RESPONSE ACTION PLAN

Containment Structure
Site 734048

Conklin Limited
Syracuse, New York

October 1998

O'BRIEN & GERE
ENGINEERS, INC.

O'BRIEN & GERE
ENGINEERS, INC.

Chris 10/4/98
I have the other
copy.
CJB

September 30, 1998

Mr. Charles J. Branagh, P.E.
Regional Hazardous Waste Remediation Engineer
NYSDEC
Region 7 Environmental Quality Office
615 Erie Boulevard W.
Syracuse, NY 13204-2400

Re: Containment Structure Site 734048

File: 2593/22204.001\

Dear Mr. Branagh:

On behalf of Conklin Limited, O'Brien & Gere Engineers, Inc. submits two copies of the Response Action Plan for the Containment Structure Site #734048. The Response Action Plan was prepared pursuant to the Approved Operation and Maintenance Manual for the Containment Structure dated May 1993, revised February 1994 and the Department's letter dated June 23, 1998.

Should there be questions or comments, please contact Rob Schoeneck at 466-6000 or us.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

Michael E. Rewkowki
Senior Project Designer

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REGION 7-ENV QUALITY

cc: PE Grevelding, P.E. - O'Brien & Gere Engineers, Inc.
GA Swenson - O'Brien & Gere Engineers, Inc.
R. Schoeneck
M. Bright

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2593/22204

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5000 Brittonfield Parkway
PO Box 4873
Syracuse, New York 13221

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Appendices

1. Introduction

This response action plan has been prepared for Containment Structure Site 734048 located on the western side of the Carousel Center, in the City of Syracuse, Onondaga County, New York. The purpose of this response action plan is to establish a methodology to review and respond to indications of potential failure(s) in the Containment Structure systems. This response action plan:

- identifies indicators
- establishes protocols to identify and abate potential problems
- establishes criteria for procedures to be taken to minimize environmental impacts and human health risks

Reference the Approved Operation and Maintenance Manual for the Containment Structure site #734048 dated March 1993, Revised February 1994 for additional information and Figures 1, 2A, 2B, and 2C for the Containment Structure's original construction including leachate collection, leak detection and ground water monitoring systems. Also reference, monitoring, inspections data, and laboratory reports in the 1997 Annual Report for the Containment Structure Site 734048.

The following sections discuss response actions based on review of historical monitoring and sampling data and on visual and mechanical operation and maintenance requirements.

2. Response Action Plan

2.1. General

This section discusses observations of the monitoring data from the Leachate Collection Sumps (LCSs), Leak Detection Sumps (LDSs) and monitoring well (MW) data that may identify potential problems within the Containment Structure.

2.2. Leachate collection system

Indicators and actions to be taken regarding the leachate collection system are described below.

2.2.1. Elevated leachate levels in the Leachate Collection Sumps

The leachate collection system is designed with individual automatic pumps in each of the 5 leachate collection sumps. Historical water elevations and depths of leachate within the individual LCSs is indicated in Appendix A. In general, water level depths ranged at approximately 1.28' or less. Should the required inspections indicate water in one or more of the LCSs is greater than approximately 1.5' in depth the following should be checked.

- The pump should be checked for operational status and repaired or a new pump purchased, if unrepairable and reinstalled.
- The pump should be checked for proper electrical power.
- The tank full switch should be checked and tank emptied if full.
- The leachate transmission main between the individual sumps and the holding tank should be isolated and sections tested for blockages or breaks and cleaned or repaired, if required.

2.2.2. Leachate pumps operating; no flow to holding tank

Should the leachate collection pumps be in operation, however, no flow is going to the holding tank.

- Isolate sections of the leachate collection piping to determine if there are blockages or leaks.
- Repair as necessary

2.2.3. No leachate flow to Leachate Collection Sump

If a leachate collection sump does not generate leachate, the leachate collection piping may be clogged. Methods to be implemented to clean or unclog the pipes include:

- Identify if leachate should be flowing to the sump
- Hydraulic (jet) high pressure cleaning of the pipeline interior
- Air and water surging of the pipeline

For the above cleaning methods, employment of a qualified experienced pipeline cleaning contractor may be required.

2.2.4. Increased leachate flow volumes from the Leachate Collection Sumps

The following discusses actions to be taken should monitoring records indicate increased leachate collection volumes.

Historical leachate annual recovery records are included in Appendix B. The quantities are based on total leachate manifested from the site minus the metered quantity of flow from the LDS systems. The maximum annual quantity of leachate collected occurred in the 1994 initial monitoring period of 53,900 gallons. Since that time, leachate recovery from the LCS system was highest in 1996 with approximately 14,500 gallons collected and an average of approximately 10,400 gallons per year for the three year period. Based on these recovery rates, a response action trigger for the LCS systems was established at twice the average recovery rate or approximately 20,800 gallons per year.

Should LCS recovery rates exceed 20,800 gallons per year the following response actions should be initiated.

- Review recent precipitation or snow melt conditions for possible causes.
- Visually inspect bituminous asphalt surface for possible failed areas including cracks, settlement, etc..

  Identify which leachate collection sump(s) are producing the leachate and evaluate possible causes of the increase leachate flow by
  - review of monitoring data
  - installation of a method of metering individual LCSs
  - initiation of a monthly monitoring program for a period of one year of the LCS systems
  - preparation of an engineering report discussing the problem, actions taken, and the findings.

2.3. Leak detection system

This section discusses potential indicators and actions to be taken regarding the leak detection system.

2.3.1. Water present in the Leak Detection Sumps

The leak detection system, consists of 5 leak detection sumps located near each of the leachate collection sumps. A layer of geonet between the primary and secondary liners direct water in this layer to the leak detection sumps.

During the initial and subsequent monitoring of the leak detection sumps, water was present in the system. The primary objective of this subsection of the response action plan is to minimize the head of water on the leak detection liner and recovery of the water from the LDSs. Based on the continued presence of water within the LDS system, monitoring and fluid removal and disposal should continue as specified in the O&M Manual.

2.3.2. Elevated water levels in the Leak Detection Sump

Water elevations and levels recorded within the previous monitoring periods are also summarized in Appendix A. Review of this data indicates varying elevations of water within the LDSs. Trends within the past two annual monitoring (1996 and 1997) indicate levels of water in the LDSs exceeded

leachate levels within the LCSs. This criteria was utilized to establish the response action elevations listed in Table 2.1

Table 2.1 *Leak Detection Sump Response Action Elevations*

LDS Sump	Highest Water Elevation (1996& 1997)	Response Action Elevations
LDS 1	13.98	14.5
LDS 2	16.98	17.5
LDS 3	15.45	16.0
LDS 4	14.38	15.0
LDS 5	15.93	16.5

In the event water elevations are greater than the elevations indicated, at the individual leak detection sump(s) the following steps should be reviewed and implemented.

- continue to remove the water within the LDS(s),
- visually inspect the areas surrounding the leak detection sump for indications of cap failure, (for example pavement depressions or excessive cracking), repair if required,
- monitor the LDSs, LCSs, and monitoring wells (MWs) on a monthly basis and remove water from the LDS(s), and LCSs, as required, for a period of one year to evaluate possible causes of high water levels.
- prepare an engineering evaluation.

2.4. Ground water monitoring well system

This section discuses potential indicators and response actions based on the ground water monitoring well systems.

2.4.1. Increased volatile organic compound levels

Water samples from the ground water monitoring wells were collected and analyzed for volatile organic compounds (VOCs) as required by the O&M

Manual for the Containment Structure. The analyses indicated that VOCs in the local ground water were different parameters and different concentrations from those VOCs detected in water samples from within the Containment Structure's LCS and LDS systems. Historical levels of VOCs detected in ground water samples, LCS and LDS systems are indicated in Appendix C.

Three constituents have been detected on a more frequent basis within the Containment Structure. These constituents are:

- Vinyl chloride
- 1,1 - Dichloroethane
- 1,1 - Trichloroethane

MW-1 has historically evidenced concentrations of trichloroethane and toluene in concentration up to 17 ppb and 5 ppb, respectively. Benzene has been reported on a frequent basis in MW-4 in concentrations of up to 14 ppb. These constituents at the referenced concentrations are considered background levels for the individual monitoring well. They are not representative of the compounds identified within the Containment Structure.

If the ground water VOC fingerprint becomes similar to the LCS and LDS fingerprint, or if ground water concentrations increase significantly above the maximum detected historical concentrations in the individual monitoring well then the following actions should be taken:

- verify that the leachate collection sump pumps are operational, and check water levels in the leak detection sump and pump out if necessary, on a monthly basis for a period of one year,
- verify laboratory analytical results
- resample ground water from affected monitoring well(s) and analyze for VOCs to verify data, at quarterly intervals for one year,
- evaluate the data collected from the above tasks and provide recommendations.

2.5. Odor and gas controls

Historical records have not identified sources of orders or gases. If odors or gases such as VOC's or hydrogen sulfide are detected emitting from the Containment Structure systems attempts should be made to identify and mitigate the source. If the odors or gases persist from a certain LCS or LDS air blowers or vacuum extraction may be required to be installed. These actions are necessary if odors or gases present a potential environmental or human health risk.

2.6. Notifications

Prior to performing actions under this Response Action Plan the Owner shall notify the NYSDEC.

2.7. Site contact

The site contact for O&M of the Containment Structure and the Response Action Plan is:

Mr. Robert September 29, 1998Schoeneck
9090 Carousel Center
Syracuse, New York 13290

Telephone (315) 466-6000
Fax (315) 466-5808

APPENDICES

Appendix A

Summary of Monitoring Data

Conklin Limited site #734048 as-built data

Leachate Collection Sumps (LCS)					Leak Detection Sumps (LDS)				
Well	Rim Elev	Inv Elev	1997 Rim Elev	1997 Inv Elev[1]	Well	Rim Elev	Inv Elev	1997 Rim Elev	1997 Inv Elev[1]
LCS-1	19.02	4.61	18.23	3.87	LDS-1	19.04	3.65	18.23	2.84
LCS-2	21.92	3.27	20.76	2.11	LDS-2	22.30	2.44	21.00	1.14
LCS-3	19.52	5.12	18.97	4.57	LDS-3	19.46	3.66	18.78	2.98
LCS-4	21.25	3.85	20.65	3.25	LDS-4	21.17	2.82	20.54	2.19
LCS-5	21.32	4.59	20.63	3.90	LDS-5	21.45	3.85	20.73	3.13

Note:

1. Invert elevation calculated by subtracting difference in rim elevations from the former invert elevation.

Conklin Limited site #734048 monitoring data.

Monitoring date[1]	LCS-1 depth to water[2]	Water elev.[3]	LDS-1 depth to water	Water elev.	LCS-2 depth to water	Water elev.	LDS-2 depth to water	Water elev	LCS-3 depth to water	Water elev	LDS-3 depth to water	Water elev	LCS-4 depth to water	Water elev	LDS-4 depth to water	Water elev	LCS-5 depth to water	Water elev	LDS-5 depth to water	Water elev
02/25/94	12.91	6.11	13.89	5.15					12.45	7.07	13.51	5.95	15.35	5.90	15.88	5.29	14.61	6.71	7.67	13.78
03/31/94	12.71	6.31	13.15	5.89	18.65	3.27			12.44	7.08	14.55	4.91	15.35	5.90	14.29	6.88	14.59	6.73	7.64	13.81
04/27/94	12.19	6.83	12.66	6.38	14.81	7.11	15.97	6.33	12.48	7.04	13.46	6.00	15.23	6.02	14.14	7.03	14.60	6.72	13.30	8.15
05/24/94	12.09	6.93	13.41	5.63	14.51	7.41	16.61	5.69	12.41	7.11	14.66	4.80	14.96	6.29	15.52	5.65	14.25	7.07	16.83	4.62
06/21/94	13.19	5.83	13.77	5.27	15.76	6.16	16.46	5.84	13.24	6.28	14.67	4.79	15.40	5.85	15.87	5.30	14.60	6.72	17.17	4.28
07/20/94	13.69	5.33	14.01	5.03	17.04	4.88	16.78	5.52	13.42	6.10	14.77	4.69	16.08	5.17	16.26	4.91	15.49	5.83	15.94	5.51
08/11/94	14.29	4.73	15.05	3.99	17.30	4.62	17.35	4.95	13.78	5.74	14.80	4.66	16.17	5.08	16.51	4.66	16.04	5.28	16.82	4.63
09/07/94	13.91	5.11	13.98	5.06	16.32	5.60	16.69	5.61	13.79	5.73	14.69	4.77	16.40	4.85	16.48	4.69	16.11	5.21	17.02	4.43

Conklin Limited site #734048 monitoring data.

Monitoring date[1]	LCS-1 depth to water[2]	Water elev.[3]	LDS-1 depth to water	Water elev.	LCS-2 depth to water	Water elev.	LDS-2 depth to water	Water elev	LCS-3 depth to water	Water elev	LDS-3 depth to water	Water elev	LCS-4 depth to water	Water elev	LDS-4 depth to water	Water elev	LCS-5 depth to water	Water elev	LDS-5 depth to water	Water elev
10/13/94	13 82	5 20	14 59	4.45	17.32	4.60	16.92	5.38	13.74	5.78	14 60	4.86	16.44	4.81	16.48	4.69	16.16	5.16	17.16	4.29
11/14/94	13.72	5.30	14.56	4.48	17.65	4.27	16.79	5.51	13.73	5.79	14.31	5.15	16.41	4.84	16.04	5.13	16.02	5.30	16.83	4.62
12/14/94	13.83	5.19	14.58	4.46	17.98	3.94	16.63	5.67	13.78	5.74	14.74	4.72	16.56	4.69	15.95	5.22	16.21	5.11	16.87	4.58
01/19/95	14.19	4.83	14.04	5.00	18.01	3.91	17.10	5.20	13.81	5.71	14.66	4.80	16.46	4.79	16.03	5.14	16.21	5.11	16.71	4.74
02/18/95	14.23	4.79	14.12	4.92	18.07	3.85			13.79	5.73	14.28	5.18	16.40	4.85	16.24	4.93	16.17	5.15	16.79	4.66
03/13/95	14.21	4.81	14.03	5.01	18.11	3.81	16.53	5.77	14.75	4.77	14.87	4.59	16.61	4.64	14.98	6.19	16.19	5.13	16.65	4.80
04/25/95	13.96	5.06	14.05	4.99	17.98	3.94	16.96	5.34	13.91	5.61	14.81	4.65	16.98	4.27	14.87	6.30	16.36	4.96	15.39	6.06
05/08/95	14.01	5.01	15.07	3.97	17.89	4.03	17.88	4.42	14.29	5.23	16.10	3.36	16.72	4.53	17.12	4.05	16.56	4.76	16.47	4.98
06/06/95	14.10	4.92	14.42	4.62	17.98	3.94	17.38	4.92	13.79	5.73	15.13	4.33	16.77	4.48	16.04	5.13	16.47	4.85	16.56	4.89
07/21/95	14.03	4.99	14.83	4.21	18.03	3.89	17.15	5.15	13.31	6.21	15.32	4.14	16.48	4.77	16.04	5.13	16.49	4.83	16.51	4.94
08/30/95	14.00	5.02	14.25	4.79	18.05	3.87	17.35	4.95	13.79	5.73	15.44	4.02	16.51	4.74	16.02	5.15	16.35	4.97	16.64	4.81
09/26/95	14.04	4.98	14.09	4.95	18.09	3.83	16.86	5.44	13.65	5.87	15.79	3.67	16.53	4.72	16.91	4.26	16.18	5.14	16.76	4.69
10/23/95	13.91	5.11	14.02	5.02	18.32	3.60	16.43	5.87	14.13	5.39	15.62	3.84	16.45	4.80	16.29	4.88	16.22	5.10	16.14	5.31
11/27/95	13.87	5.15	14.40	4.64	17.71	4.21	15.84	6.46	13.46	6.06	15.50	3.96	16.24	5.01	14.33	6.84	16.11	5.21	14.01	7.44
12/28/95	14.01	5.01	14.12	4.92	18.08	3.84	16.70	5.60	13.92	5.60	15.73	3.73	16.48	4.77	15.50	5.67	16.26	5.06	15.97	5.48
03/13/96	13.81	5.21	13.72	5.32	16.47	5.45	16.42	5.88	12.86	6.66	15.45	4.01	16.02	5.23	14.07	7.10	15.91	5.41	13.01	8.44
05/15/96	13.92	5.10	13.44	5.60	17.38	4.54	16.37	5.93	13.68	5.84	14.76	4.70	16.40	4.85	14.07	7.10	16.23	5.09	14.81	6.64
08/27/96	13.88	5.14	13.98	5.06	17.62	4.30	16.98	5.32	13.21	6.31	14.83	4.63	16.18	5.07	14.38	6.70	16.09	5.23	15.93	5.52
11/13/96	13.90	5.12	13.56	5.48	17.42	4.50	15.92	6.38	13.38	6.14	13.58	5.88	16.20	5.05	14.25	6.92	16.10	5.22	15.53	5.92
03/10/97	13.94	4.29	13.42	4.81	17.40	3.36	16.51	4.49	13.39	5.58	12.91	5.87	16.22	4.43	13.94	6.60	16.12	4.51	15.11	5.62
06/03/97	13.88	4.35	13.82	4.41	17.36	3.40	16.86	4.14	13.42	5.55	13.59	5.19	16.31	4.34	14.01	6.53	16.02	4.61	14.74	5.99

Monitoring date[1]	LCS depth to water[2]	Water elev.[3]	to water	Water elev.	CS-2 epth to water	Water elev.	LD de to water	Water elev	to water	Water elev	DS-3 epth to water	Water elev	LCS de to water	Water elev	to water	Water elev	LCS-5 depth to water	Water elev	LD de to water	Water elev
08/10/97	13 88	4 35	13.71	4 52	17.41	3 35	16 68	4.32	13 40	5.57	13.62	5 16	16 28	4.37	13.97	6.57	16.21	4.42	14.68	6.05
10/14/97	13.91	4.32	13.46	4.77	17.44	3.32	16.58	4.42	13.31	5.66	13.45	5.33	16.28	4.37	13.44	7.10	16.07	4.56	14.81	5.92

Notes:

1. Date of leachate collection sump monitoring.
2. Depth to water in feet
3. Elevations refer to Syracuse City datum.
4. 1997 elevation data reflect 1997 survey information

Conklin Limited site #734048 depth of water in LCS (feet).

Monitoring date[1]	LCS-1 water level	LCS-2 water level	LCS-3 water level	LCS-4 water level	LCS-5 water level
02/25/94	1 5		1.95	2 05	2 12
03/31/94	1.7	0.00	1.96	2.05	2.14
04/27/94	2 22	3 84	1.92	2.17	2.13
05/24/94	2.32	4.14	1.99	2.44	2.48
06/21/94	1.22	2.89	1.16	2	2.13
07/20/94	0.72	1.61	0.98	1.32	1.24
08/11/94	0.12	1.35	0.62	1.23	0.69
09/07/94	0.5	2.33	0.61	1	0.62
10/13/94	0.59	1.33	0.66	0.96	0.57
11/14/94	0.69	1	0.67	0.99	0.71
12/14/94	0.58	0.67	0.62	0.84	0.52
01/19/95	0.22	0.64	0.59	0.94	0.52
02/18/95	0.18	0.58	0.61	1	0.56
03/13/95	0.2	0.54	-0.35	0.79	0.54
04/25/95	0.45	0.67	0.49	0.42	0.37
05/08/95	0.4	0.76	0.11	0.68	0.17

Conklin Limited site #734048 depth of water in LCS (feet).

Monitoring date[1]	LCS-1 water level	LCS-2 water level	LCS-3 water level	LCS-4 water level	LCS-5 water level
06/06/95	0.31	0.67	0.61	0.63	0.26
07/21/95	0.38	0.62	1.09	0.92	0.24
08/30/95	0.41	0.6	0.61	0.89	0.38
09/26/95	0.37	0.56	0.75	0.87	0.55
10/23/95	0.5	0.33	0.27	0.95	0.51
11/27/95	0.54	0.94	0.94	0.16	0.62
12/28/95	0.4	0.57	0.48	0.92	0.47
03/13/96	0.6	2.18	1.54	1.38	0.82
05/15/96	0.49	1.27	0.72	1	0.5
08/27/96	0.53	1.03	1.19	1.22	0.64
11/13/96	0.51	1.23	1.02	1.2	0.63
03/10/97	0.42	1.25	1.01	1.18	0.61
06/03/97	0.48	1.29	0.98	1.09	0.71
08/10/97	0.48	1.24	1.00	1.12	0.52
10/14/97	0.45	1.21	1.09	1.12	0.66

Notes:

1. Date of leachate collection sump monitoring.

Appendix B

Leachate Collection System Annual Recovery Rates

Appendix B

Conklin Limited Site #834048

Quantity of leachate collected from the leachate collection sumps

Dates	Leachated Collected	Annual Recovery (year)
Period 1/97 - 12/97	5.500 gal.	5.055 (1997)
Period 1/96 - 12/96	14,508 gal.	14,508 (1996)
Period 2/95 - 12/95	10,050 gal.	11.651 (1995)
Period 1/95	1,601 gal.	
Period 10/94 - 12/94	10,000 gal.	53,900 (1994)
Period 7/94 - 9/94	23,903 gal.	
Period 2/94 - 6/94[2]	20,000 gal.	
10/90 - 1/94	171,000[1] gal.	

(1) Estimated based on review of available records
(2) Automatic pumping intiated

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Appendix C

Volatile Organics Summary List

APPENDIX C
NO. 1

Conkin Limited Site #734048
Volatile Organic Summary List
Laboratory Analytical Results
Leacnate Collection Sump (LCS)
and Leak Detection Sump (LDS)
Water Quality

Compound	Location:	LCS-1	LDS-1	LCS-1	LDS-1	LCS-1	LDS-1	LCS-1	LDS-1	LCS-1	LDS-1	LCS-1	LDS-1	LCS-1	LDS-1	LCS-1	LDS-1	LCS-1	LDS-1	LCS-1	LDS-1
	Date:	3/31/94	3/10/94	6/14/94	5/27/94	9/7/94	8/11/94	10/13/94	10/12/94	1/14/95	1/17/95	5/31/95	6/5/95	10/23/95	10/31/95	5/15/96	5/29/96	6/3/97	6/30/97	6/23/98	6/25/98
Dichlorodifluoromethane		63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane		--	--	--	--	--	593	1100	715	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride		88	387	918	--	--	--	--	--	--	252	--	450	--	--	--	210	--	37	--	32
1,1-Dichloroethene		--	303	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride		--	--	41	--	--	--	--	--	--	--	--	--	180	--	--	--	--	--	--	--
1,1-Dichloroethane		108	--	377	810	480	390	615	197	--	88	54	90	90	54	160	60	114	58	24	135
Chloroform		44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane		65	310	130	730	325	250	129	286	--	103	30	70	64	70	21	76	25	29	--	35
Trichloroethene		--	--	36	--	--	--	--	--	--	--	--	--	--	--	14	--	6.1	--	--	--
Toluene		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Xylenes		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1. Results report in micrograms per liter (ug/L)(ppb)
2. USEPA Method 601/602 performed by Certified Environmental Services, Inc.
3. -- = Constituent not detect above laboratory detection limits
4. Analytical results for compounds not reported above were also below laboratory detection limits

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APPENDIX C
NO. 2

Conlkin Limited Site #734048
Volatile Organic Summary List
Laboratory Analytical Results
Leachate Collection Sump (LCS)
and Leak Detection Sump (LDS)
Water Quality

Compound	Location:	LCS-2	LDS-2*	LCS-2	LDS-2	LCS-2	LDS-2	LCS-2	LDS-2	LCS-2	LDS-2	LCS-2	LDS-2	LCS-2	LDS-2	LCS-2	LDS-2	LCS-2	LDS-2	LCS-2	LDS-2
	Date	3/31/94		6/14/94	5/27/94	9/7/94	8/11/94	10/13/94	10/12/94	1/14/95	1/17/95	6/5/95	6/5/95	10/23/95	10/31/95	5/15/96	5/29/96	6/3/97	6/26/97	6/23/98	6/25/98
Dichlorodifluoromethane		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--
Chloromethane		--	--	--	--	--	2824	177	1160	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride		9.7	--	3230	985	--	--	--	--	--	591	--	1200	--	630	--	210	--	72	--	160
1,1-Dichloroethene		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride		--	--	164	--	--	--	--	--	--	--	--	--	200	--	--	--	--	--	--	--
1,1-Dichloroethane		23	--	584	442	398	169	230	239	168	156	64	--	150	120	15	--	52	71	257	250
Chloroform		--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane		4.9	--	114	225	260	115	175	125	--	80	30	30	32	45	7	32	17	7.2	22	10
Trichloroethene		1.8	--	--	--	--	--	--	--	--	--	--	130	--	--	--	43	--	--	20	--
Toluene		--	--	68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Xylenes		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

* = Not sampled
1. Results reported in micrograms per liter (ug/L)(ppb)
2. USEPA Method 601/602 performed by Certified Environmental Services, Inc.
3. -- = Constituent not detect above laboratory detection limits
4. Analytical results for compounds not reported above were also below laboratory detection limits

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APPENDIX C
NO. 3

Conlkin Limited Site #734048
Volatile Organic Summary List
Laboratory Analytical Results
Leachate Collection Sump (LCS)
and Leak Detection Sump (LDS)
Water Quality

Compound	Location:	LCS-3	LDS-3	LCS-3	LDS-3	LCS-3	LDS-3	LCS-3	LDS-3	LCS-3	LDS-3	LCS-3	LDS-3	LCS-3	LDS-3	LCS-3	LDS-3	LCS-3	LDS-3	LCS-3	LDS-3
	Date:	3/31/94	3/10/94	6/14/94	5/27/94	9/7/94	8/11/94	10/13/94	10/12/94	1/14/95	1/17/95	6/5/95	6/5/95	10/23/95	10/31/95	5/15/96	5/29/96	6/3/97	6/27/97	6/22/98	6/24/98
Dichlorodifluoromethane		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane		--	--	--	--	--	1900	113	1900	--	--	120	--	--	--	--	--	--	--	--	--
Vinyl chloride		160	243	2477	1220	--	--	--	--	--	--	--	920	--	62	--	60	--	--	--	--
1,1-Dichloroethene		--	42.7	--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride		--	--	180	302	--	--	--	--	--	--	--	--	380	--	--	--	--	--	--	--
1,1-Dichloroethane		42	--	202	84	309	--	286	274	540	70	510	63	240	26	160	12	130	9.8	840	--
Chloroform		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane		13	20.7	113	62	161	--	121	273	--	92	34	30	57	11	--	6.9	19	--	18	--
Trichloroethene		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14	--
Toluene		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Xylenes		--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--	--	--
Trans-1,2-Dichloroethene		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	30

Notes:

1. Results reported in micrograms per liter (ug/L)(ppb)
2. USEPA Method 601/602 performed by Certified Environmental Services, Inc.
3. -- = Constituent not detect above laboratory detection limits
4. Analytical results for compounds not reported above were also below laboratory detection limits

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APPENDIX C
NO. 4

Conlkin Limited Site #734048
Volatile Organic Summary List
Laboratory Analytical Results
Leachate Collection Sump (LCS)
and Leak Detection Sump (LDS)
Water Quality

Compound	Location:	LCS-4	LDS-4	LCS-4	LDS-4	LCS-4	LDS-4	LCS-4	LDS-4	LCS-4	LDS-4	LCS-4	LDS-4	LCS-4	LDS-4	LCS-4	LDS-4	LCS-4	LDS-4	LCS-4	LDS-4
	Date:	3/31/94	3/10/94	6/14/94	5/27/94	9/7/94	8/11/94	10/13/94	10/12/94	1/14/95	1/17/95	6/5/95	6/5/95	10/23/95	10/31/95	5/15/96	5/29/96	6/3/97	6/27/97	6/22/98	6/24/98
Dichlorodifluoromethane		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane		--	--	--	--	2100	5081	143	2100	--	--	66	--	--	--	--	--	--	--	--	--
Vinyl chloride		1330	451	3104	2570	--	--	--	--	--	1100	--	--	--	830	52	760	--	170	70	630
1,1-Dichloroethene		--	351	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride		--	--	223	693	--	--	--	--	--	--	--	--	93	--	--	--	--	--	--	--
1,1-Dichloroethane		510	--	1302	639	1600	877	362	813	540	430	320	274	220	320	160	285	146	320	--	710
Chloroform		65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8	--
1,1,1-Trichloroethane		70	68.5	191	177	285	--	130	279	--	104	49	45	60	52	16	43	21	14	18	--
Trichloroethene		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9	--
Toluene		--	--	59	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Xylenes		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1. Results reported in micrograms per liter (ug/L)(ppb)
2. USEPA Method 601/602 performed by Certified Environmental Services, Inc.
3. -- = Constituent not detect above laboratory detection limits
4. Analytical results for compounds not reported above were also below laboratory detection limits

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APPENDIX C
NO. 5

Conlkin Limited Site #734048
Volatile Organic Summary List
Laboratory Analytical Results
Leachate Collection Sump (LCS)
and Leak Detection Sump (LDS)
Water Quality

Compound	Location:	LCS-5	LDS-5	LCS-5	LDS-5	LCS-5	LDS-5	LCS-5	LDS-5	LCS-5	LDS-5	LCS-5	LDS-5	LCS-5	LDS-5	LCS-5	LDS-5	LCS-5	LDS-5	LCS-5	LDS-5
	Date:	3/31/94	3/10/94	6/14/94	5/27/94	9/7/94	8/11/94	10/13/94	10/12/94	1/14/95	1/17/95	6/5/95	6/5/95	10/23/95	10/31/95	5/15/96	5/29/96	6/3/97	6/27/97	6/23/98	6/25/98
Dichlorodifluoromethane		26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane		--	--	--	--	2100	45	1276	--	--	--	20	--	--	--	--	--	--	--	--	--
Vinyl chloride		--	--	1417	49	--	--	--	--	19	--	--	920	--	20	--	15	--	--	--	--
1,1-Dichloroethene		--	9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methylene chloride		--	--	142	5.1	--	--	--	--	--	--	--	--	120	--	--	--	--	--	--	--
1,1-Dichloroethane		21	--	440	23	1600	17	495	14	58	9.7	120	330	230	14	270	14	105	16	122	--
Chloroform		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane		--	--	94	3.9	282	--	125	--	7.9	1.2	26	--	60	--	28	--	21	--	12	--
Trichloroethene		--	--	--	2.3	--	--	--	--	--	--	18	40	--	--	--	1.3	--	--	15	--
Toluene		--	--	35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Xylenes		--	--	52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

1. Results reported in micrograms per liter (ug/L)(ppb)
2. USEPA Method 601/602 performed by Certified Environmental Services, Inc.
3. -- = Constituent not detect above laboratory detection limits
4. Analytical results for compounds not reported above were also below laboratory detection limits

APPENDIX C
NO. 6

Conlkin Limited Site #734048
Laboratory Analytical Results
Ground Water Monitoring Wells
Water Quality

Compound	Location:	MW-1										MW-2										MW-3										MW-4										MW-5	
		3/31/94	6/7/94	9/1/94	10/11/94	1/13/95	5/31/95	10/20/95	5/16/96	6/17/97	6/15/98	3/31/94	6/7/94	9/1/94	10/11/94	1/13/95	5/31/95	10/20/95	5/16/96	6/17/97	6/16/98	3/31/94	6/7/94	9/1/94	10/11/94	1/13/95	5/31/95	10/20/95	5/16/96	6/17/97	6/16/98	3/31/94	6/7/94	9/1/94	10/11/94	1/13/95	5/31/95	10/20/95	5/16/96	6/17/97	6/16/98	6/28/97	6/15/98
Chloromethane		--	--	--	3.3-	--	--	--	--	--	--	--	--	--	2.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene		2.4	--	--	--	--	--	--	--	--	--	3.1	--	--	--	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trans-1,2-dichloroethene		--	--	--	--	--	--	--	--	--	--	--	--	--	2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--
1,1-Dichloroethane		--	--	2	2	--	--	1.1	--	--	5.5	--	--	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.3	--
Chloroform		--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene		7.7	13	15	17	17	--	11	8	7.9	8.5	--	--	--	--	--	2.3	1.1	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--
Chlorobenzene		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9	--	--	--	--	--	--
1,4-Dichlorobenzene		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5	--	--	1.2	--	--	--
Benzene		--	--	--	--	4.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.3	14	4.5	2.5	--	3.6	--	--	3.7	4.1	--	--
Toluene		--	--	5-	4.1	--	2.9	3	1.6	1.6	4.7	--	--	--	--	5.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9	--	--	5.1	--	--	--	--	--	--	--
Total Xylenes		--	--	--	--	--	--	--	--	--	5.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.4	--	--	--	--	--	--	--	4.9	--	--

Notes:

1. Results reported in micrograms per liter (ug/L)(ppb)
2. USEPA Method 601/602 performed by Certified Environmental Services, Inc.
3. -- = Constituent not detect above laboratory detection limits
4. Analytical results for compounds not reported above were also below laboratory detection limits

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