



ENVIRONMENTAL MANAGEMENT, INC.

rec 12/29/87
TWO FINANCIAL CENTRE
10825 FINANCIAL PLAZA
SUITE 400
LITTLE ROCK, ARKANSAS 72211
(501) 221-1419

December 29, 1987

CSN: 77777777 Permit No. 11111111
Media: Air, Water, Solid, Hazardous
Missouri Permit Compliance Legal, Miss.
Media: Air, Water, Solid, Hazardous
Permit No.

Mr. Tony Morris
Arkansas Department of Pollution Control & Ecology
8001 National Drive
Little Rock, AR

0162-SR-2 - 41886
0132-SR-2 - 41888

RE: First Quarterly Analysis of the Sunray Sites

Dear Mr. Morris:

Attached are the analytical results for the first quarter sampling at Sunray's sites three (3) and four (4). Respectively, these comply with Solid Waste Consent Administrative Orders (CAO), LIS 86-008 and 86-010.

After a review, if the Department feels there is no public threat to the environment, please address a letter to Sunray Services, Inc. stating this fact. Again, the elevated pH value detected at monitor well three (3) is believed to be because of an excessive amount of grout that was introduced into the annulus during the boring phase at that location.

Sincerely,

Ray A. Quick, M.B.
Hydrogeologist

RAQ:sjw

cc: Mr. Paul Hughes
Dr. Robert Flournoy

MONITORING WELL ANALYSES

FOR

SUNRAY SERVICES, INC.
Springdale, Arkansas

December 7, 1987

SUBMITTED BY:

ENVIROMED LABORATORIES, INC.

414 W. California, Ruston, Louisiana 71270
1874 Dallas Drive, Baton Rouge, Louisiana 70806
1813 Lois Lane, Bossier City, Louisiana 71111

TABLE OF CONTENTS

INTRODUCTION -----	1
SAMPLING -----	1
SAMPLE ANALYSES -----	1
RESULTS -----	1
TABLE I Wet Chemistry and Metals Analyses -----	2
REFERENCES -----	4
APPENDIX	

INTRODUCTION

This report represents the deliverable items requested by Sunray Services, Inc., Springdale, Arkansas. The deliverable items included the sampling of nine (9) monitoring wells and the analyses of these samples.

SAMPLING

Nine monitoring wells were sampled on November 24-25, 1987, using 2" teflon bailers. Six wells had dedicated bailers. Teflon coated wire was used in the bailing procedure.

Samples were collected in the proper sample container with correct preservatives following EPA recommended methods (1, 2). Samples were iced down immediately (4°C) and transported to Enviromed Laboratories, Inc. for analyses by EML personnel. Recommended chain-of-custody procedures were followed.

SAMPLE ANALYSES

The nine monitoring well samples were analyzed for metals using a Perkin-Elmer Model 3030AA (graphite furnace). The specific method used for each of the metals is described in "Methods for Chemical Analysis of Water and Wastes" (1).

pH was recorded from a Markson Model 74 field pH meter. Specific conductance was analyzed by using a Markson field conductivity meter.

Analyses of other "wet chemistry" parameters were accomplished following methods outlined in Standard Methods (3).

RESULTS

Table I lists the wet chemistry and metals analyses and the concentration of each parameter detected in the respective monitoring well samples.



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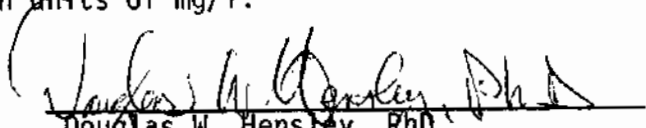
LABORATORIES, INC.

414 W. CALIFORNIA
RUSTON, LA. 71270
(318) 255-0060
1-800-421-2993 LA.

TABLE I
WET CHEMISTRY AND METALS ANALYSES
FOR RESPECTIVE MONITORING WELL SAMPLES
SUNRAY SERVICES, INC.
Springdale, Arkansas

	MW-1	MW-2	MW-3	MW-4
EML Sample #	2104	2105	2106	2107
Date Collected	11/25/87	11/25/87	11/25/87	11/25/87
Time Collected	1350	1405	1430	1435
Date Received	11/25/87	11/25/87	11/25/87	11/25/87
Time Received				
Sample Type	Grab	Grab	Grab	Grab
Preserved	Yes	Yes	Yes	Yes
<u>PARAMETER*</u>				
Chloride	41.9	8.8	3.8	3.3
Iron	0.32	0.52	0.06	0.22
Manganese	0.32	0.08	0.22	0.08
pH (Std. units)	7.6	7.8	11.7	8.0
Spec. Conductance (µmhos/cm)	930.6	229.7	1354.7	341.6
Sulfate	3.8	4.6	16.0	5.0
T. Diss. Solids	550.0	154.0	412.0	186.0
TOC	27.9	<1.0	2.3	<1.0

*Unless otherwise stated, all data is reported in units of mg/l.


Douglas W. Hensley, PhD
Laboratory Supervisor



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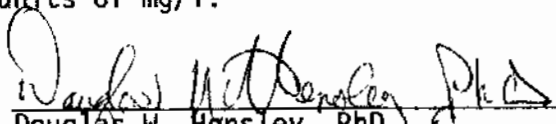
LABORATORIES, INC.

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TABLE I
WET CHEMISTRY AND METALS ANALYSES
FOR RESPECTIVE MONITORING WELL SAMPLES
SUNRAY SERVICES, INC.
Springdale, Arkansas

	MW-5	MW-6	MW-7	MW-8	MW-9
EML Sample #	2108	2109	2111	2112	2113
Date Collected	11/25/87	11/25/87	11/25/87	11/24/87	11/24/87
Time Collected	1345	1325	1310	1300	1335
Date Received	11/25/87	11/25/87	11/25/87	11/25/87	11/25/87
Time Received					
Sample Type	Grab	Grab	Grab	Grab	Grab
Preserved	Yes	Yes	Yes	Yes	Yes
PARAMETER*					
Chloride	42.1	12.4	6.3	4.3	13.4
COD	3.7	3.7	<3.7	<3.7	11.3
Iron	0.3	0.18	0.22	0.42	0.4
Manganese	0.1	0.14	0.4	0.06	1.02
pH (Std. units)	7.1	6.9	6.5	7.3	6.5
Spec. Conductance (μ mhos/cm)	589.0	447.6	971.8	329.8	918.8
T. Diss. Solids	400.0	266.0	550.0	196.0	518.0

*Unless otherwise stated, all data is reported in units of mg/l.


Douglas W. Hensley, PhD
Laboratory Supervisor

REFERENCES

- 1 "Methods for Chemical Analysis of Water and Wastes", US EPA, EMSL, Cincinnati, OH 45268 (March 1979).
- 2 "Federal Register", Monday, June 30, 1986.
- 3 "Standard Methods for the Examination of Water and Wastewater", 16th Edition, 1985 APHA-AWWA-WPCF.

APPENDIX

Enviromed Laboratories, Inc.
Data Sheet for Well Sampling

Location of Facility: Sunray Landfill

Well Number: MW-1 Sample Number: 2104

Date of Sampling: 11/25/87 Time of Sampling: 1350

Elevation of Measuring Point: 1295.44 Feet.

Well pumped at: 10.6 g.p.m. for: 9 (dry) minutes.

Well bailed _____ times with _____ inch bailer.

	Conductivity (umhos/cm)	pH	Temperature (C °)
1.	<u>471.0</u>	<u>7.6</u>	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____

Comments:

Well Depth: 125.00 6-inch Well (1.47/ft.): X

Depth to Water: 78.70 2-inch Well (0.16/ft.): _____

Water Depth: 46.30 Volumes Bailed: 1.3

Additional Analyses: See Table I

Analytical Laboratory: Enviromed Laboratories, Inc.

Sampler(s) Name(s): Ricky Holcomb
Bryan Sellers
Bill Clendenen

Date Shipped: 11/25/87 Date Delivered: 11/25/87

Method Shipped: FTL truck

Shipped by: EML

EnviroMed Laboratories, Inc.
Data Sheet for Well Sampling

Location of Facility: Sunray Landfill

Well Number: MW-2 Sample Number: 2105

Date of Sampling: 11/25/87 Time of Sampling: 1405

Elevation of Measuring Point: 1242.55 Feet.

Well pumped at: 10.6 g.p.m. for: 6.09 (dry) minutes.

Well bailed _____ times with _____ inch bailer.

	Conductivity (umhos/cm)	pH	Temperature (C°)
1.	<u>108.0</u>	<u>7.85</u>	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____

Comments:

Well Depth: 80.00 6-inch Well (1.47/ft.): X

Depth to Water: 37.44 2-inch Well (0.16/ft.): _____

Water Depth: 42.60 Volumes Bailed: 1

Additional Analyses: See Table I

Analytical Laboratory: EnviroMed Laboratories, Inc.

Sampler(s) Name(s): Ricky Holcomb
Bryan Sellers
Bill Clendenen

Date Shipped: 11/25/87 Date Delivered: 11/25/87

Method Shipped: FTL truck

Shipped by: EML

Enviromed Laboratories, Inc.
Data Sheet for Well Sampling

Location of Facility: Sunray Landfill

Well Number: MW-3 Sample Number: 2106

Date of Sampling: 11/25/87 Time of Sampling: 1430

Elevation of Measuring Point: 1213.60 Feet.

Well pumped at: 10.6 g.p.m. for: 4.48 minutes.

Well bailed _____ times with _____ inch bailer.

	Conductivity (umhos/cm)	pH	Temperature (C °)
1.	<u>612.0</u>	<u>11.7</u>	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____

Comments:

Well Depth: 85.00 6 -inch Well (1.47/ft.): X

Depth to Water: 40.48 2-inch Well (0.16/ft.): _____

Water Depth: 44.52 Volumes Bailed: _____

Additional Analyses: See Table I

Analytical Laboratory: Enviromed Laboratories, Inc.

Sampler(s) Name(s): Ricky Holcomb
Bryan Sellers
Bill Clendenen

Date Shipped: 11/25/87 Date Delivered: 11/25/87

Method Shipped: FTL truck

Shipped by: EML

EnviroMed Laboratories, Inc.
Data Sheet for Well Sampling

Location of Facility: Sunray Landfill

Well Number: MW-4 Sample Number: 2107

Date of Sampling: 11/25/87 Time of Sampling: 1435

Elevation of Measuring Point: 1209.97 Feet.

Well pumped at: 10.6 g.p.m. for: 5.73 (dry) minutes.

Well bailed _____ times with _____ inch bailer.

	Conductivity (umhos/cm)	pH	Temperature (C °)
1.	<u>179.0</u>	<u>8.0</u>	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____

Comments:

Well Depth: 50.00 6-inch Well (1.47/ft.): X

Depth to Water: 36.22 2-inch Well (0.16/ft.): _____

Water Depth: 13.78 Volumes Bailed: 3

Additional Analyses: See Table I

Analytical Laboratory: EnviroMed Laboratories, Inc.

Sampler(s) Name(s): Ricky Holcomb
Bryan Sellers
Bill Clendenen

Date Shipped: 11/25/87 Date Delivered: 11/25/87

Method Shipped: FTL truck

Shipped by: EML

Enviromed Laboratories, Inc.
Data Sheet for Well Sampling

Location of Facility: Sunray Landfill

Well Number: MW-5 Sample Number: 2108

Date of Sampling: 11/25/87 Time of Sampling: 1345

Elevation of Measuring Point: 1295.74 Feet.

Well pumped at: 10.6 g.p.m. for: 7 (dry) minutes.

Well bailed _____ times with _____ inch bailer.

	Conductivity (umhos/cm)	pH	Temperature (C°)
1.	<u>277.0</u>	<u>7.1</u>	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____

Comments:

Well Depth: 110.00 6-inch Well (1.47/ft.): X

Depth to Water: 71.85 2-inch Well (0.16/ft.): _____

Water Depth: 38.15 Volumes Bailed: 1.3

Additional Analyses: See Table I

Analytical Laboratory: Enviromed Laboratories, Inc.

Sampler(s) Name(s): Ricky Holcomb
Bryan Sellers
Bill Clendenen

Date Shipped: 11/25/87 Date Delivered: 11/25/87

Method Shipped: FTL truck

Shipped by: EML

Enviromed Laboratories, Inc.
Data Sheet for Well Sampling

Location of Facility: Sunray Landfill

Well Number: MW-6 Sample Number: 2109

Date of Sampling: 11/25/87 Time of Sampling: 1325

Elevation of Measuring Point: 1229.18 Feet.

Well pumped at: 10.6 g.p.m. for: 16 (dry) minutes.

Well bailed _____ times with _____ inch bailer.

	Conductivity (umhos/cm)	pH	Temperature (C ^o)
1.	<u>208.0</u>	<u>6.9</u>	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____

Comments:

Well Depth: 100.00 6-inch Well (1.47/ft.): x

Depth to Water: 29.45 2-inch Well (0.16/ft.): _____

Water Depth: 70.55 Volumes Bailed: 2.8

Additional Analyses: See Table I

Analytical Laboratory: Enviromed Laboratories, Inc.

Sampler(s) Name(s): Ricky Holcomb
Bryan Sellers
Bill Clendenen

Date Shipped: 11/25/87 Date Delivered: 11/25/87

Method Shipped: FTL truck

Shipped by: EML

Enviromed Laboratories, Inc.
Data Sheet for Well Sampling

Location of Facility: Sunray Landfill
Well Number: MW-7 Sample Number: 2111
Date of Sampling: 11/25/87 Time of Sampling: 1310
Elevation of Measuring Point: 1246.54 Feet.
Well pumped at: 10.6 g.p.m. for: 5 (dry) minutes.
Well bailed _____ times with _____ inch bailer.

	Conductivity (umhos/cm)	pH	Temperature (C ^o)
1.	<u>430.0</u>	<u>6.51</u>	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____

Comments:
Well Depth: 115.00 6-inch Well (1.47/ft.): X
Depth to Water: 87.43 2-inch Well (0.16/ft.): _____
Water Depth: 27.57 Volumes Bailed: 1.5

Additional Analyses: See Table I

Analytical Laboratory: Enviromed Laboratories, Inc.
Sampler(s) Name(s): Ricky Holcomb
Bryan Sellers
Bill Clendenen

Date Shipped: 11/25/87 Date Delivered: 11/25/87
Method Shipped: FTL truck
Shipped by: EML

Enviromed Laboratories, Inc.
Data Sheet for Well Sampling

Location of Facility: Sunray Landfill

Well Number: MW-8 Sample Number: 2112

Date of Sampling: 11/24/87 Time of Sampling: 1300

Elevation of Measuring Point: 1189.33 Feet.

Well pumped at: 10.6 g.p.m. for: 7 (dry) minutes.

Well bailed _____ times with _____ inch bailer.

	Conductivity (umhos/cm)	pH	Temperature (C ^o)
1.	<u>157.0</u>	<u>7.3</u>	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____

Comments:

Well Depth: 70.00 6-inch Well (1.47/ft.): X
Depth to Water: 39.95 2-inch Well (0.16/ft.): _____
Water Depth: 30.05 Volumes Bailed: 1.6

Additional Analyses: See Table I

Analytical Laboratory: Enviromed Laboratories, Inc.

Sampler(s) Name(s): Ricky Holcomb
Bryan Sellers
Bill Clendenen

Date Shipped: 11/25/87 Date Delivered: 11/25/87

Method Shipped: FTL truck

Shipped by: EML

EnviroMed Laboratories, Inc.
Data Sheet for Well Sampling

Location of Facility: Sunray Landfill

Well Number: MW-9 Sample Number: 2113

Date of Sampling: 11/24/87 Time of Sampling: 1335

Elevation of Measuring Point: 1275.13 Feet.

Well pumped at: 10.6 g.p.m. for: 5 (dry) minutes.

Well bailed _____ times with _____ inch bailer.

	Conductivity (umhos/cm)	pH	Temperature (C °)
1.	<u>423.0</u>	<u>6.5</u>	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____

Comments:

Well Depth: 105.00 6-inch Well (1.47/ft.): X

Depth to Water: 72.15 2-inch Well (0.16/ft.): _____

Water Depth: 32.85 Volumes Bailed: 1

Additional Analyses: See Table I

Analytical Laboratory: EnviroMed Laboratories, Inc.

Sampler(s) Name(s): Ricky Holcomb
Bryan Sellers
Bill Clendenen

Date Shipped: 11/25/87 Date Delivered: 11/25/87

Method Shipped: FTL truck

Shipped by: EML