	NT	NT			
03/23/94	Trichloroethene *	5	1	NT	NT	NT			
09/16/94	Trichloroethene *	5	1	NT	NT	NT			
03/16/95	Trichloroethene *	5	1	NT	NT	NT			
09/13/95	Trichloroethene *	5	1	NT	NT	NT			
03/28/96	Trichloroethene *	5	1	NT	NT	NT			
06/20/96	Trichloroethene *	5	1	NT	NT	NT			
09/13/96	Trichloroethene *	5	1	NT	NT	Dry			
03/19/97	Trichloroethene *	5	1	NT	NT	NT			
06/18/97	Trichloroethene *	5	1	NT	NT	NT			
08/30/97	Trichloroethene *	5	1	NT	NT	DRY			
03/10/98	Trichloroethene *	5	1	NT	NT	DRY			
09/21/98	Trichloroethene *	5	1	NT	NT	DRY			
03/18/99	Trichloroethene *	5	1	NT	NT	DRY			
09/21/99	Trichloroethene *	5	1	NT	NT	DRY			
03/21/2000	Trichloroethene *	5	1	NT	NT	DRY			
06/28/2000	Trichloroethene *	5	1	NT	NT	DRY	<1	DRY	<1
09/28/2000	Trichloroethene *	5	1	NT	NT	DRY	DRY	DRY	<1
12/27/2000	Trichloroethene *	5	1	NT	NT	NT	Dry	Dry	<1
03/28/2001	Trichloroethene *	5	1	NT	NT	Dry	<1	Dry	Dry
09/02/2001	Trichloroethene *	5	1	NT	NT	NT	NT	Dry	Dry
03/19/2002	Trichloroethene *	5	1	NT	NT	NT	<1	NT	<1
10/07/2002	Trichloroethene *	5	1	NT	NT	NT	<1	<1	NT
03/14/2003	Trichloroethene *	5	1	NT	NT	DRY	NT	<1	NT
09/29/2003	Trichloroethene *	5	1	NT	NT	Dry	Dry	Dry	NT
	Mean			ERR	ERR	ERR	ERR	ERR	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	ERR	ERR	ERR
	Mean + 2 STD			ERR	ERR	ERR	ERR	ERR	ERR

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD SW	SURFACE MONITORING PTS. SMP 1	SMP 2	SMP 3	SMP 4	SMP 5	SMP 6
	mg/L								
04/23/91	Zinc, dissolved	2	0.03	<0.03	<0.03	<0.03			
10/15/91	Zinc, dissolved	2	0.03	<0.03	<0.03	<0.03			
01/23/92	Zinc, dissolved	2	0.03	<0.03	<0.03	<0.03			
03/23/92	Zinc, dissolved	2	0.03	<0.03	<0.03	<0.03			
09/30/92	Zinc, dissolved	2	0.03	NT	NT	NT			
03/05/93	Zinc, dissolved	2	0.03	NT	NT	NT			
09/21/93	Zinc, dissolved	2	0.03	NT	NT	NT			
03/23/94	Zinc, dissolved	2	0.03	NT	NT	NT			
09/16/94	Zinc, dissolved	2	0.03	NT	NT	NT			
03/16/95	Zinc, dissolved	2	0.03	NT	NT	NT			
09/13/95	Zinc, dissolved	2	0.03	NT	NT	NT			
03/28/96	Zinc, dissolved	2	0.03	NT	NT	NT			
06/20/96	Zinc, dissolved	2	0.03	NT	NT	NT			
09/13/96	Zinc, dissolved	2	0.03	NT	NT	Dry			
03/19/97	Zinc, dissolved	2	0.03	NT	NT	DRY			
06/18/97	Zinc, dissolved	2	0.03	NT	NT	NT			
08/30/97	Zinc, dissolved	2	0.03	NT	NT	DRY			
03/10/98	Zinc, dissolved	2	0.03	NT	NT	DRY			
09/21/98	Zinc, dissolved	2	0.03	NT	NT	DRY			
03/18/99	Zinc, dissolved	2	0.03	NT	NT	DRY			
09/21/99	Zinc, dissolved	2	0.03	NT	NT	DRY			
03/21/2000	Zinc, dissolved	2	0.03	NT	NT	DRY			
06/28/2000	Zinc, dissolved	2	0.03	NT	NT	DRY	0.108	DRY	<0.03
09/28/2000	Zinc, dissolved	2	0.03	NT	NT	DRY	DRY	DRY	<0.03
12/27/2000	Zinc, dissolved	2	0.03	NT	NT	NT	Dry	Dry	<0.03
03/28/2001	Zinc, dissolved	2	0.03	NT	NT	Dry	0.047	Dry	Dry
09/02/2001	Zinc, dissolved	2	0.03	NT	NT	NT	NT	Dry	Dry
03/19/2002	Zinc, dissolved	2	0.03	NT	NT	NT	0.023	NT	<0.01
10/07/2002	Zinc, dissolved	2	0.03	NT	NT	NT	0.028	0.018	NT
03/14/2003	Zinc, dissolved	2	0.03	NT	NT	DRY	NT	0.023	NT
09/29/2003	Zinc, dissolved	2	0.03	NT	NT	Dry	Dry	Dry	NT
	Mean			ERR	ERR	ERR	0.0515	0.0205	ERR
	Standard Deviation (STD)			ERR	ERR	ERR	0.033827	0.0025	ERR
	Mean + 2 STD			ERR	ERR	ERR	0.119154	0.0255	ERR



ATTACHMENT F
May 5, 1992 Semi-Annual Inspection Report

May 5, 1992

Nina Koger
Solid Waste Section - IDNR
Wallace State Office Building
900 E. Grand Ave.
Des Moines, Iowa 50319

RE: SEMI-ANNUAL INSPECTION
AMES/STORY ENVIRONMENTAL LANDFILL
IDNR PERMIT NO. 85-SDP-13-91P

Dear Mrs. Koger:

In accordance with the Special Provisions of the Permit, a semi-annual inspection of the Ames/Story Environmental Landfill was conducted by Scott Renaud, P.E., on April 29, 1992.

At the time of the inspection, a certified landfill operator was on duty along with an equipment operator. A tracked loader is being used to spread, compact, and cover C&D waste as per the Development Plan. All wastes have been covered expect those received on this day. The site was well graded with no evidence of standing water. However, cover on the north slope is in need of repair due to erosion, and the siltation basin at the north end adjacent to the drainageway should be cleaned and reconstructed when weather conditions permit.

In addition to C&D wastes, the site is receiving a large quantity of bottom/fly ash from the City of Ames Electric Department which has been excavated from storage lagoons at the Municipal power plant. The working area was well managed and controlled; no windblown debris extended beyond the confines of the landfill. The access road is in good condition, however, the hard surface street extension and entrance have not yet been constructed as per the Development Plan and City requirements.

Top of landfill elevations in Trench No. 1 have now reached original ground surface elevation, and plans are being made for construction of Trench No. 2. All monitoring wells, monuments, and manholes for leachate collection are in good condition and operational. Landfill personnel are obtaining monthly measurements of leachate flow while CGA is obtaining monthly water level measurements in monitoring wells and quarterly water samples for testing.

Attached are copies of the test results for the fourth quarter sampling of the groundwater monitoring wells, aquifer monitoring wells, and surface water monitoring points. Test results for each quarter have been tabulated with respect to sampling point and parameter, and monthly water levels for groundwater and aquifer monitoring wells have been plotted on the attached graphs.

Also enclosed are two (2), 5.25" floppy diskettes containing tabular and graphical presentation of monitoring data. The mean and standard deviation have been determined for each upgradient monitoring well and compared to corresponding downgradient monitoring wells.

You will find that in a number of instances, test results in the downgradient well do not fall within two standard deviations above the mean value. Most of these findings can be categorized as follows:

1. Initial background concentrations of certain parameters were higher in downgradient monitoring wells than in the corresponding upgradient monitoring well.

2. Changes in detection limits. Where test results were below detection levels, a value of 0.5 x (detection level) was utilized in the computations. However, in some cases detection levels were increased (i.e., lead) which causes problems in the statistical analysis. In most of these cases, the concentrations were below detection levels for all four samples.

3. More recent tests results are less than previous levels. In most cases, an intermediate point is outside the statistical limit, but more recent results are within limits.

4. Increased levels in upgradient wells.

Test results which cannot be discounted for the reasons listed above are confined to MW's 25, 33 & 34 and SMP 3. All of these wells are located in the shallow alluvial sand a gravel formation along the drainageway at the north end of the site. A major interceptor sanitary sewer follows this drainageway which meanders through a heavily industrialized area of Ames. Since levels of various parameters in these downgradient wells exceeded levels in the corresponding upgradient well before waste was landfilled and have continued to increase, there is reason to suspect migration of these constituents from off-site and/or exfiltration from the sanitary sewer. The fact that levels of certain parameters in upgradient wells are increasing is also an indication of migration from off-site.

In accordance with IAC 567-103.2(6), this letter shall constitute notice to the IDNR that the analytical results for certain parameters in all downgradient monitoring wells do not fall within the control limits of two standard deviations above the mean parameter level in the corresponding up gradient well, and that the analytical results for certain parameters in all upgradient monitoring wells do not fall within two standard deviations of the mean parameter level for that monitoring well.

In accordance with IAC 567-103.2(7) the IDNR is to determine if additional sampling and testing is necessary. No major violations of operating rules and regulations or deviations from the approved Development Plan were noted at this time.

If you have any questions or if additional information is needed, contact Scott Renaud or myself at the CGA-Ames office.

Respectfully submitted,
CLAPSADDLE-GARBER ASSOCIATES, INC.

Leslie S. Wolfe, P.E.

cc: Bill Fedeler, Ames/Story Environmental Landfill
Jack Clemons, Field Office 5

ATTACHMENT G
Water Elevation Data & Map

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONTHLY WATER ELEVATIONS

GRAPH X RANGE	DATE	MW 22	MW 23	MW 24	MW 25	MW 26	MW 27	MW 28	MW 29	MW 30	MW 31	MW 32	MW 33	MW 34	MW 35	MW 36	MW 37	MW38	MW 39	MW 40	MW 41	MW 42	MW 43	MW 6	MW 7	MW 8
	GND.ELEV. FT.	950.59	945.98	939.44	906.34	950.51	950.51	946.02	945.61	945.54	941.43	939.86	906.32	909.50	916.19	948.97	949.49	936.59	935.93	933.07	933.46	940.64	940.83	942.88	943.21	942.76
33350	4/22/91	945.74	937.19	926.29	898.63	942.06	922.90	NT	NT	911.79	921.48	908.97	898.46	899.86	Installed 2/96	Installed 2/96	Installed 2/96									
33379	5/21/91	945.69	937.11	926.23	898.55	942.04	922.84	NT	NT	911.71	921.39	908.91	898.42	899.82	Installed 2/96	Installed 2/96	Installed 2/96									
33414	6/25/91	945.29	935.49	923.24	898.24	940.34	922.79	NT	NT	911.54	921.02	908.64	898.09	899.56	Installed 2/96	Installed 2/96	Installed 2/96									
33424	7/05/91	943.99	932.56	919.36	897.92	937.48	922.32	NT	NT	911.39	920.40	908.40	897.80	899.42	Installed 2/96	Installed 2/96	Installed 2/96									
33481	8/31/91	943.57	932.42	918.64	897.71	937.36	922.16	NT	NT	911.24	919.71	908.27	897.60	899.20	Installed 2/96	Installed 2/96	Installed 2/96									
33525	10/14/91	941.37	925.81	916.88	896.97	930.24	919.15	NT	NT	908.69	918.13	906.67	896.82	898.77	Installed 2/96	Installed 2/96	Installed 2/96									
33571	11/29/91	943.09	926.35	916.88	897.39	934.18	919.51	NT	NT	909.01	917.70	906.60	897.27	900.13	Installed 2/96	Installed 2/96	Installed 2/96									
33603	12/31/91	942.76	927.64	916.88	897.03	935.01	919.78	NT	NT	909.29	917.17	906.56	896.90	900.86	Installed 2/96	Installed 2/96	Installed 2/96									
33624	1/21/92	942.76	928.65	916.88	897.28	935.92	920.00	NT	NT	909.55	917.27	906.74	897.12	901.12	Installed 2/96	Installed 2/96	Installed 2/96									
33651	2/17/92	941.97	929.13	916.88	897.29	935.72	920.07	NT	NT	909.69	917.11	906.76	897.16	901.00	Installed 2/96	Installed 2/96	Installed 2/96									
33682	3/19/92	943.59	931.71	924.15	897.82	938.73	921.02	NT	NT	910.30	917.45	907.81	897.69	901.90	Installed 2/96	Installed 2/96	Installed 2/96									
33716	4/22/92	943.89	932.55	926.15	898.47	939.22	921.60	NT	NT	910.65	919.94	908.46	898.35	903.04	Installed 2/96	Installed 2/96	Installed 2/96									
33754	5/30/92	942.17	932.85	922.98	897.80	938.00	921.75	NT	NT	910.83	918.61	908.67	897.67	901.84	Installed 2/96	Installed 2/96	Installed 2/96									
33785	6/30/92	941.55	930.26	919.03	897.63	937.00	921.19	NT	NT	910.08	918.59	908.11	897.50	900.85	Installed 2/96	Installed 2/96	Installed 2/96									
33813	7/28/92	943.99	929.93	917.76	898.33	939.36	920.81	NT	NT	910.03	918.67	907.61	898.12	901.79	Installed 2/96	Installed 2/96	Installed 2/96									
33838	8/22/92	943.21	930.42	919.53	897.84	938.92	920.65	NT	NT	910.24	918.34	907.63	897.71	901.25	Installed 2/96	Installed 2/96	Installed 2/96									
33877	9/30/92	941.15	928.20	919.44	897.61	937.26	919.53	NT	NT	909.39	917.89	907.03	897.50	900.31	Installed 2/96	Installed 2/96	Installed 2/96									
33906	10/29/92	940.26	927.12	916.88	897.54	936.15	919.48	NT	NT	908.88	917.65	906.74	897.42	899.50	Installed 2/96	Installed 2/96	Installed 2/96									
33933	11/25/92	940.94	928.01	916.88	897.67	937.25	919.67	NT	NT	909.19	917.47	906.63	897.52	901.23	Installed 2/96	Installed 2/96	Installed 2/96									
33948	12/10/92	941.21	928.23	916.88	897.41	936.84	919.77	NT	NT	909.31	917.60	906.74	897.33	900.94	Installed 2/96	Installed 2/96	Installed 2/96									
33999	1/30/93	941.33	928.29	916.88	897.39	936.76	919.88	NT	NT	909.37	917.64	906.85	897.31	900.89	Installed 2/96	Installed 2/96	Installed 2/96									
34022	2/22/93	939.55	929.28	916.88	897.22	935.16	919.23	NT	NT	909.64	917.46	906.70	897.06	901.13	Installed 2/96	Installed 2/96	Installed 2/96									
34032	3/4/93	939.45	929.24	916.88	897.58	934.93	919.15	939.32	934.81	909.50	917.47	906.66	897.42	901.96	Installed 2/96	Installed 2/96	Installed 2/96									
34086	4/27/93	941.79	936.40	927.66	897.84	939.11	920.27	940.68	937.01	911.30	921.03	908.66	897.68	902.76	Installed 2/96	Installed 2/96	Installed 2/96									
34116	5/27/93	942.32	935.88	928.16	898.20	938.67	920.71	941.12	936.61	911.64	924.19	909.76	898.06	903.30	Installed 2/96	Installed 2/96	Installed 2/96									
34150	6/30/93	942.37	935.34	927.10	898.40	938.11	920.94	941.12	936.51	911.84	924.63	909.96	898.28	902.90	Installed 2/96	Installed 2/96	Installed 2/96									
34177	7/27/93	942.65	936.74	928.60	897.80	938.25	921.13	940.98	937.41	912.34	925.57	911.08	897.72	903.00	Installed 2/96	Installed 2/96	Installed 2/96									
34215	9/3/93	942.57	936.50	928.04	897.66	937.71	920.91	941.22	937.71	912.44	927.59	910.06	897.52	902.66	Installed 2/96	Installed 2/96	Installed 2/96									
34233	9/21/93	941.84	934.38	925.01	897.32	936.79	920.67	940.82	937.41	912.40	923.05	909.56	897.40	901.78	Installed 2/96	Installed 2/96	Installed 2/96									
34267	10/25/93	941.45	934.13	924.40	897.29	936.16	920.21	940.07	936.26	912.24	923.88	909.36	897.16	901.45	Installed 2/96	Installed 2/96	Installed 2/96									
34295	11/22/93	940.39	933.26	923.10	897.08	935.15	919.61	938.82	935.05	911.40	921.63	908.86	896.96	901.38	Installed 2/96	Installed 2/96	Installed 2/96									
34317	12/14/93	939.69	932.68	921.90	897.00	934.55	919.47	938.54	934.45	911.12	921.09	908.62	896.84	901.28	Installed 2/96	Installed 2/96	Installed 2/96									
34365	1/31/94	938.63	931.80	920.26	896.79	933.53	918.51	937.12	933.07	910.32	919.87	907.86	896.72	900.97	Installed 2/96	Installed 2/96	Installed 2/96									
34393	2/28/94	938.16	933.61	922.39	896.91	NT	918.21	937.68	933.56	910.27	923.10	907.90	896.79	901.66	Installed 2/96	Installed 2/96	Installed 2/96									
34409	3/16/94	938.79	934.94	923.90	897.04	932.73	918.39	938.46	934.13	910.94	926.53	908.50	896.92	902.05	Installed 2/96	Installed 2/96	Installed 2/96									
34454	4/30/94	938.79	933.28	922.40	897.04	932.59	916.56	938.37	933.73	910.34	923.26	908.80	896.90	901.02	Installed 2/96	Installed 2/96	Installed 2/96									
34471	5/17/94	939.09	933.74	922.68	896.98	931.65	915.45	938.52	933.75	910.54	924.47	908.54	896.82	NT	Installed 2/96	Installed 2/96	Installed 2/96									
34546	7/31/94	NT	931.38	918.76	897.23	931.62	916.31	939.13	933.41	909.82	919.63	907.45	897.11	901.98	Installed 2/96	Installed 2/96	Installed 2/96									
34569	8/23/94	938.79	932.73	918.24	897.10	931.87	916.53	938.16	934.01	909.94	919.23	907.24	896.92	901.90	Installed 2/96	Installed 2/96	Installed 2/96									
34593	9/16/94	938.85	933.12	918.94	897.14	931.95	916.56	938.50	934.13	910.04	919.03	907.12	896.98	901.90	Installed 2/96	Installed 2/96	Installed 2/96									
34628	10/21/94	938.79	932.48	917.78	896.84	931.81	916.51	938.78	934.31	908.98	918.81	906.90	896.68	901.90	Installed 2/96	Installed 2/96	Installed 2/96									
34659	11/21/94	937.84	931.40	917.44	896.46	931.01	915.99	938.62	933.41	909.86	918.55	906.86	896.34	901.70	Installed 2/96	Installed 2/96	Installed 2/96									
34690	12/22/94	937.69	933.43	NT	896.64	930.81	916.01	938.52	933.11	909.74	918.13	906.51	896.48	901.90	Installed 2/96	Installed 2/96	Installed 2/96									
34709	1/10/95	938.01	933.54	917.44	896.79	931.21	916.11	937.74	933.41	910.14	918.57	906.76	896.57	901.84	Installed 2/96	Installed 2/96	Installed 2/96									
34736	2/6/95	936.71	932.68	917.44	896.85	930.11	915.71	937.56	932.88	910.12	918.43	906.58	896.72	901.70	Installed 2/96	Installed 2/96	Installed 2/96									
34767	3/9/95	935.79	932.90	NT	896.74	929.21	915.33	936.92	932.44	909.89	918.33	906.56	896.60	901.70	Installed 2/96	Installed 2/96	Installed 2/96									
34803	4/14/95	936.79	939.40	925.24	897.34	930.56	915.86	939.72	934.71	910.99	925.73	906.88	897.17	902.60	Installed 2/96	Installed 2/96	Installed 2/96									
34821	5/2/95	937.39	939.58	927.34	897.31	932.01	916.11	939.81	935.26	911.79	926.53	907.86	897.13	902.90	Installed 2/96	Installed 2/96	Installed 2/96									
34852	6/2/95	937.64	934.38	925.44	897.14	932.51	916.23	938.42	933.86	910.95	923.18	908.66	897.02	902.20	Installed 2/96	Installed 2/96	Installed 2/96									
34934	8/23/95	937.39	930.38	919.14	897.14	930.74	915.91	938.17	933.66	909.94	919.83	907.21	896.97	901.70	Installed 2/96	Installed 2/96	Installed 2/96									
34954	9/12/95	936.72	929.36	918.54	896.67	929.67	915.51	937.11	932.76	909.39	919.53	906.94	896.78	901.64	Installed 2/96	Installed 2/96	Installed 2/96									
35003	10/31/95	935.74	928.18	Dry	896.84	927.01	914.71	937.12	932.21	908.79	918.43	906.26	896.72	901.45	Installed 2/96	Installed 2/96	Installed 2/96									
	11/20/95	935.57	928.01	Dry	896.68	927.11	914.53	936.87	932.51	908.79	918.23	906.26	896.52	901.75	Installed 2/96	Installed 2/96	Installed 2/96									
	12/7/95	935.24	927.88	Dry	896.64	927.11	913.91	936.85	932.26	908.62	917.98	906.01	896.45	901.80	Installed 2/96	Installed 2/96	Installed 2/96									
	1/3/96	934.19	927.78	Dry	896.56	NT	914.11	936.17	931.71	908.59	918.03	906.16	896.42	901.60	Installed 2/96	Installed 2/96	Installed 2/96									
	2/24/96	Plugged	930.68	Dry	896.94	Plugged	Plugged	938.02	932.61	909.24	917.98	906.06	896.77	901.90	Installed 2/96	Installed 2/96	Installed 2/96									
	3/22/96	Plugged	930.63	Dry	896.89	Plugged	Plugged	936.72	932.01	909.17	918.25	905.91	896.72	901.80	903.29	930.77	938.09									
	4/1/96	Plugged	NT	Dry	NT	Plugged	Plugged	NT	NT	NT	NT	NT	NT	NT	903.64	930.47	938.14									
	6/20/96	Plugged	937.78	Dry	897.64	Plugged	Plugged	940.37	934.81	910.34	927.03	907.63	897.47	902.25	903.99	932.01	940.94									
	9/12/96	Plugged	931.96	Dry	897.29	Plugged	Plugged	938.62	933.71	909.76	919.48	906.76	897.17	901.78	903.24	932.37	941.59									
	10/24/96	Plugged	930.58	Dry	897.29	Plugged	Plugged	938.22	933.41	909.76	920.03	906.46	897.12	901.70	903.34	932.49	941.19									
	11/18/96	Plugged	938.23	Dry	897.69	Plugged	Plugged	939.27	933.91	909.68	928.03	906.76	897.52	902.00	903.91	932.37	941.14									
	12/11/96	Plugged	936.03	Dry	897.39	Plugged	Plugged	938.94	934.21	911.04	926.83	907.81	897.22	901.80	903.64	932.42	941.14									
	01/29/97	Plugged	933.88	Dry	897.24	Plugged	Plugged	937.42	932.96	910.64	924.93	907.41	897.07	901.55	903.09	932.39	940.79									
	02/25/97	Plugged	936.23	Dry	897.39	Plugged	Plugged	937.57	932.86	910.54	923.08	907.26	897.22	901.88	903.67	931.62	940.14									
	03/17/97	Plugged	937.98	Dry	896.54	Plugged	Plugged			910.97	929.58	907.26	897.32	902.40	903.99	931.77	940.59									
	04/29/97	Plugged	934.78	Dry	897.54	Plugged	Plugged	938.62	933.91	912.04	928.13	908.56	897.37	902.10	903.79	932.47	941.49									
	05/22/97	Plugged	934.53	Dry	897.49	Plugged	Plugged	938.42	933.71	910.84	927.98	908.66	897.32	902.00	903.84	932.57	941.39									
	06/18/97	Plugged	933.08	Dry	897.29	Plugged	Plugged	938.37	933.61	910.39	924.13	908.26	897.12	901.80	903.59	932.55	941.59									
	07/18/97	Plugged	931.53	Dry	897.29	Plugged	Plugged	938.32	933.41	909.84	921.23	907.56	897.12	901.60	903.49	932.47	941.74									
	08/29/97	Plugged	929.43	Dry	897.10	Plugged	Plugged	937.82	933.01	909.19	919.63	906.86	896.92	901.50	903.04	932.42	941.64									
	09/01/97	Plugged	929.38	Dry	897.04	Plugged	Plugged	937.72	932.91	909.14	919.53	906.76	896.82	901.40	902.99	932.37	941.64									
	10/27/97	Plugged	928.28	Dry	897.14	Plugged	Plugged	938.12	933.11	908.74	918.53	906.06	896.97	901.50	903.99	932.22	940.99									
	11/20/97	Plugged	928.08	Dry	897.04	Plugged	Plugged	937.67	932.96	908.64	918.53	906.16	896.87	901.55	902.74	932.42	940.99									
	12/08/97	Plugged	928.68	Dry	897.04	Plugged	Plugged	937.87	933.06	908.74	918.43	906.06	896.92	901.90	902.79	932.42	940.99									
	01/13/98	Plugged	930.48	Dry	896.99	Plugged	Plugged	937.72	932.89	908.84	918.43	905.76	896.82	901.95	902.69	932.27	940.69									
	02/18/98	Plugged	934.13	Dry	897.44	Plugged	Plugged	938.82	933.11	909.44	919.57	906.16	897.32	902.50	904.19	932.07	940.49									
	03/05/98	Plugged	934.78	Dry	897.34	Plugged	Plugged	938.87	933.71	910.09	923.43	906.06	897.12	902.50	903.36	932.32	941.01									
	04/24/98	Plugged	937.03	925.94	897.74	Plugged	Plugged	939.52	934.71	911.24	927.83	907.86	897.62	902.50	903.74	933.09	942.69									
	05/18/98	Plugged	934.08	924.29	897.49	Plugged	Plugged	938.62	934.01	910.52	925.73	907.86	897.32	902.00	903.21	932.92	941.99									
	06/09/98	Plugged	934.38	922.34	897.89	Plugged	Plugged	938.82	934.11	910.14	930.93	907.66	897.72	901.90	904.29	933.12	942.19									
	07/23/98	Plugged	934.08	924.64	897.79	Plugged	Plugged	938.82	934.11	910.99	925.23	908.71	897.62	901.80	903.29	934.17	942.99									
	08/09/98	Plugged	932.78	922.24	897.69	Plugged	Plugged	938.62	934.11	910.54	922.53	908.26	897.52	901.75	903.19	933.77	942.59									
	09/23/98	Plugged		Dry		Plugged	Plugged	938.02	933.51	945.54																
	10/23/98	Plugged	928.98	917.14	897.34	Plugged	Plugged	938.02	933.61	909.14	919.03	906.46	897.22	901.50	902.59	932.52	941.29									
	12/26/98	Plugged	928.80	Dry	897.09	Plugged	Plugged	937.42	933.11	907.84	919.43	907.36	896.92	901.40	902.59	932.47	940.79									
	01/08/99	Plugged	928.58	Dry	896.94	Plugged	Plugged	937.02	932.63	907.84	919.03	906.96	896.77	901.30	902.39	932.52	940.39									
	03/21/99	Plugged	931.03	Dry	897.24	Plugged	Plugged	938.82	933.61	908.29	922.43	906.31	897.10	902.20	902.74	932.57	940.74									
	09/19/99	Plugged	930.53	Dry	897.19	Plugged	Plugged	939.02	933.71	909.14	919.13	906.46	897.02	901.20	902.69	933.17	942.09									
	03/10/2000	Plugged	927.63	Dry	896.82	Plugged	Plugged	936.97	931.66	907.09	917.33	905.46	896.67	902.10	902.89	932.02	939.79									
	06/20/2000	Plugged	NT	NT	NT	Plugged	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	907.59	915.23	922.27	915.86	918.84	921.43	931.78	917.81	905.06
	09/25/2000	Plugged	923.68	916.94	896.47	Plugged	Plugged	938.02	931.61	905.84	916.68	904.06	896.62	901.00	901.79	931.97	940.41	913.64	916.28	919.47	914.56	918.32	919.98	931.73	917.76	905.31
	12/26/2000	Plugged	NT	NT	906.34	Plugged	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	910.24	914.51	920.29	914.96	918.94	920.73	931.33	917.61	905.11
	03/05/2001	Plugged	933.79	922.31	896.84	Plugged	Plugged	938.77	932.06	907.17	919.00	904.18	897.12	903.30	903.69	931.72	940.89	915.49	918.53	924.77	916.51	921.15	924.28	932.08	917.01	905.21
	09/02/2001	Plugged	930.78	Dry	897.09	Plugged	Plugged	940.02	932.81	908.14	918.63	905.16	896.92	901.45	903.19	933.22	941.69	915.79	917.53	921.52	915.66	920.04	922.68	933.08	919.27	906.71
	03/15/2002	Plugged	927.15	Dry	896.59	Plugged	Plugged	937.67	931.62	907.17	917.49	904.88	896.72	902.81	902.78	931.65	939.75	915.23	916.17	925.07	916.72	922.89	920.44	932.73	919.12	906.32
	09/19/2002	Plugged	929.10	Dry	896.67	Plugged	Plugged	939.76	932.56	907.86	918.22	904.51	896.51	901.69	902.68	933.04	941.43	922.74	924.85	923.32	916.05	920.29	922.51	934.38	920.29	907.38
	03/12/2003	Plugged	924.90	Dry	896.57	Plugged	Plugged	936.29	930.82	906.34	916.92	904.68	896.41	901.37	902.91	930.79	938.89	918.24	919.46	922.37	914.98	919.14	921.59	932.46	919.09	906.23
	05/16/2003	Plugged	930.18	Dry	897.44	Plugged	Plugged	939.12	932.61	908.04	927.18	904.66	897.22	903.60	903.39	931.47	940.09	920.59	921.63	926.67	917.36	922.04	925.18	934.43	919.81	906.66
	09/25/2003	Plugged	927.87	Dry	896.45	Plugged	Plugged	938.62	932.39	907.48	918.18	904.31	896.28	901.86	902.79	932.61	940.89	916.70	917.61	922.18	915.77	919.05	921.15	933.60	920.05	906.91

	MW 22	MW 23	MW 24	MW 25	MW 26	MW 27	MW28	MW29	MW 30	MW 31	MW 32	MW 33	MW 34	MW 35	MW 36	MW 37	MW38	MW 39	MW 40	MW 41	MW 42	MW 43	MW 6	MW 7	MW 8
TOP PVC ELEV.	950.59	945.98	939.44	906.34	950.51	950.51	946.02	945.61	945.54	941.43	939.86	906.32	909.50	916.19	948.97	949.49	936.59	935.93	933.07	933.46	940.64	940.83	942.88	943.21	942.76
DATE																									
4/22/91	4.85	8.79	13.15	7.71	8.45	27.61	NT	NT	33.75	19.95	30.89	7.86	9.64	NT	NT	NT									
5/21/91	4.90	8.87	13.21	7.79	8.47	27.67	NT	NT	33.83	20.04	30.95	7.90	9.68	NT	NT	NT									
6/25/91	5.30	10.49	16.20	8.10	10.17	27.72	NT	NT	34.00	20.41	31.22	8.23	9.94	NT	NT	NT									
7/05/91	6.60	13.42	20.08	8.42	13.03	28.19	NT	NT	34.15	21.03	31.46	8.52	10.08	NT	NT	NT									
8/31/91	7.02	13.56	20.80	8.63	13.15	28.35	NT	NT	34.30	21.72	31.59	8.72	10.30	NT	NT	NT									
9/10/91	7.91	16.01	22.56	8.80	15.92	29.60	NT	NT	35.50	22.10	32.21	8.95	10.52	NT	NT	NT									
10/14/91	9.22	20.17	22.56	9.37	20.27	31.36	NT	NT	36.85	23.30	33.19	9.50	10.73	NT	NT	NT									
11/29/91	7.50	19.63	22.56	8.95	16.33	31.00	NT	NT	36.53	23.73	33.26	9.05	9.37	NT	NT	NT									
12/31/91	7.83	18.34	22.56	9.31	15.5	30.73	NT	NT	36.25	24.26	33.3	9.42	8.64	NT	NT	NT									
1/21/92	7.83	17.33	22.56	9.06	14.59	30.51	NT	NT	35.99	24.16	33.12	9.2	8.38	NT	NT	NT									
2/17/92	8.62	16.85	22.56	9.05	14.79	30.44	NT	NT	35.85	24.32	33.1	9.16	8.5	NT	NT	NT									
3/19/92	7	14.27	15.29	8.52	11.78	29.49	NT	NT	35.24	23.98	32.05	8.63	7.6	NT	NT	NT									
4/22/92	6.7	13.43	13.29	7.87	11.29	28.91	NT	NT	34.89	21.49	31.4	7.97	6.46	NT	NT	NT									
5/30/92	8.42	13.13	16.46	8.54	12.51	28.76	NT	NT	34.71	22.82	31.19	8.65	7.66	NT	NT	NT									
6/30/92	9.04	15.72	20.41	8.71	13.51	29.32	NT	NT	35.46	22.84	31.75	8.82	8.65	NT	NT	NT									
7/28/92	6.6	16.05	21.68	8.01	11.15	29.7	NT	NT	35.51	22.76	32.25	8.2	7.71	NT	NT	NT									
8/22/92	7.38	15.56	19.91	8.5	11.59	29.86	NT	NT	35.3	23.09	32.23	8.61	8.25	NT	NT	NT									
9/30/92	9.44	17.78	20	8.73	13.25	30.98	NT	NT	36.15	23.54	32.83	8.82	9.19	NT	NT	NT									
10/29/92	10.33	18.86	22.56	8.80	14.36	31.03	NT	NT	36.66	23.78	33.12	8.90	10.00	NT	NT	NT									
11/25/92	9.65	17.97	22.56	8.67	13.26	30.84	NT	NT	36.35	23.96	33.23	8.80	8.27	NT	NT	NT									
12/10/92	9.38	17.75	22.56	8.93	13.67	30.74	NT	NT	36.23	23.83	33.12	8.99	8.56	NT	NT	NT									
1/30/93	9.26	17.69	22.56	8.95	13.75	30.63	NT	NT	36.17	23.79	33.01	9.01	8.61	NT	NT	NT									
2/22/93	11.04	16.70	22.56	9.12	15.35	31.28	NT	NT	35.90	23.97	33.16	9.26	8.37	NT	NT	NT									
3/4/93	11.14	16.74	22.56	8.76	15.58	31.36	6.70	10.80	36.04	23.96	33.20	8.90	7.54	NT	NT	NT									
4/27/93	8.80	9.58	11.78	8.50	11.40	30.24	5.34	8.60	34.24	20.40	31.20	8.64	6.74	NT	NT	NT									
5/27/93	8.27	10.10	11.28	8.14	11.84	29.80	4.90	9.00	33.90	17.24	30.10	8.26	6.20	NT	NT	NT									
6/30/93	8.22	10.64	12.34	7.94	12.40	29.57	4.90	9.10	33.70	16.80	29.90	8.04	6.60	NT	NT	NT									
7/27/93	7.94	9.24	10.84	8.54	12.26	29.38	5.04	8.20	33.20	15.86	28.78	8.60	6.50	NT	NT	NT									
8/30/93	8.02	9.48	11.40	8.68	12.80	29.60	4.80	7.90	33.10	13.84	29.80	8.80	6.84	NT	NT	NT									
9/21/93	8.75	11.60	14.43	9.02	13.72	29.84	5.20	8.20	33.14	18.38	30.30	8.92	7.72	NT	NT	NT									
10/25/93	9.14	11.85	15.04	9.05	14.35	30.30	5.95	9.35	33.30	17.55	30.50	9.16	8.05	NT	NT	NT									
11/22/93	10.20	12.72	16.34	9.26	15.36	30.90	7.20	10.56	34.14	19.80	31.00	9.36	8.12	NT	NT	NT									
12/14/93	10.9	13.30	17.54	9.34	15.96	31.04	7.48	11.16	34.42	20.34	31.24	9.48	8.22	NT	NT	NT									
1/31/94	11.96	14.18	19.18	9.55	16.98	32.00	8.90	12.54	35.22	21.56	32.00	9.6	8.53	NT	NT	NT									
2/28/94	12.43	12.37	17.05	9.43	NT	32.30	8.34	12.05	35.27	18.33	31.96	9.53	7.84	NT	NT	NT									
3/16/94	11.8	11.04	15.54	9.30	17.78	32.12	7.56	11.48	34.60	14.90	31.36	9.40	7.45	NT	NT	NT									
4/30/94	11.80	12.70	17.04	9.30	17.92	33.95	7.65	11.88	35.20	18.17	31.06	9.42	8.48	NT	NT	NT									
5/17/94	11.5	12.24	16.76	9.36	18.86	35.06	7.5	11.86	35	16.96	31.32	9.5	NT	NT	NT	NT									
7/31/94	NT	14.6	20.68	9.11	18.89	34.2	6.89	12.2	35.72	21.8	32.41	9.21	7.52	NT	NT	NT									
8/23/94	11.8	13.25	21.2	9.24	18.64	33.98	7.86	11.6	35.6	22.2	32.62	9.4	7.6	NT	NT	NT									
9/16/94	11.74	12.86	20.5	9.2	18.56	33.95	7.52	11.48	35.5	22.4	32.74	9.34	7.6	NT	NT	NT									
10/21/94	11.8	13.5	21.66	9.5	18.7	34	7.24	11.3	36.56	22.62	32.96	9.64	7.6	NT	NT	NT									
11/21/94	12.75	14.58	22	9.88	19.5	34.52	7.4	12.2	35.68	22.88	33	9.98	7.8	NT	NT	NT									
12/22/94	12.9	12.55	NT	9.7	19.7	34.5	7.5	12.5	35.8	23.3	33.35	9.84	7.6	NT	NT	NT									
1/10/95	12.58	12.44	22	9.55	19.3	34.4	8.28	12.2	35.4	22.86	33.1	9.75	7.66	NT	NT	NT									
2/6/95	13.88	13.3	22	9.49	20.4	34.8	8.46	12.73	35.42	23	33.28	9.6	7.8	NT	NT	NT									
3/9/95	14.8	13.08	NT	9.6	21.3	35.18	9.1	13.17	35.65	23.1	33.3	9.72	7.8	NT	NT	NT									
4/14/95	13.8	6.58	14.2	9	19.95	34.65	6.3	10.9	34.55	15.7	32.98	9.15	6.9	NT	NT	NT									
5/2/95	13.2	6.4	12.1	9.03	18.5	34.4	6.21	10.35	33.75	14.9	32	9.19	6.6	NT	NT	NT									
6/2/95	12.95	11.6	14	9.2	18	34.28	7.6	11.75	34.59	18.25	31.2	9.3	7.3	NT	NT	NT									
8/23/95	13.2	15.6	20.3	9.2	19.77	34.6	7.85	11.95	35.6	21.6	32.65	9.35	7.8	NT	NT	NT									
9/12/95	13.87	16.62	20.9	9.67	20.84	35	8.91	12.85	36.15	21.9	32.92	9.54	7.86	NT	NT	NT									
10/31/95	14.85	17.8	Dry	9.5	23.5	35.8	8.9	13.4	36.75	23	33.6	9.6	8.05	NT	NT	NT									
11/20/95	15.02	17.97	Dry	9.66	23.4	35.98	9.15	13.1	36.75	23.2	33.6	9.8	7.75	NT	NT	NT									
12/7/95	15.35	18.1	Dry	9.7	23.4	36.6	9.17	13.35	36.92	23.45	33.85	9.87	7.7	NT	NT	NT									
1/3/96	16.4	18.2	Dry	9.78	NT	36.4	9.85	13.9	36.95	23.4	33.7	9.9	7.9	NT	NT	NT									
2/24/96	Plugged	15.3	Dry	9.4	Plugged	Plugged	8	13	36.3	23.45	33.8	9.55	7.6	NT	NT	NT									
3/22/96	Plugged	15.35	Dry	9.45	Plugged	Plugged	9.3	13.6	36.37	23.18	33.95	9.6	7.7	12.9	18.2	11.4									
4/1/96	Plugged	NT	Dry	NT	Plugged	Plugged	NT	NT	NT	NT	NT	NT	NT	12.55	18.5	11.35									
6/20/96	Plugged	8.2	Dry	8.7	Plugged	Plugged	5.65	10.8	35.2	14.4	32.23	8.85	7.25	12.2	16.96	8.55									
9/12/96	Plugged	14.02	Dry	9.05	Plugged	Plugged	7.4	11.9	35.78	21.95	33.1	9.15	7.72	12.95	16.6	7.9									
10/24/96	Plugged	15.4	22.1	9.05	Plugged	Plugged	7.8	12.2	35.78	21.4	33.4	9.2	7.8	12.85	16.48	8.3									
11/18/96	Plugged	7.75	21.82	8.65	Plugged	Plugged	6.75	11.7	35.86	13.4	33.1	8.8	7.5	12.28	16.6	8.35									
12/11/96	Plugged	9.95	17.48	8.95	Plugged	Plugged	7.08	11.4	34.5	14.6	32.05	9.1	7.7	12.55	16.55	8.35									
01/29/97	Plugged	12.1	18.6	9.1	Plugged	Plugged	8.6	12.65	34.9	16.5	32.45	9.25	7.95	13.1	16.58	8.7									
02/25/97	Plugged	9.75	19.85	8.95	Plugged	Plugged	8.45	12.75	35	18.35	32.6	9.1	7.62	12.52	17.35	9.35									
03/17/97	Plugged	8	15.35	9.8	Plugged	Plugged			34.57	11.85	32.6	9	7.1	12.2	17.2	8.9									
04/29/97	Plugged	11.2	13.8	8.8	Plugged	Plugged	7.4	11.7	33.5	13.3	31.3	8.95	7.4	12.4	16.5	8									
05/22/97	Plugged	11.45	13.1	8.85	Plugged	Plugged	7.6	11.9	34.7	13.45	31.2	9	7.5	12.35	16.4	8.1									
06/18/97	Plugged	12.9	15.9	9.05	Plugged	Plugged	7.65	12	35.15	17.3	31.6	9.2	7.7	12.6	16.42	7.9									
07/18/97	Plugged	14.45	19.2	9.05	Plugged	Plugged	7.7	12.2	35.7	20.2	32.3	9.2	7.9	12.7	16.5	7.75									
08/29/97	Plugged	16.55	21.1	9.24	Plugged	Plugged	8.2	12.6	36.35	21.8	33	9.4	8	13.15	16.55	7.85									
09/01/97	Plugged	16.6	21.1	9.3	Plugged	Plugged	8.3	12.7	36.4	21.9	33.1	9.5	8.1	13.2	16.6	7.85									
10/27/97	Plugged	17.7	dry	9.2	Plugged	Plugged	7.9	12.5	36.8	22.9	33.8	9.35	8	12.2	16.75	8.5									
11/20/97	Plugged	17.9	dry	9.3	Plugged	Plugged	8.35	12.65	36.9	22.9	33.7	9.45	7.95	13.45	16.55	8.5									
12/08/97	Plugged	17.3	dry	9.3	Plugged	Plugged	8.15	12.55	36.8	23	33.8	9.4	7.6	13.4	16.55	8.5									
01/13/98	Plugged	15.5	dry	9.35	Plugged	Plugged	8.3	12.72	36.7	23	34.1	9.5	7.55	13.5	16.7	8.8									
02/18/98	Plugged	11.85	dry	8.9	Plugged	Plugged	7.2	12.5	36.1	21.86	33.7	9	7	12	16.9	9									
03/05/98	Plugged	11.2	dry	9	Plugged	Plugged	7.15	11.9	35.45	18	33.8	9.2	7	12.83	16.65	8.48									
04/24/98	Plugged	8.95	13.5	8.6	Plugged	Plugged	6.5	10.9	34.3	13.6	32	8.7	7	12.45	15.88	6.8									
05/18/98	Plugged	11.9	15.15	8.85	Plugged	Plugged	7.4	11.6	35.02	15.7	32	9	7.5	12.98	16.05	7.5									
06/09/98	Plugged	11.6	17.1	8.45	Plugged	Plugged	7.2	11.5	35.4	10.5	32.2	8.6	7.6	11.9	15.85	7.3									
07/23/98	Plugged	11.9	14.8	8.55	Plugged	Plugged	7.2	11.5	34.55	16.2	31.15	8.7	7.7	12.9	14.8	6.5									
08/09/98	Plugged	13.2	17.2	8.65	Plugged	Plugged	7.4	11.5	35	18.9	31.6	8.8	7.75	13	15.2	6.9									
09/23/98	Plugged		dry		Plugged	Plugged	8	12.1																	
10/23/98	Plugged	17	22.3	9	Plugged	Plugged	8	12	36.4	22.4	33.4	9.1	8	13.6	16.45	8.2									
12/26/98	Plugged	17.18	Dry	9.25	Plugged	Plugged	8.6	12.5	37.7	22	32.5	9.4	8.1	13.6	16.5	8.7									
01/08/99	Plugged	17.4	Dry	9.4	Plugged	Plugged	9	12.98	37.7	22.4	32.9	9.55	8.2	13.8	16.45	9.1									
03/21/99	Plugged	14.95	Dry	9.1	Plugged	Plugged	7.2	12	37.25	19	33.55	9.22	7.3	13.45	16.4	8.75									
09/19/99	Plugged	15.45	22.1	9.15	Plugged	Plugged	7	11.9	36.4	22.3	33.4	9.3	8.3	13.5	15.8	7.4									
03/10/2000	Plugged	18.35	Dry	9.52	Plugged	Plugged	9.05	13.95	38.45	24.1	34.4	9.65	7.4	13.3	16.95	9.7									
06/20/2000	Plugged	NT	NT	NT	Plugged	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	29	20.7	10.8	17.6	21.8	19.4	11.1	25.4	37.7
09/25/2000	Plugged	22.3	22.5	9.87	Plugged	Plugged	8	14	39.7	24.75	35.8	9.7	8.5	14.4	17	9.08	22.95	19.65	13.6	18.9	22.32	20.85	11.15	25.45	37.45
12/26/2000	Plugged	NT	NT	NT	Plugged	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	26.35	21.42	12.78	18.5	21.7	20.1	11.55	25.6	37.65
03/05/2001	Plugged	12.19	17.13	9.5	Plugged	Plugged	7.25	13.55	38.37	22.43	35.68	9.2	6.2	12.5	17.25	8.6	21.1	17.4	8.3	16.95	19.49	16.55	10.8	26.2	37.55
09/02/2001	Plugged	15.2	DRY	9.25	Plugged	Plugged	6	12.8	37.4	22.8	34.7	9.4	8.05	13	15.75	7.8	20.8	18.4	11.55	17.8	20.6	18.15	9.8	23.94	36.05
03/15/2002	Plugged	18.83	Dry	9.75	Plugged	Plugged	8.35	13.99	38.37	23.94	34.98	9.6	6.69	13.41	17.32	9.74	21.36	19.76	8	16.74	17.75	20.39	10.15	24.09	36.44
09/19/2002	Plugged	16.88	DRY	9.67	Plugged	Plugged	6.26	13.05	37.68	23.21	35.35	9.81	7.81	13.51	15.93	8.06	13.85	11.08	9.75	17.41	20.35	18.32	8.5	22.92	35.38
03/12/2003	Plugged	21.08	Dry	9.77	Plugged	Plugged	9.73	14.79	39.2	24.51	35.18	9.91	8.13	13.28	18.18	10.6	18.35	16.47	10.7	18.48	21.5	19.24	10.42	24.12	36.53
05/16/2003	Plugged	6.8	DRY	8.9	Plugged	Plugged	6.9	13	37.5	14.25	35.2	9.1	5.9	12.8	17.5	9.4	16	14.3	6.4	16.1	18.6	15.65	8.45	23.4	36.1
09/25/2003	Plugged	18.11	DRY	9.89	Plugged	Plugged	7.4	13.22	38.06	23.25	35.55	10.04	7.64	13.4	16.36	8.6	19.89	18.32	10.89	17.69	21.59	19.68	9.28	23.16	35.85

FOX ENGINEERING, ASSOCIATES
1601 Golden Aspen Drive, Suite 103
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Fax: (515) 296-7740

LOG OF TEST BORING

Drillers: Rewerts Boring No.: LPZ-T1-1 FOX Inspector: TDW
FOX Project No.: 2562-97A.700

Date Drilled: 5-27-03
Surface Elevation: 923.85'
Depth Drilled: 17.0'
Drilling Method: Hollow Stem Auger
Depth to Water _____ ft @ completion (▽), _____ ft @ _____ hrs. (▼), _____ ft @ _____ hrs.

Project: Ames-Story Enviromental Landfill
Ames, Iowa
85-SDP-13-91P

Depth ft	WELL DETAIL	Sample No.	Sample Type	Recovery	MC %	COLOR	ELEV	Soil Description
2	Bentonite	No Sample			Damp	Brown		Cap Soil (No Sample)
4								
6								C & D Waste: Wood & Rock
8								
10		1	SS	6"				
12	Sand	2	SS	3"		Black		
14	Bentonite	3	SS	12"		Brown & Gray		Silty Clay (Liner)
16								End Augers @ 17' End SS @ 17'
18								
20								
22								
24								
26								

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LOG OF TEST BORING

Drillers: Rewerts Boring No.: LPZ-T2-1 FOX Inspector: TDW
FOX Project No.: 2562-97A.700

Date Drilled: 5-22-03
Surface Elevation: 928.62'
Depth Drilled: 25.0'
Drilling Method: Hollow Stem Auger
Depth to Water: ____ ft @ completion (▽), ____ ft @ ____ hrs. (▼), ____ ft @ ____ hrs.

Project: Ames-Story Enviromental Landfill
Ames, Iowa
85-SDP-13-91P

Depth ft	WELL DETAIL	Sample No.	Sample Type	Recovery	MC %	COLOR	ELEV	Soil Description
						Brown		Cap Soil (No Sample)
5		No Sample						
10	Bentonite	1	SS	3"	Damp			C & D Waste: Wood & Concrete
		2	SS	4"				
15	Sand	3	SS	3"		Black		
	Bentonite	4	SS	0"		Brown & Gray with Rust		Silty Clay (Liner)
20		5	SS	4"				End Augers @ 22.5'
		6	SS	12"				
25								End SS @ 25.0'
30								

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LOG OF TEST BORING

Drillers: Rewerts Boring No.: LPZ-T3-1 FOX Inspector: TDW
FOX Project No.: 2562-97A.700

Date Drilled: 5-22-03
Surface Elevation: 921.72'
Depth Drilled: 17.5'
Drilling Method: Hollow Stem Auger
Depth to Water: ____ ft @ completion (▽), ____ ft @ ____ hrs. (▼), ____ ft @ ____ hrs.

Project: Ames-Story Enviromental Landfill
Ames, Iowa
85-SDP-13-91P

Depth ft	WELL DETAIL	Sample No.	Sample Type	Recovery	MC %	COLOR	ELEV	Soil Description
2, 4		No Sample			Damp			Cap Soil (No Sample)
6	Bentonite	1	SS	0"		Black		C & D Waste: Shingles, Wood, & Black Clays
8		2	SS	6"				
10	Sand				Wet			
12	Bentonite	3	SS	2"	Moist	Brown		Silty Clay (Liner)
14		4	SS	8"				Drainage Fabric
						Gray		Silty Clay
								End Augers @ 15'
16		5	SS	18"				
								End SS @ 17.5'
18, 20, 22, 24, 26								

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LOG OF TEST BORING

Drillers: Rewerts Boring No.: LPZ-T4-1 FOX Inspector: TDW
FOX Project No.: 2562-97A.700

Date Drilled: 5-22-03
Surface Elevation: 919.31'
Depth Drilled: 12.0'
Drilling Method: Hollow Stem Auger
Depth to Water _____ ft @ completion (▽), _____ ft @ _____ hrs.(▼), _____ ft @ _____ hrs.

Project: Ames-Story Enviromental Landfill
Ames, Iowa
85-SDP-13-91P

Depth ft	WELL DETAIL	Sample No.	Sample Type	Recovery	MC %	COLOR	ELEV	Soil Description
1	Bentonite	No Sample						Cop Soil (No Sample)
2								
3								
4								
5		1	SS	4"	Damp	Black		C & D Waste: Wood, Plastic & Foam
6								
7	Sand	2	SS	4"	Wet			
8	Bentonite							
9		3	SS	6"	Damp	Brown		Silty Clay (Liner)
10								End Augers @ 10'
11		4	SS	10"				
12								End SS @ 12'
13								

MONITORING WELL/PIEZOMETER CONSTRUCTION
DOCUMENTATION FORM

Disposal site name: Ames-Story Environmental Landfill — Permit # 85 SDP 13 - 91 P
Well or Piezometer #: LPZ-T1-1 — Date Started: 5-27-2003 — Date Completed: 5-27-2003

A. Surveyed Locations and Elevations

Location (+/0.5 ft):
Specify corner of site: North end trench #1
Distance and direction along boundary: N=10786.04 E=9569.98
Distance and direction from boundary to well:

Elevations (+/0.01 ft. MSL):
Ground surface: 924.1
Top of protective casing: N/A
Benchmark elevation: 955.9
Benchmark description: Fire hydrant on Watt St. near Dayton Rd.

B. Soil Boring Information

Name and address of construction company
Rewerts Well Company
Nevada, Iowa

Name of driller: Chris & Brad
Drilling method: HSA (hollow stem auger)
Drilling fluid: N/A
Bore hole diameter: 8 1/4"
Soil sampling method: continuous split spoon
Depth of boring: 17

C. Monitoring Well Installation

Casing material: PVC
Length of casing: 15 ft
Outside casing diameter: 2.37"
Inside casing diameter: 2.00"
Casing joint type: Threaded
Casing/screen joint type: Threaded
Screen material: PVC
Screen opening size: 0.010"
Screen length: 1.0 ft
Depth of well: 16.0 ft

Well Installation, continued:

Filter pack:
Material: Silica sand
Grain size: #2
Volume: 0.35 cubic ft

Seal (minimum 3 ft. lenth above) filter pack:
Material: 3/8" bentonite chips
Placement method: poured through HSA
Volume: 4.55 cubic ft

Backfill (if different from seal):
Material: same
Placement method:
Volume:

Surface seal design:
Material of protective casing: PVC
Material of grout between protective casing and well casing: Bentonite
Protective cap:
Material: N/A
Vented? X Yes ___ No
Locking? X Yes ___ No
Well cap:
Material: Expandable
Vented? ___ Yes X No

D. Groundwater Measurement

Water level (+/0.01 ft. below top of inner well casing): Dry @ 16 ft
Stabilization time: 24 hours
Well development method: Hand bailed

Upgradient Well X Downgradient Well
(See piezometric map from Hydrogeolic study)
Average depth of frostline: N/A

Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing location of all monitoring wells and piezometers.

WELL OR PIEZOMETER# LP2-T1-1

ELEVATION: +/0.01 FT. MSL
DEPTHS: +/0.1 FT. FROM
GROUND SURFACE

TOP OF PROTECTIVE CASING
ELEVATION N/A

TOP OF WELL CASING
ELEVATION 925.85

GROUND SURFACE
ELELVATIOI 924.1 (8-22-03)
923.85 (5-27-03)

TOP OF BACKFILL
BASE OF CONCRETE PLUG
AND BENTONITE GROUT
ELEVATION N/A
DEPTH

BASE OF PROTECTIVE
CASING
ELEVATION N/A
DEPTH

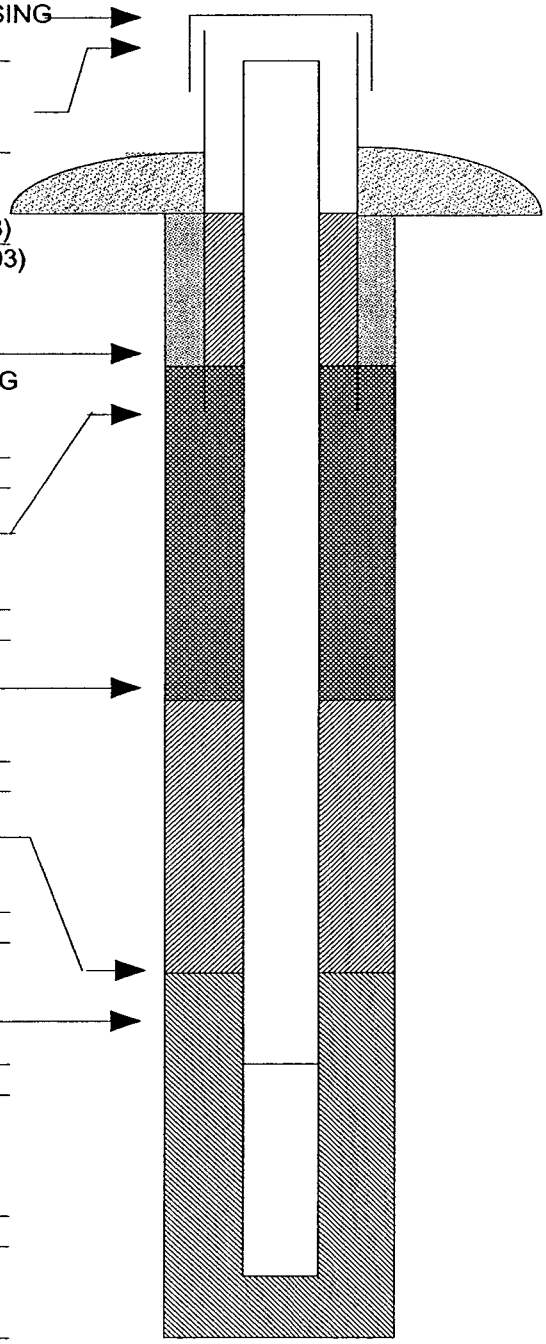
TOP OF SEAL
ELEVATION 924.1
DEPTH 0

TOP OF FILTER PACK
BASE OF SEAL
ELEVATION 910.85
DEPTH 13.0

TOP OF SCREEN
ELEVATION 910.85
DEPTH 13.0

BOTTOM OF SCREEN
ELEVATION 909.85
DEPTH 14.0

BASE OF FILTER PACK
ELEVATION 909.85
DEPTH 14.0



MONITORING WELL/PIEZOMETER CONSTRUCTION
DOCUMENTATION FORM

Disposal site name: Ames-Story Environmental Landfill — Permit # 85 SDP 13 - 91 P
Well or Piezometer #: LPZ-T2-1 — Date Started: 5-22-2003 — Date Completed: 5-22-2003

A. Surveyed Locations and Elevations

Location (+/0.5 ft):
Specify corner of site: North end trench #2
Distance and direction along boundary: N=10779.62 E=9697.38
Distance and direction from boundary to well:

Elevations (+/0.01 ft. MSL):
Ground surface: 930.7
Top of protective casing: N/A
Top of well casing: 932.6
Benchmark elevation: 955.9
Benchmark elevation: Fire Hydrant on Watt St. near Dayton Rd.

B. Soil Boring Information

Name and address of construction company
Rewerts Well Company
Nevada, Iowa

Name of driller: Chris & Brad
Drilling method: HSA (hollow stem auger)
Drilling fluid: N/A
Bore hole diameter: 8 1/4"
Soil sampling method: continuous split spoon
Depth of boring: 25'

C. Monitoring Well Installation

Casing material: PVC
Length of casing: 20 ft
Outside casing diameter: 2.37"
Inside casing diameter: 2.00"
Casing joint type: Threaded
Casing/screen joint type: Threaded
Screen material: PVC
Screen opening size: 0.010"
Screen length: 1.0 ft
Depth of well: 21.0 ft

Well Installation, continued:

Filter pack:
Material: Silica sand
Grain size: #2
Volume: 0.35 cubic ft

Seal (minimum 3 ft. lenth above) filter pack:
Material: 3/8" bentonite chips
Placement method: poured through HSA
Volume: 5.6 cubic ft

Backfill (if different from seal):
Material: same
Placement method:
Volume:

Surface seal design:
Material of protective casing: PVC
Material of grout between protective casing and well casing: Bentonite
Protective cap:
Material: N/A
Vented? X Yes ___ No
Locking? X Yes ___ No
Well cap:
Material: Expandable
Vented? ___ Yes X No

D. Groundwater Measurement

Water level (+/0.01 ft. below top of inner well casing): Dry @ 21 ft
Stabilization time: 24 hours
Well development method: Hand bailed

___ Upgradient Well X Downgradient Well
(See piezometric map from Hydrogeolic study)
Average depth of frostline: N/A

Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing location of all monitoring wells and piezometers.

WELL OR PIEZOMETER# LPZ-T2-1

ELEVATION: +/0.01 FT. MSL
DEPTHS: +/0.1 FT. FROM
GROUND SURFACE

TOP OF PROTECTIVE CASING
ELEVATION N/A

TOP OF WELL CASING
ELEVATION 932.62

GROUND SURFACE
ELELVATIOI 930.74 (8-22-03)
928.62 (5-27-03)

TOP OF BACKFILL
BASE OF CONCRETE PLUG
AND BENTONITE GROUT
ELEVATION N/A
DEPTH

BASE OF PROTECTIVE
CASING
ELEVATION N/A
DEPTH

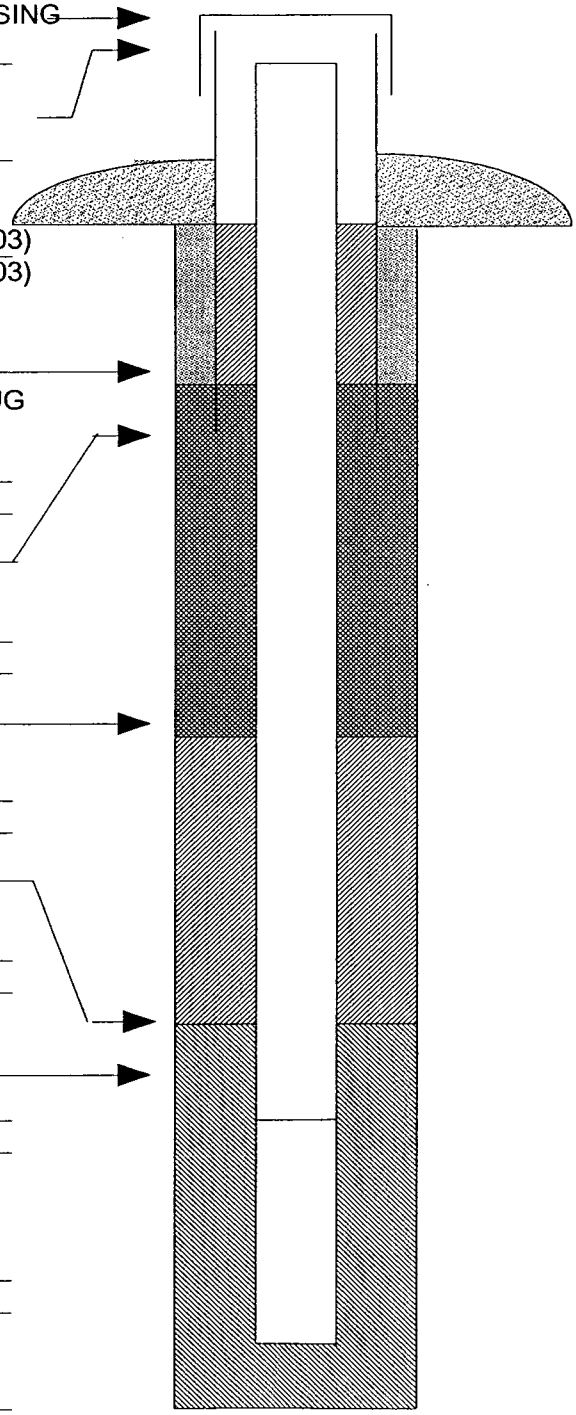
TOP OF SEAL
ELEVATION 930.74
DEPTH 0

TOP OF FILTER PACK
BASE OF SEAL
ELEVATION 912.62
DEPTH 16.0 ft

TOP OF SCREEN
ELEVATION 912.62
DEPTH 16.0 ft

BOTTOM OF SCREEN
ELEVATION 911.62
DEPTH 17.0 ft

BASE OF FILTER PACK
ELEVATION 911.62
DEPTH 17.0 ft



MONITORING WELL/PIEZOMETER CONSTRUCTION
DOCUMENTATION FORM

Disposal site name: Ames-Story Environmental Landfill — Permit # 85 SDP 13 - 91 P
Well or Piezometer #: LPZ-T3-1 — Date Started: 5-22-2003 — Date Completed: 5-22-2003

A. Surveyed Locations and Elevations

Location (+/0.5 ft):
Specify corner of site: North end trench #3
Distance and direction along boundary: N=10799.63 E=9789.32
Distance and direction from boundary to well:

Elevations (+/0.01 ft. MSL):
Ground surface: 921.6
Top of protective casing: N/A
Top of well casing: 922.7
Benchmark elevation: 955.9
Benchmark elevation: Fire Hydrant on Watt St. near Dayton Rd.

B. Soil Boring Information

Name and address of construction company
Rewerts Well Company
Nevada, Iowa

Name of driller: Chris & Brad
Drilling method: HSA (hollow stem auger)
Drilling fluid: N/A
Bore hole diameter: 8 1/4"
Soil sampling method: continuous split spoon
Depth of boring: 17.5'

C. Monitoring Well Installation

Casing material: PVC
Length of casing: 10'
Outside casing diameter: 2.37"
Inside casing diameter: 2.00"
Casing joint type: Threaded
Casing/screen joint type: Threaded
Screen material: PVC
Screen opening size: 0.010"
Screen length: 1.0 ft
Depth of well: 11.0 ft

Well Installation, continued:

Filter pack:
Material: Silica sand
Grain size: #2
Volume: 0.35 cubic ft

Seal (minimum 3 ft. lenth above) filter pack:
Material: 3/8" bentonite chips
Placement method: poured through HSA
Volume: 3.1 cubic ft

Backfill (if different from seal):
Material: same
Placement method:
Volume:

Surface seal design:
Material of protective casing: PVC
Material of grout between protective casing and well casing: Bentonite
Protective cap:
Material: N/A
Vented? X Yes ___ No
Locking? X Yes ___ No
Well cap:
Material: Expandable
Vented? ___ Yes X No

D. Groundwater Measurement

Water level (+/0.01 ft. below top of inner well casing): 10.4'
Stabilization time: 24 hours
Well development method: Hand bailed

___ Upgradient Well X Downgradient Well
(See piezometric map from Hydrogeolic study)
Average depth of frostline: N/A

Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing location of all monitoring wells and piezometers.

WELL OR PIEZOMETER# LP2-T3-1

ELEVATION: +/0.01 FT. MSL
DEPTHS: +/0.1 FT. FROM
GROUND SURFACE

TOP OF PROTECTIVE CASING
ELEVATION N/A

TOP OF WELL CASING
ELEVATION 922.72

GROUND SURFACE
ELELVATIOI 921.58 (8-22-03)
921.72 (5-27-03)

TOP OF BACKFILL
BASE OF CONCRETE PLUG
AND BENTONITE GROUT
ELEVATION N/A
DEPTH

BASE OF PROTECTIVE
CASING
ELEVATION N/A
DEPTH

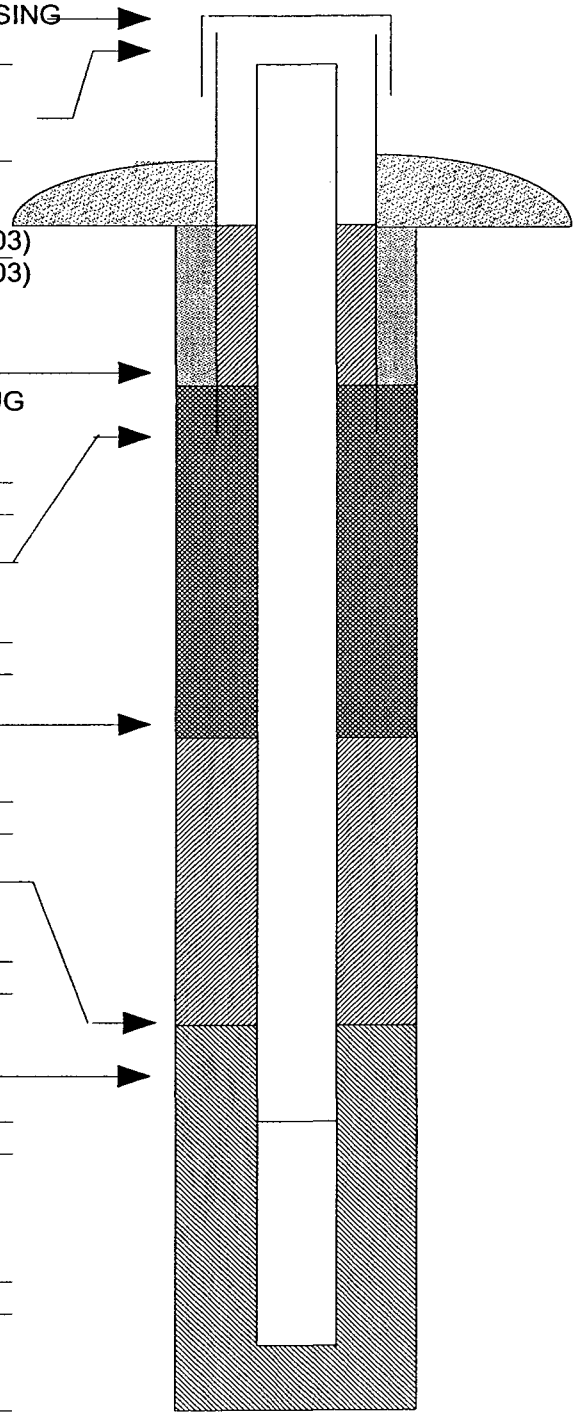
TOP OF SEAL
ELEVATION 921.58
DEPTH 0

TOP OF FILTER PACK
BASE OF SEAL
ELEVATION 912.72
DEPTH 9.0 ft

TOP OF SCREEN
ELEVATION 912.72
DEPTH 9.0 ft

BOTTOM OF SCREEN
ELEVATION 911.72
DEPTH 10.0 ft

BASE OF FILTER PACK
ELEVATION 911.72
DEPTH 10.0 ft



MONITORING WELL/PIEZOMETER CONSTRUCTION
DOCUMENTATION FORM

Disposal site name: Ames-Story Environmental Landfill — Permit # 85 SDP 13 - 91 P

Well or Piezometer #: LPZ-T4-1 — Date Started: 5-22-2003 — Date Completed: 5-22-2003

A. Surveyed Locations and Elevations

Location (+/0.5 ft):

Specify corner of site: North end trench #4

Distance and direction along boundary: N=10798.55 E=9842.74

Distance and direction from boundary to well:

Elevations (+/0.01 ft. MSL):

Ground surface	920
Top of protective casing	N/A
Top of well casing	922.3
Benchmark elevation	955.9
Benchmark elevation	Fire Hydrant on Watt St. near Dayton Rd.

B. Soil Boring Information

Name and address of construction company: Rewerts Well Company, Nevada, Iowa

Name of driller	Chris & Brad
Drilling method	HSA (hollow stem auger)
Drilling fluid	N/A
Bore hole diameter	8 1/4"
Soil sampling method	continuous split spoon
Depth of boring	12'

C. Monitoring Well Installation

Casing material	PVC
Length of casing	10'
Outside casing diameter	2.37"
Inside casing diameter	2.00"
Casing joint type	Threaded
Casing/screen joint type	Threaded
Screen material	PVC
Screen opening size	0.010"
Screen length	1.0 ft
Depth of well	11.0 ft

Well Installation, continued:

Filter pack:

Material	Silica sand
Grain size	#2
Volume	0.35 cubic ft

Seal (minimum 3 ft. lenth above) filter pack:

Material	3/8" bentonite chips
Placement method	poured through HSA
Volume	2.4 cubic ft

Backfill (if different from seal):

Material	same
Placement method	
Volume	

Surface seal design:

Material of protective casing: PVC

Material of grout between protective casing and well casing: Bentonite

Protective cap:

Material	N/A	
Vented?	X Yes	___ No
Locking?	X Yes	___ No

Well cap:

Material	Expandable	
Vented?	___ Yes	X No

D. Groundwater Measurement

Water level (+/0.01 ft. below top of inner well casing)	8.4'
Stabilization time	24 hours
Well development method	Hand bailed

___ Upgradient Well X Downgradient Well
(See piezometric map from Hydrogeolic study)

Average depth of frostline: N/A

Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch x 11 inch map showing location of all monitoring wells and piezometers.

WELL OR PIEZOMETER# LPZ-T4-1

ELEVATION: +/0.01 FT. MSL
DEPTHS: +/0.1 FT. FROM
GROUND SURFACE

TOP OF PROTECTIVE CASING
ELEVATION N/A

TOP OF WELL CASING
ELEVATION 922.31

GROUND SURFACE
ELELVATIOI 919.98 (8-22-03)
919.31 (5-27-03)

TOP OF BACKFILL
BASE OF CONCRETE PLUG
AND BENTONITE GROUT
ELEVATION N/A
DEPTH

BASE OF PROTECTIVE
CASING
ELEVATION N/A
DEPTH

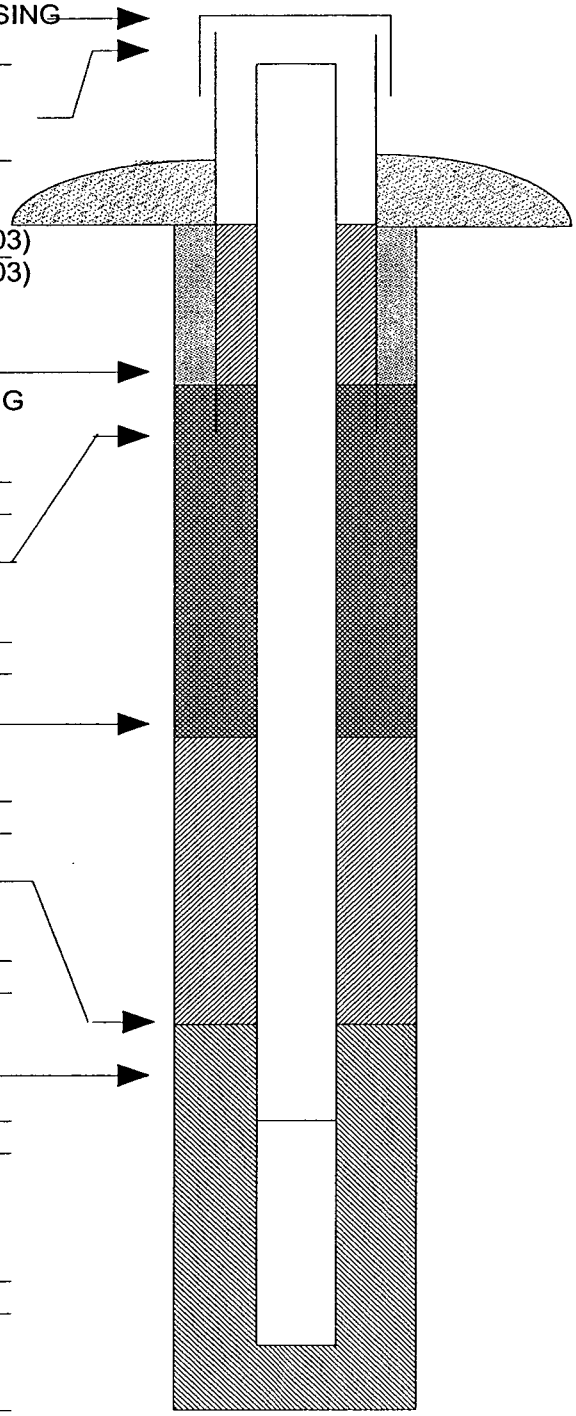
TOP OF SEAL
ELEVATION 919.98
DEPTH 0

TOP OF FILTER PACK
BASE OF SEAL
ELEVATION 912.31
DEPTH 7.0 ft

TOP OF SCREEN
ELEVATION 912.31
DEPTH 7.0 ft

BOTTOM OF SCREEN
ELEVATION 911.31
DEPTH 8.0 ft

BASE OF FILTER PACK
ELEVATION 911.31
DEPTH 8.0 ft



ATTACHMENT I
Leachate Elevation & Thickness Assessment Data

Leachate Surface Elevation

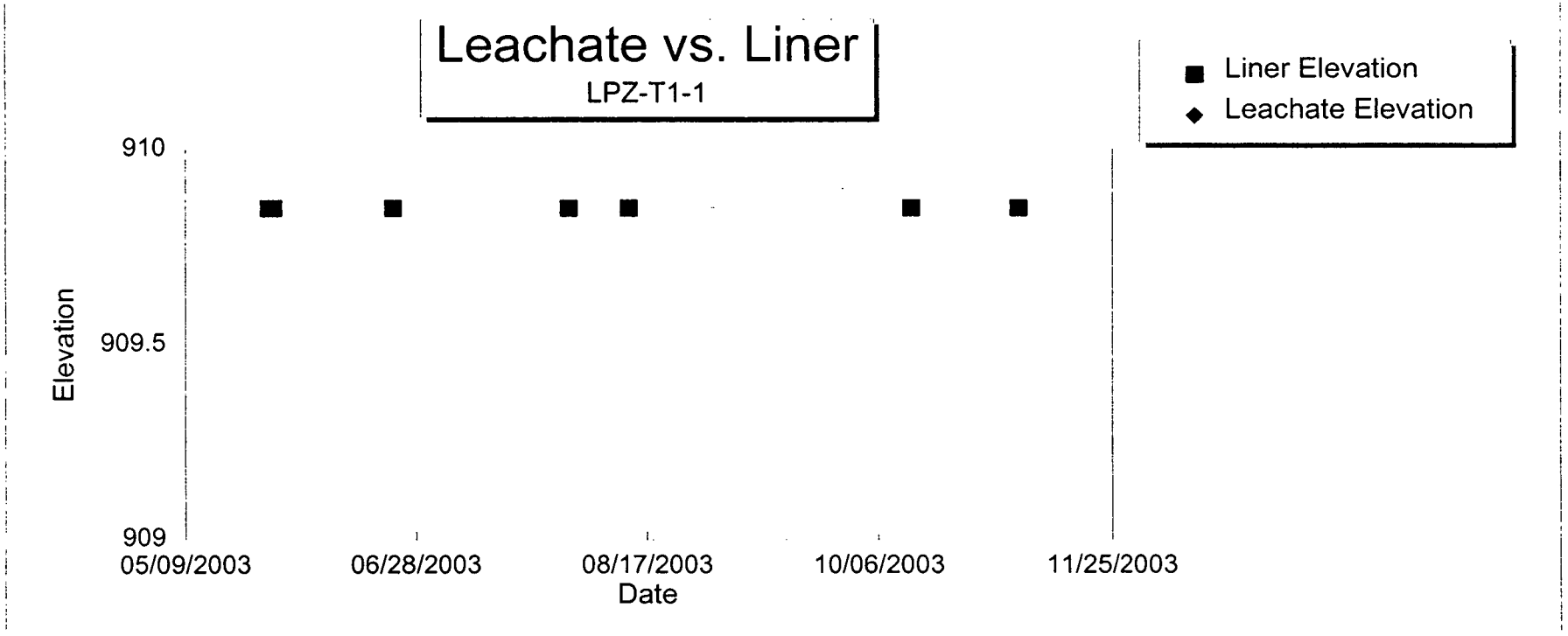
	LPZ-T1-1	LPZ-T2-1	LPZ-T3-1	LPZ-T4-1
PVC ELEV, FT.	925.85	932.62	922.72	922.31
DATE				
05/27/2003	909.85	911.62	913.22	914.91
05/28/2003	909.85	911.62	912.32	913.91
06/23/2003	909.85	911.62	912.33	914.41
07/31/2003	909.85	911.62	912.32	913.91
08/13/2003	909.85	911.62	912.32	913.51
10/13/2003	909.85	911.62	912.22	913.11
11/05/2003	909.85	911.62	912.02	913.61

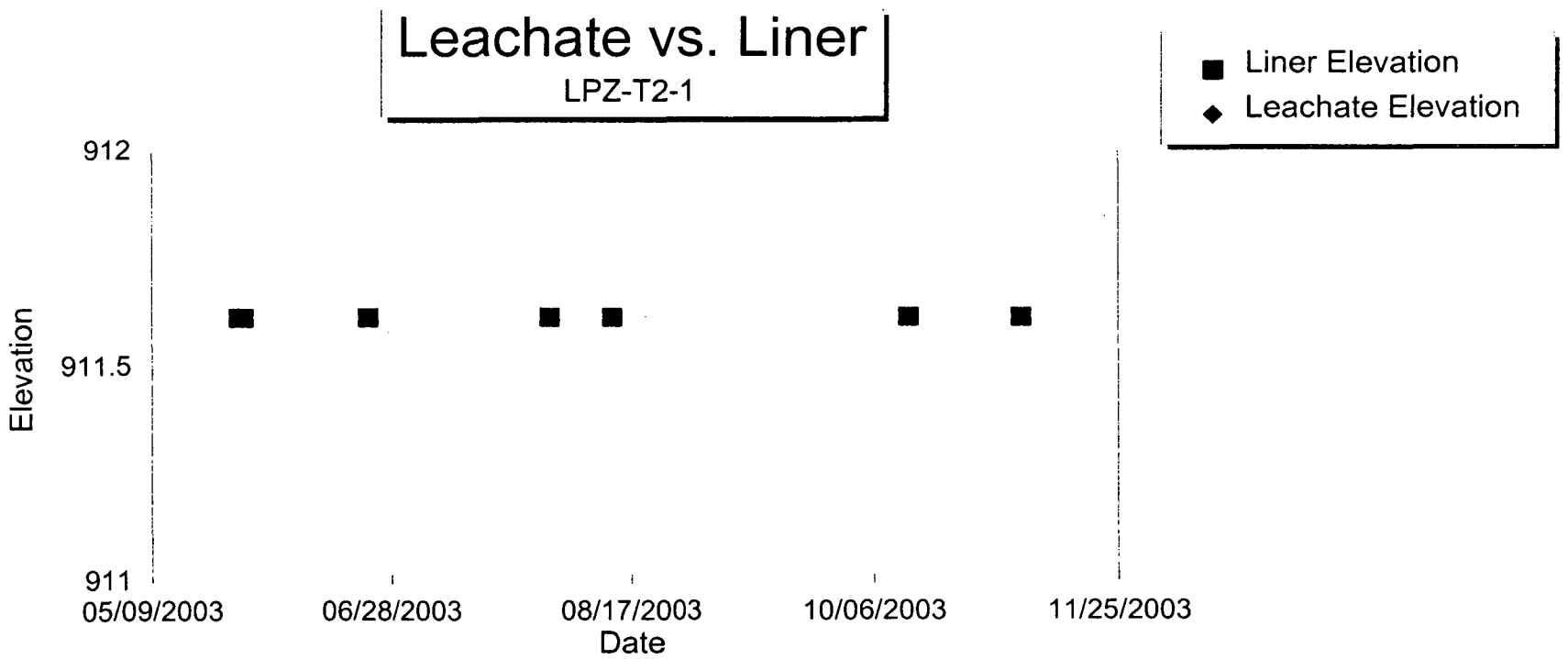
Top of Liner Elevation Data

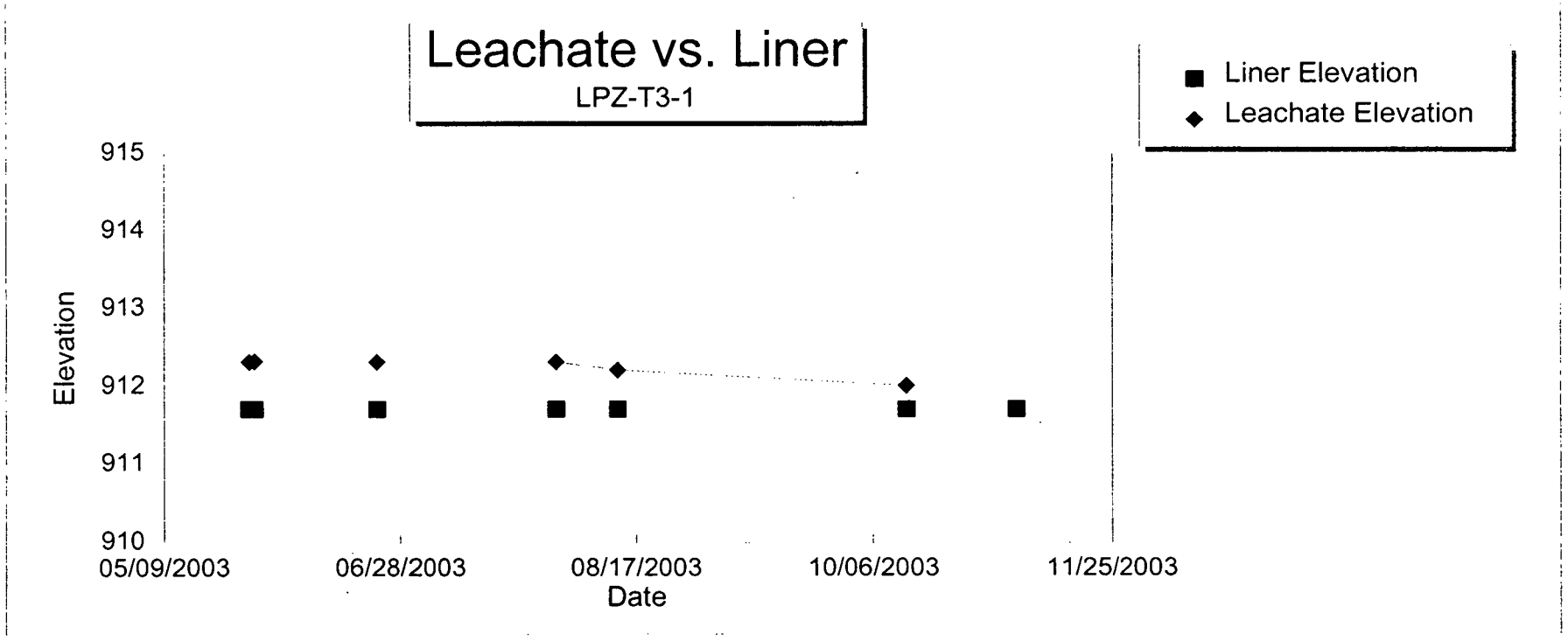
	LPZ-T1-1	LPZ-T2-1	LPZ-T3-1	LPZ-T4-1
PVC ELEV, FT.	925.85	932.62	922.72	922.31
Liner Depth	16	21	11	11
Liner Elev	909.85	911.62	911.72	911.31
05/27/2003	909.85	911.62	911.72	911.31
05/28/2003	909.85	911.62	911.72	911.31
06/23/2003	909.85	911.62	911.72	911.31
07/31/2003	909.85	911.62	911.72	911.31
08/13/2003	909.85	911.62	911.72	911.31
10/13/2003	909.85	911.62	911.72	911.31
11/05/2003	909.85	911.62	911.72	911.31

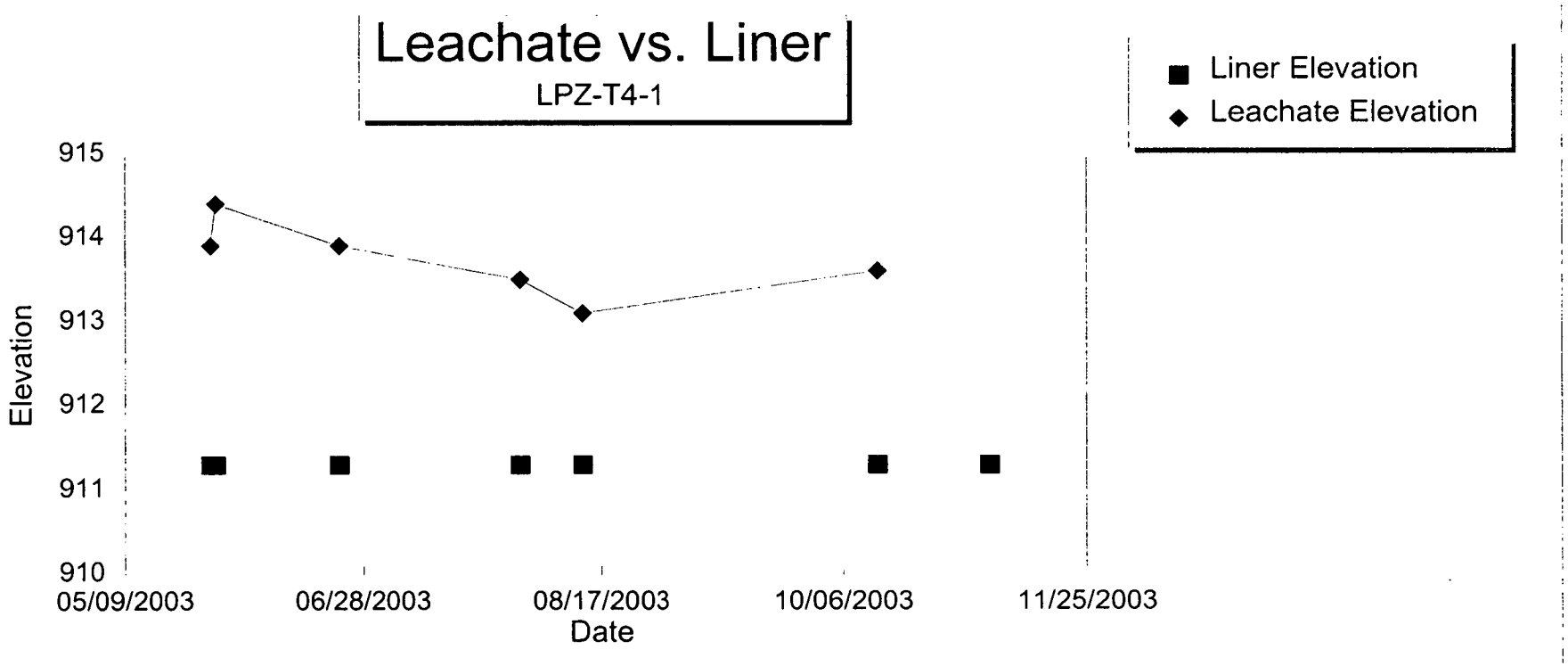
Leachate Thickness (feet)

	LPZ-T1-1	LPZ-T2-1	LPZ-T3-1	LPZ-T4-1
05/27/2003	0	0	1.5	3.6
05/28/2003	0	0	0.6	2.6
06/23/2003	0	0	0.61	3.1
07/31/2003	0	0	0.6	2.6
08/13/2003	0	0	0.6	2.2
10/13/2003	0	0	0.5	1.8
11/05/2003	0	0	0.3	2.3


Leachate vs. Liner
LPZ-T1-1
Liner Elevation
Leachate Elevation
910
909.5
909
Elevation
05/09/2003
06/28/2003
08/17/2003
10/06/2003
11/25/2003
Date


Leachate vs. Liner
LPZ-T2-1
Liner Elevation
Leachate Elevation
912
911.5
911
Elevation
05/09/2003
06/28/2003
08/17/2003
10/06/2003
11/25/2003
Date


Leachate vs. Liner
LPZ-T3-1
Liner Elevation
Leachate Elevation
Elevation
915
914
913
912
911
910
05/09/2003
06/28/2003
08/17/2003
10/06/2003
11/25/2003
Date


Leachate vs. Liner
LPZ-T4-1
Liner Elevation
Leachate Elevation
915
914
913
912
911
910
Elevation
05/09/2003
06/28/2003
08/17/2003
10/06/2003
11/25/2003
Date

ATTACHMENT J
City of Ames Leachate Testing Results

TDW

RECEIVED DEC 10 2001

CITY OF AMES IOWA
Caring People
Quality Programs
Exceptional Service

Water and Pollution Control Department

300 East Fifth Street, Building 1
Ames, IA 50010
Phone 515-239-5150 ✦ Fax 515-239-5251
http://www.city.ames.ia.us/waterweb

December 7, 2001

Bill Fedeler
Ames-Story Environmental Landfill
P.O. Box 2483
Ames, IA 50010

Dear Mr. Fedeler:

Enclosed is a copy of a revised permit and monitoring requirements for Ames-Story Environmental Landfill.

As stated in a June 2001 letter, federal regulations require the City of Ames to review its pretreatment local limits at least every five years. Due to changes in land application and categorical standard regulations, modifications to the local limits were required. The revised local limits were approved by the Iowa Department of Natural Resources on July 25, 2001. The Ames City Council approved the revised local limits on September 25, 2001. The enclosed permit and monitoring requirements reflect the changes to the local limits.

City staff also reviewed pretreatment monitoring data from the past five years as well as the most recent industrial waste questionnaire. Information from those sources was also used to determine the monitoring parameters and frequencies in the revised permit.

There are several changes to the Ames-Story Environmental Landfill permit and monitoring requirements with this revision. The permit changes are as follows:

- The limit on $CBOD_5$ has been removed and replaced with a COD limit of 2,500 mg/L.
- The ammonia limit has been reduced from 240 mg/L to 200 mg/L.
- The oil & grease limit has been removed.
- The following parameters and limits have been added.
  - Benzene at 0.05 mg/L
  - BTEX at 0.75 mg/L
  - TPH at 10 mg/L

Changes to the monitoring requirements are as follows:

- $CBOD_5$ and oil & grease monitoring are no longer required.
- All samples will be grab samples instead of composites.
- COD monitoring has been increased from annually to semi-annually.
- TPH monitoring has been increased from once every two years to annually.
- Annual monitoring for TKN has been added.
- Semi-annual monitoring for BTEX has been added.
- Monitoring for tetrachloroethene, phenol, zinc, p-cresol, alpha-terpineol, and benzoic acid has been added at a frequency of once every two years.

The parameters that were added to the monitoring requirements at a once-every-two-years frequency are parameters that will be required to be monitored quarterly and permitted under the new Landfill Point Source categorical standard if Ames-Story Environmental Landfill ever decides to expand its operations. These parameters have been included in the monitoring requirements on this permit to give you background information to use in the event you start exploring future expansion. Details on the new Landfill Point Source categorical regulations can be found at the internet address: http://www.access.gpo.gov/nara/cfr/cfrhtml_00/Title_40/40cfr445_00.html. Ames-Story Environmental Landfill is not regulated by this categorical standard at this time but will be if the landfill is expanded in the future.

The changes to the permit and monitoring requirements may increase sampling and analyses costs by approximately $130 a year.

The effective date for the new permit is January 1, 2002. Please send written comments or questions concerning the revised permit to me or Winnie Gleason by December 19, 2001 or e-mail us at ktebben@city.ames.ia.us or wgleason@city.ames.ia.us. Thank you for your continued cooperation with the City of Ames Non-Domestic Waste Pretreatment Program.

Yours very truly,

Karla K. Tebben

Karla K. Tebben
Environmental Engineer
Water and Pollution Control Department

/bas

Enclosure

pc: Todd Whipple
John Ringelestein
Maryann Ryan

COPY

NON-DOMESTIC WASTEWATER DISCHARGE PERMIT
CITY OF AMES, IOWA

Facility Name: Ames-Story Environmental Landfill

Facility Location: 2101 Watt Street

Ames, IA 50010

Authorized Representative:

Name: Bill Fedeler

Title: President

Address: P.O. Box 2483

Ames, IA 50010

Telephone No. 515-232-5864

Permit No.: 7093-5

Issue Date: 01/01/02

Expiration Date: 12/31/06

For the City of Ames, Iowa

By _____

Water and Pollution Control Department

This permit is issued pursuant to the authority of Chapter 28 Ames Municipal Code. Permittee is hereby authorized to discharge wastewater from the Facility identified above provided said discharge meets all quality and quantity limitations and Permittee complies with all other conditions, including monitoring, reporting, and other terms as set forth in this Permit and the City of Ames Pretreatment Program. Any existing permit or discharge authorization previously used by the City of Ames for this Facility is hereby revoked by the issue of this Permit. This Permit may not be assigned or transferred by the Contributor unless authorized in writing by the City.

Failure to meet the standards and requirements of this permit and the pretreatment program shall be a municipal infraction punishable by a penalty of up to $1,000 for the first and each subsequent violation. Each occurrence of prohibited discharge is a violation.

Quality and Quantity Limitations

Permittee is prohibited from discharging any pollutants more frequently or in excess of the limitations specified below.

Wastewater Parameter	Units	Maximum[1]
Flow	gpd	
COD	mg/L	2,500
TSS	mg/L	1,500
NH_3	mg/L	200
pH	std. units	6.0 to 10.0
Benzene	mg/L	0.05
BTEX (benzene, toluene, ethylbenzene, xylene)	mg/L	0.75
TPH (total petroleum hydro-carbons as gasoline)	mg/L	10.0

1 - "Maximum" means the total discharge by mass, volume, or concentration which cannot be exceeded during any 24-hour period. Compliance shall be determined by 24-hour composite sampling except for those parameters (such as pH, temperature, volatile organics, etc.) where individual grab samples are specified.

Monitoring and Reporting

City shall sample, analyze, and report the results as specified below. All samples and measurements shall be representative of the volume and nature of the permitted discharge. All samples shall be collected and analyzed in accordance with the procedures approved by the U.S. EPA.

Wastewater Parameter	Sample Frequency	Sample Type	Location*
Flow		Estimate	
TSS	Semi-annually	Grab	1,2
NH_3	Semi-annually	Grab	1,2
pH	Each sample	Grab	1,2
COD	Semi-annually	Grab	1,2
Total Petroleum Hydrocarbons	Annually	Grab	1,2
TKN	Annually	Grab	1,2
BTEX	Semi-annually	Grab	1,2
Tetrachloroethene	Once/2 years	Grab	1,2
Phenol	Once/2 years	Grab	1,2
Zinc	Once/2 years	Grab	1,2
p-Cresol	Once/2 years	Grab	1,2
alpha-Terpineol	Once/2 years	Grab	1,2
Benzoic Acid	Once/2 years	Grab	1,2

* 1 - sample manhole, north of Trench No. 1
2 - city manhole No. 2629
3 -

Monitoring reports shall be reviewed, signed, and returned semi-annually to the City of Ames Pretreatment Coordinator, Water Plant, 300 E. 5th Street, Ames, Iowa (515-239-5150). All self-monitoring sampling results shall be submitted to the Pretreatment Coordinator as soon as received. All reports shall be submitted not later than 15 days following the end of the reporting period.

Compliance Schedule

Permittee shall provide the pretreatment facilities or make such process modifications to achieve compliance with the quantity and quality limitations, monitoring and reporting requirements, or such other requirements in the time period as specified below.

None required at this time.

CITY OF AMES IOWA
Caring People
Quality Programs
Exceptional Service

Water and Pollution Control Department

300 East Fifth Street, Building 1
Ames, IA 50010
Phone 515-239-5150 ✦ Fax 515-239-5251

TO: Bill Fedeler, Ames-Story Environmental Landfill - Site 2
FROM: Karla Tebben/Winnie Gleason, Pretreatment Coordinators
DATE: October 31, 2003
SUBJECT: Pretreatment Reporting: Fall 2003 (Permit No. 7093-5)

Listed below are analytical results of the wastewater sampled at your facility's Site 2 on September 15, 2003. The laboratory did not collect a sample at Site 1 because there was no flow through the manhole. All tested parameters for Site 2 are within permit limits. However, the COD result exceeds surcharge limits. If this continues, a high-strength waste surcharge may be applied to this site. Thank you for your cooperation with the pretreatment program.

Parameter	Permit Limits/ Surcharge (mg/L)	Recommended Maximum Discharge Concentrations (mg/L)	40CFR Part 445 Maximum Daily Limit (mg/L)	40CFR Part 445 Monthly Average Limit (mg/L)	Results (mg/L)
pH, units	6.0 - 10.0		6.0-9.0	6.0-9.0	6.93
TSS	1,500/300		88	27	2.5
Ammonia-N	200/40		10	4.9	39
COD	2,500/250		140	37	490
TPH (gasoline)	10.0				< 0.200
BTEX	0.75				< 0.022

Complete the bottom portion of this page and return one copy to us by November 14, 2003. By doing so, the reporting requirements for this period will be fulfilled.

PROCESS CHANGES SINCE July 3, 2003: _____

_____

_____

COMPLIANCE STATEMENT: Based on my inquiry of the person(s) directly responsible for managing compliance with the pretreatment program, I certify that, to the best of my knowledge, there has been no unreported discharge in violation of the pretreatment program since July 3, 2003.

NAME_____ DATE_____

c: Todd Whipple, Fox Engineering
Jim McElvogue

CITY OF AMES IOWA
Caring People
Quality Programs
Exceptional Service

Water and Pollution Control Department

300 East Fifth Street, Building 1
Ames, IA 50010
Phone 515-239-5150 ✦ Fax 515-239-5251

TO: Bill Fedeler, Ames-Story Environmental Landfill - Site 2
FROM: Karla Tebben/Winnie Gleason, Pretreatment Coordinators Winnie Gleason
DATE: June 26, 2003
SUBJECT: Pretreatment Reporting: Spring 2003 (Permit No. 7093-5)

Listed below are analytical results of the wastewater sampled at your facility's Site 2 on May 22, 2003. The laboratory did not collect a sample at Site 1 because there was no flow through the manhole. All tested parameters for Site 2 are within permit limits. COD and TKN are in surcharge range. Any surcharge billing will be addressed in separate correspondence. Thank you for you cooperation with the pretreatment program.

Parameter	Permit Limits/ Surcharge (mg/L)	Recommended Maximum Discharge Concentrations (mg/L)	40CFR Part 445 Maximum Daily Limit (mg/L)	40CFR Part 445 Monthly Average Limit (mg/L)	Results (mg/L)
pH, units	6.0 - 10.0		6.0 - 9.0	6.0 - 9.0	7.2
TSS	1,500/300		88	27	10
Ammonia-N	200/40		10	4.9	32
TKN	/40	250			42
COD	2,500/250		140	37	480
BTEX	0.75				< 0.020
Phenol			0.026	0.015	0.06
Zinc			0.20	0.11	1.1

Complete the bottom portion of this page and return one copy to us by July 10, 2003. By doing so, the reporting requirements for this period will be fulfilled.

PROCESS CHANGES SINCE October 18, 2002: _____

_____

_____

COMPLIANCE STATEMENT: Based on my inquiry of the person(s) directly responsible for managing compliance with the pretreatment program, I certify that, to the best of my knowledge, there has been no unreported discharge in violation of the pretreatment program since October 18, 2002.

NAME_____ DATE_____

c: Todd Whipple, Fox Engineering
Jim McElvogue

RECEIVED OCT 1 0 2002

CITY OF AMES IOWA

Caring People
Quality Programs
Exceptional Service

Water and Pollution Control Department

300 East Fifth Street, Building 1
Ames, IA 50010
Phone 515-239-5150 ✦ Fax 515-239-5251

TO: Bill Fedeler, Ames-Story Environmental Landfill - Site 2
FROM: Karla Tebben/Winnie Gleason, Pretreatment Coordinators
DATE: October 9, 2002
SUBJECT: Pretreatment Reporting: Fall 2002 (Permit No. 7093-5)

Karla K. Tebben

Listed below are analytical results of the wastewater sampled at your facility's Site 2 on September 3, 2002. The laboratory did not collect a sample at Site 1 because there was no flow through the manhole on September 3, 2002. All tested parameters for Site 2 are within permit limits. However, the COD result exceeds the surcharge limit. Surcharge calculations and billing will be addressed in a separate correspondence if a surcharge is necessary. Thank you for your cooperation with the pretreatment program.

Parameter	Permit Limits/ Surcharge (mg/L)	Recommended Maximum Discharge Concentrations (mg/L)	40CFR Part 445 Maximum Daily Limit (mg/L)	40CFR Part 445 Monthly Average Limit (mg/L)	Results (mg/L)
pH, units	6.0 - 10.0		6.0 - 9.0	6.0 - 9.0	6.97
TSS	1,500/300		88	27	9.3
Ammonia-N	200/40		10	4.9	28
COD	2,500/250		140	37	520
TPH (gasoline)	10.0				0.200
BTEX	0.75				0.029
Benzene					< 0.002
Toluene					0.010
Ethylbenzene					0.005
Total Xylenes					0.014

Complete the bottom portion of this page and return one copy to us by October 25, 2002. By doing so, the reporting requirements for this period will be fulfilled.

PROCESS CHANGES SINCE June 21, 2002: _____

_____

_____

COMPLIANCE STATEMENT: Based on my inquiry of the person(s) directly responsible for managing compliance with the pretreatment program, I certify that, to the best of my knowledge, there has been no unreported discharge in violation of the pretreatment program since June 21, 2002.

NAME_____ DATE_____

c: Todd Whipple, Fox Engineering
Darrell Hunter

ATTACHMENT K
Explosive Gas Monitoring Results

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
EXPLOSIVE GAS MONITORING RESULTS

SAMPLING DATE: December 2, 2002

Reference* Location	Combustible	%Oxygen	CO ppm	H2S ppm
MW28/MW29	0	20.4	0	0
MW36/MW37	0	20.4	0	0
MW35	0	20.4	0	0
MW33/MW25	0	20.4	0	0
MW32/MW24	0	20.4	0	0
MW30/MW23	0	20.4	0	0
MW34	0	20.4	0	0
MW31	0	20.4	0	0
Trailer	0	20.4	0	0
MW6/MW7/MW8	0	20.4	0	0
MW38/39	0	20.4	0	0
MW40/MW41	0	20.4	0	0
MW42/MW43	0	20.4	0	0

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
EXPLOSIVE GAS MONITORING RESULTS

Reference* Location	SAMPLING DATE: Combustible	%Oxygen	March 6, 2003 CO ppm	H2S ppm
MW28/MW29	0	NT	0	0
MW36/MW37	1	NT	0	0
MW35	0	NT	0	0
MW33/MW25	0	NT	0	0
MW32/MW24	0	NT	0	0
MW30/MW23	0	NT	0	0
MW34	0	NT	0	0
MW31	0	NT	0	0
Trailer	0	NT	0	0
MW6/MW7/MW8	0	NT	0	0
MW38/39	0	NT	0	0
MW40/MW41	0	NT	0	0
MW42/MW43	0	NT	0	0

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
EXPLOSIVE GAS MONITORING RESULTS

Reference* Location	SAMPLING DATE: Combustible	%Oxygen	June 23, 2003 CO ppm	H2S ppm
MW28/MW29	0	20.8	0	0
MW36/MW37	0	20.8	0	0
MW35	0	20.8	0	0
MW33/MW25	0	20.8	0	0
MW32/MW24	0	20.8	0	0
MW30/MW23	0	20.8	0	0
MW34	0	20.8	0	0
MW31	0	20.8	0	0
Trailer	0	20.8	0	0
MW6/MW7/MW8	0	20.8	0	0
MW38/39	0	20.8	0	0
MW40/MW41	0	20.8	0	0
MW42/MW43	0	20.8	0	0

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
EXPLOSIVE GAS MONITORING RESULTS

Reference* Location	SAMPLING DATE: Combustible	%Oxygen	September 19, 2003 CO ppm	H2S ppm
MW28/MW29	0	20.4 to 20.8	0	0
MW36/MW37	0	20.4 to 20.8	0	0
MW35	0	20.4 to 20.8	0	0
MW33/MW25	0	20.4 to 20.8	0	0
MW32/MW24	0	20.4 to 20.8	0	0
MW30/MW23	0	20.4 to 20.8	0	0
MW34	0	20.4 to 20.8	0	0
MW31	0	20.4 to 20.8	0	0
Trailer	2	20.4 to 20.8	0	0
MW6/MW7/MW8	0	20.4 to 20.8	0	0
MW38/39	0	20.4 to 20.8	0	0
MW40/MW41	0	20.4 to 20.8	0	0
MW42/MW43	0	20.4 to 20.8	0	0