

St. Louis County (SW)
West Lake SLF

file



JOHN ASHCROFT
Governor

RON KUCERA
Acting Director

Division of Energy
Division of Environmental Quality
Division of Geology and Land Survey
Division of Management Services
Division of Parks, Recreation,
and Historic Preservation

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL QUALITY
ST. LOUIS REGIONAL OFFICE
10805 Sunset Office Drive, Suite 100
St. Louis, MO 63127-1017
314-822-0101
Fax No. 314-822-0943

December 30, 1992

Mr. Glenn A. O'Bryan
Laidlaw Waste Systems, Inc.
13570 St. Charles Rock Road
Bridgeton, MO 63044

Dear Mr. O'Bryan:

Enclosed is a report of an inspection conducted by Mr. Joe Trunko of my staff. The report contains recommendations which the inspector has determined are warranted based on his findings at the facility.

Please review the report and implement the recommendations presented. Should you have any questions or comments, please contact the St. Louis Regional Office at (314) 822-0101.

Sincerely,

ST. LOUIS REGIONAL OFFICE

A handwritten signature in cursive script that reads "Robert S. P. Eck".

Robert S. P. Eck
Regional Director

RSPE/EP/lv

Enclosures

c: SWMP
Brad Bomanz, St. Louis County Health Dept., Solid Waste
Miles Stotts, Laidlaw Waste Systems, Inc.
Dennis Wike, Laidlaw Waste Systems, Inc.



St. Louis County
West Lake SLF

SANITARY LANDFILL INSPECTION REPORT

FACILITY

West Lake (Bridgeton) Sanitary Landfill
Laidlaw Waste Systems, Inc.
St. Louis County
MDNR Permit #118912

INTRODUCTION

On December 29, 1992, the above referenced facility was inspected for compliance with regulations pursuant to the Missouri Solid Waste Management Law. Messrs. Joe Trunko and Terry Hoevelkamp represented the Missouri Department of Natural Resources (MDNR), St. Louis Regional Office. Also present was Mr. Frank Dolan of the MDNR, Solid Waste Management Program. Ms. Sue Taylor and Mr. Brad Bomanz represented the St. Louis County Health Department. Mr. Glenn A. O'Bryan represented the facility.

FINDINGS

1. A large amount of exposed waste was observed at the facility.
2. Erosion gullies were observed in the wet-weather area.
3. An underground fire was occurring in the wet-weather area.
4. The new flare has not been constructed.
5. Regulated quantities of hazardous waste have been disposed of at this facility.

DISCUSSION

A large amount of exposed waste was observed in the wet-weather area, along the quarry walls and in the north area of the active pit. Exposed waste may contribute to the generation of odors at this facility. Efforts must be made to ensure that at least six inches of compacted cover is applied daily and that inactive areas are recovered and regraded as needed.

As per the approved engineering report, intermediate cover (one foot of compacted soil) is not required at this facility until the landfill reaches an elevation where surface water can be drained to the natural ground surface. The lack of intermediate cover on the inactive sections of the landfill may also be contributing to odor generation. Consideration should be made by Laidlaw to apply intermediate cover, especially if odor problems persist after completion and start up of the new gas extraction system. The intermediate cover could be stripped off when landfilling resumed in an inactive area. A permit modification request must be submitted to the SWMP if this is pursued.

Numerous erosion gullies were observed on the south slope of the wet-weather area. The occurrence of erosion in this area is common due to the steep slope and the large amount of surface water that drains into this area. Actions to minimize the erosion, such as the establishment of vegetation and/or terracing, should be taken.

An underground fire was burning in the wet-weather area near the quarry wall. Additional cover had been placed along the quarry wall in order to minimize the flow of oxygen into the fill. Mr. O'Bryan stated that additional actions would be taken (such as grouting the walls) should the fire continue.

Installation of the new flare has been delayed due to zoning restrictions by the City of Bridgeton. As a result of this delay, Laidlaw has decided to relocate the flare to an area that will not require zoning approval (area of existing flare station). Due to the continued odor problem at this facility, it is imperative that construction of the flare be completed as soon as possible.

On August 5, 1992, approximately 10 cubic yards of filter waste from the P.D. George Company was dumped at this facility. A hazardous waste determination performed by P.D. George has shown that the filters contained cresols above the regulatory limit as specified in 40 CFR 261. Laidlaw has developed a plan for removal of the waste. Selection of a consultant for coordinating the project is near completion. As per a letter dated December 14, 1992, from Glenn O'Bryan to the Department, a timeline for removal of the waste will be submitted to the Department by January 31, 1993. The project is scheduled to be completed by March 31, 1993.

RECOMMENDATIONS

1. Additional cover must be applied to all areas of exposed waste. Efforts must be made to ensure that at least six inches of compacted cover is applied to the active face on a daily basis. The regrading and recovering of fill areas must be performed on a regular basis so that erosion of cover material is minimized and solid waste is not exposed.
2. Consideration should be made by Laidlaw to apply intermediate cover to inactive areas at the facility should odor problems persist.
3. The south slope of the wet weather area should be terraced and/or vegetation established so that erosion on the area is minimized.
4. Continue with efforts to eliminate the fire in the wet-weather area.
5. By February 1, 1993, construction of the new flare must be completed and the gas collection system must be operable. Failure to complete construction of the flare by this date may result in the initiation of enforcement action by the Department.



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 DIVISION OF ENVIRONMENTAL QUALITY
 SOLID WASTE AND RECOVERED MATERIALS DATA SHEET

NAME OF FACILITY Westlake (Bridgeton) Sanitary Landfill		PERMIT NUMBER 118912
DATE 12-29-92	REGIONAL OFFICE St. Louis	INSPECTOR Joseph L. Trunko

TIPPING FEES		WHITE GOODS N/A
CUBIC YARD \$8.00 compacted	PICKUP LOAD -	
\$20.00 Special waste	CAR LOAD -	TIRES N/A
TON \$10.50 Dumd		

APPLICABLE *	TYPE OF MATERIAL RECOVERED	AMOUNT RECOVERED/MONTH CUBIC YARDS OR TONS	AMOUNT RECYCLED/MONTH CUBIC YARDS OR TONS
N/A	ALUMINUM Cans Scrap	_____	_____
	OTHER METAL Ferrous Non-Ferrous	_____	_____
	PAPER Newspaper Corrugated Computer/White Mixed	_____	_____
	GLASS Clear Mixed	_____	_____
	PLASTIC Milk Jugs Soda Bottles Mixed	_____	_____
	CAR BATTERIES	_____	_____
	TIRES	_____	_____
	WHITE GOODS	_____	_____
	COMPOST FROM YARD WASTE	_____	_____
	COMPOST FROM SOLID WASTE	_____	_____

NOTE * CHECK IF APPLICABLE
 PRINT "N/A" IF NOT APPLICABLE



MISSOURI DEPARTMENT OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY
SANITARY LANDFILL INSPECTION CHECKLIST

TYPE OF INSPECTION ▶ Quarterly

I GENERAL INFORMATION

DATE OF INSPECTION 12-29-92	DAYS/WEEK OPEN 6 (4:30-4:00 M-F) 6-1 Sat	TIME OF ARRIVAL 9:30 a.m.
WEATHER Overcast, wet	TEMPERATURE 50°F	
FACILITY NAME Westlake (Bridgeton) Sanitary Landfill	COUNTY St. Louis	PERMIT NUMBER 118912
OWNER Laidlaw Waste Systems, Inc.	TELEPHONE NUMBER (314) 739-1919	
ADDRESS 13570 St. Charles Rock Road	CITY Bridgeton	STATE MO ZIP CODE 63044
OPERATOR Same as owner	TELEPHONE NUMBER "	
ADDRESS "	CITY "	STATE " ZIP CODE "

II REMAINING LIFE OF LANDFILL	AREA SERVED
A. Estimated quantity of waste accepted, # 35,000 (yards) or tons/week	A. Cities: St. Louis, various municipalities
B. Estimated life of remaining landfill 10 years.	B. Counties: St. Louis, St. Charles
C. Fixed operating term date, 11-18-95.	

NOTE ▶ Check all subsections: SAT-Satisfactory or UNS-Unsatisfactory. If necessary, describe "UNS" violations under "Remarks." SAT UNS

10 CSR 80-2.020 PERMIT ISSUANCE, SPECIAL OPERATING PERMITS, AND PERMIT EXEMPTIONS			
(5)(E)	SITE CONSTRUCTED AND OPERATED PER APPROVED TERMS AND CONDITIONS OF PERMIT.	✓	
10 CSR 80-2.080 CERTIFIED SOLID WASTE TECHNICIANS			
(2)(A)	CERTIFIED SOLID-WASTE TECHNICIAN. (Joe Durako)	✓	
10 CSR 80-3.010 SANITARY LANDFILLS DESIGN AND OPERATION			
(2)	SOLID WASTE ACCEPTED (2)(C)1. BULKY SOLID WASTE CRUSHED ON SOLID GROUND.	✓	
(2)(C)2.	SMALL DEAD ANIMALS COVERED IMMEDIATELY.	✓	
(3) SOLID WASTE EXCLUDED AND SPECIAL WASTE APPROVALS			
(3)(C)1.	THE DISPOSAL OF SPECIAL WASTE APPROVED IN THE PERMIT IN ACCORDANCE WITH APPROVED PLANS.	✓	
(3)(C)2.A.	WRITTEN APPROVAL FOR SPECIAL WASTE NOT APPROVED IN PERMIT.	✓	
(3)(C)2.B.	APPROVED SPECIAL WASTE DISPOSED OF PROPERLY.	✓	
(3)(C)3.	SIGN POSTED AT ENTRANCE LISTING EXCLUDED WASTES.	✓	
(3)(C)4.	PROCEDURE FOR SCREENING AND REMOVAL OF EXCLUDED WASTES.	✓	
(3)(C)5.	LARGE DEAD ANIMALS PLACED IN PIT AND COVERED WITH FOUR FEET OF COMPACTED SOIL.	✓	
(3)(C)6.	EXCLUDED WASTES LISTED IN SUBSECTION (3)(A) OF THIS RULE NOT ACCEPTED FOR DISPOSAL. (1)	✓	✓
(4) SITE SELECTION (4)(C)1.	SITE ACCESSIBLE IN ALL WEATHER CONDITIONS. TEMPORARY ROADS PROVIDED TO WORKING FACE.	✓	
(4)(C)2.	IF ACCESS ROADS ARE FLOODED, ALTERNATE SANITARY LANDFILL AVAILABLE. NAME:	✓	
(5) DESIGN (5)(C)1.	CONSTRUCTION AND OPERATION OF THE SITE IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.	✓	
(5)(C)2.	MINIMUM 50-FOOT BUFFER ZONE MAINTAINED.	✓	
(5)(C)3.	OPERATING MANUAL AVAILABLE.	✓	
(6) SURVEY CONTROL			
(6)(C)1.	BOUNDARY MARKERS, BENCHMARKS, HORIZONTAL CONTROL STATIONS, & CONSTRUCTION STAKES CLEARLY MARKED & IDENTIFIED.	✓	
(6)(C)2.	MISSING OR DISPLACED BENCHMARKS OR HORIZONTAL CONTROL STATIONS REESTABLISHED.	✓	
(6)(C)3.	MISSING OR DISPLACED CONSTRUCTION STAKES REESTABLISHED.	✓	
(6)(C)4.	MONUMENTS AND BOUNDARY MARKERS PLACED PRIOR TO RECEIVING AUTHORIZATION TO OPERATE.	✓	
(6)(C)5.	CONSTRUCTION STAKES MARKING THE ACTIVE AREA PLACED PRIOR TO DEPOSITION OF WASTE.	✓	
(7) WATER QUALITY			
(7)(C)1.	SURFACE WATERCOURSES & RUNOFF PROPERLY DIVERTED. CONSTRUCTION & GRADING TO PROMOTE RUNOFF WITHOUT EXCESSIVE EROSION. (4)	✓	✓
(7)(C)2.	CONTACT BETWEEN WATER AND SOLID WASTE MINIMIZED.	✓	
(7)(C)5.	LEACHATE GENERATED ON-SITE CONTROLLED ON-SITE AND NOT ALLOWED TO DISCHARGE OFF SITE OR DISCHARGE INTO WATERS OF THE STATE.	✓	
(8) GROUND-WATER MONITORING			
(8)(C)1.B.	GROUND-WATER-MONITORING WELLS OPERATIONAL PRIOR TO ACCEPTANCE OF WASTE.	✓	
(9) AIR QUALITY			
(9)(C)	BURNING OF SOLID WASTE PROHIBITED UNLESS A BURNING PERMIT IS OBTAINED.	✓	

			SAT	UNS
(10) GAS CONTROL	(10)(C)1.	DECOMPOSITION GAS CONTROL SYSTEMS IMPLEMENTED AS NECESSARY. (3)		✓
(10)(C)2.A.	METHANE NOT ALLOWED TO CONCENTRATE IN BUILDINGS ON-SITE ABOVE 25 PERCENT LEL FOR METHANE.		✓	
(10)(C)2.B.	METHANE NOT ALLOWED TO CONCENTRATE IN THE SOIL AT THE PROPERTY BOUNDARY ABOVE 5 PERCENT LEL FOR METHANE.		✓	
(10)(C)3.	DECOMPOSITION GAS MONITORING RESULTS SUBMITTED TO THE DEPARTMENT AS REQUIRED BY PERMIT.		✓	
(11) VECTORS	(11)(C)	VECTOR CONTROL PROGRAMS IMPLEMENTED WHEN NECESSARY.	✓	
(12) AESTHETICS			✓	
(12)(C)1.	LITTER CONTROL DEVICES UTILIZED AS NEEDED. LITTER COLLECTED & INCORPORATED INTO THE ACTIVE CELL AT THE END OF EACH DAY OR PLACED IN CONTAINERS.		✓	
(12)(C)2.	WASTES EASILY MOVED BY WIND COVERED AS NECESSARY.		✓	
(12)(C)3.	ON-SITE VEGETATION CLEARED ONLY AS NECESSARY.		✓	
(12)(C)4.	SALVAGED MATERIALS REMOVED DAILY OR STORED IN AESTHETICALLY ACCEPTABLE CONTAINERS.		✓	
(13) COVER	(13)(C)1.	DAILY COVER APPLIED.	✓	
(13)(C)2.	INTERMEDIATE COVER APPLIED. (L)		✓	
(13)(C)3.	FINAL COVER APPLIED.		✓	
(13)(C)4.	FINAL SIDE SLOPES NOT TO EXCEED 33.3 PERCENT.		✓	
(13)(C)5.	VEGETATION ESTABLISHED WITHIN 180 DAYS OF APPLICATION OR REGRADING OF COVER.		✓	
(13)(C)6.	REGRADING AND RECOVERING AS NECESSARY. (3)			✓
(14) COMPACTION	(14)(C)1.	SOLID WASTE HANDLING EQUIPMENT ON-SITE AND OPERATED AS NECESSARY.	✓	
(14)(C)1.A.	SOLID WASTE TO BE COMPACTED, SPREAD IN LAYERS NO MORE THAN 2 FEET THICK, & CONFINED TO SMALLEST PRACTICAL AREA.		✓	
(14)(C)1.B.	WASTE COMPACTED TO SMALLEST PRACTICAL VOLUME.		✓	
(14)(C)1.C.	COVER COMPACTED AS MUCH AS PRACTICAL.		✓	
(14)(C)2.	PREVENTIVE MAINTENANCE PERFORMED ON EQUIPMENT.		✓	
(14)(C)3.	SOLID WASTE NOT DISPOSED OF IN WATER.		✓	
(15) SAFETY	(15)(C)1.	FIRE EXTINGUISHERS PROVIDED.	✓	
(15)(C)2.	ALL FIRES IN WASTES BEING DELIVERED AT THE WORKING FACE OR WITHIN EQUIPMENT EXTINGUISHED.		✓	
(15)(C)3.	COMMUNICATIONS EQUIPMENT AVAILABLE.		✓	
(15)(C)4.	SCAVENGING PROHIBITED.		✓	
(15)(C)5.	CONTROLLED ACCESS TO SITE BY ESTABLISHED ROADWAYS & LIMITED TO HOURS WHEN OPERATING PERSONNEL ARE ON DUTY.		✓	
(15)(C)6.	TRAFFIC CONTROLLED AND DIRECTED TO DISTINGUISH DISPOSING POINTS.		✓	
(15)(C)7.	SITE DUST CONTROLLED.		✓	
(16) RECORDS	(16)(C)1.A.	RECORDS OF MAJOR PROBLEMS AND COMPLAINTS.	✓	
(16)(C)1.B.	MONITORING RECORDS		✓	
	A. LEACHATE SAMPLING AND ANALYSES.			
	B. GAS SAMPLING AND ANALYSES.			
	C. GROUND- AND SURFACE-WATER ANALYSES.		✓	
(16)(C)1.G.	RECORDS OF VECTOR-CONTROL EFFORTS.		✓	
(16)(C)1.D.	RECORDS OF DUST- AND LITTER-CONTROL EFFORTS.		✓	
(16)(C)1.E.	RECORDS OF QUANTITY OF WASTE HANDLED.		✓	
(16)(C)1.F.	RECORDS OF DESCRIPTION, SOURCES, AND VOLUME OF SPECIAL WASTES LISTED IN SUBSECTION (3)(A).		✓	
OTHER DESIGN SPECIFICATIONS				
(7)(C)3.	LEACHATE COLLECTION SYSTEM PROPERLY INSTALLED AND OPERATED.		✓	
(7)(C)4.	LINER CONSTRUCTED BY APPROVED DESIGN SPECIFICATION.		✓	
(8)(C)1.A.	GROUNDWATER MONITORING WELLS INSTALLED.		✓	
(13)(C)7.	BORROW AREAS RECLAIMED.		✓	

REMARKS

- (1) 10 yds³ of creosote waste from PD George has been disposed of at the facility.
- (2) Location of the flare has been changed to avoid zoning delays. Construction must be completed by 2/1/93.
- (3) Exposed waste observed along quarry walls, in wet weather area and in north section of active pit.
- (4) erosion on south side of wet weather area - should be terraced and/or seeded.

TO THE OWNER/OPERATOR:

This inspection of your facility has been conducted under the authority of Sec. 260.225.1 (9) RSMo. The department representative has marked those items found in violation of the applicable environmental laws and regulations adopted thereunder pertaining to your facility. Your signature below or that of your agent acknowledges that you have been notified of the deficiencies and have received recommendations and specific time frames for corrective action(s). If future inspections determine these violations persist, the Department may proceed with more formal enforcement procedures as authorized under Sections 260.230 and 260.240 RSMo, including but not limited to the assessment of penalties up to \$1000 per day for each day, or part thereof, the violation occurred. If any questions occur following your receipt of this inspection record, please contact the inspector named below.

COMPLIANCE EVALUATION

- Facility in Compliance
- Facility Not in Compliance
 - Notice of Violation Issued: ___/___/___
 - Return to Compliance By: 1/31/93
 - Follow-up Visit Scheduled: ___/___/___

SIGNATURE OF INSPECTOR <i>Joseph A. Lumbro</i>	OFFICE St. Louis	COPY RECEIVED BY By Mail
OFFICE ADDRESS 10805 Sunset Office Dr., St. Louis, Mo 63127	TELEPHONE (314) 822-0101	TITLE -

**ST. LOUIS COUNTY HEALTH DEPARTMENT
WASTE MANAGEMENT SECTION**

SANITARY LANDFILL SURVEILLANCE RECORD

Date: 12/29/92 Days/Week Open: 6
 Name of Facility: Laidlaw Waste Systems (Sanitary)
 Permit No.: 0419 Expires: 6/22/93
 Owner: Laidlaw Waste Systems Inc.
 Address: 13570 St. Charles Rock Rd.
Bridgeton, MO 63044

Estimated amount of solid waste coming through gate.
 Compacted Loads 42,250 yds./wk. _____ tons/wk.
 Noncompacted Loads _____ yds./wk. _____ tons/wk.

Estimated volume of remaining landfill covered by approved engineering plans. _____ acre(s) 11.5 years

**Ordinance 13,320 Chapter 607
Compliance Status**

*Check all sections: SAT-Satisfactory; UNS-Unsatisfactory; * - Area(s) requiring additional attention.*

Section Number	Satisfactory Compliance Operating Procedure	SAT	*	UNS	Section Number	Satisfactory Compliance Operating Procedure	SAT	*	UNS
FACILITY PLAN					WATER QUALITY				
720.0	Operations comply with facility plan.	X			730.11	Surface water courses diverted.			X
SOLID WASTE HANDLING						Grading promotes surface water runoff without excessive erosion.			X
730.5	Bulky waste crushed and pushed to bottom of cell.	X				Grading does not exceed 33 1/3%.	X		
730.6	Demolition and construction waste, tree stumps, etc. pushed to bottom of cell.	X				Surface water courses and runoff control 20 year rainfall.	X		
730.7	Dead animals under 40 lbs. covered immediately.	X			730.12	Minimum 15 feet between waste and maximum water table.	X		
730.8	Dead animals over 40 lbs. placed in pit and covered with 4 ft. of compacted soil.	X			730.13	Water quality protection secure (ie. liner, bedrock).	X		
730.9	Water treatment plant sludges incorporated into active face and covered immediately.	X			730.14	Leachate and treatment systems used where necessary.	X		
	Quantity of sludges does not interfere with normal active face operation.	X			760.15	Ground/surface water not contacting waste.			X
730.10	Incinerator and air pollution control residues incorporated into working face and prevented from becoming airborne.	X			730.35	All drinking water sources within 1/4 mile sampled annually.	X		
SOLID WASTE EXCLUDED					COVER MATERIAL				
730.4	Responsible supervisor present.	X			730.3	Minimum of 6 inches approved cover applied daily.	X		
760.0	Entrance sign posted listing wastes not accepted.	X				Minimum 15 day stockpile of daily cover.	X		
SAFETY					730.32	Intermediate cover (min. 1 ft. after compaction) applied to all areas idle more than 60 days.			
730.25	Fire extinguishers provided on all equipment.	X			730.33	Final cover (min. 2 ft. after compaction) applied to completed areas.	X		
730.26	Provisions made for extinguishing fires.	X			COMPACTION				
730.27	Communications equipment met standard.	X			730.1	Solid waste spread in layers not to exceed 2 ft. and reduced to smallest volume.	X		
730.28	Scavenging prohibited.	X			730.2	Waste confined to smallest practical area on working face.	X		
730.29	Controlled access limited to operating hours.	X			730.24	Adequate equipment maintained and operated.	X		
730.30	Traffic directed to designated disposal points.	X							
730.31	Dust control adequate.	X							

Section Number	Satisfactory Compliance Operating Procedure	SAT	UNS	Section Number	Satisfactory Compliance Operating Procedure	SAT	UNS
AIR QUALITY				VECTORS			
730.16	No open burning without permission.	X		730.19	Vector control programs implemented.	X	
GAS CONTROL				RECORDS			
730.17	Decomposition gas control implemented.		X	730.35	Records maintained to cover:		
730.18	Gases vented to prohibit explosive or toxic accumulations.		X		a. Major problems and complaints.	X	
AESTHETICS					b. Monitoring of leachate, gas, ground, and surface water sampling and analyses.		*
730.20	Litter control devices used properly.	X			c. Vector control efforts.	X	
	Litter collected and secured daily.	X			d. Dust and litter control efforts.	Y	
730.21	Blowable waste covered promptly.	X		e. Quantity of waste handled.	X		
730.22	Vegetation and natural windbreaks used where necessary.		X	BONDING			
730.23	Salvaged materials stored or removed daily.	X		690.1	Operating bond adequate.	Y	
730.34	Final vegetation planted and graded as required.	X		CLOSURE			
				790.1	Final cover and vegetation provided.	X	

Weather Conditions: rainy, cloudy, 50° and breezy


Observed With: Glen O'Bryan, Laidlaw Waste Systems; Joe Trunko, Frank Dolan & Terry Hoevelkamp, MDNR; Sue Taylor and Brad Bomanz, St. Louis County

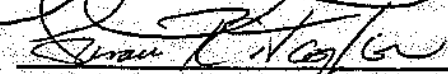
Consulted With: SAME

Additional Remarks/Comments: 1. Exposed waste was noted along the quarry walls in pit #3. A new technique of running the compactor parallel to the quarry walls and providing additional cover will, hopefully, remedy the problems of poorly compacted waste and insufficient cover material in these areas. It is to be noted that inadequate soil cover along quarry walls will contribute to passive gas venting and thus contribute to the enormous odor problem currently existing at this site. The new gas flaring system's 60 horsepower motor should increase subterranean negative air pressure. Areas with exposed waste and inadequate cover could have detrimental effects on the effectiveness of the gas extraction system by drafting in ambient air (02).

2. The subterranean fire in pit #2 which was first noted Sept. 25, 1992 appears to have subsided.

cc:


Signature of Inspector


Signature of Section Chief

OVER

Laidlaw Waste Systems (Sanitary)

Page 2

3. A request to provide the office with leachate sampling/recording procedures is pending.
4. Surface water courses are not diverted from pit #3. This problem has been noted by Mr. O'Bryan and plans to recontour the site and provide drainage away from the landfill are in the planning stage.
5. Grading contours are promoting erosion and creating areas of exposed waste on the northern slope of pit #3. Plans by Laidlaw to address this issue such as terracing, strategic placement of straw bales and the application of additional soil cover were proposed by Mr. O'Bryan as possible solutions.

This office is requesting Laidlaw to submit in writing within two (2) weeks from receipt of this inspection an implementation schedule to correct violations [Section 607.730.11 (surface water courses diverted and proper grading as indicated) and 607.760.15 (surface water not contacting waste)]. If corrections have not been completed within the specified schedule, legal notification may ensue.

cc: Glen O'Bryan, Laidlaw, Oper. Mgr.
John Boonstra, Laidlaw, Reg. Div. Mgr.
Joe Trunko, NDNR-SLRO
Richard Houchin, Bridgeton City Hall
Glen Hampton, St. Louis Co. Waste Mgmt.


Signature of Inspector


Signature of Section Chief

St. Louis Regional Office
Date Received

JAN 28 93

Route:

APCU	APCU
SWKU	SWKU
WP-PRMT	WP-PRMT
ICMII	ICMII



Laidlaw Waste Systems Inc.

January 7, 1993

JAN 12 '92

Mr. Brad Bomanz, C.P.S.
Environmental Control Inspector
St. Louis County Department of Health
111 South Meramec Avenue
Clayton, Missouri 63105

Route:

APCU

SWMU

WET WEATHER

WET WEATHER

Jac T

Re: Laidlaw Waste Systems (Bridgeton), Inc.

Dear Mr. Bomanz,

Pursuant to your request, this letter outlines the recent chronology of the underground fire located in the wet weather area. I was first made aware of the fire on November 30, 1992. At that time, small wisps of smoke were emanating from the quarry wall in a few locations around the wet weather area. The magnitude of the problem was not significant at that time. We began a daily inspection of the area, beginning the next day. On December 7, 1992, the fire was dramatically more intense, with visible flames at the north quarry wall in the wet weather area. Site personnel removed burning debris from the sidewall, and began placing a soil berm along the entire north wall. Further, the landfill gas collection system in this area was turned off. The berm along the north was completed on December 8. The landfill gas collection system was then turned back on December 9. Since then, site personnel have conducted daily visual inspections of the area. Persistent wisps of smoke and/or steam continue to be present in a few locations along the eastern quarry wall. I have determined that the smoke is finding a pathway through weathered rock and presenting itself approximately 15' above the elevation of the refuse in that location.

As conditions warrant, we are placing additional soil along the walls and over the area as a whole. We are also developing some data in the area by taking temperature readings in the landfill gas system. Additionally, we have purchased a Drager tube sampling pump and CO tubes. We are training site personnel in the use of this equipment and sampling will begin in the very near future.



LAIDLAW WASTE SYSTEMS INC.

I will keep you apprised of further developments in this area and the data generated from the described monitoring. Should any questions arise or clarification be necessary, please call me at (314) 739-1919.

Sincerely,

A handwritten signature in dark ink, appearing to read "Glenn A. O'Bryan", with a horizontal line extending to the right.

Glenn A. O'Bryan, P.E.
General Manager

cc: Joseph L. Trunko, MDNR
Dennis Wike, Laidlaw

St. Louis Regional Office
Data Received

JAN 12 '92

Route:

ADAM	APCU
EWING	SWMU
WATSON	WP-PRIME
WATSON	WATSON



January 25, 1993

Mr. Robert S.P. Eck, Regional Director
Missouri Department of Natural Resources
Division of Environmental Quality
St. Louis Regional Office
10805 Sunset Office Drive, Suite 100
St. Louis, Missouri 63127-1017

Re: Laidlaw Waste Systems (Bridgeton), Inc.
Bridgeton Sanitary Landfill
MDNR Permit #118912

Dear Mr. Eck,

Pursuant to your December 30, 1992 letter, this correspondence outlines the steps that we are undertaking to address the issues raised by the inspection performed by members of your staff on December 29, 1992. Specifically referencing items from the inspection report area FINDINGS:

1. A large amount of exposed waste was observed at the facility.
2. Erosion gullies were observed in the wet-weather area.

Wet Weather Area (WWA) - We started cover improvements in the WWA during the week of January 4, 1993. This activity is ongoing and has been done in tandem with the construction of a new 12" landfill gas (LFG) pipe which traverses the WWA. Further actions, as weather allows, will include adding an estimated 7800 bcy of soil to the WWA, constructing a soil wedge along approximately 600' of the quarry wall in the WWA, constructing erosion control berms and installing downdrains. In conjunction with the underground fire (see next item) we may install a synthetic cover over the WWA for oxygen deprivation, or we may vegetate the area. A final decision will be made after additional study of the underground fire character and extent.

Northern Area of the Active Pit - The northern area of the active pit has been regraded and repaired.



3. An underground fire was occurring in the wet-weather area.

A number of actions have already been taken on this issue. Our first effort has been directed toward shutting off oxygen pathways to the fire. Toward that end, we installed a soil wedge along the north wall of the WWA on December 8, 1992. As described above, we are adding to the soil wedge along the eastern and southwestern edges of the WWA along the quarry walls. This effort, combined with the additional cover soils in the WWA should dramatically reduce the oxygen potential. Further, we have purchased a Drager sampling pump and carbon monoxide (CO) tubes and a thermometer, to monitor LFG flows from the area, as well as the wisps of smoke/steam which emanate from the quarry wall in a few locations. We will monitor this situation daily and keep the Department apprised of the results.

4. The new flare has not been constructed.

Site clearing was started on the new flare location on December 28, 1992. Construction began on January 4, 1993. The concrete foundation and pad are now complete. The blowers, piping, and electrical will be installed during the week of January 18. The flare stack will be installed during the week of January 25, and we expect the flare to be operational during this same week.

5. Regulated quantities of hazardous waste have been disposed of at this facility.

We submitted a plan to the MDNR on December 14, 1992 for the remediation of this issue, with a completion date of March 31, 1993.

We trust that this correspondence satisfactorily addresses the concerns from the referenced inspection. Should any questions arise or clarification be necessary, please call me at (314) 739-1919.

Sincerely,


Glenn A. O'Bryan, F.E.
General Manager

cc: Joe Trunko, MDNR
Brad Bomanz, St. Louis County Health Department
Miles Stotts, Laidlaw
Dennis Wike, Laidlaw



St. Louis Regional Office
Date Received

March 20, 1993

MAR 24 '93

Ms. Sue Taylor, Supervisor
Waste Management Section
St. Louis County Department of Health
111 South Meramec Avenue
Clayton, Missouri 63105

Route:
ADMU _____ APCU _____
HWMU _____ SWMU _____
WP-SURV _____ WP-PERMIT _____
PDWP _____ TENDU _____
Copies to: _____

Re: Laidlaw Waste Systems (Bridgeton), Inc.
Bridgeton Sanitary Landfill
St. Louis County Permit No. 0419
Inspection of 12/29/92

Dear Ms. Taylor:

I was reviewing my inspection files this morning and determined that I had not written a specific response to your inspection of 12/29/92. Your office was, however, copied on the response to the MDNR inspection of that same date which noted my responses to the same issues identified in your inspection. I did not, however, specify dates for the anticipated actions, which was requested within your inspection documents.

Regarding 607.730.11 (surface water courses diverted and proper grading as indicated) and 607.760.15 (surface water not contacting waste), please find attached a sketch describing the corrective construction features. The corrective construction features include an all-weather access road, west downdrain, east downdrain, erosion control berms, additional cover soils and vegetation. The road has been under construction during the past month, and should be completed by April 15. The road will provide a solid path for our heavy equipment to move between the sanitary site and the demolition site. We may also use this new road for refuse vehicle ingress and egress, particularly when maintenance is required for the main quarry road. Completion of the road will allow access for performing the additional work. I plan to complete the construction of the cover soils, berms and other drainage features by May 15.

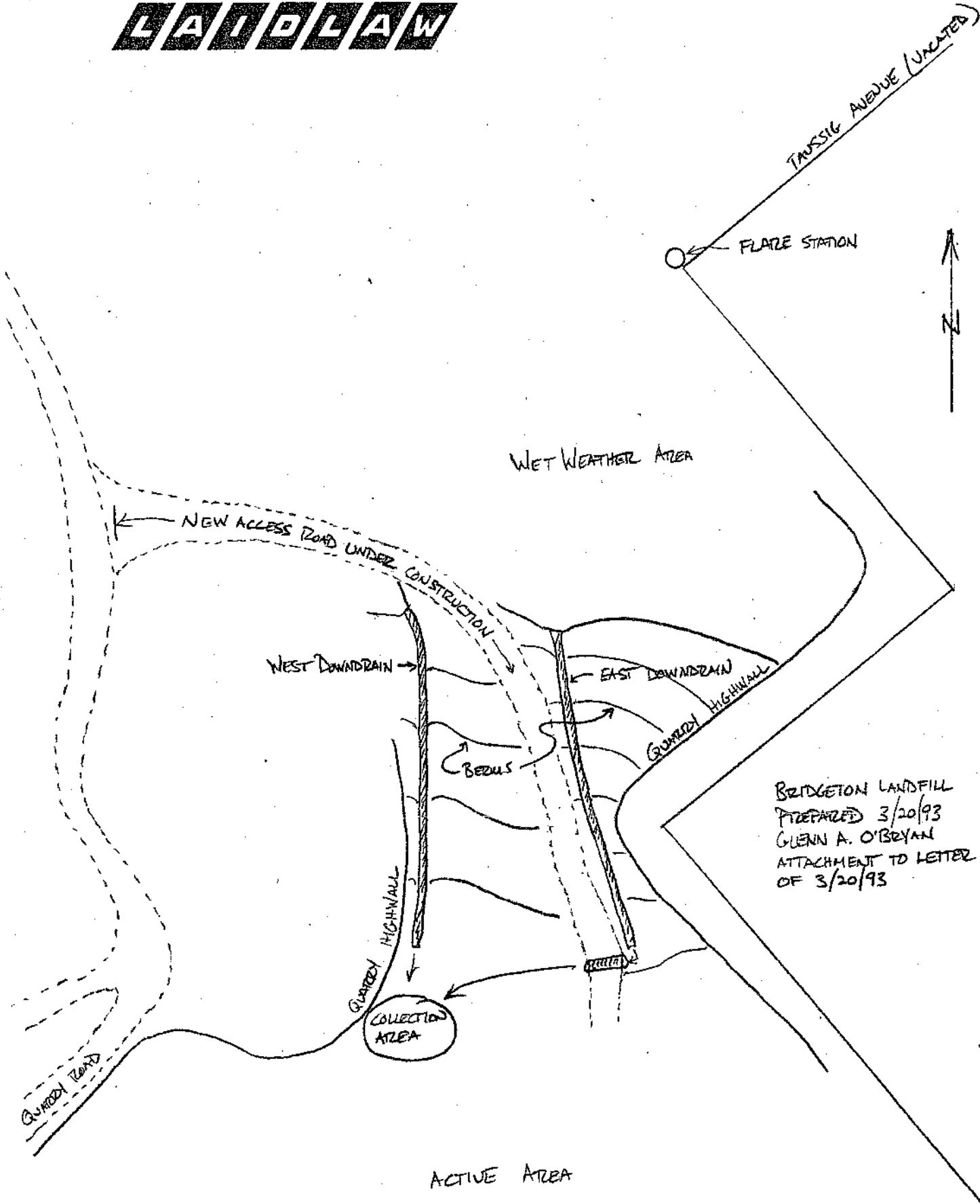
I trust that this correspondence adequately addresses your request. Should any questions arise or clarification be necessary, please call me at (314) 739-1919.

Sincerely,

Glenn A. O'Bryan, P.E.
General Manager

cc: Joe Trunko, MDNR-SLRO
Dick Houchins, P.E., City Engineer/Director of Public Works
Miles Stotts, Laidlaw
Dennis Wike, Laidlaw

L A I D L A W



TRUSSIE AVENUE (UNPAVED)

FLARE STATION

WET WEATHER AREA

NEW ACCESS ROAD UNDER CONSTRUCTION

WEST DOWNDRAIN

EAST DOWNDRAIN

BERUS

GUMEDY HIGHWALL

BRIDGETON LANDFILL
PREPARED 3/20/93
GLENN A. O'BRYAN
ATTACHMENT TO LETTER
OF 3/20/93

GUMEDY HIGHWALL
COLLECTION AREA

GUMEDY ROAD

ACTIVE AREA

**ST. LOUIS COUNTY HEALTH DEPARTMENT
WASTE MANAGEMENT SECTION**

MAR 23 1994

SANITARY LANDFILL SURVEILLANCE RECORD

Date: 3-4-94 Days/Week Open: 6
 Name of Facility: Laidlaw Waste Systems (Sanitary)
 Permit No.: 0419 Expires: 6-22-94
 Owner: Laidlaw Waste Systems, Inc.
 Address: 13570 St. Charles Rock Road
Bridgeton, MO 63044

Estimated amount of solid waste coming through gate:
 Compacted Loads 37,500 yds./wk. _____ tons/wk.
 Noncompacted Loads _____ yds./wk. _____ tons/wk.

Estimated volume of remaining landfill covered by approved engineering plans, _____ acre(s) 10 years

**Ordinance 13,320 Chapter 607
Compliance Status**

*Check all sections: SAT-Satisfactory; UNS-Unsatisfactory; * - Area(s) requiring additional attention.*

Section Number	Satisfactory Compliance Operating Procedure	SAT	*	UNS	Section Number	Satisfactory Compliance Operating Procedure	SAT	*	UNS
FACILITY PLAN					WATER QUALITY				
720.0	Operations comply with facility plan.			X	730.11	Surface water courses diverted.	X		
SOLID WASTE HANDLING						Grading promotes surface water runoff without excessive erosion.			X
730.5	Bulky waste crushed and pushed to bottom of cell.	X				Grading does not exceed 33 1/3%.	X		
730.6	Demolition and construction waste, tree stumps, etc. pushed to bottom of cell.	N/A				Surface water courses and runoff control 20 year rainfall.	X		
730.7	Dead animals under 40 lbs. covered immediately.	X			730.12	Minimum 15 feet between waste and maximum water table.	X		
730.8	Dead animals over 40 lbs. placed in pit and covered with 4 ft. of compacted soil.	X			730.13	Water quality protection secure (ie. liner, bedrock).	X		
730.9	Water treatment plant sludges incorporated into active face and covered immediately.	X			730.14	Leachate and treatment systems used where necessary.	X		
	Quantity of sludges does not interfere with normal active face operation.	X			730.15	Ground/surface water not contacting waste.	X		
730.10	Incinerator and air pollution control residues incorporated into working face and prevented from becoming airborne.	X			730.36	All drinking water sources within 1/4 mile sampled annually.	X		
SOLID WASTE EXCLUDED					COVER MATERIAL				
730.4	Responsible supervisor present.	X			730.3	Minimum of 6 inches approved cover applied daily.	X		
760.0	Entrance sign posted listing wastes not accepted.	X				Minimum 15 day stockpiles of daily cover.	X		
SAFETY					730.32	Intermediate cover (min. 1 ft. after compaction) applied to all areas idle more than 60 days.	X		
730.25	Fire extinguishers provided on all equipment.	X			730.33	Final cover (min. 2 ft. after compaction) applied to completed areas.	X		
730.26	Provisions made for extinguishing fires.	X			COMPACTION				
730.27	Communications equipment met standard.	X			730.1	Solid waste spread in layers not to exceed 2 ft. and reduced to smallest volume.	X		
730.28	Scavenging prohibited.	X			730.2	Waste confined to smallest practical area on working face.	X		
730.29	Controlled access limited to operating hours.	X			730.24	Adequate equipment maintained and operated.	X		
730.30	Traffic directed to designated disposal points.	X							
730.31	Dust control adequate.	X							

Section Number	Satisfactory Compliance Operating Procedure	SAT	*	UNS	Section Number	Satisfactory Compliance Operating Procedure	SAT	*	UNS
AIR QUALITY					VECTORS				
730.16	No open burning without permission.	X			730.19	Vector control programs implemented.	X		
GAS CONTROL					RECORDS				
730.17	Decomposition gas control implemented.			X	730.35	Records maintained to cover:			
730.18	Gases vented to prohibit explosive or toxic accumulations.	X				a. Major problems and complaints.	X		
AESTHETICS						b. Monitoring of leachate, gas, ground, and surface water sampling and analyses.	X		
730.20	Litter control devices used properly.	X				c. Vector control efforts.	X		
	Litter collected and secured daily.	X				d. Dust and litter control efforts.	X		
730.21	Blowable waste covered promptly.	X				e. Quantity of waste handled.	X		
730.22	Vegetation and natural windbreaks used where necessary.	X			BONDING				
730.23	Salvaged materials stored or removed daily.	X			690.1	Operating bond adequate.	X		
730.34	Final vegetation planted and graded as required.	X			CLOSURE				
					790.1	Final cover and vegetation provided.	X		

Weather Conditions: Clear, Sunny, 65° and breezy with low humidity.

Observed With: Susan Taylor, DOH

Consulted With: Larry Giroux, Laidlaw Waste Systems, Inc. & Susan Taylor, DOH

Additional Remarks/Comments: UNSATISFACTORY CONDITIONS NOTED:

1a. In areas idle for more than 60 days (Pits 2 and 3), settlement has occurred pulling waste and cover material away from the quarry walls. Without proper cover and a good seal along the quarry walls, the odor problems will be accentuated and potentially decrease the efficiency of the gas collection system. (Section 607.720.0)

2a. Ponded surface water was noted throughout the site (Pits 1,2 and 3) due to settlement and poor contouring. Some erosion was also noted, however, trash was not exposed. (Section 607.730.11)


3a. Flames and smoke from an ongoing subterranean fire were noted along the eastern wall in Pit #2 (previously the wet weather area).

4a. Pit #2 has an apparently abandoned leachate well that has emerged due to settlement. Landfill gases are passively venting from this location.

In pit #1, adjacent to the radioactive area, settlement of waste has created a large blow hole (approximately 5 feet in diameter) and fissures which are venting significant amounts of landfill gas. (Section 607.730.17)

continued on page 2

cc:


Signature of Inspector

Signature of Section Chief

RECOMMENDATIONS

- 1b. Cover all waste up to the quarry walls and compact to eliminate all gas migration (an O₂ intrusion). Particular attention to obtain a good seal should be made at the quarry wall. This violation was noted and has remained since the previous inspection on December 20, 1993. Soil coverage at the quarry wall should be monitored (preferably weekly) to assess the maintenance of a good soil/rock seal.
- 2b. Add additional cover material to establish proper contour levels as soon as possible. It is to be noted that this is the same violation that was noted in December, however, numerous areas have already been corrected since that time. Mr. Giroux is implementing the gradual regrading of Pit #3 to address this situation.
- 3b. Extinguish the subterranean fire. Aerial infrared photography has pinpointed the extent and location of the fire. Previous efforts to control the fire by placing additional soil cover along the quarry wall were noted. Efforts have been scheduled to remediate the situation and are to commence on March 9, 1994.
- 4b. Properly reactivate and seal the base of the leachate well or properly close and cap the well. This violation was noted in the December inspection.

Add sufficient additional compacted soil cover material to seal off any escaping gases from the fissures. This area had additional cover placed on it in the recent past. It is recommended that this area be regularly inspected for fissures and blow holes and address such conditions immediately.

SATISFACTORY CONDITIONS NOTED:

Overall - Soil cover over most of the site was good.

cc: Larry Giroux, Laidlaw - Operations Manager
John Boonstra, Laidlaw - Regional Division Manager
Joe Trunko, MDNR - SLRO
Richard Houchin, Bridgeton City Hall

APR 18 1994

ST. LOUIS COUNTY HEALTH DEPARTMENT WASTE MANAGEMENT SECTION

SANITARY LANDFILL SURVEILLANCE RECORD

Date: 4-27-94 Days/Week Open: 6
 Name of Facility: Laidlaw Waste Systems (Sanitary)
 Permit No.: 0419 Expires: 6-22-94
 Owner: Laidlaw Waste Systems, Inc.
 Address: 13570 St. Charles Rock Road
Bridgeton, MO 63044

Estimated amount of solid waste coming through gate.
 Compacted Loads 37,500 yds./wk. _____ tons/wk.
 Noncompacted Loads _____ yds./wk. _____ tons/wk.

Estimated volume of remaining landfill covered by approved engineering plans: _____ acre(s) 10 years

Ordinance 13,320 Chapter 607 Compliance Status

*Check all sections: SAT-Satisfactory; UNS-Unsatisfactory; * - Area(s) requiring additional attention.*

Section Number	Satisfactory Compliance Operating Procedure	SAT	*	UNS	Section Number	Satisfactory Compliance Operating Procedure	SAT	*	UNS
FACILITY PLAN					WATER QUALITY				
720.0	Operations comply with facility plan.	X			730.11	Surface water courses diverted.	X		
SOLID WASTE HANDLING									
730.5	Bulky waste crushed and pushed to bottom of cell.	X				Grading promotes surface water runoff without excessive erosion.	X		
730.6	Demolition and construction waste, tree stumps, etc. pushed to bottom of cell.	N/A				Grading does not exceed 33 1/3%.	X		
730.7	Dead animals under 40 lbs. covered immediately.	X				Surface water courses and runoff control 20 year rainfall.	X		
730.8	Dead animals over 40 lbs. placed in pit and covered with 4 ft. of compacted soil.	X			730.12	Minimum 15 feet between waste and maximum water table.	X		
730.9	Water treatment plant sludges incorporated into active face and covered immediately.	X			730.13	Water quality protection secure (ie. liner, bedrock).	X		
	Quantity of sludges does not interfere with normal active face operation.	X			730.14	Leachate and treatment systems used where necessary.	X		
730.10	Incinerator and air pollution control residues incorporated into working face and prevented from becoming airborne.	X			730.15	Ground/surface water not contacting waste.	X		
SOLID WASTE EXCLUDED					730.36	All drinking water sources within 1/4 mile sampled annually.	X		
730.4	Responsible supervisor present.	X			COVER MATERIAL				
760.0	Entrance sign posted listing wastes not accepted.	X			730.3	Minimum of 6 inches approved cover applied daily.	X		
SAFETY						Minimum 15 day stockpile of daily cover.	X		
730.25	Fire extinguishers provided on all equipment.	X			730.32	Intermediate cover (min. 1 ft. after compaction) applied to all areas idle more than 60 days.	X		
730.26	Provisions made for extinguishing fires.	X			730.33	Final cover (min. 2 ft. after compaction) applied to completed areas.	X		
730.27	Communications equipment met standard.	X			COMPACTION				
730.28	Scavenging prohibited.	X			730.1	Solid waste spread in layers not to exceed 2 ft. and reduced to smallest volume.	X		
730.29	Controlled access limited to operating hours.	X			730.2	Waste confined to smallest practical area			

Section Number	Satisfactory Compliance Operating Procedure	SAT	*	UNS	Section Number	Satisfactory Compliance Operating Procedure	SAT	*	UNS
AIR QUALITY					VECTORS				
730.16	No open burning without permission.	X			730.19	Vector control programs implemented.	X		
GAS CONTROL					RECORDS				
730.17	Decomposition gas control implemented.		*		730.35	Records maintained to cover:			
730.18	Gases vented to prohibit explosive or toxic accumulations.	X				a. Major problems and complaints.	X		
AESTHETICS						b. Monitoring of leachate, gas, ground, and surface water sampling and analyses.	X		
730.20	Litter control devices used properly.	X				c. Vector control efforts.	X		
	Litter collected and secured daily.	X				d. Dust and litter control efforts.	X		
730.21	Blowable waste covered promptly.	X			e. Quantity of waste handled.	X			
730.22	Vegetation and natural windbreaks used where necessary.	X			BONDING				
730.23	Salvaged materials stored or removed daily.	X			690.1	Operating bond adequate.	X		
730.34	Final vegetation planted and graded as required.	X			CLOSURE				
					790.1	Final cover and vegetation provided.	X		

Weather Conditions: Clear, sunny 65° and breezy with low humidity.

Observed With: Mike Dolan, Laidlaw Waste Systems, Inc.

Consulted With: Mike Dolan, Laidlaw Waste Systems, Inc.

Additional Remarks/Comments: UNSATISFACTORY ITEMS

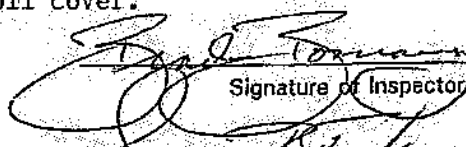
There were no unsatisfactory items to be noted at the time of inspection.

COMMENTS

The landfill looked very good. Dirt cover was very good and all areas were being contoured properly. A good dirt/rock seal is being maintained at the quarry walls and no waste was noted to be protruding.

Roadways throughout the landfill were being maintained in very good condition and dusting was being controlled through the use of a newly acquired water truck and a newly implemented wet down schedule. The roadways accessing the active face in Pit #3 have been reinforced with additional material and compaction. The access roadway to the dirt borrow area has also been reworked to allow better access to the area during wet weather. This action which has allowed faster access time for the dirt trucks and this, an increased availability of soil cover material. Better compaction operations have enhanced the appearance of the landfill, improved contouring, and have decreased passive gas migration through the soil cover.

cc:


Signature of Inspector


Signature of Section Chief

A new fence has recently been installed around Pit #3 for better safety and security.

The present gas system is being reevaluated to assure that the entire surface of the landfill is within the influence of the existing gas extraction system. The gas burner was operational and operating at near maximum capacity. One burner head was having maintenance performed at the time of the inspection. The next set of laterals is being scheduled for installation with some possible as built changes relating to lateral sloping to eliminate line blockage and substituting stronger piping to reduce line collapse.

The fire in Pit #2 has been controlled and is believed to have been extinguished. Recent temperature checks along the quarry wall (where the fire was noted previously) indicated the temperature had dropped over 200 degrees. Another slurry injection in a series of 5 injections is scheduled for next week. These final injections are to confirm total remediation of the fire.

In pit #2, along the quarry wall next to the haul road, additional cover material had been applied to the insufficient cover that was previously noted. Areas of insufficient cover have received additional material and the entire surface area of Pit #2 is scheduled to be redressed after all equipment is removed from the fire remediation.

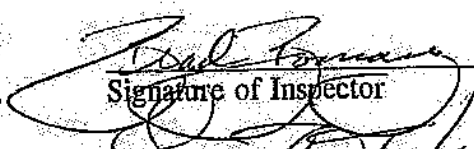
Paper was being hand picked from the entire landfill surface area at the time of the inspection.

Leachate levels are being kept within permitted limits. This is due to the interim pumping schedule recently initiated. A new computer program to track pump hours - pump breakdowns - maintenance cost - down time - repair time, etc. is being introduced to provide for greater pump efficiency through a preventative maintenance program.

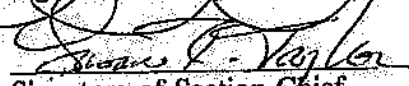
Ponding surface water has been eliminated through better contours being maintained and dryer weather conditions.

ST/BB/kmw

cc: Larry Giroux, Laidlaw - Operations Mgr.
John Boonstra, Laidlaw - Regional Division Mgr.
Joe Trunko, MDNR - SLRO
Richard Houchin, Bridgeton City Hall



Signature of Inspector



Signature of Section Chief

1899
JAN 1 1899
U.S. DEPT. OF AGRICULTURE
ST. LOUIS, MO.

St. Louis County (SW)
West Lake SLF

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Mei Carahan, Governor • David A. Short, Director

DIVISION OF ENVIRONMENTAL QUALITY

St. Louis Regional Office
10805 Sunset Office Drive, Suite 100 St. Louis, MO 63127-1017
(314)822-0101
FAX (314)822-0913

June 22, 1994

Mr. Larry Giroux
Laidlaw Waste Systems, Inc.
13570 St. Charles Rock Road
Bridgeton, MO 63044

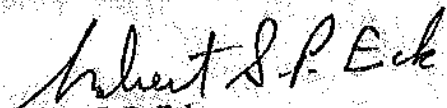
Dear Mr. Giroux:

Enclosed is a report of an inspection conducted by Mr. Joe Trunko of my staff. The report contains recommendations which the inspector has determined are warranted based on his findings at the facility.

Please review the report and implement the recommendations presented. Should you have any questions or comments, please contact Mr. Joe Trunko at (314) 822-0101.

Sincerely,

ST. LOUIS REGIONAL OFFICE



Robert S. P. Eck
Regional Director

RSPE/JLT/mc
pk

Enclosures

c: SWP

Mr. Brad Bomanz, St. Louis County Health Dept., Solid Waste
Mr. Dave Berger, Executive Director, Region L

Weather Conditions: Clear, sunny, 80 degrees and breezy with moderate humidity.

Observed With: Mike Dolan, Laidlaw Waste Systems, Inc.

Consulted With: Mike Dolan, Laidlaw Waste Systems, Inc.

Additional Remarks/Comments:

UNSATISFACTORY ITEMS

1A - Leachate levels reported for the month of May are high due to equipment breakdown and lack of parts for a timely repair. (Section 730.14)

COMMENTS

1A - Institute maintenance program and/or acquire additional pumps as backup.

The landfill looked very good. Dirt cover was very good and all areas were being contoured properly. A good dirt/rock seal is being maintained at the quarry walls and no waste was noted to be protruding.

Roadways throughout the landfill were being maintained in very good condition and dusting was being controlled through the use of a newly acquired water truck. The roadways accessing the active face in Pit #3 have been reinforced with additional material and compaction. The access roadway to the dirt borrow area has also been reworked to allow better access to the area during wet weather. Improved compactor operation has enhanced the appearance, provided for better contours and increased exclusion of gas migration through daily cover.

The present gas system is being reevaluated to ensure that the entire surface of the landfill is within the influence of the existing gas extraction system. The main gas burner was operational and operating at near maximum capacity. Both secondary burners were down. One was not operational due to an unscheduled shift of the active face -- the other due to reduced volumes of methane. The next set of gas collection laterals is being scheduled for installation with the incorporation some possibly as built changes relating to lateral sloping to eliminate line blockage and the substitution of stronger piping to reduce line collapse.

The fire in Pit #2 has been controlled and, based upon thermal readings, believed to have been extinguished. The area is on a routine monitoring schedule to ensure reoccurrence of the fire will not take place.

Ponding surface water has been eliminated through the maintenance of better contours maintained and drier weather conditions.

cc: Larry Giroux, Laidlaw - Operations Mgr.
John Boonstra, Laidlaw - Regional Division Mgr.
Joe Trunko, MDNR - SLRO
Richard Houchin, Bridgeton City Hall

SANITARY LANDFILL INSPECTION REPORT

FACILITY

West Lake (Bridgeton) Sanitary Landfill
Laidlaw Waste Systems, Inc.
St. Louis County
MDNR Permit #118912

INTRODUCTION

On June 8, 1994, the above referenced facility was inspected for compliance with regulations pursuant to the Missouri Solid Waste Management Law. Mr. Joe Trunko represented the Missouri Department of Natural Resources (MDNR), St. Louis Regional Office. Messrs. Larry Giroux and Mike Dolan represented Laidlaw Waste Systems, Inc.

Prior to the inspection, a meeting was conducted between representatives of Laidlaw Waste Systems, Inc., the Solid Waste Program (SWP), the Division of Geology and Land Survey and the St. Louis County Department of Health. The meeting concerned the hydrogeologic investigation that has been proposed for this facility, as required by the Subtitle D regulations. Following the meeting, a tour of the landfill was made, at which time the inspection was conducted.

UNSATISFACTORY FEATURES

None.

COMMENTS

Overall operations at the landfill were satisfactory. The active face was being maintained to a small area. An observation of the previous days active face indicated that adequate daily cover had been applied.

Laidlaw has begun using a synthetic daily cover (Cornier 1440 woven polyethylene liner). Use of this material was approved by the SWP on 1/5/93. Condition no.2 of the approval requires that two copies of the final bid specifications for the material used and two copies of a detailed operations manual that specifies the guidelines for use of the cover be submitted to the SWP.

Laidlaw submitted a request to the SWP for approval to use soil contaminated with gasoline as daily cover. The SWP terminated its review of the request due to the failure of Laidlaw to obtain St. Louis County approval. In the meeting referenced above, use of this soil as daily cover for a trial period was discussed. Should Laidlaw wish to pursue the use of this material as daily cover for a trial period, a written request should be submitted to the SWP. Approval by the St. Louis County Department of Health must be obtained before the request will be reviewed by the SWP.

Condition 6.D of permit #118912 requires that the leachate in the collection sumps be maintained at a level less than 30 feet above the base of the sumps. The leachate sump reports submitted to this office for the months of February, March and April have shown compliance with this limit except for one reading taken at LCS 1 in April (46 feet). Mr. Dolan stated that the 58 h.p. pump utilized in this sump had malfunctioned. A backup pump was installed in the sump. However, operational problems were encountered with that pump as well. A pump was not operating in LCS1 at the time of the inspection. Mr. Dolan stated that a replacement pump as well as several backups were on order.

On September 29, 1993, Laidlaw requested a modification to construct and operate the storm water retention plan that was submitted to the Department on September 14, 1993. This plan was approved by the SWP on 5/4/94. Construction of settling basin #1 is scheduled to begin by the end of June.

A drainage ditch located near the asphalt plant was cleared of debris. As a result, much of the runoff from the closed landfills is now being diverted into the pond located next to the asphalt plant. The asphalt plant utilizes this water in their operation. Mr. Giroux stated that due to the decrease in stormwater flow from this area, the size of settling basin #2 may be decreased. Revised plans will be submitted to the SWP if a modification to the design of the basin is finalized.

A request for a waiver of the Subtitle D liner requirement for the quarry sidewalls and the ramp leading into the quarry was submitted to the SWP on 3/8/94. The liner waiver was approved by the SWP on 5/4/94.

The underground fire that was located in the former wet weather area appears to have been brought under control. A bentonite slurry has been used to seal the area between the quarry wall and waste, thus minimizing the entry of oxygen to the area of the fire. Laidlaw continues to monitor this area and additional slurry is applied as needed. Mr. Dolan stated that the gas collection trenches in this area would not be activated until Laidlaw was sure that the fire was extinguished.

The gas flare located in the quarry pit was not operating at the time of the inspection. The flare was disconnected as a result of preparations to install the next level of gas collection laterals. Evaluation and monitoring of the current gas collection system by Laidlaw has indicated that additional modifications to the gas system will be required in order for it to adequately handle the gas being generated by the landfill.

As required by 10 CSR 80-3.010(11)(C)3., owners/operators of all sanitary landfills must implement a routine methane monitoring program to ensure that methane is not allowed to exceed 5% LEL for methane at the property boundary or 25% LEL in buildings on the landfill. Laidlaw is currently monitoring all the buildings at the landfill with continual gas monitors. Gas migration at the landfill boundaries is being monitored through the use of a punch probe. Laidlaw is working on the development of a regular gas monitoring program, which will include gas monitoring wells at the landfill perimeter. Laidlaw must ensure that monitoring is provided for all layers of rock at the quarry walls that could provide a pathway for gas migration.

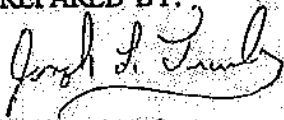
During the inspection, the inactive area north of the flare was observed (former permit area #118906). Subsidence of the fill in this area has created several depressed sections. Cracks in the soil cover in these areas creates the potential for gas to vent to the atmosphere, thus causing additional odors. Laidlaw has made some attempts to fill and seal these areas.

RECOMMENDATIONS

1. Two copies of the following information must be submitted to the Solid Waste Program: the final bid specifications for the Cormier woven polyethylene liner; a detailed operations manual specifying the guidelines for use of the liner.
2. Continue with efforts to improve the operation of the leachate collection system. Actions must be taken to ensure that the pumps located in the leachate collection sumps remain operational and that adequate backup pumps and/or service contracts for the existing pumps are provided. Please submit a brief report to this office that describes the actions Laidlaw has pursued to insure that the leachate levels in the collection sumps remain in compliance with condition 6.D of permit 118912.
3. Ensure that methane monitoring is conducted on the north and east sides of the permitted landfill. A report summarizing the results of any methane monitoring conducted at the landfill must be submitted to the St. Louis Regional Office at least on a quarterly basis.
4. Continue with efforts to recover and regrade the subsided areas in the inactive section of the landfill.

Questions concerning this report should be addressed to the undersigned.

PREPARED BY:



Joseph L. Trunko
Environmental Specialist II

JLT/mc



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 DIVISION OF ENVIRONMENTAL QUALITY
SANITARY LANDFILL INSPECTION CHECKLIST

TYPE OF INSPECTION ▶ **Class 2**

I GENERAL INFORMATION

DATE OF INSPECTION 6-8-94	DAYS/WEEK OPEN	TIME OF ARRIVAL 10:00 a.m.
WEATHER Partly Cloudy ; dry	TEMPERATURE 80° F	
FACILITY NAME West Lake (Bridgeton) Sanitary Landfill	COUNTY St. Louis	PERMIT NUMBER 118912
OWNER Laidlaw Waste Systems, Inc.	TELEPHONE NUMBER (314) 739-1919	
ADDRESS 13520 St. Charles Rock Road	CITY Bridgeton	STATE MO ZIP CODE 63044
OPERATOR Same as owner	TELEPHONE NUMBER 11	
ADDRESS 11	CITY 11	STATE 11 ZIP CODE 11

II REMAINING LIFE OF LANDFILL	AREA SERVED
A. Estimated quantity of waste accepted, 35,000 <i>(yards or tons/week)</i>	A. Cities: Various Municipalities
B. Estimated life of remaining landfill 29 years.	B. Counties: St. Louis, St. Charles, St. Louis City.
C. Fixed operating term date, 11-8-95	

NOTE ▶ Check all subsections. SAT-Satisfactory or UNS-Unsatisfactory. If necessary, describe "UNS" violations under "Remarks."	SAT	UNS
10 CSR 80-2.020 PERMIT ISSUANCE, SPECIAL OPERATING PERMITS, AND PERMIT EXEMPTIONS	✓	
(5)(E) SITE CONSTRUCTED AND OPERATED PER APPROVED TERMS AND CONDITIONS OF PERMIT.	✓	
10 CSR 80-2.060 CERTIFIED SOLID WASTE TECHNICIANS	✓	
(2)(A) CERTIFIED SOLID-WASTE TECHNICIAN.	✓	
10 CSR 80-3.010 SANITARY LANDFILLS DESIGN AND OPERATION	✓	
(2) SOLID WASTE ACCEPTED (2)(C)1. BULKY SOLID WASTE CRUSHED ON SOLID GROUND.	✓	
(2)(C)2. SMALL DEAD ANIMALS COVERED IMMEDIATELY.	✓	
(3) SOLID WASTE EXCLUDED AND SPECIAL WASTE APPROVALS	✓	
(3)(C)1. THE DISPOSAL OF SPECIAL WASTE APPROVED IN THE PERMIT IN ACCORDANCE WITH APPROVED PLANS.	✓	
(3)(C)2.A. WRITTEN APPROVAL FOR SPECIAL WASTE NOT APPROVED IN PERMIT.	✓	
(3)(C)2.B. APPROVED SPECIAL WASTE DISPOSED OF PROPERLY.	✓	
(3)(C)3. SIGN POSTED AT ENTRANCE LISTING EXCLUDED WASTES.	✓	
(3)(C)4. PROCEDURE FOR SCREENING AND REMOVAL OF EXCLUDED WASTES.	✓	
(3)(C)5. LARGE DEAD ANIMALS PLACED IN PIT AND COVERED WITH FOUR FEET OF COMPACTED SOIL.	✓	
(3)(C)6. EXCLUDED WASTES LISTED IN SUBSECTION (3)(A) OF THIS RULE NOT ACCEPTED FOR DISPOSAL.	✓	
(4) SITE SELECTION (4)(C)1. SITE ACCESSIBLE IN ALL WEATHER CONDITIONS. TEMPORARY ROADS PROVIDED TO WORKING FACE.	✓	
(4)(C)2. IF ACCESS ROADS ARE FLOODED, ALTERNATE SANITARY LANDFILL AVAILABLE. NAME: Numerous St. Louis Co. Landfills	✓	
(5) DESIGN (5)(C)1. CONSTRUCTION AND OPERATION OF THE SITE IN ACCORDANCE WITH PLANS AND SPECIFICATIONS.	✓	
(5)(C)2. MINIMUM 50-FOOT BUFFER ZONE MAINTAINED.	✓	
(5)(C)3. OPERATING MANUAL AVAILABLE.	✓	
(6) SURVEY CONTROL	✓	
(6)(C)1. BOUNDARY MARKERS, BENCHMARKS, HORIZONTAL CONTROL STATIONS, & CONSTRUCTION STAKES CLEARLY MARKED & IDENTIFIED.	✓	
(6)(C)2. MISSING OR DISPLACED BENCHMARKS OR HORIZONTAL CONTROL STATIONS REESTABLISHED.	✓	
(6)(C)3. MISSING OR DISPLACED CONSTRUCTION STAKES REESTABLISHED.	✓	
(6)(C)4. MONUMENTS AND BOUNDARY MARKERS PLACED PRIOR TO RECEIVING AUTHORIZATION TO OPERATE.	✓	
(6)(C)5. CONSTRUCTION STAKES MARKING THE ACTIVE AREA PLACED PRIOR TO DEPOSITION OF WASTE.	✓	
(7) WATER QUALITY	✓	
(7)(C)1. SURFACE WATERCOURSES & RUNOFF PROPERLY DIVERTED. CONSTRUCTION & GRADING TO PROMOTE RUNOFF WITHOUT EXCESSIVE EROSION.	✓	
(7)(C)2. CONTACT BETWEEN WATER AND SOLID WASTE MINIMIZED.	✓	
(7)(C)5. LEACHATE GENERATED ON-SITE CONTROLLED ON-SITE AND NOT ALLOWED TO DISCHARGE OFF SITE OR DISCHARGE INTO WATERS OF THE STATE.	✓	
(8) GROUND-WATER MONITORING	✓	
(8)(C)1.B. GROUND-WATER-MONITORING WELLS OPERATIONAL PRIOR TO ACCEPTANCE OF WASTE.	✓	
(9) AIR QUALITY	✓	
(9)(C) BURNING OF SOLID WASTE PROHIBITED UNLESS A BURNING PERMIT IS OBTAINED.	✓	

			SAT	GNS
(10) GAS CONTROL	(10)(C)1.	DECOMPOSITION GAS CONTROL SYSTEMS IMPLEMENTED AS NECESSARY.	✓	
(10)(C)2.A.	METHANE NOT ALLOWED TO CONCENTRATE IN BUILDINGS ON-SITE ABOVE 25 PERCENT LEL FOR METHANE.		✓	
(10)(C)2.B.	METHANE NOT ALLOWED TO CONCENTRATE IN THE SOIL AT THE PROPERTY BOUNDARY ABOVE 5 PERCENT LEL FOR METHANE.		✓	
(10)(C)3.	DECOMPOSITION GAS MONITORING RESULTS SUBMITTED TO THE DEPARTMENT AS REQUIRED BY PERMIT.		✓	
(11) VECTORS	(11)(C)	VECTOR CONTROL PROGRAMS IMPLEMENTED WHEN NECESSARY.	✓	
(12) AESTHETICS			✓	
(12)(C)1.	LITTER CONTROL DEVICES UTILIZED AS NEEDED, LITTER COLLECTED & INCORPORATED INTO THE ACTIVE CELL AT THE END OF EACH DAY OR PLACED IN CONTAINERS.		✓	
(12)(C)2.	WASTES EASILY MOVED BY WIND COVERED AS NECESSARY.		✓	
(12)(C)3.	ON-SITE VEGETATION CLEARED ONLY AS NECESSARY.		✓	
(12)(C)4.	SALVAGED MATERIALS REMOVED DAILY OR STORED IN AESTHETICALLY ACCEPTABLE CONTAINERS.		✓	
(13) COVER	(13)(C)1.	DAILY COVER APPLIED.	✓	
(13)(C)2.	INTERMEDIATE COVER APPLIED.		✓	
(13)(C)3.	FINAL COVER APPLIED.		✓	
(13)(C)4.	FINAL SIDE SLOPES NOT TO EXCEED 33.3 PERCENT.		✓	
(13)(C)5.	VEGETATION ESTABLISHED WITHIN 180 DAYS OF APPLICATION OR REGRADING OF COVER.		✓	
(13)(C)6.	REGRADING AND RECOVERING AS NECESSARY.		✓	
(14) COMPACTION	(14)(C)1.	SOLID WASTE HANDLING EQUIPMENT ON-SITE AND OPERATED AS NECESSARY.	✓	
(14)(C)1.A.	SOLID WASTE TO BE COMPACTED, SPREAD IN LAYERS NO MORE THAN 2 FEET THICK, & CONFINED TO SMALLEST PRACTICAL AREA.		✓	
(14)(C)1.B.	WASTE COMPACTED TO SMALLEST PRACTICAL VOLUME.		✓	
(14)(C)1.C.	COVER COMPACTED AS MUCH AS PRACTICAL.		✓	
(14)(C)2.	PREVENTIVE MAINTENANCE PERFORMED ON EQUIPMENT.		✓	
(14)(C)3.	SOLID WASTE NOT DISPOSED OF IN WATER.		✓	
(15) SAFETY	(15)(C)1.	FIRE EXTINGUISHERS PROVIDED.	✓	
(15)(C)2.	ALL FIRES IN WASTES BEING DELIVERED AT THE WORKING FACE OR WITHIN EQUIPMENT EXTINGUISHED.		✓	
(15)(C)3.	COMMUNICATIONS EQUIPMENT AVAILABLE.		✓	
(15)(C)4.	SCAVENGING PROHIBITED.		✓	
(15)(C)5.	CONTROLLED ACCESS TO SITE BY ESTABLISHED ROADWAYS & LIMITED TO HOURS WHEN OPERATING PERSONNEL ARE ON DUTY.		✓	
(15)(C)6.	TRAFFIC CONTROLLED AND DIRECTED TO DISTINGUISH DISPOSING POINTS.		✓	
(15)(C)7.	SITE DUST CONTROLLED.		✓	
(16) RECORDS	(16)(C)1.A.	RECORDS OF MAJOR PROBLEMS AND COMPLAINTS.	✓	
(16)(C)1.B.	MONITORING RECORDS		✓	
	A. LEACHATE SAMPLING AND ANALYSES.		✓	
	B. GAS SAMPLING AND ANALYSES.		✓	
	C. GROUND- AND SURFACE-WATER ANALYSES.		✓	
(16)(C)1.C.	RECORDS OF VECTOR-CONTROL EFFORTS.		✓	
(16)(C)1.D.	RECORDS OF DUST- AND LITTER-CONTROL EFFORTS.		✓	
(16)(C)1.E.	RECORDS OF QUANTITY OF WASTE HANDLED.		✓	
(16)(C)1.F.	RECORDS OF DESCRIPTION, SOURCES, AND VOLUME OF SPECIAL WASTES LISTED IN SUBSECTION (9)(A).		✓	
OTHER DESIGN SPECIFICATIONS				
(7)(C)3.	LEACHATE COLLECTION SYSTEM PROPERLY INSTALLED AND OPERATED.		✓	
(7)(C)4.	LINER CONSTRUCTED BY APPROVED DESIGN SPECIFICATION.		✓	
(8)(C)1.A.	GROUNDWATER MONITORING WELLS INSTALLED.		✓	
(13)(C)7.	BORROW AREAS RECLAIMED.		✓	

REMARKS

* — please review comments & recommendations sections of the written inspection reports.

TO THE OWNER/OPERATOR:

This inspection of your facility has been conducted under the authority of Sec. 260.225-1 (9) RSMo. The department representative has marked those items found in violation of the applicable environmental laws and regulations adopted thereunder pertaining to your facility. Your signature below or that of your agent acknowledges that you have been notified of the deficiencies and have received recommendations and specific time frames for corrective action(s). If future inspections determine these violations persist, the Department may proceed with more formal enforcement procedures as authorized under Sections 260.230 and 260.240 RSMo, including but not limited to the assessment of penalties up to \$1000 per day for each day, or part thereof, the violation occurred. If any questions occur following your receipt of this inspection record, please contact the inspector named below.

COMPLIANCE EVALUATION

- Facility in Compliance
- Facility Not in Compliance
 - Notice of Violation Issued: ___/___/___
 - Return to Compliance By: ___/___/___
 - Follow-up Visit Scheduled: ___/___/___

SIGNATURE OF INSPECTOR <i>Joseph L. Lynch</i>	OFFICE St. Louis Regional	COPY RECEIVED BY By mail	
OFFICE ADDRESS 10865 Sunset Office Dr., St. Louis, Mo 63127	TELEPHONE (314) 528-4101	TITLE —	



Laidlaw Waste Systems Inc.

RECEIVED

NOV 04 1994

SWMP



October 31, 1994

Mr. Joe Trunko
St. Louis Regional Office
Missouri Department of Natural Resources
10805 Sunset Office Drive, Suite 100
St. Louis, Mo. 63127-1017

Re: Bridgeton Landfill, Permit Number 118912, Gas Monitoring

Dear Mr. Trunko:

Enclosed are the results of our gas monitoring program for the third quarter monitoring period. The monitoring was conducted in accordance with our previously submitted monitoring plan and our letter of April 8, 1994. A summary of the results follows:

Perimeter monitoring: Bar punch monitoring was conducted at the property line at the locations indicated on the enclosed map. The additional locations written on the map were randomly selected for additional monitoring. All bar punch tests were conducted by driving a 3/8 inch rod 3 feet into the soil, removing the rod and inserting a hose connected to a GEM-500 gas extraction monitor. All bar punch monitoring showed zero methane migration.

Continuous Monitoring: We have installed GHD 2000 gas monitors in five separate onsite buildings. These monitors are set to alert occupants should gas levels reach 5-15% of the LEL, well below the 25% Missouri standard. There has never been an event indicated by our alarm system suggesting concentrations of methane approaching the 25% standard.

Also, I am updating you as to the status of our underground fire and any future fires. The existing fire, which at one time we believed to be extinguished, is now believed to have reignited. Due to settlement from the installation of Sed Pond #1 the fissure has opened up. We plan to regROUT the fissure which should result in sealing off the air, thus extinguishing the fire.

Further, I would like to notify you of another possible fire, adjacent to Taussig Road, about half way between St. Charles Rock Road and the Methane Flare. We have seen some smoke and are currently developing a plan to investigate and remediate if necessary.

If you have any questions regarding our monitoring program and procedures, please call.

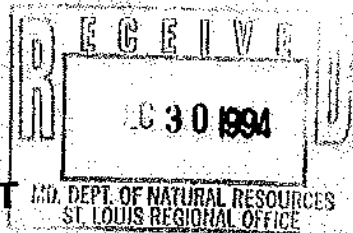
Sincerely,

A handwritten signature in black ink, appearing to read 'Larry Giroux', with a long horizontal flourish extending to the right.

Larry Giroux
General Manager

CC: Mr. Frank Dolan, MDNR
Mr. Brad Bomanz, St. Louis County DOH

LG:jg



**ST. LOUIS COUNTY HEALTH DEPARTMENT
WASTE MANAGEMENT SECTION**

SANITARY LANDFILL SURVEILLANCE RECORD

Date: 12/01/94 Days/Week Open: 6
 Name of Facility: Laidlaw Waste Systems
 Permit No.: 418 Expires: 6-22-95
 Owner: Laidlaw Waste Systems
 Address: 13570 St. Charles Rock Road
Bridgeton, MO 63044

Estimated amount of solid waste coming through gate.
 Compacted Loads 37,500 yds./wk. _____ tons/wk.
 Noncompacted Loads _____ yds./wk. _____ tons/wk.

Estimated volume of remaining landfill covered by approved engineering plans. _____ acre(s) 10 years

**Ordinance 13,320 Chapter 607
Compliance Status**

*Check all sections: SAT-Satisfactory; UNS-Unsatisfactory; * - Area(s) requiring additional attention.*

Section Number	Satisfactory Compliance Operating Procedure	SAT	UNS	Section Number	Satisfactory Compliance Operating Procedure	SAT	UNS
FACILITY PLAN				WATER QUALITY			
720.0	Operations comply with facility plan.		X	730.11	Surface water courses diverted.	X	
SOLID WASTE HANDLING					Grading promotes surface water runoff without excessive erosion.		X
730.5	Bulky waste crushed and pushed to bottom of cell.	X			Grading does not exceed 33 1/3%.	X	
730.6	Demolition and construction waste, tree stumps, etc. pushed to bottom of cell.	X		730.12	Minimum 15 feet between waste and maximum water table.	X	
730.7	Dead animals under 40 lbs. covered immediately.	X		730.13	Water quality protection secure (ie. liner, bedrock).	X	
730.8	Dead animals over 40 lbs. placed in pit and covered with 4 ft. of compacted soil.	X		730.14	Leachate and treatment systems used where necessary.	X	
730.9	Water treatment plant sludges incorporated into active face and covered immediately.	X		730.15	Ground/surface water not contacting waste.	X	
	Quantity of sludges does not interfere with normal active face operation.	X		730.36	All drinking water sources within 1/4 mile sampled annually.	X	
730.10	Incinerator and air pollution control residues incorporated into working face and prevented from becoming airborne.	X		COVER MATERIAL			
SOLID WASTE EXCLUDED				730.3	Minimum of 6 inches approved cover applied daily.	X	
730.4	Responsible supervisor present.	X			Minimum 15 day stockpile of daily cover.	X	
780.0	Entrance sign posted listing wastes not accepted.	X		730.32	Intermediate cover (min. 1 ft. after compaction) applied to all areas idle more than 60 days.	X	
SAFETY				730.33	Final cover (min. 2 ft. after compaction) applied to completed areas.	X	
730.25	Fire extinguishers provided on all equipment.	X		COMPACTION			
730.26	Provisions made for extinguishing fires.	X		730.1	Solid waste spread in layers not to exceed 2 ft. and reduced to smallest volume.	X	
730.27	Communications equipment met standard.	X		730.2	Waste confined to smallest practical area on working face.	X	
730.28	Scavenging prohibited.	X		730.24	Adequate equipment maintained and operated.	X	
730.29	Controlled access limited to operating hours.	X					
730.30	Traffic directed to designated disposal points.	X					
730.31	Dust control adequate.	X					

Section Number	Satisfactory Compliance Operating Procedure	SAT	UNS	Section Number	Satisfactory Compliance Operating Procedure	SAT	UNS
AIR QUALITY				VECTORS			
730.16	No open burning without permission.	X		730.19	Vector control programs implemented.	X	
GAS CONTROL				RECORDS			
730.17	Decomposition gas control implemented.	X		730.35	Records maintained to cover:		
730.18	Gases vented to prohibit explosive or toxic accumulations.	X			a. Major problems and complaints.	X	
AESTHETICS					b. Monitoring of leachate, gas, ground, and surface water sampling and analyses.	X	
730.20	Litter control devices used properly.	X			c. Vector control efforts.	X	
	Litter collected and secured daily.	X			d. Dust and litter control efforts.	X	
730.21	Blowable waste covered promptly.	X		e. Quantity of waste handled.	X		
730.22	Vegetation and natural windbreaks used where necessary.	X		BONDING			
730.23	Salvaged materials stored or removed daily.	X		690.1	Operating bond adequate.	X	
730.34	Final vegetation planted and graded as required.	X		CLOSURE			
				790.1	Final cover and vegetation provided.	X	

Weather Conditions: Clear, sunny 60° and windy.

Observed With: Brad Bomanz, DOH

Consulted With: Same

Additional Remarks/Comments: UNSATISFACTORY ITEMS/RECOMMENDATIONS

Leachate levels in LCS 2 and LCS 1 are in violation of Missouri DNR Operations permit which requires levels not to exceed 30 feet above the base of the pump. Remediation efforts implemented since the last inspection were successful in achieving compliance at the end of October. Recent violation for LCS 1 is attributed to an accident which resulted in damage to a section of the well that allowed trash to enter the well. Pumping of LCS 1 can not resume until the trash is removed. Bids are being obtained to remove the trash. Non-compliance in LCS 2 may be due to overloading from LCS 3 and LCS 4 which are pumped to LCS 2 prior to discharge to the lagoon. This item was discussed in depth with Mr. Larry Giroux. Laidlaw believes sediment accumulation may be part of the problem in maintaining compliance levels in LCS 1. A fan will be purchased that will suspend sediment into the leachate allowing the pump to remove both the leachate and the sediment. Please inform DOH when pumping of LCS 1 resumes and continue to submit monthly monitoring reports.(720.0)

cc:

CONTINUED ON PAGE 2

Signature of Inspector

Signature of Section Chief

Settlement is occurring along the East wall of Pit 1 causing several fissures. Laidlaw is concerned that there may be a fire in this area. Please keep DOH informed of the investigation into this matter. Additional cover is needed over the fissures and the area recontoured. (730.11)

Ponding is occurring in the southwest portion of Pit 3 near LCS 4. Remove this excess surface water and regrade the area to allow diversion of surface water. (730.11)

COMMENTS

Gas tests have confirmed that the fire which recently reignited in Pit 2 is no longer active. Settlement from the retention basin caused fissures along the pit wall. These areas will be regrouted.

The location of the active face in pit prohibited the compactor from being able to move past the base of the lift and effectively push and shred the waste. This resulted in a large active face and less than desirable compaction methods but should be a temporary situation.

The commingled lead contaminated soils from the Federal Courthouse (City Block 205S) site remain tarped and bermed. Currently there are no stockpiles of petroleum contaminated soils to be utilized as alternative daily cover. When stockpiling this material begins, the soils will be placed at the southern end of Pit 3 and identified with appropriate signage. Some petroleum contaminated soils were placed at the active face near the clean fill for use at the end of the day.

All other special wastes from the Courthouse site are being incorporated into the active face.

The new access road to Pit 3 has been completed. Dust control was good and the roadways well maintained.


Signature of Inspector


Signature of Section Chief

cc: Larry Giroux, Laidlaw - Operations Mgr.
John Boonstra, Laidlaw - Regional Division Mgr.
Bob Eck, MDNR-SLRO
Richard Houchin, Bridgeton City Hall



LIDLAW WASTE SYSTEMS INC.

RECEIVED

MAR 31 1995

March 29, 1995

Mr. Jim Bell
Chief, Enforcement Section
Solid Waste Management Section
P.O. Box 176
Jefferson City, Missouri 65102

SWMP

Re: Bridgeton Landfill, Permit Number 118912, Gas Monitoring

Dear Mr. Bell:

Enclosed are the results of our gas monitoring program for the 1st quarter monitoring period. A summary of the results follows:

Perimeter monitoring: Bar punch monitoring was conducted at the property boundary at the locations indicated on the enclosed map. The additional locations written on the map were randomly selected for additional monitoring. All bar punch tests were conducted by driving a 3/8 inch rod 3 feet into the soil, removing the rod and inserting a hose connected to a GEM-500 gas extraction monitor. All bar punch monitoring showed zero methane migration.

Continuous Monitoring: We have installed GHD 2000 gas monitors in five separate onsite buildings. These monitors are set to alert occupants should gas levels reach 5-15% of the LEL, well below the 25% Missouri standard. There has never been an event indicated by our alarm system suggesting concentrations of methane approaching the 25% standard.

I would like to take the opportunity to update you as to the status of our underground fire. The original fire, which we believe had reignited, shows no signs of activity. This fire appears to be related to the TRW gas collection wells. At the present time these wells are not active and the fire does not appear to show any activity. We will continue to monitor the fissure along the quarry wall for any signs of combustion. In a previous letter from Mr. Larry Giroux, LWS to Mr. Joe Trunko MDNR St. Louis Region, dated October 31, 1994, their was mentioned a possible new fire. At the present time there is no sign of this fire. We will continue to regrout and monitor these areas as necessary.

If you have any questions concerning our monitoring program and procedures, please do not hesitate to contact me at 739-1919.

Sincerely,

Brad Pollock

Brad Pollock
Operations Manager

cc: Mr. Terry Hoevelkamp, MDNR St. Louis Region
Mr. Brad Bomanz, St. Louis County DOH



LAIDLAW WASTE SYSTEMS INC.

June 30, 1995

Mr. Jim Bell
Chief, Enforcement Section
Solid Waste Management Section
P.O. Box 176
Jefferson City, Missouri 65102

RECEIVED
JUL 03 1995
SWMP

Re: Bridgeton Landfill, Permit Number 118912, Gas Monitoring

Dear Mr. Bell:

Enclosed are the results of our gas monitoring program for the 2nd quarter monitoring period. A summary of the results follows:

Perimeter monitoring: Bar punch monitoring was conducted at the property boundary at the locations indicated on the enclosed map. The additional locations written on the map were randomly selected for additional monitoring. All bar punch tests were conducted by driving a 3/8 inch rod 3 feet into the soil, removing the rod and inserting a hose connected to a GEM-500 gas extraction monitor. All bar punch monitoring showed zero methane migration.

Continuous Monitoring: We have installed GHD 2000 gas monitors in five separate onsite buildings. These monitors are set to alert occupants should gas levels reach 5-15% of the LEL, well below the 25% Missouri standard. There has never been an event indicated by our alarm system suggesting concentrations of methane approaching the 25% standard.

The underground fire which was located along the northern quarry wall, immediately north of Sed-Basin 1, shows no signs of activity.

If you have any questions concerning our monitoring program and procedures, please do not hesitate to contact me at 739-1919.

Sincerely;

Brad Pollock
Operations Manager

cc: Mr. Terry Hoevelkamp, MDNR St. Louis Region
Mr. Brad Bomanz, St. Louis County DOH

RECEIVED

JUL 03 1995

SWMP

FIGURE 3.6.1

LIDLAW WASTE SYSTEMS

EXPLOSIVE GAS MONITORING FIELD DATA SHEET

Site: Brydgeton Landfill
Personnel: Don Bessent Date: 6/29/95

METEOROLOGIC DATA: Ambient Temperature: 78° Barometric Pressure: 29.6" Hg (Optional)
Measurement Sta.: NOAA: On-site Other:

MONITORING LOCATION TYPE: (Use separate Field Data Sheets for each type of data)
Monitoring Probe:
Basthole Probe:
Continuous Monitor:
Hand Held (Ambient):

FIELD INSTRUMENTATION: (Attach calibration data)
LEL Meter: Mod. No.: Gen 800 SN: 279 Calib. Date/Time: 6/29/95 3:15 PM
Pressure Gauge: Mod. No.: _____ SN: _____ Calib. Date/Time: _____
Water Level Melt: Mod. No.: _____ SN: _____ Calib. Date/Time: _____
Other: Mod. No.: _____ SN: _____ Calib. Date/Time: _____

LOCATION IDENTIFICATION:	Monitoring Probe Construction:	Total Depth (feet):	Depth to Top of Screen (feet):	Monitoring Probe Condition:	Cleanly Labeled?	Prox. Csg. in Good Condition?	Concrete Pad Intact?	Padlock Functional?	Inner casing properly capped?	Sample filling in Good Condition?
# 1	3' Feet	4:02 pm	3' Feet	CH ₄ @ 07.20.58	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO
# 2	3' Feet	4:12 pm	3' Feet	CH ₄ @ 07.19.92	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO
# 3	3' Feet	4:22 pm	3' Feet	CH ₄ @ 07.20.56	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO
# 4	3' Feet	4:40 pm	3' Feet	CH ₄ @ 07.20.52	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO
# 5	3' Feet	4:45 pm	3' Feet	CH ₄ @ 07.20.42	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO
# 6	3' Feet		3' Feet	CH ₄ @ 07.20.72	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO	<input type="checkbox"/> Yes <input type="checkbox"/> NO

Signature: _____ Date: 7/1/95
I certify that these data were obtained in accordance with applicable regulatory and project protocols.

Rev. 3/93

FIGURE 3.5.1

LIDLAW WASTE SYSTEMS

**EXPLOSIVE GAS MONITORING
FIELD DATA SHEET**

Site: BRIDGEVIEW LANDFILL

Personnel: TIM JOHNSON Date: 6/29/95

METEOROLOGIC DATA: Ambient Temperature: 78° Barometric Pressure: 29.6 (inches Hg)
 Measurement Sta.: NOAA On-site Other: _____
 Attach data from preceding days (Optional)

MONITORING LOCATION TYPE: (Use separate Field Data Sheets for each type of use)
 Monitoring Probe:
 Barhole Probe:
 Continuous Monitor:
 Hand Held (Ambient):

FIELD INSTRUMENTATION: (Attach calibration data)
 LEL Meter: Mod. No.: Gas Sc SN: 279 Calib. Date/Time: 6/13/95 3:15
 Pressure Gauge: Mod. No.: _____ SN: _____ Calib. Date/Time: _____
 Water Level Melt: Mod. No.: _____ SN: _____ Calib. Date/Time: _____
 Other: Mod. No.: _____ SN: _____ Calib. Date/Time: _____

LOCATION IDENTIFICATION:	Monitoring Probe Construction:	Total Depth (feet):	Depth to Top of Screen (feet):	Monitoring Probe Condition:	Clearly Labeled?	Prot. Csg. In Good Condition?	Concrete Pad Intact?	Padlock Functional?	Inner casing properly capped?	Sample filling in Good Condition?
#7		4:52	05 20.6%		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
3 Feet					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
CH					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

I certify that these data were obtained in accordance with applicable regulatory and project protocols.
 Signature: _____ Date: 6/29/95
 Title: _____



RECEIVED

OCT 04 1995

LAIDLAW WASTE SYSTEMS INC.

September 29, 1995

SWMP

Mr. Jim Bell
Chief, Enforcement Section
Solid Waste Management Section
P.O. Box 176
Jefferson City, Missouri 65102

Re: Bridgeton Landfill, Permit Number 118912, Gas Monitoring

Dear Mr. Bell:

Enclosed are the results of our gas monitoring program for the 3rd quarter monitoring period. A summary of the results follows:

Perimeter monitoring: Bar punch monitoring was conducted at the property boundary at the locations indicated on the enclosed map. The additional locations written on the map were randomly selected for additional monitoring. All bar punch tests were conducted by driving a 3/8 inch rod 3-feet into the soil, removing the rod and inserting a hose connected to a GEM-500 gas extraction monitor. All bar punch monitoring showed zero methane migration.

Continuous Monitoring: We have installed GHD 2000 gas monitors in five separate onsite buildings. These monitors are set to alert occupants should gas levels reach 5-15% of the LEL, well below the 25% Missouri standard. There has never been an event indicated by our alarm system suggesting concentrations of methane approaching the 25% standard.

The underground fire which was located along the northern quarry wall, immediately north of Sed-Basin 1, shows no signs of activity.

If you have any questions concerning our monitoring program and procedures, please do not hesitate to contact me at 739-1919.

Sincerely,

Brad Pollock
Operations Manager

cc: Mr. Terry Hoevelkamp, MDNR St. Louis Region
Mr. Brad Bomanz, St. Louis County DOH

gassept



LAIDLAW WASTE SYSTEMS INC.

October 3, 1995

Mr. Brad Bomanz, Waste Specialist III
St. Louis County Department of Health
Waste Management Section
111 South Meramec Avenue
Clayton, Missouri 63105

Dear Mr. Bomanz:

The purpose of this letter is to update you on recent events at the Bridgeton Sanitary Landfill concerning underground combustion. This site has historically experienced evidence of underground fires in two locations. The first being located adjacent to the quarry wall in the immediate vicinity of sed-basin 1. This area is monitored daily and there has been no evidence of further combustion in this area. The second and most recent location of underground combustion was located in the vicinity of the gas collection well W-4 which is located in the northern inactive area. This area is also monitored on a daily basis and again, no further evidence of combustion has been observed.

As part of the Remedial Investigation and Feasibility Study (RIFS) for Operable Unit 1 (OU1), soil borings were conducted in the area immediately west of W-4; the closest boring being approximately 75 feet from this well. During the course of the excavation of this material, it was reported to Laidlaw by McLaren Hart that some of the material appeared to have elevated temperatures; the highest temperature recorded being 140°F. According to the report prepared for Laidlaw by SCS Engineers in the remediation of the underground fire located near sed-basin 1, this is considered to be in the normal temperature range for deep landfills such as Bridgeton. It should be noted that no physical evidence of combustion was present: that is, no blackened or charred material and no smoke.

Due to the close proximity of this boring to an area with a history of underground combustion we are currently conducting temperature investigations in the well field. With the exception of W-2, all ten wells have been investigated by using a Type K Thermocouple thermometer attached to a 100 ft. cable. This device allows for quick temperature readings at different depths. As the attached table shows, some of the wells contain temperatures above the 140°F mark. At the present time we do not believe that these temperatures are an indication of present combustion and in fact may still be in what can be considered normal temperature ranges. We are continuing to research and investigate these findings and will keep you informed as to our progress.

frumpdt

13570 ST. CHARLES ROCK ROAD, BRIDGETON, MISSOURI 63044 (314) 739-1919

*File
Westlake*

RECEIVED

OCT 06 1995

SWMP

Should you have any questions concerning this matter please do not hesitate to contact me at 739-1919.

Sincerely,



Brad Pollock
Operations Manager

c: Mr. Larry Giroux, LWS
Mr. Doug Borro, LWS
Mr. John Workman, P.E., LWS
Mr. Dennis Wike, LWS
Mr. Lee Tharp, P.E., MEC
Mr. Ward Herst, CPHG, CEM, Golder Associates
Mr. David Heinze, McLaren Hart
Mr. Frank Dolan, P.E., MDNR-SWMP



LAIDLAW WASTE SYSTEMS INC.

January 31, 1996

Mr. Jim Bell
Chief, Enforcement Section
Solid Waste Management Section
P.O. Box 176
Jefferson City, Missouri 65102

RECEIVED

FEB 13 1996

SWMP

Re: Bridgeton Landfill, Permit Number 118912, Gas Monitoring

Dear Mr. Bell:

Enclosed are the results of our gas monitoring program for the 4th quarter monitoring period. A summary of the results follows:

Perimeter monitoring: Bar punch monitoring was conducted at the property boundary at the locations indicated on the enclosed map. The additional locations written on the map were randomly selected for additional monitoring. All bar punch tests were conducted by driving a 3/8 inch rod 3 feet into the soil, removing the rod and inserting a hose connected to a GEM-500 gas extraction monitor. All bar punch monitoring showed zero methane migration.

Continuous Monitoring: We have installed GHD 2000 gas monitors in five separate onsite buildings. These monitors are set to alert occupants should gas levels reach 5-15% of the LEL, well below the 25% Missouri standard. There has never been an event indicated by our alarm system suggesting concentrations of methane approaching the 25% standard.

The underground fire which was located along the northern quarry wall, immediately north of Sed-Basin 1, shows no signs of activity.

If you have any questions concerning our monitoring program and procedures, please do not hesitate to contact me at 739-1919.

Sincerely,

Brad Pollock
Operations Manager

cc: Mr. Terry Hoevelkamp, MDNR St. Louis Region
Mr. Brad Bomanz, St. Louis County DOH

gasdec



LAIDLAW WASTE SYSTEMS INC.
July 1, 1996

Mr. Jim Bell
Chief, Enforcement Section
Solid Waste Management Section
P.O. Box 176
Jefferson City, Missouri 65102

116
RECEIVED

JUL 05 1996

SWMP

Re: Bridgeton Landfill, Permit Number 118912, Gas Monitoring

Dear Mr. Bell:

Enclosed are the results of our gas monitoring program for the 2nd quarter monitoring period. A summary of the results follows:

Perimeter monitoring: Bar punch monitoring was conducted at the property boundary at the locations indicated on the enclosed map. The additional locations written on the map were randomly selected for additional monitoring. All bar punch tests were conducted by driving a 3/8 inch rod 3 feet into the soil, removing the rod and inserting a hose connected to a GEM-500 gas extraction monitor. All bar punch monitoring showed zero methane migration.

Continuous Monitoring: We have installed GHD 2000 gas monitors in five separate onsite buildings. These monitors are set to alert occupants should gas levels reach 5-15% of the LEL, well below the 25% Missouri standard. There has never been an event indicated by our alarm system suggesting concentrations of methane approaching the 25% standard.

The underground fire which was located along the northern quarry wall, immediately north of Sed-Basin 1, shows no signs of activity.

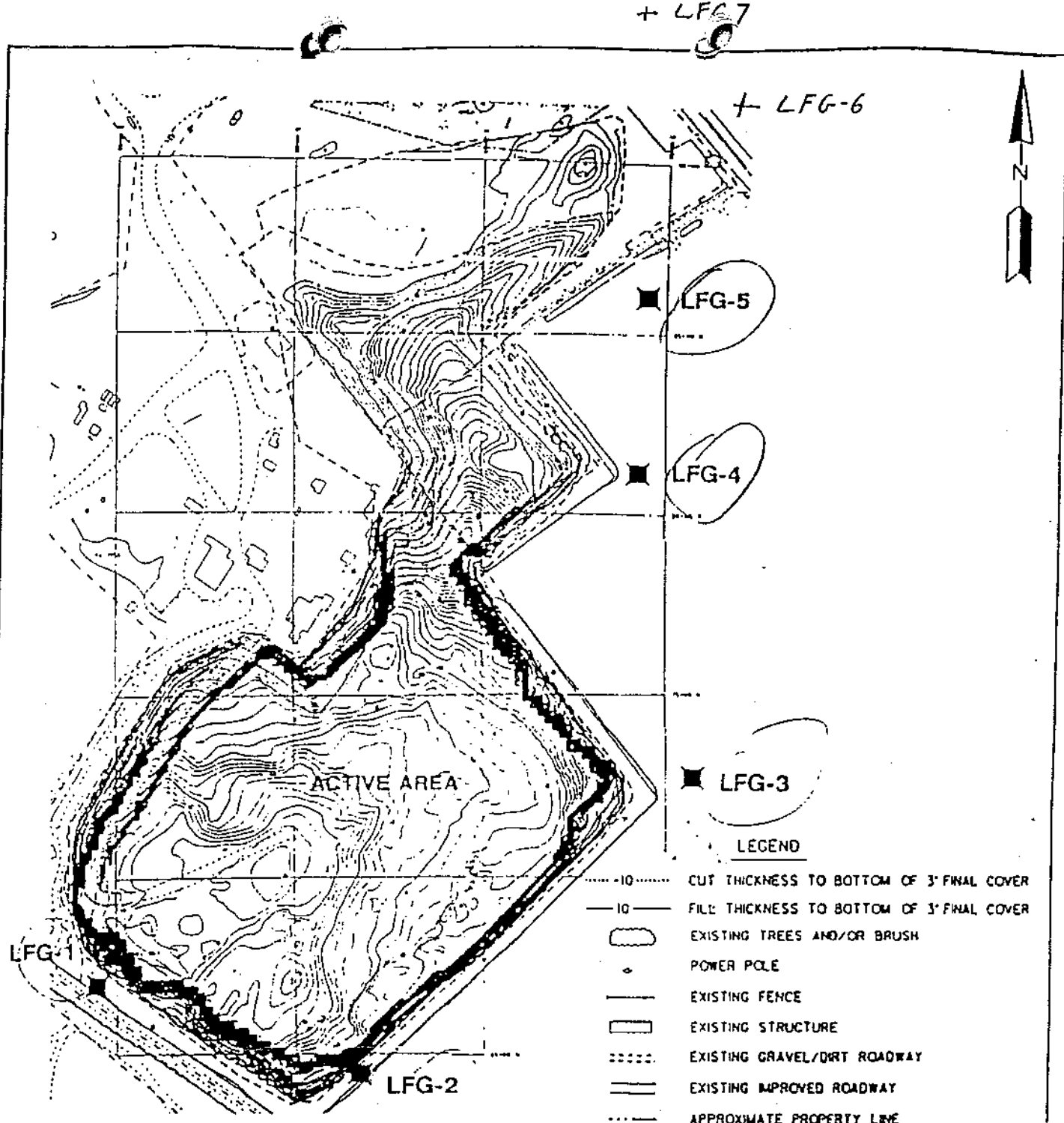
If you have any questions concerning our monitoring program and procedures, please do not hesitate to contact me at 739-1919.

Sincerely;

Larry Giroux
Sr. Division General Manager

cc: Mr. Terry Hoevelkamp, MDNR St. Louis Region
Mr. Brad Bomanz, St. Louis County DOH

gasdec



LEGEND

- - - - -10- - - - - CUT THICKNESS TO BOTTOM OF 3' FINAL COVER
- - - - -10- - - - - FILL THICKNESS TO BOTTOM OF 3' FINAL COVER
- EXISTING TREES AND/OR BRUSH
- POWER POLE
- EXISTING FENCE
- ▭ EXISTING STRUCTURE
- ⋯ EXISTING GRAVEL/DIRT ROADWAY
- == EXISTING IMPROVED ROADWAY
- · - · - · - APPROXIMATE PROPERTY LINE
- LFG-x PROPOSED GAS MONITORING PROBE

NOTE
 ISCPACH MAP IS THE DIFFERENCE BETWEEN THE EXISTING GRADE (JANUARY 17, 1993 FLIGHT) TO THE BOTTOM OF THE APPROVED BURNS AND MCCONNELL JUNE 25, 1985 FINAL GRADES. (LAIDLAW PROPERTY ONLY) (3.0' COVER THICKNESS ASSUMED)



SOURCE: FOTH & VAN DYKE, APRIL 1993

SCS ENGINEERS
 STEARNS, CONRAD AND SCHMIDT
 CONSULTING ENGINEERS, INC.
 2066 READING ROAD SUITE 200 CINCINNATI, OHIO 45202
 PH. (513) 421-9353 FAX NO. (513) 421-2847

PROJ. NO.	DATE	SCALE
059302001	SEPTEMBER 1993	AS SHOWN

FIGURE 2.13
PROPOSED GAS PROBE PLAN
 LAIDLAW WASTE SYSTEMS (WEST LAKE), INC.
 BRIDGETON SANITARY LANDFILL
 13570 ST. CHARLES ROCK ROAD
 BRIDGETON, MISSOURI 63044

FIGURE 3.5.1

LAIDLAW WASTE SYSTEMS

EXPLOSIVE GAS MONITORING

FIELD DATA SHEET

Site: BRIDGETON SLE

Personnel: Tim Johnson Date: 6/28/96

METEOROLOGIC DATA: Attach data from preceding days (Optional)
 Ambient Temperature: 93° Barometric Pressure: 29.10 (Inches Hg.)
 Measurement Sta.: On-site Other:

FIELD INSTRUMENTATION: (Attach calibration data)
 LEL Meter: Mod. No.: Gen 500 SN: Gen 140 Calib. Date/Time: 6/28/96 8:42 AM
 Pressure Gauge: Mod. No.: SN: Calib. Date/Time: / / : :
 Water Level Mnt: Mod. No.: SN: Calib. Date/Time: / / : :
 Other: Mod. No.: SN: Calib. Date/Time: / / : :

LOCATION IDENTIFICATION:	LAG 1	LAG 2	LAG 3	LAG 4	LAG 5	LAG 6
Monitoring Probe Construction: Total Depth (feet): Depth to Top of Screen (feet): Monitoring Probe Condition: Clearly Labeled? Prot. Csg. in Good Condition? Concrete Pad Intact? Pedlock Functional? Inner casing properly capped? Sample filling in Good Condition?	LPG 1 3' BARHOLE NA	LPG 2 3' BARHOLE NA	LPG 3 3' BARHOLE NA	LPG 4 3' BARHOLE NA	LPG 5 3' BARHOLE NA	LPG 6 3' BARHOLE NA
	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No

I certify that these data were obtained in accordance with applicable regulatory and project protocols.
 Signature: Tim Johnson Date: 6/28/96

CALIBRATION: COMPRESSED GAS FROM LANDFILL CONTROL TEC.
 50.0% METHANE
 35.0% CARBON DIOXIDE
 BALANCE - NITROGEN

5.0% OXYGEN
 BALANCE - CARBON DIOXIDE

FIGURE 3.6.1

LIDLAW WASTE SYSTEMS		EXPLOSIVE GAS MONITORING FIELD DATA SHEET																																																									
Site: <u>BRIDGEVIEW SLF</u> Personnel: <u>TIM JOHNSON</u> Date: <u>6/28/96</u>		METEOROLOGIC DATA: <u>93°</u> Ambient Temperature: <u>29.7°</u> (Inches Hg.) Measurement Sta.: <input type="checkbox"/> NOAA: <input type="checkbox"/> On-site <input type="checkbox"/> Other:																																																									
MONITORING LOCATION TYPE: (Use separate Field Data Sheets for each type of area) Monitoring Probe: <input type="checkbox"/> Barhole Probe: <input checked="" type="checkbox"/> Continuous Monitor: <input type="checkbox"/> Hand Held (Ambient): <input type="checkbox"/>		FIELD INSTRUMENTATION: (Attach calibration data) LEL Meter: Mod. No.: <u>Gen 522</u> SN: <u>Gen 142</u> Calib. Date/Time: <u>6/28/96</u> 8:48 PM Pressure Gauge: Mod. No.: SN: Calib. Date/Time: / / Water Level Mtr: Mod. No.: SN: Calib. Date/Time: / / Other: Mod. No.: SN: Calib. Date/Time: / /																																																									
LOCATION IDENTIFICATION: Monitoring Probe Construction: Total Depth (feet): Depth to Top of Screen (feet): Monitoring Probe Condition: Clearly Labeled? Prod. Csg. In Good Condition? Concrete Pad Intact? Pedlock Functional? Inner casing properly capped? Sample fitting In Good Condition?		<table border="1"> <tr> <td><u>LFC 7</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><u>3' BARHOLE</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><u>N/A</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><u>N/A</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td><input type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> </table>				<u>LFC 7</u>						<u>3' BARHOLE</u>						<u>N/A</u>						<u>N/A</u>						<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
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I certify that these data were obtained in accordance with applicable regulatory and project protocols. Signature: <u>Tim Johnson</u> Date: <u>6/28/96</u>																																																											

FIGURE 3.1 (CONTINUED)

LIDLAW WASTE SYSTEMS		EXPLOSIVE GAS MONITORING FIELD DATA SHEET - page 2 of 2					
Sta: <u>BRIDGETON SLP</u> Personnel: <u>Tim Johnson</u> Date: <u>6/28/96</u>		LFG-1	LFG-2	LFG-3	LFG-4	LFG-5	LFG-6
LOCATION IDENTIFICATION: Field Measurements: 1. Turn on instrument and wait for Main Menu Screen to appear. 2. Select 2 - Read Gas Level. 3. Select 2 - No, unless data is to be stored. 4. Gas Levels Screen will appear. 5. Press Key 5 - Pump to turn pump on and draw a gas sample. Wait at least 45 seconds and record data: 6. Select Key 1 to display LEL Screen and record data: 7. Select 0 - Exit to return to main Gas Levels Screen. 8. Select Key-1 Continue. 9. Select 0 - Zero. Pressures follow instructions. Be sure to disconnect hoses before zeroing pressure (Key-1). 10. Select Key-0 Exit. Record: 11. Select Key-0 Exit until General Utilities Screen reappears. 12. To continue monitoring start at Step 6. To quit, exit using Key-0.		CH ₄ % 0% CO ₂ % 0% O ₂ % 20.07 Balance 79.28 Gas % 0% LEL % 0% 9:00 Am Static Pressure DIT Pressure (if applicable)	CH ₄ % 0% CO ₂ % 0% O ₂ % 20.07 Balance 79.28 Gas % 0% LEL % 0% 9:11 Am Static Pressure DIT Pressure (if applicable)	CH ₄ % 0% CO ₂ % 0% O ₂ % 20.1 Balance 79.21 Gas % 0% LEL % 0% 9:22 Am Static Pressure DIT Pressure (if applicable)	CH ₄ % 0% CO ₂ % 0% O ₂ % 21.0 Balance 79.69 Gas % 0% LEL % 0% 9:30 Am Static Pressure DIT Pressure (if applicable)	CH ₄ % 0% CO ₂ % 0% O ₂ % 20.3 Balance 79.69 Gas % 0% LEL % 0% 9:35 Am Static Pressure DIT Pressure (if applicable)	CH ₄ % 0% CO ₂ % 0% O ₂ % 20.1 Balance 79.69 Gas % 0% LEL % 0% 9:38 Am Static Pressure DIT Pressure (if applicable)

DIT = Differential Pressure
 This is a quick-reference guide and not intended as a substitute for the Operations Manual for the GEM-500.

FIGURE 3.1 (CONTINUED)

LADLAW WASTE SYSTEMS		EXPLOSIVE GAS MONITORING FIELD DATA SHEET -- page 2 of 2											
Site: <u>BRIDGETON</u> Personnel: <u>Tim Johnson</u> Date: <u>6/1987</u>													
LOCATION IDENTIFICATION: Field Measurements: 1. Turn on instrument and wait for Main Menu Screen to appear. 2. Select 2 -- Read Gas Level. 3. Select 2 -- No, unless data is to be stored. 4. Gas Levels Screen will appear. 5. Press Key 5 -- Pump to turn pump on and draw a gas sample. Wait at least 45 seconds and record data: 6. Select Key 1 to display LEL Screen and record data: 7. Select 0 -- Exit to return to read Gas Levels Screen. 8. Select Key-1 Continue. 9. Select 3 -- Zero. Pressures follow instructions. Be sure to disconnect hoses before zeroing pressure (Key-1). 10. Select Key-0 Exit. Record: 11. Select Key-0 Exit until General Utilities Screen reappears. 12. To port true monitoring, start at Step 6. To quit, exit using Key-0.		LAC 7 CH ₄ % <u>0.9%</u> CO ₂ % <u>12.9%</u> O ₂ % <u>21.0</u> Balance <u>74.9</u> Gas % <u>0.7%</u> LEL % <u>0.7%</u> g: <u>50</u> <u>ftm</u>		CH ₄ % CO ₂ % O ₂ % Balance Gas % LEL %		CH ₄ % CO ₂ % O ₂ % Balance Gas % LEL %		CH ₄ % CO ₂ % O ₂ % Balance Gas % LEL %		CH ₄ % CO ₂ % O ₂ % Balance Gas % LEL %		CH ₄ % CO ₂ % O ₂ % Balance Gas % LEL %	
		Static Pressure Diff Pressure (if applicable)		Static Pressure Diff Pressure (if applicable)		Static Pressure Diff Pressure (if applicable)		Static Pressure Diff Pressure (if applicable)		Static Pressure Diff Pressure (if applicable)		Static Pressure Diff Pressure (if applicable)	

Diff = Differential Pressure
This is a quick reference guide and not intended as a substitute for the Operations Manual for the GEM-800.

BRIDGETON

Landfill Authority

RECEIVED

OCT 08 1997

October 6, 1997

Mr. Jim Bell
Chief Enforcement Section
Solid Waste Management Section
P.O. Box 176
Jefferson City, Missouri 65102

SWMP

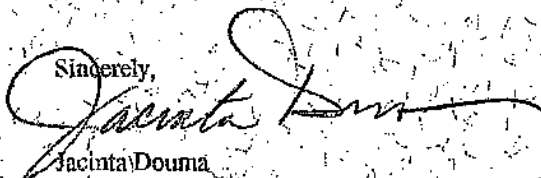
Re: Bridgeton Landfill, Site Operating Permit Number 118912 Third Quarter Gas Monitoring

Dear Mr. Bell:

Enclosed please find the Landfill Gas Monitoring report for gas migration, performed by Bridgeton Landfill associates. Temperatures are continuously being monitored in the twelve gas wells located in the northern inactive portion of the permitted area. There is currently no activity or evidence of fire located adjacent to the quarry wall in the vicinity of the TRW wells.

Should you have any questions, please do not hesitate to call, (314) 739-1919, extension 109.

Sincerely,



Jacinta Douma
Technical Administrative Assistant

cc: Brad Bomanz, St. Louis County Department of Health
Terry Hoewelkamp, MDNR St. Louis Region

