



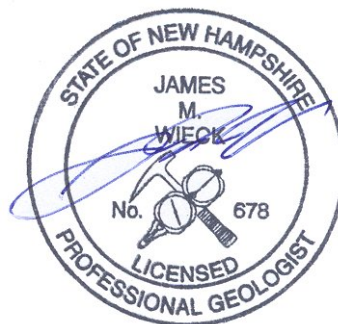
Report Cover Waste Management Division



2023 Annual Post-Closure Report
Cross Road Landfill
Cross Road
Exeter, New Hampshire 03833

NHDES Site #: 198401081
Project Type: Solid Waste Facility
Project #: 16485

PREPARED FOR
Town of Exeter, New Hampshire
13 Newfields Road
Exeter, New Hampshire 03833
(603) 418-6431
Mr. Paul Vlasich, P.E.
pvlasich@exeternh.gov



PREPARED BY
GZA GeoEnvironmental, Inc.
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Date of Report: March 28, 2024

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March 28, 2024
File No. 04.0021270.35

New Hampshire Department of Environmental Services
Waste Management Division
Solid Waste Management Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

Re: 2023 Annual Post-Closure Report
Cross Road Landfill
Exeter, New Hampshire
DES #198401081
DES-SW-SP-1992-001

Dear Permit Coordinator:

On behalf of the Town of Exeter, GZA GeoEnvironmental, Inc. is pleased to provide the New Hampshire Department of Environmental Services (NHDES) with the attached Solid Waste Management Bureau – Landfill Post-Closure Inspection Report (Report) for the Cross Road Landfill in Exeter, New Hampshire. The Report and associated attachments are being submitted to fulfill the Solid Waste Facility Permit requirement of a Landfill Post-Closure Performance Report for the calendar year 2023.

GZA trusts that the information attached to this letter meets the needs of the NHDES. Should you have any questions, please contact us.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Erik B. Dyrness
Assistant Project Manager

James M. Wieck, P.G.
Consultant/Reviewer

Jeffrey D. Rowell, P.E.
Principal

EBD/JDR/JMW: jkm

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Attachments: Annual Post-Closure Report
Figure
Tables
Photographic Log 2023
Inspection Reports 2023

cc: Stephen Cronin, PE, Director of Public Works, Town of Exeter
Mr. Paul Vlasich, PE, Town Engineer, Town of Exeter



Annual Post-Closure Report



ANNUAL POST-CLOSURE REPORT

Inactive (Closed) Solid Waste Landfills

Reporting Year 2023

Waste Management Division, SWMB



[RSA 149-M](#) / [Env-Sw 1105.07\(b\)\(2\)](#), [Env-Sw 1105.14](#), & [Env-Sw 807.05\(i\)](#)

Complete and return this form by **MARCH 31, 2024**.

1. Facility Identification

Facility Name Cross Road Landfill and Stump Dump	
Physical Street Address 9 Cross Road	
Municipality Exeter	Solid Waste Facility Permit Number DES-SW-Sp-1992-001

2. Permittee Information

Permittee Town of Exeter, New Hampshire		
Mailing Address 13 Newfields Road		
Town/City Exeter	State NH	ZIP Code 03833
Email Address schronin@exeternh.gov	Daytime Phone Number (603) 773-6161	

3. Contact Person

Check this box if this information has changed from last year. ☒

Name Stephen Cronin	Job Title Public Works Director
Affiliation Public Works	
Email Address schronin@exeternh.gov	Daytime Phone Number (603) 773-6161

4. Inspections

Date of Inspection	Inspector	Date Inspection Report Submitted to NHDES*
4/17/2023	E. Fulton	/ /
8/9/2023	E. Dyrness	/ /
11/15/2023	E. Fulton	/ /

* Inspection reports are due 30 days following the inspection. See [Env-Sw 807.05\(h\)](#). If you did not submit the inspection reports for this reporting year, attach them and check this box ☒.

SUMMARY OF INSPECTION FINDINGS				
A. General Site Condition	Yes	No	N/A	Describe Condition
1. Is access to the landfill restricted by use of gates, fences or natural barriers? Ref Env-Sw 807.03(b)(11)	☒	☐		
2. Are weather-resistant legible signs posted around the perimeter of the landfill in areas where fencing is not used? Ref Env-Sw 807.03(b)(11)	☒	☐	☐	
3. Is the access road(s) properly graded and drained? Ref Env-Sw 806.08(c)	☒	☐	☐	
4. Is any portion of the site used for activities other than post-closure monitoring and maintenance? If you answered "yes," list these activities in Section 7 (Additional Information). For each activity, indicate if it is on or off cap/cover. Ref Env-Sw 807.05(o)	☒	☐		See Section 7
5. Are all groundwater monitoring wells accessible and in good condition? Ref Env-Sw 807.03(b)(8)	☒	☐	☐	
6. Is the surface water monitoring system functioning and maintained? Ref Env-Sw 807.03(b)(8)	☐	☐	☒	
B. Stormwater System Condition [Ref Env-Sw 807.03(b)(5)]	Yes	No	N/A	Describe Condition
1. Are the sedimentation/detention ponds maintained (e.g., sedimentation removed, no overgrown vegetation)?	☒	☐	☐	
2. Are culverts intact and free of obstructions?	☒	☐	☐	
3. Are perimeter drainage swales/ditches well maintained, unobstructed, and free flowing?	☒	☐	☐	
4. Do all drainage swales have positive drainage?	☒	☐	☐	
5. Are the methods used to control surface water well maintained (e.g., berms, benches)?	☒	☐	☐	
6. Are runoff channels protected to prevent scour and erosion that creates sediment?	☒	☐	☐	
7. Is there evidence of erosion (e.g., sedimentation in drainage ditches and ponds)?	☐	☒	☐	
8. Are storm drains in good condition (e.g., frame, grate, wall joints, pumps, sumps, pipes, inlet and outlet stone)?	☒	☐	☐	
C. Decomposition Gas Control System [Ref Env-Sw 807.03(b)(9)]	Yes	No	N/A	Describe Condition
1. Is the gas management system: ☒ Passive OR ☐ Active			☐	
2. If the facility has an active gas management system, are all components of the system in good working order (e.g., blower, flare)? Date the system was last tested:	☐	☐	☒	
3. If the facility has a passive gas management system, are all gas vents in good condition and functional (e.g., vent cap, riser pipe)?	☒	☐	☐	
4. Are all soil gas probes in good condition and functional?	☐	☒	☐	See Section 7
5. Are all indoor air quality monitors in good condition and functional?	☐	☐	☒	
6. Are there any landfill odors?	☐	☒		
7. Is there evidence of stressed (e.g., damaged/weakened) vegetation?	☐	☒		

C. Decomposition Gas Control System [Ref Env-Sw 807.03(b)(9)]	Yes	No	N/A	Describe Condition
8. Is the permittee required to monitor methane generation from the landfill? If “no,” provide an explanation in Section 7 (Additional Information). If “yes,” answer the following questions in this section and attach a summary table of all methane data collected; include data from vents, soil probes, and indoor air quality monitors (as applicable). Evaluate any trends in Section 6 (Summary and Assessment).	☒	☐		
I. For this calendar reporting year, have methane levels exceeded 25% of the LEL inside any on or off-site structures? Ref Env-Sw 806.07(b)(1)	☐	☐	☒	
II. For this calendar reporting year, have methane levels exceeded 50% of the LEL at the property line within the soil? Ref Env-Sw 806.07(b)(2)	☐	☒	☐	
III. If “yes” to question I. or II. above, did the permittee implement contingency procedures to ensure protection of public health & safety; and notify NHDES immediately?	☐	☐	☒	

D. Cap (Cover) Condition [Ref Env-Sw 807.03(b)(4)]	Yes	No	N/A	Describe Condition
1. Is cap settlement uniform? (i.e. No visual evidence of depressions, water ponding, cracking, and/or sloughing)	☒	☐		
2. Is an instrument survey of the cap required? Ref Env-Sw 807.03(b)(10) If “yes,” attach a summary table of all survey data collected and provide an evaluation of any trends. Date(s) the survey was conducted this reporting year:	☐	☒		
3. Does cap slope promote runoff?	☒	☐		
4. Is the cap mowed on a regular basis? NHDES recommends that landfills be mowed twice per year. Date(s) the landfill was mowed for this reporting year: Summer 2023	☒	☐		
5. Is there evidence of erosion (e.g., erosion rills, exposed soil)?	☐	☒		
6. Is the vegetative layer in good condition?	☒	☐		
7. Is there evidence of damage due to unauthorized access?	☐	☒		
8. Is there evidence of damage due to burrowing animals?	☐	☒		

E. Leachate Collection and Leak Detection Systems [Ref Env-Sw 807.03(b)(6) & Env-Sw 807.03(b)(7)]		Yes	No	N/A	Describe Condition
1. Are there any leachate breakouts or seeps, either on or off the landfill property?		☒	☐		See Section 7
2. Does the landfill have a leachate collection and/or leak detection system? If "yes," answer the following:		☒	☐	☐	See Section 7
I. Are leachate collection and leak detection system appurtenances functioning properly?		☐	☐	☒	
II. Is leachate stored on-site prior to disposal? If "yes," what quantity of leachate is currently stored on-site?		☐	☐	☒	
III. Is leachate properly removed and disposed of on a periodic basis? If "yes," what is the frequency of disposal and the disposal destination?		☐	☐	☒	

5. Action Items Summary

Action Item	Carried Forward from 2023?		Date Completed	Date to be Completed	Information Attached?
Soil gas probes	☒ Yes	☐ No		2024	☐
Depression on the southwestern side of the landfill cap	☐ Yes	☒ No	May 2023		☒
	☐ Yes	☐ No			☐
	☐ Yes	☐ No			☐
	☐ Yes	☐ No			☐
	☐ Yes	☐ No			☐
	☐ Yes	☐ No			☐
	☐ Yes	☐ No			☐

6. Summary and Assessment [Ref [Env-Sw 807.05\(j\)](#)] Use additional sheets if necessary.

Please see attachment for Section 6: Summary and Assessment

7. Additional Information Use additional sheets if necessary.

Please see the attached photographic log for recent (2023) representative photographs of Landfill conditions during inspections.

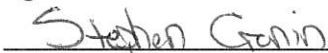
Please see attachment for Section 7: Additional Information.

8. Signature

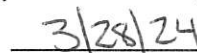
By signing below, I affirm that the material and information submitted in this report is correct and complete to the best of my knowledge and belief, and that I am the permittee or a person duly authorized to sign for the permittee.



Signature of Permittee or Duly Authorized Individual



Printed Name of Signatory



Date



Title / Permittee Affiliation

This report contains ____ attached pages.

Form Submittal Instructions:

Please submit the completed form in PDF via email to solidwasteinfo@des.nh.gov or upload to [NHDES' OneStop Data Provider](#) portal using the universal solid waste management site code "123456789." If you are not registered as a Data Provider, you may complete a [registration form](#) to request a username, pin and password. **Please do not submit a paper copy of the completed form unless that is your only means to submit.** If you must submit the PCR in paper form, for tracking purposes please notify us by email, sent to solidwasteinfo@des.nh.gov, that you have submitted the PCR in paper form.

While not required, NHDES recommends that the permittee keep a copy of the completed PCR.



Exeter Landfill
9 Cross Road, Exeter, New Hampshire
Solid Waste Permit Number: DES-SW-SP-1992-001

SECTION 6 - SUMMARY AND ASSESSMENT

In accordance with Env-Sw 1105.14(f) and Env-Sw 807.05(i), an assessment of whether the facility is achieving the performance requirements in Env-807.04 is required in each annual report. The Town of Exeter has generally met or working toward meeting the performance standards during the post closure period (30 years). Visual inspections and field screening of the Landfill gas monitoring locations were completed by GZA on April 14, August 9, and November 15, 2023. The assessment below summarizes the Landfill conditions relative to the post-closure performance standards described in Env-Sw 807.04 and paraphrased in the Annual Post-Closure Report Instructions.

(a) Is the facility still generating leachate?

Leachate is no longer being generated and removed from the Landfill for off-site treatment. Leachate from the Landfill may impact groundwater quality as described in item (d) below.

(b) Is the facility still generating decomposition gases?

The Landfill continues to generate decomposition gases. However, Landfill gas monitoring results indicate that methane concentrations in the soil gas at the boundaries of Town-owned land do not result in an exceedance of 50% of the lower explosive limit (LEL).

Methane concentrations measured during 2023 in soil gas sampled from within monitoring points GMW-1 and GMW-2, located slightly to the north of the landfill cap, indicate long term fluctuating but generally stable to potentially decreasing concentrations. Methane concentrations were above the Lower Explosive Limit (LEL) during the April, August, and November 2023 monitoring rounds at monitoring point GMW-1 and during the November 2023 monitoring rounds at GMW-2. The concentrations of methane measured at monitoring point GMW-2 appear to have an overall decreasing trend since 2018 and continue to be below historic maximums as shown in **Exhibit 1** and **Exhibit 2** below.

Monitoring locations GMW 11R and GMW-12 were previously installed on Town property adjacent to the Landfill and between monitoring location GMW-10 and residences located to the southwest of the Landfill. Monitoring of GMW-11R and GMW-12 through 2023 has not detected the presence of methane. Methane was not detected above the instrument detection limit at 8 monitoring locations during 2023.

Historical gas monitoring data are included in attached **Table 2**.

(c) Has the capping system achieved maximum settlement and retained its functional integrity?

Consistent with past years inspections, a depression indicative of uneven settlement of the Landfill cap was observed by GZA in the southwestern portion of the Landfill during the April 17, 2023, Landfill inspection. Standing water has been periodically observed within the depression during and after rain



events in the approximately 400-square-foot area (previously reported to NHDES). During May of 2023, the Town of Exeter performed site grading activities to address the uneven settlement on the southwestern portion of the landfill cap and to facilitate positive drainage to existing site features. Following the completion of the Town's grading activities, GZA completed a baseline level-elevation-survey of the regraded area to facilitate future assessment of possible settlement of that area, if needed based on visual observations of potential settlement.

During August and November 2023 cap inspections, the vegetation in the regraded area was well-established, the area was free of standing water, and settlement was not apparent.

(d) Is the facility having an adverse impact to air, groundwater or surface water quality?

The Landfill results in impacts to groundwater quality which are managed in accordance with a Groundwater Management Permit (GMP) issued by the NHDES. Groundwater monitoring was completed by Civil & Environmental Consultants, Inc. (CEC) during April 7 through April 8, and November 9 through November 10, 2023 in accordance with the Monitoring Program included in the GMP issued for the Landfill (GWP-198401081-E-005, expired February 25, 2024). 2023 Landfill contaminant concentration data are included in attached **Table 1**. Calendar year 2023 groundwater Landfill contaminant concentration data are generally consistent with the results of historical landfill water quality monitoring, indicating that groundwater quality is gradually improving or has remained relatively stable following closure of the landfill during 1994. Recent and historical monitoring indicates exceedances of the New Hampshire Ambient Groundwater Quality Standards¹ (NH AGQS) and/or Secondary Maximum Concentration Limits² (SMCLs), primarily for certain parameters typical of landfill-related water quality (e.g., arsenic, iron, and manganese). The concentrations of 1,4-dioxane, manganese, arsenic, and iron detected in samples collected from various monitoring wells surface water locations indicate the presence of these potential Landfill contaminants at concentrations exceeding NH AGQS within the existing Groundwater Management Zone (GMZ). Data collected during the 2023 monitoring rounds indicate that the concentrations of arsenic, manganese, and 1,4 dioxane at certain locations downgradient of the Landfill continue to exceed their respective NH AGQS. The remainder of the potential Landfill-related contaminants (i.e., chloride, iron, nitrate, and TKN) included in the GMP Monitoring Program were detected in one or more of the water quality samples collected during the reporting period. However, the concentrations of these parameters are below the applicable NH AGQS or Water Quality Criteria for Toxic Substances³ (WQCTS).

Results of the 2023 sampling of surface water for Landfill-related metals (iron, manganese, and arsenic) from the Exeter River and the area of seeps located downgradient of the Landfill are generally consistent with the results of previous sampling. The Landfill-related metals and surface water flow data indicate collectively that the flow of surface water from the area of seeps contributes metals to the river, but at a de minimis rate.

¹ As defined in State of New Hampshire Code of Administrative Rules Env-Or 603.03, Table 600-1, revision effective 1-1-21.

² SMCL's are aesthetic-based secondary maximum contaminant-level water quality standards used to regulate public water systems (Env Dw 706 [Regulated Secondary Maximum Contaminant Levels]).

³ As defined in State of New Hampshire Code of Administrative Rules Env-Wq 1703.21, Table 1703-1, revision effective 12-1-16.



The *Annual Summary Report Year 2023 and Application for Groundwater Management Permit Renewal, Cross Road Landfill* prepared by GZA, dated February 29, 2024 includes additional information describing the results of groundwater monitoring during 2023 and an Application for Groundwater Management Permit Renewal, including proposed updates to the GMP Monitoring Program.

(e) Does the facility otherwise pose a risk to human health or the environment?

No human receptors to impacts from the Landfill have been identified.

The areas located downgradient of the Landfill to the north and east are zoned for residential purposes. While GZA found evidence of residential bedrock groundwater supply wells within the study area, the residences were reportedly connected to the municipal water supply, and wells were reportedly not used as drinking water sources.



Exhibit 1: Historical Landfill Gas Monitoring Data

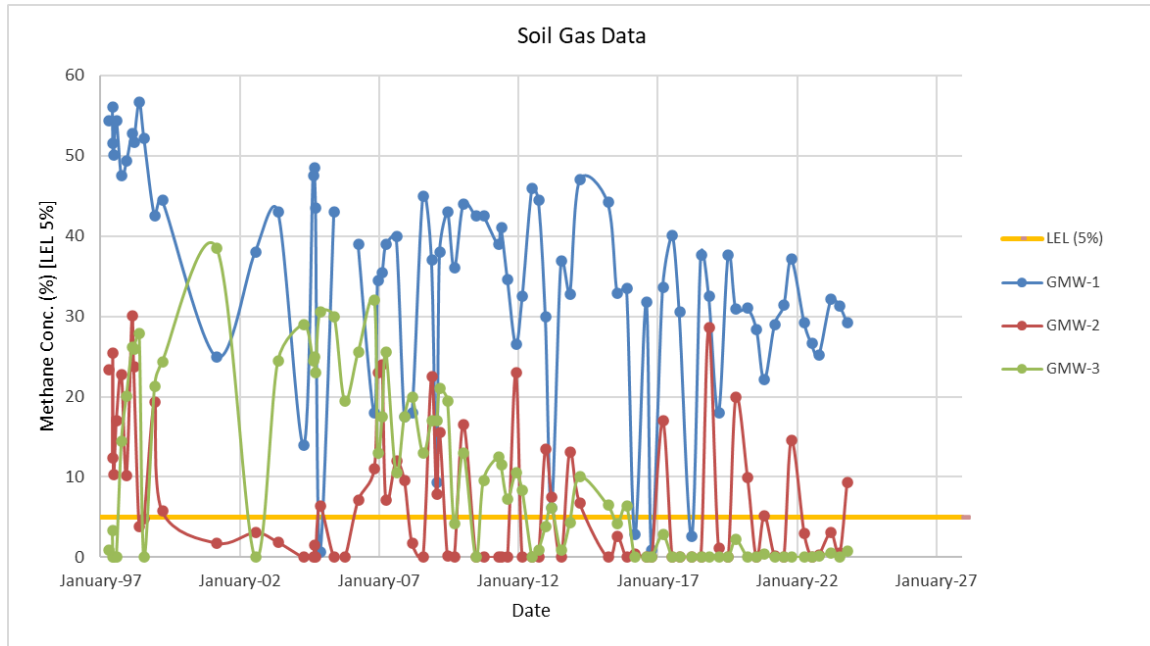
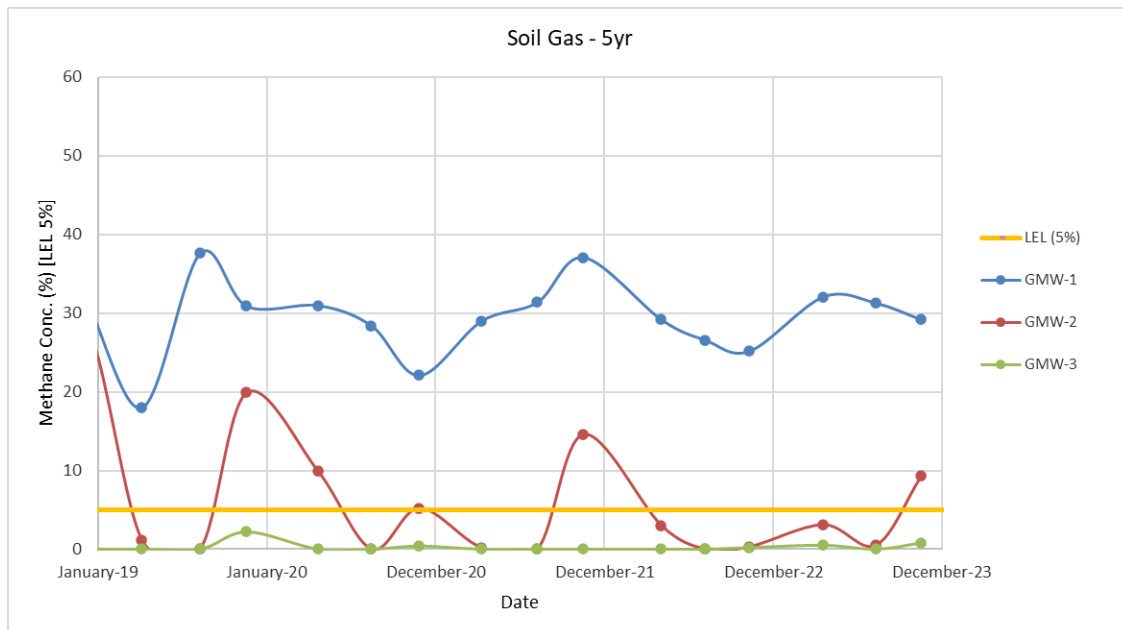


Exhibit 2: Recent Landfill Gas Monitoring Data





Exeter Landfill
9 Cross Road
Exeter, New Hampshire
Solid Waste Permit Number: DES-SW-SP-1992-001

SECTION 7 - ADDITIONAL INFORMATION

Section 4-A4

The Town of Exeter operates a recycling transfer station on the eastern portion site, located off the Landfill cap.

Section 4-C4

Four soil gas probe standpipes¹ are unsecured (See **Photo 12**). The collection of landfill gas samples was not likely to have been impacted by the above-mentioned condition. GZA recommends that the soil gas standpipes be repaired.

Section 4-E1

An off-site seep has been observed to the east of the Landfill with potential impacts to the Exeter River. The water quality associated with the seep and water quality of the Exeter River are being monitored. Additional information about the seep can be found in GZA's Annual Summary Report, dated February 29, 2024.

Section 4-E2

A leachate monitoring well is located on the southwestern corner of the Landfill. The well was historically used to remove leachate from the Landfill. The leachate well has not been used for several years and its condition is unknown.

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¹ GMW-1, GMW-2, GMW-4, and GMW-5



Figure



Tables

TABLE 1
WATER QUALITY DATA SUMMARY
Cross Road Landfill - Exeter, New Hampshire
NHDES No. 198401081
Nitrate (mg/L)

NH AGQS = 10 mg/L
WQCTS (Water and Fish Ingestion) = 10 mg/L

	Sampling Date	Overburden Monitoring Wells																Bedrock Monitoring Wells				Groundwater Seep Monitoring Stations		Surface Water Monitoring Stations											Leachate Monitoring Well			
		RFW-1	RFW-2	RFW-3	RFW-4	GZ-1U	GZ-2	GZ-3	GZ-4	GZ-5	GZ-6	GZWP-1	GZ-102	GZ-104	GZ-106	GZ-201	GZ-202A	GMW-11RR	GZ-1L	GZ-2L	GZ-3L	Giancola Residence	SW-P-2 (P-2/1P-2R Southern Spring)	GW-P-5R	SW-P-9 (P-9/1P-9R Northern Spring)	SW-1	SW-5	SW-10	SW-11	SW-12	SW-13	SW-15	SW-16	SW-17	Exeter River	MW-6		
PRE-CLOSURE	5/27/1992	<0.05	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	
	11/12/1992	1.35	0.36	2.15	0.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	4/6/1993	0.5	0.5	0.5	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.34	-	-	-	-	-	-	-	-	-	1.5		
	7/1/1993	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-		
	11/5/1993	0.6	0.5	0.5	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-	1.5		
	4/14/1994	0.197	0.091	0.226	<0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.03	-	-	-	-	-	-	-	-	-	-	
	7/15/1994	<0.03	<0.03	<0.03	<0.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.03	-	-	-	-	-	-	-	-	-	-	
	8/30/1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
POST-CLOSURE	9/6/1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	10/11/1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	11/18/1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	12/23/1994	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	2/2/1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	4/12/1995	0.52	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	
	7/28/1995	0.7	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	
	12/8/1995	0.17	<0.05	0.16	0.078	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	
	4/26/1996	0.1	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	
	7/25/1996	0.17	<0.05	<0.05	0.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	
	11/14/1996	-	0.6	0.47	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	-	0.74	0.49	-	-	-	-	-	-	-	-	-	-	-	
	4/21/1997	-	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.34	-	2.1	1.4	-	-	-	-	-	-	-	-	-	-	-	
	7/22/1997	0.35	<0.05	0.06	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	
	11/11/1997	0.89	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	
	4/15/1998	0.46	<0.05	0.06	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	
	7/6/1998	-	<0.05	<0.05	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	-	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	
	11/16/1998	0.52	<0.05	0.31	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.08	-	<0.05	0.12	-	-	-	-	-	-	-	-	-	-	-	
	4/19/1999	0.39	<0.05	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	
	7/27/1999	0.096	<0.05	0.37	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	<0.05	0.18	-	-	-	-	-	-	-	-	-	-	-	
	11/18/1999	0.51	<0.05	<0.05	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.09	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	
	5/5/2000	2.7	0.1	0.39	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	
	7/7/2000	7	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.43	-	<0.05	0.06	-	-	-	-	-	-	-	-	-	-	-	
	11/16/2000	2.1	0.051	0.55	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	<0.05	0.38	-	-	-	-	-	-	-	-	-	-	-	
	4/25/2001	0.98	<0.05	<0.05	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.05	-	0.12	<0.05	-	-	-	-	-	-	-	-	-	-	-	-
	7/25/2001	1	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	
	8/9/2001	-	-	-	-	1.3	-	-	-	-	-	-	-	-	-	-	-	-	<0.100	<0.100	0.140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	11/28/2001	1.3	0.16	0.44	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.26	-	-	<0.05	-	-	-	-	-	-	-	-	-	-	-	
	1/17/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	4/24/2002	1	0.2	0.3	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	-	-	-	-	-	
	11/20/2002	0.8	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	
	4/29/2003	0.7	<0.1	0.2	<0.1	1.8	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	0.2	-	<0.1	-	<0.1	0.3	-	-	-	-	-	-	-	-	-	-	-	
	11/17/2003	-	<0.1	<0.1	<0.1	3.6	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	0.2	-	<0.1	-	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	
	4/28/2004	-	<0.1	0.3	<0.1	2.6	-	-	-	-	-	0.4	-	-	-	-	-	-	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	
	11/15/2004	-	<0.1	0.9	<0.1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	0.2	<0.1	0.2	-	<0.1	<0.1	<0.1	2.1	-	-	-	-	-	-	-	-	-	-	-	
	4/28/2005	-	<0.1	0.1	<0.1	2.0	-	-	-	-	-	0.2	-	-	-	-	-	-	0.1	<0.1	0.1	-	0.8	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	
	11/8/2005	-	<0.1	1.2	<0.1	1.0	-	-	-	-	-	-	-	-	-	-	-	-	0.3	<0.1	0.2	-	<0.5	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	
	4/17/2006	-	<0.1	<0.1	<0.1	0.4	-	-	-	-	-	<0.1	-	-	-	-	-	-	0.2	<0.1	0.2	-	<0.1	<0.1	<0.1	0.1	-	-	-	-	-	-	-	-	-	-	-	
	11/20/2006	-	<0.1	<0.1	<0.1	0.2	-	-	-	-	-	<0.1	-	-	-	-	-	-	<0.1	<0.1	0.1	-	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	
	5/2/2007	-	<0.1	0.2	<0.1	0.2	-	-	-	-	-	<0.1	-	-	-	-	-	-	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	<0.1	-	-	
	11/14/2007	-	<0.1	0.6	<0.1	<0.1	-	-	-	-	-	<0.1	-	<0.5	-	-	-	-	0.4	0.2	0.1	-	<0.1	0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	0.2	-	-	
4/25/2008	-	<0.1	0.2	<0.1	0.2	-	-	-	-	-	<0.1	-	-	-	-	-	-	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	<0.1	-	<0.1	-	-	-		
11/18/2008	-	<0.1	1.1	<0.1	<0.1	-	-	-	-	-	<0.1	-	0.27	-	-	-	-	0.2	<0.1	-	-	Dry	<0.1	<0.1	<0.1	-	-	-	-	-	<0.1	-	-	-	-	-		
4/27/2009	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	0.7	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	<0.5	-	-	<0.5	-	-		
11/4/2009	-	<0.5	0.6	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	<0.5	-	<0.5	<0.5	-	-		
4/20/2010	-	<0.5	1.3	<0.5	1																																	

See last page for notes.

NH AGQS = NE
WQCTS = NE

See last page for notes

TABLE 1
WATER QUALITY DATA SUMMARY
Cross Road Landfill - Exeter, New Hampshire
NHDES No. 198401081

NH AGQS = 0.32 µg/L
WQCTS (Water and Fish Ingestion) = NE

Sampling Date	Overburden Monitoring Wells																				Bedrock Monitoring Wells				Groundwater Seep Monitoring Stations			Surface Water Monitoring Stations												Leachate Monitoring Well		
	RFW-1	RFW-2	RFW-3	RFW-4	GZ-1U	GZ-2	GZ-3	GZ-4	GZ-5	GZ-6	GZWP-1	GZ-102	GZ-103	GZ-104	GZ-105	GZ-106	GZ-107	GZ-201	GZ-202A	GMW-11RR	GZ-1L	GZ-2L	GZ-3L	Giancola Residence	SW-P-2 (P-2/1P-2R Southern Spring)	GZ-P-5R	SW-P-9 (P-9/1P-9R Northern Spring)	SW-1	SW-5	SW-10	SW-11	SW-12	SW-13	SW-14	SW-15	SW-16	SW-17	Exeter River	MW-6			
4/27/2009	-	-	1	6	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	1	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/4/2009	-	-	1	4	-	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	<1	-	-	-	1	-	2	-	-	-	-	-	<1	-	-	-	<1	<1	-	-	
4/20/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/11/2010	-	<1	2	4	<1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	<1	<1	<1	-	1	<1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	
4/22/2011	-	<0.25	1	1	<0.25	-	-	-	-	-	-	-	-	0.95	-	-	-	-	-	-	-	<0.25	-	-	-	0.58	<0.25	2	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/4/2011	-	<0.25	1.3	1.4	<0.25	-	-	-	-	-	-	-	-	1.6	-	-	-	-	-	-	-	<0.25	<0.25	<0.25	-	0.56	<0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4/30/2012	-	0.55	1.6	2.8	<0.25	-	-	-	-	-	-	-	-	0.83	-	-	-	-	-	-	-	<0.25	<0.25	-	-	1.2	0.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/5/2012	-	<0.25	1.5	1.3	<0.25	-	-	-	-	-	-	-	-	1.7	-	-	-	<0.25	2.8	-	<0.25	<0.25	-	-	1.4	0.55	2.1	-	-	-	-	-	<0.25	-	-	-	<0.25	<0.25	-	-	-	
5/7/2013	-	-	-	-	-	-	-	-	-	-	-	0.70	-	1.2	-	-	-	<0.25	2.4	-	<0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12/19/2013	-	<0.25	0.25	1.1	<0.25	-	-	-	-	-	-	0.79	-	1.2	-	-	-	<0.25	2.0	-	<0.25	<0.25	<0.25	-	-	-	1.1	-	-	-	-	-	-	-	-	1.3	<0.25	-	-	-	-	
4/15/2014	-	-	-	-	-	-	-	-	-	-	-	<0.25	-	-	-	<0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.25	-	-	-	-	-	
11/3/2014	-	-	-	-	-	-	-	-	-	-	-	0.33	-	-	-	0.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.25	-	-	-	-	-	
11/17/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.25	-	-	-	-	-	
11/2/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4/24/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/7/2017	-	<0.25	2.2	3.2	-	-	-	-	-	-	-	-	-	0.71	-	-	-	<0.25	2.0	-	<0.25	<0.25	<0.25	-	1.4	-	1.4	-	-	-	-	-	-	<0.25	-	-	1.3	-	-	-	-	-
4/25/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.25	<0.25	<0.25	-	-	-	-	-	-	-	-	-	-	-	0.70	-	-	-	-	-	
4/24/2019	-	<0.2	2.1	4.2	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	<0.2	5.3	-	0.44	<0.2	<0.2	<0.2	-	-	-	1.8	-	-	-	-	-	-	-	-	-	-	0.73	-	-	-
11/4/2019	-	<0.2	2.0	2.9	-	-	-	-	-	-	-	0.89	-	1.4	-	1.2	-	<0.2	4.4	<0.2	<0.2	<0.2	<0.2	-	0.70	-	1.1	-	-	-	-	-	<0.2	-	1.0	1.3	0.81	-	-	-	-	-
4/16/2020	-	<0.2	0.9	0.81	-	-	-	-	-	-	-	0.79	<0.2	1.0	<0.2	0.9	<0.2	<0.2	1.8	<0.2	<0.2	<0.2	<0.2	-	-	-	0.53	-	-	-	-	-	-	0.81	0.78	0.52	0.42	-	-	-	-	-
11/5/2020	-	<0.2	1.5	1.5	-	-	-	-	-	-	-	1.0	<0.2	1.5	<0.2	2.0	<0.2	<0.2	2.1	<0.2	<0.2	<0.2	<0.2	-	-	-	1.1	-	-	-	-	-	-	1.2	1.6	1.6	1.9	-	-	-	-	-
4/8/2021	-	<0.2	0.78	0.68	-	-	-	-	-	-	-	-	-	0.98	-	-	-	<0.2	1.3	<0.2	<0.2	<0.2	<0.2	-	-	-	1.4	-	-	-	-	-	-	-	-	-	-	0.59	-	-	-	-
11/10/2021	-	<0.2	0.59	0.78	-	-	-	-	-	-	-	-	-	0.73	<0.2	0.20	<0.2	<0.2	0.96	<0.2	<0.2	<0.2	<0.2	-	-	-	0.83	-	-	-	-	-	-	<0.2	0.73	-	0.42	-	-	-	-	-
4/5/2022	-	<0.2	1.17	0.74	-	-	-	-	-	-	-	-	-	0.56	-	-	-	<0.2	1.43	<0.2	<0.2	<0.2	<0.2	-	-	-	1.13	-	-	-	-	-	-	-	-	-	-	0.48	-	-	-	-
11/2/2022	-	<0.2	<0.2	2.6	-	-	-	-	-	-	-	-	-	0.58	<0.2	2.6	<0.2	<0.2	1.5	<0.2	<0.2	<0.2	<0.2	-	0.70	-	1.5	-	-	-	-	-	<0.2	-	<0.2	0.83	0.33	-	-	-	-	
4/11/2023	-	<0.2	<0.2	0.86	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	<0.2	0.78	<0.2	<0.2	<0.2	<0.2	-	-	-	1.4	-	-	-	-	-	-	-	-	-	0.39	-	-	-	-	
11/2/2023	-	<0.2	<0.2	3.4	-	-	-	-	-	-	-	-	-	0.47	<0.2	1.5	<0.2	<0.2	2.4	<0.2	<0.2	<0.2	<0.2	-	-	-	0.94	-	-	-	-	-	-	-	-	-	-	0.35	-	-	-	-

TABLE 1
WATER QUALITY DATA SUMMARY
Cross Road Landfill - Exeter, New Hampshire
NHDES No. 198401081
DO (mg/L)

NH AGQS = NE
WQCTS (Water and Fish Ingestion) = NE

Sampling Date	Overburden Monitoring Wells																				Bedrock Monitoring Wells				Groundwater Seep Monitoring Stations				Surface Water Monitoring Stations												Leachate Monitoring Well
	RFW-1	RFW-2	RFW-3	RFW-4	GZ-1U	GZ-2	GZ-3	GZ-4	GZ-5	GZ-6	GZWP-1	GZ-102	GZ-103	GZ-104	GZ-105	GZ-106	GZ-107	GZ-201	GZ-202A	GMW-11RR	GZ-1L	GZ-2L	GZ-3L	Giancola Residence	SW-P-2 (P-2/ South Spring)	SW-P-2 (P-2/LP-2R Southern Spring)	GW-P-SR	SW-P-9 (P-9/LP-9R Northern Spring)	SW-1	SW-5	SW-10	SW-11	SW-12	SW-13	SW-14	SW-15	SW-16	SW-17	Exeter River	MW-6	
4/16/2020	-	3.60	2.95	2.71	-	-	-	-	-	-	-	5.6	10.46	6.80	9.35	5.25	8.85	3.88	2.78	7.65	7.25	10.40	4.20	-	-	-	-	5.01	-	-	-	-	-	9.94	9.59	9.34	9.22	-	-		
11/5/2020	-	2.54	2.72	2.50	-	-	-	-	-	-	-	8.77	10.75	7.15	8.62	7.17	8.22	3.28	2.27	7.14	3.30	5.02	4.46	-	-	-	-	3.64	-	-	-	-	-	9.08	8.6	7.23	5.81	-	-		
11/10/2021	-	3.77	4.32	1.99	-	-	-	-	-	-	-	-	-	4.16	8.82	9.78	7.6	2.97	7.07	7.49	6.71	9.41	4.40	-	-	-	-	1.48	-	-	-	-	-	10.96	9.47	-	7.85	-	-		
4/5/2022	-	4.80	4.28	2.93	-	-	-	-	-	-	-	-	-	6.02	-	-	-	5.00	6.75	8.66	5.88	12.21	6.37	-	-	-	-	1.93	-	-	-	-	-	-	-	-	-	11.11	-	-	
11/2/2022	-	3.03	5.36	1.93	-	-	-	-	-	-	-	-	-	5.35	8.38	9.41	7.31	5.07	2.92	5.65	4.49	16.05	4.24	-	-	0.38	-	0.30	-	-	4.38	9.98	-	3.32	8.36	10.75	8.93	9.03	-	-	
4/11/2023	-	2.13	3.96	1.74	-	-	-	-	-	-	-	-	-	5.89	-	-	-	1.62	3.65	9.13	3.81	8.98	5.80	-	-	-	-	0.15	-	-	9.56	-	-	-	9.57	10.81	-	9.51	-	-	
11/2/2023	-	5.24	4.92	1.81	-	-	-	-	-	-	-	-	-	2.50	8.08	3.94	7.59	4.96	2.34	3.75	4.59	9.83	3.99	-	-	-	-	1.59	-	-	8.82	-	-	-	8.61	11.05	-	8.18	-	-	

See last page for notes.

TABLE 1
WATER QUALITY DATA SUMMARY
Cross Road Landfill - Exeter, New Hampshire
NHDES No. 198401081
ORP (mg/L)

NH AGQS = NE
WQCTS (Water and Fish Ingestion) = NE

Sampling Date	Overburden Monitoring Wells																				Bedrock Monitoring Wells				Groundwater Seep Monitoring Stations				Surface Water Monitoring Stations												Leachate Monitoring Well
	RFW-1	RFW-2	RFW-3	RFW-4	GZ-1U	GZ-2	GZ-3	GZ-4	GZ-5	GZ-6	GZWP-1	GZ-102	GZ-103	GZ-104	GZ-105	GZ-106	GZ-107	GZ-201	GZ-202A	GMW-11RR	GZ-1L	GZ-2L	GZ-3L	Giancola Residence	SW-P-2 (P-2/ South Spring)	SW-P-2 (P-2/1P-2R Southern Spring)	GW-P-5R	SW-P-9 (P-9/LP-9R Northern Spring)	SW-1	SW-5	SW-10	SW-11	SW-12	SW-13	SW-14	SW-15	SW-16	SW-17	Exeter River	MW-6	
4/16/2020	-	67.6	241.6	3.2	-	-	-	-	-	-	-	323.3	339.0	313.3	319.5	337.4	245.1	196.4	196.4	208.0	68.9	-9.1	82.9	-	-	-	-	-	-15.2	-	-	-	-	-	-	245.1	253.0	318.8	328.6	-	-
11/5/2020	-	153.7	68.1	-36.9	-	-	-	-	-	-	-	129.9	135.4	-12.6	161.3	62.3	97.4	144.8	-66.4	188.0	-62.8	-174.6	158.1	-	-	-	-	-44.9	-	-	-	-	-	-	47.2	56.6	60.5	59.7	-	-	
11/10/2021	-	65.4	69.3	-50.1	-	-	-	-	-	-	-	-	-	40.4	83.9	68.3	51.1	69.4	18.7	10.7	-16.2	-139.7	14.3	-	-	-	-	-35.0	-	-	-	-	-	-	74.6	54.0	-	68.2	-	-	
4/5/2022	-	70.9	36.4	-44.5	-	-	-	-	-	-	-	-	-	9.4	-	-	-	105.5	-57.2	88.8	-63.0	-131.7	-6.8	-	-	-	-	-21.3	-	-	-	-	-	-	-	-	-	33.6	-	-	
11/2/2022	-	56.9	170.0	-6.9	-	-	-	-	-	-	-	-	-	104.5	153.9	166.7	202.9	211.4	-14.0	233.6	254.4	-134.7	-30.4	-	-	-	-22.8	-	-111.7	-	-	72.1	90.3	-	-28.7	93.2	26.2	183.7	136.3	-	-
4/11/2023	-	111.9	143.1	-55.8	-	-	-	-	-	-	-	-	-	57.0	-	-	-	165.8	-46.8	217.2	199.1	-142.2	169.2	-	-	-	-	-143.8	-	-	30.5	-	-	-	94.5	122.7	-	51.5	-	-	
11/2/22023	-	97.4	139.2	-14.3	-	-	-	-	-	-	-	-	-	-1.0	195.9	69.5	174.6	110.4	-76.4	161.1	-34.8	-69.1	36.6	-	-	-	-	-64.0	-	-	96.9	-	-	-	171.8	169.6	-	98.7	-	-	

See last page for notes.

TABLE 1
WATER QUALITY DATA SUMMARY
Cross Road Landfill - Exeter, New Hampshire
NHDES No. 198401081

NH AGQS= 2 mg/L
WQCTS (Water and Fish Ingestion) = 1.0 mg/L

[illegible]

See last page for notes.

NH AGQS = 0.005 mg/L
WQCTS (Protection of Aquatic Life - Fresh Water Acute) = 0.21 ug/L

See last page for notes.

NH AGQS= 0.10 mg/L
WQCTS (Water and Fish Ingestion) = NE

See last page for notes.

NH AGQS = 0.015 mg/L
WQCTS (Water and Fish Ingestion) = NE

See last page for notes.

TABLE 1
WATER QUALITY DATA SUMMARY
Cross Road Landfill - Exeter, New Hampshire
NHDES No. 198401081

Selenium (mg/L)

NH AGQS = 0.05 mg/L
MOGGS (Metal and Fish Ingestion) = 0.470 mg/L

[illegible]

See last page for notes

WATER QUALITY DATA SUMMARY
Cross Road Landfill - Exeter, New Hampshire
UNIVERSAL - 00010001

Silver (mg)

NH AGQS = 0.10 mg/L
WQCTS (Water and Fish Ingestion) = 0.05 mg/L

See last page for notes.

TABLE 1
WATER QUALITY DATA SUMMARY
Cross Road Landfill - Exeter, New Hampshire
NHDES No. 198401081

Thallium (mg/L)

NH AGQS = 0.002 mg/L
WQCTS (Water and Fish Ingestion) = 0.0017 mg/L

[illegible]

See last page for notes.

TABLE 1 - Notes
WATER QUALITY DATA SUMMARY
Cross Road Landfill - Exeter, New Hampshire
NHDES No. 198401081

04.0021270.34
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NOTES:

1. Concentrations are in milligrams per liter (mg/L) or micrograms per liter (µg/L) as indicated.
2. "-" indicates that measurements were not made/not applicable.
3. "<" indicates the parameter was not detected above the detection limit shown.
4. **Bold** face print indicates detection.
5. "NH AGQS" indicates New Hampshire Ambient Groundwater Quality Standards as defined in the New Hampshire Code of Administrative Rules Env-Or 603.03 revised October 22, 2016.
6. **Shading** indicates that the measured level exceeds its NH AGQS, Secondary Maximum Contaminant Level (SMCL), or Water Quality Criteria for Toxic Substances (WQCTS) at time of sampling as defined by the New Hampshire Code of Administrative Rules Env-Wq 1703.23, adopted November 17, 2016. For groundwater monitoring locations where NH AGQS are not established for the referenced parameter SMCLs are used to shade data. For surface water monitoring locations where WQCTS are not established for the referenced parameter NH AGQS are used to shade data.
7. "NE" indicates none established.
8. "DA" indicates that the Chain-of-Custody indicates a sample taken and a volatile organic compound (VOC) laboratory report was not available.
9. Water quality data were compiled by GZA GeoEnvironmental, Inc. from analytical laboratory reports provided by the Town of Exeter.
10. "BDL" indicates target VOCs for the method used were below laboratory detection limits.
11. "µS/cm" indicates microseimens per centimeter.
12. "M" indicates that the percent recovery for the matrix was outside of the acceptance criteria. Refer to analytical reports for additional information.
13. The analytical laboratory reports provided by Resource Environmental Group for groundwater monitoring wells RFW-2, RFW-3 and RFW-4 during November 2006 are mislabeled GZ-2, GZ-3 and GZ-4, respectively.
14. The groundwater elevation data provided by Resource Environmental Group for GZ-2U during November 2006 is mislabeled GZ-2M.
15. For 11/14/2007 the percent recovery for sample P-9R for chloride was 85.
16. Please note that based on review of historical chain-of-custody forms, samples for metals analyses collected from groundwater monitoring wells have been field filtered and represent dissolved metals analyses. Samples collected from surface water location SW-1 have not been field filtered and represent total metals analyses. Samples collected at P-2 (southern spring) and P-9 (northern spring) through 2002 were also not field filtered and represent total metals analyses. Samples collected from the replacement well points (P-2R, P-5R, and P-9R) during 2006 were field filtered. For further information regarding historic sampling procedures, please refer to Section 5.2.4 (Review of Historic Total Metals and Dissolved Metals Analyses) of GZA's May 10, 2002 report.
17. Landfill water quality monitoring associated with the samples labeled P-2 and P-9 has been performed by Mr. Tom Walker of REG. Based on conversations with Mr. Walker during a site visit on April 17, 2002, the samples designated P-2 and P-9 on laboratory reports and chain-of-custody forms since November 1996 (the start of routine sampling of P-2 and P-9) were collected from surface water proximate to P-2 and about 300 feet south of P-9 from November 1996 through November 2001. The locations sampled from November 1996 through November 2001 are designated SW-P-2 and SW-P-9 on **Figure 1**. The data from these locations represent total metals analyses of surface water. Replacement groundwater well points designated P-2R and P-9R have been sampled since November 2001.
18. The NH AGQS for 1,4-dioxane was revised on September 1, 2018 to 0.32 µg/L.
19. The NH AGQS for Manganese was revised on January 1, 2021 to 300 µg/L.
20. The NH AGQS for Arsenic was revised on July 1, 2021 to 5 µg/L.

TABLE 2A
LANDFILL GAS DATA SUMMARY
(Historical Monitoring Locations)

Cross Road Landfill - Exeter, New Hampshire
NHDES No. 198401081

Sample Date	Air Temperature (°C)	Barometric Pressure (mb)	Sample d By	GMW-1						GMW-2						GMW-3						GMW-4					
				CGI		Infrared Detector				CGI		Infrared Detector				CGI		Infrared Detector				CGI		Infrared Detector			
				O ₂ %	LEL%	LEL%	CH ₄ %	CO ₂ %	O ₂ %	O ₂ %	LEL%	LEL%	CH ₄ %	CO ₂ %	O ₂ %	O ₂ %	LEL%	LEL%	CH ₄ %	CO ₂ %	O ₂ %	O ₂ %	LEL%	LEL%	CH ₄ %	CO ₂ %	O ₂ %
11-14-96 ¹	-	-	RLI	-	12.0	-	-	-	-	-	42.0	-	-	-	-	-	52.0	-	-	-	-	-	32.0	-	-	-	-
04-21-97 ²	-	-	RLI	9.5	92.0	-	-	-	-	6.3	95.0	-	-	-	-	20.6	0.0	-	-	-	-	8.6	94.0	-	-	-	-
05-16-97	-	-	GZA	1.3	31.0	-	-	-	-	3.0	44.0	-	-	-	-	2.0	44.0	-	-	-	-	9.0	0.0	-	-	-	-
05-19-97 ³	-	-	GZA	-	-	-	54.4	35.6	0.9	-	-	-	23.4	24.3	2.8	-	-	-	0.9	0.7	20.0	-	-	-	0.0	9.3	9.6
07-08-97 ⁴	-	-	GZA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
07-09-97 ³	-	-	GZA	-	-	-	56.1	41.3	0.0	-	-	-	12.4	2.7	19.3	-	-	-	3.3	1.9	19.3	-	-	-	0.6	0.1	20.5
07-14-97 ³	-	-	GZA	-	-	-	51.5	39.0	0.0	-	-	-	25.4	28.4	2.1	-	-	-	0.0	0.0	20.7	-	-	-	0.1	11.0	7.8
07-23-97 ³	-	-	GZA	-	-	-	50.1	38.7	0.0	-	-	-	10.3	2.6	18.6	-	-	-	0.0	0.0	20.3	-	-	-	0.5	0.1	20.2
08-29-97 ⁶	-	-	GZA	-	-	-	54.4	38.5	0.1	-	-	-	17.0	24.5	6.0	-	-	-	0.0	0.0	20.0	-	-	-	0.0	10.2	9.6
11-03-97 ⁷	-	-	GZA	-	-	-	47.5	35.1	0.1	-	-	-	22.8	26.0	3.3	-	-	-	14.4	24.7	0.8	-	-	-	0.0	10.0	9.5
01-08-98 ⁸	-	-	GZA	-	-	-	49.3	31.3	0.0	-	-	-	10.2	10.8	10.5	-	-	-	20.1	23.0	0.0	-	-	-	0.0	8.2	10.8
03-23-98 ⁸	-	-	GZA	-	-	-	52.8	32.8	0.8	-	-	-	30.1	28.1	1.0	-	-	-	26.2	25.9	1.5	-	-	-	0.0	8.5	12.1
04-14-98 ⁹	-	-	GZA	-	-	-	51.7	35.5	0.0	-	-	-	23.7	27.9	0.0	-	-	-	25.9	27.1	0.0	-	-	-	0.1	7.0	12.5
06-24-98 ¹⁰	-	-	GZA	-	-	-	56.7	35.5	0.0	-	-	-	3.8	5.5	15.8	-	-	-	27.9	29.3	0.0	-	-	-	0.0	5.5	12.9
08-26-98 ¹⁰	-	-	GZA	-	-	-	52.2	39.8	0.2	-	-	-	4.8	17.3	6.5	-	-	-	0.0	0.2	20.9	-	-	-	0.0	6.4	13.0
01/12/99 ¹¹	-	-	GZA	-	-	-	42.5	34.4	0.2	-	-	-	19.3	27.2	0.6	-	-	-	21.3	27.4	0.8	-	-	-	0.0	7.9	13.8
04/19/99 ⁸	-	-	GZA	-	-	-	44.5	29.5	0.0	-	-	-	5.8	9.0	12.4	-	-	-	24.3	24.2	2.6	-	-	-	0.0	6.3	12.3
04/02/01 ¹²	-	-	GZA	-	-	-	25.0	15.3	11.3	-	-	-	1.8	2.6	19.5	-	-	-	38.5	26.7	0.0	-	-	-	0.0	3.7	16.8
08/20/02 ¹²	-	-	GZA	-	-	-	38.0	32.0	0.2	-	-	-	3.1	5.6	12.2	-	-	-	0.0	7.1	11.7	-	-	-	0.0	7.2	13.0
06/17/03 ¹²	-	-	GZA	-	-	-	43.0	28.0	0.0	-	-	-	1.9	8.1	11.4	-	-	-	24.5	24.0	0.1	-	-	-	0.0	6.1	14.0
05/19/04 ¹²	17.2	1009 - 1013	GZA	-	-	-	14.0	9.4	9.6	-	-	-	0.0	1.5	19.2	-	-	-	29.0	26.0	1.2	-	-	-	0.0	7.9	11.6
09/14/04 ¹²	22.2	1009 - 1011	GZA	-	-	-	47.5	27.0	0.0	-	-	-	0.0	2.7	17.5	-	-	-	24.5	27.0	0.0	-	-	-	0.0	10.9	10.3
10/5/04 ¹²	10.0	1014 - 1019	GZA	-	-	-	48.5	29.0	0.0	-	-	-	1.5	8.3	12.0	-	-	-	25.0	25.0	0.0	-	-	-	0.0	9.7	9.1
10/21/04 ¹²	8.9	1024	GZA	-	-	-	43.5	27.0	0.0	-	-	-	0.1	8.3	11.4	-	-	-	23.0	23.0	0.0	-	-	-	0.0	8.4	10.7
12/17/04 ¹²	-	1008 - 1011	GZA	-	-	-	0.6	2.5	19.3	-	-	-	6.4	7.1	14.3	-	-	-	30.5	24.0	0.2	-	-	-	0.0	2.4	18.2
6/20/05 ¹²	-	1014 - 1019	GZA	-	-	-	43.0	26.0	0.0	-	-	-	0.0	4.0	15.5	-	-	-	30.0	24.0	0.0	-	-	-	0.0	7.0	13.4
11/7/05 ¹²	-	982 - 997	GZA	-	-	-	-	-	-	-	-	-	0.0	4.3	15.4	-	-	-	19.5	25.0	0.0	-	-	-	0.0	4.8	15.4
5/1/06 ¹²	-	1001 - 1005	GZA	-	-	-	39.0	25.0	0.0	-	-	-	7.1	19.0	0.9	-	-	-	25.5	21.0	0.0	-	-	-	0.0	8.0	13.2
11/28/06 ¹²	-	1024 - 1026	GZA	-	-	-	18.0	11.0	5.9	-	-	-	11.0	19.0	1.5	-	-	-	32.0	27.0	0.4	-	-	-	0.0	12.0	6.6
1/12/07 ¹²	-	1015 - 1019	GZA	-	-	-	34.5	24.0	0.0	-	-	-	23.0	25.0	0.0	-	-	-	13.0	19.0	0.0	-	-	-	0.0	4.6	15.2
3/12/07 ¹²	-	1012 - 1016	GZA	-	-	-	35.5	24.0	0.0	-	-	-	24.0	24.0	0.0	-	-	-	17.5	19.0	0.0	-	-	-	0.0	3.3	16.4
5/1/07 ¹²	-	1001 - 1005	GZA	-	-	-	39.0	25.0	0.0	-	-	-	7.1	19.0	0.9	-	-	-	25.5	21.0	0.0	-	-	-	0.0	8.0	13.2
9/11/07 ¹²	-	996 - 999	GZA	-	-	-	40.0	21.0	0.0	-	-	-	12.0	20.0	0.1	-	-	-	10.5	19.0	0.0	-	-	-	0.0	12.0	6.4
9/14/07 ¹²	-	1010 - 1013	GZA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12/28/07 ¹²	-	1016 - 1023	GZA	-	-	-	17.5	11.0	7.8	-	-	-	9.6	18.0	0.6	-	-	-	17.5	18.0	0.3	-	-	-	0.0	4.6	16.0
4/7/08 ¹²	-	1022 - 1024	GZA	-	-	-	18.0	9.1	13.0	-	-	-	1.7	13.0	9.4	-	-	-	20.0	18.0	4.6	-	-	-	0.0	6.2	13.0
8/28/08	-	1007-1009	GZA	-	-	-	45.0	24.0	0.0	-	-	-	0.0	5.7	14.2	-	-	-	13.0	21.0	2.1	-	-	-	0.0	8.0	13.2
12/18/08	-	1016-1021	GZA	-	-	-	37.0	25.0	6.5	-	-	-	22.5	26.0	3.5	-	-	-	17.0	23.0	0.0	-	-	-	0.0	7.2	12.9
2/23/09	-	1003-1005	GZA	-	-	-	9.3	6.6	13.7	-	-	-	7.8	16.0	7.4	-	-	-	17.0	17.0	2.3	-	-	-	0.0	4.6	13.7

See Table 2B for notes.
\\GZABedfordJobs\21000s\21270 - Exeter LF\04.0021270.35\Report\2023 PCR\Tables\
Table 2A,B - Gas Data 022823\Table 2A - Historical Locations

TABLE 2B
LANDFILL GAS DATA SUMMARY
(Supplemental Monitoring Locations)

Cross Road Landfill - Exeter, New Hampshire
NHDES No. 198401081

Date	Air Temperature (°C)	Barometric Pressure (millibar)	GMW-10				GMW-11				GMW-11R				GMW-12			
			Infrared Detector				Infrared Detector				Infrared Detector				Infrared Detector			
			LEL%	CH ₄ %	CO ₂ %	O ₂ %	LEL%	CH ₄ %	CO ₂ %	O ₂ %	LEL%	CH ₄ %	CO ₂ %	O ₂ %	LEL%	CH ₄ %	CO ₂ %	O ₂ %
7/24/2001 ^{2,4}	-	-	-	1.1	3.0	15.4	-	1.3	2.6	17.8	-	-	-	-	-	-	-	-
8/9/2001 ^{2,4}	-	-	-	0.1	6.9	15.0	-	0.6	2.0	17.2	-	-	-	-	-	-	-	-
8/20/2002 ²	-	-	-	0.0	2.4	18.7	-	0.0	0.8	19.8	-	-	-	-	-	-	-	-
06/17/03 ³	-	-	-	6.0/0.0	0.0	20.8	-	0.0	1.5	19.3	-	-	-	-	-	-	-	-
05/19/04 ³	21.1	1009 - 1013	-	6.0/0.0	6.7	11.7	-	0.0	0.9	18.0	-	-	-	-	-	-	-	-
09/13/04 ³	22.8	1009 - 1011	-	54.0	14.0	1.6	-	0.0	0.8	18.9	-	-	-	-	-	-	-	-
9/14/04 ³	17.7	1020 - 1022	-	35.0	12.0	6.1	-	0.0	2.3	17.5	-	-	-	-	-	-	-	-
9/21/04 ³	17.8	1014 - 1015	-	43.0	14.0	7.3	-	0.0	2.3	14.2	-	-	-	-	-	-	-	-
9/28/04 ³	17.8	1004 - 1006	-	37.5	13.0	8.2	-	0.0	2.4	17.5	-	-	-	-	-	-	-	-
10/5/04 ³	12.8	1014 - 1019	-	13.5	6.1	13.3	-	0.0	2.2	17.5	-	-	-	-	-	-	-	-
10/21/04 ³	8.9	1024	-	41.5	11.0	7.9	-	0.0	1.9	18.0	-	-	-	-	-	-	-	-
12/17/04 ³	-	1008 - 1011	-	6.3/3.8	1.9	18.4	-	0.0	1.6	17.5	-	-	-	-	-	-	-	-
6/20/05 ³	-	1014 - 1019	-	2.3	5.5	8.3	-	0.0	0.0	20.6	-	-	-	-	-	-	-	-
9/2/05 ³	-	997 - 998	-	-	-	-	-	-	-	-	-	0.0	2.1	19.0	-	0.0	1.5	15.0
11/7/05 ³	-	982 - 997	-	6.4	5.2	11.1	-	-	-	-	-	0.0	3.2	17.3	-	0.2	9.8	10.0
5/1/06 ³	-	1001 - 1005	-	5.1	0.9	19.6	-	-	-	-	-	0.0	0.3	20.6	-	0.1	4.4	9.6
11/28/06 ³	-	1024 - 1026	-	28.0	13.0	6.7	-	-	-	-	-	0.0	4.4	16.1	-	0.0	0.0	20.3
1/12/07 ³	-	1015 - 1019	-	15.0	14.0	2.7	-	-	-	-	-	0.0	4.4	16.9	-	0.0	9.0	2.3
3/12/07 ³	-	1012 - 1016	-	9.2	5.9	12.8	-	-	-	-	-	0.0	3.5	17.7	-	0.0	7.6	4.4
5/1/07 ³	-	1001 - 1005	-	3.1	0.9	19.6	-	-	-	-	-	0.1	4.4	9.6	-	0	0.3	20.6
9/11/07 ³	-	996 - 999	-	0.0	2.0	18.0	-	-	-	-	-	0.0	5.3	11.3	-	0.0	0.0	19.0
12/28/07 ³	-	1016 - 1023	-	0.0	0.0	20.5	-	-	-	-	-	0.0	3.6	13.2	-	0.0	3.6	17.2
4/7/08 ³	-	1022 - 1024	-	0.1	0.1	20.5	-	-	-	-	-	0.0	0.0	20.8	-	0.0	2.2	18.6
8/28/08	-	1007-1009	-	0.0	0.6	19.6	-	-	-	-	-	0.0	5.6	8.9	-	0.0	2.1	18.6
12/18/08	-	1016-1021	-	0.0	2.0	18.0	-	-	-	-	-	0.0	0.3	20.3	-	0.0	0.3	20.4
2/23/09	-	1003-1005	-	0.0	0.2	20.1	-	-	-	-	-	0.0	3.7	17.4	-	0.0	5.1	19.7
4/3/09	-	1002	-	0.0	0.0	20.4	-	-	-	-	-	0.9	9.6	0.7	-	0.0	3.1	18.0
7/15/09	-	1002	-	0.0	0.2	20.0	-	-	-	-	-	0.0	0.0	20.7	-	0.0	7.2	4.9
10/12/09	-	1116 - 1117	-	0.0	4.6	16.3	-	-	-	-	-	0.0	5.4	11.1	-	0.0	2.4	18.5
2/8/10	-	1001 - 1002	-	14.0	5.2	19.2	-	-	-	-	-	1.5	4.8	17.5	-	0.0	3.8	19.8
7/23/10	-	1003-1007	-	0.0	4.0	16.1	-	-	-	-	-	0.0	0.0	20.2	-	0.0	3.4	12.9
10/29/10	-	1005-1009	-	21.3	17.3	1.5	-	-	-	-	-	0.0	0.5	20.9	-	0.0	5.2	12.2
5/9/11	-	1004-1008	-	0.0	0.0	20.7	-	-	-	-	-	0.0	1.5	19.6	-	0.0	5.4	8.6
6/15/11	-	997-1000	-	0.2	0.0	20.8	-	-	-	-	-	0.1	0.0	20.8	-	0.0	0.2	20.4
9/9/11	-	1004	-	0.5	0.5	20.1	-	-	-	-	-	0.0	2.1	18.9	-	0.0	8.9	4.0
12/27/11	-	1007-1010	-	0.0	0.0	20.8	-	-	-	-	-	0.0	3.8	17.1	-	0.0	9.1	3.4
3/21/12	-	1013-1020	-	0.0	0.2	20.6	-	-	-	-	-	0.0	1.7	19.5	-	0.0	7.1	6.6
7/26/12	-	995	-	0.0	4.3	16.5	-	-	-	-	-	0.0	1.5	19.3	-	0.0	6.3	9.3
10/18/12	-	1007-1011	-	0.0	4.3	16.2	-	-	-	-	-	0.0	2.1	19.0	-	0.0	5.3	13.0
1/17/13*	-	1007-1013	-	2.2	1.2	14.6	-	-	-	-	-	0.0	2.2	18.8	-	0.0	4.0	13.8
4/8/13	-	1007-1013	-	0.0	0.8	16.3	-	-	-	-	-	0.0	0.9	19.9	-	0.0	2.4	15.8
8/12/13	-	1006-1008	-	-	-	-	-	-	-	-	-	0.0	1.7	19.2	-	0.0	7.7	7.7
12/2/13	-	1010	-	19.7	16.7	2.2	-	-	-	-	-	0.1	2.9	19.9	-	0.1	7.1	11.8
4/11/14	-	1003	-	5.7	2.3	12.7	-	-	-	-	-	0.0	1.7	19.1	-	0.0	6.1	8.9
4/14/15	-	1006	-	6.1	2.8	13.2	-	-	-	-	-	0.0	1.6	19.0	-	0.0	7.1	11.4
8/18/15	-	1004	-	15.4	1.8	14.1	-	-	-	-	-	0.0	1.8	19.0	-	0.0	7.2	11.9
12/17/15	-	1005	-	5.1	1.6	14.3	-	-	-	-	-	0.0	2.4	18.1	-	0.0	6.1	12.4
04/05/16	-	1018	0.0	0.0	0.6	18.7	-	-	-	-	Not Accessible				0.0	0.0	3.9	13.8
08/31/16	-	1006	0.0	0.0	3.3	18.0	-	-	-	-	0.0	0.0	1.1	20.2	0.0	0.0	5.1	14.7
11/11/16	-	998-999	>100	17.1	16.7	2.1	-	-	-	-	0.0	0.0	1.3	20.6	0.0	0.0	0.2	21.3
4/14/17	-	1002-1004	>100	24.9	17.3	2.7	-	-	-	-	0.0	0.0	1.9	20.2	0.0	0.0	6.2	11.0
8/7/17	-	1021	0.0	0.0	4.7	16.6	-	-	-	-	0.0	0.0	0.0	20.7	0.0	0.0	0.5	19.7
11/6/17	-	1005	0.0	0.0	2.9	10.5	-	-	-	-	0.0	0.0	1.8	20.1	0.0	0.0	4.7	15.1
4/20/18	-	1009	0.0	0.0	1.8	16.4	-	-	-	-	0.0	0.0	0.2	21.0	0.0	0.0	0.2	20.9

TABLE 2B
LANDFILL GAS DATA SUMMARY
(Supplemental Monitoring Locations)

Cross Road Landfill - Exeter, New Hampshire
NHDES No. 198401081

Date	Air Temperature (°C)	Barometric Pressure (millibar)	GMW-10				GMW-11				GMW-11R				GMW-12			
			Infrared Detector				Infrared Detector				Infrared Detector				Infrared Detector			
			LEL%	CH ₄ %	CO ₂ %	O ₂ %	LEL%	CH ₄ %	CO ₂ %	O ₂ %	LEL%	CH ₄ %	CO ₂ %	O ₂ %	LEL%	CH ₄ %	CO ₂ %	O ₂ %
8/17/18	-	1016	74	3.7	2.5	14.9	-	-	-	-	0.0	0.0	0.4	20.2	0.0	0.0	0.6	20.0
11/28/18	-	992	>100	14.1	5.5	11.3	-	-	-	-	0.0	0.0	2.9	18.8	0.0	0.0	8.5	6.3
4/5/19	-	1025	14	0.7	2.2	16.4	-	-	-	-	0.0	0.0	1.8	20.2	0.0	0.0	3.0	14.2
8/9/19	-	999	0.0	0.0	5.8	14.7	-	-	-	-	0.0	0.0	5.3	12.4	0.0	0.0	5.3	12.4
11/18/19	-	1014	0.0	0.0	1.8	15.6	-	-	-	-	0.0	0.0	2.0	21	0.0	0.0	5.3	14.7
4/20/20	-	1002	0.0	0.0	1.4	16.5	-	-	-	-	0.0	0.0	1.2	20.4	0.0	0.0	4.8	10.8
8/14/20	-	1014	0.0	0.0	1.8	19.2	-	-	-	-	0.0	0.0	0.7	20	0.0	0.0	0.0	20.5
11/25/20	-	1025	6.0	0.3	8.3	7.2	-	-	-	-	0.0	0.0	1.6	21.2	0.0	0.0	4.2	16.8
4/8/21	-	1016	0.0	0.0	1.6	14.9	-	-	-	-	0.0	0.0	0.9	20.5	0.0	0.0	3.7	13.7
8/4/21	-	1009	0.0	0.0	2.2	14.6	-	-	-	-	0.0	0.0	0.1	20.8	0.0	0.0	0.2	20.6
11/15/21	-	1000	>100	21.0	10.5	7.2	-	-	-	-	0.0	0.0	2.3	19.9	0.0	0.0	0.2	21.9
5/2/22	-	1017	80	4.0	3.5	13.8	-	-	-	-	0.0	0.0	1.3	20.6	0.0	0.0	4.5	11.8
8/5/22	-	1015	0.0	0.0	4.5	17.0	-	-	-	-	0.0	0.0	0.8	20.0	0.0	0.0	2.9	16.5
11/9/22	-	1035	0.0	0.0	3.0	13.4	-	-	-	-	0.0	0.0	2.1	20.2	0.0	0.0	4.6	16
04/17/23	-	1001.7	NS	NS	NS	NS	-	-	-	-	0.0	0.0	0.1	21.8	0.0	0.0	4.8	11.7
8/9/23	-	997	0.0	0.0	5.0	12.0	-	-	-	-	0.0	0.0	4.1	12.1	0.0	0.0	4.6	11.8
11/15/23	-	1007	49.0	2.4	2.2	19.2	-	-	-	-	0.0	0.0	2.7	20.3	0.0	0.0	5.7	13.3

TABLE 2
LANDFILL GAS DATA SUMMARY
(Historical Monitoring Locations)

Cross Road Landfill - Exeter, New Hampshire
NHDES No. 198401081

Notes:

UEL - Methane = 15%

LEL - Methane = 5%

CGI = Combustible Gas Indicator

Lower explosive limit (LEL) should not exceed 50% of the gases at the property boundary.

1. Analysis by Resource Laboratories (RLI) with Ecolyzer System 400 Combustible Gas/Oxygen Monitor.
2. Analysis by RLI with Neotronics Exotox Model 50 Gas Monitor.
3. Analysis by GZA GeoEnvironmental, Inc. (GZA) with Geotechnical Instruments Infrared-Gas Analyzer S/N 684.
4. GMW-7, GMW-8, GMW-9 installed 7/8/97, sampled at end of day following installation with O2/LEL meter.
5. Readings on 5/19 and 7/9/97 were taken with tube inserted in open top of PVC well. Readings were taken after values appeared to stabilize. Readings on 7/14/97 and after were taken with a cap and tube adapter installed on the top of the well to prevent infiltration of ambient air from the top of the well.
6. Analysis by GZA with Geotechnical Instruments Infrared-Gas Analyzer Model No. GA94A, S/N G2578.
7. Analysis by GZA with Landtec Infrared-Gas Analyzer Model No. GEM-500, S/N 587.
8. Analysis by GZA with Landtec Infrared-Gas Analyzer Model No. GA 90, S/N 1132.
9. Analysis by GZA with Landtec Infrared-Gas Analyzer Model No. GA 90, S/N 1457.
10. Analysis by GZA with Landtec Infrared-Gas Analyzer Model No. GA 90, S/N 1388.
11. Analysis by GZA with Landtec Infrared-Gas Analyzer Model No. GA 90, S/N 1256.
12. Analysis by GZA with Gas Data Model LMSx multi gas meter.
13. Oxygen (O2)% / Lower Explosive Limit % readings were taken with a combustible gas indicator that may not provide accurate readings if O2% is below ambient air (i.e., 18-19%).
14. Methane% / Carbon Dioxide% / O2% readings were taken with an infrared gas analyzer that is not dependent on oxygen concentration for readings of methane or carbon dioxide.
15. * indicates background readings increased to 0.1 % measurement suspect.
16. Barometric pressure readings were not recorded during the April 20, 2018 and August 17, 2018 landfill gas surveys. The pressures were taken from Weather Underground historical data at the Wentworth St. station.
17. Calibration gas was not provided during the November 2022 monitoring round, calibrations could not be verified in the field. Equipment is calibrated by the vendor prior to use.
18. During the November 2023 sampling round, background detections were observed and this was determined this to be an instrument error and not representative of actual conditions observed at the landfill, or the soil gas monitoring points.

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Photographic Log 2023



Client Name:

The Town of Exeter, New Hampshire

Site Location:

2023 Annual Post Closure Report
Cross Road Landfill, Exeter, New Hampshire

Project No:

04.0021270.35

Photo No.:

1

Date:

August 2023

Description:

Landfill cap as viewed from the northeast corner of the landfill cap facing southwest.



Photo No.:

2

Date:

August 2023

Description:

Landfill cap as viewed from the southwest corner of the landfill cap facing east.





Client Name:

The Town of Exeter, New Hampshire

Site Location:

2023 Annual Post Closure Report
Cross Road Landfill, Exeter, New Hampshire

Project No:

04.0021270.35

Photo No.:

3

Date:

April 2023

Description:

Southern slope of landfill cap as viewed from the southwest corner of the landfill cap facing east, overlooking detention ponds.



Photo No.:

4

Date:

April 2023

Description:

Drainage swale adjacent to access road facing west.





Client Name:

The Town of Exeter, New Hampshire

Site Location:

2023 Annual Post Closure Report
Cross Road Landfill, Exeter, New Hampshire

Project No:

04.0021270.35

Photo No.:

5

Date:

November 2023

Description:

Drainage swale in the central portion of cap as viewed from the landfill cap looking southeast.



Photo No.:

6

Date:

August 2023

Description:

Sedimentation basins to the south of the landfill as viewed from the access road on the central-western end of the landfill cap, facing southeast.





Client Name:

The Town of Exeter, New Hampshire

Site Location:

2023 Annual Post Closure Report
Cross Road Landfill, Exeter, New Hampshire

Project No:

04.0021270.35

Photo No.:

7

Date:

April 2023

Description:

Representative landfill gas vent located across top of landfill cap.



Photo No.:

8

Date:

April 2023

Description:

Depression located on the southwest corner of the landfill cap at the end of the access road, facing northeast.
Refer to **Section 6**.





Client Name:

The Town of Exeter, New Hampshire

Site Location:

2023 Annual Post Closure Report
Cross Road Landfill, Exeter, New Hampshire

Project No:

04.0021270.35

Photo No.:

9

Date:

August 2023

Description:

Repaired depression area located on the southwest corner of the landfill cap at the end of the access road looking west.
Refer to note in **Section 6**.



Photo No.:

10

Date:

April 2023

Description:

Western edge of the landfill cap facing north.





Client Name:

The Town of Exeter, New Hampshire

Site Location:

2023 Annual Post Closure Report
Cross Road Landfill, Exeter, New Hampshire

Project No:

04.0021270.35

Photo No.:

11

Date:

August 2023

Description:

Western slope of the landfill cap, facing to the south.



Photo No.:

12

Date:

April 2023

Description:

Damaged and unsecured soil gas probe standpipe.
Refer to note in **Section 7**.





Inspection Reports 2023



**NHDES Waste Management Division
29 Hazen Drive; PO Box 95
Concord, NH 03302-0095**



**April 2023 Post-Closure Inspection Report
Cross Road Landfill
Exeter, New Hampshire**

**NHDES Site #: 198401081
Project Number: 978**

Prepared For:
Town of Exeter, New Hampshire
13 Newfields Road
Exeter, New Hampshire 03833
(603) 773-6160
Mr. Paul Vlasich, P.E.

Prepared By:
GZA GeoEnvironmental, Inc.
5 Commerce Park North, Suite 201
Bedford, NH 03110
Phone Number: (603) 232-8724
Contact Name: Erik Dyrness
Contact Email: erik.dyrness@gza.com

Date of Report: April 17, 2023



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5 Commerce Park North
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Bedford, NH 03110
T: 603.623.3600
F: 603.624.9463
www.gza.com



April 17, 2023
File No. 04.0021270.34

New Hampshire Department of Environmental Services
Waste Management Division
Solid Waste Management Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

Re: April 2023 Landfill Inspection
Cross Road Landfill
Exeter, New Hampshire
DES Site #198401081
DES-SW-SP-1992-001

Permit Coordinator:

On behalf of the Town of Exeter, GZA GeoEnvironmental, Inc. is pleased to provide the New Hampshire Department of Environmental Services (NHDES) the attached Solid Waste Management Bureau – Landfill Post-Closure Inspection Report for the Cross Road Landfill in Exeter, New Hampshire, completed on April 17, 2023.

The associated attachment is being submitted to fulfill the requirement of filing inspection reports in accordance with Env-Sw 807.05(h) and Env-Sw 303.

Subsequent inspection reports will be submitted following the August and November 2023 inspections, and summarized in the 2023 Post Closure Monitoring Report, due during the month of March 2024.

GZA trusts that the information attached to this letter meets the needs of the NHDES. Should you have any questions, please contact us.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Erik B. Dyrness
Assistant Project Manager

Jeffrey D. Rowell, P.E.
Principal

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Attachment: April 2023 Inspection Report

cc: Mr. Paul Vlasich, P.E., Town of Exeter



**Landfill Post-Closure Inspection Report
April 2023**

Landfill Post-Closure Inspection Report

A. Site Information	B. Contact Information				
Facility Name: <u>Cross Road Landfill and Stump dump</u>	Permittee Name: <u>Town of Exeter</u>				
Address: <u>9 Cross Road</u>	Address: <u>10 Front St</u>				
Date Waste Receipt Stopped: <u>10/10/1993</u>	Phone #: <u>603-418-6431</u>				
Closure Date: _____ Cap Date: <u>10/10/1994</u>	Contact Person: <u>Jennifer Perry</u>				
Cap Design: Soil: ☒ Paper Fiber: ☒ Geomembrane: LLDPE: ☒ HDPE: ☐ Other: <u>describe _____</u>					
Permit #: <u>198401081</u>	Inspected by: <u>EAJ</u> Date: <u>4/17/23</u>				
C. Funding					
Is the Facility owner receiving funding from the State for closure of the landfill [Grant Program, etc.]? ☐ Yes ☒ No					
If yes, provide the funding source.					
D. Enforcement					
Is the Facility under any enforcement action? ☐ Yes ☒ No					
If yes, check the appropriate box: Notice of Finding; ☐ Letter of Deficiency; ☐ Administrative Order; ☐ Administrative Fine; ☐ Other: _____					
If yes, provide status of enforcement:					
E. Off-Cap Features					
If damage is present, indicate if damage is Minor or Major then use Section H to provide additional information as necessary. [Minor damage = no immediate repair needed, but should be repaired or watched during the year] [Major damage = requires immediate repair and submittal of a work scope to conduct repair]					
	Yes	No	NA	Minor	Major
(1) <u>Is there adequate access control [e.g., fencing or <u>natural</u> boundaries]?</u>	✓				
(2) <u>Are perimeter warning signs present?</u>	✓				
(3) <u>Is the access road(s) in good condition?</u>	✓				
(4) <u>Is the retention/infiltration basin(s) in good condition?</u>	✓				
(5) <u>Is the drainage system in good working order?</u>	✓				
(6) <u>Are all culverts intact and free of obstructions?</u>	✓				
(7) <u>Are all under-the-cap drain outlets in good condition?</u>			✓		
(8) <u>Are all of the soil gas probes in good condition?</u>	✓			✓	
(9) <u>Were there any landfill odors detected at the property line?</u>		✓			

Landfill Post-Closure Inspection Report

		Yes	No	NA	Minor	Major
(10)	Is the Gas Management System: ☒ Passive ☐ Active					
(11)	If the cap has an active gas collections system, are all components of the system in good working order? Date system last tested:			✓		
(12)	Is the soil gas cutoff trench performing as designed?			✓		
(13)	Are all of the groundwater monitoring wells in good condition?			✓		
(14)	Were any leachate break-outs observed?	✓				
(15)	Is there evidence of damaged/weakened vegetation?		✓			
(16)	Has any off-cap portion of the site, during this or past monitoring periods, been used for activities other than post-closure? Explain in Sec. H.	✓				
(17)	Other observations?:		✓			

F. Cap Features

If damage is present, indicate damage as Minor or Major then use Section H to provide additional information if necessary.

[Minor damage = no immediate repair needed, but should be repaired or watched during the year]

[Major damage = requires immediate repair and submittal of a work scope to conduct repair]

		Yes	No	NA	Minor	Major
(1)	Is the vegetative layer in good condition? When was the landfill last mowed? Date:	✓				
(2)	Are all landfill side slopes in good condition?	✓				
(3)	Is there evidence of erosion?		✓			
(4)	Has cap settlement been uniform?	✓			✓	
(5)	Are there depressions in the cap's surface?	✓			✓	
(6)	Is there evidence of damage due to burrowing animals?		✓			
(7)	Is there evidence of damage due to unauthorized access?		✓			
(8)	Is there any blockage of the drainage swales?		✓			
(9)	Do All drainage swales have positive drainage?	✓				
(10)	Are all culverts intact and free of obstructions?	✓				
(11)	Are all landfill gas vents in good condition?	✓				
(12)	Are there any leachate break-outs present?		✓			
(13)	Is the landfill cap used for other than post-closure monitoring and maintenance? Explain in Sec. H.		✓			
(14)	Is the access road across the landfill cap in good condition?	✓				
(15)	The overall condition of the cap? [circle one]	Good	Fair	Poor		
(16)	Other:					

G. Reporting Requirements

		Yes	No	NA
(1)	Was a report submitted to the DES for the prior monitoring period?	✓		
(2)	Was there any reported damage [minor or major] to the capping system in the	✓		

Landfill Post-Closure Inspection Report

		Yes	No	NA	Minor	Major
(10)	Is the Gas Management System: ☒ Passive ☐ Active					
(11)	If the cap has an active gas collections system, are all components of the system in good working order? Date system last tested: _____			✓		
(12)	Is the soil gas cutoff trench performing as designed?			✓		
(13)	Are all of the groundwater monitoring wells in good condition?			✓		
(14)	Were any leachate break-outs observed?	✓				
(15)	Is there evidence of damaged/weakened vegetation?		✓			
(16)	Has any off-cap portion of the site, during this or past monitoring periods, been used for activities other than post-closure? Explain in Sec. H.	✓				
(17)	Other observations?:		✓			

F. Cap Features

If damage is present, indicate damage as Minor or Major then use Section H to provide additional information if necessary.

[Minor damage = no immediate repair needed, but should be repaired or watched during the year]

[Major damage = requires immediate repair and submittal of a work scope to conduct repair]

		Yes	No	NA	Minor	Major
(1)	Is the vegetative layer in good condition? When was the landfill last mowed? Date: <u>Summer 2022</u>	✓				
(2)	Are all landfill side slopes in good condition?	✓				
(3)	Is there evidence of erosion?		✓			
(4)	Has cap settlement been uniform?	✓				
(5)	Are there depressions in the cap's surface?	✓			✓	
(6)	Is there evidence of damage due to burrowing animals?		✓			
(7)	Is there evidence of damage due to unauthorized access?		✓			
(8)	Is there any blockage of the drainage swales?		✓			
(9)	Do All drainage swales have positive drainage?	✓				
(10)	Are all culverts intact and free of obstructions?	✓				
(11)	Are all landfill gas vents in good condition?	✓				
(12)	Are there any leachate break-outs present?		✓			
(13)	Is the landfill cap used for other than post-closure monitoring and maintenance? Explain in Sec. H.		✓			
(14)	Is the access road across the landfill cap in good condition?	✓				
(15)	The overall condition of the cap? [circle one]	Good	Fair	Poor		
(16)	Other:					

G. Reporting Requirements

		Yes	No	NA
(1)	Was a report submitted to the DES for the prior monitoring period?	✓		
(2)	Was there any reported damage [minor or major] to the capping system in the	✓		

Landfill Post-Closure Inspection Report

	previous report?	Yes	No	NA
(3)	If damage to the cap is being reported for the current monitoring period, is the damage similar to the previous monitoring period.	✓		
(4)	Is an instrument survey of the cap required? [If required, attach a settlement data summary table.]		✓	
(5)	Is the owner required to monitor methane generation from the landfill?	✓		
(6)	For this monitoring period have methane levels exceeded 25% of the LEL inside any on or off-site structures?		✓	
(7)	For this monitoring period have methane levels exceeded 50% of the LEL at the property line?		✓	
(8)	For this monitoring period have methane levels exceeded 10% of the LEL in the ambient air at the property line?		✓	
(9)	Are there any trends in the methane data thus far collected? [If yes, please provide an explanation in Section H.]		✓	
(10)	Is the Facility in compliance with its Groundwater Management Permit?	✓		
(11)	For this monitoring period, are there any AGQS violations?		✓	
(12)	Has the landfill been used in the past for activities other than post-closure monitoring and maintenance? [Explain using Sec. H.]		✓	
(13)	Other:			
(14)	Other:			
Attach summary table of all settlement data collected to date, if applicable.				
Attach summary table of all methane data collected to date, if applicable				
Attach summary table [only] of all water quality data collected to date.				
Attach a site plan, only if a plan has not previously been submitted.				
[Note: Submittal of cap and/or vent construction details is no longer necessary]				
H. Comments and Recommendations				
E8- Some soil gas stand pipes are unsecure (Gmw-2, Gmw-4, Gmw-5) E16- Exeter town transfer station and DPW Gravel Yard F4/F5- Settlement observed in SW corner of cap and in central portion near rip rap G11 - A AGQS Exceedances				

At Fulton 4/17/23
Authorized Signature/Date

Revised April 2006



**NHDES Waste Management Division
29 Hazen Drive; PO Box 95
Concord, NH 03302-0095**



**August 2023 Post-Closure Inspection Report
Cross Road Landfill
Exeter, New Hampshire**

**NHDES Site #: 198401081
Project Number: 978**

Prepared For:
Town of Exeter, New Hampshire
13 Newfields Road
Exeter, New Hampshire 03833
(603) 773-6160
Mr. Paul Vlasich, P.E.

Prepared By:
GZA GeoEnvironmental, Inc.
5 Commerce Park North, Suite 201
Bedford, NH 03110
Phone Number: (603) 232-8724
Contact Name: Erik Dyrness
Contact Email: erik.dyrness@gza.com

Date of Report: September 13, 2023



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September 13, 2023
File No. 04.0021270.34

New Hampshire Department of Environmental Services
Waste Management Division
Solid Waste Management Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

Re: April 2023 Landfill Inspection
Cross Road Landfill
Exeter, New Hampshire
DES Site #198401081
DES-SW-SP-1992-001

Permit Coordinator:

On behalf of the Town of Exeter, GZA GeoEnvironmental, Inc. is pleased to provide the New Hampshire Department of Environmental Services (NHDES) the attached Solid Waste Management Bureau – Landfill Post-Closure Inspection Report for the Cross Road Landfill in Exeter, New Hampshire, completed on August 9, 2023.

The associated attachment is being submitted to fulfill the requirement of filing inspection reports in accordance with Env-Sw 807.05(h) and Env-Sw 303.

Subsequent inspection reports will be submitted following the November 2023 inspections, and summarized in the 2023 Post Closure Monitoring Report, due during the month of March 2024.

GZA trusts that the information attached to this letter meets the needs of the NHDES. Should you have any questions, please contact us.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Erik B. Dyrness
Assistant Project Manager

Jeffrey D. Rowell, P.E.
Principal

p:\21000s\21270 - exeter lf\04.0021270.34\report\inspection reports\august 2023\draft 04.0021270.34 august 2023 inspection.docx

Attachment: August 2023 Inspection Report

cc: Mr. Paul Vlasich, P.E., Town of Exeter



**Landfill Post-Closure Inspection Report
August 2023**

Landfill Post-Closure Inspection Report

A. Site Information		B. Contact Information				
Facility Name: <i>Cross Road Landfill and stump dump</i>		Permittee Name: <i>Town of Exeter</i>				
Address: <i>9 Cross Rd</i>		Address: <i>10 Front St. Exeter, NH</i>				
Date Waste Receipt Stopped: <i>10/10/1993</i>		Phone #: <i>603-418-6431</i>				
Closure Date: _____ Cap Date: <i>10/10/1994</i>		Contact Person: <i>Paul Vlasich</i>				
Cap Design: Soil: ☒ Paper Fiber: ☐ Geomembrane: LLDPE: ☒ HDPE: ☐ Other: describe _____						
Permit #:		Inspected by: _____ Date: _____				
C. Funding						
Is the Facility owner receiving funding from the State for closure of the landfill [Grant Program, etc.]?						
☐ Yes ☒ No						
If yes, provide the funding source.						
D. Enforcement						
Is the Facility under any enforcement action? ☐ Yes ☒ No						
If yes, check the appropriate box:						
Notice of Finding; ☐ : Letter of Deficiency; ☐ : Administrative Order; ☐ : Administrative Fine; ☐ Other:						
If yes, provide status of enforcement:						
E. Off-Cap Features						
If damage is present, indicate if damage is Minor or Major then use Section H to provide additional information as necessary.						
[Minor damage = no immediate repair needed, but should be repaired or watched during the year]						
[Major damage = requires immediate repair and submittal of a work scope to conduct repair]						
		Yes	No	NA	Minor	Major
(1)	Is there adequate access control [e.g., fencing or natural boundaries]?	☒				
(2)	Are perimeter warning signs present?	☒				
(3)	Is the access road(s) in good condition?	☒				
(4)	Is the retention/infiltration basin(s) in good condition?	☒				
(5)	Is the drainage system in good working order?	☒				
(6)	Are all culverts intact and free of obstructions?	☒			☒	
(7)	Are all under-the-cap drain outlets in good condition?			☒		
(8)	Are all of the soil gas probes in good condition?	☒			☒	
(9)	Were there any landfill odors detected at the property line?		☒			

Landfill Post-Closure Inspection Report

		Yes	No	NA	Minor	Major
(10)	Is the Gas Management System: ☒ Passive ☐ Active					
(11)	If the cap has an active gas collections system, are all components of the system in good working order? Date system last tested: _____			X		
(12)	Is the soil gas cutoff trench performing as designed?			X		
(13)	Are all of the groundwater monitoring wells in good condition?	X				
(14)	Were any leachate break-outs observed?	X				
(15)	Is there evidence of damaged/weakened vegetation?		X			
(16)	Has any off-cap portion of the site, during this or past monitoring periods, been used for activities other than post-closure? Explain in Sec. H.	X				
(17)	Other observations?:					
F. Cap Features						
If damage is present, indicate damage as Minor or Major then use Section H to provide additional information if necessary. [Minor damage = no immediate repair needed, but should be repaired or watched during the year] [Major damage = requires immediate repair and submittal of a work scope to conduct repair]						
		Yes	No	NA	Minor	Major
(1)	Is the vegetative layer in good condition? When was the landfill last mowed? Date: <i>Summer 2023</i>	X				
(2)	Are all landfill side slopes in good condition?	X				
(3)	Is there evidence of erosion?		X			
(4)	Has cap settlement been uniform?	X				
(5)	Are there depressions in the cap's surface?	X			X	
(6)	Is there evidence of damage due to burrowing animals?		X			
(7)	Is there evidence of damage due to unauthorized access?		X			
(8)	Is there any blockage of the drainage swales?	X	X		X	
(9)	Do All drainage swales have positive drainage?	X				
(10)	Are all culverts intact and free of obstructions?		X		X	
(11)	Are all landfill gas vents in good condition?	X				
(12)	Are there any leachate break-outs present?		X			
(13)	Is the landfill cap used for other than post-closure monitoring and maintenance? Explain in Sec. H.	X	X			
(14)	Is the access road across the landfill cap in good condition?	X				
(15)	The overall condition of the cap? [circle one]	Good	Fair	Poor		
(16)	Other:					
G. Reporting Requirements						
		Yes	No	NA		
(1)	Was a report submitted to the DES for the prior monitoring period?	X				
(2)	Was there any reported damage [minor or major] to the capping system in the	X				

Landfill Post-Closure Inspection Report

	previous report?	Yes	No	NA
(3)	If damage to the cap is being reported for the current monitoring period, is the damage similar to the previous monitoring period.		X	
(4)	Is an instrument survey of the cap required? [If required, attach a settlement data summary table.]		X	
(5)	Is the owner required to monitor methane generation from the landfill?	X		
(6)	For this monitoring period have methane levels exceeded 25% of the LEL inside any on or off-site structures?		X	
(7)	For this monitoring period have methane levels exceeded 50% of the LEL at the property line?		X	
(8)	For this monitoring period have methane levels exceeded 10% of the LEL in the ambient air at the property line?		X	
(9)	Are there any trends in the methane data thus far collected? [If yes, please provide an explanation in Section H.]		X	
(10)	Is the Facility in compliance with its Groundwater Management Permit?	X		
(11)	For this monitoring period, are there any AGQS violations?	X		
(12)	Has the landfill been used in the past for activities other than post-closure monitoring and maintenance? [Explain using Sec. H.]		X	
(13)	Other:			
(14)	Other:			
Attach summary table of all settlement data collected to date, if applicable.				
Attach summary table of all methane data collected to date, if applicable				
Attach summary table [only] of all water quality data collected to date.				
Attach a site plan, only if a plan has not previously been submitted.				
[Note: Submittal of cap and/or vent construction details is no longer necessary]				
H. Comments and Recommendations				
E6 - Some overgrowth observed SW of the cap in culvert E8 - certain soil gas probes have damaged standpipes (GMW-1,2,4,5,10) E14 - Leachate breakout observed to the Northeast, being addressed by the GMP E16 - Exeter operates a transfer station to the east, and gravel yard to the south F5 - Some low areas observed along western edge of landfill & central rip-rap F10 - Some overgrowth observed in SW cap culvert				

Landfill Post-Closure Inspection Report

G3 - previously reported uneven settlement / ponding on the SW portion of the cap was addressed by the Town in July 2023.

G11 - AGQS exceedances being addressed by GMP

 8/9/2023
Authorized Signature/Date



**NHDES Waste Management Division
29 Hazen Drive; PO Box 95
Concord, NH 03302-0095**



**November 2023 Post-Closure Inspection Report
Cross Road Landfill
Exeter, New Hampshire**

**NHDES Site #: 198401081
Project Number: 978**

Prepared For:
Town of Exeter, New Hampshire
13 Newfields Road
Exeter, New Hampshire 03833
(603) 773-6160
Mr. Paul Vlasich, P.E.

Prepared By:
GZA GeoEnvironmental, Inc.
5 Commerce Park North, Suite 201
Bedford, NH 03110
Phone Number: (603) 232-8724
Contact Name: Erik Dyrness
Contact Email: erik.dyrness@gza.com

Date of Report: November 15, 2023



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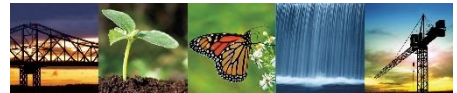
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November 15, 2023
File No. 04.0021270.34

New Hampshire Department of Environmental Services
Waste Management Division
Solid Waste Management Bureau
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

Re: November 2023 Landfill Inspection
Cross Road Landfill
Exeter, New Hampshire
DES Site #198401081
DES-SW-SP-1992-001

Permit Coordinator:

On behalf of the Town of Exeter, GZA GeoEnvironmental, Inc. is pleased to provide the New Hampshire Department of Environmental Services (NHDES) the attached Solid Waste Management Bureau – Landfill Post-Closure Inspection Report for the Cross Road Landfill in Exeter, New Hampshire, completed on November 15, 2023, 2023.

The associated attachment is being submitted to fulfill the requirement of filing inspection reports in accordance with Env-Sw 807.05(h) and Env-Sw 303.

The inspection will be summarized in the 2023 Post Closure Monitoring Report, due during the month of March 2024.

GZA trusts that the information attached to this letter meets the needs of the NHDES. Should you have any questions, please contact us.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Erik B. Dyrness
Assistant Project Manager

Jeffrey D. Rowell, P.E.
Principal

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Attachment: November 2023 Inspection Report

cc: Mr. Paul Vlasich, P.E., Town of Exeter



**Landfill Post-Closure Inspection Report
November2023**

Landfill Post-Closure Inspection Report

A. Site Information		B. Contact Information				
Facility Name: <u>Cross Road Landfill and Stump Dump</u>		Permittee Name: <u>Town of Exeter</u>				
Address: <u>9 Cross Road</u>		Address: <u>10 Front St</u>				
Date Waste Receipt Stopped: <u>10/10/1993</u>		Phone #: <u>603-418-6431</u>				
Closure Date: _____ Cap Date: <u>10/10/1994</u>		Contact Person: <u>Jennifer Perry</u>				
Cap Design: Soil: ☒ Paper Fiber: ☐ Geomembrane: LLDPE: ☒ HDPE: ☐ Other: describe _____						
Permit #: <u>198401081</u>		Inspected by: <u>EAF</u>	Date: <u>11/15/23</u>			
C. Funding						
Is the Facility owner receiving funding from the State for closure of the landfill [Grant Program, etc.]?						
☐ Yes ☒ No						
If yes, provide the funding source.						
D. Enforcement						
Is the Facility under any enforcement action? ☐ Yes ☒ No						
If yes, check the appropriate box:						
Notice of Finding; ☐ : Letter of Deficiency; ☐ : Administrative Order; ☐ : Administrative Fine; ☐ Other:						
If yes, provide status of enforcement:						
E. Off-Cap Features						
If damage is present, indicate if damage is Minor or Major then use Section H to provide additional information as necessary.						
[Minor damage = no immediate repair needed, but should be repaired or watched during the year]						
[Major damage = requires immediate repair and submittal of a work scope to conduct repair]						
		Yes	No	NA	Minor	Major
(1)	Is there adequate access control [e.g., fencing or <u>natural boundaries</u>]?	✓				
(2)	Are perimeter warning signs present?	✓				
(3)	Is the access road(s) in good condition?	✓				
(4)	Is the retention/infiltration basin(s) in good condition?	✓				
(5)	Is the drainage system in good working order?	✓				
(6)	Are all culverts intact and free of obstructions?	✓				
(7)	Are all under-the-cap drain outlets in good condition?			✓		
(8)	Are all of the soil gas probes in good condition?	✓			✓	
(9)	Were there any landfill odors detected at the property line?		✓			

Landfill Post-Closure Inspection Report

		Yes	No	NA	Minor	Major
(10)	Is the Gas Management System: ☒ Passive ☐ Active					
(11)	If the cap has an active gas collections system, are all components of the system in good working order? Date system last tested: _____			✓		
(12)	Is the soil gas cutoff trench performing as designed?			✓		
(13)	Are all of the groundwater monitoring wells in good condition?			✓		
(14)	Were any leachate break-outs observed?	✓				
(15)	Is there evidence of damaged/weakened vegetation?		✓			
(16)	Has any off-cap portion of the site, during this or past monitoring periods, been used for activities other than post-closure? Explain in Sec. H.	✓				
(17)	Other observations?:		✓			

F. Cap Features

If damage is present, indicate damage as Minor or Major then use Section H to provide additional information if necessary.

[Minor damage = no immediate repair needed, but should be repaired or watched during the year]

[Major damage = requires immediate repair and submittal of a work scope to conduct repair]

		Yes	No	NA	Minor	Major
(1)	Is the vegetative layer in good condition? When was the landfill last mowed? Date: <u>Summer 2023</u>	✓				
(2)	Are all landfill side slopes in good condition?	✓				
(3)	Is there evidence of erosion?		✓			
(4)	Has cap settlement been uniform?	✓			✓	
(5)	Are there depressions in the cap's surface?	✓	///		✓	
(6)	Is there evidence of damage due to burrowing animals?		✓			
(7)	Is there evidence of damage due to unauthorized access?		✓			
(8)	Is there any blockage of the drainage swales?		✓			
(9)	Do All drainage swales have positive drainage?	✓				
(10)	Are all culverts intact and free of obstructions?	✓				
(11)	Are all landfill gas vents in good condition?	✓				
(12)	Are there any leachate break-outs present?	///	✓			
(13)	Is the landfill cap used for other than post-closure monitoring and maintenance? Explain in Sec. H.		✓			
(14)	Is the access road across the landfill cap in good condition?	✓				
(15)	The overall condition of the cap? [circle one]	<u>Good</u>	Fair	Poor		
(16)	Other:					

G. Reporting Requirements

		Yes	No	NA
(1)	Was a report submitted to the DES for the prior monitoring period?	✓		
(2)	Was there any reported damage [minor or major] to the capping system in the	✓		

Landfill Post-Closure Inspection Report

	previous report?	✓		
		Yes	No	NA
(3)	If damage to the cap is being reported for the current monitoring period, is the damage similar to the previous monitoring period.	✓		
(4)	Is an instrument survey of the cap required? [If required, attach a settlement data summary table.]		✓	
(5)	Is the owner required to monitor methane generation from the landfill?	✓		
(6)	For this monitoring period have methane levels exceeded 25% of the LEL inside any on or off-site structures?		✓	
(7)	For this monitoring period have methane levels exceeded 50% of the LEL at the property line?		✓	
(8)	For this monitoring period have methane levels exceeded 10% of the LEL in the ambient air at the property line?		✓	
(9)	Are there any trends in the methane data thus far collected? [If yes, please provide an explanation in Section H.]		✓	
(10)	Is the Facility in compliance with its Groundwater Management Permit?	✓		
(11)	For this monitoring period, are there any AGQS violations?		✓	
(12)	Has the landfill been used in the past for activities other than post-closure monitoring and maintenance? [Explain using Sec. H.]		✓	
(13)	Other:			
(14)	Other:			

Attach summary table of all settlement data collected to date, if applicable.

Attach summary table of all methane data collected to date, if applicable

Attach summary table **[only]** of all water quality data collected to date.

Attach a site plan, **only** if a plan has **not** previously been submitted.

[Note: Submittal of cap and/or vent construction details is no longer necessary]

H. Comments and Recommendations

E8 - Some Soil Gas Stand pipes are unsecure (Gmw-1, Gmw-2, Gmw-4, Gmw-5)

E16 - Exeter town transfer station and DPW Gravel yard

F4 / F5 - Settlement observed in SW corner of cap and in central portion near rip rap

F10 - Orange Flocculent ~~free~~ observed in central portion rip rap and ponding

G11 - AGQS Exceedances

Authorized Signature/Date