

Bioassays of

Mudhill Landfill

Wausau, Washington County, Florida

NPDES #FL0066659

Sampled 3/11/02

November 2002

Biology Section

Division of Resource Assessment & Management

Comprehensive Quality Assurance Plan #870346G

Bioassays of

Mudhill Landfill

Wausau, Washington County, Florida

NPDES #FL0066659

Biology Section
Bureau of Laboratories
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Introduction

Mudhill Landfill, Mudhill Road, Section 2, Township 2 North, Range 14 West, Washington County, Florida, NPDES #FL0066659, tests performed on 12 to 14 March, 2002.

This landfill consists of approximately 80 acres, of which approximately 11 acres were used for waste disposal. The trench disposal method was used in this facility, with the typical trench being 50 feet wide, 400 feet long, and 10 feet deep. The landfill operation consisted of trench excavation, daily cover, final cover, and erosion maintenance. In 1988 the landfill was closed due to the cost of maintaining the facility. Leechate from this landfill enters the groundwater and is suspected to move down gradient to the Class III freshwater surface-waters of Little Reedy Creek and potentially Sodom Branch (facility information provided by Divina Koonce, FDEP, Pensacola).

The toxicity tests discussed in this report were performed in accordance with methods described by Weber, 1993, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 4th Edition, EPA/600/4-90/027F.

Results and Discussion

The FDEP Biology Section performed toxicity bioassays on three samples from three locations within this facility. Rattlesnake Head was used as a control station for Little Reedy Creek and Sodom Branch. Samples for chemical analysis were not collected from these sites.

Two 48-hour static acute screening toxicity bioassays were performed on the Rattlesnake Head sample using two freshwater species the water flea, *Ceriodaphnia dubia*, and the bannerfin shiner, *Cyprinella leedsi* (Table 1). Neither total ammonia nor total chlorine was detected in the sample in the laboratory. Aeration of the sample for approximately 25 minutes was necessary to decrease the dissolved oxygen concentration from 9.5mg/L to 8.2mg/L. An aliquot of the sample was pH-adjusted from 4.75 s.u. to 6.25 s.u. prior to test initiation. Then, a pH-adjusted control was developed by lowering control water pH to approximately that of the sample pH.

In the pH-adjusted Rattlesnake Head sample there was 100% *C. dubia* survival and 95% *C. leedsi* survival. In the sample that was not pH-adjusted 100% mortality occurred in both *C. dubia* and *C. leedsi*. In the pH-adjusted control 95% survival of *C. dubia* and 100% survival of *C. leedsi* occurred. The survival rate in the pH-adjusted control may be explained by the increase in pH that occurred after test initiation.

Two 48-hour acute definitive toxicity bioassays were performed on both the Little Reedy Creek and Sodom Branch samples using the freshwater species *C. dubia* and *C. leedsi*. The 100% effluent concentration of Little Reedy Creek indicated toxicity to *C. dubia*, with a 40% mortality rate, but did not indicate toxicity to *C. leedsi* (Table 2). Total residual chlorine was not detected in this sample in the lab; however, total ammonia was present at a concentration of 0.78mg/L total ammonia with 0.007mg/L as unionized ammonia. The Sodom Branch sample did not indicate toxicity to either test species, with neither total residual chlorine nor total ammonia being detected in the sample (Table 3).

Conclusion

After pH adjustment of the Rattlesnake Head sample there was no indication of toxicity. Likewise there was no indication of toxicity to the test organisms in the Sodom Branch sample. The Little Reedy Creek sample indicated toxicity to *C. dubia*; the cause of this toxicity is undetermined.

Table 1. Data recorded during the 48-hour acute screening bioassays of a sample of effluent from Mudhill Landfill, Rattlesnake Head, Washington County, Florida, NPDES# FL0066659, performed from 12 to 14 March 2002.

Facility:	**Mudhill Landfill**		**NPDES#:**	**FL0066659**	Facility Type: **Landfill**	**Analysts:**	Della Parker-Hanson
Location:	Mudhill Road		Contact/District:	Koonce/NW			Joshua Ayres
County:	Washington		Test type:	static acute screen			Gary Hardie
Sample Collection Date:	3/11/2002	Time: 1030	# tests:	6			Marshall Faircloth
Test Beginning Date:	3/12/2002	Time: 1425	Chlorination Type:	non-chlorinated			
Test Ending Date:	3/14/2002	Time: 1430			**Page 1 of 2**	**Reviewer:**	David Whiting

Organism: ***Ceriodaphnia dubia*** Life stage: <24 hours

															Conductivity Uncorrected	
	Sample/Diluent	**SURVIVAL # Alive**			pH			Temperature[A]			Dissolved Oxygen				µmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour		0 hour	48 hour
Control A	0/20	5	5	5	8.0	-	8.2	25.1	-	24.2	8.0	-	7.9		180	195
Control B	0/20	5	5	5	-	-	8.3	-	-	24.2	-	-	7.8		-	195
Control C	0/20	5	5	5	-	-	8.3	-	-	24.2	-	-	7.8		-	190
Control D	0/20	5	5	5	-	-	8.3	-	-	24.2	-	-	7.8		-	185
pH Control A	0/20	5	5	5	5.2	-	7.3	25.2	-	24.2	7.9	-	7.8		450	530
pH Control B	0/20	5	5	5	-	-	7.3	-	-	24.2	-	-	7.9		-	515
pH Control C	0/20	5	5	5	-	-	7.3	-	-	24.2	-	-	7.9		-	510
pH Control D	0/20	5	4	4	-	-	7.1	-	-	24.4	-	-	7.9		-	520
100% A	20/0	5	0	-	5.0	5.5	-	25.9	24.6	-	7.7	7.5	-		50	60*
100% B	20/0	5	0	-	-	5.6	-	-	24.5	-	-	7.5	-		-	35*
100% C	20/0	5	0	-	-	5.6	-	-	24.5	-	-	7.6	-		-	25*
100% D	20/0	5	0	-	-	5.7	-	-	24.5	-	-	7.6	-		-	25*
pH 100% A	20/0	5	5	5	6.1	-	7.6	24.7	-	24.3	7.7	-	7.9		25	40
pH 100% B	20/0	5	5	5	-	-	7.6	-	-	24.2	-	-	7.9		-	30
pH 100% C	20/0	5	5	5	-	-	7.6	-	-	24.1	-	-	7.9		-	30
pH 100% D	20/0	5	5	5	-	-	7.6	-	-	24.0	-	-	7.9		-	30

*Taken at 24 hours

[A] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 24.5-25.0 °C.
Incubator #3 temperature range for the test period was 24.5-26.0°C.

LIMS	
Job number:	TLH-2002-03-12-03
sample number:	581737

Data Transcription Verification	
date:	8/22/2002
by:	Christa Pierini
	Joshua Ayres

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water (water flea):	<0.017	<0.017
100% Sample:	<0.017	<0.017

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water (water flea):	72	74
100% Sample:	10	3

Continued

Table 1. **Concluded** Data recorded during the 48-hour acute screening bioassays of a sample of effluent from Mudhill Landfill, Rattlesnake Head, Washington County, Florida, NPDES #FL0066659, performed from 12 to 14 March 2002.

Facility:	**Mudhill Landfill**		**NPDES#:**	**FL0066659**	Facility Type: **Landfill**	**Analysts:**	Della Parker-Hanson
Location:	Mudhill Road		Contact/District:	Koonce/NW			Joshua Ayres
County:	Washington		Test type:	static acute screen			Gary Hardie
Sample Collection Date:	3/11/2002	Time: 1030	# tests:	6			Marshall Faircloth
Test Beginning Date:	3/12/2002	Time: 1425	Chlorination Type:	non-chlorinated			
Test Ending Date:	3/14/2002	Time: 1430			**Page 2 of 2**	**Reviewer:**	David Whiting

Organism: ***Cyprinella leedsi*** Life stage: 10 days

	Sample/Diluent	**SURVIVAL # Alive**			pH			Temperature[A]			Dissolved Oxygen			Conductivity Uncorrected µmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control A	0/500	5	5	5	8.0	8.3	8.4	24.8	23.9	24.9	7.6	7.7	7.9	270	275
Control B	0/500	5	5	4	8.1	8.4	8.5	24.8	23.8	25.6	7.7	7.7	7.9	270	285
Control C	0/500	5	5	5	8.1	8.5	8.5	24.8	24.3	24.6	7.8	7.5	7.8	265	275
Control D	0/500	5	5	5	8.1	8.4	8.5	24.8	24.2	25.6	7.8	7.5	7.9	265	280
pH Control A	0/500	5	5	5	5.5	6.8	7.4	24.7	24.0	25.7	7.9	7.7	7.6	365	395
pH Control B	0/500	5	5	5	5.1	6.8	7.4	24.8	23.8	25.4	7.9	7.7	7.6	370	380
pH Control C	0/500	5	5	5	5.1	6.7	7.3	25.0	24.3	24.8	7.8	7.8	7.8	370	375
pH Control D	0/500	5	5	5	5.0	6.7	7.3	25.0	24.2	24.7	7.8	7.7	7.9	370	390
100% A	500/0	5	0	-	4.7	4.8	-	24.1	24.0	-	8.1	7.8	-	45	45*
100% B	500/0	5	0	-	4.7	5.1	-	23.6	24.0	-	8.2	7.7	-	30	35*
100% C	500/0	5	0	-	4.7	5.0	-	23.6	23.9	-	8.3	7.8	-	30	30*
100% D	500/0	5	0	-	4.6	4.9	-	24.1	24.2	-	8.3	7.9	-	30	30*
pH 100% A	500/0	5	5	5	6.0	5.8	7.7	23.6	24.1	25.1	8.3	7.8	7.7	25	30
pH 100% B	500/0	5	4	4	6.1	6.1	7.7	23.4	24.3	24.9	8.3	7.8	7.9	25	25
pH 100% C	500/0	5	5	5	6.1	6.2	7.7	23.4	24.4	25.6	8.4	7.6	7.7	25	25
pH 100% D	500/0	5	5	5	6.1	6.1	7.7	23.5	24.2	25.0	8.4	7.6	8.0	25	25

*Taken at 24 hours

[A] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 24.5-25.0 °C.
Incubator #3 temperature range for the test period was 24.5-26.0°C.

LIMS	
Job number:	TLH-2002-03-12-03
sample number:	581737

Data Transcription Verification	
date:	8/22/2002
by:	Christa Pierini
	Joshua Ayres

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water	<0.017	<0.017
100% Sample:	<0.017	<0.017

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water	142	134
100% Sample:	10	3

Table 2. Data recorded during the 48-hour acute screening bioassays of a sample of effluent from Mudhill Landfill, Little Reedy Creek, Washington County, Florida, NPDES# FL0066659, performed from 12 to 14 March 2002.

Facility:	**Mudhill Landfill**		**NPDES#:**	**FL0066659**	Facility Type: **Landfill**	**Analysts:** Della Parker-Hanson
Location:	Mudhill Road		Contact/District:	Koonce/NW		Joshua Ayres
County:	Washington		Test type:	static acute definitive		Gary Hardie
Sample Collection Date:	3/11/2002	Time: 1137	# tests:	6		Marshall Faircloth
Test Beginning Date:	3/12/2002	Time: 1600	Chlorination Type:	non-chlorinated		
Test Ending Date:	3/14/2002	Time: 1430			**Page 1 of 2**	**Reviewer:** David Whiting

Organism: ***Ceriodaphnia dubia*** Life stage: <24 hours

																Conductivity Uncorrected
	Sample/Diluent	**SURVIVAL # Alive**			pH			Temperature[A]			Dissolved Oxygen					µmhos/cm
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour
Control A	0/20	5	5	5	8.2	-	7.7	25.5	-	24.6	7.8	-	7.9	175	185	
Control B	0/20	5	5	5	-	-	8.1	-	-	24.6	-	-	7.8	-	185	
Control C	0/20	5	5	5	-	-	8.1	-	-	24.6	-	-	7.8	-	190	
Control D	0/20	5	5	5	-	-	8.1	-	-	24.5	-	-	7.7	-	200	
6.25% A	1.25/18.75	5	5	5	7.9	-	8.1	25.7	-	24.5	8.0	-	7.7	170	185	
6.25% B	1.25/18.75	5	5	5	-	-	8.1	-	-	24.7	-	-	7.7	-	180	
6.25% C	1.25/18.75	5	5	5	-	-	8.1	-	-	24.7	-	-	7.7	-	185	
6.25% D	1.25/18.75	5	5	5	-	-	8.1	-	-	24.5	-	-	7.7	-	170	
12.5% A	2.5/17.5	5	5	5	7.8	-	8.0	25.9	-	24.5	7.7	-	7.8	170	180	
12.5% B	2.5/17.5	5	5	5	-	-	8.0	-	-	24.7	-	-	7.7	-	175	
12.5% C	2.5/17.5	5	5	5	-	-	8.0	-	-	24.6	-	-	7.8	-	175	
12.5% D	2.5/17.5	5	5	5	-	-	8.0	-	-	24.5	-	-	7.8	-	185	
25% A	5/15	5	4	4	7.7	-	8.0	26.0	-	24.7	7.7	-	7.8	165	175	
25% B	5/15	5	5	5	-	-	8.0	-	-	24.7	-	-	7.7	-	185	
25% C	5/15	5	5	5	-	-	8.0	-	-	24.7	-	-	7.7	-	180	
25%D	5/15	5	5	5	-	-	8.0	-	-	24.5	-	-	7.7	-	185	
50% A	10/10	5	5	5	7.5	-	7.9	26.0	-	24.6	7.5	-	8.0	160	165	
50% B	10/10	5	5	5	-	-	7.9	-	-	24.7	-	-	7.7	-	160	
50% C	10/10	5	5	4	-	-	7.9	-	-	24.7	-	-	7.7	-	165	
50% D	10/10	5	5	5	-	-	7.9	-	-	24.6	-	-	7.7	-	160	
100% A	20/0	5	5	3	7.1	-	7.8	26.1	-	24.8	7.2	-	7.7	145	145	
100% B	20/0	5	5	5	-	-	7.8	-	-	24.8	-	-	7.7	-	140	
100% C	20/0	5	5	0	-	-	7.8	-	-	24.7	-	-	7.7	-	140	
100% D	20/0	5	5	4	-	-	7.8	-	-	24.6	-	-	7.8	-	140	

[A] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 24.5-25.0 °C.
Incubator #3 temperature range for the test period was 24.5-26.0°C.

LIMS	
Job number:	TLH-2002-03-12-03
sample number:	581735

Data Transcription Verification	
date:	9/9/2002
by:	Joshua Ayres
	Christa Pierini

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water (water flea):	<0.017	<0.017
100% Sample:	0.78	0.007

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water (water flea):	72	74
100% Sample:	54	41

Continued

Table 2. Data recorded during the 48-hour acute screening bioassays of a sample of effluent from Mudhill Landfill, Little Reedy Branch, Washington County, Florida, NPDES# FL00066659, performed from 12 to 14 March 2002.
Concluded

Facility:	**Mudhill Landfill**		**NPDES#:**	**FL0066659**	Facility Type: **Landfill**		**Analysts:**	Della Parker-Hanson
Location:	Mudhill Road		Contact/District:	Koonce/NW				Joshua Ayres
County:	Washington		Test type:	static acute definitive				Gary Hardie
Sample Collection Date:	3/11/2002	Time: 1137	# tests:	6				Marshall Faircloth
Test Beginning Date:	3/12/2002	Time: 1640	Chlorination Type:	non-chlorinated				
Test Ending Date:	3/14/2002	Time: 1430				**Page 2 of 2**	**Reviewer:**	David Whiting

Organism: ***Cyprinella leedsi*** Life stage: 10 days

	Sample/Diluent	**SURVIVAL # Alive**			pH			Temperature[A]			Dissolved Oxygen			Conductivity Uncorrected µmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control A	0/500	5	5	5	8.1	8.3	8.3	24.6	24.5	24.9	7.9	7.6	7.6	250	295
Control B	0/500	5	5	5	8.2	8.3	8.3	24.5	24.7	24.7	7.9	7.6	7.7	255	275
Control C	0/500	5	5	5	8.2	8.4	8.3	24.5	24.7	24.5	7.9	7.5	7.7	260	275
Control D	0/500	5	5	5	8.1	8.4	8.3	24.5	24.4	24.7	7.9	7.5	7.9	260	275
6.25% A	31.25/468.75	5	5	5	8.1	8.3	8.3	24.3	24.4	24.9	7.9	7.6	7.8	255	270
6.25% B	31.25/468.75	5	5	5	8.1	8.3	8.4	24.2	24.7	24.9	7.9	7.6	7.7	255	265
6.25% C	31.25/468.75	5	5	5	8.0	8.3	8.4	24.2	24.9	24.6	8.0	7.4	7.9	255	265
6.25% D	31.25/468.75	5	5	5	8.0	8.3	8.3	24.2	24.9	24.5	8.0	7.4	7.9	255	265
12.5% A	62.5/437.5	5	5	5	8.0	8.3	8.3	24.2	24.9	25.9	8.0	7.4	7.8	250	270
12.5% B	62.5/437.5	5	5	5	8.0	8.3	8.3	24.1	24.7	25.6	8.0	7.3	7.7	240	265
12.5% C	62.5/437.5	5	5	4	8.0	8.3	8.4	24.1	24.4	24.4	8.0	7.5	7.8	240	265
12.5%D	62.5/437.5	5	5	4	7.9	8.3	8.3	24.1	24.4	24.5	8.0	7.5	7.9	240	270
25% A	125/375	5	5	5	7.8	8.3	8.3	24.2	24.4	24.8	8.0	7.5	8.1	235	250
25% B	125/375	5	5	5	7.8	8.2	8.3	24.2	24.6	24.7	8.0	7.6	8.2	230	240
25% C	125/375	5	5	5	7.8	8.2	8.3	24.2	25.1	24.5	8.0	7.4	8.0	230	240
25% D	125/375	5	5	5	7.8	8.2	8.3	24.2	24.9	24.5	8.0	7.3	8.0	230	240
50% A	250/250	5	5	5	7.6	8.1	8.2	24.2	24.9	24.8	8.0	7.4	8.0	200	215
50% B	250/250	5	5	5	7.6	8.1	8.2	24.2	24.5	24.8	8.1	7.3	7.9	195	210
50% C	250/250	5	5	5	7.6	8.1	8.2	24.2	24.6	24.6	8.0	7.5	7.9	195	210
50% D	250/250	5	5	5	7.6	8.1	8.1	24.3	24.4	24.4	7.9	7.3	8.0	195	210
100% A	500/0	5	5	5	7.3	7.8	7.8	24.3	24.4	24.4	8.0	7.5	8.1	140	145
100% B	500/0	5	5	5	7.3	7.8	7.8	24.3	24.2	24.4	7.8	7.5	8.3	140	150
100% C	500/0	5	5	5	7.3	7.7	7.8	24.4	24.3	24.4	7.6	7.6	8.2	135	145
100% D	500/0	5	5	5	7.2	7.6	7.7	24.4	24.5	24.5	7.6	7.4	8.2	140	140

[A] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 24.5-25.0 °C.
Incubator #3 temperature range for the test period was 24.5-26.0°C.

LIMS	
Job number:	TLH-2002-03-12-03
sample number:	581735

Data Transcription Verification	
date:	9/9/2002
by:	Joshus Ayres
	Christa Pierini

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water	<0.017	<0.017
100% Sample:	0.78	0.007

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water	142	134
100% Sample:	54	41

Table 3 . Data recorded during the 48-hour acute screening bioassays of a sample of effluent from Mudhill Landfill, Sodom Branch, Washington County, Florida, NPDES# FL0066659, performed from 12 to 14 March 2002.

Facility:	**Mudhill Landfill**		**NPDES#:**	**FL0066659**	Facility Type: **Landfill**	**Analysts:**	Della Parker-Hanson
Location:	Mudhill Road		Contact/District:	Koonce/NW			Joshua Ayres
County:	Washington		Test type:	static acute definitive			Gary Hardie
Sample Collection Date:	3/11/2002	Time: 1257	# tests:	6			Marshall Faircloth
Test Beginning Date:	3/12/2002	Time: 1530	Chlorination Type:	non-chlorinated			
Test Ending Date:	3/14/2002	Time: 1500			**Page 1 of 2**	**Reviewer:**	David Whiting

Organism: ***Ceriodaphnia dubia*** Life stage: <24 hours

	Sample/Diluent	SURVIVAL # Alive			pH			Temperature[A]			Dissolved Oxygen			Conductivity Uncorrected µmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control A	0/20	5	5	5	8.1	-	8.3	23.5	-	24.6	8.1	-	7.6	160	200
Control B	0/20	5	5	5	-	-	8.3	-	-	24.5	-	-	7.6	-	200
Control C	0/20	5	5	5	-	-	8.3	-	-	24.5	-	-	7.7	-	205
Control D	0/20	5	5	5	-	-	8.3	-	-	24.6	-	-	7.7	-	210
6.25% A	1.25/18.75	5	5	5	8.1	-	8.3	23.5	-	24.5	8.0	-	7.7	160	185
6.25% B	1.25/18.75	5	5	5	-	-	8.3	-	-	24.5	-	-	7.7	-	180
6.25% C	1.25/18.75	5	5	5	-	-	8.2	-	-	24.5	-	-	7.7	-	190
6.25% D	1.25/18.75	5	5	5	-	-	8.3	-	-	24.4	-	-	7.7	-	205
12.5% A	2.5/17.5	5	5	5	8.0	-	8.3	23.5	-	24.4	8.0	-	7.7	150	175
12.5% B	2.5/17.5	5	5	5	-	-	8.3	-	-	24.4	-	-	7.7	-	170
12.5% C	2.5/17.5	5	5	5	-	-	8.3	-	-	24.4	-	-	7.7	-	180
12.5% D	2.5/17.5	5	5	5	-	-	8.2	-	-	24.3	-	-	7.8	-	190
25% A	5/15	5	5	5	8.0	-	8.3	23.4	-	24.3	8.0	-	7.9	135	160
25% B	5/15	5	4	4	-	-	8.2	-	-	24.4	-	-	7.8	-	155
25% C	5/15	5	4	4	-	-	8.2	-	-	24.4	-	-	7.8	-	160
25%D	5/15	5	5	5	-	-	8.2	-	-	24.2	-	-	7.8	-	180
50% A	10/10	5	5	5	8.0	-	8.1	23.4	-	24.2	8.0	-	7.8	110	135
50% B	10/10	5	5	5	-	-	8.1	-	-	24.3	-	-	7.8	-	130
50% C	10/10	5	5	5	-	-	8.1	-	-	24.3	-	-	7.8	-	135
50% D	10/10	5	5	5	-	-	8.1	-	-	24.2	-	-	7.8	-	150
100% A	20/0	5	5	5	8.0	-	8.0	23.4	-	24.2	8.0	-	7.8	55	75
100% B	20/0	5	5	5	-	-	8.0	-	-	24.3	-	-	7.8	-	60
100% C	20/0	5	5	5	-	-	8.0	-	-	24.3	-	-	7.7	-	70
100% D	20/0	5	5	5	-	-	7.9	-	-	24.2	-	-	7.8	-	70

LIMS

Job number:	TLH-2002-03-12-03
sample number:	581736

Data Transcription Verification

date:	9/9/2002
by:	Joshua Ayres
	Christa Pierini

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water (water flea):	<0.017	<0.017
100% Sample:	<0.017	<0.017

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water (water flea):	72	74
100% Sample:	22	20

[A] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 24.5-25.0 °C.
Incubator #3 temperature range for the test period was 24.5-26.0°C.

Continued

Table 3. Data recorded during the 48-hour acute screening bioassays of a sample of effluent from Mudhill Landfill, Sodom Branch, Washington County, Florida, NPDES# FL00066659, performed from 12 to 14 March 2002.
Concluded

Facility:	**Mudhill Landfill**		**NPDES#:**	**FL0066659**	Facility Type:	**Landfill**	**Analysts:**	Della Parker-Hanson
Location:	Mudhill Road		Contact/District:	Koonce/NW				Joshua Ayres
County:	Washington		Test type:	static acute definitive				Gary Hardie
Sample Collection Date:	3/11/2002	Time: 1257	# tests:	6				Marshall Faircloth
Test Beginning Date:	3/12/2002	Time: 1530	Chlorination Type:	non-chlorinated				
Test Ending Date:	3/14/2002	Time: 1500				**Page 2 of 2**	**Reviewer:**	David Whiting

Organism: ***Cyprinella leedsi*** Life stage: 10 days

		SURVIVAL # Alive			pH			Temperature[A]			Dissolved Oxygen			Conductivity Uncorrected µmhos/cm	
Concentrations	Sample/Diluent Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control A	0/500	5	5	5	8.0	8.3	8.4	24.4	24.3	25.4	7.8	7.6	7.6	240	275
Control B	0/500	5	5	5	8.0	8.4	8.4	24.4	24.2	24.9	7.9	7.6	7.7	250	275
Control C	0/500	5	5	5	8.1	8.4	8.4	24.3	24.2	24.8	7.9	7.6	7.9	260	270
Control D	0/500	5	5	5	8.1	8.4	8.4	24.3	24.3	24.5	8.0	7.6	8.2	255	270
6.25% A	31.25/468.75	5	5	5	8.1	8.4	8.4	24.3	24.3	25.9	7.9	7.6	7.3	250	265
6.25% B	31.25/468.75	5	5	5	8.1	8.4	8.4	24.3	24.3	25.2	8.0	7.5	7.3	240	265
6.25% C	31.25/468.75	5	5	5	8.1	8.4	8.4	24.3	24.3	24.3	7.9	7.5	7.8	250	270
6.25% D	31.25/468.75	5	5	5	8.1	8.4	8.4	24.3	24.2	24.3	8.0	7.5	7.8	250	260
12.5% A	62.5/437.5	5	5	5	8.1	8.3	8.4	24.3	24.2	24.3	7.9	7.6	7.8	240	250
12.5% B	62.5/437.5	5	5	5	8.1	8.3	8.4	24.3	24.4	23.9	7.9	7.6	7.7	235	245
12.5% C	62.5/437.5	5	5	5	8.1	8.4	8.4	24.3	24.9	24.1	7.9	7.4	7.9	240	250
12.5%D	62.5/437.5	5	5	5	8.1	8.3	8.4	24.3	24.7	24.4	7.9	7.3	7.8	240	245
25% A	125/375	5	5	5	8.1	8.3	8.3	24.3	24.4	24.7	7.9	7.5	7.2	215	220
25% B	125/375	5	5	5	8.1	8.3	8.3	24.3	24.5	24.9	7.9	7.6	7.3	210	225
25% C	125/375	5	4	4	8.0	8.3	8.3	24.3	24.7	24.7	7.9	7.5	7.5	210	220
25% D	125/375	5	5	5	8.0	8.3	8.3	24.3	24.6	24.6	7.9	7.4	7.5	210	220
50% A	250/250	5	5	5	7.9	8.2	8.1	24.3	24.5	24.6	8.0	7.5	7.5	160	170
50% B	250/250	5	5	5	7.9	8.2	8.1	24.3	24.6	25.3	8.0	7.6	7.5	160	165
50% C	250/250	5	5	5	7.9	8.2	8.1	24.3	24.7	25.2	7.9	7.6	7.4	160	165
50% D	250/250	5	5	5	7.9	8.2	8.2	24.3	24.5	24.6	7.9	7.3	7.3	160	175
100% A	500/0	5	5	5	7.8	7.8	8.2	24.3	24.4	25.7	7.9	7.5	7.5	60	60
100% B	500/0	5	5	5	7.7	7.8	8.1	24.4	24.8	25.5	7.9	7.6	7.6	55	55
100% C	500/0	5	5	5	7.7	7.8	8.1	24.4	24.4	25.8	7.9	7.5	7.5	53	60
100% D	500/0	5	5	5	7.7	7.8	8.0	24.4	24.2	25.5	7.9	7.5	7.6	53	60

[A] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 24.5-25.0 °C.
Incubator #3 temperature range for the test period was 24.5-26.0°C.

LIMS	
Job number:	TLH-2002-03-12-03
sample number:	581736

Data Transcription Verification	
date:	9/9/2002
by:	Joshua Ayres
	Christa Pierini

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water	<0.017	<0.017
100% Sample:	<0.017	<0.017

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water	142	134
100% Sample:	22	20

The Bioassay of Mudhill Landfill effluent sampled on March 11, 2002, NPDES #FL0066659.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)

Transaction Code		NPDES NUMBER										YR/MO/DA						Insp Type	Inspector	Fac Type
1	N	2	5	3	F	L	0	0	6	6	6	5	9	#	#	0	2	0	3	1	1	# **B**	# **S**	# 2

Remarks

#

The Priority Pollutants Analysis for Bioassay of MudHill Landfill effluent sampled on March 11, 2002, NPDES #FL0066659.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)

Transaction Code		NPDES NUMBER										YR/MO/DA						Insp Type	Inspector	Fac Type
1	N	2	5	3	F	L	0	0	6	6	6	5	9	#	#	0	2	0	3	1	1	# **B**	# **S**	# 2

Remarks

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