ANNUAL REPORT

1995

Refuse Hideaway Landfill
Town of Middleton
Dane County, Wisconsin

Prepared For:

Wisconsin Department of Natural Resources
101 South Webster Street
Madison, Wisconsin

Prepared by:

Terra Engineering and Construction Corp.
2201 Vondron Road
Madison, Wisconsin

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TERRA
▲ ENGINEERING & CONSTRUCTION CORPORATION ▲
ENVIRONMENTAL REMEDIATION
MUNICIPAL & UTILITY CONSTRUCTION
SPECIALTY EARTHWORK

February 12, 1996

Wisconsin Department of
Natural Resources
Environmental Response and
Repair Section
Bureau of Solid and Hazardous
Waste Management
101 South Webster Street,
GEF II, SE/3
Madison, Wisconsin 53707

Attn: Ms. Theresa Evanson

Re: Operation and Maintenance
Summary - Annual Report 1995
Landfill Gas and Leachate
Extraction System
Refuse Hideaway Landfill -
Middleton, Wisconsin
Terra Job #468

Dear Ms. Evanson:

This report summarizes operation and maintenance (O&M) activities performed by Terra Engineering & Construction Corporation (Terra), during 1995 at the Refuse Hideaway Landfill.

Included in this report are five (5) tables which summarize gas extraction well monitoring, gas probe monitoring, leachate head monitoring, leachate/condensate loadout volumes and monthly alarm conditions encountered. Also included are the leachate analytical results for Quarterly and Annual sampling events as well as the "Waste Characterization and Confirmatory" soil sample analytical results from the leachate tank overfill event. A brief discussion of each aspect of the gas and leachate extraction system including notable highlights are presented in the following sections. Previously submitted reports can be referenced for further details.

Alarms/Remedial Action

There was a total of eighty-one (81) alarm conditions alerted and two (2) manual shut downs during 1995 (SEE TABLE 5).

Of the eighty-one (81) alarms, six (6) were attributed to power interruptions due to thunderstorms in the area. There were two (2) high leachate alarms, one (1) low temperature alarm and one (1) erroneous general alarm. The remaining seventy-one (71) alarms for flame failure were like due to one of the following: vacuum switch failure, low flare inlet pressure or failure of the Honeywell UDC 3000 controller.

Efforts to decrease blower/flare down time included the inspection of the following:

- Vacuum Switches (March 1995)
- Thermocouple (March 1995)

2201 VONDRON ROAD
MADISON, WI 53704-6795
608/221-3501 PHONE
608/221-4075 FAX

- Vacuum Blower (May 1995)
- Driplegs between Blower and Flare (May 1995)
- Pressure Relief Valve (May 1995)
- Honeywell UDC 3000 Controller (July 1995)
- Red Jack Tank Control Panel (June 1995)
- Electrical System (December 1995)

The results of the above mentioned inspections were as follows:

- Vacuum switches were inspected due to repeated blower/flare shut downs suspected to be due to vacuum loss. The switches were found to be corroded beyond repair. It was decided to take the switches out of service by installing a "jumper wire" in the control panel. This was done on March 31, 1995.
- Thermocouple was inspected due to erratic temperatures observed. Found to be slightly corroded but in working order.
- Vacuum blower was inspected to determine cause for low inlet pressure to the flare. New seals were installed 06/08/95 and the new belts were installed 06/15/95.
- Driplegs and pressure relief valve were inspected to determine the cause for low inlet pressure to the flare. Both found to be in working order.
- Honeywell UDC 3000 Controller was inspected and the control parameter adjusted to maintain flare operation. Mr. John Gwinn of Linklater Corporation was contacted and suggested that "dirty electricity" could cause the controller to "forget" what temperature it is trying to maintain. A new controller unit and metal oxide veristors were purchased and installed on 10/31/95 to protect the new unit from this problem. Minor adjustments to the new unit continue, however, the blower and flare have run more consistently since the replacement controller was installed. The original unit is currently being "bench tested" at Linklater Corporation.
- Red Jacket Leachate Tank Control Panel was inspected due to continued erroneous high leachate and tank leak alarm. The panel was found to be in working order, however, an electrical inspection found the sensor to be faulty. Electrical System Inspection was performed as the leachate extraction pumps continued to "short-out". The integrity of the electric lines to the gas wells with pumps are in working order. The problem appears to be in the individual control panels and pumps. Terra has submitted a cost to repair existing system as well as a cost to upgrade the system (January 11, 1996) as these problems have been recurring.

Repairs to the pumping system are currently pending on the Wisconsin Department of Natural Resources decision to either repair or upgrade the current system.

Gas Extraction System

Table 1 is an annual summary of the month data collected from the blower/flare and from each of the thirteen (13) wells. The gas well monitoring for the month of September, 1995 was omitted due to extended blower/flare down time.

The valves at gas wells GW-1 and GW-2 remained closed through-out the year due to high oxygen content and minimal gas production ie., no positive pressure was observed with the control valves closed. Upon opening the control valves, the system would shut down likely due to the dilution of the landfill gas.

The control valve at GW-8 was closed from July 11, 1995 to December 22, 1995 as the leachate extraction pump had been removed for inspection and the well was allowed to passively vent. As a result of the closed valve, condensate had accumulated and froze in the 3-inch pipe between the well and the header. A blind flange was installed on the well and a new 3-inch pipe was installed between the well and header to allow gas to flow to the flare. The extraction pump remains out of the well as replacement lead wires may be necessary. Repairs of the pumping system at GW-8 are pending WDNR approval.

Leachate Extraction System

Table 3 is an annual summary of leachate head measurements. Through out the year, there have been sporadic problems with the leachate extraction system. Problems typically involve the electric power from the pump controls to the pumps. An electrical inspection did show the electrical system to the control panels was in working order.

The following is a summary of work performed on the leachate extraction system.

February 1995: Pumps and control panels inspected at GW-5, GW-9 and GW-11.

Pump 5 had experienced run-on, inspection found pump to be in working order.

Pump 9 discharge hose had deteriorated, new hose was installed.

Pump 11 had a faulty coyote pump control, a motor minder pump control was purchased and installed on March 13, 1995.

March 1995: Pump hour meter in GW-9 was found to be faulty. A new hour meter and conductor were purchased and installed.

April 1995: Hour meters at gas wells GW-8, GW-9 and GW-12 indicate continuous pumping.

May 1995: Pumps at gas wells GW-8, GW-9 and GW-12 were pulled for inspection. The lead wires were found to be broken at GW-12. New lead wires were installed.

GW-9 discharge hose had slipped off stab fitting. Discharge hose re-fitted to stub fitting.

GW-8 pump found to be in working order, however, following replacement of pump, the motor minder would not reset.

July 1995: GW-8 pump removed and the pigtail lead wire discovered to be broken. New pigtail was purchased and installed.

August 1995: No power to the pumps at gas well GW-11. Hour meter at GW-9 indicates zero run time. Franklin starter shorted out at GW-13. Fuses blown at gas wells GW-4, GW-5 and GW-12.

November 1995: Electrical inspection yields the following:

Franklin motor starters need to be replaced at gas wells GW-4, GW-5, GW-9, GW-12 and GW-13.

Pump and leadwire require visual inspection at gas wells GW-4, GW-5, GW-7, GW-8, GW-9, GW-12 and GW-13.

A "short" at gas well GW-9 was found to be the cause for continued tripping of the circuit breaker at the main electrical panel.

December 1995: The annual leachate condensate conveyance line cleaning is performed by Visu-Sewer (cleaning report attached to Table 4).

Gas Probes

Table 2 is an annual summary of the monthly gas probe readings. The only gas probes that exhibited any methane reading were GP-11s, GP-11d, GP-1s, GP-1d, GP-6 and GP-9.

Gas probes GP-11s and GP-11d have historically shown methane readings exceeding 100% of the lower explosive limit (LEL) in a cyclical basis. Typically during the period from the end of May to the end of September.

Gas probe GP-1s showed methane contents exceeding 100% of the LEL during the monthly monitoring events for July, August and September. Gas probe GP-1d exhibited lesser quantity of methane during the July and August monitoring events.

Gas probe GP-6 showed 0.2% methane by volume during the June monthly monitoring and gas probe GP-9 exhibited 0.4% and 0.1% methane by volume during the March and April monitoring events.

The methane readings in gas probes GP-1s and GP-1d may be attributed to extended blower/flare down time during those months.

The methane readings at gas probes GP-6 and GP-9 during the months of March, April and June may be erroneous.

The WDNR was contacted and informed of the gas probe readings following the monthly monitoring events.

Leachate/Condensate Loadout

Table 4 contains a summary of leachate/condensate loadout as well as a copy of the pumping report provided by Al's Modern Sewer Service.

On June 20, 1995, the leachate condensate collection tank overfilled. The leachate had accumulated on the loadout pad and some had spilled into adjacent soils. A report describing the release and response was submitted to the WDNR on September 29, 1995.

Analytical Results

Appendix 1 contains the Quarterly and Annual Leachate Analytical results. Appendix 2 contains the Waste Characterization and Confirmatory Analytical results from the soils contaminated with leachate during the June 1995 tank overfilling event.

Leachate continues to be disposed of at the Madison Metropolitan Sewerage District under permit NT05B which expired September 25, 1995. A request for a permit extension was made in early 1996. A copy of the discharge permit is attached as Appendix 3.

If you have any questions or comments, please do not hesitate to contact us.

Sincerely,
TERRA ENGINEERING & CONSTRUCTION CORP.

Kirk Solberg,
Environmental Geologist

TABLE 1

GAS EXTRACTION

MONITORING SUMMARY

REFUSE HIDEAWAY LANDFILL
GROUND FLARE INLET SAMPLE PORT MONITORING

DATE	PRESSURE (in. WC)	METHANE (%CH4)	OXYGEN (%02)	CARBON DIOXIDE (%CO2)	FLOW (cfm)	FLOW (scfm)	METHANE FLOW (cfm)[1]	GAS TEMP. (F)
02-03-95	+2.5	50.9	0.3	36.6	314.5	323.6	160.1	57.1
03-03-95	+2.5	46.1	0.7	34.5	407	420.7	187.6	60.0
03-31-95	+2.0	45.8	0.7	33.0	397.8	404	182.2	67.5
05-04-95	+2.0	49.2	0.7	40.9	379.3	380.7	195.5	73.7
06-02-95	+2.8	49.6	0.0	48.5	434	426.2	215.3	84.3
06-27-95	+4.0	52.3	0.0	47.3	416.3	402.7	217.7	91.2
08-04-95	+4.0	41.1	1.6	36.3	453.3	434.5	186.3	98.6
09-01-95	+3.0	55.4	0.6	39.4	416.3	416.9	230.6	76.4
09-29-95	+4.0	57.0	1.1	42.0	518	517.2	295.3	77.3
11-07-95	+2.5	55.2	0.9	40.9	425.5	432.7	234.9	63.5
12-13-95	+4.0	NA	NA	NA	351.5	NA	NA	56.1
01-04-96	+2.5	53.1	0.9	43.4	296	309.1	157.2	51.6

(1) Calculated from (% Methane) x (Flow (cfm))

NA: Not Available

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REFUSE HIDEAWAY LANDFILL GAS EXTRACTION SYSTEM-WELL HEAD MONITORING

WELL NUMBER: GW-1

DATE	HEADER PRESSURE (IN W.C.)	WELL PRESSURE (IN W.C.)	GAS TEMP. (F)	METHANE (%CH4)	OXYGEN (%02)	CARBON DIOXIDE (%CO2)	BALANCE (%)	VELOCITY (FT/MIN)	CALCULATED (1) FLOW (CFM)	METHANE FLOW (CFM)
02-03-95	-18.0	0.0	37.2	10.6	18.2	12.5	58.7	0	0	0
03-03-95	-17.0	0.0	46.1	10.4	18.2	12.7	58.7	0	0	0
03-31-95	-20.0	0.0	47.2	10.1	18.5	12.7	58.7	0	0	0
05-04-95	-23.0	0.0	61.7	10.1	18.5	12.8	58.6	0	0	0
06-02-95	-23.0	0.0	62.3	10.2	19.1	12.5	58.2	0	0	0
06-27-95	-21.0	0.0	75.0	18.8	12.3	16.0	53.2	0	0	0
08-04-95	-21.0	0.0	91.6	15.7	15.5	11.7	56.6	0	0	0
09-01-95	-21.0	0.0	75.2	15.7	15.7	11.4	57.5	0	0	0
10-05-95	(2) NO READINGS									
11-07-95	-22.0	0.0	41.0	18.8	12.3	16.0	53.2	0	0	0
12-13-95	-24.0	0.0	57.3	3.7	18.6	5.1	72.6	0	0	0
01-04-96	-24.0	0.0	22.1	3.6	18.4	4.4	73.6	0	0	0

(1) Calculated Flow = Velocity (FPM) x .045
(2) No Well Monitoring due to numerous Blower/Flare shut downs caused by Faulty Controller.
NA: Not Available

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REFUSE HIDEAWAY LANDFILL GAS EXTRACTION SYSTEM-WELL HEAD MONITORING

WELL NUMBER: GW-2

DATE	HEADER PRESSURE (IN W.C.)	WELL PRESSURE (IN W.C.)	GAS TEMP. (F)	METHANE (%CH4)	OXYGEN (%O2)	CARBON DIOXIDE (%CO2)	BALANCE (%)	VELOCITY (FT/MIN)	CALCULATED (1) FLOW (CFM)	METHANE FLOW (CFM)
02-03-95	-18.0	0.0	38.5	8.7	19.5	7.4	64.4	0	0	0
03-03-95	-17.0	0.0	47.3	9.3	19.3	10.2	61.2	0	0	0
03-31-95	-20.0	0.0	47.0	9.6	19.4	10.0	61.0	0	0	0
05-04-95	-23.0	0.0	62.5	11.2	19.2	10.7	58.9	0	0	0
06-02-95	-23.0	0.0	62.0	11.5	18.3	11.1	59.1	0	0	0
06-27-95	-21.0	0.0	68.5	20.0	11.7	18.0	51.0	0	0	0
08-04-95	-21.0	0.0	81.3	2.0	21.5	1.1	75.5	0	0	0
09-01-95	-21.0	0.0	75.2	4.3	20.5	8.5	67.1	0	0	0
10-05-95	(2) NO READINGS									
11-07-95	-22.0	0.0	41.0	20.0	11.0	18.0	51.0	0	0	0
12-13-95	-24.0	0.0	57.3	3.1	18.2	5.2	73.3	0	0	0
01-04-96	-24.0	0.0	22.0	3.7	18.1	6.1	72.1	0	0	0

(1) Calculated Flow = Velocity (FPM) x .045
(2) No Well Monitoring due to numerous Blower/Flare shut downs caused by Faulty Controller.
NA: Not Available

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REFUSE HIDEAWAY LANDFILL GAS EXTRACTION SYSTEM-WELL HEAD MONITORING

WELL NUMBER: GW-3

DATE	HEADER PRESSURE (IN W.C.)	WELL PRESSURE (IN W.C.)	GAS TEMP. (F)	METHANE (%CH4)	OXYGEN (%O2)	CARBON DIOXIDE (%CO2)	BALANCE (%)	VELOCITY (FT/MIN)	CALCULATED (1) FLOW (CFM)	METHANE FLOW (CFM)
02-03-95	-18.0	0.0	59.3	54.9	0.0	36.6	8.7	1400	63.0	34.6
03-03-95	-17.0	-1.0	58.6	54.0	0.8	36.6	8.0	850	38.3	20.7
03-31-95	-20.0	-1.0	60.0	56.2	1.0	36.5	5.5	1250	56.3	31.6
05-04-95	-23.0	-3.0	63.3	54.2	0.0	46.1	0.3	1450	62.3	35.4
06-02-95	-23.0	-6.0	63.5	54.1	0.0	45.9	0.0	1100	49.5	26.8
06-27-95	-21.0	-4.0	68.3	58.0	0.0	42.0	0.0	950	42.8	24.8
08-04-95	-21.0	-4.0	72.0	34.7	2.6	37.9	24.4	1000	45.0	15.6
09-01-95	-21.0	-4.0	75.4	38.6	1.8	39.6	18.4	600	27.0	10.4
10-05-95	(2) NO READINGS									
11-07-95	-22.0	-1.0	60.4	59.8	0.7	39.6	0.0	1150	51.8	30.9
12-13-95	-24.0	-2.0	65.0	48.9	1.4	35.4	14.1	1500	67.5	33.0
01-04-96	-24.0	-2.0	67.6	63.7	0.9	35.2	0.0	1250	56.3	35.8

(1) Calculated Flow = Velocity (FPM) x .045
(2) No Well Monitoring due to numerous Blower/Flare shut downs caused by Faulty Controller.
NA: Not Available

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REFUSE HIDEAWAY LANDFILL GAS EXTRACTION SYSTEM-WELL HEAD MONITORING

WELL NUMBER: GW-4

DATE	HEADER PRESSURE (IN W.C.)	WELL PRESSURE (IN W.C.)	GAS TEMP. (F)	METHANE (%CH4)	OXYGEN (%O2)	CARBON DIOXIDE (%CO2)	BALANCE (%)	VELOCITY (FT/MIN)	CALCULATED (1) FLOW (CFM)	METHANE FLOW (CFM)
02-03-95	-19.0	0.0	72.1	50.0	0.0	33.7	16.6	200	9.0	4.5
03-03-95	-17.0	-5.0	60.0	42.4	1.0	34.7	21.6	500	22.5	9.5
03-31-95	-19.5	-7.0	58.1	46.8	1.1	34.8	15.1	450	20.3	9.5
05-04-95	-23.0	-10.0	65.0	54.1	0.3	45.8	0.0	200	9.0	4.9
06-02-95	-24.0	-14.0	62.0	53.6	0.0	46.4	0.0	600	27.0	14.5
06-27-95	-22.0	-12.0	76.6	55.3	0.0	44.7	0.0	900	40.5	22.4
08-04-95	-22.0	-10.0	80.0	37.1	1.7	42.2	19.4	800	36.0	13.4
09-01-95	-22.0	-10.0	81.3	41.0	1.2	42.3	13.7	800	36.0	14.8
10-05-95	(2) NO READINGS									
11-07-95	-21.0	-11.0	66.0	51.0	1.0	39.4	9.7	550	24.8	12.6
12-13-95	-25.0	-16.0	70.0	37.7	1.7	30.3	29.9	800	36.0	7.3
01-04-96	-24.0	-15.0	66.0	48.5	1.5	44.1	5.4	1000	45.0	21.8

(1) Calculated Flow = Velocity (FPM) x .045
(2) No Well Monitoring due to numerous Blower/Flare shut downs caused by Faulty Controller.
NA: Not Available

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REFUSE HIDEAWAY LANDFILL GAS EXTRACTION SYSTEM-WELL HEAD MONITORING

WELL NUMBER: GW-5

DATE	HEADER PRESSURE (IN W.C.)	WELL PRESSURE (IN W.C.)	GAS TEMP. (F)	METHANE (%CH4)	OXYGEN (%02)	CARBON DIOXIDE (%CO2)	BALANCE (%)	VELOCITY (FT/MIN)	CALCULATED (1) FLOW (CFM)	METHANE FLOW (CFM)
02-03-95	-20.0	-18.0	73.5	44.1	2.9	32.2	21.2	600	27.0	11.9
03-03-95	-16.0	-16.0	64.9	44.3	3.4	35.1	16.1	750	33.8	14.9
03-31-95	-19.0	-19.0	60.0	45.1	3.9	33.0	19.3	400	18.0	8.1
05-04-95	-22.0	-21.0	66.5	40.0	4.0	37.0	20.6	200	9.0	3.6
06-02-95	-23.0	-20.0	73.0	44.0	2.6	46.3	7.4	500	22.5	9.9
06-27-95	-20.0	-17.0	80.5	45.8	2.1	51.8	0.0	550	24.8	11.3
08-04-95	-21.0	-12.0	85.6	42.2	4.6	42.5	11.2	775	34.9	14.7
09-01-95	-21.0	-12.0	85.7	40.1	3.8	41.7	14.4	800	36.0	14.4
10-05-95	(2) NO READINGS									
11-07-95	-21.0	-19.0	75.0	44.0	4.6	36.0	16.0	700	31.5	13.9
12-13-95	NA	-18.0	70.1	40.5	4.7	28.4	25.7	400	18.0	7.3
01-04-96	-24.0	-18.0	64.0	47.8	4.1	41.0	7.3	500	22.5	10.7

(1) Calculated Flow = Velocity (FPM) x .045
(2) No Well Monitoring due to numerous Blower/Flare shut downs caused by Faulty Controller.
NA: Not Available

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REFUSE HIDEAWAY LANDFILL GAS EXTRACTION SYSTEM-WELL HEAD MONITORING

WELL NUMBER: GW-6

DATE	HEADER PRESSURE (IN W.C.)	WELL PRESSURE (IN W.C.)	GAS TEMP. (F)	METHANE (%CH4)	OXYGEN (%02)	CARBON DIOXIDE (%CO2)	BALANCE (%)	VELOCITY (FT/MIN)	CALCULATED (1) FLOW (CFM)	METHANE FLOW (CFM)
02-03-95	-18.0	0.0	56.0	55.3	0.0	40.9	4.0	0	0.0	0.0
03-03-95	-18.0	-2.0	50.0	47.7	0.2	37.0	15.3	500	22.5	10.7
03-31-95	-15.0	-1.0	47.0	43.5	0.2	34.9	21.6	200	9.0	3.9
05-04-95	-16.0	-1.0	65.3	45.5	0.0	43.9	10.4	200	9.0	4.1
06-02-95	-21.0	-5.0	69.2	46.0	0.0	50.2	3.9	600	27.0	12.4
06-27-95	-23.0	-5.0	75.7	58.2	0.0	41.6	0.0	600	27.0	15.7
08-04-95	-25.0	-4.0	85.4	46.4	0.9	43.6	9.3	650	29.3	13.6
09-01-95	-25.0	-4.0	88.4	43.2	0.6	42.4	14.3	700	31.5	13.6
10-05-95	(2) NO READINGS									
11-07-95	-21.0	-1.0	65.0	60.0	1.0	39.1	0.0	800	36.0	21.6
12-13-95	NA	NA	60.9	NA	NA	NA	NA	650	29.2	NA
01-04-96	-30.0	-4.0	59.7	47.3	0.3	45.5	7.7	600	27.0	12.8

(1) Calculated Flow = Velocity (FPM) x .045
(2) No Well Monitoring due to numerous Blower/Flare shut downs caused by Faulty Controller.
NA: Not Available

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REFUSE HIDEAWAY LANDFILL GAS EXTRACTION SYSTEM-WELL HEAD MONITORING

WELL NUMBER: GW-7

DATE	HEADER PRESSURE (IN W.C.)	WELL PRESSURE (IN W.C.)	GAS TEMP. (F)	METHANE (%CH4)	OXYGEN (%O2)	CARBON DIOXIDE (%CO2)	BALANCE (%)	VELOCITY (FT/MIN)	CALCULATED (1) FLOW (CFM)	METHANE FLOW (CFM)
02-03-95	-16.5	-16.5	56.0	52.8	0.0	38.3	9.3	700	31.5	16.6
03-03-95	-17.0	-17.0	78.0	51.9	0.4	36.4	12.4	1000	45.0	23.4
03-31-95	-15.0	-15.0	63.0	56.1	0.1	37.4	6.3	800	36.0	20.2
05-04-95	-16.0	-16.0	76.6	57.4	0.1	42.3	0.0	600	27.0	15.5
06-02-95	-21.0	-21.0	74.1	59.1	0.0	41.0	0.0	900	40.5	23.9
06-27-95	-24.0	-23.5	82.4	60.0	0.0	40.0	0.0	750	33.8	20.3
08-04-95	-25.0	-25.0	83.4	50.9	0.7	42.6	4.3	1050	47.3	24.1
09-01-95	-25.0	-25.0	86.4	46.3	0.5	43.5	9.3	1150	51.8	24.0
10-05-95	(2) NO READINGS									
11-07-95	-25.0	-25.0	72.0	57.5	0.9	41.0	1.0	800	36.0	20.7
12-13-95	-28.0	-28.0	72.0	50.9	1.5	34.5	13.1	1300	58.5	29.8
01-04-96	-28.0	-28.0	60.5	62.8	0.0	37.0	0.0	600	27.0	16.9

(1) Calculated Flow = Velocity (FPM) x .045
(2) No Well Monitoring due to numerous Blower/Flare shut downs caused by Faulty Controller.
NA: Not Available

REFUSE\cim02.tab

REFUSE HIDEAWAY LANDFILL GAS EXTRACTION SYSTEM-WELL HEAD MONITORING

WELL NUMBER: GW-8

DATE	HEADER PRESSURE (IN W.C.)	WELL PRESSURE (IN W.C.)	GAS TEMP. (F)	METHANE (%CH4)	OXYGEN (%O2)	CARBON DIOXIDE (%CO2)	BALANCE (%)	VELOCITY (FT/MIN)	CALCULATED (1) FLOW (CFM)	METHANE FLOW (CFM)
02-03-95	-16.5	-12.5	84.0	58.1	0.0	41.7	0.2	350	15.8	9.2
03-03-95	-18.0	-18.0	88.0	55.7	1.2	40.2	2.2	500	22.5	12.5
03-31-95	-14.0	-14.0	74.0	62.4	0.8	37.1	0.0	350	15.8	9.8
05-04-95	-16.0	-16.0	80.6	55.0	0.4	44.5	0.0	200	9.0	4.9
06-02-95	-21.0	-21.0	82.0	56.7	0.0	43.2	0.0	400	18.0	10.2
06-27-95	-24.0	-24.0	84.5	58.0	0.0	42.0	0.0	500	22.5	13.0
08-04-95	WELL	UNDER REPAIR						0	0.0	0.0
09-01-95	WELL	UNDER REPAIR						0	0.0	0.0
10-05-95	(2) NO READINGS									
11-07-95	WELL	UNDER REPAIR						0	0.0	0.0
12-13-95	WELL	UNDER REPAIR						0	0.0	0.0
01-04-96	-28.0	-8.0	23.5	66.6	0.8	32.7	0.0	400	18.0	12.0

(1) Calculated Flow = Velocity (FPM) x .045
(2) No Well Monitoring due to numerous Blower/Flare shut downs caused by Faulty Controller.
NA: Not Available

REFUSE\cim02.tab

REFUSE HIDEAWAY LANDFILL GAS EXTRACTION SYSTEM-WELL HEAD MONITORING

WELL NUMBER: GW-9

DATE	HEADER PRESSURE (IN W.C.)	WELL PRESSURE (IN W.C.)	GAS TEMP. (F)	METHANE (%CH4)	OXYGEN (%02)	CARBON DIOXIDE (%CO2)	BALANCE (%)	VELOCITY (FT/MIN)	CALCULATED (1) FLOW (CFM)	METHANE FLOW (CFM)
02-03-95	-15.0	-15.0	76.4	57.8	0.0	36.9	5.2	200	9.0	5.2
03-03-95	-14.0	-13.0	93.1	60.0	0.2	39.8	0.0	550	24.8	14.9
03-31-95	-14.5	-14.5	65.0	63.2	0.2	36.5	0.0	600	27.0	17.1
05-04-95	-16.0	-16.0	72.8	57.3	0.1	43.0	0.0	900	40.5	23.2
06-02-95	-20.0	-19.0	85.4	40.8	4.1	40.4	15.0	400	18.0	7.3
06-27-95	-23.0	-21.0	85.8	41.7	3.2	46.3	9.1	500	22.5	9.4
08-04-95	-25.0	-22.0	88.1	52.7	0.9	46.0	0.0	200	9.0	4.7
09-01-95	-25.0	-25.0	86.4	51.7	0.6	47.7	0.4	300	13.5	7.0
10-05-95	(2) NO READINGS									
11-07-95	-25.0	-25.0	82.0	60.4	1.0	38.6	0.0	400	18.0	10.9
12-13-95	-28.0	NA	70.7	NA	NA	NA	NA	1000	45.0	NA
01-04-96	-27.0	-27.0	66.7	71.4	1.1	28.0	0.0	400	18.0	12.8

(1) Calculated Flow = Velocity (FPM) x .045
(2) No Well Monitoring due to numerous Blower/Flare shut downs caused by Faulty Controller.
NA: Not Available

REFUSE\cim02.tab

REFUSE HIDEAWAY LANDFILL GAS EXTRACTION SYSTEM-WELL HEAD MONITORING

WELL NUMBER: GW-10

DATE	HEADER PRESSURE (IN W.C.)	WELL PRESSURE (IN W.C.)	GAS TEMP. (F)	METHANE (%CH4)	OXYGEN (%02)	CARBON DIOXIDE (%CO2)	BALANCE (%)	VELOCITY (FT/MIN)	CALCULATED (1) FLOW (CFM)	METHANE FLOW (CFM)
02-03-95	-22.0	0.0	90.0	54.0	0.0	39.9	6.4	200	9.0	4.9
03-03-95	-20.0	-4.0	106.7	40.3	0.0	32.0	27.4	550	24.8	10.0
03-31-95	-21.0	-5.0	104.5	42.3	0.5	33.1	25.1	600	27.0	11.4
05-04-95	-22.0	-6.0	100.5	41.9	0.0	45.0	13.2	400	18.0	7.5
06-02-95	-22.0	-6.0	102.0	44.3	0.0	50.0	5.9	750	33.7	14.9
06-27-95	-22.5	-5.0	103.6	58.4	0.0	41.6	0.0	600	27.0	15.7
08-04-95	-22.0	-22.0	106.3	38.1	0.9	44.0	17.7	600	27.0	10.3
09-01-95	-22.0	-22.0	104.3	37.6	0.6	40.3	20.1	550	24.8	9.3
10-05-95	(2) NO READINGS									
11-07-95	-25.0	-3.0	93.0	54.8	1.0	42.5	2.4	400	18.0	9.9
12-13-95	-26.0	-2.0	100.0	32.7	0.7	31.0	35.9	400	18.0	5.9
01-04-96	-28.0	-4.0	96.5	44.4	0.2	44.7	10.8	200	9.0	4.0

(1) Calculated Flow = Velocity (FPM) x .045
(2) No Well Monitoring due to numerous Blower/Flare shut downs caused by Faulty Controller.
NA: Not Available

REFUSE\cim02.tab

REFUSE HIDEAWAY LANDFILL GAS EXTRACTION SYSTEM-WELL HEAD MONITORING

WELL NUMBER: GW-11

DATE	HEADER PRESSURE (IN W.C.)	WELL PRESSURE (IN W.C.)	GAS TEMP. (F)	METHANE (%CH4)	OXYGEN (%O2)	CARBON DIOXIDE (%CO2)	BALANCE (%)	VELOCITY (FT/MIN)	CALCULATED (1) FLOW (CFM)	METHANE FLOW (CFM)
02-03-95	-20.0	-20.0	57.3	60.2	0.0	35.2	4.9	400	18.0	10.8
03-03-95	-20.0	-20.0	75.3	60.7	0.5	36.7	2.4	650	29.3	17.8
03-31-95	-20.0	-20.0	73.3	65.2	0.5	33.8	0.0	1000	45.0	29.3
05-04-95	-23.0	-23.0	75.0	60.6	0.1	39.4	0.0	500	22.5	13.6
06-02-95	-20.0	-20.0	71.4	56.1	0.0	44.2	0.0	500	22.5	12.6
06-27-95	-22.0	-22.0	92.5	60.7	0.0	39.3	0.0	200	9.0	32.7
08-04-95	-23.0	-23.0	89.0	56.7	0.8	42.7	0.0	300	13.5	7.7
09-01-95	-23.0	-23.0	93.4	55.4	0.6	40.1	4.7	450	20.3	11.2
10-05-95	(2) NO READINGS									
11-07-95	-23.0	-23.0	82.0	63.1	0.8	36.3	0.0	650	29.3	18.5
12-13-95	-27.0	-27.0	80.0	58.0	2.1	33.6	7.0	900	40.5	23.5
01-04-96	-26.0	-26.0	77.0	60.7	1.7	24.5	0.6	1150	51.8	31.4

(1) Calculated Flow = Velocity (FPM) x .045
(2) No Well Monitoring due to numerous Blower/Flare shut downs caused by Faulty Controller.
NA: Not Available

REFUSE\cim02.tab

REFUSE HIDEAWAY LANDFILL GAS EXTRACTION SYSTEM-WELL HEAD MONITORING

WELL NUMBER: GW-12

DATE	HEADER PRESSURE (IN W.C.)	WELL PRESSURE (IN W.C.)	GAS TEMP. (F)	METHANE (%CH4)	OXYGEN (%02)	CARBON DIOXIDE (%CO2)	BALANCE (%)	VELOCITY (FT/MIN)	CALCULATED (1) FLOW (CFM)	METHANE FLOW (CFM)
02-03-95	-20.0	-1.0	107.6	49.5	0.0	34.1	16.9	1000	45.0	22.3
03-03-95	-20.0	-2.0	106.5	47.5	0.3	34.8	17.9	800	36.0	17.1
03-31-95	-21.0	-3.0	105.5	35.8	7.0	25.0	33.3	700	31.5	11.3
05-04-95	-21.0	-1.0	103.2	54.3	0.0	45.7	0.0	500	22.5	12.2
06-02-95	-21.0	-12.0	108.3	43.8	0.0	45.6	8.9	1650	74.2	32.5
06-27-95	-22.0	-12.0	109.5	58.8	0.0	43.2	0.0	2200	99.0	58.2
08-04-95	-23.0	-11.0	110.1	35.7	0.8	42.9	21.5	1900	85.5	30.5
09-01-95	-23.0	-5.0	108.8	57.1	0.6	45.1	0.0	800	36.0	20.6
10-05-95	(2) NO READINGS									
11-07-95	-25.0	-5.0	102.0	52.1	0.9	41.1	5.6	650	29.3	15.2
12-13-95	-27.0	-6.0	110.0	36.3	1.2	29.9	33.4	1400	63.0	22.9
01-04-96	-26.0	-8.0	110.0	46.7	0.6	44.1	9.7	900	40.5	18.9

(1) Calculated Flow = Velocity (FPM) x .045
(2) No Well Monitoring due to numerous Blower/Flare shut downs caused by Faulty Controller.
NA: Not Available

REFUSE\cim02.tab

REFUSE HIDEAWAY LANDFILL GAS EXTRACTION SYSTEM-WELL HEAD MONITORING

WELL NUMBER: GW-13

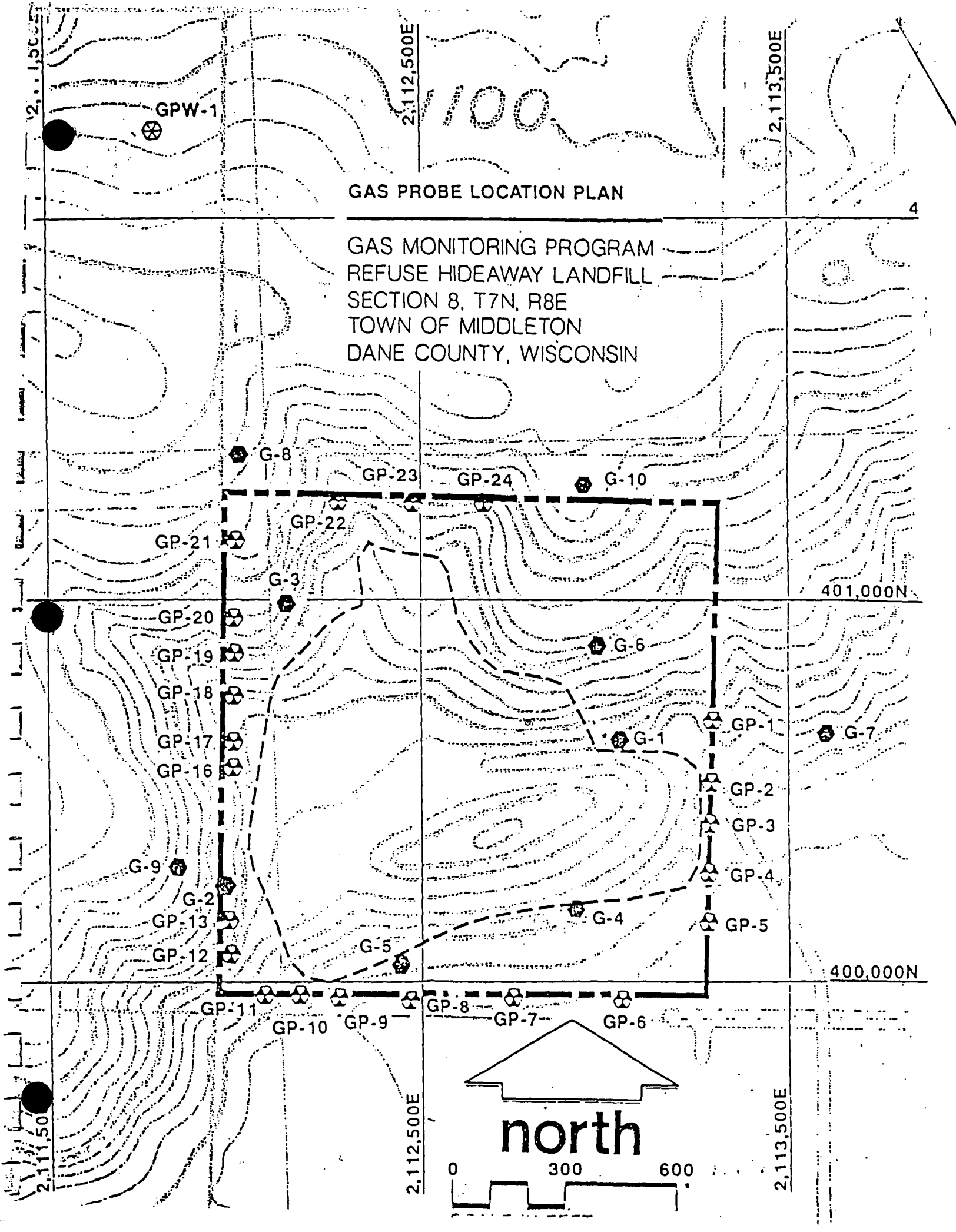
DATE	HEADER PRESSURE (IN W.C.)	WELL PRESSURE (IN W.C.)	GAS TEMP. (F)	METHANE (%CH4)	OXYGEN (%O2)	CARBON DIOXIDE (%CO2)	BALANCE (%)	VELOCITY (FT/MIN)	CALCULATED (1) FLOW (CFM)	METHANE FLOW (CFM)
02-03-95	-20.0	-20.0	80.0	47.1	0.0	38.3	15.2	1200	54.0	25.4
03-03-95	-19.0	-18.0	82.2	49.0	0.2	36.9	13.5	800	36.0	17.6
03-31-95	-21.0	-18.0	80.0	53.4	0.5	37.7	8.6	950	42.8	22.8
05-04-95	-21.0	-21.0	75.3	50.9	0.1	49.1	0.0	1500	67.5	34.4
06-02-95	-20.0	-20.0	72.0	59.2	0.0	40.6	0.0	550	24.7	14.6
06-27-95	-22.0	-22.0	77.7	59.0	0.0	41.0	0.0	900	40.5	23.9
08-04-95	-22.0	-22.0	83.1	54.3	0.9	45.1	0.0	950	42.8	23.2
09-01-95	-22.0	-22.0	87.4	52.7	0.6	43.5	3.5	1050	47.3	24.9
10-05-95	(2) NO READINGS									
11-07-95	-23.0	-21.0	83.0	58.8	1.1	39.8	0.0	1400	63.0	37.0
12-13-95	-27.0	-26.0	74.0	52.4	1.8	40.5	6.2	1000	45.0	23.6
01-04-96	-25.0	-25.0	71.4	63.5	0.4	36.2	0.0	500	22.5	14.3

(1) Calculated Flow = Velocity (FPM) x .045
(2) No Well Monitoring due to numerous Blower/Flare shut downs caused by Faulty Controller.
NA: Not Available

REFUSE\cim02.tab

TABLE 2

GAS PROBE MONITORING SUMMARY


GAS PROBE LOCATION PLAN
GAS MONITORING PROGRAM
REFUSE HIDEAWAY LANDFILL
SECTION 8, T7N, R8E
TOWN OF MIDDLETON
DANE COUNTY, WISCONSIN
GPW-1
G-8
GP-23
GP-24
G-10
GP-22
GP-21
G-3
GP-20
GP-19
GP-18
GP-17
GP-16
G-6
G-1
GP-1
G-7
GP-2
GP-3
GP-4
GP-5
G-9
G-2
GP-13
GP-12
G-4
G-5
GP-11
GP-10
GP-9
GP-8
GP-7
GP-6
401,000N
400,000N
2,112,500E
2,113,500E
north
0
300
600

REFUSE HIDEAWAY LANDFILL
GAS PROBE MONITORING SUMMARY 1995

GAS PROBE G-1S

DATE	PRESSURE (in. WC)	METHANE (%CH4)	METHANE (%LEL)[1]	OXYGEN (%02)
02-02-95	0.0	0.0	0	22.0
03-03-95	0.0	0.0	0	22.0
03-31-95	0.0	0.0	0	21.9
05-04-95	0.0	0.0	0	22.8
05-18-95	0.0	0.0	0	20.8
06-30-95	0.0	0.0	0	20.2
08-04-95	0.0	24.4	>100	1.1
09-05-95	0.0	15.4	>100	7.3
10-05-95	0.0	17.9	>100	1.3
11-06-95	0.0	0.0	0	16.4
12-13-95	0.0	0.0	0	21.3
01-04-96	0.0	0.0	0	19.5

[1] Percent of lower explosive limit of Methane (100% LEL = 5% CH4 by volume)

NA: Not Available
Not Applicable

REFUSE\gaspro95.tbl

REFUSE HIDEAWAY LANDFILL
GAS PROBE MONITORING SUMMARY 1995

GAS PROBE G-1D

DATE	PRESSURE (in. WC)	METHANE (%CH4)	METHANE (%LEL)[1]	OXYGEN (%02)
02-02-95	0.0	0.0	0	22.0
03-03-95	0.0	0.0	0	22.1
03-31-95	0.0	0.0	0	22.9
05-04-95	0.0	0.0	0	22.6
05-18-95	0.0	0.0	0	20.8
06-30-95	0.0	0.0	0	20.5
08-04-95	0.0	15.4	>100	6.3
09-05-95	0.0	8.5	>100	10.5
10-05-95	0.0	0.0	0	20.7
11-06-95	0.0	0.0	0	20.9
12-13-95	0.0	0.0	0	21.2
01-04-96	0.0	0.0	0	19.7

[1] Percent of lower explosive limit of Methane (100% LEL = 5% CH4 by volume)

NA: Not Available
Not Applicable

REFUSE\gaspro95.tbl

REFUSE HIDEAWAY LANDFILL
GAS PROBE MONITORING SUMMARY 1995

GAS PROBE G-6

DATE	PRESSURE (in. WC)	METHANE (%CH4)	METHANE (%LEL)[1]	OXYGEN (%02)
02-02-95	0.0	0.0	0	22.0
03-03-95	0.0	0.0	0	21.6
03-31-95	0.0	0.0	0	23.8
05-04-95	0.0	0.0	0	22.6
05-18-95	0.0	0.0	0	21.2
06-30-95	0.0	0.2	1.0	14.4
08-04-95	0.0	0.0	0	10.2
09-05-95	0.0	0.0	0	15.7
10-05-95	0.0	0.0	0	21.9
11-06-95	0.0	0.0	0	21.4
12-13-95	0.0	0.0	0	20.9
01-04-96	0.0	0.0	0	19.6

[1] Percent of lower explosive limit of Methane (100% LEL = 5% CH4 by volume)

NA: Not Available
Not Applicable

REFUSE\gaspro95.tbl

REFUSE HIDEAWAY LANDFILL
GAS PROBE MONITORING SUMMARY 1995

GAS PROBE G-8

DATE	PRESSURE (in. WC)	METHANE (%CH4)	METHANE (%LEL)[1]	OXYGEN (%02)
02-02-95	0.0	0.0	0	22.1
03-03-95	0.0	0.0	0	21.9
03-31-95	0.0	0.0	0	23.2
05-04-95	0.0	0.0	0	22.8
05-18-95	0.0	0.0	0	21.1
06-30-95	0.0	0.0	0	20.9
08-04-95	0.0	0.0	0	22.5
09-05-95	0.0	0.0	0	22.7
10-05-95	0.0	0.0	0	22.0
11-06-95	0.0	0.0	0	21.5
12-13-95	0.0	0.0	0	20.7
01-04-96	0.0	0.0	0	20.1

[1] Percent of lower explosive limit of Methane (100% LEL = 5% CH4 by volume)

NA: Not Available
Not Applicable

REFUSE\gaspro95.tbl

REFUSE HIDEAWAY LANDFILL
GAS PROBE MONITORING SUMMARY 1995

GAS PROBE G-9

DATE	PRESSURE (in. WC)	METHANE (%CH4)	METHANE (%LEL)[1]	OXYGEN (%02)
02-02-95	0.0	0.0	0	22.2
03-03-95	0.0	0.0	0	18.5
03-31-95	0.0	0.4	8	22.6
05-04-95	0.0	0.1	2	22.7
05-18-95	0.0	0.0	0	20.9
06-30-95	0.0	0.0	0	21.0
08-04-95	0.0	0.0	0	22.7
09-05-95	0.0	0.0	0	22.3
10-05-95	0.0	0.0	0	20.9
11-06-95	0.0	0.0	0	18.1
12-13-95	0.0	0.0	0	16.2
01-04-96	0.0	0.0	0	19.3

[1] Percent of lower explosive limit of Methane (100% LEL = 5% CH4 by volume)

NA: Not Available
Not Applicable

REFUSE\gaspro95.tbl

REFUSE HIDEAWAY LANDFILL
GAS PROBE MONITORING SUMMARY 1995

GAS PROBE G-10

DATE	PRESSURE (in. WC)	METHANE (%CH4)	METHANE (%LEL)[1]	OXYGEN (%02)
02-02-95	0.0	0.0	0	22.0
03-03-95	0.0	0.0	0	21.7
03-31-95	0.0	0.0	0	23.6
05-04-95	0.0	0.0	0	22.6
05-18-95	0.0	0.0	0	21.1
06-30-95	0.0	0.0	0	20.9
08-04-95	0.0	0.0	0	22.6
09-05-95	0.0	0.0	0	22.5
10-05-95	+0.5	0.0	0	22.0
11-06-95	+1.0	0.0	0	21.5
12-13-96	+0.5	0.0	0	20.9
01-04-96	-0.5	0.0	0	19.6

[1] Percent of lower explosive limit of Methane (100% LEL = 5% CH4 by volume)

NA: Not Available
Not Applicable

REFUSE\gaspro95.tbl

REFUSE HIDEAWAY LANDFILL
GAS PROBE MONITORING SUMMARY 1995

GAS PROBE GP-11S

DATE	PRESSURE (in. WC)	METHANE (%CH4)	METHANE (%LEL)[1]	OXYGEN (%02)
02-02-95	0.0	0.0	0	21.9
03-03-95	0.0	0.0	0	21.9
03-31-95	0.0	0.4	8	22.9
05-04-95	0.0	0.0	0	21.2
05-18-95	0.0	0.0	0	19.2
06-30-95	0.0	14.2	>100	0.0
08-04-95	0.0	17.4	>100	1.0
09-05-95	0.0	20.5	>100	0.6
10-05-95	0.0	0.0	0	19.8
11-06-95	0.0	0.0	0	18.5
12-13-95	0.0	0.0	0	20.5
01-04-96	0.0	0.0	0	19.3

[1] Percent of lower explosive limit of Methane (100% LEL = 5% CH4 by volume)

NA: Not Available
Not Applicable

REFUSE\gaspro95.tbl

REFUSE HIDEAWAY LANDFILL
GAS PROBE MONITORING SUMMARY 1995

GAS PROBE GP-11D

DATE	PRESSURE (in. WC)	METHANE (%CH4)	METHANE (%LEL)[1]	OXYGEN (%02)
02-02-95	0.0	0.0	0	21.9
03-03-95	0.0	0.0	0	21.9
03-31-95	0.0	0.3	6	22.6
05-04-95	0.0	0.0	0	22.0
05-18-95	0.0	0.7	1.4	16.3
06-30-95	0.0	29.4	>100	0.0
08-04-95	0.0	23.5	>100	0.8
09-05-95	0.0	28.3	>100	1.5
10-05-95	0.0	5.6	>100	8.2
11-06-95	0.0	0.0	0	20.9
12-13-95	0.0	0.0	0	20.5
01-04-96	0.0	0.0	0	19.4

[1] Percent of lower explosive limit of Methane (100% LEL = 5% CH4 by volume)

NA: Not Available
Not Applicable

REFUSE\gaspro95.tbl

REFUSE HIDEAWAY LANDFILL
GAS PROBE MONITORING SUMMARY 1995

GAS PROBE GPW-1S

DATE	PRESSURE (in. WC)	METHANE (%CH4)	METHANE (%LEL)[1]	OXYGEN (%02)
02-02-95	0.0	0.0	0	20.4
03-03-95	0.0	0.0	0	20.0
03-31-95	0.0	0.0	0	21.3
05-04-95	0.0	0.0	0	22.2
05-18-95	0.0	0.0	0	20.5
06-30-95	0.0	0.0	0	20.7
08-04-95	0.0	0.0	0	21.6
09-05-95	0.0	0.0	0	22.0
10-05-95	0.0	0.0	0	21.2
11-06-95	0.0	0.0	0	20.4
12-13-95	0.0	0.0	0	20.1
01-04-96	0.0	0.0	0	19.4

[1] Percent of lower explosive limit of Methane (100% LEL = 5% CH4 by volume)

NA: Not Available
Not Applicable

REFUSE\gaspro95.tbl

REFUSE HIDEAWAY LANDFILL
GAS PROBE MONITORING SUMMARY 1995

GAS PROBE GPW-1M

DATE	PRESSURE (in. WC)	METHANE (%CH4)	METHANE (%LEL)[1]	OXYGEN (%02)
02-02-95	SLIGHT +	0.0	0	19.3
03-03-95	0.0	0.0	0	19.0
03-31-95	0.0	0.0	0	21.2
05-04-95	0.0	0.0	0	21.2
05-18-95	0.0	0.0	0	21.0
06-30-95	-0.25	0.0	0	20.6
08-04-95	0.0	0.0	0	22.0
09-05-95	0.0	0.0	0	22.3
10-05-95	0.0	0.0	0	19.5
11-06-95	+0.5	0.0	0	18.6
12-13-95	+0.5	0.0	0	18.0
01-04-96	0.0	0.0	0	19.4

[1] Percent of lower explosive limit of Methane (100% LEL = 5% CH4 by volume)

NA: Not Available
Not Applicable

REFUSE\gaspro95.tbl

REFUSE HIDEAWAY LANDFILL
GAS PROBE MONITORING SUMMARY 1995

GAS PROBE GPW-1D

DATE	PRESSURE (in. WC)	METHANE (%CH4)	METHANE (%LEL)[1]	OXYGEN (%02)
02-02-95	SLIGHT +	0.0	0	18.4
03-03-95	0.0	0.0	0	19.7
03-31-95	0.0	0.0	0	20.1
05-04-95	0.0	0.0	0	20.7
05-18-95	0.0	0.0	0	20.0
06-30-95	-0.5	0.0	0	20.7
08-04-95	0.0	0.0	0	22.3
09-05-95	0.0	0.0	0	20.3
10-05-95	+0.5	0.0	0	19.7
11-06-95	+0.5	0.0	0	18.1
12-13-95	+0.5	0.0	0	18.0
01-04-96	0.0	0.0	0	19.4

[1] Percent of lower explosive limit of Methane (100% LEL = 5% CH4 by volume)

NA: Not Available
Not Applicable

REFUSE\gaspro95.tbl

REFUSE HIDEAWAY LANDFILL
GAS PROBE MONITORING SUMMARY 1995

GAS PROBE - SCALE HOUSE

DATE	PRESSURE (in. WC)	METHANE (%CH4)	METHANE (%LEL)[1]	OXYGEN (%02)
02-02-95	NA	0.0	0	22.0
03-03-95	NA	0.0	0	22.4
03-31-95	NA	NA	NA	NA
05-04-95	NA	NA	NA	NA
05-18-95	NA	0.0	0	21.3
06-30-95	NA	0.0	0	21.5
08-04-95	NA	0.0	0	22.5
09-05-95	NA	0.0	0	22.5
10-05-95	NA	0.0	0	20.9
11-06-95	NA	0.0	0	22.8
12-13-95	NA	0.0	0	21.4
01-04-96	NA	0.0	0	20.0

[1] Percent of lower explosive limit of Methane (100% LEL = 5% CH4 by volume)

NA: Not Available
Not Applicable

REFUSE\gaspro95.tbl

TABLE 3

LEACHATE HEAD SUMMARY

REFUSE HIDEWAY LANDFILL
LEACHATE HEAD MONITORING
SUMMARY 1995

DATE	LEACHATE HEAD (FEET)												
	GW-1	GW-2	GW-3	GW-4 (1)	GW-5 (1)	GW-6	GW-7 (1)	GW-8 (1)	GW-9 (1)	GW1-10	GW-11 (1)	GW-12 (1)	GW-13 (1)
02-02-95	2.9	4.8	1.0	8.8	15.1	1.3	0.0	0.0	20.2	6.2	19.6	0.0	6.5
03-03-95	2.9	3.8	0.9	8.1	8.8	1.3	0.0	16.7	24.3	6.4	18.5	14.6	8.0
03-31-95	0.0	0.0	0.3	7.3	13.4	1.8	7.8	20.0	0.0	6.9	2.1	18.6	5.8
05-04-95	0.0	0.0	0.7	6.8	16.8	1.2	7.0	21.1	30.6	7.3	0.0	19.7	5.6
05-18-95	0.0	0.0	1.0	7.2	14.5	1.4	0.0	21.9	19.7	7.2	2.1	20.8	10.0
06-30-95	0.4	0.3	1.8	10.6	16.4	1.4	0.0	22.5	5.8	6.8	1.2	0.0	11.2
08-04-95	0.0	0.0	1.0	7.6	16.6	1.1	10.9	22.6	7.3	5.8	9.7	0.0	10.1
09-01-95	0.0	0.0	0.0	7.5	13.3	0.2	0.0	0.0	16.4	6.6	12.1	NA	9.8
10-05-95	0.0	0.0	0.0	7.7	14.6	0.1	0.0	0.0	18.7	4.6	10.3	7.6	6.7
11-01-95	0.1	0.1	0.5	9.3	14.9	1.5	8.5	19.9	17.5	6.6	17.9	19.3	11.5
12-08-95	0.0	0.0	2.8	12.2	12.6	1.5	11.2	0.0	13.3	5.5	9.6	8.5	16.6
01-04-96	0.0	0.0	0.7	10.1	23.7	1.2	11.0	20.5	22.2	7.3	1.8	21.0	11.8

(1) Wells with permanent pumps
N/A: Not Available
N/R: No Response

TABLE 4

LEACHATE / CONDENSATE

LOAD OUT SUMMARY

REFUSE HIDEAWAY LANDFILL
LEACHATE LOADOUT SUMMARY FOR 1995

DATE	GALLONS	MONTHLY TOTAL (Gals)	
01-06-95	2,349		
01-09-95	2,532		
01-11-95	2,051		
01-12-95	2,572		
01-17-95	2,648		
01-27-95	5,214		
01-30-95	3,614	JANUARY	20,980
02-03-95	4,345		
02-03-95	4,249		
02-07-95	4,533		
02-07-95	5,257		
02-09-95	3,471		
02-17-95	4,214		
02-28-95	3,625	FEBRUARY	29,694
03-14-95	3,468		
03-15-95	2,038	MARCH	5,506
04-05-95	4,122		
04-05-95	4,472		
04-17-95	4,306		
04-17-95	4,214		
04-24-95	4,569		
04-25-95	4,472	APRIL	26,155
05-01-95	3,739		
05-01-95	4,243		
05-09-95	3,580		
05-09-95	2,663		
05-19-95	4,142		
05-31-95	4,800	MAY	23,167
06-01-95	9,000		
06-09-95	4,500		
06-20-95	20,000		

VISU-SEWER CLEAN & SEAL, INC.

W230 N4855 Betker Road • Pewaukee, Wisconsin 53072
414-695-2340 FAX 414-695-2359 1-800-876-8478

December 28, 1995

Terra Engineering & Construction
2201 Vondron Road
Madison, WI 53704-6795

Attn: Kirk J. Solberg

RE: Refuse Hideaway Landfill

Dear Kirk:

Please find enclosed the cleaning report for the above referenced project. Please accept our apologies for the delay.

Sincerely,

VISU-SEWER CLEAN & SEAL, INC.

Phillip S. Romagna

Phillip S. Romagna

Enc.

CLEANING REPORT

VISU-SEWER CLEAN & SEAL, INC.

ROOT TREATMENT REPORT

LOCATION	MANHOLE TO MANHOLE	PIPE SIZE & TYPE	FOOTAGE	CLEANING (L,M,H/TIME)	COMMENTS
Refuse Hideaway Landfill DATE: 12-7-95	GW11P To GW9P GW9P To GW8P GW8P To GW7P GW7P To C.O.4	6" PVC 6" PVC 6" PVC 6" PVC	202' 165' 190' 181'		FOAM GALS
DATE:					FOAM GALS
DATE:					FOAM GALS
DATE:					FOAM GALS
DATE:					FOAM GALS
DATE:					FOAM GALS

PROJECT Refuse Hideaway Landfill	CREW LEADER/EQUIPMENT Dan Anderson	PAGE NO. 1

TABLE 5

ALARM CONDITION

SUMMARY

TABLE 5

REFUSE HIDEAWAY LANDFILL
MONTHLY SUMMARY OF SYSTEM ALARM LOG
Date: JANUARY 1995

Alarm Dates	Alarm Cause	Solution (hours flare not operational)
02/02/94	FLAME FAILURE. CAUSE NOT DETERMINED. ALARMS DISARMED.	TERRA PERSONNEL ON-SITE. RE-START BLOWER/FLARE ALARMS REMAIN DISARMED. (0.5 HRS)

TABLE 5

REFUSE HIDEAWAY LANDFILL
MONTHLY SUMMARY OF SYSTEM ALARM LOG
Date: FEBRUARY 1995

Alarm Dates	Alarm Cause	Solution (hours flare not operational)
02/23/95	FLAME FAILURE. CAUSE NOT DETERMINED. ALARMS DISARMED.	TERRA PERSONNEL ON-SITE. RE-START BLOWER/FLARE 2/24/95 ALARMS REMAIN DISARMED. (APPROX. 26.0 HRS)

TABLE 5

REFUSE HIDEAWAY LANDFILL
MONTHLY SUMMARY OF SYSTEM ALARM LOG
Date: MARCH 1995

Alarm Dates	Alarm Cause	Solution (hours flare not operational)
03/15/95	FLAME FAILURE. CAUSE NOT DETERMINED. ALARMS DISARMED.	RE-START BLOWER/FLARE 3/16/95 ALARMS REMAIN DISARMED. (APPROX. 32.0 HRS)
03/31/95	MANUAL SHUT DOWN TO INSTALL VACUUM SWITCH BY PASS.	RE-START BLOWER/FLARE 3/31/95. ALARMS RE-ARMED.

TABLE 5

REFUSE HIDEAWAY LANDFILL
MONTHLY SUMMARY OF SYSTEM ALARM LOG
Date: APRIL 1995

Alarm Dates	Alarm Cause	Solution (hours flare not operational)
04/14/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 4/14/95 (4.5 HRS)
04/16/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 4/16/95 (.75 HRS)
04/19/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 4/20/95 (19.25 HRS)
04/23/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 4/24/95 (36.0 HRS)
04/28/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 4/29/95 (16 HRS)
05/02/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 5/02/95 (10.5 HRS)

TABLE 5

REFUSE HIDEAWAY LANDFILL
MONTHLY SUMMARY OF SYSTEM ALARM LOG
Date: May 1995

Alarm Dates	Alarm Cause	Solution (hours flare not operational)
05/05/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 5/06/95 (15.0 HRS)
05/06/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 5/09/95 (68.5 HRS)
05/12/95	ERRONEOUS HIGH LEACHATE LEVEL ALARM.	ATTEMPTS TO RE-SET TANK ALARM FAILED. TURNED POWER TO TANK PANEL OFF. BLOWER FLARE OPERATIONAL.
05/22/95	LOW TEMPERATURE ALARM. BLOWER FLARE OPERATIONAL.	ADJUST CONTROL DAMPERS
05/23/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 5/23/95 (1.0 HRS)
05/23/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 5/24/95 (16.25 HRS)
05/24/95	FLAME FAILURE. POSSIBLY DUE TO LOW FLOWS.	RE-START BLOWER/FLARE 5/24/95 (2.0 HRS)
05/24/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 5/26/95 CLEANED U.V. SENSOR (32.0 HRS)
05/31/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 5/31/95 (1.5 HRS)

TABLE 5

REFUSE HIDEAWAY LANDFILL
MONTHLY SUMMARY OF SYSTEM ALARM LOG
Date: June 1995

Alarm Dates	Alarm Cause	Solution (hours flare not operational)
06/03/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 6/04/95 (18.5 HRS)
06/06/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 6/07/95 (40.5 HRS)
06/07/95	GENERAL ALARM, FLAME FAILURE POSSIBLY DUE TO THUNDERSTORMS IN THE AREA.	REPLACE BLOWER SEALS RE-START BLOWER/FLARE 6/08/95 (18.5 HRS)
06/12/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 6/12/95 (10.75 HRS)
06/14/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 6/14/95 (8.0 HRS)
06/17/95	FLAME FAILURE. CAUSE NOT DETERMINED.	TIGHTEN BLOWER BELTS RE-START BLOWER/FLARE 6/17/95 (10.25 HRS)
06/19/95	GENERAL ALARM. LEACHATE TANK OVERFILL.	FOLLOWING TANK PUMP-OUT RE-START BLOWER/FLARE 6/20/95 (18.0 HRS)
06/21/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 6/21/95 (1.0 HRS)
06/22/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 6/22/95 (7.75 HRS)
06/23/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 6/23/95 (8.75 HRS)
06/23/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 6/27/95 (87.0 HRS)
06/28/95	GENERAL ALARM, FLAME FAILURE POSSIBLE DUE TO THUNDERSTORMS IN THE AREA.	RE-START BLOWER/FLARE 6/29/95 (18.0 HRS)

TABLE 5

REFUSE HIDEAWAY LANDFILL
MONTHLY SUMMARY OF SYSTEM ALARM LOG
Date: July 1995

Alarm Dates	Alarm Cause	Solution (hours flare not operational)
07/02/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 7/05/95 (79.5 HRS)
07/07/95	GENERAL ALARM. CAUSE NOT DETERMINED.	FLARE REMAINED OPERATIONAL 7/09/95 (0.0 HRS)
07/10/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 7/10/95 (7.0 HRS)
07/10/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 7/11/95 (10.0 HRS)
07/11/95	FLAME FAILURE. CAUSE NOT DETERMINED. POSSIBLY DUE TO THUNDERSTORMS.	RE-START BLOWER/FLARE 7/13/95 (40.0 HRS)
07/15/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 7/16/95 (35.0 HRS)
07/18/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 7/20/95 (58.0 HRS)
07/22/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 7/23/95 (19.75 HRS)
07/24/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE ADJUSTED PROPBD FROM 15 TO 10 7/25/95 (10.75 HRS)
07/26/95	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 7/27/95 (16.0 HRS)
07/27/95	GENERAL ALARM, FLAME FAILURE LIKELY DUE TO THUNDERSTORMS IN THE AREA.	RE-START BLOWER/FLARE 7/28/95 (22.0 HRS)
07/28/95	GENERAL ALARM, FLAME FAILURE CAUSED NOT DETERMINED.	RE-START BLOWER/FLARE ADJUSTED PROPBD FROM 10 TO 25 8/01/95 (57.5 HRS)

TABLE 5

REFUSE HIDEAWAY LANDFILL
MONTHLY SUMMARY OF SYSTEM ALARM LOG
Date: August 1995

Alarm Dates	Alarm Cause	Solution (hours flare not operational)
08/04/95	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 8/04/95 CHANGE PROP BD 25 TO 5 (3 HRS)
08/04/95	FLAME FAILURE, CAUSE NOT DETERMINED.	RESTART BLOWER/FLARE 08/05/95 CHANGE PROP BD FROM 5 TO 25 (14.5 HRS)
08/06/95	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 8/07/95 CHANGE PROP BD FROM 25 TO 20 (34 HRS)
08/07/95	FLAME FAILURE, CAUSE NOT DETERMINED. POSSIBLY DUE TO THUNDERSTORMS IN AREA.	RE-START BLOWER/FLARE 8/08/95 (12 HRS)
08/08/95	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 8/09/95 (10.5 HRS)
08/09/95	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 8/10/95 (11 HRS)
08/12/95	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 8/14/95 (50 HRS)
08/14/95	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 8/16/95 (33.75 HRS) CHANGE PROP BD FROM 20 TO 25
08/16/95	GENERAL ALARM, FLAME FAILURE LIKELY DUE TO THUNDERSTORMS IN THE AREA	RE-START BLOWER/FLARE 8/17/95 (14.75 HRS)
08/18/95	GENERAL ALARM, FLAME FAILURE CAUSE NOT DETERMINED	RE-START BLOWER/FLARE 8/18/95 (3.5 HRS)
08/19/95	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 8/21/95 (56 HRS)
08/21/95	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 8/22/95 (12 HRS)
08/24/95	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 8/24/95 (9 HRS)
08/25/95	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 8/28/95 (64.5 HRS)
08/28/95	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 9/01/95 (84.5 HRS)

TABLE 5

REFUSE HIDEAWAY LANDFILL
MONTHLY SUMMARY OF SYSTEM ALARM LOG
Date: September 1995

Alarm Dates	Alarm Cause	Solution (hours flare not operational)
09/01/95 (9:30PM)	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 9:55AM 09/05/95 (84 HRS)
09/05/95 (8:00PM)	FLAME FAILURE, CAUSE NOT DETERMINED.	RESTART BLOWER/FLARE 9:11AM 09/08/95 CHANGE PROP BD FROM 25 TO 20 (61 HRS)
09/08/95 (9:30PM)	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 2:00PM 09/15/95 (160.5 HRS)
09/16/95 (8:30PM)	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 2:30PM 09/22/95 (138 HRS)
09/22/95 (8:30PM)	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 11:00AM 09/29/95 (159 HRS)
10/01/95 (8:00PM)	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 11:00AM 10/05/95 (87 HRS)

TABLE 5

REFUSE HIDEAWAY LANDFILL
MONTHLY SUMMARY OF SYSTEM ALARM LOG
Date: October 1995

Alarm Dates	Alarm Cause	Solution (hours flare not operational)
10/07/95 (9:30PM)	FLAME FAILURE, CAUSE NOT DETERMINED. LIKELY A CONTROLLER PROBLEM.	RE-START BLOWER/FLARE 9:30AM 10/13/95 (156 HRS)
10/15/95 (9:00PM)	FLAME FAILURE, CAUSE NOT DETERMINED.	RESTART BLOWER/FLARE 8:00AM 10/16/95 (11 HRS)
10/16/95 (7:00PM)	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 9:00AM 10/17/95 (14 HRS)
10/18/95 (12:30AM)	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 8:15AM 10/23/95 (151.75 HRS)
10/25/95 (3:15AM)	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 8:00AM 10/25/95 (4.75 HRS)
10/26/95 (5:15AM)	FLAME FAILURE, CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 7:45AM 10/26/95 (2.5 HRS)
10/26/95 (9:15AM)	FLAME FAILURE, CAUSE NOT DETERMINED	RE-START BLOWER/FLARE 1:50PM 10/30/95 (100.5 HRS)
11/06/95 (10:30PM)	FLARE FAILURE, CAUSE NOT DETERMINED	RE-START BLOWER/FLARE 8:00AM 11/07/95 (9.5 HRS)

TABLE 5

REFUSE HIDEAWAY LANDFILL
MONTHLY SUMMARY OF SYSTEM ALARM LOG
Date: ~~October~~ November 1995

11/10/95 (11:30AM)	FLAME FAILURE. CAUSE NOT DETERMINED	RE-START BLOWER/FLARE 4:15PM 11/10/95 (4.75 HRS)
11/12/95 (9:00PM)	FLAME FAILURE. CAUSE NOT DETERMINED. CONTROLLER POSSIBLY NEEDS "FINE TUNING" OF PARAMETERS	RE-START BLOWER/FLARE 8:00AM 11/13/95. ADJUSTED CONTROLLER PROP BD FROM 20.0 TO 15.0 (11.0 HRS)
11/16/95 (11:00PM)	FLAME FAILURE. CAUSE NOT DETERMINED. RECORDER TAPE SHOWS ERRATIC TEMPERATURES.	RE-START BLOWER/FLAME 8:30AM 11/17/95. ADJUSTED CONTROLLER PROP BD FROM 15.0 TO 20.0. (9.5 HRS)
11/18/95 (8:00PM)	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 9:00AM 11/20/95. ADJUSTED CONTROLLER RATE-MIN FROM 0.15 TO 0.20 (37.0 HRS)
11/22/95	NO ALARM. ERRATIC TEMPERATURES OBSERVED.	ADJUSTED CONTROLLER RSET RPM FROM 5.0 TO 6.0
11/25/95 (7:00PM)	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 8:00AM 11/27/95. ADJUSTED PROP BD FROM 20.0 TO 17.5. (37.0 HRS)
12/2/95 (12:30AM)	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 12:30PM 12/4/95 CHANGED PROP BD FROM 17.5 TO 20.0 (84.0 HRS)

TABLE 5

REFUSE HIDEAWAY LANDFILL
MONTHLY SUMMARY OF SYSTEM ALARM LOG
Date: December 1995

ALARM DATE	ALARM CAUSE	SOLUTION (HOURS FLARE NOT OPERATIONAL)
12/14/95 (11:15PM)	FLAME FAILURE. CAUSE NOT DETERMINED	RE-START BLOWER/FLARE 8:00AM ON 12/15/95 (8.75 HRS)
12/15/95 (7:30PM)	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLAME 7:45AM ON 12/18/95. (36.25 HRS)
12/21/95 (8:45PM)	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 8:45AM ON 12/22/95. CHANGE PROP BD FROM 20.0 TO 17.5 (12.0 HRS)
12/28/95 (7:00AM)	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 10:00AM ON 12/28/95. CHANGE RSET RPM FROM 6.0 TO 5.95 (3.0 HRS)
12/31/95 (1:30PM)	FLAME FAILURE. CAUSE NOT DETERMINED.	RE-START BLOWER/FLARE 8:45AM ON 1/2/96. CHANGE RSET RPM FROM 5.95 TO 6.0 (43.25 HRS)
1/04/96	NO ALARM FLARE OPERATIONAL. OBSERVED FLAMES EXITING THE TOP OF THE FLARE.	MANUAL BLOWER/FLARE SHUT DOWN RE-SET PROP BD TO 20.0, RATE MIN TO .20, RE-START BLOWER/ FLARE

APPENDIX 1

LEACHATE ANALYTICAL RESULTS

MID-STATE ASSOCIATES, INC.

Laboratory Services
1230 Lange Ct.
Baraboo, WI 53913
608-356-2760

ANALYTICAL REPORT

TERRA ENGINEERING
KIRK SOLBERG
2201 VONDRON RD.
MADISON, WI 53704

Client I.D. No.:LT2000000010
Work Order No.:9501000323
Project Name:REFUSE HIDEAWAY
Project Number:468
Report Date: 02/21/95
Date Received: 01/19/95
Arrival Temperature:10.1

Sample I.D. #:92970 **Sample Description:**LEACHATE TANK **Date Sampled:**01/18/95

Analyte	Result	Units	LOD	LOQ
Cyanide, Total	141	ug/L		
Matrix spike recovery of this sample was low. Result for sample may also be biased low.				
Metals Sample Preparation	1/23/95			
Hexavalent Chromium	93	ug/L	5	17
Mercury, Total	<0.8	ug/L	0.2	0.7
Elevated detection limit due to matrix interference.				
Metals Sample Preparation	1/23/95			
Nickel, Total	100	ug/L	10	33
Oil and Grease-- EPA 413.1	<1	mg/L		
Selenium, Total	0.4	ug/L	0.2	0.7
Silver, Total	0.2	ug/L	0.1	0.3
Zinc, Total	15	ug/L	5	17
pH (Lab)	7.69	S.U.'s		
Lead, Total	<20	ug/L	20	67
Cadmium, Total	<5	ug/L	5	17
Copper, Total	20	ug/L	10	33
Chromium, Total	60	ug/L	50	167

Comments for entire Work Order:
None

Submitted By: DS

Wisconsin DNR Laboratory Certification Number: 157066030
DHSS Certification Number: MW0289

MONTGOMERY WATSON
Analytical Testing Services

University Research Park
One Science Court
Madison, Wisconsin 53711
Tel: 608 231 4747 • Fax: 608 231 4777

INORGANIC REPORT
MID-STATE ASSOC./TERRA
BARABOO WI
Project Number: 4014.0280

Sample #	Description	Test	Result	Reporting Limit	Matrix	Units	Sample Date	Analysis Date
L10083-001	92970	Oil and Grease	< 1	1	GroundH2O	mg/L	18-JAN-95	31-JAN-95

WI Lab Certification ID#: 113138300

Chk'd: DSK App'd: CAW
Date App'd: 2-6-95

ANALYTICAL REPORT

ENVIROSCAN

Mid State Associates
1230 Lange Court
Baraboo, WI 53913

Attn: Alice Chenoweth

CUST NUMBER: REFUSEHDWY
SAMPLED BY: Client
DATE REC'D: 01/24/95
REPORT DATE: 01/31/95
PREPARED BY: BMS BMS
REVIEWED BY:

	Units	Detection Limit	92970 01/18/95	Qualifiers	Date Analyzed
EPA 335.3					
Cyanide	µg/l	10.	141.	S1L S2L	01/30/95
Analytical No.:			31272		

Qualifier Descriptions

S1L	Matrix spike recovery of this sample was low. Result for sample may also be biased low.
S2L	Matrix spike duplicate recovery of this sample was low. Result for sample may also be biased low.

* The spike recoveries were 60.% and 56.%.

All analyses conducted in accordance with Enviroscan Quality Assurance Program.

SAMPLE LOG-IN PROBLEMS

CLIENT/ID #: Terra Eng. / TT20-10	Page 1 of 1
PROJECT NAME: Refuse Hideaway L.F.	SAMPLING DATE: 1/18/95
PROJECT NUMBER: 4168	

RECEIVED BY:	LOG-IN DATE/TIME:	W.O #/SUBMMISSION #:
J. Jensen	1/19/95 3:10	95/01-000323

Remarks:

CHAIN OF CUSTODY
1. Not completed
2. Missing
3. Unreadable
4. ____________

SAMPLES
5. Sample missing
6. Broken container
7. Wrong container
8. Over temp
9. No temp blank/possible
10. Past holding time (circled)
11. Incorrectly preserved
12. Insufficient amount
13. Labels missing/unreadable/incorrect
14. Air bubble in VOC container

ACTION
15. Client called
16. Supervisor, notified
17. ____________
99. Verbal

REMARKS # CODE	Corresponding Test	Corresponding Assigned Lab #	Remarks: Condition of Sample Shipment, etc.
10	Hex.	92970	Sample for Hexachrome received past hold time

Sample Transfer

Fraction	Fraction
Area	Area
By	By
On	On

Contract (Name, Date, Time, Outcome)

MID-STATE ASSOCIATES, INC.
ENVIRONMENTAL AND ANALYTICAL SERVICES
1230 LANGE COURT
BARABOO, WI 53913
(608) 356-2760 FAX: (608) 356-2766

Project#: 468 Proj. Name: Refuse Hideaway L.F.

Client Name/Number: Terra Engineering & Const.

FILL IN ANALYSIS NEEDED BELOW

Remarks: 323

Date	Time	Comp	Grab	Sample Description	Sample#	Number of Containers	Oil & Grease	pH	Cr+6	Chromium (Hex)	Mercury, Nickel	Zinc, Cadmium	Chromium, Copper	Lead, Selenium	Silver, Cyanide	Shaded Area For Lab Use: Pres.	Sample I.D. #'s:
1-18-95	2:00		X	LEACHATE TANK	1	5	/	/	/	/	/	/	/	/	/		92970

Leachate for test Cr+6 passed hold time. TC

Sampled By: Kirk Solberg

Relinquished By: Kirk Solberg Date: 1-19-95 Time: 8:00 am

Received By: Ron Quandt Date: 1/18/95 Time: 12:30

Received By Lab: Date: 1/19/95 Time: 3:10

Remarks: Refuse Hideaway L.F. Qtrly LEACHATE SAMPLE

Results to: Terra Engineering & Const 3201 Vmcrom Rd Madison WI 53704 ATTN: KIRK SOLBERG

CHECKED

Sample Shipped Via: ___UPS ___Fed. Exp. X Hand ___U.S. Mail

Sample Status:

Deg. C: 10.1 pH:

MID-STATE ASSOCIATES, INC.

Laboratory Services
1230 Lange Ct.
Baraboo, WI 53913
608-356-2760

ANALYTICAL REPORT

TERRA ENGINEERING
KIRK SOLBERG
2201 VONDRON RD.
MADISON, WI 53704

Client I.D. No.:LT2000000010
Work Order No.:9503000224
Project Name:REFUSE HIDEAWAY
Project Number:468
Report Date: 04/07/95
Date Received: 03/10/95
Arrival Temperature:ON ICE

Sample I.D. #:95814 **Sample Description:**LEACHATE **Date Sampled:**03/09/95

Analyte	Result	Units	LOD	LOQ
TCLP Metals See attached report for results.	3/22/95			
TCLP - Herbicides See attached report for results.	3/23/95			
TCLP - Pesticides See attached report for results.	3/21/95			
TCLP - Semivolatile Organic Compounds See attached report for results.	3/21/95			
TCLP - VOC See attached report for results.	3/18/95			

Comments for entire Work Order:
None

Submitted By: RD

Wisconsin DNR Laboratory Certification Number: 157066030
DHSS Certification Number: MW0289

MONTGOMERY WATSON
Analytical Testing Services

University Research Park
One Science Court
Madison, Wisconsin 53711
Tel: 608 231 4747 • Fax: 608 231 4777

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)
METHOD 1311
INORGANIC REPORT

MID-STATE ASSOC/TERRA-REFUSE HIDEAWAY
BARABOO WI
Project Number: 4014.0530

Lab Sample # : L10324-001
Description : 95814
Sample Date : 09-MAR-95

Test	Regulatory Limit (mg/L)	Analytical Result (mg/L)	Reporting Limit (mg/L)	Matrix Spike Recovery (%)	Analysis Date	Footnote
Arsenic	5	< 0.50	0.50	105.0	24-MAR-95	
Barium	100	0.58	0.01	87.0	23-MAR-95	
Cadmium	1	< 0.005	0.005	86.0	23-MAR-95	
Chromium, Total	5	0.07	0.01	86.0	24-MAR-95	
Lead	5	< 0.10	0.10	86.0	23-MAR-95	
Mercury	0.2	< 0.002	0.002	66.0	22-MAR-95	
Selenium	1	< 0.50	0.50	80.0	23-MAR-95	
Silver	5	< 0.01	0.01	76.0	23-MAR-95	

Chk'd: BSK App'd: CAW
Date App'd: 4.3.95

WI Lab Certification ID#: 113138300

MONTGOMERY WATSON
Analytical Testing Services

University Research Park
One Science Court
Madison, Wisconsin 53711
Tel: 608 231 4747 • Fax: 608 231 4777

TOTAL ANALYSIS FOR TCLP ANALYTES
VOLATILE ORGANIC REPORT

MID-STATE ASSOC/TERRA-REFUSE HIDEAWAY
BARABOO WI
Project Number: 4014.0530

Lab Sample # : L10324-001
Description : 95814
Sample Date : 09-MAR-95
Analysis Date : 18-MAR-95

Test	TCLP Regulatory Limit (mg/L)	Result (mg/kg)	Reporting Limit (mg/kg)	Matrix	Footnote
Benzene	0.5	< 0.20	0.10	WASTE	A2
Carbon tetrachloride	0.5	< 0.20	0.10	WASTE	A2
Chlorobenzene	100	< 0.20	0.10	WASTE	A2
Chloroform	6	< 0.20	0.10	WASTE	A2
1,2-Dichloroethane	0.5	< 0.20	0.10	WASTE	A2
1,1-Dichloroethene	0.7	< 0.20	0.10	WASTE	A2
Methyl ethyl ketone	200	< 1.0	0.50	WASTE	A2
Tetrachloroethene	0.7	< 0.20	0.10	WASTE	A2
Trichloroethene	0.5	< 0.20	0.10	WASTE	A2
Vinyl chloride	0.2	< 0.20	0.10	WASTE	A2

Chk'd: DSK App'd: CAW
Date App'd: 4.3.95

WI Lab Certification ID#: 113138300

MONTGOMERY WATSON
Analytical Testing Services

University Research Park
One Science Court
Madison, Wisconsin 53711
Tel: 608 231 4747 • Fax: 608 231 4777

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)
METHOD 1311
SEMIVOLATILE ORGANIC REPORT

MID-STATE ASSOC/TERRA-REFUSE HIDEAWAY
BARABOO WI
Project Number: 4014.0530

Lab Sample # : L10324-001
Description : 95814
Sample Date : 09-MAR-95
Extraction Date : 20-MAR-95
Analysis Date : 21-MAR-95

Test	Regulatory Limit (mg/L)	Analytical Result (mg/L)	Reporting Limit (mg/L)	Matrix Spike Recovery (%)	Footnote
1,4-Dichlorobenzene	7.5	< 0.10	0.10	56	
2,4-Dinitrotoluene	0.13	< 0.10	0.10	106	
Hexachlorobenzene	0.13	< 0.10	0.10	114	
Hexachloroethane	3	< 0.10	0.10	51	
Hexachlorobutadiene	0.5	< 0.10	0.10	51	
Nitrobenzene	2	< 0.10	0.10	77	
Pentachlorophenol	100	< 0.50	0.50	138	
Pyridine	5	< 0.50	0.50	22	
2,4,5-Trichlorophenol	400	< 0.10	0.10	124	
2,4,6-Trichlorophenol	2	< 0.10	0.10	122	
2-Methylphenol	200	< 0.10	0.10	85	
3&4-Methylphenol	200	< 0.10	0.10	91	

Chk'd: BSK App'd: CAW
Date App'd: 4.3.95

Lab Certification ID#: 113138300

MONTGOMERY WATSON
Analytical Testing Services

University Research Park
One Science Court
Madison, Wisconsin 53711
Tel: 608 231 4747 • Fax: 608 231 4777

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)
METHOD 1311
PESTICIDE REPORT

MID-STATE ASSOC/TERRA-REFUSE HIDEAWAY
BARABOO WI
Project Number: 4014.0530

Lab Sample # : L10324-001
Description : 95814
Sample Date : 09-MAR-95
Extraction Date : 20-MAR-95
Analysis Date : 21-MAR-95

Test	Regulatory Limit (mg/L)	Analytical Result (mg/L)	Reporting Limit (mg/L)	Matrix Spike Recovery (%)	Footnote
Chlordane	0.03	< 0.020	0.020	77	
Endrin	0.02	< 0.010	0.010	277	
gamma-BHC (Lindane)	0.4	< 0.20	0.20	0	
Heptachlor	0.008	< 0.0050	0.0050	177	
Heptachlor epoxide	0.008	< 0.0050	0.0050	162	
Methoxychlor	10	< 5.0	5.0	41	
Toxaphene	0.5	< 0.25	0.25	109	

WI Lab Certification ID#: 113138300

Chk'd: DSK App'd: CAW
Date App'd: 4.3.95

MONTGOMERY WATSON
Analytical Testing Services

University Research Park
One Science Court
Madison, Wisconsin 53711
Tel: 608 231 4747 • Fax: 608 231 4777

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)
METHOD 1311
HERBICIDE REPORT

MID-STATE ASSOC/TERRA-REFUSE HIDEAWAY
BARABOO WI
Project Number: 4014.0530

Lab Sample # : L10324-001
Description : 95814
Sample Date : 09-MAR-95
Extraction Date : 21-MAR-95
Analysis Date : 23-MAR-95

Test	Regulatory Limit (mg/L)	Analytical Result (mg/L)	Reporting Limit (mg/L)	Matrix Spike Recovery (%)	Footnote
2,4-D	10	< 0.25	0.25	27	
2,4,5-TP(silvex)	1	< 0.12	0.12	28	

WI Lab Certification ID#: 113138300

Chk'd: BBK App'd: CAW
Date App'd: 4.3.95

MID-STATE ASSOCIATES, INC.
ENVIRONMENTAL AND ANALYTICAL SERVICES
1230 LANGE COURT
BARABOO, WI 53913
(608) 356-1777 FAX: (608) 356-7340

FILL IN ANALYSIS NEEDED BELOW

Remarks:

Project#: 468

Proj. Name: Krause Hideaway LF

Client Name/Number: Terra Engineering + Const

Date	Time	Comp	Grab	Sample Description	Sample#	Number of Containers	TCLP - VOC's	TCLP - SVOC's	TCLP Pesticides	TCLP Herbicides	TCLP Metals	Space Below For Laboratory Use: Pres.	Sample I.D. #'s:
3-9-95	11:00		✓	LEACHATE		4	✓	✓	✓	✓	✓		95814
3-9-95	11:00		✓	LEACHATE		3 vials	✓						
				TRIP BLANK		1							

Sampled By: KIRK SOLBERG

Relinquished By: | Date: | Time:

Received By: RECEIVED | Date: | Time:

Received By Lab: | Date: 3/10/95 | Time: 11:15

Remarks: Annual Sampling for 1994
Results to Terra Engineering & Construction
2201 Vondron Road
Madison WI 53704 ATTN: KIRK SOLBERG

Date Sample Disposed of:

Sample Shipped Via: ___UPS ___Fed. Exp. X Hand ___U.S. Mail

Sample Status:

Deg. C: Cooler pH:

MID-STATE ASSOCIATES, INC.

ANALYTICAL REPORT

Client I.D. No.: LT2000000010
Work Order No.: 9504000396
Report Date: 05/24/95
Date Received: 04/19/95
Arrival Temperature: 10.8

TERRA ENGINEERING
KIRK SOLBERG
2201 VONDRON RD.
MADISON, WI 53704

Project Name: **REFUSE HDWY** Project Number: 468

Sample I.D. #:98467 **Sample Description:**LEACHATE **Date Sampled:**04/19/95

Analyte	Result	Units	LOD	LOQ
Cyanide, Total	12	ug/L		
Metals Sample Preparation	4/21/95			
Chromium, Total, Low Level (Cr6+ Confirmation)	100	ug/L	50	167
Hexavalent Chromium	158	ug/L	5	17
Mercury	<0.4	ug/L	0.2	0.7
Elevated detection limit due to matrix interference.				
Metals Sample Preparation	4/21/95			
Nickel	70	ug/L	10	33
Oil and Grease-- EPA 413.1	<4	mg/L	4	13
Selenium	<0.4	ug/L	0.2	0.7
Elevated detection limit due to sample dilution and presence of matrix interference.				
Silver	<0.5	ug/L	0.1	0.3
Elevated detection limit presence of matrix interference.				
Zinc	21	ug/L	5	17
pH (Lab)	7.80	S.U.'s	NA	NA
Copper	20	ug/L	10	33
Chromium	80	ug/L	50	167
Cadmium	<5	ug/L	5	17
Lead	<20	ug/L	20	67

Comments for entire Work Order:
None

RECEIVED
MAY 26 1995
TERRA ENGINEERING

Submitted By: DC

MID-STATE ASSOCIATES, INC.
ENVIRONMENTAL AND ANALYTICAL SERVICES
1230 LANGE COURT
BARABOO, WI 53913
(608) 356-2760 FAX: (608) 356-2766

Project#: 46B | Proj. Name: Refuse Hideaway L.F.

Client Name/Number: Terra Engineering & Construction

Date	Time	Comp	Grab	Sample Description	Sample#	Number of Containers	Oil & Grease	pH	Cr+6, Chromium Hex	Mercury, Nitrate	Zinc, Cadmium	Chromium, Copper	Lead, Selenium	Silver, Cyanide	Pres.	Sample I.D. #'s:
4-19-95	8am		X	LEACHATE	2	4	/	/	/	/	/	/	/	/		98467
				TRIP BLANK		1										

FILL IN ANALYSIS NEEDED BELOW

Remarks:

Shaded Area For Lab Use

Sampled By: KIRK SOLBERG

Relinquished By: [signature] Date: | Time:

Received By: [signature] Date: 4-19-95 Time: 11:20

Received By Lab: [signature] Date: 4/19/95 Time: 2:40

Results to: Terra Engineering & Construction
2201 Vondron Rd
Madison WI 53705
ATTN: Kirk Solberg

(Qtrly Monitoring)

Sample Shipped Via: ___UPS ___Fed. Exp. X Hand ___U.S. Mail

Sample Status: Deg. C: 18 8 pH:

MID-STATE ASSOCIATES, INC.

ANALYTICAL REPORT

Client I.D. No.: LT2000000010
Work Order No.: 9508000069
Report Date: 08/29/95
Date Received: 08/02/95
Arrival Temperature: On Ice

TERRA ENGINEERING
KIRK SOLBERG
2201 VONDRON RD.
MADISON, WI 53704

Project Name: **REFUSE HDWY** Project Number: **468**

Sample I.D. #:107006 **Sample Description:**LEACHATE **Date Sampled:**08/01/95

Analyte	Result	Units	LOD	LOQ
Cyanide, Total	12	ug/L	1	3
Metals Sample Preparation	8/03/95			
Chromium, Total, Low Level (Cr6+ Confirmation)	140	ug/L	1	3
Hexavalent Chromium	100	ug/L	5	17
Sample received beyond acceptable hold time. Matrix interference.				
Mercury	< 0.4	ug/L	0.2	0.7
Elevated detection limit due to sample dilution and presence of matrix interference.				
Metals Sample Preparation	8/03/95			
Nickel	100	ug/L	10	33
Oil and Grease-- EPA 413.1	4	mg/L	4	13
Silver	< 0.2	ug/L	0.1	0.3
Elevated detection limit due to sample dilution and presence of matrix interference.				
Zinc	25	ug/L	5	17
pH (Lab)	6.45	S.U.'s	NA	NA
Lead	< 20	ug/L	20	67
Copper	10.0	ug/L	10	33
Chromium	100	ug/L	50	167
Cadmium	< 5	ug/L	5	17
Selenium	< 1	ug/L	1	3

Comments for entire Work Order:
None

Submitted By: DC

MID-STATE ASSOCIATES, INC.
ENVIRONMENTAL AND ANALYTICAL SERVICES
1230 LANGE COURT
BARABOO, WI 53913
(608) 356-2760 FAX: (608) 356-2766

Project#: 468 Proj. Name: Refuse Hideaway L.F.

Client Name/Number: Terra-Engineering & Construction

Date	Time	Comp	Grab	Sample Description	Sample#	Number of Containers	Oil & Grease	pH	Cr+6, Chromium Hex	Mercury, Mercury	Zinc, Cadmium	Chromium, Cromium	Lead, Selenium	Silver, Cyanide
8/1/95	1000 AM		X	LEACHATE	1	5	✓	-	-	-	-	-	-	-
				TEMP BLANK		1								

FILL IN ANALYSIS NEEDED BELOW

Remarks:

Shaded Area For Lab Use

Pres.	Sample I.D. #'s:
	107006

Sampled By: K. Solberg

Relinquished By: K. Solberg Date: 8/2/95 Time: 700

Received By: D McConaughy Date: Time:

Received By Lab: Date: 8/2/95 Time:

Quarterly Leachate ; Results To: Terra Engineering & Construction
2801 Vondron Rd
Madison WI 53704

Sample Shipped Via: ___UPS ___Fed. Exp. ___Hand ___U.S. Mail

Sample Status:
Deg. C: pH:

MID-STATE ASSOCIATES, INC.

ANALYTICAL REPORT

Client I.D. No.: LT2000000010
Work Order No.: 9512000137
Report Date: 01/08/96
Date Received: 12/06/95
Arrival Temperature: On Ice

TERRA ENGINEERING
KIRK SOLBERG
2201 VONDRON RD.
MADISON, WI 53704

Project Name: **REFUSE HIDEAWAY** Project Number: **468**

Sample I.D. #:116357 **Sample Description:**LEACHATE **Date Sampled:**12/06/95

Analyte	Result	Units	LOD	LOQ
Cyanide, Total	<10	ug/L	1	3
Quality control for accuracy was not within acceptable limits for this test. Elevated detection limit due to sample dilution and presence of matrix interference.				
Metals Sample Preparation	12/08/95			
Chromium, Total, Low Level (Cr6+ Confirmation)	60.0	ug/L	1	3
Hexavalent Chromium	122	ug/L	5	17
Mercury	<0.4	ug/L	0.2	0.7
Elevated detection limit due to sample dilution and presence of matrix interference.				
Metals Sample Preparation	12/08/95			
Oil and Grease-- EPA 413.1	<4	mg/L	4	13
Selenium	2	ug/L	1	3
Matrix interference. Concentration obtained by "Method of Standard Additions".				
Zinc	25	ug/L	5	17
pH (Lab)	7.30	S.U.'s	NA	NA
Cadmium	<5	ug/L	5	17
Chromium	90	ug/L	50	167
Copper	20	ug/L	10	30
Lead	<20	ug/L	20	67
Nickel	80.0	ug/L	10	33
Silver	<0.2	ug/L	0.1	0.3
Elevated detection limit due to sample dilution and presence of matrix interference.				

Comments for entire Work Order:
None

Submitted By: DD

MID-STATE ASSOCIATES, INC.
ENVIRONMENTAL AND ANALYTICAL SERVICES
1230 LANGE COURT
BARABOO, WI 53913
(608) 356-1777 FAX: (608) 356-7340

Project#: 468
Proj. Name: Refuse Hideaway L.F.

Client Name/Number: Terra Engineering & Const.

Date	Time	Comp	Grab	Sample Description	Sample#	Number of Containers
12-6-95	8:45		X	LEACHATE	1	4
				TEMP BLANK		1

FILL IN ANALYSIS NEEDED BELOW

Oil & Grease	pH	Cr+6, Chromium Hex	Mercury, Nickel, Zinc	Cadmium, Chromium	Copper, Lead, Selenium	Silver, Cyanide
1	1	1	1	1	1	1

Remarks: 137

RECEIVED
JAN 10 1996
TERRA ENGINEERING

Space Below For Laboratory Use

Pres.	Sample I.D. #'s:
	116357

Sampled By: Kirk Solberg
Relinquished By: Kirk Solberg Date: Time:
Received By: Charles F. Bonyard Date: 12-6-95 Time: 10:10 AM
Received By Lab: D. Dill Date: 12/6/95 Time: 2:20

Remarks: Results To: Terra Engineering & Const. (Qtrly Monitoring)
2201 Vondron Rd
Madison WI 53705
ATTN: KIRK Solberg

Date Sample Disposed of:

Sample Shipped Via: ___UPS ___Fed. Exp. X Hand ___U.S. Mail
Sample Status:
Deg. C: on ice pH:

APPENDIX 2

SOIL SAMPLE

ANALYTICAL RESULTS

MID-STATE ASSOCIATES, INC.

ANALYTICAL REPORT

RECEIVED
JUL 18 1995

Client I.D. No.: LT2000000010
Work Order No.: 9506000549
Report Date: 07/14/95
Date Received: 06/22/95
Arrival Temperature: On Ice

TERRA ENGINEERING
KIRK SOLBERG
2201 VONDRON RD.
MADISON, WI 53704

TERRA ENGINEERING

Project Name: REFUSE HIDEAWAY **Project Number:** 7468

Sample I.D. #:103844 **Sample Description:**WASTE CHARACTERIZATION **Date Sampled:**06/22/95

Analyte	Result	Units	LOD	LOQ
Chromium, Total	4.84	mg/kg	2.50	8.33
Copper, Total	12.7	mg/kg	0.50	1.67
Cyanide, Reactive	7/06/95			
See attached report for results.				
Cadmium, Total --EPA 7130	0.726	mg/Kg	0.25	0.83
Lead, Total-- EPA 7420	19.4	mg/Kg	1.00	3.33
LUST Total Percent Solids--EPA 5030	95.0	%		
Mercury, Total, Low Level	<0.0217	mg/kg	0.010	0.033
Nickel, Total	6.65	mg/kg	0.50	1.67
Analysis Date PAH's	6/28/95			
Elevated reporting limit due to sample dilution.				
Naphthalene	<4.8	mg/kg	0.5	1.5
Acenaphthylene	<2.0	mg/kg	0.19	0.63
1-Methyl Naphthalene	<3.9	mg/kg	0.4	1.2
2-Methyl Naphthalene	<3.2	mg/kg	0.30	0.98
Acenaphthene	<2.8	mg/kg	0.27	0.91
Fluorene	<0.24	mg/kg	0.023	0.078
Phenanthrene	<0.31	mg/kg	0.029	0.098
Anthracene	<0.21	mg/kg	0.020	0.068
Fluoranthene	<0.032	mg/kg	0.003	0.011
Pyrene	<0.074	mg/kg	0.007	0.023
Benzo(a)anthracene	<0.015	mg/kg	0.0014	0.0047
Chrysene	<0.063	mg/kg	0.006	0.021
Benzo(b)fluoranthene	<0.017	mg/kg	0.0016	0.0052
Benzo(k)fluoranthene	<0.020	mg/kg	0.0019	0.0064
Benzo(a)pyrene	<0.053	mg/kg	0.005	0.018
Dibenzo(a,h)anthracene	<0.095	mg/kg	0.009	0.030
Benzo(g,h,i)perylene	<0.095	mg/kg	0.009	0.030
Indeno(1,2,3-cd)pyrene	<0.042	mg/kg	0.004	0.012
Selenium	<0.242	mg/kg	0.100	0.333
Silver	3.02	mg/kg	0.100	0.333
VOC Analysis Date EPA 8260	6/30/95			
Benzene	<0.001	mg/kg	0.001	0.003
Bromobenzene	<0.001	mg/kg	0.001	0.003
Bromochloromethane	<0.001	mg/kg	0.001	0.003
Bromodichloromethane	<0.001	mg/kg	0.001	0.003
Bromoform	<0.002	mg/kg	0.002	0.007
Bromomethane	<0.002	mg/kg	0.002	0.007
n-Butylbenzene	<0.001	mg/kg	0.001	0.003
s-Butylbenzene	<0.001	mg/kg	0.001	0.003
t-Butylbenzene	<0.001	mg/kg	0.001	0.003
Carbon tetrachloride	<0.001	mg/kg	0.001	0.003
Chlorobenzene	<0.001	mg/kg	0.001	0.003
2-Chloroethyl vinyl ether	<0.002	mg/kg	0.002	0.007
Chlorodibromomethane	<0.001	mg/kg	0.001	0.003
Chloroethane	<0.001	mg/kg	0.001	0.003
Chloroform	<0.001	mg/kg	0.001	0.003
Chloromethane	<0.001	mg/kg	0.001	0.003
2-Chlorotoluene	<0.002	mg/kg	0.002	0.007

Submitted By:

MID-STATE ASSOCIATES, INC.

ANALYTICAL REPORT

RECEIVED
JUL 18 1995
TERRA ENGINEERING

Client I.D. No.: LT2000000010
Work Order No.: 9506000549
Report Date: 07/14/95
Date Received: 06/22/95
Arrival Temperature: On Ice

TERRA ENGINEERING
KIRK SOLBERG
2201 VONDRON RD.
MADISON, WI 53704

Project Name: REFUSE HIDEAWAY **Project Number:** 7468

Sample I.D. #:103844 **Sample Description:**WASTE CHARACTERIZATION **Date Sampled:**06/22/95

Analyte	Result	Units	LOD	LOQ
4-Chlorotoluene	<0.002	mg/kg	0.002	0.007
1,2-Dibromo-3-chloropropane	<0.002	mg/kg	0.002	0.007
1,2-Dibromoethane (EDB)	<0.002	mg/kg	0.002	0.007
Dibromomethane	<0.002	mg/kg	0.002	0.007
1,2-Dichlorobenzene	<0.001	mg/kg	0.001	0.003
1,3-Dichlorobenzene	<0.001	mg/kg	0.001	0.003
1,4-Dichlorobenzene	<0.001	mg/kg	0.001	0.003
Dichlorodifluoromethane	<0.001	mg/kg	0.001	0.003
1,1-Dichloroethane	<0.001	mg/kg	0.001	0.003
1,2-Dichloroethane	<0.001	mg/kg	0.001	0.003
1,1-Dichloroethene	<0.002	mg/kg	0.002	0.007
1,3-Dichloropropane	<0.001	mg/kg	0.001	0.003
2,2-Dichloropropane	<0.001	mg/kg	0.001	0.003
1,1-Dichloropropene	<0.002	mg/kg	0.002	0.007
Diisoprpyl Ether	<0.001	mg/kg	0.001	0.003
Methyl tert-butyl ether (MtBE)	<0.002	mg/kg	0.002	0.007
cis-1,2-Dichloroethene	<0.001	mg/kg	0.001	0.003
trans-1,2-Dichloroethene	<0.001	mg/kg	0.001	0.003
1,2-Dichloropropane	<0.001	mg/kg	0.001	0.003
cis-1,3-Dichloropropene	<0.001	mg/kg	0.001	0.003
trans-1,3-Dichloropropene	<0.001	mg/kg	0.001	0.003
Ethylbenzene	<0.001	mg/kg	0.001	0.003
Hexachlorobutadiene	<0.002	mg/kg	0.002	0.007
Isopropylbenzene	<0.001	mg/kg	0.001	0.003
p-Isopropyltoluene	<0.001	mg/kg	0.001	0.003
Methylene chloride (Dichloromethane)	0.003	mg/kg	0.002	0.007
Suspected laboratory background contamination. Estimated value, concentration was less than LOQ.				
Naphthalene	<0.002	mg/kg	0.002	0.007
n-Propylbenzene	<0.001	mg/kg	0.001	0.003
Styrene	<0.002	mg/kg	0.002	0.007
1,1,1,2-Tetrachloroethane	<0.002	mg/kg	0.002	0.007
1,1,2,2-Tetrachloroethane	<0.002	mg/kg	0.002	0.007
Tetrachloroethene	<0.001	mg/kg	0.001	0.003
Toluene	<0.001	mg/kg	0.001	0.003
1,2,4-Trichlorobenzene	<0.002	mg/kg	0.002	0.007
1,2,3-Trichlorobenzene	<0.002	mg/kg	0.002	0.007
1,1,1-Trichloroethane	<0.001	mg/kg	0.001	0.003
1,1,2-Trichloroethane	<0.002	mg/kg	0.002	0.007
Trichloroethene	<0.002	mg/kg	0.002	0.007
Trichlorofluoromethane	<0.002	mg/kg	0.002	0.007
1,2,3-Trichloropropane	<0.002	mg/kg	0.002	0.007
1,2,4-Trimethylbenzene	<0.001	mg/kg	0.001	0.003
1,3,5-Trimethylbenzene	<0.001	mg/kg	0.001	0.003
Vinyl chloride	<0.001	mg/kg	0.001	0.003
m&p-Xylene	<0.002	mg/kg	0.002	0.007
o-Xylene	<0.001	mg/kg	0.001	0.003
Zinc, Total	122	mg/kg	0.250	0.833

Submitted By:

MSA
MID-STATE ASSOCIATES, INC.

ANALYTICAL REPORT

RECEIVED
JUL 18 1995
TERRA ENGINEERING

Client I.D. No.: LT2000000010
Work Order No.: 9506000549
Report Date: 07/14/95
Date Received: 06/22/95
Arrival Temperature: On Ice

TERRA ENGINEERING
KIRK SOLBERG
2201 VONDRON RD.
MADISON, WI 53704

Project Name: REFUSE HIDEAWAY **Project Number:** 7468

Sample I.D. #:103845 **Sample Description:**CONFIRMATORY **Date Sampled:**06/22/95

Analyte	Result	Units	LOD	LOQ
LUST Total Percent Solids--EPA 5030	95.5	%		
Analysis Date PAH's	6/28/95			
Elevated reporting limit due to sample dilution.				
Naphthalene	<4.8	mg/kg	0.5	1.5
Acenaphthylene	<2.0	mg/kg	0.19	0.63
1-Methyl Naphthalene	<3.9	mg/kg	0.4	1.2
2-Methyl Naphthalene	<3.2	mg/kg	0.30	0.98
Acenaphthene	<2.8	mg/kg	0.27	0.91
Fluorene	<0.24	mg/kg	0.023	0.078
Phenanthrene	<0.31	mg/kg	0.029	0.098
Anthracene	<0.21	mg/kg	0.020	0.068
Fluoranthene	0.48	mg/kg	0.003	0.011
Pyrene	0.26	mg/kg	0.007	0.023
Benzo(a)anthracene	0.24	mg/kg	0.0014	0.0047
Exceeded calibration criteria for percent difference (>15%).				
Chrysene	0.20	mg/kg	0.006	0.021
Benzo(b)fluoranthene	0.088	mg/kg	0.0016	0.0052
Benzo(k)fluoranthene	0.033	mg/kg	0.0019	0.0064
Benzo(a)pyrene	<0.053	mg/kg	0.005	0.018
Dibenzo(a,h)anthracene	<0.095	mg/kg	0.009	0.030
Benzo(g,h,i)perylene	<0.095	mg/kg	0.009	0.030
Indeno(1,2,3-cd)pyrene	<0.042	mg/kg	0.004	0.012
VOC Analysis Date EPA 8260	6/30/95			
Benzene	<0.001	mg/kg	0.001	0.003
Bromobenzene	<0.001	mg/kg	0.001	0.003
Bromochloromethane	<0.001	mg/kg	0.001	0.003
Bromodichloromethane	<0.001	mg/kg	0.001	0.003
Bromoform	<0.002	mg/kg	0.002	0.007
Bromomethane	<0.002	mg/kg	0.002	0.007
n-Butylbenzene	<0.001	mg/kg	0.001	0.003
s-Butylbenzene	<0.001	mg/kg	0.001	0.003
t-Butylbenzene	<0.001	mg/kg	0.001	0.003
Carbon tetrachloride	<0.001	mg/kg	0.001	0.003
Chlorobenzene	<0.001	mg/kg	0.001	0.003
2-Chloroethyl vinyl ether	<0.002	mg/kg	0.002	0.007
Chlorodibromomethane	<0.001	mg/kg	0.001	0.003
Chloroethane	<0.001	mg/kg	0.001	0.003
Chloroform	<0.001	mg/kg	0.001	0.003
Chloromethane	<0.001	mg/kg	0.001	0.003
2-Chlorotoluene	<0.002	mg/kg	0.002	0.007
4-Chlorotoluene	<0.002	mg/kg	0.002	0.007
1,2-Dibromo-3-chloropropane	<0.002	mg/kg	0.002	0.007
1,2-Dibromoethane (EDB)	<0.002	mg/kg	0.002	0.007
Dibromomethane	<0.002	mg/kg	0.002	0.007
1,2-Dichlorobenzene	<0.001	mg/kg	0.001	0.003
1,3-Dichlorobenzene	<0.001	mg/kg	0.001	0.003
1,4-Dichlorobenzene	<0.001	mg/kg	0.001	0.003
Dichlorodifluoromethane	<0.001	mg/kg	0.001	0.003
1,1-Dichloroethane	<0.001	mg/kg	0.001	0.003

Submitted By:

MID-STATE ASSOCIATES, INC.

ANALYTICAL REPORT

RECEIVED
JUL 18 1995

Client I.D. No.: LT2000000010
Work Order No.: 9506000549
Report Date: 07/14/95
Date Received: 06/22/95
Arrival Temperature: On Ice

TERRA ENGINEERING
KIRK SOLBERG
2201 VONDRON RD.
MADISON, WI 53704

TERRA ENGINEERING

Project Name: **REFUSE HIDEAWAY** Project Number: **7468**

Sample I.D. #:103845 **Sample Description:**CONFIRMATORY **Date Sampled:**06/22/95

Analyte	Result	Units	LOD	LOQ
1,2-Dichloroethane	<0.001	mg/kg	0.001	0.003
1,1-Dichloroethene	<0.002	mg/kg	0.002	0.007
1,3-Dichloropropane	<0.001	mg/kg	0.001	0.003
2,2-Dichloropropane	<0.001	mg/kg	0.001	0.003
1,1-Dichloropropene	<0.002	mg/kg	0.002	0.007
Diisoprpyl Ether	<0.001	mg/kg	0.001	0.003
Methyl tert-butyl ether (MtBE)	<0.002	mg/kg	0.002	0.007
cis-1,2-Dichloroethene	<0.001	mg/kg	0.001	0.003
trans-1,2-Dichloroethene	<0.001	mg/kg	0.001	0.003
1,2-Dichloropropane	<0.001	mg/kg	0.001	0.003
cis-1,3-Dichloropropene	<0.001	mg/kg	0.001	0.003
trans-1,3-Dichloropropene	<0.001	mg/kg	0.001	0.003
thylbenzene	<0.001	mg/kg	0.001	0.003
Hexachlorobutadiene	<0.002	mg/kg	0.002	0.007
Isopropylbenzene	<0.001	mg/kg	0.001	0.003
p-Isopropyltoluene	<0.001	mg/kg	0.001	0.003
Methylene chloride (Dichloromethane)	<0.002	mg/kg	0.002	0.007
Naphthalene	<0.002	mg/kg	0.002	0.007
n-Propylbenzene	<0.001	mg/kg	0.001	0.003
Styrene	<0.002	mg/kg	0.002	0.007
1,1,1,2-Tetrachloroethane	<0.002	mg/kg	0.002	0.007
1,1,2,2-Tetrachloroethane	<0.002	mg/kg	0.002	0.007
Tetrachloroethene	<0.001	mg/kg	0.001	0.003
Toluene	<0.001	mg/kg	0.001	0.003
1,2,4-Trichlorobenzene	<0.002	mg/kg	0.002	0.007
1,2,3-Trichlorobenzene	<0.002	mg/kg	0.002	0.007
1,1,1-Trichloroethane	<0.001	mg/kg	0.001	0.003
1,1,2-Trichloroethane	<0.002	mg/kg	0.002	0.007
Trichloroethene	<0.002	mg/kg	0.002	0.007
Trichlorofluoromethane	<0.002	mg/kg	0.002	0.007
1,2,3-Trichloropropane	<0.002	mg/kg	0.002	0.007
1,2,4-Trimethylbenzene	<0.001	mg/kg	0.001	0.003
1,3,5-Trimethylbenzene	<0.001	mg/kg	0.001	0.003
Vinyl chloride	<0.001	mg/kg	0.001	0.003
m&p-Xylene	<0.002	mg/kg	0.002	0.007
o-Xylene	<0.001	mg/kg	0.001	0.003

Comments for entire Work Order:
None

Submitted By:

MONTGOMERY WATSON
Analytical Testing Services

University Research Park
One Science Court
Madison, Wisconsin 53711
Tel: 608 231 4747 • Fax: 608 231 4777

INORGANIC REPORT
MID-STATE ASSOC/TERRA-REFUSE HIDEAWAY
BARABOO WI
Project Number: 4014.0530

Sample #	Description	Test	Result	Reporting Limit	Matrix	Units	Sample Date	Analysis Date
L11028-001	103844	Cyanide, Reactive	< 1.0	1.0	Solid	mg/kg	22-JUN-95	06-JUL-95

Note: Results in mg/kg are reported on an "as received" or wet weight basis.

WI Lab Certification ID#: 113138300

Chk'd: ASK App'd: [illegible]
Date App'd: 7/10/95

MONTGOMERY WATSON
Analytical Testing Services

University Research Park
One Science Court
Madison, Wisconsin 53711
Tel: 608 231 4747 • Fax: 608 231 4777

METHOD REFERENCES

Analytes	Aqueous	Non-Aqueous
Acidity	305.2	-
Alkalinity, Total	310.1 / 310.2	-
Alkalinity, Phenolphthalein	SM2320	-
Alkalinity, Bicarbonate	SM2320	-
Alkalinity, Carbonate	SM2320	-
BOD-5 day	SM5210,4500-0	-
Carbon, Percent Organic	-	29-3.5.3
Carbon, Total Organic (TOC)	415.1	-
Chloride	325.2	-
Chlorine, Residual	330.5*	-
Chromium, Hexavalent	SM3500D	-
COD	410.4	-
Cyanide, Total	335.3	9012
Cyanide, Amenable	335.1	9012
Cyanide, Reactive	SW7.3	SW7.3
Density	SM2710F	SM2710F
Flashpoint, Closed Cup	SW1010	SW1010
Flashpoint, Open Cup	ASTMD4206	ASTMD4206
Fluoride	340.2	-
Hardness, Total	130.1	-
Nitrogen, Ammonia	350.2	350.2
Nitrogen, Nitrate	353.2	-
Nitrogen, Nitrite	353.2	-
Nitrogen, Nitrate + Nitrite	353.2	-
Nitrogen, Total Kjeldahl (TKN)	351.3	351.3
Nitrogen, Total Organic (TON)	350.2 & 351.3	350.2 & 351.3
Oil & grease	413.1	9071
Oil & grease (Polar)	413.1	9071
Oil & grease (Non-polar)	5520F	-
Paint Filter Test	9095	9095
pH	150.1	9045
Phenol, Total	420.2	9066
Phosphorus, Total	365.1	365.1
Phosphorus, Ortho	365.2	-
Solids, Total	160.3	160.3
Solids, Total Dissolved	160.1	-
Solids, Total Suspended	160.2	-
Solids, Total Volatile	160.4	-
Solids, Total Volatile Suspended	160.4	-
Specific Conductance	120.1	-
Specific Weight	SM2710F	SM2710F
Sulfate	375.2	-
Sulfide, Total	376.1	9030
Sulfide, Reactive	SW7.3	SW7.3
Sulfite	377.1	-
Turbidity	180.1	-
TRPH	418.1 & 9073	418.1 & 9073

SW846, "Test Methods for Evaluating Solid Waste", 3rd Ed., December 1987.

EPA-600, "Methods for Chemical Analysis of Water and Wastes", March 1984.

Standard Methods for the Examination of Water and Wastewater", 17th Edition, 1989.

ASTM, Annual Book of American Society for Testing and Materials Standards, 1983, Volume 6.01.

Methods for Soil Analysis, 2nd Ed.

* With Modifications

MID-[STATE] ASSOCIATES, INC.
ENVIRONMENTAL AND ANALYTICAL SERVICES
1230 LANGE COURT
BARABOO, WI 53913
(608) 356-1777 FAX: (608) 356-7340

Project#: 7468
Proj. Name: Refuse Hideaway Soil
Client Name/Number: Terra Engineering & Const.

FILL IN ANALYSIS NEEDED BELOW

Date	Time	Comp	Grab	Sample Description	Sample#	Number of Containers	VOC's 8021	PAH	Metals (see remarks)	% Solids	Pres.	Sample I.D. #'s:
6-22-95	8:00 am		X	Waste Characterization	1	4	X	X	X			103844
6-22-95	8:00 Am		X	Confirmatory	2	3	X	X				103845
6-22-95	8:00 am		X	Waste Char	1	1				X		
6-22-95	8:00 am		X	Confirmatory	2	1				X		

Remarks: Metals ~~CCLG, Chromium Hg~~ Mercury, Nickel Zinc, CADMIUM Chromium, Copper LEAD, SELENIUM Silver, Cyanide Total

Space Below For Laboratory Use

RECEIVED
JUL 18 1995
TERRA ENGINEERING

Sampled By: Kirk Solberg
Relinquished By: Kirk Solberg
Date: 6-22-95 Time: 10:45

Received By: Charles F. Bongard
Date: 6-22-95 Time: 11:00 AM
Received By Lab: [signature]
Date: 6/23/95 Time: 2:45

Remarks: Result to: Terra Engineering & Const
2201 Vondron Rd
Madison WI 53704
✓ DD

Date Sample Disposed of:

Sample Shipped Via: __UPS __Fed. Exp. __Hand __U.S. Mail

Sample Status:
Deg. C: On Ice pH:

APPENDIX 3

MADISON METROPOLITAN SEWERAGE DISTRICT DISCHARGE PERMIT

MADISON METROPOLITAN SEWERAGE DISTRICT

1610 Moorland Road
Madison, WI 53713-3398
Telephone (608) 222-1201
Fax (608) 222-2703

James L. Nemke
Chief Engineer & Director

January 29, 1996

Mr. Kirk J. Solberg
Terra Engineering and Construction Corporation
2201 Vondron Road
Madison, WI 53704-6795

Dear Mr. Solberg:

I am writing in response to your letter of January 25, 1996 concerning extension of the leachate discharge permit for the Refuse Hide-Away Landfill in Middleton, Wisconsin. Enclosed with this letter is a permit which provides for a one-year extension of the existing permit.

Please be aware that the permit expires in September of 1996. Application for renewal of this permit should be made prior to the expiration date.

Sincerely,

Paul H. Nehm
Director of Operations and Maintenance

PHN:dms

Permit No. NTO-5C

WASTEWATER DISCHARGE PERMIT

In compliance with the provisions of Articles 5 and 6 of the Madison Metropolitan Sewer District Sewer Use Ordinance and the District's Policy on Acceptance of Wastewater Containing Non-Typical Organic and Inorganic Constituents,

Department of Natural Resources
Post Office Box 7921
Madison, WI 53707

is hereby authorized to discharge contaminated groundwater from the above identified facility into the District sewerage system in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in this permit.

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.

This permit shall become effective on September 25, 1995, and shall expire at midnight, September 24, 1996. Any appeals to the conditions of this permit must be made to the Chief Engineer and Director within thirty days of the signature date.

The permittee shall not discharge after the date of expiration. If the permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit in accordance with the requirements of Article 5 of the Madison Metropolitan Sewerage District Sewer Use Ordinance, at least thirty days prior to the expiration date.

In accordance with Articles 5 and 6 of the Madison Metropolitan Sewerage District Sewer Use Ordinance, the District reserves the right to amend this permit from time to time or to revoke the permit.

By: James L. Nemke
James L. Nemke
Chief Engineer and Director

Dated this 2nd day of February, 1996.

PART 1--APPLICABLE EFFLUENT LIMITATIONS

SECTION 1--MMSD Pretreatment Standards

(a) All wastewaters discharged to the MMSD shall not exceed the following effluent limitations:

0.25 mg/l cadmium
0.5 mg/l hexavalent chromium
10.0 mg/l total chromium
1.5 mg/l copper
0.1 mg/l cyanide
5.0 mg/l lead
0.02 mg/l mercury
2.0 mg/l nickel
0.3 mg/l selenium
3.0 mg/l silver
8.0 mg/l zinc

(b) The limitations listed in paragraph (a) apply to twenty-four hour flow proportionate samples collected from the total discharge of the permittee.

(c) In addition, the permittee shall comply with all other applicable regulations and standards contained in the MMSD Sewer Use Ordinance. Included in these regulations are limitations on pH, slug loads, and oil and grease content.

SECTION 2--Toxicity Characteristics Leaching Procedure Requirements

(a) All wastewaters discharged to the MMSD shall not exceed the limitations of the Toxicity Characteristics Leaching Procedure (TLCP) as specified in the Federal Register of March 29, 1990.

PART 2--MONITORING AND REPORTING REQUIREMENTS

SECTION 1--Monitoring Requirements

The permittee shall monitor its wastewater discharges subject to regulations under Part 1 of this permit to ascertain compliance with the applicable limitations. Said monitoring to determine compliance with the standards specified in Part 1 shall be conducted each calendar quarter. The monitoring shall consist of sampling of the regulated wastewaters for those pollutants regulated under Part 1 of this permit and reporting of the results to the District. Samples shall be obtained by collecting a representative sample of the contents of the on-site 25,000 gallon storage tank. Samples shall be collected on a quarterly basis to show compliance with Part I Section 1 and on an annual basis to show compliance with Part I Section 2.

Laboratory analysis of samples collected shall be performed in accordance with 40 CFR Part 136 or other such methods as approved by the District.

SECTION 2--Reporting Requirements

Self-monitoring results shall be reported to the District within three days of the end of the calendar quarter.

If the permittee monitors any pollutant more frequently than required by this permit, the results of such monitoring shall be submitted to the District.

If sampling performed by the permittee indicates a violation of any provisions of this permit, the permittee must notify the District of the violation within 24 hours of becoming aware of it. The permittee must also repeat the sampling and analysis and submit the results of the repeat analysis to the District within 30 days after becoming aware of the violation.

All reports shall be signed and sworn by a responsible corporate officer of the permittee. A responsible corporate officer is defines as:

1. A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy-or decision-making functions for the permittee, or

2. The manager of one or more manufacturing, production, or operation facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million, if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

The individual signing the report shall make the following certification:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

All reports required by this permit shall be submitted to:

Madison Metropolitan Sewerage District
1610 Moorland Road
Madison, Wisconsin 53713

The Madison Metropolitan Sewerage District will randomly collect and analyze samples of leachate to verify leachate quality.

PART 3--MONITORING AND SAMPLING FACILITIES

SECTION 1--Sampling Facilities

In order to permit monitoring of the leachate, by the District, the permittee shall construct facilities to allow for collection of a representative sample from the on-site 25,000 gallon storage tank.

SECTION 2--Discharge Permit

Since the Refuse Hideaway Landfill is outside the District's service area, all wastewater from the site shall be hauled to the Nine Springs Wastewater Treatment Plant and disposed of at a designated location at this plant. The hauler shall have in effect a Septage Disposal Permit issued by the District.

PART 4--GENERAL CONDITIONS

1. Right of Entry

The permittee shall, after reasonable notification by the District, allow the District or its representatives, exhibiting proper credentials and identification, to enter upon the premises of the permittee at all reasonable hours, for the purposes of inspection, sampling, or records inspection. Reasonable hours in the context of inspection and sampling includes any time the permittee is operating any process which results in collection of wastewater in the on-site storage tank.

2. Records Retention

a) The permittee shall retain and preserve for no less than three (3) years, any records, books, documents, memoranda, reports, correspondence and any and all summaries thereof, relating to monitoring, sampling and chemical analyses made or by or in behalf of the permittee in connection with its discharge.

b) All records that pertain to matters that are the subject of special orders or any other enforcement or litigation activities brought by the District shall be retained and preserved by the permittee until all enforcement activities have concluded and all periods of limitation with respect to any and all appeals have expired.

3. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

4. Confidential Information

Except for data determined to be confidential under Article 7.2 MMSD Sewer Use Ordinance, all reports required by this permit shall be available for public inspection at the headquarters of the District.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a) The exact place, date, and time of sampling;
b) The dates the analyses were performed;

c) The person(s) who performed the analyses;
d) The analytical techniques or methods used; and
e) The results of all required analyses.

6. Falsifying Information

Knowingly making any false statement on any report or other document required by this permit or knowingly rendering any monitoring device or method inaccurate, may result in punishment under the criminal laws of Wisconsin as well as being subjected to civil penalties and relief.

7. Modification or Revision of Permit

a) The terms and conditions of this permit may be subject to modification by the District at any time as limitations or requirements as identified in the MMSD Sewer Use Ordinance are modified or other just cause exists.

b) This permit may also be modified to incorporate special conditions resulting from the issuance of a special order.

c) Any modifications which result in new conditions in the permit shall include a reasonable time schedule for compliance if necessary.

8. Dilution

No permittee shall increase the use of potable or process water or, in any way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in this permit.

9. Accidental Discharges

The permittee shall provide protection from the accidental discharge of prohibited or regulated materials or substances established by the MMSD Sewer Use Ordinance. Where necessary, facilities to prevent the accidental discharge of prohibited materials shall be provided and maintained at the permittee's expense. Permittees shall notify the District immediately upon the occurrence of an accidental discharges of substances prohibited by the MMSD Sewer Use Ordinance. The District should be notified by telephone at 222-1201. During normal business hours the modification shall be made to the Director of Wastewater Treatment Operations. During other times, the notification shall be made to the operator on duty. The notification shall include location of discharge, date and time thereof, type of waste, concentration and volume, and corrective actions taken. The permittee shall also provide such notification to the appropriate local municipal officials. In addition, the

permittee should immediately notify the State of Wisconsin of the accidental spill at (608) 266-3232 (twenty-four hour number).

40 CFR 403.8(f) (v) requires the District to evaluate each significant industrial user at least once every two years to determine whether a plan to control slug discharges is necessary. If it is determined that such a plan is necessary, the plan shall contain the following:

1. A description of discharge practices including non-routine batch discharges.

2. A description of stored chemicals.

3. Procedures for immediately notifying the District of a slug discharge and procedures for follow-up written notification within five days.

4. Procedures to prevent adverse impact from accidental spills.

10. Notice of Intent

Any permittee planning to alter or change any activity at the permittee's facility that would significantly increase or decrease the volume or alter the content of any existing source of industrial wastewater discharge into the District sewerage system must file a written Request to Discharge Form in accordance with Article 5 of the MMSD Sewer Use Ordinance. A significant increase or decrease shall be defined at a twenty-five percent increase or decrease in the volume of industrial wastewater currently being discharged by a permittee. An alteration shall be defined as any change in chemicals utilized with a process which will significantly alter the characteristics of the industrial waste discharge or the addition of any new process or production wastewater discharges.

11. Proper Disposal of Pretreatment Sludges

The disposal of sludges generated within wastewater pretreatment systems shall be done in accordance with Section 405 of the Clean Water Act and Subtitles C and D of the Resource Conservation and Recovery Act.

12. Operating Upsets

Any permittee that experiences an upset in operations that places the permittee in a temporary state of noncompliance with the provisions of either this permit or the MMSD Sewer Use Ordinance shall inform the District thereof within twenty-four hours of first awareness of the commencement of the upsets in accordance with Article 5.5.5 of the MMSD Sewer Use Ordinance.

13. Limitations on Permit Transfer

Wastewater discharge permits are issued to a specific user for a specific operation and are not assignable to another user or transferable to any other location without prior written approval of the District. Sale of a user shall obligate the purchaser to seek prior written approval of the District for continued discharge to the District sewerage system.

14. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

15. Fees

The permittee will incur all costs billed by the District for leachate discharged to the District's sewerage system for leachate quantities and strengths as reported by the permittee to the District and as ascertained by the District through additional sampling. The costs shall include charges for the volume, CBOD, Total Suspended Solids, and Total Kjeldahl Nitrogen discharged and for ten (10) equivalent meters and one (1) actual customer and shall be based on the then prevailing District service charge rates. In accordance with the District's Policy on Acceptance of Wastewater Generated Outside of the District, a cumulative 10 percent surcharge shall be imposed on the discharge cost each quarter until such surcharge reaches 100 percent.

16. Hazardous Waste Notification

The permittee shall notify the District, the Department of Natural Resources, and the EPA Regional Waste Management Division Director in writing of any discharge to the sanitary sewer system of a substance which, if otherwise disposed of, would be hazardous water under 40 CFR Part 261. Such notification must include the name of the hazardous waste as set forth in 40 CFR Part 261, the EPA hazardous waste number, and the type of discharge. If the permittee discharges to the sanitary sewer more than 100 kilograms of such waste per calendar month, the additional notification requirements of 40 CFR 403.12 (p) apply. In the case of any notification made under this section, the permittee shall certify that it has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

17. Penalties

Violations of this permit are enforceable under Article XIII of the District's Sewer Use Ordinance. Included as enforcement remedies are special orders, injunctive relief, fines, and termination of service.

18. Bypass of Pretreatment Facilities

Bypassing of any permittee pretreatment facilities is only allowed in accordance with the provisions of 40 CFR 403.17. If the permittee knows in advance of the need for a bypass, it shall submit notice to the District, if possible at least ten days before the date of the bypass.