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SUNRAY SERVICES
LANDFILL MONITORING

SITE: TONTITOWN

Report Prepared by:
Sorrells Research Associates, Inc.
8002 Stanton Road
Little Rock, AR 72103

K. E. Sorrells, M.S., Quality Assurance Officer

September 10, 1993

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SAMPLING PROCEDURES
FOR
MONITORING WELLS

The following procedures are to be used in collecting samples:
All and/or part of these procedures may vary depending on Well site/permit.

A.) BAILERS:

1. Provide one bailer for each well to be sampled. A designated bailer shall be 1 inch in diameter and fabricated from PVC with a glass ball type foot valve.

1. a. Alternatively use disposable polyethylene bailers.

2. Each bailer is marked and dedicated to individual wells and stored at Sorrells Research Laboratory.

3. Bailers are cleaned with phosphate free detergent and rinsed thoroughly with tap water followed by a distilled water rinse.

B.) SURFACE PREPARATION:

1. Use disposable polyethylene gloves for the collection process, to minimize personal contact with the samples.

2. Use paper towels and tissues where necessary for any container surface clean up. Use disposable polyethylene sheets, approximately 8' x 10' to drape the sample collection and preparation area in order minimize contact of samples with area surface.

3. Finally, use white Glad bags, 13 gallon capacity to collect waste disposable material generated by the sample collection and preparation process.

C. DEPTH

1. Where applicable use an oil/water interface probe to test for the presence of immiscible layers.

2. Groundwater depth below top of riser pipe will be measured with an electronic tape or equivalent device capable of measuring to the nearest 0.01 ft. Total well depth also will be measured to the nearest 0.01 ft.

D. CONTAINERS

Proper containers shall be used according to the parameters needed at each site. The list of containers below are used by SRA where applicable are:

1. 1 liter amber glass with teflon-liner cap.
2. 40 ml vials with teflon-liner cap.
3. 500 ml brown plastic
4. 500 ml white plastic
5. 125 ml amber glass
6. 250 ml amber glass with teflon-liner cap
7. 1000 ml glass with teflon-liner cap
8. 1/2 gal plastic

All containers are to be certified clean by supplier. For marking containers use a waterproof tag or label and use a waterproof marker.

E. Q.A./Q.C.

1. A trip blank will be included for each sampling event as a part of the field Q.A./Q.C.

2. Duplicate samples shall be selected in each sample sequence 1-10, 11-20, and 21-29, etc. sequence as appropriate.

3. Duplicate samples shall be selected also for analyte spike recovery in sample sequence 1-20, and 21-39. etc. sequence as appropriate.

This will ensure documentation of sampling and analytical variability as part of Total Quality Assurance.

F. SAMPLING PROCEDURES

1. Where applicable measure for the presence of immiscible layers. The testing for immiscible layers is to be performed prior to purging the wells. The oil/water interface probe is to be lowered into the well slowly. Listen for accompanying tones to discern between the appropriate layers. The distances between the layers are measured to the nearest 0.01 ft. and levels are recorded in the field book. After the well has been tested, retrieve the probe and rinse with phosphate free detergent solution followed by a distilled water rinse and wipe dry. A set of samples will be taken from each non-aqueous phase level, if any, found.

2. Measure depth to groundwater to the nearest 0.01 ft. Dry wells shall be so noted in log.

3. Measure height of monitoring well riser pipe above ground to the nearest 0.01 ft.

4. Measure total well depth to the nearest 0.01 ft. Compare to as-built drawings to determine whether sediment has accumulated in the well. If 10% of the screened interval is blocked by sediment, the well will be redeveloped prior to the next sampling event.

5. Purge the well by bailing at least 3 well volumes or to dryness from each well. Well volume in gallons is $H \times (D/2)^2 \times \pi \times (12/231)$. H is height of column in feet of water in well above bottom of well. D is diameter of well riser in inches. π is 3.141+ 12 converts feet to inches. 231 Converts cubic inches to gallons. Where applicable purged water will be stored on site, with proper storage containers supplied by the client until after analyses are completed. If the analyses are below acceptable levels the water will then be disposed of on site by the client. If the water is contaminated, the contaminated water will be disposed of at an appropriate hazardous waste site by the client. Also, any and all contaminated samples remaining at laboratory will be returned to client.

6. Collect 1 field blank by contacting certified HPLC organic free water with clean unused bailer. The sample collector shall transfer this water to the bailer for a contact time comparable to the collection time specific for that well. After suitable contact time, the blank water shall be transferred to collection and storage containers for preservation. This sample will be analyzed with well samples to avoid potential holding time problems.

7. Lower bailer into well and listen for filling.

8. Carefully withdraw bailer and pour contents into the sample containers.

9. Perform field measurements of temperature, pH and conductivity of each sample.

10. Handle samples as little as possible. Attach sample tag securely to the sample container at the time the sample is collected. Record the following information on the sample tag or label.

- a.) Serial number of the tag
- b.) Well number
- c.) Date
- d.) Time
- e.) Name of collector/collectors
- f.) Preservative
- g.) Analysis required
- h.) Complete chain of custody records tabulating the above information for the sampling event.

11. Use bound field books to record measurements and other information necessary to document the sample collection processes. The standard format is to include the serial number of the field sheet, date, time, survey, type of sample taken, volume of each sample, code for sample analysis, unique sample number, sampling location, field measurements. See well purging data form and figures 9-2, 9-3, for an example of some field entries. The entries are to be signed by the sample collector and the responsibility of preparing and retaining field books are to be that of the sampling coordinator, or his designated representative.

12. These samples are to be preserved (short-term) by chilling the closed (tightly-sealed) collection containers in a durable ice chest with crushed iced, immediately following collection. The laboratory supervisor will advise on any special requirements in particular circumstances, in general, it will be advisable to adhere to chilling with crushed ice alone for immediate field preservation, and allow the laboratory to coordinate needs for long-term preservation.

13. The sample collector is physically responsible for the sample until its custody is relinquished to the receiving laboratory or assigned custodian, that is, it must be in his view at all times, or lock-stored where it cannot be tampered with.

14. Transport samples immediately to laboratory for testing.

G. SAMPLE ORDER

1. Monitoring Wells least likely to be affected by site will be sampled first. Wells will be sampled in order from up-gradient to down-gradient if applicable.

2. The analytes will be collected in order of volatility after determining physical measurements (well depth, temperature, conductivity, pH). First the volatiles, semi-volatiles, metals, etc.

H. DUPLICATE SAMPLES/SPECIAL HANDLING

1. Complete sets of duplicates will be collected during each sampling period, according to Section E, preceding. The specific well to be chosen will be selected by the Field Supervisor.

2. If well samples yield any visible sediment or turbidity, proceed as follows, except for volatile and semi-volatile portions: Collect sufficient sample to fill a 5 gallon container. Mix sample well before filling all other containers. This will promote split sample homogeneity in the presence of sediment and/or turbidity.

SAMPLE CUSTODY

This study will document and implement a chain of possession and custody of any sample collected, to insure that all are collected, transferred, stored, analyzed, and destroyed by authorized personnel. Samples will be accompanied by a Chain-of-Custody record that includes the name of the study, collector's signatures, station number, station location, date, time, type of sample, sequence number, number of containers, and analyses required.

The purpose of the Chain-of-Custody procedure is to establish an unbroken chain of connection for documentation by maintaining an accurate written record of source and possession of the samples through their analysis and ultimate report. This procedure is also intended to ensure that samples are collected, transferred, stored, analyzed and destroyed only by authorized, competent personnel.

A sample is in CUSTODY if it is in any one of the following states:

- a. In actual physical possession.
- b. In view, after being in physical possession.
- c. In physical possession and locked up.
- d. In a secure area, restricted to authorized personnel.

Laboratory personnel are responsible for the care and custody of a sample once it is handed to them and should retain the sample in their possession and view or secured in the laboratory at all times.

The laboratory area shall be maintained as a secured area and shall be restricted to authorized personnel.

Once sample analyses are completed, the unused portion of the sample, with identifying labels and other documentation must be returned to the Laboratory Supervisor for secure storage.

Samples should be destroyed only upon the order of the Laboratory Supervisor, in consultation with the Project Officer. Sample tag information must be recorded on Chain-of-Custody record, which, like all laboratory records must be retained for three years.

DATA MANAGEMENT

1. Data Tracking

All information pertaining to sample identification, analyses required, and final results is entered into the computer network and maintained for approximately 6 months. After this time information is archived and stored in a secure area for retrieval.

Sample status is monitored through the computer network. The computer generates a flagging system for samples incomplete after the time allocated.

A log book is maintained by sample custody where information including date received, date subcontracted, date of confirmation, and date of report is entered for samples subcontracted to an outside laboratory.

2. Data Review

The initial review is done by the analyst when the data has been acquired for a sample. This review covers sample identification, check of analyses requested against the Computer Network record, review of procedures and notebook data, checking of calculation, investigation for all related quality control data, and correct transcription of all data.

The final review will be the ultimate responsibility of the Laboratory Manager. Any out-of-control conditions will be noted and reviewed by the Quality Assurance Manager. Decisions concerning these conditions are made jointly by the Laboratory Manager and the Quality Assurance Manager.

After data has been entered into the reporting system, a draft report is reviewed by the Supervisor. This review includes a check of holding times met, correct analysis and report dates, and correct reporting units, as well as a review of results, quality control data, and transcription. At any point in the review process, if an error is found, the analyst has the responsibility for investigating the problem and initiating correction.



SORRELLS RESEARCH LABORATORY AND FIELD SERVICES



8002 Stanton Road
Little Rock, Arkansas 72209

CHEMISTS
ECOLOGISTS
CONSULTANTS
PLANNERS

Phone 501-562-8139
Fax 501-562-7025
Toll Free 1-800-331-8139

1993 METHODOLOGY PAGE 1 OF 2 FOR MONITORING WELLS

*Please Note - Reported in Milligrams per Liter or Standard units.
**Please Note - < = less than = not detected @ detection value

ANALYTE	Max Cont.	Levels
	DW Stds.	TCLP
Antimony	NA	NA
Arsenic	0.05	5.0
Barium	1.0	100.0
Beryllium	NA	NA
Cadmium	0.01	1.0
Chromium	0.05	5.0
Cobalt	NA	NA
Copper	1.0	100.0
Lead	0.025	2.5
Nickel	NA	NA
Selenium	0.01	1.0
Silver	0.05	5.0
Thallium	NA	NA
Vanadium	NA	NA
Zinc	5.0	500.0
Acetone	NA	NA
Acrylonitrile	NA	NA
Benzene	0.005	0.5
Bromochloromethane	NA	NA
Bromodichloromethane	NA	NA
Bromoform	0.1	NA
Carbon disulfide	NA	NA
Carbon tetrachloride	0.005	0.5
Chlorobenzene	NA	100.0
Chloroethane	NA	NA
Chloroform	0.1	6
Dibromochloromethane	0.1	NA
Dibromo-3-chloropropane, 1,2-	NA	NA
Dibromoethane, 1,2-	NA	NA
Dichlorobenzene, o-	NA	NA
Dichlorobenzene, p-	0.075	NA
Dichloro-2-butene, trans-1,4-	NA	NA
Dichloroethane, 1,1-	NA	NA
Dichloroethane, 1,2-	0.005	0.5
Dichloroethylene, 1,1-	0.007	0.7
Dichloroethylene, cis-1,2-	NA	NA
Dichloroethylene, trans,1-,2-	NA	NA
Dichloropropane, 1,2-	NA	NA
Dichloropropene, cis-1,3-	NA	NA
Dichloropropene, trans, 1,3-	NA	NA
Ethylbenzene	NA	NA
Hexanone, 2-	NA	NA



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CONSULTANTS
PLANNERS

8002 Stanton Road
Little Rock, Arkansas 72209

Phone 501-562-8139
Fax 501-562-7025
Toll Free 1-800-331-8139

1993 METHODOLOGY

PAGE 2 OF 2

FOR

MONITORING WELLS

*Please Note - Reported in Milligrams per Liter or Standard units.

ANALYTE	Max Cont. DW Stds.	Levels TCLP
Methyl bromide	NA	NA
Methyl chloride	NA	NA
Methylene bromide	NA	NA
Methylene chloride	NA	NA
Methyl ethyl ketone	NA	NA
Methyl Iodide	NA	NA
Methyl-2-pentanone, 4-	NA	NA
Styrene	NA	NA
Tetrachloroethane, 1, 1, 1, 2-	NA	NA
Tetrachloroethane, 1, 1, 2, 2-	NA	NA
Tetrachloroethylene	NA	0.7
Toluene	NA	NA
Trichloroethane, 1, 1, 1-	0.2	NA
Trichloroethane, 1, 1, 2-	NA	NA
Trichloroethylene	0.005	0.5
Trichlorofluoromethane	NA	NA
Trichloropropane, 1, 2, 3-	NA	NA
Vinyl acetate	NA	NA
Vinyl chloride	0.02	0.2
Xylene, o-	NA	NA
Xylene, m-	NA	NA
Xylene, p-	NA	NA
Xylenes	NA	NA
Ammonia nitrogen	NA	NA
Bicarbonate	NA	NA
Calcium	NA	NA
Chloride	250	NA
Iron	0.3	NA
Magnesium	NA	NA
Manganese, dissolved	0.05	NA
Nitrate	10.0	NA
Potassium	NA	NA
Sodium	NA	NA
Sulfate	250	NA
Chemical oxygen demand	NA	NA
Total dissolved solids	500	NA
Cyanide	NA	NA
Mercury	0.002	0.2
Total Organic Carbon	NA	NA
pH, units	6.5-8.5	<2 OR>12.5
Specific conductance, us/cm	NA	NA
Temperature, .c	NA	NA



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1993 METHODOLOGY PAGE 1 OF 2 FOR MONITORING WELLS

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**Please Note - < = less than = not detected @ detection value

ANALYTE	Max Cont.	Levels
	DW Stds.	TCLP
Antimony	NA	NA
Arsenic	0.05	5.0
Barium	1.0	100.0
Beryllium	NA	NA
Cadmium	0.01	1.0
Chromium	0.05	5.0
Cobalt	NA	NA
Copper	1.0	100.0
Lead	0.025	2.5
Nickel	NA	NA
Selenium	0.01	1.0
Silver	0.05	5.0
Thallium	NA	NA
Vanadium	NA	NA
Zinc	5.0	500.0
Acetone	NA	NA
Acrylonitrile	NA	NA
Benzene	0.005	0.5
Bromochloromethane	NA	NA
Bromodichloromethane	NA	NA
Bromoform	0.1	NA
Carbon disulfide	NA	NA
Carbon tetrachloride	0.005	0.5
Chlorobenzene	NA	100.0
Chloroethane	NA	NA
Chloroform	0.1	6
Dibromochloromethane	0.1	NA
Dibromo-3-chloropropane, 1,2-	NA	NA
Dibromoethane, 1,2-	NA	NA
Dichlorobenzene, o-	NA	NA
Dichlorobenzene, p-	0.075	NA
Dichloro-2-butene, trans-1,4-	NA	NA
Dichloroethane, 1,1-	NA	NA
Dichloroethane, 1,2-	0.005	0.5
Dichloroethylene, 1,1-	0.007	0.7
Dichloroethylene, cis-1,2-	NA	NA
Dichloroethylene, trans, 1-, 2-	NA	NA
Dichloropropane, 1,2-	NA	NA
Dichloropropene, cis-1,3-	NA	NA
Dichloropropene, trans, 1,3-	NA	NA
Ethylbenzene	NA	NA
Hexanone, 2-	NA	NA



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8002 STANTON ROAD
LITTLE ROCK, ARKANSAS 72209

(501) 562-8139
FAX (501) 562-7025

1992/1993 METHODOLOGY - TOXICITY CHARACTERISTIC LEACHING PROCEDURE

HW No.	CONTAMINANT	CAS NO.	REGULATORY LEVEL	EPA METHODS
D004	Arsenic	7440-38-2	5.0	7060
D005	Barium	7440-39-3	100.0	7080
D018	Benzene	71-43-2	0.5	5030/8020
D006	Cadmium	7440-43-9	1.0	7130/7131
D019	Carbon tetrachloride	56-23-5	0.5	5030/8010
D020	Chlordane	57-74-9	0.03	3510/8080
D021	Chlorobenzene	108-90-7	100.0	5030/8010
D022	Chloroform	67-66-3	6.0	5030/8010
D007	Chromium	7440-47-3	5.0	7190/7191
D023	o-Cresol	95-48-7	200.0	3510/8270
D024	m-Cresol	108-39-4	200.0	3510/8270
D025	p-Cresol	106-44-5	200.0	3510/8270
D026	Cresol	200.0	3510/8270
D016	2,4-D	94-75-7	10.0	3510/8270
D027	1,4-Dichlorobenzene	106-46-7	7.5	3510/8270
D028	1,2-Dichloroethane	107-06-2	0.5	5030/8270
D029	1,1-Dichloroethylene	75-35-4	0.7	5030/8010
D030	2,4-Dinitrotoluene	121-14-2	0.13	3510/8270
D012	Endrin	72-20-8	0.02	3510/8270
D031	Heptachlor (and Heptachlor epoxide)	76-44-8	0.008	3510/8270
D032	Hexachlorobenzene	118-74-1	0.13	3510/8270
D033	Hexachlorobutadiene	87-68-3	0.5	3510/8270
D034	Hexachloroethane	67-72-1	3.0	3510/8270
D008	Lead	7439-92-1	5.0	7420/7421
D013	Lindane	58-89-9	0.4	3510/8080
D009	Mercury	7439-97-6	0.2	7470
D014	Methoxychlor	72-43-5	10.0	3510/8080
D035	Methyl ethyl ketone	78-93-3	200.0	5030/8015
D036	Nitrobenzene	98-95-3	2.0	3510/8270
D037	Pentachlorophenol	87-86-5	100.0	3510/8270
D038	Pyridine	110-86-1	5.0	3510/8270
D010	Selenium	7782-49-2	1.0	7740
D011	Silver	7440-22-4	5.0	7760/7761
D039	Tetrachloroethylene	127-18-4	0.7	5030/8010
D015	Toxaphene	8001-35-2	0.5	3510/8080
D040	Trichloroethylene	79-01-6	0.5	5030/8010
D041	2,4,5-Trichlorophenol	95-95-4	400.0	3510/8270
D042	2,4,6-Trichlorophenol	88-06-2	2.0	3510/8270
D017	2,4,5-TP (Silvex)	93-72-1	1.0	8510
D043	Vinyl chloride	75-01-4	0.2	5030/8010
LEACHABILITY		FP .F	> 140 .F	1010
CORROSIVITY		< 2 OR > 12.5	9040
REACTIVITY		SEE BELOW	EXAM &
Total releasable cyanide			250 mg/kg as HCN	9010
Total releasable sulfide			500 mg/kg as H2S	9030
Solids		Percent	NA	1311/ZHE

Laboratory Analysis Conducted According to EPA 40 CFR PART 261.

MONITORING WELLS
REPORT DATA



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8002 Stanton Road
Little Rock, Arkansas 72209

LABORATORY ANALYSIS

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Phone 501-562-8139
Fax 501-562-7025
Toll Free 1-800-331-8139

Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: WELL #1

ANALYTE		RESULT	UNITS	METHOD
Antimony	<	0.003	mg/Liter	7041
Arsenic	<	0.001	mg/Liter	7061
Barium		0.084	mg/Liter	7080
Beryllium	<	0.001	mg/Liter	7091
Cadmium	<	0.001	mg/Liter	7131
Chromium	<	0.001	mg/Liter	7191
Cobalt		0.041	mg/Liter	7201
Copper		0.004	mg/Liter	7211
Lead		0.002	mg/Liter	7421
Nickel		0.097	mg/Liter	7521
Selenium	<	0.002	mg/Liter	7741
Silver	<	0.001	mg/Liter	7761
Thallium	<	0.001	mg/Liter	7841
Vanadium	<	0.050	mg/Liter	7910
Zinc		0.094	mg/Liter	7950
Acetone	<	0.001	mg/Liter	8260
Acrylonitrile	<	0.001	mg/Liter	8260
Benzene		0.003	mg/Liter	8260
Bromochloromethane	<	0.001	mg/Liter	8260
Bromodichloromethane	<	0.001	mg/Liter	8260
Bromoform	<	0.001	mg/Liter	8260
Carbon disulfide	<	0.001	mg/Liter	8260
Carbon tetrachloride	<	0.001	mg/Liter	8260
Chlorobenzene	<	0.001	mg/Liter	8260
Chloroethane		0.014	mg/Liter	8260
Chloroform	<	0.001	mg/Liter	8260
Dibromochloromethane	<	0.001	mg/Liter	8260
Dibromo-3-chloropropane, 1,2-	<	0.001	mg/Liter	8260
Dibromoethane, 1,2-	<	0.001	mg/Liter	8260
Dichlorobenzene, o-	<	0.001	mg/Liter	8260
Dichlorobenzene, p-		0.007	Mg/Liter	8260

Laboratory Number: M290.001



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105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL #1

ANALYTE	RESULT	UNITS	METHOD
Dichloro-2-butene, trans-1,4-	<	0.001 mg/Liter	8260
Dichloroethane, 1,1-		0.019 mg/Liter	8260
Dichloroethane, 1,2-	<	0.001 mg/Liter	8260
Dichloroethylene, 1,1-	<	0.001 mg/Liter	8260
Dichloroethylene, cis-1,2-		0.020 mg/Liter	8260
Dichloroethylene, trans-1,2-	<	0.001 mg/Liter	8260
Dichloropropane, 1,2-	<	0.001 mg/Liter	8260
Dichloropropene, cis-1,3-	<	0.001 mg/Liter	8260
Dichloropropene, trans, 1,3-	<	0.001 mg/Liter	8260
Ethylbenzene	<	0.001 mg/Liter	8260
Hexanone, 2-	<	0.001 mg/Liter	8260
Methyl bromide	<	0.001 mg/Liter	8260
Methyl chloride	<	0.001 mg/Liter	8260
Methylene bromide	<	0.001 mg/Liter	8260
Methylene chloride	<	0.001 mg/Liter	8260
Methyl ethyl ketone	<	0.001 mg/Liter	8260
Methyl iodide	<	0.001 mg/Liter	8260
Methyl-2-pentanone, 4-	<	0.001 mg/Liter	8260
Styrene	<	0.001 mg/Liter	8260
Tetrachloroethane, 1, 1, 1, 2-	<	0.001 mg/Liter	8260
Tetrachloroethane, 1, 1, 2, 2	<	0.001 mg/Liter	8260
Tetrachloroethylene		0.001 mg/Liter	8260
Toluene	<	0.001 mg/Liter	8260
Trichloroethane, 1, 1, 1-	<	0.001 mg/Liter	8260
Trichloroethane, 1, 1, 2-	<	0.001 mg/Liter	8260
Trichloroethylene		0.002 mg/Liter	8260
Trichlorofluoromethane	<	0.001 mg/Liter	8260
Trichloropropane, 1, 2, 3-	<	0.001 mg/Liter	8260
Vinyl acetate	<	0.001 mg/Liter	8260
Vinyl chloride		0.026 mg/Liter	8260
Xylene, o-	<	0.001 mg/Liter	8260

Laboratory Number: M290.001



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SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL #1

ANALYTE		RESULT	UNITS	METHOD
m-Xylene	<	0.001	mg/Liter	8260
p-Xylene	<	0.001	mg/Liter	8260
xylenes	<	0.001	mg/Liter	8260
Ammonia nitrogen		0.111	mg/Liter	4500 F
Bicarbonate		250.000	mg/Liter	4500 D
Calcium		154.000	mg/Liter	7140
Chloride		43.490	mg/Liter	4500 C
Iron		0.099	mg/Liter	7380
Magnesium		4.070	mg/Liter	7450
Manganese, dissolved		2.820	mg/Liter	7460
Nitrate		0.968	mg/Liter	4500 E
Potassium		4.800	mg/Liter	7610
Sodium		20.500	mg/Liter	7770
Sulfate		4.780	mg/Liter	4500 E
Chemical oxygen demand		53.000	mg/Liter	5220 B
Total dissolved solids		558.000	mg/Liter	2540 C
Total organic carbon		2.881	mg/Liter	5310 C
pH		6.325	units	4500 B
pH (Q1)		6.600	units	4500 B
pH (Q2)		6.500	units	4500 B
pH (Q3)		6.100	units	4500 B
pH (Q4)		6.100	units	4500 B
Cyanide	<	0.020	mg/Liter	4500 E
Mercury	<	0.001	mg/Liter	7470
Specific conductance		952.500	uS/cm	9050
Specific conductance (Q1)		980.000	uS/cm	9050
Specific conductance (Q2)		960.000	uS/cm	9050
Specific conductance (Q3)		940.000	uS/cm	9050
Specific conductance (Q4)		930.000	uS/cm	9050
Temperature		19.875	.C	2550 B
Temperature (Q1)		19.500	.c	2550 B

Laboratory Number: M290.001



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**SORRELLS RESEARCH
LABORATORY AND FIELD SERVICES**

8002 Stanton Road
Little Rock, Arkansas 72209

LABORATORY ANALYSIS

WEF



Phone 501-562-8139

Fax 501-562-7025

Toll Free 1-800-331-8139

Date of Report: September 10, 1993

Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: WELL #1

ANALYTE	RESULT	UNITS	METHOD
Temperature (Q2)	20.000	.c	2550 B
Temperature (Q3)	20.000	.c	2550 B
Temperature (Q4)	20.000	.c	2550 B

Collected by:

L.H./J.B./VERN MAHAFFEY on 08/24/93 at 7:10

Analysis by :

K. E. Sorrells/J. B. Sorrells/C. A. Sorrells/K2 Sorrells/B. Glover/M. McKenzie

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 258. Test/Analyst/Time/Coeff./Var./ QA plan filed with A.D.P.C. & E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained.
See Attached.

Copies to:

MR. KEVIN HODGES

MR. RANDY HOLCOMB

P.O. BOX 1310

P.O. BOX 1310

SPRINGDALE, AR 72765-

SPRINGDALE, AR 72765-

MR. KIRK ELLIS
SCS ENGINEERS

10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MO 64131-

Laboratory Number: M290.001

DKS Reviewed By: K. E. Sorrells, M.S. []



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QUALITY ASSURANCE

August 25, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	IN BAT.
ANTIMONY	KESII	09/04/93	1548	09/04/93	1548	0.10	97.9	23
ARSENIC	KESII	09/03/93	1851	09/03/93	2147	0.10	98.1	23
BARIUM	KESII	09/10/93	1400	09/10/93	1600	0.20	94.9	23
BERYLLIUM	KESII	09/07/93	1819	09/07/93	2018	1.40	94.5	18
BICARBONATE	BWG	09/08/93	1130	09/08/93	1330	0.74	96.9	16
CADMIUM	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
CHROMIUM	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
COBALT	KESII	09/07/93	1307	09/07/93	1715	0.30	104.0	18
COPPER	KESII	09/07/93	1655	09/07/93	1908	1.10	113.0	21
CYANIDE	BWG	08/26/93	1400	09/08/93	1550	1.86	107.5	23
CALCIUM	KESII	08/30/93	1424	08/30/93	1615	0.20	103.0	16
CHLORIDE	MKM	08/30/93	1000	08/30/93	1500	2.00	104.0	25
CHEMICAL OXYGEN DEMAND	CAS	08/30/93	1200	09/01/93	1100	8.54	104.0	23
IRON	KESII	08/27/93	1528	08/27/93	1629	1.10	102.0	18
LEAD	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
MERCURY	KESII	09/09/93	1450	09/09/93	1715	0.80	90.1	23
MAGNESIUM	KESII	08/30/93	1711	08/30/93	1750	0.60	103.0	16
MANGANESE	KESII	08/30/93	1124	08/30/93	1201	1.00	96.5	18
NICKEL	KESII	09/03/93	1102	09/03/93	1420	0.50	95.6	21
NITRATE	JBS	08/31/93	1430	08/31/93	2045	5.08	86.8	18
AMMONIA NITROGEN	MKM	09/02/93	1100	09/03/93	1200	1.70	103.4	35
POTASSIUM	KESII	08/27/93	1245	08/27/93	1313	1.20	98.9	18
PH	VM	08/24/93	710	08/24/93	715	0.00	0.0	1
SELENIUM	KESII	09/03/93	1851	09/03/93	2147	0.60	99.3	24
SILVER	KESII	09/01/93	1159	09/01/93	1617	0.50	103.0	26
SODIUM	KESII	08/27/93	1419	08/27/93	1434	0.50	98.8	16
SULFATE	MKM	08/27/93	1015	08/27/93	1400	1.80	98.0	24
SPECIFIC CONDUCTANCE	VM	08/24/93	710	08/24/93	715	0.00	0.0	1
THALLIUM	KESII	09/02/93	1710	09/02/93	1925	0.70	100.1	18
TOTAL DISSOLVED SOLIDS	JBS	08/30/93	1600	09/02/93	930	0.15	100.5	18
TEMPERATURE	VM	08/24/93	710	08/24/93	715	0.00	0.0	1
TOTAL ORGANIC CARBON	BWG	08/25/93	1400	09/08/93	1555	13.09	106.9	21
TANADIUM	KESII	09/10/93	1120	09/10/93	1245	0.00	97.0	17
VOLATILES (Q.A.)	KES	08/28/93	2006	08/30/93	745	7.12	105.7	19
ZINC	KESII	08/27/93	1643	08/28/93	1026	0.50	88.0	22



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Fax 501-562-7025
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QUALITY ASSURANCE

August 25, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	IN BAT.
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Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
Sample preservation and laboratory analysis conducted according to EPA
40 CFR Part 258 TEST/ANALYST/TIME/COEF. VAR.* QA PLAN filed with
ADPC*E. Include replication.

KES = K. E. Sorrells
JBS = James B. Sorrells
CAS = Cecil A. Sorrells
KRL = Karl E. Sorrells

KESII = K. E. Sorrells, II
BWG = Ben W. Glover
MM = Mark McKenzie

Laboratory Number: M290.001 DKS



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LABORATORY ANALYSIS

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Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL #2

ANALYTE		RESULT	UNITS	METHOD
Antimony	<	0.003	mg/Liter	7041
Arsenic	<	0.001	mg/Liter	7061
Barium	<	0.050	mg/Liter	7080
Beryllium	<	0.001	mg/Liter	7091
Cadmium	<	0.001	mg/Liter	7131
Chromium	<	0.001	mg/Liter	7191
Cobalt	<	0.001	mg/Liter	7201
Copper	<	0.001	mg/Liter	7211
Lead	<	0.001	mg/Liter	7421
Nickel	<	0.001	mg/Liter	7521
Selenium	<	0.002	mg/Liter	7741
Silver	<	0.001	mg/Liter	7761
Thallium	<	0.001	mg/Liter	7841
Vanadium	<	0.005	mg/Liter	7910
Zinc	<	0.012	mg/Liter	7950
Acetone	<	0.001	mg/Liter	8260
Acrylonitrile	<	0.001	mg/Liter	8260
Benzene	<	0.001	mg/Liter	8260
Bromochloromethane	<	0.001	mg/Liter	8260
Dibromodichloromethane	<	0.001	mg/Liter	8260
Bromoform	<	0.001	mg/Liter	8260
Carbon disulfide	<	0.001	mg/Liter	8260
Carbon tetrachloride	<	0.001	mg/Liter	8260
Chlorobenzene	<	0.001	mg/Liter	8260
Chloroethane	<	0.001	mg/Liter	8260
Chloroform	<	0.001	mg/Liter	8260
Dibromochloromethane	<	0.001	mg/Liter	8260
Dibromo-3-chloropropane, 1,2-	<	0.001	mg/Liter	8260
Dibromoethane, 1,2-	<	0.001	mg/Liter	8260
Dichlorobenzene, o-	<	0.001	mg/Liter	8260
Dichlorobenzene, p-	<	0.001	mg/Liter	8260

Laboratory Number: M290.002



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Fax 501-562-7025

Toll Free 1-800-331-8139

LABORATORY ANALYSIS

Date of Report: September 10, 1993

Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: WELL #2

ANALYTE	RESULT	UNITS	METHOD
Dichloro-2-butene, trans-1,4-	<	0.001 mg/Liter	8260
Dichloroethane, 1,1-	<	0.001 mg/Liter	8260
Dichloroethane, 1,2-	<	0.001 mg/Liter	8260
Dichloroethylene, 1,1-	<	0.001 mg/Liter	8260
Dichloroethylene, cis-1,2-	<	0.001 mg/Liter	8260
Dichloroethylene, trans-1,2-	<	0.001 mg/Liter	8260
Dichloropropane, 1,2-	<	0.001 mg/Liter	8260
Dichloropropene, cis-1,3-	<	0.001 mg/Liter	8260
Dichloropropene, trans, 1,3-	<	0.001 mg/Liter	8260
Ethylbenzene	<	0.001 mg/Liter	8260
Hexanone, 2-	<	0.001 mg/Liter	8260
Methyl bromide	<	0.001 mg/Liter	8260
Methyl chloride	<	0.001 mg/Liter	8260
Methylene bromide	<	0.001 mg/Liter	8260
Methylene chloride	<	0.001 mg/Liter	8260
Methyl ethyl ketone	<	0.001 mg/Liter	8260
Methyl iodide	<	0.001 mg/Liter	8260
Methyl-2-pentanone, 4-	<	0.001 mg/Liter	8260
Styrene	<	0.001 mg/Liter	8260
Tetrachloroethane, 1, 1, 1, 2-	<	0.001 mg/Liter	8260
Tetrachloroethane, 1, 1, 2, 2	<	0.001 mg/Liter	8260
Tetrachloroethylene	<	0.001 mg/Liter	8260
Toluene	<	0.001 mg/Liter	8260
Trichloroethane, 1, 1, 1-	<	0.001 mg/Liter	8260
Trichloroethane, 1, 1, 2-	<	0.001 mg/Liter	8260
Trichloroethylene	<	0.001 mg/Liter	8260
Trichlorofluoromethane	<	0.001 mg/Liter	8260
Trichloropropane, 1, 2, 3-	<	0.001 mg/Liter	8260
Vinyl acetate	<	0.001 mg/Liter	8260
Vinyl chloride	<	0.001 mg/Liter	8260
Xylene, o-	<	0.001 mg/Liter	8260

Laboratory Number: M290.002



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LABORATORY ANALYSIS

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Toll Free 1-800-331-8139

Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL #2

ANALYTE		RESULT	UNITS	METHOD
m-xylene	<	0.001	mg/Liter	8260
p-xylene	<	0.001	mg/Liter	8260
xylenes	<	0.001	mg/Liter	8260
ammonia nitrogen		0.023	mg/Liter	4500 F
Bicarbonate		96.000	mg/Liter	4500 D
Calcium		40.900	mg/Liter	7140
Chloride		14.500	mg/Liter	4500 C
Iron		0.097	mg/Liter	7380
Magnesium		0.750	mg/Liter	7450
Manganese, dissolved		0.014	mg/Liter	7460
Nitrate		0.757	mg/Liter	4500 E
Potassium		0.910	mg/Liter	7610
Sodium		3.430	mg/Liter	7770
Sulfate		2.210	mg/Liter	4500 E
Chemical oxygen demand		9.000	mg/Liter	5220 B
Total dissolved solids		145.000	mg/Liter	2540 C
Total organic carbon		1.046	mg/Liter	5310 C
pH		7.100	units	4500 B
pH (Q1)		7.400	units	4500 B
pH (Q2)		7.100	units	4500 B
pH (Q3)		7.100	units	4500 B
pH (Q4)		6.800	units	4500 B
Cyanide	<	0.020	mg/Liter	4500 E
Mercury	<	0.001	mg/Liter	7470
Specific conductance		232.500	uS/cm	9050
Specific conductance (Q1)		230.000	uS/cm	9050
Specific conductance (Q2)		230.000	uS/cm	9050
Specific conductance (Q3)		230.000	uS/cm	9050
Specific conductance (Q4)		240.000	uS/cm	9050
Temperature		20.250	.C	2550 B
Temperature (Q1)		22.500	.c	2550 B

Laboratory Number: M290.002



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105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL #2

ANALYTE	RESULT UNITS	METHOD
Temperature (Q2)	21.500 .c	2550 B
Temperature (Q3)	20.000 .c	2550 B
Temperature (Q4)	17.000 .C	2550 B

Collected by:
H./J.B/VERN MAHAFFEY on 08/24/93 at 7:50
Analysis by :
K. E. Sorrells/J. B. Sorrells/C. A. Sorrells/K2 Sorrells/B. Glover/M. McKenzie

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 258. Test/Analyst/Time/Coeff./Var./ QA plan filed with A.D.P.C. & E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained.
See Attached.

Copies to:
MR. KEVIN HODGES

MR. RANDY HOLCOMB

P.O. BOX 1310

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SPRINGDALE, AR 72765-

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MR. KIRK ELLIS
SCS ENGINEERS

10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MO 64131-

Laboratory Number: M290.002

DKS Reviewed By: K. E. Sorrells, M.S. []



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ANTIMONY	KESII	09/04/93	1548	09/04/93	1548	0.10	97.9	23
ARSENIC	KESII	09/03/93	1851	09/03/93	2147	0.10	98.1	23
ARIUM	KESII	09/10/93	1400	09/10/93	1600	0.20	94.9	23
BERYLLIUM	KESII	09/07/93	1819	09/07/93	2018	1.40	94.5	18
BICARBONATE	BWG	09/08/93	1130	09/08/93	1330	0.74	96.9	16
ADMIUM	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
CHROMIUM	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
COBALT	KESII	09/07/93	1307	09/07/93	1715	0.30	104.0	18
COPPER	KESII	09/07/93	1655	09/07/93	1908	1.10	113.0	21
CYANIDE	BWG	08/26/93	1400	09/08/93	1550	1.86	107.5	23
CALCIUM	KESII	08/30/93	1424	08/30/93	1615	0.20	103.0	16
CHLORIDE	MKM	08/30/93	1000	08/30/93	1500	2.00	104.0	25
CHEMICAL OXYGEN DEMAND	CAS	08/30/93	1200	09/01/93	1100	8.54	104.0	23
IRON	KESII	08/27/93	1528	08/27/93	1629	1.10	102.0	18
LEAD	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
MERCURY	KESII	09/09/93	1450	09/09/93	1715	0.80	90.1	23
MAGNESIUM	KESII	08/30/93	1711	08/30/93	1750	0.60	103.0	16
MANGANESE	KESII	08/30/93	1124	08/30/93	1201	1.00	96.5	18
NICKEL	KESII	09/03/93	1102	09/03/93	1420	0.50	95.6	21
NITRATE	JBS	08/31/93	1430	08/31/93	2045	5.08	86.8	18
AMMONIA NITROGEN	MKM	09/02/93	1100	09/03/93	1200	1.70	103.4	35
POTASSIUM	KESII	08/27/93	1245	08/27/93	1313	1.20	98.9	18
PHOSPHORUS	VM	08/24/93	750	08/24/93	855	0.00	0.0	1
SELENIUM	KESII	09/03/93	1851	09/03/93	2147	0.60	99.3	24
SILVER	KESII	09/01/93	1159	09/01/93	1617	0.50	103.0	26
SODIUM	KESII	08/27/93	1419	08/27/93	1434	0.50	98.8	16
SULFATE	MKM	08/27/93	1015	08/27/93	1400	1.80	98.0	24
SPECIFIC CONDUCTANCE	VM	08/24/93	750	08/24/93	755	0.00	0.0	1
THALLIUM	KESII	09/02/93	1710	09/02/93	1925	0.70	100.1	18
TOTAL DISSOLVED SOLIDS	JBS	08/30/93	1600	09/02/93	930	0.15	100.5	18
TEMPERATURE	VM	08/24/93	750	08/24/93	755	0.00	0.0	1
TOTAL ORGANIC CARBON	BWG	08/25/93	1400	09/08/93	1555	13.09	106.9	21
TITANIUM	KESII	09/10/93	1120	09/10/93	1245	0.00	97.0	17
VOLATILES (Q.A.)	KES	08/28/93	2006	08/30/93	745	7.12	105.7	19
ZINC	KESII	08/27/93	1643	08/28/93	1026	0.50	88.0	22



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August 25, 1993

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Sample preservation and laboratory analysis conducted according to EPA
40 CFR Part 258 TEST/ANALYST/TIME/COEF. VAR.* QA PLAN filed with
ADPC*E. Include replication.

KES = K. E. Sorrells
JBS = James B. Sorrells
CAS = Cecil A. Sorrells
KRL = Karl E. Sorrells

KESII = K. E. Sorrells, II
BWG = Ben W. Glover
MM = Mark McKenzie

Laboratory Number: M290.002 DKS



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LABORATORY ANALYSIS

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Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL #3

ANALYTE		RESULT	UNITS	METHOD
Antimony	<	0.003	mg/Liter	7041
Arsenic		0.002	mg/Liter	7061
Barium	<	0.050	mg/Liter	7080
Beryllium	<	0.001	mg/Liter	7091
Cadmium		0.001	mg/Liter	7131
Chromium	<	0.001	mg/Liter	7191
Cobalt		0.017	mg/Liter	7201
Copper		0.002	mg/Liter	7211
Lead	<	0.001	mg/Liter	7421
Nickel		0.021	mg/Liter	7521
Selenium	<	0.002	mg/Liter	7741
Silver	<	0.001	mg/Liter	7761
Thallium	<	0.001	mg/Liter	7841
Vanadium	<	0.050	mg/Liter	7910
Zinc		0.114	mg/Liter	7950
Acetone	<	0.001	mg/Liter	8260
Acrylonitrile	<	0.001	mg/Liter	8260
Benzene	<	0.001	mg/Liter	8260
Bromochloromethane	<	0.001	mg/Liter	8260
Bromodichloromethane	<	0.001	mg/Liter	8260
Bromoform	<	0.001	mg/Liter	8260
Carbon disulfide	<	0.001	mg/Liter	8260
Carbon tetrachloride	<	0.001	mg/Liter	8260
Chlorobenzene	<	0.001	mg/Liter	8260
Chloroethane	<	0.001	mg/Liter	8260
Chloroform	<	0.001	mg/Liter	8260
Dibromochloromethane	<	0.001	mg/Liter	8260
Dibromo-3-chloropropane, 1,2-	<	0.001	mg/Liter	8260
Dibromoethane, 1,2-	<	0.001	mg/Liter	8260
Dichlorobenzene, o-	<	0.001	mg/Liter	8260
Dichlorobenzene, p-	<	0.001	mg/Liter	8260

Laboratory Number: M290.003



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8002 Stanton Road
Little Rock, Arkansas 72209

LABORATORY ANALYSIS

WEF



Phone 501-562-8139
Fax 501-562-7025
Toll Free 1-800-331-8139

Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL #3

ANALYTE		RESULT	UNITS	METHOD
Dichloro-2-butene, trans-1,4-	<	0.001	mg/Liter	8260
Dichloroethane, 1,1-	<	0.001	mg/Liter	8260
Dichloroethane, 1,2-	<	0.001	mg/Liter	8260
Dichloroethylene, 1,1-	<	0.001	mg/Liter	8260
Dichloroethylene, cis-1,2-	<	0.001	mg/Liter	8260
Dichloroethylene, trans-1,2-	<	0.001	mg/Liter	8260
Dichloropropane, 1,2-	<	0.001	mg/Liter	8260
Dichloropropene, cis-1,3-	<	0.001	mg/Liter	8260
Dichloropropene, trans, 1,3-	<	0.001	mg/Liter	8260
Ethylbenzene	<	0.001	mg/Liter	8260
Hexanone, 2-	<	0.001	mg/Liter	8260
Methyl bromide	<	0.001	mg/Liter	8260
Methyl chloride	<	0.001	mg/Liter	8260
Methylene bromide	<	0.001	mg/Liter	8260
Methylene chloride	<	0.001	mg/Liter	8260
Methyl ethyl ketone	<	0.001	mg/Liter	8260
Methyl iodide	<	0.001	mg/Liter	8260
Methyl-2-pentanone, 4-	<	0.001	mg/Liter	8260
Styrene	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 1, 2-	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 2, 2	<	0.001	mg/Liter	8260
Tetrachloroethylene	<	0.001	mg/Liter	8260
Toluene	<	0.001	mg/Liter	8260
Trichloroethane, 1, 1, 1-	<	0.001	mg/Liter	8260
Trichloroethane, 1, 1, 2-	<	0.001	mg/Liter	8260
Trichloroethylene	<	0.001	mg/Liter	8260
Trichlorofluoromethane	<	0.001	mg/Liter	8260
Trichloropropane, 1, 2, 3-	<	0.001	mg/Liter	8260
Vinyl acetate	<	0.001	mg/Liter	8260
Vinyl chloride	<	0.001	mg/Liter	8260
Xylene, o-	<	0.001	mg/Liter	8260

Laboratory Number: M290.003



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Date of Report: September 10, 1993
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For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL #3

ANALYTE		RESULT	UNITS	METHOD
m-Xylene	<	0.001	mg/Liter	8260
p-Xylene	<	0.001	mg/Liter	8260
xylenes	<	0.001	mg/Liter	8260
Ammonia nitrogen		0.112	mg/Liter	4500 F
Bicarbonate		94.000	mg/Liter	4500 D
Calcium		30.100	mg/Liter	7140
Chloride		22.500	mg/Liter	4500 C
Iron		1.540	mg/Liter	7380
Magnesium		3.160	mg/Liter	7450
Manganese, dissolved		1.390	mg/Liter	7460
Nitrate		0.023	mg/Liter	4500 E
Potassium		2.080	mg/Liter	7610
Sodium		2.920	mg/Liter	7770
Sulfate		6.700	mg/Liter	4500 E
Chemical oxygen demand		14.000	mg/Liter	5220 B
Total dissolved solids		122.000	mg/Liter	2540 C
Total organic carbon		1.338	mg/Liter	5310 C
pH		5.275	units	4500 B
pH (Q1)		5.200	units	4500 B
pH (Q2)		5.400	units	4500 B
pH (Q3)		5.400	units	4500 B
pH (Q4)		5.100	units	4500 B
Cyanide	<	0.020	mg/Liter	4500 E
Mercury	<	0.001	mg/Liter	7470
Specific conductance		182.500	uS/cm	9050
Specific conductance (Q1)		150.000	uS/cm	9050
Specific conductance (Q2)		200.000	uS/cm	9050
Specific conductance (Q3)		190.000	uS/cm	9050
Specific conductance (Q4)		190.000	uS/cm	9050
Temperature		19.000	.C	2550 B
Temperature (Q1)		21.000	.c	2550 B

Laboratory Number: M290.003



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Date of Report: September 10, 1993

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For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: WELL #3

ANALYTE	RESULT	UNITS	METHOD
Temperature (Q2)	19.500	.c	2550 B
Temperature (Q3)	19.000	.c	2550 B
Temperature (Q4)	16.500	.C	2550 B

Collected by:

K.H./J.B./VERN MAHAFFEY on 08/24/93 at 8:20

Analysis by :

K. E. Sorrells/J. B. Sorrells/C. A. Sorrells/K2 Sorrells/B. Glover/M. McKenzie

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 258. Test/Analyst/Time/Coeff./Var./ QA plan filed with A.D.P.C. & E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained.
See Attached.

Copies to:

MR. KEVIN HODGES

MR. RANDY HOLCOMB

P.O. BOX 1310

P.O. BOX 1310

SPRINGDALE, AR 72765-

SPRINGDALE, AR 72765-

MR. KIRK ELLIS
SCS ENGINEERS

10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MO 64131-

Laboratory Number: M290.003

DKS Reviewed By: K. E. Sorrells, M.S. [4]



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QUALITY ASSURANCE

August 25, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	# IN BAT.
ANTIMONY	KESII	09/04/93	1548	09/04/93	1548	0.10	97.9	23
ARSENIC	KESII	09/03/93	1851	09/03/93	2147	0.10	98.1	23
BARIUM	KESII	09/10/93	1400	09/10/93	1600	0.20	94.9	23
BERYLLIUM	KESII	09/07/93	1819	09/07/93	2018	1.40	94.5	18
BICARBONATE	BWG	09/08/93	1130	09/08/93	1330	0.74	96.9	16
CADMIUM	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
CHROMIUM	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
COBALT	KESII	09/07/93	1307	09/07/93	1715	0.30	104.0	18
COPPER	KESII	09/07/93	1655	09/07/93	1908	1.10	113.0	21
CYANIDE	BWG	08/26/93	1400	09/08/93	1550	1.86	107.5	23
CALCIUM	KESII	08/30/93	1424	08/30/93	1615	0.20	103.0	16
CHLORIDE	MKM	08/30/93	1000	08/30/93	1500	2.00	104.0	25
CHEMICAL OXYGEN DEMAND	CAS	08/30/93	1200	09/01/93	1100	8.54	104.0	23
IRON	KESII	08/27/93	1528	08/27/93	1629	1.10	102.0	18
LEAD	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
MERCURY	KESII	09/09/93	1450	09/09/93	1715	0.80	90.1	23
MAGNESIUM	KESII	08/30/93	1711	08/30/93	1750	0.60	103.0	16
MANGANESE	KESII	08/30/93	1124	08/30/93	1201	1.00	96.5	18
NICKEL	KESII	09/03/93	1102	09/03/93	1420	0.50	95.6	21
NITRATE	JBS	08/31/93	1430	08/31/93	2045	5.08	86.8	18
AMMONIA NITROGEN	MKM	09/02/93	1100	09/03/93	1200	1.70	103.4	35
POTASSIUM	KESII	08/27/93	1245	08/27/93	1313	1.20	98.9	18
PH	VM	08/24/93	820	08/24/93	825	0.00	0.0	1
SELENIUM	KESII	09/03/93	1851	09/03/93	2147	0.60	99.3	24
SILVER	KESII	09/01/93	1159	09/01/93	1617	0.50	103.0	26
SODIUM	KESII	08/27/93	1419	08/27/93	1434	0.50	98.8	16
SULFATE	MKM	08/27/93	1015	08/27/93	1400	1.80	98.0	24
SPECIFIC CONDUCTANCE	VM	08/24/93	820	08/24/93	825	0.00	0.0	1
THALLIUM	KESII	09/02/93	1710	09/02/93	1925	0.70	100.1	18
TOTAL DISSOLVED SOLIDS	JBS	08/30/93	1600	09/02/93	930	0.15	100.5	18
TEMPERATURE	VM	08/24/93	820	08/24/93	825	0.00	0.0	1
TOTAL ORGANIC CARBON	BWG	08/25/93	1400	09/08/93	1555	13.09	106.9	21
VANADIUM	KESII	09/10/93	1120	09/10/93	1245	0.00	97.0	17
VOLATILES (Q.A.)	KES	08/28/93	2006	08/30/93	745	7.12	105.7	19
ZINC	KESII	08/27/93	1643	08/28/93	1026	0.50	88.0	22



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8002 Stanton Road
Little Rock, Arkansas 72209

Phone 501-562-8139
Fax 501-562-7025
Toll Free 1-800-331-8139

QUALITY ASSURANCE

August 25, 1993

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Any analysis performed but not needed by your facility should be disregarded.

ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	IN BAT.
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Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
Sample preservation and laboratory analysis conducted according to EPA
40 CFR Part 258 TEST/ANALYST/TIME/COEF. VAR.* QA PLAN filed with
ADPC*E. Include replication.

KES = K. E. Sorrells
JBS = James B. Sorrells
CAS = Cecil A. Sorrells
KRL = Karl E. Sorrells

KESII = K. E. Sorrells, II
BWG = Ben W. Glover
MM = Mark McKenzie

Laboratory Number: M290.003 DKS



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Little Rock, Arkansas 72209

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Fax 501-562-7025
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LABORATORY ANALYSIS

Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL #4

ANALYTE		RESULT	UNITS	METHOD
Antimony	<	0.003	mg/Liter	7041
Arsenic		0.003	mg/Liter	7061
Barium		0.248	mg/Liter	7080
Beryllium	<	0.001	mg/Liter	7091
Cadmium	<	0.001	mg/Liter	7131
Chromium	<	0.001	mg/Liter	7191
Cobalt		0.021	mg/Liter	7201
Copper		0.002	mg/Liter	7211
Lead	<	0.001	mg/Liter	7421
Nickel		0.081	mg/Liter	7521
Selenium	<	0.002	mg/Liter	7741
Silver	<	0.001	mg/Liter	7761
Thallium	<	0.001	mg/Liter	7841
Titanium	<	0.050	mg/Liter	7910
Zinc		0.011	mg/Liter	7950
Acetone		0.001	mg/Liter	8260
Acrylonitrile	<	0.001	mg/Liter	8260
Benzene		0.004	mg/Liter	8260
Bromochloromethane	<	0.001	mg/Liter	8260
Bromodichloromethane	<	0.001	mg/Liter	8260
Bromoform	<	0.001	mg/Liter	8260
Carbon disulfide	<	0.001	mg/Liter	8260
Carbon tetrachloride	<	0.001	mg/Liter	8260
Chlorobenzene	<	0.001	mg/Liter	8260
Chloroethane		0.011	mg/Liter	8260
Chloroform	<	0.001	Mg/Liter	8260
Dibromochloromethane	<	0.001	mg/Liter	8260
Dibromo-3-chloropropane, 1,2-	<	0.001	mg/Liter	8260
Dibromoethane, 1,2-	<	0.001	mg/Liter	8260
Dichlorobenzene, o-	<	0.001	mg/Liter	8260
Dichlorobenzene, p-		0.003	mg/Liter	8260

Laboratory Number: M290.004



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CONSULTANTS
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Little Rock, Arkansas 72209

Phone 501-562-8139
Fax 501-562-7025
Toll Free 1-800-331-8139

LABORATORY ANALYSIS

Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: WELL #4

ANALYTE		RESULT	UNITS	METHOD
Dichloro-2-butene, trans-1,4-	<	0.001	mg/Liter	8260
Dichloroethane, 1,1-		0.010	mg/Liter	8260
Dichloroethane, 1,2-	<	0.001	mg/Liter	8260
Dichloroethylene, 1,1-	<	0.001	mg/Liter	8260
Dichloroethylene, cis-1,2-		0.024	mg/Liter	8260
Dichloroethylene, trans-1,2-	<	0.001	mg/Liter	8260
Dichloropropane, 1,2-	<	0.001	mg/Liter	8260
Dichloropropene, cis-1,3-	<	0.001	mg/Liter	8260
Dichloropropene, trans, 1,3-	<	0.001	mg/Liter	8260
Ethylbenzene		0.003	mg/Liter	8260
Hexanone, 2-	<	0.001	mg/Liter	8260
Methyl bromide	<	0.001	mg/Liter	8260
Methyl chloride		0.002	mg/Liter	8260
Methylene bromide	<	0.001	mg/Liter	8260
Methylene chloride	<	0.001	mg/Liter	8260
Methyl ethyl ketone		0.007	mg/Liter	8260
Methyl iodide	<	0.001	mg/Liter	8260
Methyl-2-pentanone, 4-	<	0.001	mg/Liter	8260
Styrene	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 1, 2-	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 2, 2	<	0.001	mg/Liter	8260
Tetrachloroethylene		0.002	mg/Liter	8260
Toluene	<	0.001	mg/Liter	8260
Trichloroethane, 1, 1, 1-	<	0.001	mg/Liter	8260
Trichloroethane, 1, 1, 2-	<	0.001	mg/Liter	8260
Trichloroethylene		0.007	mg/Liter	8260
Trichlorofluoromethane	<	0.001	mg/Liter	8260
Trichloropropane, 1, 2, 3-	<	0.001	mg/Liter	8260
Vinyl acetate	<	0.001	mg/Liter	8260
Vinyl chloride		0.020	mg/Liter	8260
Xylene, o-	<	0.001	mg/Liter	8260

Laboratory Number: M290.004



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For: SUNRAY SERVICES
P.O. BOX 1310
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SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: WELL #4

ANALYTE	RESULT	UNITS	METHOD
Xylene, m-	<	0.001 mg/Liter	8260
Xylene, p-		0.001 mg/Liter	8260
Xylenes		0.002 mg/Liter	8260
Ammonia nitrogen		3.501 mg/Liter	4500 F
Bicarbonate		398.000 mg/Liter	4500 D
Calcium		115.000 mg/Liter	7140
Chloride		63.980 mg/Liter	4500 C
Iron		20.700 mg/Liter	7380
Magnesium		12.400 mg/Liter	7450
Manganese, dissolved		8.120 mg/Liter	7460
Nitrate		0.033 mg/Liter	4500 E
Potassium		7.320 mg/Liter	7610
Sodium		37.900 mg/Liter	7770
Sulfate		8.390 mg/Liter	4500 E
Chemical oxygen demand		31.500 mg/Liter	5220 B
Total dissolved solids		488.000 mg/Liter	2540 C
Total organic carbon		6.609 mg/Liter	5310 C
pH		5.600 units	4500 B
pH (Q1)		5.600 units	4500 B
pH (Q2)		5.600 units	4500 B
pH (Q3)		5.600 units	4500 B
pH (Q4)		5.600 units	4500 B
Cyanide	<	0.020 mg/Liter	4500 E
Mercury	<	0.001 mg/Liter	7470
Specific conductance		897.500 uS/cm	9050
Specific conductance (Q1)		890.000 uS/cm	9050
Specific conductance (Q2)		900.000 uS/cm	9050
Specific conductance (Q3)		900.000 uS/cm	9050
Specific conductance (Q4)		900.000 uS/cm	9050
Temperature		21.000 .C	2550 B
Temperature (Q1)		21.000 .c	2550 B

Laboratory Number: M290.004



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Sample From: WELL #4

ANALYTE	RESULT	UNITS	METHOD
Temperature (Q2)	22.000	.c	2550 B
Temperature (Q3)	20.500	.c	2550 B
Temperature (Q4)	20.500	.C	2550 B

Collected by:
C.H./J.B./VERN MAHAFFEY on 08/24/93 at 8:45
Analysis by :
K. E. Sorrells/J. B. Sorrells/C. A. Sorrells/K2 Sorrells/B. Glover/M. McKenzie

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 258. Test/Analyst/Time/Coeff./Var./ QA plan filed with A.D.P.C. & E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained.
See Attached.

Copies to:

MR. KEVIN HODGES	MR. RANDY HOLCOMB
P.O. BOX 1310	P.O. BOX 1310
SPRINGDALE, AR 72765-	SPRINGDALE, AR 72765-
MR. KIRK ELLIS	
SCS ENGINEERS	
10401 HOLMES ROAD, SUITE 400	
KANSAS CITY, MO 64131-	



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August 25, 1993

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ANTIMONY	KESII	09/04/93	1548	09/04/93	1548	0.10	97.9	23
ARSENIC	KESII	09/03/93	1851	09/03/93	2147	0.10	98.1	23
BARIIUM	KESII	09/10/93	1400	09/10/93	1600	0.20	94.9	23
BERYLLIUM	KESII	09/07/93	1819	09/07/93	2018	1.40	94.5	18
BICARBONATE	BWG	09/08/93	1130	09/08/93	1330	0.74	96.9	16
CADMIUM	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
CHROMIUM	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
COBALT	KESII	09/07/93	1307	09/07/93	1715	0.30	104.0	18
COPPER	KESII	09/07/93	1655	09/07/93	1908	1.10	113.0	21
CYANIDE	BWG	08/26/93	1400	09/08/93	1550	1.86	107.5	23
CALCIUM	KESII	08/30/93	1424	08/30/93	1615	0.20	103.0	16
CHLORIDE	MKM	08/30/93	1000	08/30/93	1500	2.00	104.0	25
CHEMICAL OXYGEN DEMAND	CAS	08/30/93	1200	09/01/93	1100	8.54	104.0	23
IRON	KESII	08/27/93	1528	08/27/93	1629	1.10	102.0	18
LEAD	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
MERCURY	KESII	09/09/93	1450	09/09/93	1715	0.80	90.1	23
MAGNESIUM	KESII	08/30/93	1711	08/30/93	1750	0.60	103.0	16
MANGANESE	KESII	08/30/93	1124	08/30/93	1201	1.00	96.5	18
NICKEL	KESII	09/03/93	1102	09/03/93	1420	0.50	95.6	21
NITRATE	JBS	08/31/93	1430	08/31/93	2045	5.08	86.8	18
AMMONIA NITROGEN	MKM	09/02/93	1100	09/03/93	1200	1.70	103.4	35
POTASSIUM	KESII	08/27/93	1245	08/27/93	1313	1.20	98.9	18
PH	VM	08/24/93	845	08/24/93	850	0.00	0.0	1
SELENIUM	KESII	09/03/93	1851	09/03/93	2147	0.60	99.3	24
SILVER	KESII	09/01/93	1159	09/01/93	1617	0.50	103.0	26
SODIUM	KESII	08/27/93	1419	08/27/93	1434	0.50	98.8	16
SULFATE	MKM	08/27/93	1015	08/27/93	1400	1.80	98.0	24
SPECIFIC CONDUCTANCE	VM	08/24/93	845	08/24/93	850	0.00	0.0	1
THALLIUM	KESII	09/02/93	1710	09/02/93	1925	0.70	100.1	18
TOTAL DISSOLVED SOLIDS	JBS	08/30/93	1600	09/02/93	930	0.15	100.5	18
TEMPERATURE	VM	08/24/93	845	08/24/93	850	0.00	0.0	1
TOTAL ORGANIC CARBON	BWG	08/25/93	1400	09/08/93	1555	13.09	106.9	21
TANADIUM	KESII	09/10/93	1120	09/10/93	1245	0.00	97.0	17
VOLATILES (Q.A.)	KES	08/28/93	2006	08/30/93	745	7.12	105.7	19
ZINC	KESII	08/27/93	1643	08/28/93	1026	0.50	88.0	22



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Toll Free 1-800-331-8139

QUALITY ASSURANCE

August 25, 1993

The following QA represents SRA's Quality Assurance values for this report.
Any analysis performed but not needed by your facility should be disregarded.

ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	IN BAT.
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Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
Sample preservation and laboratory analysis conducted according to EPA
40 CFR Part 258 TEST/ANALYST/TIME/COEF. VAR.* QA PLAN filed with
ADPC*E. Include replication.

KES = K. E. Sorrells
JBS = James B. Sorrells
CAS = Cecil A. Sorrells
KRL = Karl E. Sorrells

KESII = K. E. Sorrells, II
BWG = Ben W. Glover
MM = Mark McKenzie

Laboratory Number: M290.004 DKS



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LABORATORY ANALYSIS

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Toll Free 1-800-331-8139

Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL # 5

ANALYTE		RESULT	UNITS	METHOD
Antimony	<	0.003	mg/Liter	7041
Arsenic	<	0.001	mg/Liter	7061
Barium	<	0.050	mg/Liter	7080
Beryllium	<	0.001	mg/Liter	7091
Cadmium	<	0.001	mg/Liter	7131
Chromium	<	0.001	mg/Liter	7191
Cobalt	<	0.001	mg/Liter	7201
Copper	<	0.001	mg/Liter	7211
Lead	<	0.001	mg/Liter	7421
Nickel	<	0.020	mg/Liter	7521
Selenium	<	0.002	mg/Liter	7741
Silver	<	0.001	mg/Liter	7761
Thallium	<	0.001	mg/Liter	7841
Tanadium	<	0.050	mg/Liter	7910
Zinc	<	0.056	mg/Liter	7950
Acetone	<	0.001	mg/Liter	8260
Acrylonitrile	<	0.001	mg/Liter	8260
Benzene	<	0.001	mg/Liter	8260
Bromochloromethane	<	0.001	mg/Liter	8260
Bromodichloromethane	<	0.001	mg/Liter	8260
Bromoform	<	0.001	mg/Liter	8260
Carbon disulfide	<	0.001	mg/Liter	8260
Carbon tetrachloride	<	0.001	mg/Liter	8260
Chlorobenzene	<	0.001	mg/Liter	8260
Chloroethane	<	0.002	mg/Liter	8260
Chloroform	<	0.001	mg/Liter	8260
Dibromochloromethane	<	0.001	mg/Liter	8260
Dibromo-3-chloropropane, 1,2-	<	0.001	mg/Liter	8260
Dibromoethane, 1,2-	<	0.001	mg/Liter	8260
Dichlorobenzene, o-	<	0.001	mg/Liter	8260
Dichlorobenzene, p-	<	0.001	mg/Liter	8260

Laboratory Number: M290.005



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For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL # 5

ANALYTE		RESULT	UNITS	METHOD
Dichloro-2-butene, trans-1,4-	<	0.001	mg/Liter	8260
Dichloroethane, 1,1-		0.006	mg/Liter	8260
Dichloroethane, 1,2-	<	0.001	mg/Liter	8260
Dichloroethylene, 1,1-	<	0.001	mg/Liter	8260
Dichloroethylene, cis-1,2-		0.001	mg/Liter	8260
Dichloroethylene, trans-1,2-	<	0.001	mg/Liter	8260
Dichloropropane, 1,2-	<	0.001	mg/Liter	8260
Dichloropropene, cis-1,3-	<	0.001	mg/Liter	8260
Dichloropropene, trans, 1,3-	<	0.001	mg/Liter	8260
Ethylbenzene	<	0.001	mg/Liter	8260
Hexanone, 2-	<	0.001	mg/Liter	8260
Methyl bromide	<	0.001	mg/Liter	8260
Methyl chloride	<	0.001	mg/Liter	8260
Methylene bromide	<	0.001	mg/Liter	8260
Methylene chloride		0.003	mg/Liter	8260
Methyl ethyl ketone	<	0.001	mg/Liter	8260
Methyl iodide	<	0.001	mg/Liter	8260
Methyl-2-pentanone, 4-	<	0.001	mg/Liter	8260
Styrene	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 1, 2-	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 2, 2	<	0.001	mg/Liter	8260
Tetrachloroethylene		0.005	mg/Liter	8260
Toluene	<	0.001	mg/Liter	8260
Trichloroethane, 1, 1, 1-		0.002	mg/Liter	8260
Trichloroethane, 1, 1, 2-	<	0.001	mg/Liter	8260
Trichloroethylene		0.002	mg/Liter	8260
Trichlorofluoromethane		0.008	mg/Liter	8260
Trichloropropane, 1, 2, 3-	<	0.001	mg/Liter	8260
Vinyl acetate	<	0.001	mg/Liter	8260
Vinyl chloride		0.001	mg/Liter	8260
Xylene, o-	<	0.001	mg/Liter	8260

Laboratory Number: M290.005



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For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: WELL # 5

ANALYTE		RESULT	UNITS	METHOD
Xylene, m-	<	0.001	mg/Liter	8260
Xylene, p-	<	0.001	mg/Liter	8260
Xylenes	<	0.001	mg/Liter	8260
Ammonia nitrogen		0.072	mg/Liter	4500 F
Bicarbonate		242.000	mg/Liter	4500 D
Calcium		127.000	mg/Liter	7140
Chloride		42.490	mg/Liter	4500 C
Iron		0.058	mg/Liter	7380
Magnesium		2.040	mg/Liter	7450
Manganese, dissolved		0.030	mg/Liter	7460
Nitrate		1.512	mg/Liter	4500 E
Potassium		1.320	mg/Liter	7610
Sodium		11.200	mg/Liter	7770
Sulfate		4.020	mg/Liter	4500 E
Chemical oxygen demand		56.500	mg/Liter	5220 B
Total dissolved solids		431.000	mg/Liter	2540 C
Total organic carbon		1.534	mg/Liter	5310 C
pH		6.100	units	4500 B
pH (Q1)		6.300	units	4500 B
pH (Q2)		6.100	units	4500 B
pH (Q3)		6.000	units	4500 B
pH (Q4)		6.000	units	4500 B
Cyanide	<	0.020	mg/Liter	4500 E
Mercury	<	0.001	mg/Liter	7470
Specific conductance		682.500	uS/cm	9050
Specific conductance (Q1)		690.000	uS/cm	9050
Specific conductance (Q2)		680.000	uS/cm	9050
Specific conductance (Q3)		680.000	uS/cm	9050
Specific conductance (Q4)		680.000	uS/cm	9050
Temperature		20.625	.C	2550 B
Temperature (Q1)		20.500	.c	2550 B

Laboratory Number: M290.005



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105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL # 5

ANALYTE	RESULT	UNITS	METHOD
Temperature (Q2)	21.000	.c	2550 B
Temperature (Q3)	20.000	.c	2550 B
Temperature (Q4)	21.000	.C	2550 B

Collected by:

K.H./J.B./VERN MAHAFFEY on 08/24/93 at 9:50

Analysis by :

K. E. Sorrells/J. B. Sorrells/C. A. Sorrells/K2 Sorrells/B. Glover/M. McKenzie

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 258. Test/Analyst/Time/Coeff./Var./ QA plan filed with A.D.P.C. & E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained. See Attached.

Copies to:

MR. KEVIN HODGES

MR. RANDY HOLCOMB

P.O. BOX 1310

P.O. BOX 1310

SPRINGDALE, AR 72765-

SPRINGDALE, AR 72765-

MR. KIRK ELLIS
SCS ENGINEERS

10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MO 64131-

Laboratory Number: M290.005

DKS Reviewed By: K. E. Sorrells, M.S. [4]



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QUALITY ASSURANCE

August 25, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	IN BAT.
ANTIMONY	KESII	09/04/93	1548	09/04/93	1548	0.10	97.9	23
ARSENIC	KESII	09/03/93	1851	09/03/93	2147	0.10	98.1	23
BARIUM	KESII	09/10/93	1400	09/10/93	1600	0.20	94.9	23
BERYLLIUM	KESII	09/07/93	1819	09/07/93	2018	1.40	94.5	18
BICARBONATE	BWG	09/08/93	1130	09/08/93	1330	0.74	96.9	16
CADMIUM	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
CHROMIUM	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
COBALT	KESII	09/07/93	1307	09/07/93	1715	0.30	104.0	18
COPPER	KESII	09/07/93	1655	09/07/93	1908	1.10	113.0	21
CYANIDE	BWG	08/26/93	1400	09/08/93	1550	1.86	107.5	23
CALCIUM	KESII	08/30/93	1424	08/30/93	1615	0.20	103.0	16
CHLORIDE	MKM	08/30/93	1000	08/30/93	1500	2.00	104.0	25
CHEMICAL OXYGEN DEMAND	CAS	08/30/93	1200	09/01/93	1100	8.54	104.0	23
IRON	KESII	08/27/93	1528	08/27/93	1629	1.10	102.0	18
LEAD	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
MERCURY	KESII	09/09/93	1450	09/09/93	1715	0.80	90.1	23
MAGNESIUM	KESII	08/30/93	1711	08/30/93	1750	0.60	103.0	16
MANGANESE	KESII	08/30/93	1124	08/30/93	1201	1.00	96.5	18
NICKEL	KESII	09/03/93	1102	09/03/93	1420	0.50	95.6	21
NITRATE	JBS	08/31/93	1430	08/31/93	2045	5.08	86.8	18
AMMONIA NITROGEN	MKM	09/02/93	1100	09/03/93	1200	1.70	103.4	35
POTASSIUM	KESII	08/27/93	1245	08/27/93	1313	1.20	98.9	18
PH	VM	08/24/93	950	08/24/93	955	0.00	0.0	1
SELENIUM	KESII	09/03/93	1851	09/03/93	2147	0.60	99.3	24
SILVER	KESII	09/01/93	1159	09/01/93	1617	0.50	103.0	26
SODIUM	KESII	08/27/93	1419	08/27/93	1434	0.50	98.8	16
SULFATE	MKM	08/27/93	1015	08/27/93	1400	1.80	98.0	24
SPECIFIC CONDUCTANCE	VM	08/24/93	950	08/24/93	955	0.00	0.0	1
THALLIUM	KESII	09/02/93	1710	09/02/93	1925	0.70	100.1	18
TOTAL DISSOLVED SOLIDS	JBS	08/30/93	1600	09/02/93	930	0.15	100.5	18
TEMPERATURE	VM	08/24/93	950	08/24/93	955	0.00	0.0	1
TOTAL ORGANIC CARBON	BWG	08/25/93	1400	09/08/93	1555	13.09	106.9	21
TANADIUM	KESII	09/10/93	1120	09/10/93	1245	0.00	97.0	17
VOLATILES (Q.A.)	KES	08/28/93	2006	08/30/93	745	7.12	105.7	19
ZINC	KESII	08/27/93	1643	08/28/93	1026	0.50	88.0	22



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Fax 501-562-7025
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QUALITY ASSURANCE

August 25, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	IN BAT.
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Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
Sample preservation and laboratory analysis conducted according to EPA
40 CFR Part 258 TEST/ANALYST/TIME/COEF. VAR.* QA PLAN filed with
ADPC*E. Include replication.

KES = K. E. Sorrells
JBS = James B. Sorrells
CAS = Cecil A. Sorrells
KRL = Karl E. Sorrells

KESII = K. E. Sorrells, II
BWG = Ben W. Glover
MM = Mark McKenzie

Laboratory Number: M290.005 DKS



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Date of Report: September 10, 1993

Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: WELL #6

ANALYTE		RESULT	UNITS	METHOD
Antimony	<	0.003	mg/Liter	7041
Arsenic	<	0.001	mg/Liter	7061
Barium	<	0.050	mg/Liter	7080
Beryllium	<	0.001	mg/Liter	7091
Cadmium		0.006	mg/Liter	7131
Chromium	<	0.001	mg/Liter	7191
Cobalt	<	0.001	mg/Liter	7201
Copper	<	0.001	mg/Liter	7211
Lead	<	0.001	mg/Liter	7421
Nickel		0.006	mg/Liter	7521
Selenium	<	0.002	mg/Liter	7741
Silver	<	0.001	mg/Liter	7761
Thallium	<	0.001	mg/Liter	7841
Tanadium	<	0.050	mg/Liter	7910
Zinc		0.049	mg/Liter	7950
Acetone	<	0.001	mg/Liter	8260
Acrylonitrile	<	0.001	mg/Liter	8260
Benzene	<	0.001	mg/Liter	8260
Bromochloromethane	<	0.001	mg/Liter	8260
Bromodichloromethane	<	0.001	mg/Liter	8260
Bromoform	<	0.001	mg/Liter	8260
Carbon disulfide	<	0.001	mg/Liter	8260
Carbon tetrachloride	<	0.001	mg/Liter	8260
Chlorobenzene	<	0.001	mg/Liter	8260
Chloroethane	<	0.001	mg/Liter	8260
Chloroform	<	0.001	mg/Liter	8260
Dibromochloromethane	<	0.001	mg/Liter	8260
Dibromo-3-chloropropane, 1,2-	<	0.001	mg/Liter	8260
Dibromoethane, 1,2-	<	0.001	mg/Liter	8260
Dichlorobenzene, o-	<	0.001	mg/Liter	8260
Dichlorobenzene, p-	<	0.001	mg/Liter	8260

Laboratory Number: M290.006



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Date of Report: September 10, 1993
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For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL #6

ANALYTE	RESULT	UNITS	METHOD
Dichloro-2-butene, trans-1,4-	<	0.001 mg/Liter	8260
Dichloroethane, 1,1-		0.002 mg/Liter	8260
Dichloroethane, 1,2-	<	0.001 mg/Liter	8260
Dichloroethylene, 1,1-	<	0.001 mg/Liter	8260
Dichloroethylene, cis-1,2-	<	0.001 mg/Liter	8260
Dichloroethylene, trans-1,2-	<	0.001 mg/Liter	8260
Dichloropropane, 1,2-	<	0.001 mg/Liter	8260
Dichloropropene, cis-1,3-	<	0.001 mg/Liter	8260
Dichloropropene, trans, 1,3-	<	0.001 mg/Liter	8260
Ethylbenzene	<	0.001 mg/Liter	8260
Hexanone, 2-	<	0.001 mg/Liter	8260
Methyl bromide	<	0.001 mg/Liter	8260
Methyl chloride	<	0.001 mg/Liter	8260
Methylene bromide	<	0.001 mg/Liter	8260
Methylene chloride	<	0.001 mg/Liter	8260
Methyl ethyl ketone	<	0.001 mg/Liter	8260
Methyl iodide	<	0.001 mg/Liter	8260
Methyl-2-pentanone, 4-	<	0.001 mg/Liter	8260
Styrene	<	0.001 mg/Liter	8260
Tetrachloroethane, 1, 1, 1, 2-	<	0.001 mg/Liter	8260
Tetrachloroethane, 1, 1, 2, 2	<	0.001 mg/Liter	8260
Tetrachloroethylene		0.002 mg/Liter	8260
Toluene	<	0.001 mg/Liter	8260
Trichloroethane, 1, 1, 1-	<	0.001 mg/Liter	8260
Trichloroethane, 1, 1, 2-	<	0.001 mg/Liter	8260
Trichloroethylene	<	0.001 mg/Liter	8260
Trichlorofluoromethane		0.004 mg/Liter	8260
Trichloropropane, 1, 2, 3-	<	0.001 mg/Liter	8260
Vinyl acetate	<	0.001 mg/Liter	8260
Vinyl chloride		0.002 mg/Liter	8260
Xylene, o-	<	0.001 mg/Liter	8260

Laboratory Number: M290.006



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For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL #6

ANALYTE		RESULT	UNITS	METHOD
Xylene, m-	<	0.001	mg/Liter	8260
Xylene, p-	<	0.001	mg/Liter	8260
Xylenes	<	0.001	mg/Lier	8260
Ammonia nitrogen		0.057	mg/Liter	4500 F
Bicarbonate		168.000	mg/Liter	4500 D
Calcium		66.400	mg/Liter	7140
Chloride		27.000	mg/Liter	4500 C
Iron		0.066	mg/Liter	7380
Magnesium		2.050	mg/Liter	7450
Manganese, dissolved		0.084	mg/Liter	7460
Nitrate		3.258	mg/Liter	4500 E
Potassium		1.290	mg/Liter	7610
Sodium		6.540	mg/Liter	7770
Sulfate		2.620	mg/Liter	4500 E
Chemical oxygen demand		9.000	mg/Liter	5220 B
Total dissolved solids		257.500	mg/Liter	2540 C
Total organic carbon		0.686	mg/Liter	5310 C
pH		5.775	units	4500 B
pH (Q1)		5.800	units	4500 B
pH (Q2)		5.800	units	4500 B
pH (Q3)		5.800	units	4500 B
pH (Q4)		5.700	units	4500 B
Cyanide	<	0.020	mg/Liter	4500 E
Mercury	<	0.001	mg/Liter	7470
Specific conductance		390.000	uS/cm	9050
Specific conductance (Q1)		380.000	uS/cm	9050
Specific conductance (Q2)		390.000	uS/cm	9050
Specific conductance (Q3)		400.000	uS/cm	9050
Specific conductance (Q4)		390.000	uS/cm	9050
Temperature		22.625	.C	2550 B
Temperature (Q1)		24.500	.c	2550 B

Laboratory Number: M290.006



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**SORRELLS RESEARCH
LABORATORY AND FIELD SERVICES**

8002 Stanton Road
Little Rock, Arkansas 72209

LABORATORY ANALYSIS

WEF



Phone 501-562-8139

Fax 501-562-7025

Toll Free 1-800-331-8139

Date of Report: September 10, 1993

Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL #6

ANALYTE	RESULT	UNITS	METHOD
Temperature (Q2)	24.500	.c	2550 B
Temperature (Q3)	20.500	.c	2550 B
Temperature (Q4)	21.000	.C	2550 B

Collected by:

K.H./J.B./VERN MAHAFFEY on 08/24/93 at 10:25

Analysis by :

K. E. Sorrells/J. B. Sorrells/C. A. Sorrells/K2 Sorrells/B. Glover/M. McKenzie

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 258. Test/Analyst/Time/Coeff./Var./ QA plan filed with A.D.P.C. & E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained. See Attached.

Copies to:

MR. KEVIN HODGES

MR. RANDY HOLCOMB

P.O. BOX 1310

P.O. BOX 1310

SPRINGDALE, AR 72765-

SPRINGDALE, AR 72765-

MR. KIRK ELLIS
SCS ENGINEERS

10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MO 64131-

Laboratory Number: M290.006

DKA Reviewed By: K. E. Sorrells, M.S. [-]



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QUALITY ASSURANCE

August 25, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	# IN BAT.
ANTIMONY	KESII	09/04/93	1548	09/04/93	1548	0.10	97.9	23
ARSENIC	KESII	09/03/93	1851	09/03/93	2147	0.10	98.1	23
BARIUM	KESII	09/10/93	1400	09/10/93	1600	0.20	94.9	23
BERYLLIUM	KESII	09/07/93	1819	09/07/93	2018	1.40	94.5	18
BICARBONATE	BWG	09/08/93	1130	09/08/93	1330	0.74	96.9	16
CADMIUM	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
CHROMIUM	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
COBALT	KESII	09/07/93	1307	09/07/93	1715	0.30	104.0	18
COPPER	KESII	09/07/93	1655	09/07/93	1908	1.10	113.0	21
CYANIDE	BWG	08/26/93	1400	09/08/93	1550	1.86	107.5	23
CALCIUM	KESII	08/30/93	1424	08/30/93	1615	0.20	103.0	16
CHLORIDE	MKM	08/30/93	1000	08/30/93	1500	2.00	104.0	25
CHEMICAL OXYGEN DEMAND	CAS	08/30/93	1200	09/01/93	1100	8.54	104.0	23
IRON	KESII	08/27/93	1528	08/27/93	1629	1.10	102.0	18
LEAD	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
MERCURY	KESII	09/09/93	1450	09/09/93	1715	0.80	90.1	23
MAGNESIUM	KESII	08/30/93	1711	08/30/93	1750	0.60	103.0	16
MANGANESE	KESII	08/30/93	1124	08/30/93	1201	1.00	96.5	18
NICKEL	KESII	09/03/93	1102	09/03/93	1420	0.50	95.6	21
NITRATE	JBS	08/31/93	1430	08/31/93	2045	5.08	86.8	18
AMMONIA NITROGEN	MKM	09/02/93	1100	09/03/93	1200	1.70	103.4	35
POTASSIUM	KESII	08/27/93	1245	08/27/93	1313	1.20	98.9	18
PH	VM	08/24/93	1025	08/24/93	1030	0.00	0.0	1
SELENIUM	KESII	09/03/93	1851	09/03/93	2147	0.60	99.3	24
SILVER	KESII	09/01/93	1159	09/01/93	1617	0.50	103.0	26
SODIUM	KESII	08/27/93	1419	08/27/93	1434	0.50	98.8	16
SULFATE	MKM	08/27/93	1015	08/27/93	1400	1.80	98.0	24
SPECIFIC CONDUCTANCE	VM	08/24/93	1025	08/24/93	1030	0.00	0.0	1
THALLIUM	KESII	09/02/93	1710	09/02/93	1925	0.70	100.1	18
TOTAL DISSOLVED SOLIDS	JBS	08/30/93	1600	09/02/93	930	0.15	100.5	18
TEMPERATURE	VM	08/24/93	1025	08/24/93	1030	0.00	0.0	1
TOTAL ORGANIC CARBON	BWG	08/25/93	1400	09/08/93	1555	13.09	106.9	21
VANADIUM	KESII	09/10/93	1120	09/10/93	1245	0.00	97.0	17
VOLATILES (Q.A.)	KES	08/28/93	2006	08/30/93	745	7.12	105.7	19
ZINC	KESII	08/27/93	1643	08/28/93	1026	0.50	88.0	22



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8002 Stanton Road
Little Rock, Arkansas 72209

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Phone 501-562-8139
Fax 501-562-7025
Toll Free 1-800-331-8139

QUALITY ASSURANCE

August 25, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	IN BAT.
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Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
Sample preservation and laboratory analysis conducted according to EPA
40 CFR Part 258 TEST/ANALYST/TIME/COEF. VAR.* QA PLAN filed with
ADPC*E. Include replication.

KES = K. E. Sorrells
JBS = James B. Sorrells
CAS = Cecil A. Sorrells
KRL = Karl E. Sorrells

KESII = K. E. Sorrells, II
BWG = Ben W. Glover
MM = Mark McKenzie

Laboratory Number: M290.006 DKA



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LABORATORY ANALYSIS

Date of Report: September 10, 1993

Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: WELL # 7

ANALYTE		RESULT	UNITS	METHOD
Antimony	<	0.003	mg/Liter	7041
Arsenic	<	0.001	mg/Liter	7061
Barium	<	0.050	mg/Liter	7080
Beryllium	<	0.001	mg/Liter	7091
Cadmium	<	0.001	mg/Liter	7131
Chromium	<	0.001	mg/Liter	7191
Cobalt	<	0.001	mg/Liter	7201
Copper	<	0.001	mg/Liter	7211
Lead	<	0.001	mg/Liter	7421
Nickel	<	0.001	mg/Liter	7521
Selenium	<	0.002	mg/Liter	7741
Silver	<	0.001	mg/Liter	7761
Thallium	<	0.001	mg/Liter	7841
Tanadium	<	0.050	mg/Liter	7910
Zinc		0.023	mg/Liter	7950
Acetone	<	0.001	mg/Liter	8260
Acrylonitrile	<	0.001	mg/Liter	8260
Benzene	<	0.001	mg/Liter	8260
Bromochloromethane	<	0.001	mg/Liter	8260
Bromodichloromethane	<	0.001	mg/Liter	8260
Bromoform	<	0.001	mg/Liter	8260
Carbon disulfide	<	0.001	mg/Liter	8260
Carbon tetrachloride	<	0.001	mg/Liter	8260
Chlorobenzene	<	0.001	mg/Liter	8260
Chloroethane		0.002	mg/Liter	8260
Chloroform	<	0.001	mg/Liter	8260
Dibromochloromethane	<	0.001	mg/Liter	8260
Dibromo-3-chloropropane, 1,2-	<	0.001	mg/Liter	8260
Dibromoethane, 1,2-	<	0.001	mg/Liter	8260
Dichlorobenzene, o-	<	0.001	mg/Liter	8260
Dichlorobenzene, p-	<	0.001	mg/Liter	8260

Laboratory Number: M290.007



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LABORATORY ANALYSIS

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Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL # 7

ANALYTE	RESULT	UNITS	METHOD
Dichloro-2-butene, trans-1,4-	<	0.001 mg/Liter	8260
Dichloroethane, 1,1-		0.003 mg/Liter	8260
Dichloroethane, 1,2-	<	0.001 mg/Liter	8260
Dichloroethylene, 1,1-	<	0.001 mg/Liter	8260
Dichloroethylene, cis-1,2-		0.004 mg/Liter	8260
Dichloroethylene, trans-1,2-	<	0.001 mg/Liter	8260
Dichloropropane, 1,2-	<	0.001 mg/Liter	8260
Dichloropropene, cis-1,3-	<	0.001 mg/Liter	8260
Dichloropropene, trans, 1,3-	<	0.001 mg/Liter	8260
Methylbenzene	<	0.001 mg/Liter	8260
Hexanone, 2-	<	0.001 mg/Liter	8260
Methyl bromide	<	0.001 mg/Liter	8260
Methyl chloride	<	0.001 mg/Liter	8260
Methylene bromide	<	0.001 mg/Liter	8260
Methylene chloride		0.003 mg/Liter	8260
Methyl ethyl ketone	<	0.001 mg/Liter	8260
Methyl iodide	<	0.001 mg/Liter	8260
Methyl-2-pentanone, 4-	<	0.001 mg/Liter	8260
Styrene	<	0.001 mg/Liter	8260
Tetrachloroethane, 1, 1, 1, 2-	<	0.001 mg/Liter	8260
Tetrachloroethane, 1, 1, 2, 2	<	0.001 mg/Liter	8260
Tetrachloroethylene	<	0.001 mg/Liter	8260
Toluene	<	0.001 mg/Liter	8260
Trichloroethane, 1, 1, 1-	<	0.001 mg/Liter	8260
Trichloroethane, 1, 1, 2-	<	0.001 mg/Liter	8260
Trichloroethylene	<	0.001 mg/Liter	8260
Trichlorofluoromethane	<	0.001 mg/Liter	8260
Trichloropropane, 1, 2, 3-	<	0.001 mg/Liter	8260
Vinyl acetate	<	0.001 mg/Liter	8260
Vinyl chloride		0.002 mg/Liter	8260
Xylene, o-	<	0.001 mg/Liter	8260

Laboratory Number: M290.007



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Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL # 7

ANALYTE		RESULT	UNITS	METHOD
m-Xylene	<	0.001	mg/Liter	8260
p-Xylene	<	0.001	mg/Liter	8260
Xylenes	<	0.001	mg/Liter	8260
Ammonia nitrogen		0.115	mg/Liter	4500 F
Bicarbonate		248.000	mg/Liter	4500 D
Calcium		109.000	mg/Liter	7140
Chloride		15.000	mg/Liter	4500 C
Iron		0.115	mg/Liter	7380
Magnesium		1.930	mg/Liter	7450
Manganese, dissolved	<	0.005	mg/Liter	7460
Nitrate		2.325	mg/Liter	4500 E
Potassium		1.250	mg/Liter	7610
Sodium		4.090	mg/Liter	7770
Sulfate		4.020	mg/Liter	4500 E
Chemical oxygen demand		6.500	mg/Liter	5220 B
Total dissolved solids		329.500	mg/Liter	2540 C
Total organic carbon		2.791	mg/Liter	5310 C
pH		6.200	units	4500 B
pH (Q1)		6.600	units	4500 B
pH (Q2)		6.000	units	4500 B
pH (Q3)		6.100	units	4500 B
pH (Q4)		6.100	units	4500 B
Cyanide	<	0.020	mg/Liter	4500 E
Mercury	<	0.001	mg/Liter	7470
Specific conductance		539.000	uS/cm	9050
Specific conductance (Q1)		530.000	uS/cm	9050
Specific conductance (Q2)		530.000	uS/cm	9050
Specific conductance (Q3)		530.000	uS/cm	9050
Specific conductance (Q4)		530.000	uS/cm	9050
Temperature		21.500	.C	2550 B
Temperature (Q1)		20.500	.c	2550 B

Laboratory Number: M290.007



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For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL # 7

ANALYTE	RESULT	UNITS	METHOD
Temperature (Q2)	21.500	.c	2550 B
Temperature (Q3)	22.000	.c	2550 B
Temperature (Q4)	22.000	.C	2550 B

Collected by:
K.H./J.B./VERN MAHAFFEY on 08/24/93 at 11:50
Analysis by :
K. E. Sorrells/J. B. Sorrells/C. A. Sorrells/K2 Sorrells/B. Glover/M. McKenzie

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 258. Test/Analyst/Time/Coeff./Var./ QA plan filed with A.D.P.C. & E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained.
See Attached.

Copies to:
MR. KEVIN HODGES
P.O. BOX 1310
SPRINGDALE, AR 72765-
MR. KIRK ELLIS
SCS ENGINEERS
10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MO 64131-

MR. RANDY HOLCOMB
P.O. BOX 1310
SPRINGDALE, AR 72765-



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ANTIMONY	KESII	09/04/93	1548	09/04/93	1548	0.10	97.9	23
ARSENIC	KESII	09/03/93	1851	09/03/93	2147	0.10	98.1	23
BARIUM	KESII	09/10/93	1400	09/10/93	1600	0.20	94.9	23
BERYLLIUM	KESII	09/07/93	1819	09/07/93	2018	1.40	94.5	18
BICARBONATE	BWG	09/08/93	1130	09/08/93	1330	0.74	96.9	16
CADMIUM	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
CHROMIUM	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
COBALT	KESII	09/07/93	1307	09/07/93	1715	0.30	104.0	18
COPPER	KESII	09/07/93	1655	09/07/93	1908	1.10	113.0	21
CYANIDE	BWG	08/26/93	1400	09/08/93	1550	1.86	107.5	23
CALCIUM	KESII	08/30/93	1424	08/30/93	1615	0.20	103.0	16
CHLORIDE	MKM	08/30/93	1000	08/30/93	1500	2.00	104.0	25
CHEMICAL OXYGEN DEMAND	CAS	08/30/93	1200	09/01/93	1100	8.54	104.0	23
IRON	KESII	08/27/93	1528	08/27/93	1629	1.10	102.0	18
LEAD	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
MERCURY	KESII	09/09/93	1450	09/09/93	1715	0.80	90.1	23
MAGNESIUM	KESII	08/30/93	1711	08/30/93	1750	0.60	103.0	16
MANGANESE	KESII	08/30/93	1124	08/30/93	1201	1.00	96.5	18
NICKEL	KESII	09/03/93	1102	09/03/93	1420	0.50	95.6	21
NITRATE	JBS	08/31/93	1430	08/31/93	2045	5.08	86.8	18
AMMONIA NITROGEN	MKM	09/02/93	1100	09/03/93	1200	1.70	103.4	35
POTASSIUM	KESII	08/27/93	1245	08/27/93	1313	1.20	98.9	18
PH	VM	08/24/93	1150	08/24/93	1155	0.00	0.0	1
SELENIUM	KESII	09/03/93	1851	09/03/93	2147	0.60	99.3	24
SILVER	KESII	09/01/93	1159	09/01/93	1617	0.50	103.0	26
SODIUM	KESII	08/27/93	1419	08/27/93	1434	0.50	98.8	16
SULFATE	MKM	08/27/93	1015	08/27/93	1400	1.80	98.0	24
SPECIFIC CONDUCTANCE	VM	08/24/93	1150	08/24/93	1155	0.00	0.0	1
THALLIUM	KESII	09/02/93	1710	09/02/93	1925	0.70	100.1	18
TOTAL DISSOLVED SOLIDS	JBS	08/30/93	1600	09/02/93	930	0.15	100.5	18
TEMPERATURE	VM	08/24/93	1150	08/24/93	1155	0.00	0.0	1
TOTAL ORGANIC CARBON	BWG	08/25/93	1400	09/08/93	1555	13.09	106.9	21
TANADIUM	KESII	09/10/93	1120	09/10/93	1245	0.00	97.0	17
VOLATILES (Q.A.)	KES	08/28/93	2006	08/30/93	745	7.12	105.7	19
ZINC	KESII	08/27/93	1643	08/28/93	1026	0.50	88.0	22



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WEF



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Toll Free 1-800-331-8139

QUALITY ASSURANCE

August 25, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	IN BAT.
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Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
Sample preservation and laboratory analysis conducted according to EPA
40 CFR Part 258 TEST/ANALYST/TIME/COEF. VAR.* QA PLAN filed with
ADPC*E. Include replication.

KES = K. E. Sorrells
JBS = James B. Sorrells
CAS = Cecil A. Sorrells
KRL = Karl E. Sorrells

KESII = K. E. Sorrells, II
BWG = Ben W. Glover
MM = Mark McKenzie

Laboratory Number: M290.007 DKS



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LABORATORY ANALYSIS

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Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL # 8

ANALYTE		RESULT	UNITS	METHOD
Antimony	<	0.003	mg/Liter	7041
Arsenic	<	0.001	mg/Liter	7061
Barium	<	0.050	mg/Liter	7080
Beryllium	<	0.001	mg/Liter	7091
Cadmium	<	0.001	mg/Liter	7131
Chromium	<	0.001	mg/Liter	7191
Cobalt	<	0.001	mg/Liter	7201
Copper	<	0.001	mg/Liter	7211
Lead	<	0.001	mg/Liter	7421
Nickel	<	1.000	mg/Liter	7521
Selenium	<	0.002	mg/Liter	7741
Silver	<	0.001	mg/Liter	7761
Thallium	<	0.001	mg/Liter	7841
Tanadium	<	0.050	mg/Liter	7910
Zinc	<	0.005	mg/Liter	7950
Acetone	<	0.001	mg/Liter	8260
Acrylonitrile	<	0.001	mg/Liter	8260
Benzene	<	0.001	mg/Liter	8260
Bromochloromethane	<	0.001	mg/Liter	8260
Bromodichloromethane	<	0.001	mg/Liter	8260
Bromoform	<	0.001	mg/Liter	8260
Carbon disulfide	<	0.001	mg/Liter	8260
Carbon tetrachloride	<	0.001	mg/Liter	8260
Chlorobenzene	<	0.001	mg/Liter	8260
Chloroethane	<	0.001	mg/Liter	8260
Chloroform	<	0.001	mg/Liter	8260
Dibromochloromethane	<	0.001	mg/Liter	8260
Dibromo-3-chloropropane, 1,2-	<	0.001	mg/Liter	8260
Dibromoethane, 1,2-	<	0.001	mg/Liter	8260
Dichlorobenzene, o-	<	0.001	mg/Liter	8260
Dichlorobenzene, p-	<	0.001	mg/Liter	8260

Laboratory Number: M290.008



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8002 Stanton Road
Little Rock, Arkansas 72209

LABORATORY ANALYSIS

WEF



Phone 501-562-8139
Fax 501-562-7025
Toll Free 1-800-331-8139

Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL # 8

ANALYTE		RESULT	UNITS	METHOD
Dichloro-2-butene, trans-1,4-	<	0.001	mg/Liter	8260
Dichloroethane, 1,1-	<	0.001	mg/Liter	8260
Dichloroethane, 1,2-	<	0.001	mg/Liter	8260
Dichloroethylene, 1,1-	<	0.001	mg/Liter	8260
Dichloroethylene, cis-1,2-	<	0.001	mg/Liter	8260
Dichloroethylene, trans-1,2-	<	0.001	mg/Liter	8260
Dichloropropane, 1,2-	<	0.001	mg/Liter	8260
Dichloropropene, cis-1,3-	<	0.001	mg/Liter	8260
Dichloropropene, trans, 1,3-	<	0.001	mg/Liter	8260
Ethylbenzene	<	0.001	mg/Liter	8260
Hexanone, 2-	<	0.001	mg/Liter	8260
Methyl bromide	<	0.001	mg/Liter	8260
Methyl chloride	<	0.001	mg/Liter	8260
Methylene bromide	<	0.001	mg/Liter	8260
Methylene chloride	<	0.001	mg/Liter	8260
Methyl ethyl ketone	<	0.001	mg/Liter	8260
Methyl iodide	<	0.001	mg/Liter	8260
Methyl-2-pentanone, 4-	<	0.001	mg/Liter	8260
Styrene	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 1, 2-	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 2, 2	<	0.001	mg/Liter	8260
Tetrachloroethylene	<	0.001	mg/Liter	8260
Toluene	<	0.001	mg/Liter	8260
Trichloroethane, 1, 1, 1-	<	0.001	mg/Liter	8260
Trichloroethane, 1, 1, 2-	<	0.001	mg/Liter	8260
Trichloroethylene	<	0.001	mg/Liter	8260
Trichlorofluoromethane	<	0.001	mg/Liter	8260
Trichloropropane, 1, 2, 3-	<	0.001	mg/Liter	8260
Vinyl acetate	<	0.001	mg/Liter	8260
Vinyl chloride	<	0.001	mg/Liter	8260
Xylene, o-	<	0.001	mg/Liter	8260

Laboratory Number: M290.008



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Sample From: WELL # 8

ANALYTE		RESULT	UNITS	METHOD
Xylene, m-	<	0.001	mg/Liter	8260
Xylene, p-	<	0.001	mg/Liter	8260
Xylenes	<	0.001	mg/Liter	8260
Ammonia nitrogen		0.105	mg/Liter	4500 F
Bicarbonate		158.000	mg/Liter	4500 D
Calcium		62.900	mg/Liter	7140
Chloride		6.500	mg/Liter	4500 C
Iron		0.810	mg/Liter	7380
Magnesium		0.850	mg/Liter	7450
Manganese, dissolved	<	0.005	mg/Liter	7460
Nitrate		0.914	mg/Liter	4500 E
Potassium		2.280	mg/Liter	7610
Sodium		4.900	mg/Liter	7770
Sulfate		1.330	mg/Liter	4500 E
Chemical oxygen demand		6.500	mg/Liter	5220 B
Total dissolved solids		197.000	mg/Liter	2540 C
Total organic carbon		0.523	mg/Liter	5310 C
pH		6.700	units	4500 B
pH (Q1)		7.100	units	4500 B
pH (Q2)		6.600	units	4500 B
pH (Q3)		6.600	units	4500 B
pH (Q4)		6.500	units	4500 B
Cyanide	<	0.020	mg/Liter	4500 E
Mercury	<	0.001	mg/Liter	7470
Specific conductance		327.500	uS/cm	9050
Specific conductance (Q1)		320.000	uS/cm	9050
Specific conductance (Q2)		330.000	uS/cm	9050
Specific conductance (Q3)		320.000	uS/cm	9050
Specific conductance (Q4)		340.000	uS/cm	9050
Temperature		21.250	.C	2550 B
Temperature (Q1)		22.000	.c	2550 B

Laboratory Number: M290.008



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105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: WELL # 8

ANALYTE	RESULT	UNITS	METHOD
Temperature (Q2)	22.000	.c	2550 B
Temperature (Q3)	20.500	.c	2550 B
Temperature (Q4)	20.500	.C	2550 B

Collected by:

K.H./J.B./VERN MAHAFFEY on 08/24/93 at 12:25

Analysis by :

K. E. Sorrells/J. B. Sorrells/C. A. Sorrells/K2 Sorrells/B. Glover/M. McKenzie

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 258. Test/Analyst/Time/Coeff./Var./ QA plan filed with A.D.P.C. & E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained. See Attached.

Copies to:

MR. KEVIN HODGES

MR. RANDY HOLCOMB

P.O. BOX 1310

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SPRINGDALE, AR 72765-

SPRINGDALE, AR 72765-

MR. KIRK ELLIS
SCS ENGINEERS

10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MO 64131-

Laboratory Number: M290.008

DKS Reviewed By: K. E. Sorrells, M.S. [+]



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QUALITY ASSURANCE

August 25, 1993

The following QA represents SRA's Quality Assurance values for this report.
Any analysis performed but not needed by your facility should be disregarded.

ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	IN BAT.
ANTIMONY	KESII	09/04/93	1548	09/04/93	1548	0.10	97.9	23
ARSENIC	KESII	09/03/93	1851	09/03/93	2147	0.10	98.1	23
BARIUM	KESII	09/10/93	1400	09/10/93	1600	0.20	94.9	23
BERYLLIUM	KESII	09/07/93	1819	09/07/93	2018	1.40	94.5	18
BICARBONATE	BWG	09/08/93	1130	09/08/93	1330	0.74	96.9	16
CADMIUM	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
CHROMIUM	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
COBALT	KESII	09/07/93	1307	09/07/93	1715	0.30	104.0	18
COPPER	KESII	09/07/93	1655	09/07/93	1908	1.10	113.0	21
CYANIDE	BWG	08/26/93	1400	09/08/93	1550	1.86	107.5	23
CALCIUM	KESII	08/30/93	1424	08/30/93	1615	0.20	103.0	16
CHLORIDE	MKM	08/30/93	1000	08/30/93	1500	2.00	104.0	25
CHEMICAL OXYGEN DEMAND	CAS	08/30/93	1200	09/01/93	1100	8.54	104.0	23
IRON	KESII	08/27/93	1528	08/27/93	1629	1.10	102.0	18
LEAD	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
MERCURY	KESII	09/09/93	1450	09/09/93	1715	0.80	90.1	23
MAGNESIUM	KESII	08/30/93	1711	08/30/93	1750	0.60	103.0	16
MANGANESE	KESII	08/30/93	1124	08/30/93	1201	1.00	96.5	18
NICKEL	KESII	09/03/93	1102	09/03/93	1420	0.50	95.6	21
NITRATE	JBS	08/31/93	1430	08/31/93	2045	5.08	86.8	18
AMMONIA NITROGEN	MKM	09/02/93	1100	09/03/93	1200	1.70	103.4	35
POTASSIUM	KESII	08/27/93	1245	08/27/93	1313	1.20	98.9	18
PH	VM	08/24/93	1225	08/24/93	1230	0.00	0.0	1
SELENIUM	KESII	09/03/93	1851	09/03/93	2147	0.60	99.3	24
SILVER	KESII	09/01/93	1159	09/01/93	1617	0.50	103.0	26
SODIUM	KESII	08/27/93	1419	08/27/93	1434	0.50	98.8	16
SULFATE	MKM	08/27/93	1015	08/27/93	1400	1.80	98.0	24
SPECIFIC CONDUCTANCE	VM	08/24/93	1225	08/24/93	1230	0.00	0.0	1
THALLIUM	KESII	09/02/93	1710	09/02/93	1925	0.70	100.1	18
TOTAL DISSOLVED SOLIDS	JBS	08/30/93	1600	09/02/93	930	0.15	100.5	18
TEMPERATURE	VM	08/24/93	1225	08/24/93	1230	0.00	0.0	1
TOTAL ORGANIC CARBON	BWG	08/25/93	1400	09/08/93	1555	13.09	106.9	21
TANADIUM	KESII	09/10/93	1120	09/10/93	1245	0.00	97.0	17
VOLATILES (Q.A.)	KES	08/28/93	2006	08/30/93	745	7.12	105.7	19
ZINC	KESII	08/27/93	1643	08/28/93	1026	0.50	88.0	22



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QUALITY ASSURANCE

August 25, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	IN BAT.
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Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
 Sample preservation and laboratory analysis conducted according to EPA
 40 CFR Part 258 TEST/ANALYST/TIME/COEF. VAR.* QA PLAN filed with
 ADPC*E. Include replication.

KES = K. E. Sorrells
 JBS = James B. Sorrells
 CAS = Cecil A. Sorrells
 KRL = Karl E. Sorrells

KESII = K. E. Sorrells, II
 BWG = Ben W. Glover
 MM = Mark McKenzie

Laboratory Number: M290.008 DKS



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105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL # 10

ANALYTE		RESULT	UNITS	METHOD
Antimony		0.004	mg/Liter	7041
Arsenic		0.016	mg/Liter	7061
Barium	<	0.050	mg/Liter	7080
Beryllium	<	0.001	mg/Liter	7091
Cadmium	<	0.001	mg/Liter	7131
Chromium	<	0.001	mg/Liter	7191
Cobalt	<	0.001	mg/Liter	7201
Copper	<	0.001	mg/Liter	7211
Lead	<	0.001	mg/Liter	7421
Nickel		0.016	mg/Liter	7521
Selenium	<	0.002	mg/Liter	7741
Silver	<	0.001	mg/Liter	7761
Thallium	<	0.001	mg/Liter	7841
Tanadium	<	0.050	mg/Liter	7910
Zinc		0.036	mg/Liter	7950
Acetone	<	0.001	mg/Liter	8260
Acrylonitrile	<	0.001	mg/Liter	8260
Benzene	<	0.001	mg/Liter	8260
Bromochloromethane	<	0.001	mg/Liter	8260
Bromodichloromethane	<	0.001	mg/Liter	8260
Bromoform	<	0.001	mg/Liter	8260
Carbon disulfide	<	0.001	mg/Liter	8260
Carbon tetrachloride	<	0.001	mg/Liter	8260
Chlorobenzene	<	0.001	mg/Liter	8260
Chloroethane	<	1.000	mg/Liter	8260
Chloroform	<	0.001	mg/Liter	8260
Dibromochloromethane	<	0.001	mg/Liter	8260
Dibromo-3-chloropropane, 1,2-	<	0.001	mg/Liter	8260
Dibromoethane, 1,2-	<	0.001	mg/Liter	8260
Dichlorobenzene, o-	<	0.001	mg/Liter	8260
Dichlorobenzene, p-	<	0.001	mg/Liter	8260

Laboratory Number: M290.010



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Sample From: WELL # 10

ANALYTE		RESULT	UNITS	METHOD
Dichloro-2-butene, trans-1,4-	<	0.001	mg/Liter	8260
Dichloroethane, 1,1-	<	0.001	mg/Liter	8260
Dichloroethane, 1,2-	<	0.001	mg/Liter	8260
Dichloroethylene, 1,1-	<	0.001	mg/Liter	8260
Dichloroethylene, cis-1,2-	<	0.001	mg/Liter	8260
Dichloroethylene, trans-1,2-	<	0.001	mg/Liter	8260
Dichloropropane, 1,2-	<	0.001	mg/Liter	8260
Dichloropropene, cis-1,3-	<	0.001	mg/Liter	8260
Dichloropropene, trans, 1,3-	<	0.001	mg/Liter	8260
Ethylbenzene	<	0.001	mg/Liter	8260
Hexanone, 2-	<	0.001	mg/Liter	8260
Methyl bromide	<	0.001	mg/Liter	8260
Methyl chloride	<	0.001	mg/Liter	8260
Methylene bromide	<	0.001	mg/Liter	8260
Methylene chloride	<	0.001	mg/Liter	8260
Methyl ethyl ketone	<	0.001	mg/Liter	8260
Methyl iodide	<	0.001	mg/Liter	8260
Methyl-2-pentanone, 4-	<	0.001	mg/Liter	8260
Styrene	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 1, 2-	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 2, 2	<	0.001	mg/Liter	8260
Tetrachloroethylene	<	0.001	mg/Liter	8260
Toluene	<	0.001	mg/Liter	8260
Trichloroethane, 1, 1, 1-	<	0.001	mg/Liter	8260
Trichloroethane, 1, 1, 2-	<	0.001	mg/Liter	8260
Trichloroethylene	<	0.001	mg/Liter	8260
Trichlorofluoromethane	<	0.001	mg/Liter	8260
Trichloropropane, 1, 2, 3-	<	0.001	mg/Liter	8260
Vinyl acetate	<	0.001	mg/Liter	8260
Vinyl chloride	<	0.001	mg/Liter	8260
Xylene, o-	<	0.001	mg/Liter	8260

Laboratory Number: M290.010



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ANALYTE		RESULT	UNITS	METHOD
Xylene, m-	<	0.001	mg/Liter	8260
Xylene, p-	<	0.001	mg/Liter	8260
Xylenes	<	0.001	mg/Liter	8260
Ammonia nitrogen		0.052	mg/Liter	4500 F
Bicarbonate		128.000	mg/Liter	4500 D
Calcium		23.100	mg/Liter	7140
Chloride		10.000	mg/Liter	4500 C
Iron		0.139	mg/Liter	7380
Magnesium		5.280	mg/Liter	7450
Manganese, dissolved	<	0.005	mg/Liter	7460
Nitrate		0.117	mg/Liter	4500 E
Potassium		28.800	mg/Liter	7610
Sodium		3.870	mg/Liter	7770
Sulfate		16.930	mg/Liter	4500 E
Chemical oxygen demand		9.000	mg/Liter	5220 B
Total dissolved solids		167.368	mg/Liter	2540 C
Total organic carbon		0.698	mg/Liter	5310 C
pH		7.925	units	4500 B
pH (Q1)		7.800	units	4500 B
pH (Q2)		7.800	units	4500 B
pH (Q3)		8.000	units	4500 B
pH (Q4)		8.100	units	4500 B
Cyanide	<	0.020	mg/Liter	4500 E
Mercury	<	0.001	mg/Liter	7470
Specific conductance		275.000	uS/cm	9050
Specific conductance (Q1)		280.000	uS/cm	9050
Specific conductance (Q2)		270.000	uS/cm	9050
Specific conductance (Q3)		280.000	uS/cm	9050
Specific conductance (Q4)		270.000	uS/cm	9050
Temperature		20.250	.C	2550 B
Temperature (Q1)		23.000	.c	2550 B

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ANALYTE	RESULT	UNITS	METHOD
Temperature (Q2)	20.500	.c	2550 B
Temperature (Q3)	17.000	.c	2550 B
Temperature (Q4)	20.500	.C	2550 B

Collected by:
K.H./J.B./VERN MAHAFFEY on 08/24/93 at 12:40
Analysis by :
K. E. Sorrells/J. B. Sorrells/C. A. Sorrells/K2 Sorrells/B. Glover/M. McKenzie

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 258. Test/Analyst/Time/Coeff./Var./ QA plan filed with A.D.P.C. & E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained. See Attached.

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MR. RANDY HOLCOMB

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MR. KIRK ELLIS
SCS ENGINEERS

10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MO 64131-

Laboratory Number: M290.010

DKS Reviewed By: K. E. Sorrells, M.S. [4]



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ARSENIC	KESII	09/03/93	1851	09/03/93	2147	0.10	98.1	23
BARIUM	KESII	09/10/93	1400	09/10/93	1600	0.20	94.9	23
BERYLLIUM	KESII	09/07/93	1819	09/07/93	2018	1.40	94.5	18
BICARBONATE	BWG	09/08/93	1130	09/08/93	1330	0.74	96.9	16
CADMIUM	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
CHROMIUM	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
COBALT	KESII	09/07/93	1307	09/07/93	1715	0.30	104.0	18
COPPER	KESII	09/07/93	1655	09/07/93	1908	1.10	113.0	21
CYANIDE	BWG	08/26/93	1400	09/08/93	1550	1.86	107.5	23
CALCIUM	KESII	08/30/93	1424	08/30/93	1615	0.20	103.0	16
CHLORIDE	MKM	08/30/93	1000	08/30/93	1500	2.00	104.0	25
CHEMICAL OXYGEN DEMAND	CAS	08/30/93	1200	09/01/93	1100	8.54	104.0	23
IRON	KESII	08/27/93	1528	08/27/93	1629	1.10	102.0	18
LEAD	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
MERCURY	KESII	09/09/93	1450	09/09/93	1715	0.80	90.1	23
MAGNESIUM	KESII	08/30/93	1711	08/30/93	1750	0.60	103.0	16
MANGANESE	KESII	08/30/93	1124	08/30/93	1201	1.00	96.5	18
NICKEL	KESII	09/03/93	1102	09/03/93	1420	0.50	95.6	21
NITRATE	JBS	08/31/93	1430	08/31/93	2045	5.08	86.8	18
AMMONIA NITROGEN	MKM	09/02/93	1100	09/03/93	1200	1.70	103.4	35
POTASSIUM	KESII	08/27/93	1245	08/27/93	1313	1.20	98.9	18
PH	VM	08/24/93	1240	08/24/93	1245	0.00	0.0	1
SELENIUM	KESII	09/03/93	1851	09/03/93	2147	0.60	99.3	24
SILVER	KESII	09/01/93	1159	09/01/93	1617	0.50	103.0	26
SODIUM	KESII	08/27/93	1419	08/27/93	1434	0.50	98.8	16
SULFATE	MKM	08/27/93	1015	08/27/93	1400	1.80	98.0	24
SPECIFIC CONDUCTANCE	VM	08/24/93	1225	08/24/93	1230	0.00	0.0	1
SPECIFIC CONDUCTANCE	VM	08/24/93	1240	08/24/93	1245	0.00	0.0	1
THALLIUM	KESII	09/02/93	1710	09/02/93	1925	0.70	100.1	18
TOTAL DISSOLVED SOLIDS	JBS	08/30/93	1600	09/02/93	930	0.15	100.5	18
TEMPERATURE	VM	08/24/93	1240	08/24/93	1245	0.00	0.0	1
TOTAL ORGANIC CARBON	BWG	08/25/93	1400	09/08/93	1555	13.09	106.9	21
VANADIUM	KESII	09/10/93	1120	09/10/93	1245	0.00	97.0	17
VOLATILES (Q.A.)	KES	08/28/93	2006	08/30/93	745	7.12	105.7	19
ZINC	KESII	08/27/93	1643	08/28/93	1026	0.50	88.0	22



**SORRELLS RESEARCH
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8002 Stanton Road
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Fax 501-562-7025
Toll Free 1-800-331-8139

QUALITY ASSURANCE

August 25, 1993

The following QA represents SRA's Quality Assurance values for this report.
Any analysis performed but not needed by your facility should be disregarded.

ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	IN BAT.
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Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
Sample preservation and laboratory analysis conducted according to EPA
40 CFR Part 258 TEST/ANALYST/TIME/COEF. VAR.* QA PLAN filed with
ADPC*E. Include replication.

KES = K. E. Sorrells
JBS = James B. Sorrells
CAS = Cecil A. Sorrells
KRL = Karl E. Sorrells

KESII = K. E. Sorrells, II
BWG = Ben W. Glover
MM = Mark McKenzie

Laboratory Number: M290.010 DKS



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LABORATORY ANALYSIS



Phone 501-562-8139
Fax 501-562-7025
Toll Free 1-800-331-8139

Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL #11 DUPLICATE 1

ANALYTE		RESULT	UNITS	METHOD
Antimony	<	0.003	mg/Liter	7041
Arsenic	<	0.001	mg/Liter	7061
Barium	<	0.050	mg/Liter	7080
Beryllium	<	0.001	mg/Liter	7091
Cadmium	<	0.001	mg/Liter	7131
Chromium	<	0.001	mg/Liter	7191
Cobalt	<	0.001	mg/Liter	7201
Copper	<	0.001	mg/Liter	7211
Lead	<	0.001	mg/Liter	7421
Nickel	<	0.003	mg/Liter	7521
Selenium	<	0.002	mg/Liter	7741
Silver	<	0.001	mg/Liter	7761
Thallium	<	0.001	mg/Liter	7841
Vanadium	<	0.050	mg/Liter	7910
Zinc	<	0.022	mg/Liter	7950
Acetone	<	0.001	mg/Liter	8260
Acrylonitrile	<	0.001	mg/Liter	8260
Benzene	<	0.001	mg/Liter	8260
Bromochloromethane	<	0.001	mg/Liter	8260
Bromodichloromethane	<	0.001	mg/Liter	8260
Bromoform	<	0.001	mg/Liter	8260
Carbon disulfide	<	0.001	mg/Liter	8260
Carbon tetrachloride	<	0.001	mg/Liter	8260
Chlorobenzene	<	0.001	mg/Liter	8260
Chloroethane	<	0.001	mg/Liter	8260
Chloroform	<	0.001	mg/Liter	8260
Dibromochloromethane	<	0.001	mg/Liter	8260
Dibromo-3-chloropropane, 1,2-	<	0.001	mg/Liter	8260
Dibromoethane, 1,2-	<	0.001	mg/Liter	8260
Dichlorobenzene, o-	<	0.001	mg/Liter	8260
Dichlorobenzene, p-	<	0.001	mg/Liter	8260

Laboratory Number: M290.011D1



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For: SUNRAY SERVICES
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105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL #11 DUPLICATE 1

ANALYTE		RESULT	UNITS	METHOD
Dichloro-2-butene, trans-1,4-	<	0.001	mg/Liter	8260
Dichloroethane, 1,1-	<	0.001	mg/Liter	8260
Dichloroethane, 1,2-	<	0.001	mg/Liter	8260
Dichloroethylene, 1,1-	<	0.001	mg/Liter	8260
Dichloroethylene, cis-1,2-	<	0.001	mg/Liter	8260
Dichloroethylene, trans-1,2-	<	0.001	mg/Liter	8260
Dichloropropane, 1,2-	<	0.001	mg/Liter	8260
Dichloropropene, cis-1,3-	<	0.001	mg/Liter	8260
Dichloropropene, trans, 1,3-	<	0.001	mg/Liter	8260
Ethylbenzene	<	0.001	mg/Liter	8260
Hexanone, 2-	<	0.001	mg/Liter	8260
Methyl bromide	<	0.001	mg/Liter	8260
Methyl chloride	<	0.001	mg/Liter	8260
Methylene bromide	<	0.001	mg/Liter	8260
Methylene chloride	<	0.001	mg/Liter	8260
Methyl ethyl ketone	<	0.001	mg/Liter	8260
Methyl iodide	<	0.001	mg/Liter	8260
Methyl-2-pentanone, 4-	<	0.001	mg/Liter	8260
Styrene	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 1, 2-	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 2, 2	<	0.001	mg/Liter	8260
Tetrachloroethylene	<	0.001	mg/Liter	8260
Toluene	<	0.001	mg/Liter	8260
Trichloroethane, 1, 1, 1-	<	0.001	mg/Liter	8260
Trichloroethane, 1, 1, 2-	<	0.001	mg/Liter	8260
Trichloroethylene	<	0.001	mg/Liter	8260
Trichlorofluoromethane	<	0.001	mg/Liter	8260
Trichloropropane, 1, 2, 3-	<	0.001	mg/Liter	8260
Vinyl acetate	<	0.001	mg/Liter	8260
Vinyl chloride	<	0.001	mg/Liter	8260
Xylene, o-	<	0.001	mg/Liter	8260

Laboratory Number: M290.011D1



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For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: WELL #11 DUPLICATE 1

ANALYTE		RESULT	UNITS	METHOD
Xylene, m-	<	0.001	mg/Liter	8260
Xylene, p-	<	0.001	mg/Liter	8260
Xylenes	<	0.001	mg/Liter	8260
Ammonia nitrogen		0.036	mg/Liter	4500 F
Bicarbonate		136.000	mg/Liter	4500 D
Calcium		65.000	mg/Liter	7140
Chloride		12.000	mg/Liter	4500 C
Iron		0.099	mg/Liter	7380
Magnesium		0.550	mg/Liter	7450
Manganese, dissolved	<	0.005	mg/Liter	7460
Nitrate		2.548	mg/Liter	4500 E
Potassium		1.410	mg/Liter	7610
Sodium		3.000	mg/Liter	7770
Sulfate		3.680	mg/Liter	4500 E
Chemical oxygen demand		9.000	mg/Liter	5220 B
Total dissolved solids		215.000	mg/Liter	2540 C
Total organic carbon		1.377	mg/Liter	5310 C
pH		6.750	units	4500 B
pH (Q1)		7.200	units	4500 B
pH (Q2)		6.600	units	4500 B
pH (Q3)		6.600	units	4500 B
pH (Q4)		6.600	units	4500 B
Cyanide	<	0.020	mg/Liter	4500 E
Mercury	<	0.001	mg/Liter	7470
Specific conductance		340.000	uS/cm	9050
Specific conductance (Q1)		330.000	uS/cm	9050
Specific conductance (Q2)		340.000	uS/cm	9050
Specific conductance (Q3)		350.000	uS/cm	9050
Specific conductance (Q4)		340.000	uS/cm	9050
Temperature		19.000	.C	2550 B
Temperature (Q1)		19.000	.c	2550 B

Laboratory Number: M290.011D1



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Sample From: WELL #11 DUPLICATE 1

ANALYTE	RESULT	UNITS	METHOD
Temperature (Q2)	20.000	.c	2550 B
Temperature (Q3)	17.000	.c	2550 B
Temperature (Q4)	20.000	.C	2550 B

Collected by:
C.H./J.B./VERN MAHAFFEY on 08/24/93 at 10:40
Analysis by :
K. E. Sorrells/J. B. Sorrells/C. A. Sorrells/K2 Sorrells/B. Glover/M. McKenzie

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 258. Test/Analyst/Time/Coeff./Var./ QA plan filed with A.D.P.C. & E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained. See Attached.

Copies to:
MR. KEVIN HODGES
P.O. BOX 1310
SPRINGDALE, AR 72765-
MR. KIRK ELLIS
SCS ENGINEERS
10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MO 64131-

MR. RANDY HOLCOMB
P.O. BOX 1310
SPRINGDALE, AR 72765-



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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	# IN BAT.
ANTIMONY	KESII	09/04/93	1548	09/04/93	1548	0.10	97.9	23
ARSENIC	KESII	09/03/93	1851	09/03/93	2147	0.10	98.1	23
BARIUM	KESII	09/10/93	1400	09/10/93	1600	0.20	94.9	23
BERYLLIUM	KESII	09/07/93	1819	09/07/93	2018	1.40	94.5	18
BICARBONATE	BWG	09/08/93	1130	09/08/93	1330	0.74	96.9	16
CADMIUM	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
CHROMIUM	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
COBALT	KESII	09/07/93	1307	09/07/93	1715	0.30	104.0	18
COPPER	KESII	09/07/93	1655	09/07/93	1908	1.10	113.0	21
CYANIDE	BWG	08/26/93	1400	09/08/93	1550	1.86	107.5	23
CALCIUM	KESII	08/30/93	1424	08/30/93	1615	0.20	103.0	16
CHLORIDE	MKM	08/30/93	1000	08/30/93	1500	2.00	104.0	25
CHEMICAL OXYGEN DEMAND	CAS	08/30/93	1200	09/01/93	1100	8.54	104.0	23
IRON	KESII	08/27/93	1528	08/27/93	1629	1.10	102.0	18
LEAD	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
MERCURY	KESII	09/09/93	1450	09/09/93	1715	0.80	90.1	23
MAGNESIUM	KESII	08/30/93	1711	08/30/93	1750	0.60	103.0	16
MANGANESE	KESII	08/30/93	1124	08/30/93	1201	1.00	96.5	18
NICKEL	KESII	09/03/93	1102	09/03/93	1420	0.50	95.6	21
NITRATE	JBS	08/31/93	1430	08/31/93	2045	5.08	86.8	18
AMMONIA NITROGEN	MKM	09/02/93	1100	09/03/93	1200	1.70	103.4	35
POTASSIUM	KESII	08/27/93	1245	08/27/93	1313	1.20	98.9	18
PH	VM	08/24/93	1040	08/24/93	1045	0.00	0.0	1
SELENIUM	KESII	09/03/93	1851	09/03/93	2147	0.60	99.3	24
SILVER	KESII	09/01/93	1159	09/01/93	1617	0.50	103.0	26
SODIUM	KESII	08/27/93	1419	08/27/93	1434	0.50	98.8	16
SULFATE	MKM	08/27/93	1015	08/27/93	1400	1.80	98.0	24
SPECIFIC CONDUCTANCE	VM	08/24/93	1040	08/24/93	1045	0.00	0.0	1
THALLIUM	KESII	09/02/93	1710	09/02/93	1925	0.70	100.1	18
TOTAL DISSOLVED SOLIDS	JBS	08/30/93	1600	09/02/93	930	0.15	100.5	18
TEMPERATURE	VM	08/24/93	1040	08/24/93	1045	0.00	0.0	1
TOTAL ORGANIC CARBON	BWG	08/25/93	1400	09/08/93	1555	13.09	106.9	21
TANADIUM	KESII	09/10/93	1120	09/10/93	1245	0.00	97.0	17
VOLATILES (Q.A.)	KES	08/28/93	2006	08/30/93	745	7.12	105.7	19
ZINC	KESII	08/27/93	1643	08/28/93	1026	0.50	88.0	22



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 Fax 501-562-7025
 Toll Free 1-800-331-8139

QUALITY ASSURANCE

August 25, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	IN BAT.
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Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
 Sample preservation and laboratory analysis conducted according to EPA
 40 CFR Part 258 TEST/ANALYST/TIME/COEF. VAR.* QA PLAN filed with
 ADPC*E. Include replication.

KES = K. E. Sorrells
 JBS = James B. Sorrells
 CAS = Cecil A. Sorrells
 KRL = Karl E. Sorrells

KESII = K. E. Sorrells, II
 BWG = Ben W. Glover
 MM = Mark McKenzie

Laboratory Number: M290.011D1 DKS



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LABORATORY ANALYSIS

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Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: WELL # 11 DUPLICATE 2

ANALYTE		RESULT	UNITS	METHOD
Antimony	<	0.003	mg/Liter	7041
Arsenic	<	0.001	mg/Liter	7061
Barium	<	0.050	mg/Liter	7080
Beryllium	<	0.001	mg/Liter	7091
Cadmium	<	0.001	mg/Liter	7131
Chromium	<	0.001	mg/Liter	7191
Cobalt	<	0.001	mg/Liter	7201
Copper	<	0.001	mg/Liter	7211
Lead	<	0.001	mg/Liter	7421
Nickel	<	0.003	mg/Liter	7521
Selenium	<	0.002	mg/Liter	7741
Silver	<	0.001	mg/Liter	7761
Thallium	<	0.001	mg/Liter	7841
Vanadium	<	0.050	mg/Liter	7910
Zinc	<	0.020	mg/Liter	7950
Acetone	<	0.001	mg/Liter	8260
Acrylonitrile	<	0.001	mg/Liter	8260
Benzene	<	0.001	mg/Liter	8260
Bromochloromethane	<	0.001	mg/Liter	8260
Bromodichloromethane	<	0.001	mg/Liter	8260
Bromoform	<	0.001	mg/Liter	8260
Carbon disulfide	<	0.001	mg/Liter	8260
Carbon tetrachloride	<	0.001	mg/Liter	8260
Chlorobenzene	<	0.001	mg/Liter	8260
Chloroethane	<	0.001	mg/Liter	8260
Chloroform	<	0.001	mg/Liter	8260
Dibromochloromethane	<	0.001	mg/Liter	8260
Dibromo-3-chloropropane, 1,2-	<	0.001	mg/Liter	8260
Dibromoethane, 1,2-	<	0.001	mg/Liter	8260
Dichlorobenzene, o-	<	0.001	mg/Liter	8260
Dichlorobenzene, p-	<	0.001	mg/Liter	8260

Laboratory Number: M290.011D2



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For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: WELL # 11 DUPLICATE 2

ANALYTE		RESULT	UNITS	METHOD
Dichloro-2-butene, trans-1,4-	<	0.001	mg/Liter	8260
Dichloroethane, 1,1-	<	0.001	mg/Liter	8260
Dichloroethane, 1,2-	<	0.001	mg/Liter	8260
Dichloroethylene, 1,1-	<	0.001	mg/Liter	8260
Dichloroethylene, cis-1,2-	<	0.001	mg/Liter	8260
Dichloroethylene, trans-1,2-	<	0.001	mg/Liter	8260
Dichloropropane, 1,2-	<	0.001	mg/Liter	8260
Dichloropropene, cis-1,3-	<	0.001	mg/Liter	8260
Dichloropropene, trans, 1,3-	<	0.001	mg/Liter	8260
Ethylbenzene	<	0.001	mg/Liter	8260
Hexanone, 2-	<	0.001	mg/Liter	8260
Methyl bromide	<	0.001	mg/Liter	8260
Methyl chloride	<	0.001	mg/Liter	8260
Methylene bromide	<	0.001	mg/Liter	8260
Methylene chloride	<	0.001	mg/Liter	8260
Methyl ethyl ketone	<	0.001	mg/Liter	8260
Methyl iodide	<	0.001	mg/Liter	8260
Methyl-2-pentanone, 4-	<	0.001	mg/Liter	8260
Styrene	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 1, 2-	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 2, 2	<	0.001	mg/Liter	8260
Tetrachloroethylene	<	0.001	mg/Liter	8260
Toluene	<	0.001	mg/Liter	8260
Trichloroethane, 1, 1, 1-	<	0.001	mg/Liter	8260
Trichloroethane, 1, 1, 2-	<	0.001	mg/Liter	8260
Trichloroethylene	<	0.001	mg/Liter	8260
Trichlorofluoromethane	<	0.001	mg/Liter	8260
Trichloropropane, 1, 2, 3-	<	0.001	mg/Liter	8260
Vinyl acetate	<	0.001	mg/Liter	8260
Vinyl chloride	<	0.001	mg/Liter	8260
Xylene, o-	<	0.001	mg/Liter	8260

Laboratory Number: M290.011D2



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105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: WELL # 11 DUPLICATE 2

ANALYTE		RESULT	UNITS	METHOD
Xylene, m-	<	0.001	mg/Liter	8260
Xylene, p-	<	0.001	mg/Liter	8260
Xylenes	<	0.001	mg/Liter	8260
Ammonia nitrogen		0.035	mg/Liter	4500 F
Bicarbonate		134.000	mg/Liter	4500 D
Calcium		65.200	mg/Liter	7140
Chloride		12.500	mg/Liter	4500 C
Iron		0.108	mg/Liter	7380
Magnesium		0.580	mg/Liter	7450
Manganese, dissolved	<	0.005	mg/Liter	7460
Nitrate		3.226	mg/Liter	4500 E
Potassium		1.640	mg/Liter	7610
Sodium		2.990	mg/Liter	7770
Sulfate		3.530	mg/Liter	4500 E
Chemical oxygen demand		6.500	mg/Liter	5220 B
Total dissolved solids		225.500	mg/Liter	2540 C
Total organic carbon		2.223	mg/Liter	5310 C
pH		6.675	units	4500 B
pH (Q1)		6.800	units	4500 B
pH (Q2)		6.700	units	4500 B
pH (Q3)		6.600	units	4500 B
pH (Q4)		6.600	units	4500 B
Cyanide	<	0.020	mg/Liter	4500 E
Mercury	<	0.001	mg/Liter	7470
Specific conductance		345.000	uS/cm	9050
Specific conductance (Q1)		340.000	uS/cm	9050
Specific conductance (Q2)		340.000	uS/cm	9050
Specific conductance (Q3)		350.000	uS/cm	9050
Specific conductance (Q4)		350.000	uS/cm	9050
Temperature		19.375	.C	2550 B
Temperature (Q1)		19.500	.c	2550 B

Laboratory Number: M290.011D2



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SORRELLS RESEARCH LABORATORY AND FIELD SERVICES

8002 Stanton Road
Little Rock, Arkansas 72209

LABORATORY ANALYSIS

WEF



Phone 501-562-8139
Fax 501-562-7025
Toll Free 1-800-331-8139

Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: WELL # 11 DUPLICATE 2

ANALYTE	RESULT UNITS	METHOD
Temperature (Q2)	20.000 .c	2550 B
Temperature (Q3)	19.500 .c	2550 B
Temperature (Q4)	18.500 .C	2550 B

Collected by:
K.H./J.B./VERN MAHAFFEY on 08/24/93 at 11:00
Analysis by :
K. E. Sorrells/J. B. Sorrells/C. A. Sorrells/K2 Sorrells/B. Glover/M. McKenzie

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 258. Test/Analyst/Time/Coeff./Var./ QA plan filed with A.D.P.C. & E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained. See Attached.

Copies to:

MR. KEVIN HODGES	MR. RANDY HOLCOMB
P.O. BOX 1310	P.O. BOX 1310
SPRINGDALE, AR 72765-	SPRINGDALE, AR 72765-
MR. KIRK ELLIS	
SCS ENGINEERS	
10401 HOLMES ROAD, SUITE 400	
KANSAS CITY, MO 64131-	

Laboratory Number: M290.011D2 DKS Reviewed By: K. E. Sorrells, M.S. [4]



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QUALITY ASSURANCE

August 25, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. REC.	# IN BAT.
ANTIMONY	KESII	09/04/93	1548	09/04/93	1548	0.10	97.9	23
ARSENIC	KESII	09/03/93	1851	09/03/93	2147	0.10	98.1	23
BARIUM	KESII	09/10/93	1400	09/10/93	1600	0.20	94.9	23
BERYLLIUM	KESII	09/07/93	1819	09/07/93	2018	1.40	94.5	18
BICARBONATE	BWG	09/08/93	1130	09/08/93	1330	0.74	96.9	16
CADMIUM	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
CHROMIUM	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
COBALT	KESII	09/07/93	1307	09/07/93	1715	0.30	104.0	18
COPPER	KESII	09/07/93	1655	09/07/93	1908	1.10	113.0	21
CYANIDE	BWG	08/26/93	1400	09/08/93	1550	1.86	107.5	23
CALCIUM	KESII	08/30/93	1424	08/30/93	1615	0.20	103.0	16
CHLORIDE	MKM	08/30/93	1000	08/30/93	1500	2.00	104.0	25
CHEMICAL OXYGEN DEMAND	CAS	08/30/93	1200	09/01/93	1100	8.54	104.0	23
IRON	KESII	08/27/93	1528	08/27/93	1629	1.10	102.0	18
LEAD	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
MERCURY	KESII	09/09/93	1450	09/09/93	1715	0.80	90.1	23
MAGNESIUM	KESII	08/30/93	1711	08/30/93	1750	0.60	103.0	16
MANGANESE	KESII	08/30/93	1124	08/30/93	1201	1.00	96.5	18
NICKEL	KESII	09/03/93	1102	09/03/93	1420	0.50	95.6	21
NITRATE	JBS	08/31/93	1430	08/31/93	2045	5.08	86.8	18
AMMONIA NITROGEN	MKM	09/02/93	1100	09/03/93	1200	1.70	103.4	35
POTASSIUM	KESII	08/27/93	1245	08/27/93	1313	1.20	98.9	18
PH	VM	08/24/93	1040	08/24/93	1045	0.00	0.0	1
SELENIUM	KESII	09/03/93	1851	09/03/93	2147	0.60	99.3	24
SILVER	KESII	09/01/93	1159	09/01/93	1617	0.50	103.0	26
SODIUM	KESII	08/27/93	1419	08/27/93	1434	0.50	98.8	16
SULFATE	MKM	08/27/93	1015	08/27/93	1400	1.80	98.0	24
SPECIFIC CONDUCTANCE	VM	08/24/93	1100	08/24/93	1105	0.00	0.0	1
THALLIUM	KESII	09/02/93	1710	09/02/93	1925	0.70	100.1	18
TOTAL DISSOLVED SOLIDS	JBS	08/30/93	1600	09/02/93	930	0.15	100.5	18
TEMPERATURE	VM	08/24/93	1100	08/24/93	1105	0.00	0.0	2
TOTAL ORGANIC CARBON	BWG	08/25/93	1400	09/08/93	1555	13.09	106.9	21
VANADIUM	KESII	09/10/93	1120	09/10/93	1245	0.00	97.0	17
VOLATILES (Q.A.)	KES	08/28/93	2006	08/30/93	745	7.12	105.7	19
ZINC	KESII	08/27/93	1643	08/28/93	1026	0.50	88.0	22



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QUALITY ASSURANCE

August 25, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	IN BAT.
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Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
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40 CFR Part 258 TEST/ANALYST/TIME/COEF. VAR.* QA PLAN filed with
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JBS = James B. Sorrells
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KRL = Karl E. Sorrells

KESII = K. E. Sorrells, II
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MM = Mark McKenzie

Laboratory Number: M290.011D2 DKS

LEACHATE SITE 3 AND SITE 4
REPORT DATA



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Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

Sample From: LEACHATE TANK SITE 3

ANALYTE		RESULT	UNITS	METHOD
Arsenic		0.002	mg/Liter	7061
Barium		0.272	mg/Liter	7080
Benzene	<	0.001	mg/Liter	8260
Cadmium	<	0.001	mg/Liter	7131
Carbon tetrachloride	<	0.001	mg/Liter	8260
Chlordane	<	0.100	mg/Liter	8080
Chlorobenzene	<	0.001	mg/Liter	8260
Chloroform	<	0.001	mg/Liter	8260
Chromium		0.005	mg/Liter	7191
Cresol, o-	<	0.100	mg/Liter	8270
Cresol, m-	<	0.100	mg/Liter	8270
Cresol, p-	<	0.100	mg/Liter	8270
Cresol	<	0.300	mg/Liter	Calc.
2,4 D	<	0.100	mg/Liter	8150
Dichlorobenzene, 1,4-		0.002	mg/Liter	8260
Dichloroethane, 1,2-	<	0.001	mg/Liter	8260
Dichloroethylene, 1,1-	<	0.001	mg/Liter	8260
Dinitrotoluene, 2,4-	<	0.100	mg/Liter	8270
Endrin	<	0.010	mg/Liter	8080
Heptachlor	<	0.008	mg/Liter	8080
Heptachlor epoxide	<	0.008	mg/Liter	8080
Hexachlorobenzene	<	0.100	mg/Liter	8270
Hexachlorobutadiene	<	0.100	mg/Liter	8270
Hexachloroethane	<	0.100	mg/Liter	8270
Lead	<	0.001	mg/Liter	7421
Lindane	<	0.100	mg/Liter	8080
Mercury	<	0.001	mg/Liter	7470
Methoxychlor	<	0.100	mg/Liter	8080
Methyl ethyl ketone	<	0.003	mg/Liter	8260
Nitrobenzene	<	0.100	mg/Liter	8270
Pentachlorophenol	<	0.500	mg/Liter	8270

Laboratory Number: M290.012A



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P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

Sample From: LEACHATE TANK SITE 3

ANALYTE		RESULT	UNITS	METHOD
Pyridine	<	0.500	mg/Liter	8270
Selenium	<	0.002	mg/Liter	7741
Silver	<	0.001	mg/Liter	7761
Tetrachloroethylene	<	0.001	mg/Liter	8260
Toxaphene	<	0.100	mg/Liter	8080
Trichloroethylene	<	0.001	mg/Liter	8260
Trichlorophenol, 2, 4, 5-	<	0.100	mg/Liter	8270
Trichlorophenol, 2, 4, 6-	<	0.100	mg/Liter	8270
2,4,5-TP Silvex	<	0.100	mg/Liter	8150
Vinyl chloride	<	0.001	mg/Liter	8260
Ignitability	>	200.000	.F	1010
Corrosivity pH >12.5 or <2		7.200	units	9040
Reactivity	=	0.000		Exam.
Total releasable cyanide	<	1.000	mg/Liter	9010
Total releasable sulfide	<	10.000	mg/Liter	9030
Solids	<	0.050	percent	1311

Laboratory Number: M290.012A



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105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)
Sample From: LEACHATE TANK SITE 3

ANALYTE	RESULT UNITS	METHOD
---------	--------------	--------

Collected by:

K.H./J.B./VERN MAHAFFEY on 08/24/93 at 13:25

Analysis by :

K. E. Sorrells, M. S./K. E. Sorrells II/Ben W. Glover

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 261. Test/Analyst/Time/Coeff./Var./ QA plan filed with A.D.P.C. & E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained. See Attached.

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MR. KIRK ELLIS
SCS ENGINEERS

10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MO 64131-

Laboratory Number: M290.012A DKS Reviewed By: K. E. Sorrells, M.S. [✓] _____



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QUALITY ASSURANCE

August 25, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	# IN BAT.
ARSENIC	KESII	09/03/93	1851	09/03/93	2147	0.10	98.1	23
BARIUM	KESII	09/10/93	1400	09/10/93	1600	0.20	94.9	23
CADMIUM	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
CHROMIUM	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
CORROSIVITY PH >12.5 OR	BWG	08/25/93	1450	08/25/93	1500	0.13	0.0	2
IGNITABILITY	BWG	09/08/93	1350	09/08/93	1420	3.03	93.3	2
LEAD	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
MERCURY	KESII	09/09/93	1450	09/09/93	1715	0.80	90.1	23
REACTIVITY	BWG	09/08/93	1335	09/08/93	1400	0.00	0.0	2
SELENIUM	KESII	09/03/93	1851	09/03/93	2147	0.60	99.3	24
SILVER	KESII	09/01/93	1159	09/01/93	1617	0.50	103.0	26
SOLIDS	BWG	08/25/93	1430	08/25/93	1455	0.56	0.0	2
SEMI-VOLATILES (Q.A.)	KES	09/01/93	1519	09/02/93	33	11.72	79.2	5
TOTAL RELEASABLE CYANIDE	BWG	09/08/93	1000	09/09/93	1600	1.86	107.5	2
TOTAL RELEASABLE SULFIDE	BWG	09/08/93	1000	09/09/93	1535	0.23	95.7	2
VOLATILES (Q.A.)	KES	08/28/93	2006	08/30/93	745	7.12	105.7	19

Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
Sample preservation and laboratory analysis conducted according to EPA
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Laboratory Number: M290.012A DKS



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Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: LEACHATE TANK SITE 3

ANALYTE	RESULT	UNITS	METHOD
Volume produced	3166.000	gallons	meas.
Chloride	314.900	mg/Liter	4500 C
Total dissolved solids	1070.000	mg/Liter	2540 C
Chemical oxygen demand	184.600	mg/Liter	5220 B
Biochemical oxygen demand	r 0.000	mg/Liter	5210 B
pH	7.100	units	4500 B
Cadmium	< 0.001	mg/Liter	7131
Chromium	0.005	mg/Liter	7191
Copper	0.006	mg/Liter	7211
Lead	0.001	mg/Liter	239.2
Nickel	0.094	mg/Liter	7521
Zinc	0.055	mg/Liter	7950

Laboratory Number: M290.012B



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105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: LEACHATE TANK SITE 3

ANALYTE	RESULT UNITS	METHOD
---------	--------------	--------

Collected by:
K.H./J.B./VERN MAHAFFEY on 08/24/93 at 13:25
Analysis by :
James B. Sorrells/Cecil Sorrells/K.E. Sorrells II/Ben Glover/Mark McKenzie

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 258. Test/Analyst/Time/Coeff./Var./ QA plan filed with ADPC&E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained. See Attached.

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SPRINGDALE, AR 72765-

MR. KIRK ELLIS
SCS ENGINEERS
10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MO 64131-

Laboratory Number: M290.012B DKS Reviewed By: K. E. Sorrells, M.S. []_____



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QUALITY ASSURANCE

August 25, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. REC.	#IN BAT
Biochemical oxygen demand	MKM	09/01/93	1630	09/06/93	1430	0.60	100.3	12
Cadmium	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
Chromium	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
Copper	KESII	09/07/93	1655	09/07/93	1908	1.10	113.0	21
Chloride	MKM	08/30/93	1000	08/30/93	1500	2.00	104.0	25
Chemical oxygen demand	CAS	08/30/93	1200	09/01/93	1100	8.54	104.0	23
Lead	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
Nickel	KESII	09/03/93	1102	09/03/93	1420	0.50	95.6	21
pH	VM	08/24/93	1325	08/24/93	1330	0.00	0.0	1
pH	VM	08/24/93	1805	08/24/93	1810	0.00	0.0	1
Total dissolved solids	JBS	08/30/93	1600	09/02/93	930	0.15	100.5	18
Zinc	KESII	08/27/93	1643	08/28/93	1026	0.50	88.0	22

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Date Received : September 1, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: SITE 3 LEACHATE.

ANALYTE	RESULT UNITS	METHOD
Biochemical oxygen demand	33.400 mg/Liter	5210 B

Collected by:
KEVIN HODGES on 08/31/93 at 16:00
Analysis by :
Mark McKenzie

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 261. Test/Analyst/Time/Coeff./Var./ QA plan filed with A.D.P.C. & E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained. See Attached.

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MR. KIRK ELLIS
SCS ENGINEERS

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Laboratory Number: M290.012C DKS Reviewed By: K. E. Sorrells, M.S. [L]



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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	IN BAT.
BIOCHEMICAL OXYGEN DEMAND MKM		09/01/93	1630	09/06/93	1430	0.60	100.3	12

Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
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Date of Report: September 10, 1993

Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

Sample From: LEACHATE TANK SITE 4

ANALYTE	RESULT	UNITS	METHOD
Arsenic	0.003	mg/Liter	7061
Barium	0.173	mg/Liter	7080
Benzene	0.004	mg/Liter	8260
Cadmium	<	0.001 mg/Liter	7131
Carbon tetrachloride	<	0.001 mg/Liter	8260
Chlordane	<	0.010 mg/Liter	8080
Chlorobenzene	<	0.001 mg/Liter	8260
Chloroform	<	0.001 mg/Liter	8260
Chromium	0.002	mg/Liter	7191
Cresol, o-	<	0.010 mg/Liter	8270
Cresol, m-	<	0.010 mg/Liter	8270
Cresol, p-	<	0.010 mg/Liter	8270
Cresol 2,4 D	<	0.010 mg/Liter	Calc.
Dichlorobenzene, 1,4-	<	0.100 mg/Liter	8150
Dichlorobenzene, 1,4-	<	0.006 mg/Liter	8270
Dichloroethane, 1,2-	<	0.001 mg/Liter	8260
Dichloroethylene, 1,1-	<	0.001 mg/Liter	8260
Dinitrotoluene, 2,4-	<	0.010 mg/Liter	8270
Endrin	<	0.010 mg/Liter	8080
Heptachlor	<	0.008 mg/Liter	8080
Heptachlor epoxide	<	0.008 mg/Liter	8080
Hexachlorobenzene	<	0.010 mg/Liter	8270
Hexachlorobutadiene	<	0.010 mg/Liter	8270
Hexachloroethane	<	0.010 mg/Liter	8270
Lead	<	0.001 mg/Liter	7421
Lindane	<	0.010 mg/Liter	8080
Mercury	<	0.001 mg/Liter	7470
Methoxychlor	<	0.100 mg/Liter	8080
Methyl ethyl ketone	<	0.088 mg/Liter	8260
Nitrobenzene	<	0.010 mg/Liter	8270
Pentachlorophenol	<	0.050 mg/Liter	8270

Laboratory Number: M290.013A



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8002 Stanton Road
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LABORATORY ANALYSIS

Phone 501-562-8139
Fax 501-562-7025
Toll Free 1-800-331-8139

Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)
Sample From: LEACHATE TANK SITE 4

ANALYTE		RESULT UNITS	METHOD
Pyridine	<	0.050 mg/Liter	8270
Selenium	<	0.002 mg/Liter	7741
Silver	<	0.001 mg/Liter	7761
Tetrachloroethylene	<	0.001 mg/Liter	8260
Toxaphene	<	0.100 mg/Liter	8080
Trichloroethylene	<	0.001 mg/Liter	8260
Trichlorophenol, 2, 4, 5-	<	0.010 mg/Liter	8270
Trichlorophenol, 2, 4, 6-	<	0.010 mg/Liter	8270
2,4,5-TP Silvex	<	0.100 mg/Liter	8150
Vinyl chloride		0.007 mg/Liter	8260
Ignitability	>	200.000 .F	1010
Corrosivity pH >12.5 or <2		6.100 units	9040
Reactivity	=	0.000	Exam.
Total releasable cyanide	<	1.000 mg/Liter	9010
Total releasable sulfide	<	10.000 mg/Liter	9030
Solids	<	0.050 percent	1311



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For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

Sample From: LEACHATE TANK SITE 4

ANALYTE	RESULT	UNITS	METHOD
---------	--------	-------	--------

Collected by:

K.H./J.B./VERN MAHAFFEY on 08/24/93 at 13:40

Analysis by :

K. E. Sorrells, M. S./K. E. Sorrells II/Ben W. Glover

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 261. Test/Analyst/Time/Coeff./Var./ QA plan filed with A.D.P.C. & E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained. See Attached.

Copies to:

MR. KEVIN HODGES

MR. RANDY HOLCOMB

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SPRINGDALE, AR 72765-

SPRINGDALE, AR 72765-

MR. KIRK ELLIS
SCS ENGINEERS

10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MO 64131-

Laboratory Number: M290.013A DKS Reviewed By: K. E. Sorrells, M.S. [Signature]



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Little Rock, Arkansas 72209

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Fax 501-562-7025
Toll Free 1-800-331-8139

QUALITY ASSURANCE

August 25, 1993

The following QA represents SRA's Quality Assurance values for this report.
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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	# IN BAT.
ARSENIC	KESII	09/03/93	1851	09/03/93	2147	0.10	98.1	23
BARIUM	KESII	09/10/93	1400	09/10/93	1600	0.20	94.9	23
CADMIUM	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
CHROMIUM	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
CORROSIVITY PH >12.5 OR IGNITABILITY	BWG	08/25/93	1450	08/25/93	1500	0.13	0.0	2
LEAD	BWG	09/08/93	1350	09/08/93	1420	3.03	93.3	2
MERCURY	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
REACTIVITY	KESII	09/09/93	1450	09/09/93	1715	0.80	90.1	23
SELENIUM	BWG	09/08/93	1335	09/08/93	1400	0.00	0.0	2
SILVER	KESII	09/03/93	1851	09/03/93	2147	0.60	99.3	24
SOLIDS	KESII	09/01/93	1159	09/01/93	1617	0.50	103.0	26
SEMI-VOLATILES (Q.A.)	BWG	08/25/93	1430	08/25/93	1455	0.56	0.0	2
TOTAL RELEASABLE CYANIDE	KES	09/01/93	1519	09/02/93	33	11.72	79.2	5
TOTAL RELEASABLE SULFIDE	BWG	09/08/93	1000	09/09/93	1600	1.86	107.5	2
VOLATILES (Q.A.)	BWG	09/08/93	1000	09/09/93	1535	0.23	95.7	2
	KES	08/28/93	2006	08/30/93	745	7.12	105.7	19

Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
Sample preservation and laboratory analysis conducted according to EPA
40 CFR Part 261 TEST/ANALYST/TIME/COEF. VAR.* QA PLAN filed with
ADPC*E. Include replication.

KES = K. E. Sorrells
JBS = James B. Sorrells
CAS = Cecil A. Sorrells
KRL = Karl E. Sorrells

KESII = K. E. Sorrells, II
BWG = Ben W. Glover
MM = Mark McKenzie

Laboratory Number: M290.013A DKS



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LABORATORY ANALYSIS

WEF



Phone 501-562-8139
Fax 501-562-7025
Toll Free 1-800-331-8139

Date of Report: September 15, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: LEACHATE TANK SITE 4

ANALYTE	RESULT	UNITS	METHOD
Volume produced	15884.000	gallons	meas.
Chloride	55.000	mg/Liter	4500 C
Total dissolved solids	186.000	mg/Liter	2540 C
Chemical oxygen demand	78.860	mg/Liter	5220 B
Biochemical oxygen demand	0.000	mg/Liter	5210 B
pH	6.000	units	4500 B
Cadmium	0.860	ug/Liter	7131
Chromium	4.400	ug/Liter	7191
Copper	3.500	ug/Liter	7211
Lead	57.000	ug/Liter	239.2
Nickel	4.600	ug/Liter	7521
Zinc	22.100	ug/Liter	7950



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Fax 501-562-7025
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Date of Report: September 15, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-
Job: TONITOWN LANDFILL MONITORING.
Sample From: LEACHATE TANK SITE 4

ANALYTE	RESULT UNITS	METHOD
---------	--------------	--------

Collected by:
K.H./J.B./VERN MAHAFFEY on 08/24/93 at 13:40
Analysis by :
James B. Sorrells/Cecil Sorrells/K.E. Sorrells II/Ben Glover/Mark McKenzie

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 258. Test/Analyst/Time/Coeff./Var./ QA plan filed with ADPC&E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained. See Attached.

Copies to:
MR. KEVIN HODGES
P.O. BOX 1310
SPRINGDALE, AR 72765-
MR. KIRK ELLIS
SCS ENGINEERS

MR. RANDY HOLCOMB
P.O. BOX 1310
SPRINGDALE, AR 72765-

10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MO 64131-

Laboratory Number: M290.013B DKS Reviewed By: K. E. Sorrells, M.S. []_____



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Fax 501-562-7025
Toll Free 1-800-331-8139

QUALITY ASSURANCE

August 25, 1993

The following QA represents SRA's Quality Assurance values for this report.

ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. REC.	#IN BAT
Biochemical oxygen demand	MKM	09/01/93	1630	09/06/93	1430	0.60	100.3	12
Cadmium	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
Chromium	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
Copper	KESII	09/07/93	1655	09/07/93	1908	1.10	113.0	21
Chloride	MKM	08/30/93	1000	08/30/93	1500	2.00	104.0	25
Chemical oxygen demand	CAS	08/30/93	1200	09/01/93	1100	8.54	104.0	23
Lead	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
Nickel	KESII	09/03/93	1102	09/03/93	1420	0.50	95.6	21
pH	VM	08/24/93	1340	08/24/93	1345	0.00	0.0	1
pH	VM	08/24/93	1805	08/24/93	1810	0.00	0.0	1
Total dissolved solids	JBS	08/30/93	1600	09/02/93	930	0.15	100.5	18
Zinc	KESII	08/27/93	1643	08/28/93	1026	0.50	88.0	22

Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
Sample preservation and laboratory analysis conducted according to EPA
40 CFR Par258 TEST/ANALYST/TIME/COEF. VAR.* QA PLAN filed with
ADPC*E. Include replication.

KES = K. E. Sorrells
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CAS = Cecil A. Sorrells
KRL = Karl E. Sorrells

KESII = K. E. Sorrells, II
BWG = Ben W. Glover
MKM = Mark McKenzie

Laboratory Number: M290.013B DKS



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Fax 501-562-7025
Toll Free 1-800-331-8139

Date of Report: September 10, 1993
Date Received : September 1, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.
Sample From: SITE 4 LEACHATE.

ANALYTE	RESULT UNITS	METHOD
Biochemical oxygen demand	28.600 mg/Liter	5210 B

Collected by:
KEVIN HODGES on 08/31/93 at 16:10
Analysis by :
Mark McKenzie

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 261. Test/Analyst/Time/Coeff./Var./ QA plan filed with A.D.P.C. & E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained. See Attached.

Copies to:
MR. KEVIN HODGES
P.O. BOX 1310
SPRINGDALE, AR 72765-

MR. RANDY HOLCOMB
P.O. BOX 1310
SPRINGDALE, AR 72765-

MR. KIRK ELLIS
SCS ENGINEERS
10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MO 64131-

Laboratory Number: M290.013C DKS Reviewed By: K. E. Sorrells, M.S. [✓]



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Little Rock, Arkansas 72209

Phone 501-562-8139
Fax 501-562-7025
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QUALITY ASSURANCE

September 1, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. # REC.	IN BAT.
BIOCHEMICAL OXYGEN DEMAND MKM		09/01/93	1630	09/06/93	1430	0.60	100.3	12

Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
Sample preservation and laboratory analysis conducted according to EPA
40 CFR Part 261 TEST/ANALYST/TIME/COEF. VAR.* QA PLAN filed with
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KES = K. E. Sorrells
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CAS = Cecil A. Sorrells
KRL = Karl E. Sorrells

KESII = K. E. Sorrells, II
BWG = Ben W. Glover
MM = Mark McKenzie

Laboratory Number: M290.013C DKS

FIELD BLANK, RINSED WATER,
WASH WATER, DISTILLED WATER
DATA



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LABORATORY ANALYSIS

Phone 501-562-8139
Fax 501-562-7025
Toll Free 1-800-331-8139

Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: TYPE 1 H2O/DIST H2O VOLATILES ANALYZED ON TYPE 1 WATER

ANALYTE		RESULT	UNITS	METHOD
Antimony	<	0.003	mg/Liter	7041
Arsenic	<	0.001	mg/Liter	7061
Barium	<	0.050	mg/Liter	7080
Beryllium	<	0.001	mg/Liter	7091
Cadmium	<	0.001	mg/Liter	7131
Chromium	<	0.001	mg/Liter	7191
Cobalt	<	0.001	mg/Liter	7201
Copper		0.075	mg/Liter	7211
Lead	<	0.001	mg/Liter	7421
Nickel	<	0.001	mg/Liter	7521
Selenium	<	0.002	mg/Liter	7741
Silver	<	0.001	mg/Liter	7761
Thallium	<	0.001	mg/Liter	7841
Vanadium	<	0.050	mg/Liter	7910
Zinc		0.006	mg/Liter	7950
Acetone	<	0.001	mg/Liter	8260
Acrylonitrile	<	0.001	mg/Liter	8260
Benzene	<	0.001	mg/Liter	8260
Bromochloromethane	<	0.001	mg/Liter	8260
Bromodichloromethane	<	0.001	mg/Liter	8260
Bromoform	<	0.001	mg/Liter	8260
Carbon disulfide	<	0.001	mg/Liter	8260
Carbon tetrachloride	<	0.001	mg/Liter	8260
Chlorobenzene	<	0.001	mg/Liter	8260
Chloroethane	<	0.001	mg/Liter	8260
Chloroform		0.005	mg/Liter	8260
Dibromochloromethane	<	0.001	mg/Liter	8260
Dibromo-3-chloropropane, 1,2-	<	0.001	mg/Liter	8260
Dibromoethane, 1,2-	<	0.001	mg/Liter	8260
Dichlorobenzene, o-	<	0.001	mg/Liter	8260
Dichlorobenzene, p-	<	0.001	mg/Liter	8260

Laboratory Number: M290.000



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Fax 501-562-7025
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Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: TYPE 1 H2O/DIST H2O VOLATILES ANALYZED ON TYPE 1 WATER

ANALYTE		RESULT	UNITS	METHOD
Dichloro-2-butene, trans-1,4-	<	0.001	mg/Liter	8260
Dichloroethane, 1,1-	<	0.001	mg/Liter	8260
Dichloroethane, 1,2-	<	0.001	mg/Liter	8260
Dichloroethylene, 1,1-	<	0.001	mg/Liter	8260
Dichloroethylene, cis-1,2-	<	0.001	mg/Liter	8260
Dichloroethylene, trans-1,2-	<	0.001	mg/Liter	8260
Dichloropropane, 1,2-	<	0.001	mg/Liter	8260
Dichloropropene, cis-1,3-	<	0.001	mg/Liter	8260
Dichloropropene, trans, 1,3-	<	0.001	mg/Liter	8260
Ethylbenzene	<	0.001	mg/Liter	8260
Hexanone, 2-	<	0.001	mg/Liter	8260
Methyl bromide	<	0.001	mg/Liter	8260
Methyl chloride	<	0.001	mg/Liter	8260
Methylene bromide	<	0.001	mg/Liter	8260
Methylene chloride	<	0.001	mg/Liter	8260
Methyl ethyl ketone	<	0.001	mg/Liter	8260
Methyl iodide	<	0.001	mg/Liter	8260
Methyl-2-pentanone, 4-	<	0.001	mg/Liter	8260
Styrene	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 1, 2-	<	0.001	mg/Liter	8260
Tetrachloroethane, 1, 1, 2, 2	<	0.001	mg/Liter	8260
Tetrachloroethylene	<	0.001	mg/Liter	8260
Toluene	<	0.002	mg/Liter	8260
Trichloroethane, 1, 1, 1-	<	0.001	mg/Liter	8260
Trichloroethane, 1, 1, 2-	<	0.001	mg/Liter	8260
Trichloroethylene	<	0.001	mg/Liter	8260
Trichlorofluoromethane	<	0.001	mg/Liter	8260
Trichloropropane, 1, 2, 3-	<	0.001	mg/Liter	8260
Vinyl acetate	<	0.001	mg/Liter	8260
Vinyl chloride	<	0.001	mg/Liter	8260
Xylene, o-	<	0.001	mg/Liter	8260

Laboratory Number: M290.000



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Little Rock, Arkansas 72209

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Fax 501-562-7025
Toll Free 1-800-331-8139

Date of Report: September 10, 1993
Date Received : August 25, 1993

For: SUNRAY SERVICES
P.O. BOX 1310
105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: TYPE 1 H2O/DIST H2O VOLATILES ANALYZED ON TYPE 1 WATER

ANALYTE		RESULT	UNITS	METHOD
Xylene, m-	<	0.001	mg/Liter	8260
Xylene, p-	<	0.001	mg/Liter	8260
Xylenes	<	0.001	mg/Liter	8260
Ammonia nitrogen		0.001	7g/Liter	4500 F
Bicarbonate		2.000	mg/Liter	4500 D
Calcium	<	0.100	mg/Liter	7140
Chloride		0.100	mg/Liter	4500 C
Iron	<	0.010	mg/Liter	7380
Magnesium	<	0.050	mg/Liter	7450
Manganese, dissolved		0.005	mg/Liter	7460
Nitrate		0.017	mg/Liter	4500 E
Potassium	<	0.050	mg/Liter	7610
Sodium	<	0.100	mg/Liter	7770
Sulfate		0.470	mg/Liter	4500 E
Chemical oxygen demand		6.500	mg/Liter	5220 B
Total dissolved solids		5.500	mg/Liter	2540 C
Total organic carbon		0.404	mg/Liter	5310 C
pH		5.760	units	4500 B
pH (Q1)		5.800	units	4500 B
pH (Q2)		5.780	units	4500 B
pH (Q3)		5.750	units	4500 B
pH (Q4)		5.720	units	4500 B
Cyanide	<	0.020	mg/Liter	4500 E
Mercury	<	0.001	mg/Liter	7470
Specific conductance		1.470	uS/cm	9050
Specific conductance (Q1)		1.500	uS/cm	9050
Specific conductance (Q2)		1.540	uS/cm	9050
Specific conductance (Q3)		1.390	uS/cm	9050
Specific conductance (Q4)		1.430	uS/cm	9050
Temperature		23.000	.C	2550 B
Temperature (Q1)		23.000	.c	2550 B

Laboratory Number: M290.000



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Date of Report: September 10, 1993
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For: SUNRAY SERVICES
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105 OLD MISSOURI ROAD
SPRINGDALE, AR 72765-

Job: TONITOWN LANDFILL MONITORING.

Sample From: TYPE 1 H2O/DIST H2O VOLATILES ANALYZED ON TYPE 1 WATER

ANALYTE	RESULT	UNITS	METHOD
Temperature (Q2)	23.000	.c	2550 B
Temperature (Q3)	23.000	.c	2550 B
Temperature (Q4)	23.000	.C	2550 B

Collected by:

K.H./J.B./VERN MAHAFFEY on 08/24/93 at 9:50

Analysis by :

K. E. Sorrells/J. B. Sorrells/C. A. Sorrells/K2 Sorrells/B. Glover/M. McKenzi

Sample preservation and Laboratory Analysis conducted according to EPA 40 CFR Part 258. Test/Analyst/Time/Coeff./Var./ QA plan filed with ADPC&E. Includes 10 % replication and 10 % recovery studies by random selection. Calibration records maintained. See Attached.

Copies to:

MR. KEVIN HODGES

MR. RANDY HOLCOMB

P.O. BOX 1310

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SPRINGDALE, AR 72765-

SPRINGDALE, AR 72765-

MR. KIRK ELLIS
SCS ENGINEERS

10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MO 64131-

Laboratory Number: M290.000

DKS Reviewed By: K. E. Sorrells, M.S. [4] C



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8002 Stanton Road
Little Rock, Arkansas 72209

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QUALITY ASSURANCE

August 25, 1993

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ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. REC.	# IN BAT
Antimony	KESII	09/04/93	1548	09/04/93	1548	0.10	97.9	23
Arsenic	KESII	09/03/93	1851	09/03/93	2147	0.10	98.1	23
Barium	KESII	09/10/93	1400	09/10/93	1600	0.20	94.9	23
Beryllium	KESII	09/07/93	1819	09/07/93	2018	1.40	94.5	18
Bicarbonate	BWG	09/08/93	1130	09/08/93	1330	0.74	96.9	16
Cadmium	KESII	09/07/93	1147	09/07/93	1431	2.60	99.0	23
Chromium	KESII	09/09/93	1201	09/09/93	1458	1.20	108.0	26
Cobalt	KESII	09/07/93	1307	09/07/93	1715	0.30	104.0	18
Copper	KESII	09/07/93	1655	09/07/93	1908	1.10	113.0	21
Cyanide	BWG	08/26/93	1400	09/08/93	1550	1.86	107.5	23
Calcium	KESII	08/30/93	1424	08/30/93	1615	0.20	103.0	16
Chloride	MKM	08/30/93	1000	08/30/93	1500	2.00	104.0	25
Chemical oxygen demand	CAS	08/30/93	1200	09/01/93	1100	8.54	104.0	23
Iron	KESII	08/27/93	1528	08/27/93	1629	1.10	102.0	18
Lead	KESII	09/02/93	1132	09/02/93	1515	1.00	105.0	31
Mercury	KESII	09/09/93	1450	09/09/93	1715	0.80	90.1	23
Magnesium	KESII	08/30/93	1711	08/30/93	1750	0.60	103.0	16
Manganese	KESII	08/30/93	1124	08/30/93	1201	1.00	96.5	18
Nickel	KESII	09/03/93	1102	09/03/93	1420	0.50	95.6	21
Nitrate	JBS	08/31/93	1430	08/31/93	2045	5.08	86.8	18
Ammonia nitrogen	MKM	09/02/93	1100	09/03/93	1200	1.70	103.4	35
Potassium	KESII	08/27/93	1245	08/27/93	1313	1.20	98.9	18
pH	MKM	09/10/93	1700	09/10/93	1710	3.03	100.0	4
Selenium	KESII	09/03/93	1851	09/03/93	2147	0.60	99.3	24
Silver	KESII	09/01/93	1159	09/01/93	1617	0.50	103.0	26
Sodium	KESII	08/27/93	1419	08/27/93	1434	0.50	98.8	16
Sulfate	MKM	08/27/93	1015	08/27/93	1400	1.80	98.0	24
Specific conductance	BWG	09/10/93	1630	09/10/93	1650	5.85	0.0	2
Thallium	KESII	09/02/93	1710	09/02/93	1925	0.70	100.1	18
Total dissolved solids	JBS	08/30/93	1600	09/02/93	930	0.15	100.5	18
Temperature	MKM	09/10/93	1640	09/10/93	1655	0.00	0.0	2
Total organic carbon	BWG	08/25/93	1400	09/08/93	1555	13.09	106.9	21
Vanadium	KESII	09/10/93	1120	09/10/93	1245	0.00	97.0	17
Volatiles (q.a.)	KES	08/28/93	2006	08/30/93	745	7.12	105.7	19
Zinc	KESII	08/27/93	1643	08/28/93	1026	0.50	88.0	22



**SORRELLS RESEARCH
LABORATORY AND FIELD SERVICES**

WEF



8002 Stanton Road
Little Rock, Arkansas 72209

Phone 501-562-8139
Fax 501-562-7025
Toll Free 1-800-331-8139

CHEMISTS
ECOLOGISTS
CONSULTANTS
PLANNERS

QUALITY ASSURANCE

August 25, 1993

The following QA represents SRA's Quality Assurance values for this report.

ANALYTE	ANALYST	BEG. DATE	BEG. TIME	FIN. DATE	FIN. TIME	S.D. %	SPK. REC.	#IN BAT
---------	---------	--------------	--------------	--------------	--------------	-----------	--------------	------------

Field PH/TEMP/D.O. Sampler or Courier/ at time of sampling or pick up
Sample preservation and laboratory analysis conducted according to EPA
40 CFR Par 258 TEST/ANALYST/TIME/COEF. VAR.* QA PLAN filed with
ADPC*E. Include replication.

KES = K. E. Sorrells
JBS = James B. Sorrells
CAS = Cecil A. Sorrells
KRL = Karl E. Sorrells

KESII = K. E. Sorrells, II
BWG = Ben W. Glover
MKM = Mark McKenzie

Laboratory Number: M291.000 DKS

CHAIN OF CUSTODY
RECORDS

CHAIN OF CUSTODY RECORD

PAGE _____ OF _____

SORRELLS RESEARCH ASSOCIATES, INC.

8002 STANTON ROAD, LITTLE ROCK, AR 72209
 (501) 562-8139 (800) 331-8139 FAX (501) 562-7025

FOR LAB/OFFICE USE ONLY

P. O. # _____

CLIENT# _____

LAB # M290-

NAME OF COMPANY, CITY, OR PROJECT:

PROJECT NO:

SAMPLER(S) SIGNATURE

SUNRAY TOWN TOWN

KIRVEN Hodges
JOHN Backer
VERN Mahaffey

SAMPLE COLLECTION LOCATION	START DATE	START TIME	END DATE	END TIME	COMP/GRAB	ANALYSIS REQUIRED
<u>well (8)</u>	<u>8-24-93</u>	<u>12:25P</u>			<u>x</u>	<u>8</u>
<u>well (10)</u>	<u>"</u>	<u>12:40P</u>			<u>x</u>	<u>"</u>
<u>Site 3 Lechate</u>	<u>8-24-93</u>	<u>1:25P</u>			<u>x</u>	<u>4</u>
<u>Site 4 Lechate</u>		<u>1:40P</u>			<u>x</u>	<u>4</u>
<u>Type (D) H2O</u>		<u>9:50AM</u>			<u>x</u>	<u>4</u>
<u>Dist H2O</u>		<u>1:00PM</u>			<u>x</u>	<u>8</u>

METHOD OF SHIPMENT: (CIRCLE) UPS BUS WALK-IN SRA OTHER TOTAL NUMBER OF CONTAINERS:

TYPE OF SAMPLE(S): (CIRCLE) WATER SOIL W/W SLUDGE OTHER

SAMPLE I.D. 1 2 3 4 5

FIELD ANALYSIS.	PH	TEMP	FLOW	CL2	D.O.	NOTES:

STANDARD METHODS PRESERVATION PER EPA 40 CFR PART 136

SHOW PRESERVATION:					
C 4 = COOL TO 4.C					
S 2 = SULFURIC ACID TO PH < 2					
N 2 = NITRIC ACID TO PH < 2					
T = THIOSULFATE FOR DECHLORINATION					
OTHER					

RELINQUISHED BY: (SIGNATURE) DATE/TIME RECEIVED BY: (SIGNATURE) DATE/TIME

[Signature] 8/24/93 6:45 AM Vern E Mahaffey 6:45 PM 8-23-93

RELINQUISHED BY: (SIGNATURE) DATE/TIME RECEIVED FOR LABORATORY BY: (SIGNATURE) DATE/TIME

108 Sampled Containers
Vern E Mahaffey 8-25-93 8:30 AM
M. McWhi 8-25-93/ 0830

CHAIN OF CUSTODY RECORD

PAGE _____ OF _____

SORRELLS RESEARCH ASSOCIATES, INC.

8002 STANTON ROAD, LITTLE ROCK, AR 72209
 (501) 562-8139 (800) 331-8139 FAX (501) 562-7025

FOR LAB/OFFICE USE ONLY

P. O. # _____

CLIENT# 37027

LAB # M290

NAME OF COMPANY, CITY, OR PROJECT:

PROJECT NO:

SAMPLER(S) SIGNATURE

Sun Ray Ton: TOWN

Hiren John Vern
Hodges Buckley Mahaffey

SAMPLE COLLECTION LOCATION	START DATE	START TIME	END DATE	END TIME	COMP/ GRAB	ANALYSIS REQUIRED
	well ①	8-24-93	7:10 AM			X
well ②	"	7:50 AM			"	"
well ③		8:20 AM			"	"
well ④		8:45 AM			"	"
well ⑤		9:50 AM			"	"
well ⑥		10:25 AM			"	"
well ⑪		10:40 AM			"	"
well ⑪ Deep		11:00 AM			"	"
well ⑦		11:50 AM			"	"

METHOD OF SHIPMENT: (CIRCLE) UPS BUS WALK-IN SRA OTHER TOTAL NUMBER OF CONTAINERS:

TYPE OF SAMPLE(S): (CIRCLE) WATER SOIL W/W SLUDGE OTHER

SAMPLE I.D. 1 2 3 4 5

FIELD ANALYSIS.	PH	TEMP	FLOW	CL2	D.O.	NOTES:

STANDARD METHODS PRESERVATION PER EPA 40 CFR PART 136

SHOW PRESERVATION:					
C 4 = COOL TO 4.C					
S 2 = SULFURIC ACID TO PH < 2					
N 2 = NITRIC ACID TO PH < 2					
T = THIOSULFATE FOR DECHLORINATION					
OTHER					

RELINQUISHED BY: (SIGNATURE) [Signature] DATE/TIME 8/24/93 6:45 PM RECEIVED BY: (SIGNATURE) Vern E. Mahaffey DATE/TIME 8-24-93 6:45 PM

RELINQUISHED BY: (SIGNATURE) Vern E. Mahaffey DATE/TIME 8-25-93 8:30 AM RECEIVED FOR LABORATORY BY: (SIGNATURE) M. McKeon DATE/TIME 8-25-93/0830

Well Purging Data Form

TODAY'S DATE 7-24-93

JOB SUN RAY Town: TOWN

Samplers Signature(s) John E. Buckley

[Signature]
Duplicate

	Well # <u>5</u>	Well # <u>6</u>	Well # <u>11</u>	Well # <u>Duplicate</u>
Pre-Depth level	<u>66.7</u>	<u>26.50</u>	<u>53.67</u>	<u>5</u>
Post-Depth level	<u>66.75</u>	<u>26.56</u>	<u>53.73</u>	<u>5</u>
Time	<u>9:50</u>	<u>10:25</u>	<u>10:40</u>	<u>11</u>

pH:	<u>5</u>	<u>6</u>	<u>11</u>	<u>Duplicate</u>
	<u>6.3</u>	<u>5.8</u>	<u>7.2</u>	<u>6</u>
	<u>6.1</u>	<u>5.8</u>	<u>6.6</u>	<u>6</u>
	<u>6.0</u>	<u>5.8</u>	<u>6.6</u>	<u>6</u>
	<u>6.0</u>	<u>5.7</u>	<u>6.6</u>	<u>6</u>

Conductivity:	<u>5</u>	<u>6</u>	<u>11</u>	<u>Duplicate</u>
	<u>690</u>	<u>380</u>	<u>330</u>	<u>34</u>
	<u>660</u>	<u>390</u>	<u>340</u>	<u>34</u>
	<u>680</u>	<u>460</u>	<u>350</u>	<u>35</u>
	<u>680</u>	<u>390</u>	<u>340</u>	<u>35</u>

Temperature:	<u>5</u>	<u>6</u>	<u>11</u>	<u>Duplicate</u>
	<u>20.5</u>	<u>24.5</u>	<u>19</u>	<u>19</u>
	<u>21</u>	<u>24.5</u>	<u>20</u>	<u>2</u>
	<u>20</u>	<u>20.5</u>	<u>17</u>	<u>19</u>
	<u>21</u>	<u>21</u>	<u>20</u>	<u>18</u>

Other: _____

Well Purging Data Form

TODAY'S DATE 7-24-93

JOB Sun Ray Town Towan

Samplers Signature(s) J. S. Binkley

[Signature]

	site 3 Well # <u>Leadate</u>	site 4 Well # <u>Leadate</u>	Well # _____	Well # _____
Pre-Depth level	<u>N/A</u>	_____	_____	_____
Post-Depth level	<u>N/A</u>	_____	_____	_____
Time	<u>1:25 PM</u>	<u>1:40 PM</u>	_____	_____

pH:	<u>7.1</u>	<u>6.0</u>	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

Conductivity:	<u>N/A</u>	<u>710</u>	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

Temperature:	<u>28</u>	<u>30</u>	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

Other:	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

TODAY'S DATE 8-24-93

JOB SUNRAY TOW: TOWN

Samplers Signature(s) J. E. Buckley [Signature]

	Well # <u>1</u>	Well # <u>2</u>	Well # <u>3</u>	Well #
Pre-Depth level	<u>24.14'</u>	<u>36.26</u>	<u>38.80</u>	<u>3</u>
Post-Depth level	<u>74.20'</u>	<u>36.26</u>	<u>39.05</u>	<u>3</u>
Time	<u>7:10AM</u>	<u>7:50AM</u>	<u>8:20</u>	<u>8</u>

pH:	Well # <u>1</u>	Well # <u>2</u>	Well # <u>3</u>	Well #
	<u>6.6</u>	<u>7.4</u>	<u>5.2</u>	<u>5</u>
	<u>6.5</u>	<u>7.1</u>	<u>5.4</u>	<u>5</u>
	<u>6.1</u>	<u>7.1</u>	<u>5.4</u>	<u>5</u>
	<u>6.1</u>	<u>6.8</u>	<u>5.1</u>	

Conductivity:	Well # <u>1</u>	Well # <u>2</u>	Well # <u>3</u>	Well #
	<u>980</u>	<u>230</u>	<u>150</u>	<u>8</u>
	<u>960</u>	<u>230</u>	<u>200</u>	
	<u>940</u>	<u>230</u>	<u>190</u>	
	<u>930</u>	<u>240</u>	<u>190</u>	

Temperature:	Well # <u>1</u>	Well # <u>2</u>	Well # <u>3</u>	Well #
	<u>19.5</u>	<u>22.5</u>	<u>21</u>	
	<u>20</u>	<u>21.5</u>	<u>19.5</u>	
	<u>20</u>	<u>20</u>	<u>19.0</u>	
	<u>20</u>	<u>17</u>	<u>16.5</u>	

Other: _____

DRIVER FIELD RECORD

Date 8-23 + 24 93
 Driver E. Mahaffey
 Vehicle Ford F150

(A) Time	(D) Time	Client	Mileage	PH	Ph Calibrations	Temp.	D.O.	Cl2	Flow	Site Conditions	Special Note
	6:00A	Lincoln	6126.7								
6:30 AM		SUN RAY Fenitoyu	6136.2		4.0-4.0						
	6:45P	SUN RAY DURM	6174.3	6:30 AM	7.1-2.0	25.0					
7:30P	8:00A	Lincoln	6209.6		9.9-10.0						
8:30A	9:00A	lab	6418.6				1420				
12:30A		Lincoln	6618.6								
				9:40 AM	4.1-4.0 7.2-2.0 9.9-10.0	26.5	1430				
		#818			UN KNOWN P.H.	6.0	Temp 26.5				
					DURM	39.0					
					3.9-4.0 0.5-12.0 9.9-10.0		1500				
		#818			UN KNOWN PH340	6.1					

cord

100.87 POC
 Ph control 8750
 JBS

***Always record Ph, Temp., DO, Flow on Field Record and COC

Date 8-25-93 Time 8:30 AM Sign Dee E. Mahaffey

If not possible, contact SRA lab

211th 501. miles

SUN Ray Tow: Town

Starting weather cool 70°

AFTER NOON warm partly cloudy

Dist H₂O Perched FROM

Cold STAR Dairy Mt Pine

Water to 6901 1-30 Little Rock

No 23193

All sites Prept with Plastic
Probe, Bailer, Chaves Rinsed with
Dist H₂O

Cond meter checked by J.S. 9-19-93

pH meter checked by J.S. 9-19-93

Type 1 H₂O Prep By J.S. 9-19-93

Temp pH + Cond Taken
From The FIRST 4 Bailers

Unknown Field pH 6.0

818 100% Rec - 0.50

JBS 8-25-93

SUN Ray Durm

Wet! Warm + Partly cloudy

Wet! & Did NOT Recover

Temp pH + Cond Take
From The FIRST 4 Bailers

Samplers For Both Sites

Karen Hodges SUN Ray

John Buckley SCS Eng

Vern McHaffey Sorrells Res.

Unknown Field pH 6.0

818 (100.87% Rec) (0.87% SD)

JBS 8-25-93

Vern McHaffey

Field Tech

Sorrells Res.

8-25-93

8-24-93

Well	Date	Prc Depth	Post Depth	Time	Temp
Well 12	8-24-93	25.22	26.28	4:20P	21.5

22.0

20.5

20.0

Well 11	8-24-93	101.12	101.46	4:45P	23.0
---------	---------	--------	--------	-------	------

24.0

18.5

19.0

Well 10	8-24-93	25.22	25.22	5:20P	21.5
---------	---------	-------	-------	-------	------

20.5

20.0

20.5

Well 7	8-24-93	78.82	73.86	5:45P	21.0
--------	---------	-------	-------	-------	------

21.5

21.0

20.5

Well 8	8-24-93	53.75	54.63	6:05P	23.0
--------	---------	-------	-------	-------	------

pH cond

DURM

5.2 20

4.8 20

4.7 20

4.7 20

6.3 830

6.3 850

6.4 850

6.5 860

6.1 90

5.4 90

5.4 90

5.4 90

6.5 920

6.5 950

6.4 970

6.6 970

7.4 840

8-24-93

Date	Piro Depth	Post Depth	Time	Temp	
exh/10	8-24-93	36.85	50.36	12:40P	23.0
					20.5
					17.0
					20.5

Site 3 8-24-93
lechate

Date	Piro Depth	Post Depth	Time	Temp
			1:25P	23.0

Site 4 8-24-93
lechate

Date	Piro Depth	Post Depth	Time	Temp
			1:40P	30.0

PH Cond Tow, Tow

PH	Cond	Tow	Tow
7.8	280		
7.8	270		
8.0	280		
8.1	270		
7.1	N2		
6.9	710		

TOWN TOWN

8-2	8-24-93	PRP	POST	Time	Temp	Alt	Cond
W	Date	Depth	Depth				
	8-24-93	26.5	26.56	10:25A	24.5	5.8	380
					24.5	5.8	320
					20.5	5.8	400
					21.0	5.7	380
	8-24-93	53.67	53.73	10:40A	19	7.2	330
					20	6.6	340
					17	6.6	350
					20	6.6	340
	8-24-93	53.27	53.73	11:00A	19.5	6.8	340
					20.0	6.7	340
					19.5	6.6	350
					18.5	6.6	350
	8-24-93	104.74	105.20	11:50A	20.5	6.6	530
					21.5	6.0	530
					22.0	6.1	530
					22.0	6.1	530
	8-24-93	32.65	32.97	12:25P	22.0	7.1	320
					22.0	6.6	330
					20.5	6.6	320
					20.5	6.5	340