SAWQ-(0)

Con 12-1-1
Doc # 12141

WRIGHT COUNTY AREA LANDFILL AUTHORITY

J. Steve Whyte
Chairman of the Board
P. O. Box 173
Clarion, Iowa 50525

Telephone 515-532-2984
Fax 515-532-6950

14 November 2007

Matthew R. Phoenix, P.E.
Energy & Waste Management Bureau
502 East 9th Street
Des Moines, Iowa 50319-0034

Re: Wright County Sanitary Landfill
Permit No. 99-SDP-01-73C

Dear Mr. Phoenix,

Enclosed are completed copies of the Groundwater Elevation Measurement/ Groundwater Sampling and Surface Water Sampling forms for the Wright County Sanitary Landfill. The measurements and samples are for the October 2007 sampling period. Also enclosed are copies of the associated Analytical Reports for the groundwater and surface water samples.

Sincerely,

Jim J. Meade, Director
Wright County Area Landfill Authority

Enclosures: Groundwater Elevation Measurement / Groundwater Sampling Forms (8)
Surface Water Sampling Forms (2)
Analytical Reports (10) - 4 pages

cc: Iowa DNR - Field Office #2
Christine L. Collier, E.I., Barker Lemar Engineering

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Wright County Landfill Permit No. 99-SDP-1-73P

Monitoring Well/Piezometer No. MW-12 Upgradient X
Downgradient

Name of person sampling Jim Meade

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 120.69 Ground Elevation 116.75
Depth of Well 18.50 Inside Casing Diameter (in inches) 2.057 in.
Equipment Used Slope Indicator Co. - Water Level Indicator - Model 51453

Groundwater Level (± 0.01 foot below top of inner casing, MSL):

	Date/Time 2007	Depth to Groundwater	Groundwater Elevation
Before Purging	09 Oct 8:55A	6.94	113.75
*After Purging	09 Oct 9:00A	17.24	103.45
*Before Sampling	~~10~~ Oct 9:00A	6.17	114.52

*C. WELL PURGING

Quantity of Water Removed from Well (gallons) 4.25
No. of Well Volumes (based on current water level) 2.26
Was well pumped/bailed dry? Yes

Equipment used:
Bailer type Dedicated Bailer?
Pump type Waterra Inertial Dedicated Pump? Yes
If not dedicated, method of cleaning Mineral Free Water

*D. FIELD MEASUREMENT

Weather Conditions 55° F Wind: NW 5-10 mph Clear & Sunny
Field Measurements (after stabilization):
Temperature 11.2 Units °C
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
pH 7.97
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
Specific Cond. 1195 Units umhos/cm
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter

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. 4966 11/15/07 PM 1:29

(June - 1989) 542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Wright County Landfill Permit No. 99-SDP-1-73P

Monitoring Well/Piezometer No. MW-13 Upgradient ____
Downgradient X

Name of person sampling Jim Meade

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 100.97 Ground Elevation 97.10
Depth of Well 116.60 Inside Casing Diameter (in inches) 2.057 in.
Equipment Used Slope Indicator Co. - Water Level Indicator - Model 51453

Groundwater Level (± 0.01 foot below top of inner casing, MSL):

	Date/Time 2007	Depth to Groundwater	Groundwater Elevation
Before Purging	09 Oct 9:35A	4.38	96.59
*After Purging	09 Oct 9:40A	15.49	85.48
*Before Sampling	24 Oct 9:25A	4.34	96.63

*C. WELL PURGING

Quantity of Water Removed from Well (gallons) 4.75
No. of Well Volumes (based on current water level) 2.39
Was well pumped/bailed dry? Yes

Equipment used:
Bailer type ____ Dedicated Bailer? ____
Pump type Waterra Inertial Dedicated Pump? Yes
If not dedicated, method of cleaning Mineral Free Water

*D. FIELD MEASUREMENT

Weather Conditions 55° F Wind: NW 5-10 mph Mostly Sunny
Field Measurements (after stabilization):
Temperature 11.8 Units °C
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
pH 8.18
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
Specific Cond. 1026 Units µmhos/cm
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter

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.

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Wright County Landfill Permit No. 99-SDP-1-73P

Monitoring Well/Piezometer No. MW-11 Upgradient ____
Downgradient X

Name of person sampling Jim Meade

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 100.80 Ground Elevation 98.40
Depth of Well 12.40 Inside Casing Diameter (in inches) 2.057 in.
Equipment Used Slope Indicator Co. - Water Level Indicator - Model 51453

Groundwater Level (± 0.01 foot below top of inner casing, MSL):

	Date/Time 2007	Depth to Groundwater	Groundwater Elevation
Before Purging	09 Oct 9:50A	7.67	93.13
*After Purging	09 Oct 9:55A	10.89	89.91
*Before Sampling	24 Oct 9:50A	6.85	93.95

*C. WELL PURGING

Quantity of Water Removed from Well (gallons) 1.25
No. of Well Volumes (based on current water level) 1.62
Was well pumped/bailed dry? Yes

Equipment used:
Bailer type ____ Dedicated Bailer? ____
Pump type Waterra Inertial Dedicated Pump? Yes
If not dedicated, method of cleaning Mineral Free Water

*D. FIELD MEASUREMENT

Weather Conditions 55°F Wind: NW 5-10 mph Clear & Sunny
Field Measurements (after stabilization):
Temperature 11.9 Units °C
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
pH 7.34
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
Specific Cond. 1931 Units umhos/cm
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter

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.

(June - 1989) 542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Wright County Landfill Permit No. 99-SDP-1-73P

Monitoring Well/Piezometer No. MW-14 Upgradient ____ Downgradient X

Name of person sampling Jim Meade

A. MONITORING WELL/PIEZOMETER CONDITIONS

Well/Piezometer Properly Capped? Yes
If no, explain ____

Standing Water or Litter? No
If yes, explain ____

B. GROUNDWATER ELEVATION MEASUREMENT (± 0.01 foot, MSL)

Elevation: Top of inner well casing 99.86 Ground Elevation 95.73
Depth of Well 18.30 Inside Casing Diameter (in inches) 2.057 in.
Equipment Used Slope Indicator Co. - Water Level Indicator - Model 51453

Groundwater Level (± 0.01 foot below top of inner casing, MSL):

	Date/Time 2007	Depth to Groundwater	Groundwater Elevation
Before Purging	09/07 10:10A	4.98	94.88
*After Purging	09/07 10:15A	16.26	83.60
*Before Sampling	24/07 10:10A	5.85	94.01

*C. WELL PURGING

Quantity of Water Removed from Well (gallons) 5.75
No. of Well Volumes (based on current water level) 2.65
Was well pumped/bailed dry? Yes

Equipment used:
Bailer type ____ Dedicated Bailer? ____
Pump type Waterra Inertial Dedicated Pump? Yes
If not dedicated, method of cleaning Mineral Free Water

*D. FIELD MEASUREMENT

Weather Conditions 55° F Wind: NW 5-10mph Clear & Sunny
Field Measurements (after stabilization):
Temperature 11.5 Units °C
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
pH 7.45
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
Specific Cond. 1996 Units umhos/cm
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter

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.

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Wright County Landfill Permit No. 99-SDP-1-73P

Monitoring Well/Piezometer No. MW-15 Upgradient ____
Downgradient X

Name of person sampling Jim Meade

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 100.13 Ground Elevation 96.45
Depth of Well 17.30 Inside Casing Diameter (in inches) 2.057 in.
Equipment Used Slope Indicator Co. - Water Level Indicator - Model 51453

Groundwater Level (± 0.01 foot below top of inner casing, MSL):

	Date/Time 2007	Depth to Groundwater	Groundwater Elevation
Before Purging	09/07 10:35A	9.03	91.10
*After Purging	09/07 10:40A	15.75	84.38
*Before Sampling	24/07 10:40A	8.02	92.11

*C. WELL PURGING

Quantity of Water Removed from Well (gallons) 3.75
No. of Well Volumes (based on current water level) 2.78
Was well pumped/bailed dry? Yes

Equipment used:
Bailer type ____ Dedicated Bailer? ____
Pump type Waterra Inertial Dedicated Pump? Yes
If not dedicated, method of cleaning Mineral Free Water

*D. FIELD MEASUREMENT

Weather Conditions 55°F Wind: NW 5-10 mph Clear & Sunny
Field Measurements (after stabilization):
Temperature 11.7 Units °C
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
pH 7.44
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
Specific Cond. 1361 Units mmhos/cm
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter

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.

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Wright County Landfill Permit No. 99-SDP-1-73P

Monitoring Well/Piezometer No. MW-16 Upgradient ____
Downgradient X

Name of person sampling Jim Meade

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 103.42 Ground Elevation 100.04
Depth of Well 15.00 Inside Casing Diameter (in inches) 2.057 in.
Equipment Used Slope Indicator Co. - Water Level Indicator - Model 51453

Groundwater Level (± 0.01 foot below top of inner casing, MSL):

	Date/Time 2007	Depth to Groundwater	Groundwater Elevation
Before Purging	09Oct 11:00A	4.45	98.97
*After Purging	09Oct 11:05A	12.57	90.85
*Before Sampling	24Oct 11:00A	4.74	98.68

*C. WELL PURGING

Quantity of Water Removed from Well (gallons) 3.50
No. of Well Volumes (based on current water level) 2.03
Was well pumped/bailed dry? Yes

Equipment used:
Bailer type ____ Dedicated Bailer? ____
Pump type Waterra Inertial Dedicated Pump? Yes
If not dedicated, method of cleaning Mineral Free Water

*D. FIELD MEASUREMENT

Weather Conditions 55°F Wind: NW 5-10 mph Clear & Sunny
Field Measurements (after stabilization):
Temperature 12.9 Units °C
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
pH 7.77
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
Specific Cond. 1009 Units umhos/cm
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter

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.

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Wright County Landfill Permit No. 99-SDP-1-73P

Monitoring Well/Piezometer No. PZ-1B Upgradient X
Downgradient

Name of person sampling Jim Meade

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 116.97 Ground Elevation 114.31
Depth of Well 14.50 Inside Casing Diameter (in inches) 2.057 in.
Equipment Used Slope Indicator Co. - Water Level Indicator - Model 51453

Groundwater Level (± 0.01 foot below top of inner casing, MSL):

	Date/Time 2007	Depth to Groundwater	Groundwater Elevation
Before Purging	09 Oct 11:30A	12.83	104.14
*After Purging	09 Oct 11:35A	14.46	102.51
*Before Sampling	24 Oct 11:40A	12.78	104.19

*C. WELL PURGING

Quantity of Water Removed from Well (gallons) 1.75
No. of Well Volumes (based on current water level) 6.48
Was well pumped/bailed dry? Yes

Equipment used:
Bailer type Waterra Dedicated Bailer? Yes
Pump type ~~Waterra Inertial~~ Dedicated Pump? ~~Yes~~
If not dedicated, method of cleaning Mineral Free Water

*D. FIELD MEASUREMENT

Weather Conditions 55°F Wind: NW 5-10 mph Mostly Sunny
Field Measurements (after stabilization):
Temperature 13.5 Units °C
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
pH 8.68
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
Specific Cond. 1705 Units umhos/cm
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter

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.

(June - 1989) 542-1322

FORM FOR
GROUNDWATER SAMPLING AND/OR
GROUNDWATER ELEVATION MEASUREMENT

Site Name Wright County Landfill Permit No. 99-SDP-1-73P

Monitoring Well/Piezometer No. PZ-2B Upgradient X
Downgradient

Name of person sampling Jim Meade

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 119.77 Ground Elevation 117.38
Depth of Well 12.25 Inside Casing Diameter (in inches) 2.057 in.
Equipment Used Slope Indicator Co. - Water Level Indicator - Model 51453

Groundwater Level (± 0.01 foot below top of inner casing, MSL):

	Date/Time 2007	Depth to Groundwater	Groundwater Elevation
Before Purging	09 Oct 11:55A	11.26	108.51
*After Purging	09 Oct 12:00P	11.97	107.80
*Before Sampling	24 Oct 12:10P	9.74	110.03

*C. WELL PURGING

Quantity of Water Removed from Well (gallons) 0.75
No. of Well Volumes (based on current water level) 4.69
Was well pumped/bailed dry? Yes

Equipment used:
Bailer type Waterra Dedicated Bailer? Yes
Pump type ~~Waterra Inertial~~ Dedicated Pump? ~~Yes~~
If not dedicated, method of cleaning Mineral Free Water

*D. FIELD MEASUREMENT

Weather Conditions 55°F Wind: NW 5-10mph Clear & Sunny
Field Measurements (after stabilization):
Temperature 13.0 Units °C
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
pH 8.11
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
Specific Cond. 1510 Units umhos/cm
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter

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.

FORM FOR
SURFACE WATER SAMPLING

Site Name Wright County Landfill Permit No. 99-SDP-1-73

Surface Monitoring Point No. US1 Date/Time 24 Oct 2007 12:55 PM

Name of Person Sampling Jim Meade

A. TYPE OF MONITORING POINT

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

B. PURPOSE OF MONITORING POINT

Upstream	X	Downstream	
Within Landfill		Other	

C. MONITORING POINT CONDITIONS

General description/condition of monitoring point Trapezoidal Cross Section with an approximate 10 foot bottom. Top of bank to water surface is approximately 15 feet.

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

Was water flowing? Yes If yes, estimate quantity 22.50 cfs.
If yes, estimate depth 1.50 ft.

Was water discolored? No If yes, describe below.
Does water have odor? No If yes, describe below.
Was ground discolored? No If yes, describe below.
Litter present? No If yes, describe below.

Comments

D. FIELD MEASUREMENTS

Weather Conditions 55°F Wind: NW 5-10mph Clear & Sunny

Field Measurements (after stabilization):
Temperature 12.8 Units °C
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
pH 8.08
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
Specific Cond. 1062 Units umhos/cm
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter

Comments

NOTE: Attach 8-1/2" X 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

(June - 1989) 542-1324

FORM FOR
SURFACE WATER SAMPLING

Site Name Wright County Landfill Permit No. 99-SDP-1-73

Surface Monitoring Point No. DS1 Date/Time 24 Oct 2007 1:30 pm

Name of Person Sampling Jim Meade

A. TYPE OF MONITORING POINT

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

B. PURPOSE OF MONITORING POINT

Upstream		Downstream	X
Within Landfill		Other	

C. MONITORING POINT CONDITIONS

General description/condition of monitoring point Trapezoidal Cross Section with an approximate 10 foot bottom. Top of bank to water surface is approximately 15 feet.

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

Was water flowing? Yes If yes, estimate quantity 26.67 cfs.
If yes, estimate depth 2.00 ft.

Was water discolored? No If yes, describe below.
Does water have odor? No If yes, describe below.
Was ground discolored? No If yes, describe below.
Litter present? No If yes, describe below.

Comments

D. FIELD MEASUREMENTS

Weather Conditions 55°F Wind: NW 5-10 mph Clear & Sunny

Field Measurements (after stabilization):

Temperature 13.0 Units °C
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
pH 7.79
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter
Specific Cond. 1062 Units umhos/cm
Equipment Used Cole/Parmer: #19825-00 pH/Conductivity/C meter

Comments

NOTE: Attach 8-1/2" X 11" site plan showing locations of all surface and groundwater monitoring points. One map per sampling round.

(June - 1989)

542-1324

Keystone LABORATORIES, INC.

ACCREDITED IN ACCORDANCE WITH nelac

MEMBER ACIL

ANALYTICAL REPORT

November 08, 2007

Work Order: 17J1278

Report To	Work Order Information
Jim Meade	Date Received: 10/25/2007 9:45AM
Wright County Landfill	Collector:
PO Box 173	Phone: 515-532-2984
Clarion, IA 50525	PO Number:

Project : Landfill - Fall

Project Number: Landfill Analysis

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
17J1278-01 MW-12				Matrix:Water		Collected: 10/24/07 09:00	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	1K70534	EPA 9020	SAI	11/05/07 14:11	
Chloride	<10 mg/l	10	1J72918	USGS I-1184-85	DRB	10/29/07 11:27	
Chemical Oxygen Demand	<10 mg/l	10	1J72911	EPA 410.4	SAA	10/30/07 10:56	
Nitrogen, Ammonia	<1.0 mg/l	1.0	1J72913	SM 4500-NH3 F	SAA	10/30/07 15:52	
Phenols, total	<0.100 mg/l	0.100	1K70202	EPA 9065	WAS	11/02/07 8:38	
Iron, dissolved	<0.100 mg/l	0.100	1J72603	EPA 6010B	RVV	10/26/07 13:27	
17J1278-02 MW-13				Matrix:Water		Collected: 10/24/07 09:00	
Trichloroethylene	<1.0 ug/l	1.0	1J73025	EPA 8260B	TVK	10/30/07 15:21	
Surrogate: Dibromofluoromethane	*107 %*			*74-132*	TVK	10/30/07 15:21	
Surrogate: 1,2-Dichloroethane-d4	*100 %*			*74-133*	TVK	10/30/07 15:21	
Surrogate: Toluene-d8	*103 %*			*85-115*	TVK	10/30/07 15:21	
Surrogate: 4-Bromofluorobenzene	*101 %*			*77-122*	TVK	10/30/07 15:21	
Total Organic Halogens (TOX)	**0.022 mg/l**	**0.010**	1K70540	EPA 9020	SAI	11/05/07 16:53	
Chloride	**13 mg/l**	**10**	1J72918	USGS I-1184-85	DRB	10/29/07 11:27	
Chemical Oxygen Demand	<10 mg/l	10	1J72911	EPA 410.4	SAA	10/30/07 10:56	
Nitrogen, Ammonia	<1.0 mg/l	1.0	1J72913	SM 4500-NH3 F	SAA	10/30/07 15:52	
Phenols, total	<0.100 mg/l	0.100	1K70202	EPA 9065	WAS	11/02/07 8:38	
Iron, dissolved	<0.100 mg/l	0.100	1J72603	EPA 6010B	RVV	10/26/07 13:31	
17J1278-03 MW-11				Matrix:Water		Collected: 10/24/07 09:50	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	1K70534	EPA 9020	SAI	11/05/07 16:59	
Chloride	**301 mg/l**	**20**	1J72918	USGS I-1184-85	DRB	10/29/07 11:27	
Chemical Oxygen Demand	**30 mg/l**	**10**	1J72911	EPA 410.4	SAA	10/30/07 10:56	
Nitrogen, Ammonia	<1.0 mg/l	1.0	1J72913	SM 4500-NH3 F	SAA	10/30/07 15:52	
Phenols, total	<0.100 mg/l	0.100	1K70202	EPA 9065	WAS	11/02/07 8:38	
Iron, dissolved	<0.100 mg/l	0.100	1J72603	EPA 6010B	RVV	10/26/07 13:35	
17J1278-04 MW-14				Matrix:Water		Collected: 10/24/07 10:10	

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.

Wright County Landfill
PO Box 173
Clarion, IA 50525

Work Order: 17J1278

November 08, 2007

Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
17J1278-04 MW-14				Matrix:Water		Collected: 10/24/07 10:10	
Total Organic Halogens (TOX)	**0.065 mg/l**	**0.010**	1K70540	EPA 9020	SAI	11/05/07 16:53	
Chloride	**200 mg/l**	**10**	1J72918	USGS I-1184-85	DRB	10/29/07 11:27	
Chemical Oxygen Demand	<10 mg/l	10	1J72911	EPA 410.4	SAA	10/30/07 10:56	
Nitrogen, Ammonia	<1.0 mg/l	1.0	1J72914	SM 4500-NH3 F	SAA	10/30/07 15:52	
Phenols, total	<0.100 mg/l	0.100	1K70202	EPA 9065	WAS	11/02/07 8:38	
Iron, dissolved	<0.100 mg/l	0.100	1J72603	EPA 6010B	RVV	10/26/07 13:39	
17J1278-05 MW-15				Matrix:Water		Collected: 10/24/07 10:40	
Benzene	<1.0 ug/l	1.0	1J73025	EPA 8260B	TVK	10/30/07 7:00	
Surrogate: Dibromofluoromethane	*107 %*			*74-132*	TVK	10/30/07 7:00	
Surrogate: 1,2-Dichloroethane-d4	*98.8 %*			*74-133*	TVK	10/30/07 7:00	
Surrogate: Toluene-d8	*105 %*			*85-115*	TVK	10/30/07 7:00	
Surrogate: 4-Bromofluorobenzene	*98.5 %*			*77-122*	TVK	10/30/07 7:00	
Total Organic Halogens (TOX)	**0.151 mg/l**	**0.010**	1K70534	EPA 9020	SAI	11/05/07 16:59	
Chloride	**74 mg/l**	**10**	1J72918	USGS I-1184-85	DRB	10/29/07 11:27	
Chemical Oxygen Demand	**16 mg/l**	**10**	1J72911	EPA 410.4	SAA	10/30/07 10:56	
Nitrogen, Ammonia	<1.0 mg/l	1.0	1J72914	SM 4500-NH3 F	SAA	10/30/07 15:52	
Phenols, total	<0.100 mg/l	0.100	1K70202	EPA 9065	WAS	11/02/07 8:38	
Arsenic, dissolved	**0.010 mg/l**	**0.001**	1J73120	EPA 7060A	LAR	10/31/07 15:21	
Iron, dissolved	**0.112 mg/l**	**0.100**	1J72603	EPA 6010B	RVV	10/26/07 13:43	
17J1278-06 MW-16				Matrix:Water		Collected: 10/24/07 11:00	
Total Organic Halogens (TOX)	**0.015 mg/l**	**0.010**	1K70540	EPA 9020	SAI	11/05/07 16:53	
Chloride	**19 mg/l**	**10**	1J72918	USGS I-1184-85	DRB	10/29/07 11:27	
Chemical Oxygen Demand	<10 mg/l	10	1J72911	EPA 410.4	SAA	10/30/07 10:56	
Nitrogen, Ammonia	<1.0 mg/l	1.0	1J72914	SM 4500-NH3 F	SAA	10/30/07 15:52	
Phenols, total	<0.100 mg/l	0.100	1K70202	EPA 9065	WAS	11/02/07 8:38	
Iron, dissolved	<0.100 mg/l	0.100	1J72603	EPA 6010B	RVV	10/26/07 13:47	
17J1278-07 PZ-1B				Matrix:Water		Collected: 10/24/07 11:40	
Total Organic Halogens (TOX)	**0.068 mg/l**	**0.010**	1K70534	EPA 9020	SAI	11/05/07 16:59	
Chloride	**44 mg/l**	**10**	1J72918	USGS I-1184-85	DRB	10/29/07 11:27	
Chemical Oxygen Demand	<10 mg/l	10	1J72911	EPA 410.4	SAA	10/30/07 10:56	
Nitrogen, Ammonia	<1.0 mg/l	1.0	1J72914	SM 4500-NH3 F	SAA	10/30/07 15:52	
Phenols, total	<0.100 mg/l	0.100	1K70202	EPA 9065	WAS	11/02/07 8:38	
Iron, dissolved	<0.100 mg/l	0.100	1J72603	EPA 6010B	RVV	10/26/07 13:51	
17J1278-08 PZ-2B				Matrix:Water		Collected: 10/24/07 12:10	
Benzene	<1.0 ug/l	1.0	1J73025	EPA 8260B	TVK	10/30/07 6:22	
Surrogate: Dibromofluoromethane	*104 %*			*74-132*	TVK	10/30/07 6:22	
Surrogate: 1,2-Dichloroethane-d4	*99.2 %*			*74-133*	TVK	10/30/07 6:22	
Surrogate: Toluene-d8	*104 %*			*85-115*	TVK	10/30/07 6:22	

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PO Box 173
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Work Order: 17J1278

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Analyte	Result	MRL	Batch	Method	Analyst	Analyzed	Qualifier
17J1278-08 PZ-2B				Matrix:Water		Collected: 10/24/07 12:10	
Surrogate: 4-Bromofluorobenzene	*103 %*			*77-122*	TVK	10/30/07 6:22	
Total Organic Halogens (TOX)	**0.059 mg/l**	**0.010**	1K70540	EPA 9020	SAI	11/05/07 16:53	
Chloride	**36 mg/l**	**10**	1J72918	USGS I-1184-85	DRB	10/29/07 11:27	
Chemical Oxygen Demand	**18 mg/l**	**10**	1J72911	EPA 410.4	SAA	10/30/07 10:56	
Nitrogen, Ammonia	<1.0 mg/l	1.0	1J72914	SM 4500-NH3 F	SAA	10/30/07 15:52	
Phenols, total	<0.100 mg/l	0.100	1K70202	EPA 9065	WAS	11/02/07 8:38	
Arsenic, dissolved	**0.002 mg/l**	**0.001**	1K70805	EPA 7060A	LAR	11/08/07 15:48	
Iron, dissolved	<0.100 mg/l	0.100	1J72603	EPA 6010B	RVV	10/26/07 13:55	
17J1278-09 UPS-1				Matrix:Water		Collected: 10/24/07 12:55	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	1K70713	EPA 9020	SAI	11/07/07 10:49	
Chloride	**20 mg/l**	**10**	1J72918	USGS I-1184-85	DRB	10/29/07 11:27	
Chemical Oxygen Demand	<10 mg/l	10	1J72911	EPA 410.4	SAA	10/30/07 10:56	
Nitrogen, Ammonia	<1.0 mg/l	1.0	1J72914	SM 4500-NH3 F	SAA	10/30/07 15:52	
Phenols, total	<0.100 mg/l	0.100	1K70202	EPA 9065	WAS	11/02/07 8:38	
Iron, dissolved	<0.100 mg/l	0.100	1J72603	EPA 6010B	RVV	10/26/07 13:59	
17J1278-10 DNS-1				Matrix:Water		Collected: 10/24/07 13:30	
Total Organic Halogens (TOX)	<0.010 mg/l	0.010	1K70713	EPA 9020	SAI	11/07/07 10:49	
Chloride	**20 mg/l**	**10**	1J72918	USGS I-1184-85	DRB	10/29/07 11:27	
Chemical Oxygen Demand	<10 mg/l	10	1J72911	EPA 410.4	SAA	10/30/07 10:56	
Nitrogen, Ammonia	<1.0 mg/l	1.0	1J72914	SM 4500-NH3 F	SAA	10/30/07 15:52	
Phenols, total	<0.100 mg/l	0.100	1K70202	EPA 9065	WAS	11/02/07 8:38	
Iron, dissolved	<0.100 mg/l	0.100	1J72603	EPA 6010B	RVV	10/26/07 14:03	

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November 08, 2007

Certified Analyses included in this Report

Method/Matrix	Analyte	Certifications
EPA 410.4 in Water		
	Chemical Oxygen Demand	IA-NT,KS-NT,NELAC
EPA 6010B in Water		
	Iron, dissolved	IA-NT,KS-NT,NELAC
EPA 7060A in Water		
	Arsenic, dissolved	IA-NT,KS-NT,NELAC
EPA 8260B in Water		
	Benzene	IA-NT,KS-NT,NELAC
	Trichloroethylene	IA-NT,KS-NT,NELAC
EPA 9020 in Water		
	Total Organic Halogens (TOX)	IA-NT,NELAC
EPA 9065 in Water		
	Phenols, total	IA-NT,KS-NT,NELAC
SM 4500-NH3 F in Water		
	Nitrogen, Ammonia	IA-NT
USGS I-1184-85 in Water		
	Chloride	IA-NT

Code	Description	Number	Expires
IA-NT	Iowa Department of Natural Resources	095	02/01/2008
KS-NT	Kansas Department of Health and Environment	E-10287	07/31/2008
NELAC	New Jersey Department of Environmental Protection	IA001	06/30/2008

Notes and Definitions

C-11 The CCV was outside established acceptance limits. Batch was accepted based on acceptable LCS and/or MS/MSD recoveries.

End of Report

Sue Thompson

Keystone Laboratories, Inc.

Sue Thompson
Project Manager I

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