

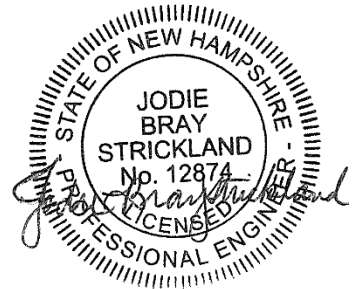


**NHDES Waste Management Division  
29 Hazen Drive; PO Box 95  
Concord, NH 03302-0095**



**Groundwater Sampling Results and Response Letter  
Grove Road Landfill  
Grove Road  
Rye, NH 03870  
NHDES Site #: 198704080  
Project Type: LAND/UNLN  
Project Number: 0002039**

**Prepared For:  
Town of Rye  
10 Central Road  
Rye, NH 03870  
Phone Number (603) 964-5523  
RP Contact Name: Matt Scruton  
RP Contact Email: mscruton@town.rye.nh.us**



**Prepared By:  
CMA Engineers, Inc.  
35 Bow Street  
Portsmouth, NH 03801  
Phone Number: (603) 817-4716  
Contact Name: Jodie Bray Strickland, P.E.  
Contact Email: jstrickland@cmaengineers.com**



Date of Report: July 14, 2023

# Groundwater Monitoring Report Cover Sheet

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Site Name: Grove Road Landfill  
Town: Rye, New Hampshire  
Permit #: GWP-198704080-R-005

## Type of Submittal (Check all that apply)

- Periodic Summary Report (year):
- Data Submittal (month and year per Condition #7 of Permit): June 2023

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Check each box where the answer to any of the following questions is "YES"

## Sampling Results

- During the most recent monitoring event, were any new compounds detected at any sampling point?  
Well/Compound: 100 Garland Road/PFHxS, PFOS; 121 Garland Road/PFBA, PFOA; 111 Garland Road/PFBA, PFPeA, PFBS, PFHxS, PFOA, PFOS; 150 Garland Road/PFBA, PFPeA, PFBS, PFHxA, PFHpA, PFOA, PFOS; 943 Washington Road/PFBS, PFOA, PFOS; 954 Washington Road/PFOA, PFOS
- Are there any detections of contamination in drinking water that is untreated prior to use?  
Well/Compound: 100 Garland Road/PFHxS, PFOS; 121 Garland Road/PFBA, PFOA; 111 Garland Road/PFBA, PFPeA, PFBS, PFHxS, PFOA, PFOS; 150 Garland Road/PFBA, PFPeA, PFBS, PFHxA, PFHpA, PFOA, PFOS; 943 Washington Road/PFBS, PFOA, PFOS; 954 Washington Road/PFOA, PFOS
  - Do compounds detected exceed AGQS?
- Was free product detected for the first time in any monitoring point?
  - Surface Water (*visible sheen*)
  - Groundwater (*1/8" or greater thickness*)  
Location/Thickness:

## Contaminant Trends

- Do sampling results show an increasing concentration trend in any source area monitoring well?  
Well/Compound:
- Do sampling results indicate an AGQS violation in any of the GMZ boundary wells?  
Well/Compound:

## Recommendations

- Does the report include any recommendations requiring DES action? (*Do not check this box if the only recommendation is to continue with existing permit conditions.*)

This form is to be completed for groundwater monitoring data submittals and periodic summary reports submitted to the New Hampshire Department of Environmental Services Waste Management Division.



July 14, 2023

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

**RE: Grove Road Landfill - GWP-198704080-R-005**

Dear Jill:

On behalf of the Town of Rye, New Hampshire, we are providing the following information to address items from your letter dated March 28, 2023, regarding the 2022 Biennial Water Quality Report for the Grove Road Landfill off Grove Road in Rye, NH.

#### **BACKGROUND**

The Grove Road Landfill occupies approximately 5 acres of land within the central section of Rye, off Grove Road. Active municipal solid waste disposal at the site dates back to 1927. The landfill primarily operated as an open burning dump with landfilling of the ash through 1966. From 1966 through 1975, waste was landfilled with periodic soil cover. Disposal ceased in 1975, when the Rye Water District (RWD) acquired the site in anticipation of their development of a water supply well on adjacent Garland Road. The landfill is registered as a pre-July 10, 1981 landfill with NHDES, and as such is not subject to landfill closure requirements under the NHDES Solid Waste Rules. A partial capping of the Grove Road Landfill after 1975 consisted of covering the waste with various sands, gravels, and silty sands in the mid 1970's and 1980's. A vegetative stand of grass and shrubs now cover and stabilize the surface.

The site is owned by the RWD. The Town of Rye arranges for and reports on the monitoring of the site based on current NHDES Groundwater Permit requirements.

The Groundwater Permit for the site (GWP-198704080-R-005) was issued to the Town of Rye and originally included a Groundwater Management Zone (GMZ) that comprised the two tax map parcels that contained the landfill. In 2019, in response to detection of per- and polyfluoroalkyl substances (PFAS), the GMZ was expanded to include the adjacent lot to the southeast and was approved by NHDES. A location map of the site, site monitoring well locations, updated GMZ and surrounding features has been prepared and included as Appendix B, Figure 2.

As noted below an updated conceptual site model has been prepared and is included as ATTACHMENT A. Presentations of water tables and water quality (PFAS) are depicted in that section.

The groundwater monitoring program at the landfill began in 1995. The current permit requires annual sampling of indicator and inorganic parameters and PFAS. Volatile organic compounds were analyzed in the April 2021 sampling round.

The following items correspond directly to the letter dated March 28, 2023 from NHDES as referenced above.

1) An updated receptor survey was completed. Seven residential properties were identified with private water supply wells within 500' feet of the landfill groundwater management zone. The updated potential receptors map with the PFAS data listed below is included in Appendix B as Figure 1. The addresses and Tax Map locations are as follows:

- 100 Garland Road (Tax Map 7, Lot 10)
- 111 Garland Road (Tax Map 7, Lot 12)
- 121 Garland Road (Tax Map 7, Lot 11)
- 150 Garland Road (Tax Map 7, Lot 15)
- 943 Washington Road (Tax Map 11, Lot 7)
- 954 Washington Road (Tax Map 7, Lot 31)
- 972 Washington Road (Tax Map 7, Lot 34)

NHDES was informed via email of the updated receptor plan and the proposal to sample the residential private water supply wells for PFAS in April. Sampling was completed at six of the identified properties on June 2nd and June 8th. 972 Washington Road was not occupied and could not be sampled during the June sampling period.

The private water supply quality data was forwarded to the homeowners and uploaded to OneStop previously under separate cover.

Of the four regulated PFAS, PFOS were detected at all six properties and PFOA was detected at five properties, at concentrations below their respective AGQS.

DATE	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctanoic acid (PFOA)	Perfluoronanoic acid (PFNA)	Perfluorooctane sulfonic acid (PFOS)
CAS #	355-46-4	335-67-1	375-95-1	1763-23-1
Current NH AGQS	18	12	11	15
<b>100 Garland Rd (Tax Map 7, Lot 10)</b>				
06/02/23	<b>2.68</b>	<1.92	<1.92	<b>7.48</b>
<b>111 Garland Rd (Tax Map 7, Lot 12)</b>				
12/10/18	<4.64	<4.64	<4.64	<4.64
06/02/23	<1.96	<b>5.48</b>	<1.96	<b>2.30</b>
<b>121 Garland Rd (Tax Map 7, Lot 11)</b>				

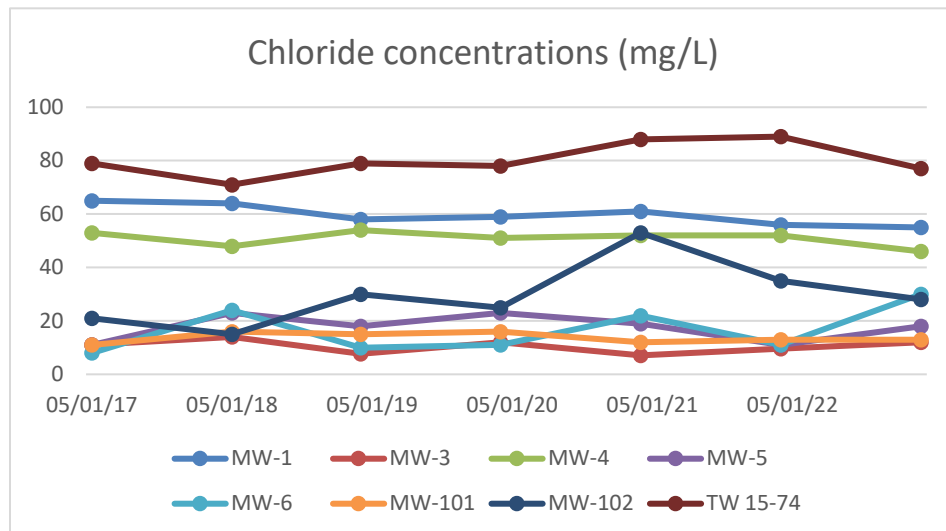
DATE	Perfluorohexane sulfonic acid (PFHxS) CAS # 355-46-4	Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Perfluoronanoic acid (PFNA) CAS # 375-95-1	Perfluorooctane sulfonic acid (PFOS) CAS # 1763-23-1
06/02/23	<1.99	2.67	<1.99	<1.99
Current NH AGQS	18	12	11	15
<b>150 Garland Rd (Tax Map 7, Lot 15)</b>				
06/02/23	<1.87	7.08	<1.87	2.32
<b>943 Washington Rd (Tax Map 11, Lot 7)</b>				
06/08/23	<1.91	2.65	<1.91	2.32
<b>954 Washington Rd (Tax Map 7, Lot 31)</b>				
06/08/23	<1.90	2.35	<1.90	3.50

We note that PFOA and PFOS are detected in the Rye Water District water supply regularly at concentrations slightly higher than those reported for the private water supplies. We also note that the two residences sampled on Washington Road are located upgradient of the Grove Road landfill.

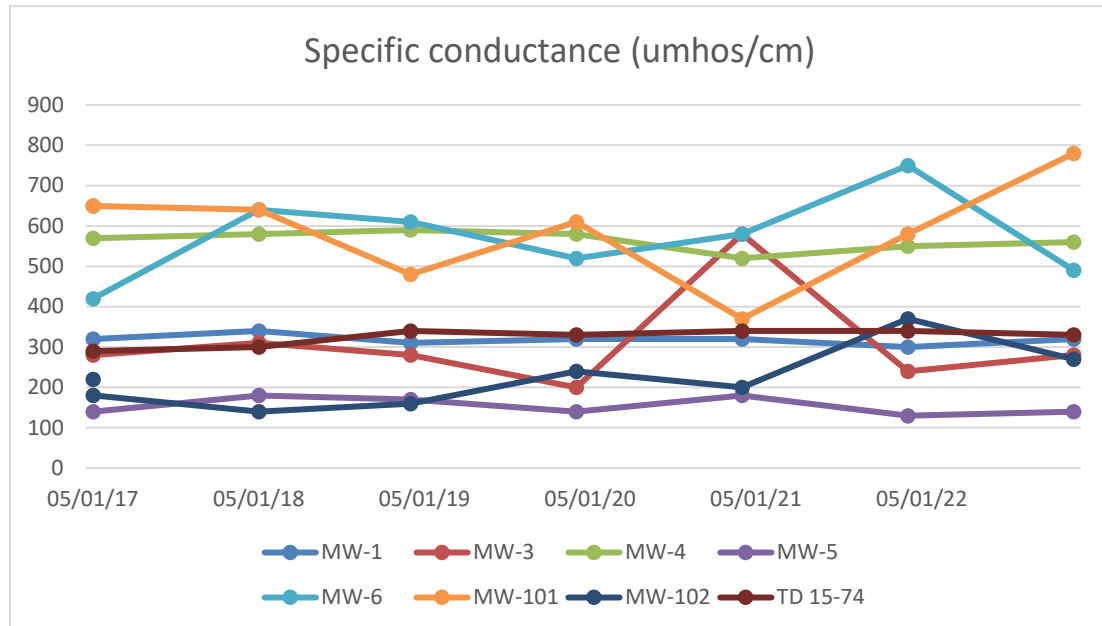
- 2) a) An updated conceptual site model has been developed and is presented as ATTACHMENT A to this letter. The updated model reviews current water elevations, water quality focusing on PFAS, and the relationship of the landfill site with the RWD’s Garland Road water supply well.
- b) Groundwater quality summary tables are included in Appendix A as Tables 1-5.

Graphical summaries of groundwater quality data and trends in contaminant concentrations have been developed and are presented below:

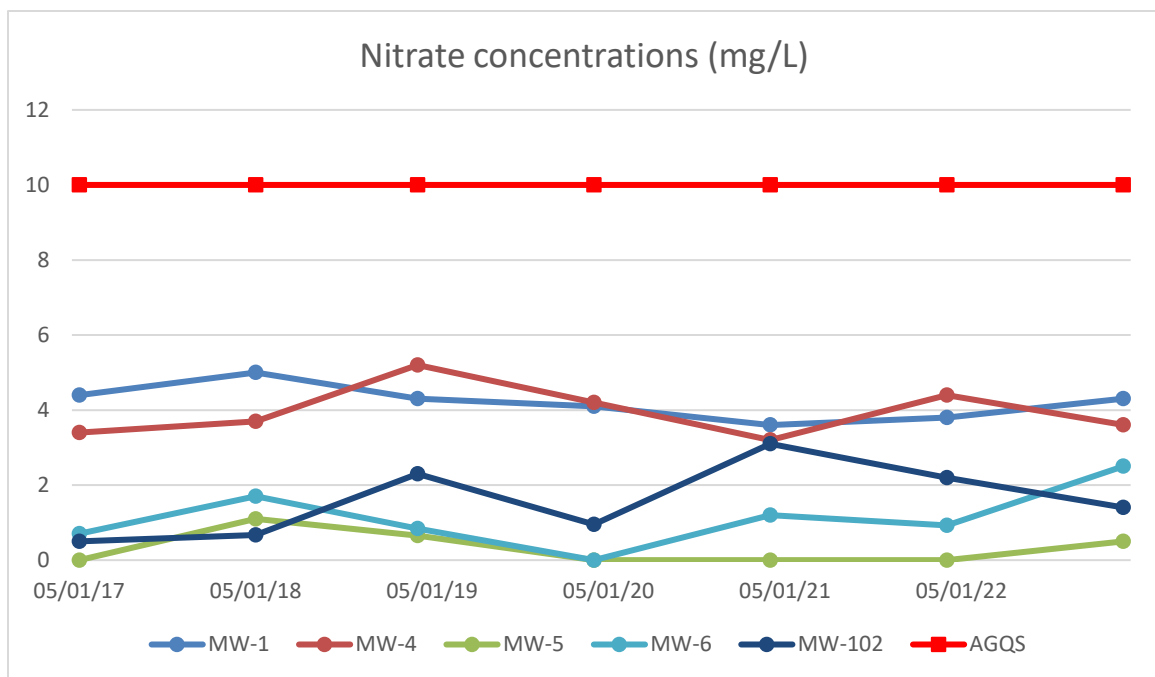
Chloride is detected in all wells onsite. Concentrations remain generally consistent with slight variations at each well. There was evidence of an overall increasing trend at MW-102, but concentrations have decreased since 2021. There is no AGQS for chloride.



Specific conductance readings are relatively stable at MW-1, MW-4, MW-5 and TD 15-74. Previously, there was evidence of an overall increasing trend at MW-102, but readings have decreased since 2021. Readings fluctuate at MW-3, MW-6 and MW-101; at MW-101 readings show an increasing trend since 2021. There are no regulatory standards for specific conductance.

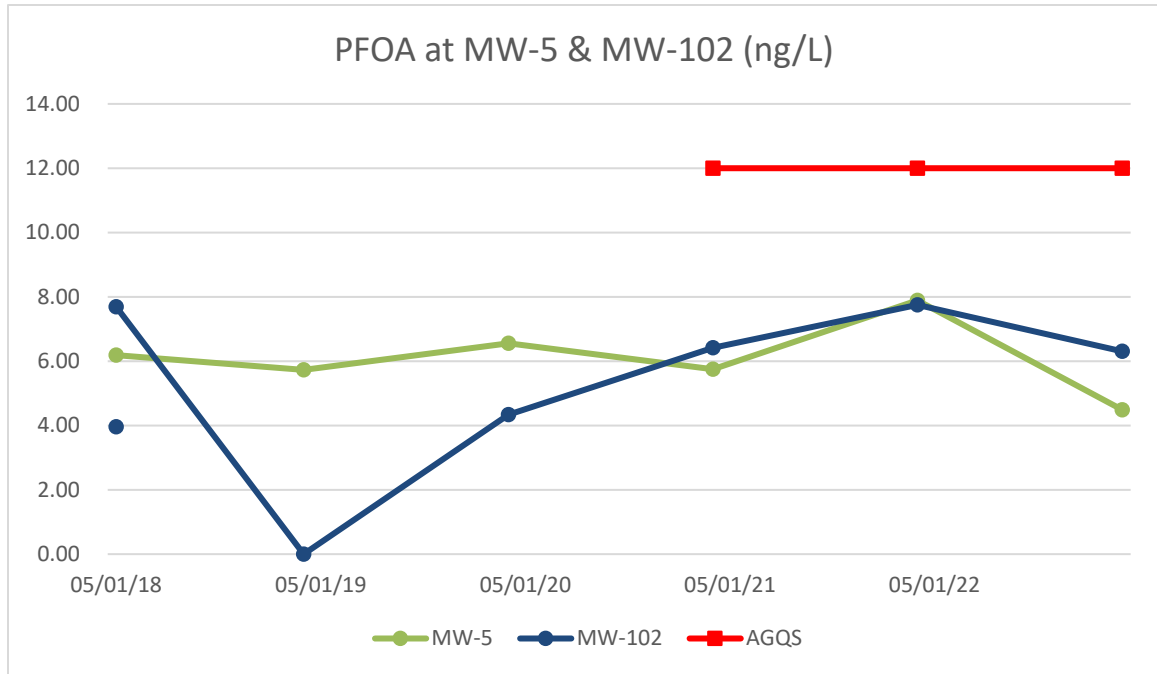


Nitrate is detected regularly at wells MW-1, MW-4, MW-6 and MW-102 and intermittently at well MW-5. This has been attributed in prior correspondence to upgradient manure piles. Nitrate is not a common occurrence in groundwater impacted by landfills. Concentrations of nitrate fluctuate at all locations and there do not appear to be any strong trends that are evident. The AGQS for nitrate is 10 mg/L and all concentrations detected in the landfill wells are below the regulatory limit.



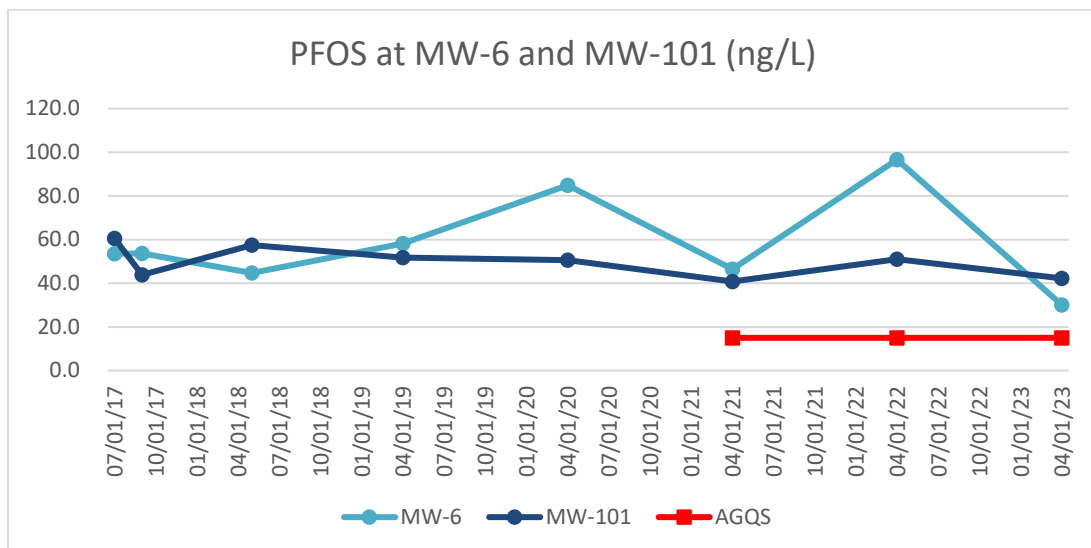
PFAS analysis has been conducted at the landfill since 2017. PFOA and PFOS are detected at multiple wells on site and at an increasing number of locations as the laboratory detection limit decreases.

Concentrations of PFOA at both MW-5 and MW-102 vary without observable trends.

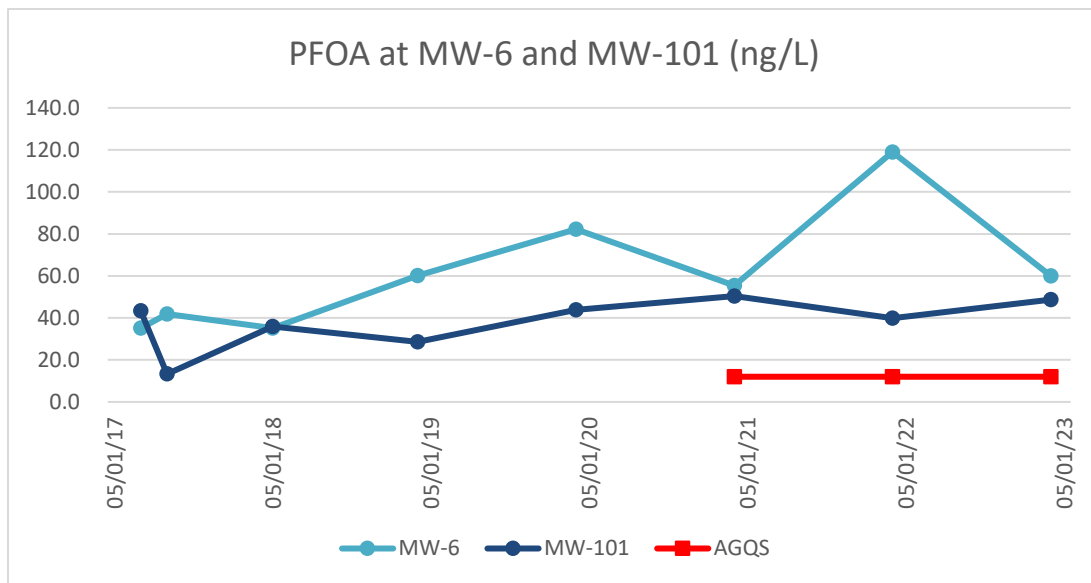


MW-6 has consistent detections of PFHxS, PFOA and PFOS with AGQS exceedances of all three. MW-101, which is screened in saturated waste, has consistent detections of PFHxS, PFOA and PFOS with AGQS exceedances of PFOA and PFOS.

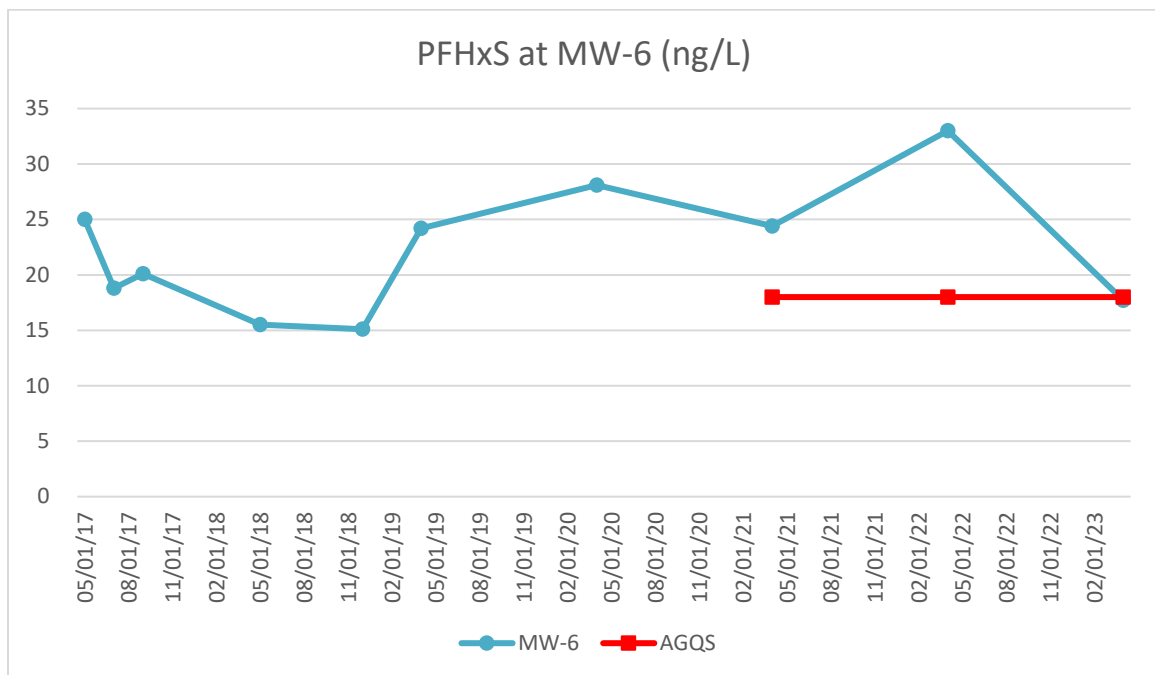
Concentrations of PFOA at MW-6 fluctuate with no apparent trends.. At MW-101, concentrations of PFOA vary with no trends evident.



PFOS concentrations fluctuate at MW-6 and do not show any trends. Concentrations at MW-101 vary slightly but no strong trends are evident.



The AGQS for PFHxS, 18 ng/L, was established in 2021. Since then, concentrations at MW-6 have exceeded the standard. There are no apparent trends in the data.



As described earlier in this letter, an updated figure showing the complete updated groundwater management zone with all of the permit-required sampling locations is included as Figure 2 in Appendix B.

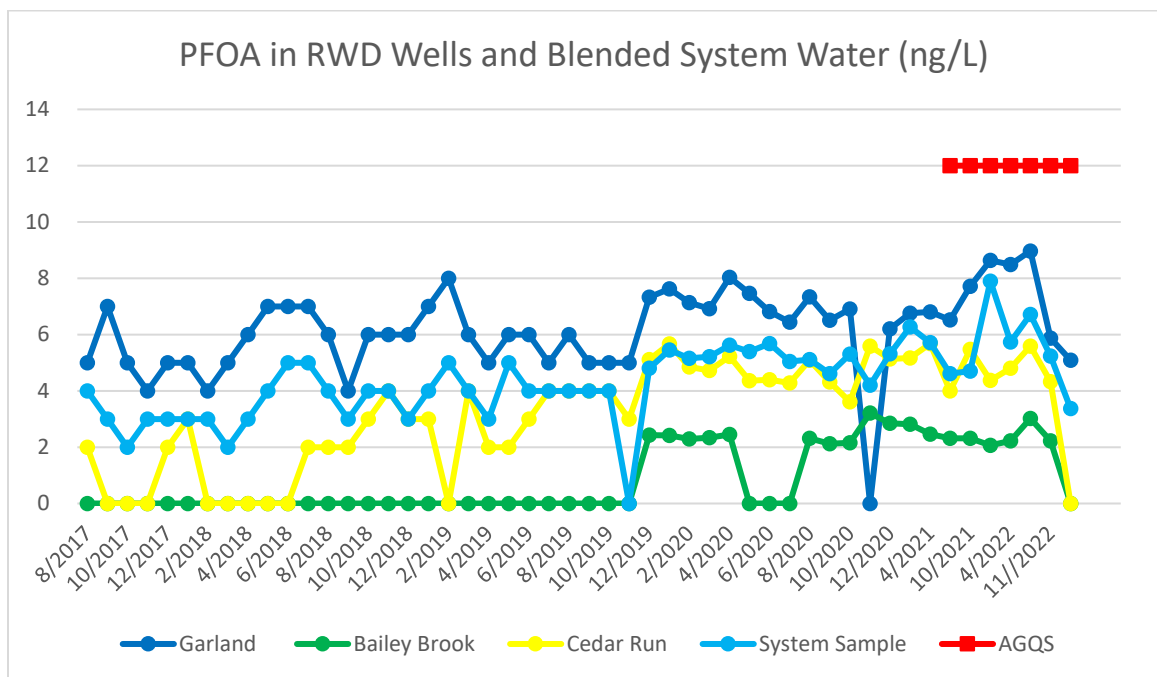


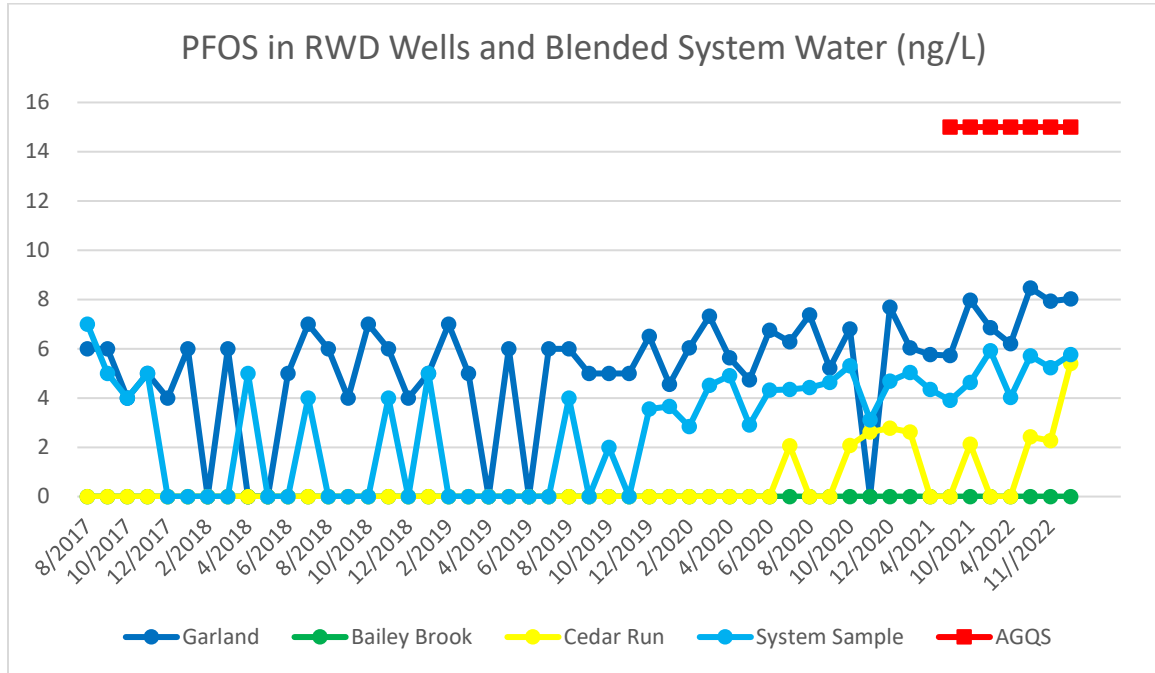
- 3) The Rye Water District (RWD) (PWS ID 2041010) has three public water supply wells in the area, known as Garland Road, Baily Brook, and Cedar Run. The water supplied to customers of the RWD consists of a blend of water from the Garland Road well (about 80% of the total) and the Bailey and Cedar Run wells (the remaining 20%). Appendix B Figure 1 depicts the three RWD well locations with respect to the GMZ and the 500' and 1000' setbacks.

Sampling for PFAS at the RWD wells started in 2016. Sampling occurs at the three wells and at the Washington Road water storage tank. PFAS data for 2016-2022 from the RWD wells and the system sample (blended water from the wells) taken from the storage tank on Washington Road are included in Appendix A as Table 5.

PFOA are detected regularly at concentrations below the AGQS at the Garland and Cedar Run wells and since December 2019 at the Bailey well. PFOS is detected regularly at the Garland Road well and has been detected intermittently at Cedar Run since 2020; concentrations are below the current AGQS. PFHxS has been detected occasionally at the Garland Road and Cedar Run wells, also below AGQS. PFNA was detected once in the system sample from the storage tank sample in 2017. In samples from the blended system water from the storage tank, PFOA has been detected regularly since testing began and PFOS has been detected regularly since December 2019.

Graphical summaries of PFAS at the RWD wells and blended water at the storage tank are presented below:





Both PFOA and PFOS at the Garland Well and the blended water samples show an increasing trend since about 2020.

- 4) The footnote references have been removed from Tables 1, 2, and 4 (Table 3 in this report). These are included in Appendix A.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

The information in this letter, and the updated Conceptual Site Model included as ATTACHMENT A, suggest the following conclusions:

1. The private water supplies all showed various levels of PFAS, including wells on Washington Road that are not associated with the Grove Road landfill. The private water supply wells sampled on Garland Road indicated PFAS levels generally less than those associated with the RWD Garland well. The Garland Road private water supply wells appear to be side gradient to the Grove Road landfill based on available data.
2. The updated conceptual site model confirmed characterizations and conclusions presented in 1990's reports by Roy F. Weston and CEH/Jacques-Whitford. Groundwater quality impacts from the Grove Road landfill, including PFAS, trend towards the RWD Garland Well.
3. Monitoring wells within the Grove Road landfill footprint show PFAS concentrations consistently in excess of AGQS. Those levels appear to vary consistently over time with no apparent increasing

trends. The downgradient monitoring well within the GMZ, MW-102, shows levels of PFAS within current AGQS and no increasing trends are apparent.

4. PFAS levels at the RWD Garland Well and from blended samples from the RWD storage tank on Washington Road are within the current AGQS, show increasing trends over time, and are generally higher than the Grove Road landfill downgradient monitoring well and the Garland Road private water supplies sampled in this round.

## Recommendations

The Town of Rye and Rye Water District have agreed to conduct concurrent sampling of the Garland Well and the landfill monitoring wells on three dates in 2023, beginning in July. This was scheduled to be three samples – Garland Well, MW-102 and MW-1.

CMA Engineers recommends that the July 2023 sampling round be expanded to also include:

- MW 3 and 3D and MW-5, as well as Garland Road test wells TW-15-74, 1-10BS-74, and 79-44.


This testing will give a better understanding of the PFAS concentrations downgradient of the Grove Road Landfill and may lead to further recommendations regarding permit amendments to increase the number of wells regularly monitored for PFAS concentrations.


All of the above reporting and subsequent data in 2023 will be added to the next annual report.

Should you have any questions, please do not hesitate to call.

Very truly yours,  
CMA ENGINEERS, INC.

  
Jodie Bray Strickland, P.E.  
Project Manager

  
William A. Straub, P.G., P.E.  
Project Reviewer and PG

  
Craig N. Musselman, P.E., BCEE  
Senior Project Review

WAS/JBS/CMN/kao

ATTACHMENT 1 – Update Conceptual Site Model

APPENDIX A- Tables

APPENDIX B- Figure 1: Potential Receptor Map

Figure 2: Site Plan with Updated GMZ

cc: Matt Scruton, Town Administrator  
Arik Jones, Rye Water District  
One Stop Data

# ATTACHMENT 1

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## Updated Conceptual Site Model

**Town of Rye, NH**  
**Grove Road Landfill, GWP-198704080-R-005**  
**Updated Conceptual Site Model per Env-Or 607**  
**July 2023**

*( Prepared by CMA Engineers as ATTACHMENT 1 to July 14, 2023 letter to Jill Ready of NHDES)*

### **Introduction and Background**

The Grove Road landfill is located on a site comprising 5-acres of land owned by the Rye Water District off Grove Road. The site is landlocked located approximately 1,000 feet from Grove Road and was used as a landfill and burning dump by the Town of Rye from the early 1900s through 1966, and then was operated as a “sanitary landfill” with periodic cover of waste until 1975. The site historically had been a gravel pit and is bordered to the east and south by other historic sand/gravel removal operations. Most of the site includes waste footprint. Soil cover of various types has been placed over much of the landfill. Most of the site is currently overgrown with vegetation.

The Rye Water District (RWD) established the gravel-packed Garland Road water supply well in the late 1970s located just north of Garland Road, approximately 1,300 feet from the southern limit of the Grove Road landfill. The well is operated daily but not continuously (depending on system demand) and is the major source of water for the District (approximately 80%). Two other bedrock supply wells have been established east of the Garland Road well, identified as the Baily Well and Cedar Run Well. Blended water from all three sources is stored in a water storage tank on Washington Road .

Previous hydrogeologic evaluations have been completed for the Grove Road Landfill and are referenced herein. These include:

- *Roy F. Weston (Weston)* – Phase I and Phase II Hydrogeologic Studies. 1993 and 1995
- *Caswell, Eichler and Hill (CEH)* – Evaluation of groundwater contact with waste. 1996
- *Jacques Whitford (J-W, formerly CEH)* – Further evaluation of hydrogeologic relationship of Grove Road landfill with RWD Garland Road Well. 1998

The geological characterizations in these reports have been utilized herein, with no additional subsurface information other than recent groundwater levels.

Regular water quality testing and reporting has been ongoing since the 1990s. Water quality has been relatively stable since that time, with negligible detections of VOCs, and inorganics including metals. All have been consistently below applicable NH Ambient Groundwater Quality Standards (AGQS).

Sampling and testing for per-and polyfluoroalkyl substances (PFAS) commenced in 2017, concurrent with NHDES requirements for PFAS testing at all waste sites in NH and is continuing. Several PFAS including PFOA and PFOS have been detected at on-site wells, including three wells within the landfill property above their respective NH AGQS concentrations. It’s noted that PFAS has been detected below AGQS at the upgradient well (MW-1) and at downgradient well MW-102.

PFAS have consistently been detected since at the Garland Road Well below AGQS, and periodically at the Bailey and Cedar Run wells, at lower concentrations also below AGQS.

As described in the accompanying letter, seven private residential water supplies within 500 feet of the landfill were sampled for PFAS in June 2023. PFAS were detected below AGQS at all wells regardless of location relative to the landfill. These locations were upgradient and mostly sidegradient to the landfill.

Under the Groundwater Permits issued for the site, a Groundwater Management Zone GMZ was originally established that included the landfill property (which includes two lots). In response to the detection of PFAS, the GMZ was expanded to include the adjacent lot to the southeast. That lot is located in part between the landfill and Garland Road well. A figure indicating the limits of the GMZ is included in the accompanying report. (See Appendix Figure 2 of the accompanying letter).

## Summary of Geology/Hydrogeology

### Geology

The area of the landfill was historically a sand/gravel pit, with similar excavations to the east and south of the landfill site.

There is a somewhat unique sequence in vicinity of the landfill (see Figure B described in sections below):

- Soil cover of varying types and thicknesses,
- Waste up to 30-feet or more in depth,
- An ice-contact deposit below much of the waste, containing sands and clay, underlain by
- Sand outwash deposits

Downhill and downgradient of the landfill, earthwork and excavations appear to have removed the ice-contact deposit, exposing the sand outwash deposit.

Hydraulic conductivities of the various units were evaluated by Weston in 1995. The hydraulic conductivity of the ice-contact deposit was demonstrated to be much lower than all other layers. The unit may be acting as a partial aquiclude, restricting water from flowing directly downward. A cut from that report is included below:

Monitoring Well I.D.	Screen Interval (BGS) in feet	Screened Lithology	Hydraulic Conductivity (ft/day)	
			Bouwer–Rice	Cooper, et. al.
MW-1	36–46	Tan–gray fine to coarse sand and fine to coarse gravel, trace clayey silt.	17.60	37.20
MW-2D	35 – 45	Interbedded sandy clay, fine to coarse sand, trace gravel.	0.43	0.44
MW-3	27–37	Gray to tan fine and medium sand, trace coarse sand and clayey silt.	1.31	4.42
MW-3D	64 – 74	Tan fine to medium sand, trace silt. Sand becomes coarser with depth.	6.44	6.00
MW-4	39 – 49	Fine sand with 20–40% silt in upper part of interval. Lower part contains trace medium to coarse sand.	0.59	1.10
MW-5	21 – 36	Fine to medium sand, sandy silt, trace coarse sand.	0.97	2.61
MW-6	29 – 44	Dark brown to tan, medium to fine sand, trace silt and gravel.	3.12	3.92

### Hydrogeology and Water Table

In the southwest corner of the landfill in an area underlain by this relatively low permeability ice-contact deposit, there was an historic feature known as “the fire pond” during landfill operations. An open water surface was reported. The investigations in the 1996 CEH report include several borings and construction of MW-101 which specifically investigated this area. The “fire pond” was apparently excavated into the ice-contact deposit that has clay and relatively low hydraulic conductivity as described above. When landfill operations ceased, the “fire pond” was backfilled with waste.

The CEH 1996 report concluded that a limited area/volume of waste was below a “perched water surface above the regional water table. As described below, we believe this is likely. The specific reason for the perched water surface could be the low hydraulic conductivity of the ice-contact deposit or the nature of saturated waste. Either way, the perched water flows by some route to the regional water table.

This area comprises about 10% of the landfill’s 5-acre footprint. The remainder of the site appears from available boring logs to have been filled above the regional water table.

Figures A and A1 depict the site, including locations of monitoring wells in the GMZ, the RWD observation wells and the Garland Road Well.

- The water table and water quality for PFAS are depicted on the figures, including recent water levels and water quality in April and June 2023.
- PFAS are depicted because they are the only contaminants above AGQS at the landfill site and are of most concern.
- Where water level or PFAS data are not current, data from the most recent previous sampling dates are included. This same information is also included on Figure B depicting cross-section A-A’.

Figures A and A1 depict the two scenarios associated with the water elevations in the vicinity of MW-101 and MW-6.

- A perched water surface is inferred on Figure B in this area (also the “fire pond” area), which is underlain by the relatively low permeability ice-contact deposit. The water table contours using those data appear inconsistent and implausible.
- A scenario that perched groundwater has not yet connected to the regional water table and depicts an inferred regional water table. The flow net of this scenario appears more logical.

The Garland Road well is located in a separate gravel formation in the mid-1970s. It was characterized by the well installer (D. L. Maher Co.) as having very high transmissivity. In reviewing the installation information J-W described the highly transmissive unit as potentially creating anisotropy depending on its configuration. The supply well is screened in this unit. Groundwater flow lines from the Grove Road Landfill intersect this transmissive unit and flows toward the Garland Road well. As a gravel pack well, The Garland well’s zone of influence presumably includes 360-degrees of recharge around the well.

### Water Quality - PFAS

PFAS have been detected at most of the sampling points at the landfill and in the GMZ. As reported in the accompanying letter, PFAS have also been detected at several residential water supply wells in the vicinity

of the site, including locations apparently upgradient and side gradient of the site. PFAS concentrations beyond the landfill site in the GMZ and beyond the GMZ do not exceed AGQS, including at MW-102.

Concentrations at some of the on-site wells exceed AGQS, including the highest concentrations in the vicinity of the “perched” water near MW-101 and MW-6 (ranges of PFOA and PFOS of 30-60 ppt), and historically at MW-3 and MW-3D (ranges of PFOA and PFOS of 10-29 ppt).

From the limited private water supply data available, PFAS concentrations are present in regional groundwater, including at upgradient MW-1, and residential wells at upgradient locations on Washington Road. It is noted that PFAS concentrations at upgradient MW-1 and downgradient MW-102 are very similar, with PFOA and PFOS in the range of in the range of 3-5 ppt.

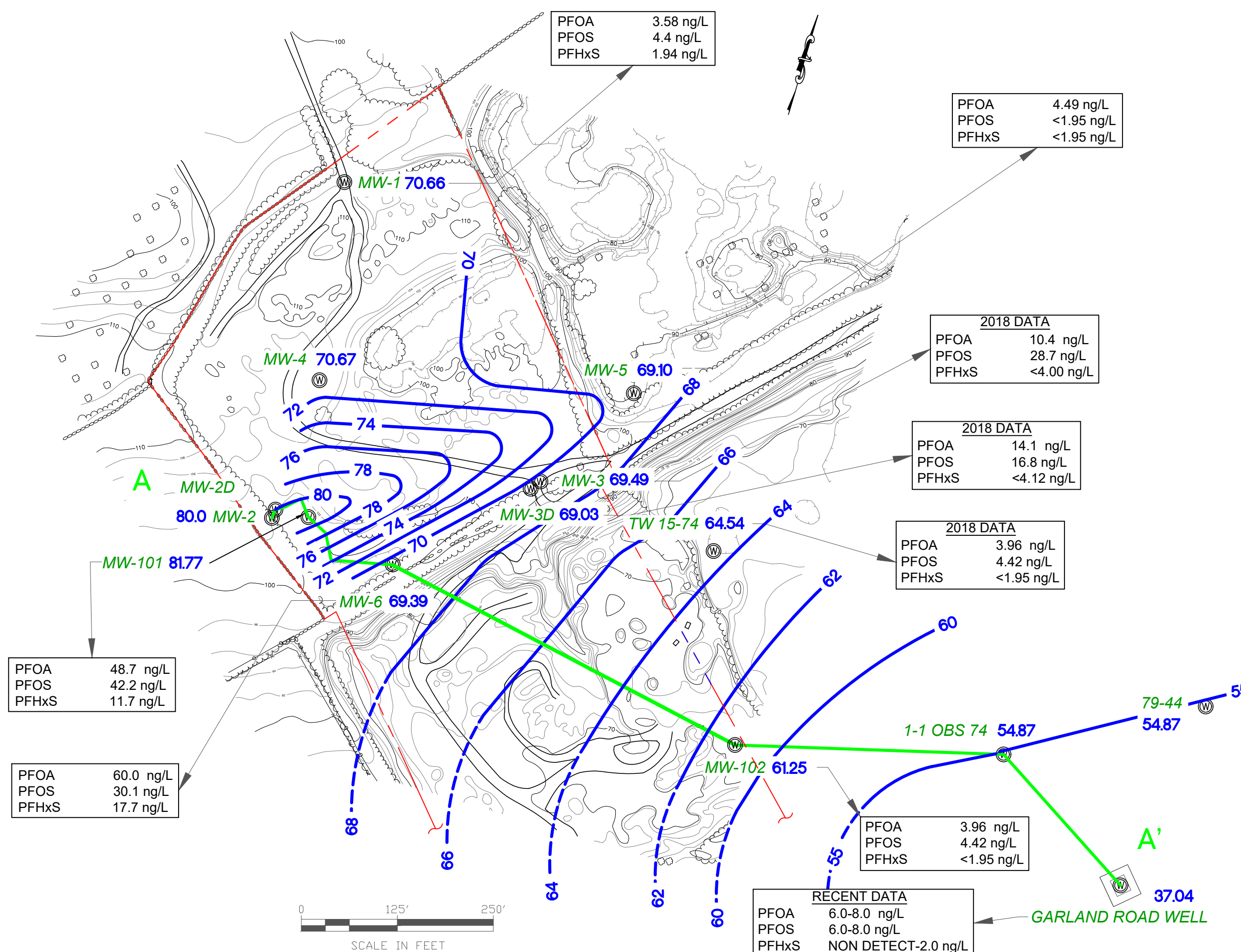
The accompanying letter includes graphs with historical trends of PFAS at the site and GMZ wells, the RWD Garland Road Well (gravel packed), and also the RWD Bailey and Cedar Run bedrock wells.

PFAS at the Garland Road well appears to be steady since 2017, with PFOA and PFOS in the range of 6-8 ppt, with a slight increasing trend in recent years. Concentrations of PFAS at the Bailey and Cedar Run Wells are lower.

**Figures:**

- *Figure A and A1: Site Plan and Water Levels, Water Quality*
- *Figure B: Geologic Cross section A-A', Water Levels, Water Quality*





PFOA	3.58 ng/L
PFOS	4.4 ng/L
PFHxS	1.94 ng/L

PFOA	4.49 ng/L
PFOS	<1.95 ng/L
PFHxS	<1.95 ng/L

2018 DATA	
PFOA	10.4 ng/L
PFOS	28.7 ng/L
PFHxS	<4.00 ng/L

2018 DATA	
PFOA	14.1 ng/L
PFOS	16.8 ng/L
PFHxS	<4.12 ng/L

2018 DATA	
PFOA	3.96 ng/L
PFOS	4.42 ng/L
PFHxS	<1.95 ng/L

PFOA	48.7 ng/L
PFOS	42.2 ng/L
PFHxS	11.7 ng/L

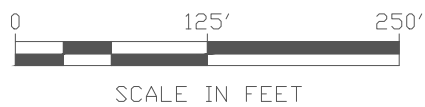
PFOA	60.0 ng/L
PFOS	30.1 ng/L
PFHxS	17.7 ng/L

PFOA	3.96 ng/L
PFOS	4.42 ng/L
PFHxS	<1.95 ng/L

RECENT DATA	
PFOA	6.0-8.0 ng/L
PFOS	6.0-8.0 ng/L
PFHxS	NON DETECT-2.0 ng/L

- Notes:**
1. Base topography by Eastern Topographics, Inc. and provided by Roy F. Weston, Inc.
  2. Property line survey based on survey performed by Richard P. Millette and Assoc. Imported onto plan using common monitoring points.
  3. Groundwater levels measured on June 2, 2023, unless otherwise noted.
  4. Groundwater Management Zone (GMZ) from Rye Tax map.
  5. Water table with elevations at MW-101 and MW-2.

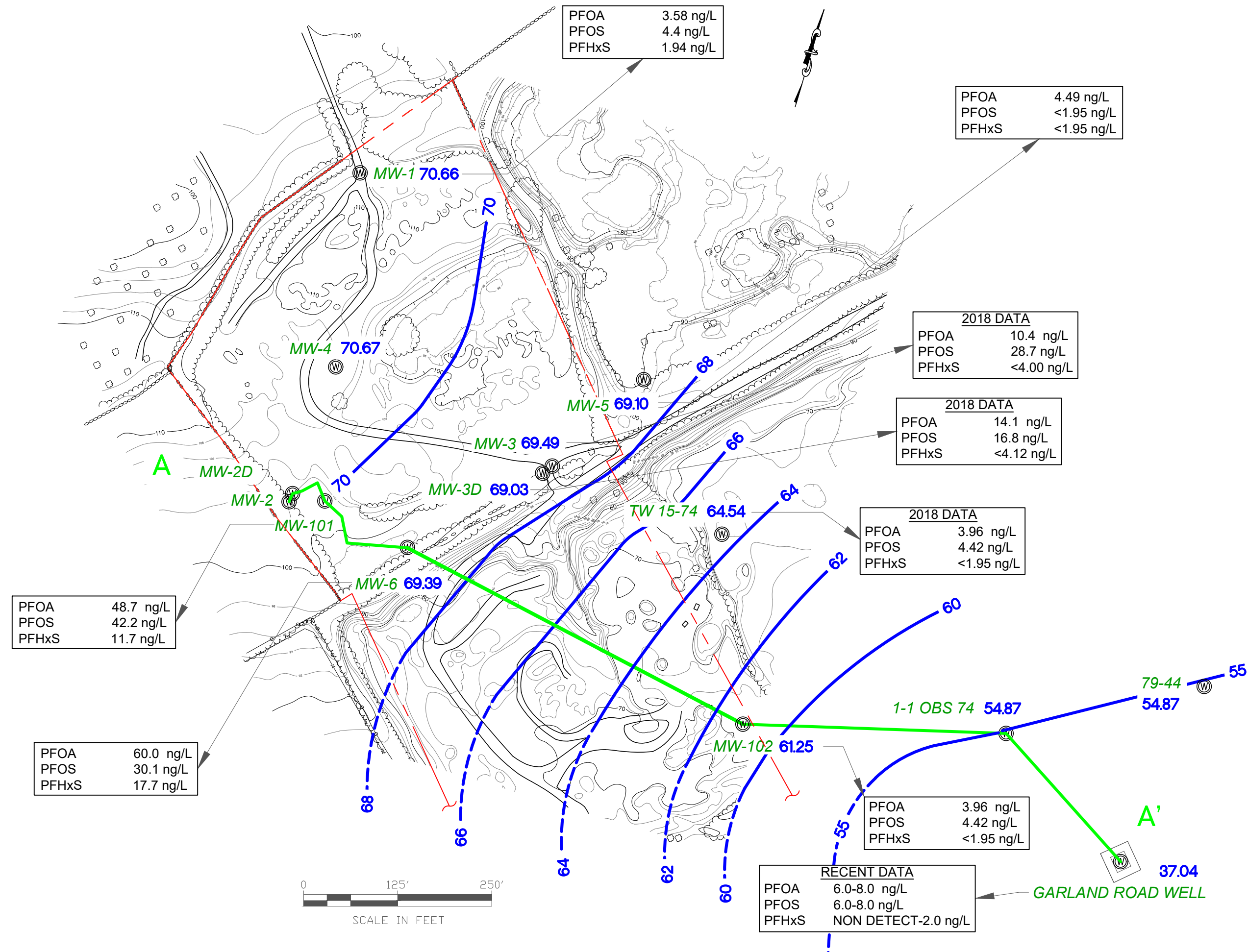
- Legend:**
- 80 — 10' Contour
  - Edge of Pavement
  - Treeline
  - MW-5 (W) Groundwater Monitoring Well
  - - - GMZ Boundary
  - Water Table (June 2023)
  - - - Water table inferred from CEH measurements (1998)
  - PFOA, PFOS, PFHxS PFAS concentrations (April 2023 or as noted)



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Town of Rye, NH  
 Grove Road Municipal Landfill  
 Rye, New Hampshire  
 Updated Conceptual Site Model

Figure A June 2023 Scale: 1" = 125'



- Notes:**
1. Base topography by Eastern Topographics, Inc. and provided by Roy F. Weston, Inc.
  2. Property line survey based on survey performed by Richard P. Millette and Assoc. Imported onto plan using common monitoring points.
  3. Groundwater levels measured on June 2, 2023, unless otherwise noted.
  4. Groundwater Management Zone (GMZ) from Rye Tax map.
  5. Water table with elevations at MW-101 and MW-2.

- Legend:**
- 80 — 10' Contour
  - Edge of Pavement
  - Treeline
  - MW-5 (W) Groundwater Monitoring Well
  - - - GMZ Boundary
  - Water Table (June 2023)
  - - - Water table inferred from CEH measurements (1998)
  - PFOA, PFOS, PFHxS PFAS concentrations (April 2023 or as noted)

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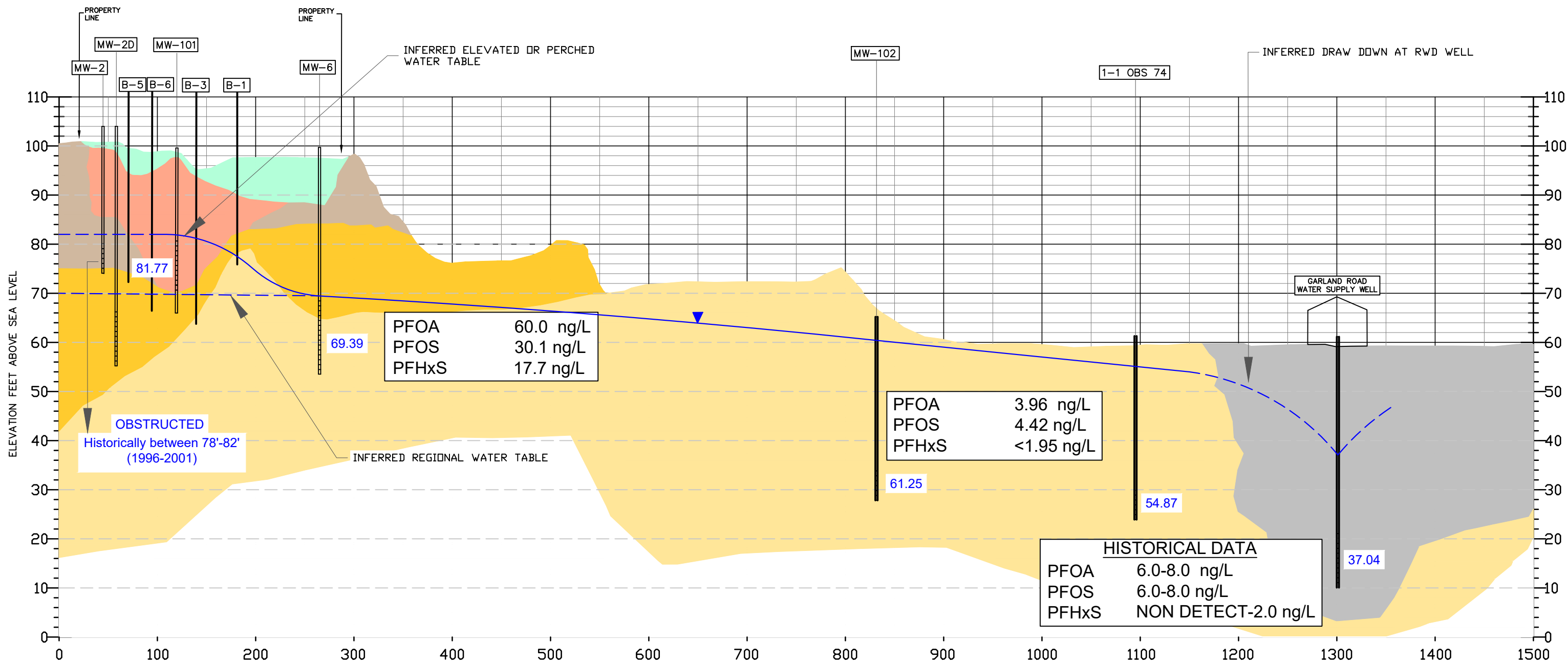
Town of Rye, NH  
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 Rye, New Hampshire  
 Updated Conceptual Site Model

Figure A1 June 2023 Scale: 1" = 125'

# HYDROGEOLOGIC CROSS-SECTION A-A'

A - NORTHWEST

A' - SOUTHEAST

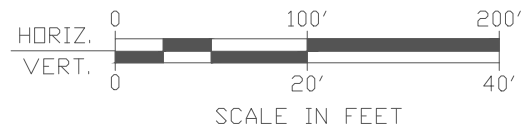


**Legend:**

- |                          |                                       |                                  |  |
|--------------------------|---------------------------------------|----------------------------------|--|
| Monitoring Well Location | Cover                                 | Sandy Clay (Ice-contact deposit) | Water Table                                  |
| Screened Interval        | Waste                                 | Sand (outwash deposit)           | Water Elevation (June 2, 2023)               |
|                          | Brown Sand & Gravel (outwash deposit) | Brown Gravel & Boulders          | PFAS concentrations (April 2023 or as noted) |

**Notes:**

- Geologic cross-section taken from report on Rye Grove Road Landfill Geologic, Cross-Section A-A' by Caswell, Eichler & Hill, Inc. Dated December 1997.
- Groundwater levels measured on June 2, 2023, unless otherwise noted.



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Town of Rye, NH  
 Grove Road Municipal Landfill  
 Rye, New Hampshire

Updated Conceptual Site Model

Figure B (X-Section) Scale: 1" = 100'

# APPENDIX A

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## Summary of Groundwater Testing Results

Table 1:	Groundwater Table Elevations
Table 2:	Field Parameters, Inorganic Compounds, and Metals Analysis
Table 3:	Per- and Polyfluoroalkyl Substances
Table 4:	Per- and Polyfluoroalkyl Substances in Private Water Supply Wells
Table 5:	Per- and Polyfluoroalkyl Substances in Rye Water District Water Supply Wells

GROVE ROAD LANDFILL

Rye, New Hampshire

Table 1 - Groundwater Table Elevations

Groundwater Management Permit No. GWP-198704080-R-005

Well	Date	MP Elevation (ft MSL)	Depth to Water (ft TOPVC)	Groundwater Elevation (ft MSL)
MW-1		110.41		
	11/20/96		38.72	71.69
	12/18/96		38.59	71.82
	04/30/97		37.24	73.17
	07/31/97		42.61	67.80
	11/24/97		Dry @47.5	
	04/15/98		39.69	70.72
	07/29/98		39.18	71.23
	11/17/98		44.29	66.12
	04/29/99		41.86	68.55
	07/27/99		45.75	64.66
	11/18/99		Dry @47.5	
	05/09/00		41.48	68.93
	07/31/00		43.22	67.19
	11/28/00		46.80	63.61
	04/25/01		39.80	70.61
	07/31/01		Dry @47.5	
	11/20/01		Dry @47.5	
	04/24/02		Dry @47.5	
	08/01/02		46.50	63.91
	04/29/03		39.61	70.80
	07/30/03		42.14	68.27
	11/11/03		Dry	
	04/30/04		42.48	67.93
	07/01/04		41.98	68.43
	11/11/04		45.08	65.33
	04/29/05		38.55	71.86
	07/22/05		40.33	70.08
	10/31/05		43.40	67.01
	04/28/06		41.25	69.16
	07/19/06		36.45	73.96
	11/21/06		40.31	70.10
	04/27/07		37.68	72.73
	07/03/07		39.77	70.64
	11/29/07		NS	
	05/01/08		38.65	71.76
	07/02/08		41.21	69.20
	11/03/08		41.43	68.98
	05/01/09		38.62	71.79
	11/11/09		43.40	67.01
	04/29/10		35.84	74.57
	11/04/10		45.70	64.71
	04/29/11		39.42	70.99
	11/22/11		42.37	68.04
	05/01/12		42.67	67.74
	11/20/12		Well Not Sampled - Dry	
	05/01/13		42.75	67.66
	11/26/13		Well Not Sampled - Dry	
	04/30/14		42.55	67.86
	05/01/15		39.93	70.48
	04/29/16		41.95	68.46
	05/24/17		39.18	71.23
	05/01/18		40.86	69.55
	04/02/19		39.63	70.78
	04/30/20		39.92	70.49
	04/09/21		44.37	66.04
	04/19/22		40.88	69.53
	04/03/23		41.06	69.35
	06/02/23		39.75	70.66
MW-2		103.78		
	11/20/96		22.19	81.59
	12/18/96		21.68	82.10
	04/30/97		20.80	82.98
	07/31/97		24.98	78.80
	11/24/97		27.82	75.96
	04/15/98		22.52	81.26
	07/29/98		23.00	80.78
	11/17/98		25.40	78.38
	04/29/99		24.06	79.72
	07/27/99		26.50	77.28
	11/18/99		27.68	76.10
	05/09/00		22.80	80.98
	07/31/00		24.85	78.93
	11/28/00		25.68	78.10
	04/25/01		22.82	80.96
	07/31/01		obstructed	
	11/20/01		obstructed	
	04/24/02		obstructed	
	08/01/02		obstructed	
	07/30/03		obstructed	
	11/11/03		obstructed	
	04/30/04		obstructed	
	07/01/04		obstructed	
	11/11/04		obstructed	
	11/29/07		obstructed	
	06/02/23		dry	
MW-2D	06/02/23	XX	dry	YY

GROVE ROAD LANDFILL

Rye, New Hampshire

Table 1 - Groundwater Table Elevations

Groundwater Management Permit No. GWP-198704080-R-005

Well	Date	MP Elevation (ft MSL)	Depth to Water (ft TOPVC)	Groundwater Elevation (ft MSL)
MW-3		103.15		
	11/20/96		33.05	70.10
	12/18/96		32.94	70.21
	04/30/97		31.88	71.27
	07/31/97		36.25	66.90
	11/24/97		Dry @ 39.0	
	04/15/98		33.63	69.52
	07/29/98		33.34	69.81
	11/17/98		37.90	65.25
	04/29/99		35.71	67.44
	07/27/99		35.71	67.44
	11/18/99		Dry @ 39.0	
	05/09/00		35.73	67.42
	07/31/00		36.81	66.34
	11/28/00		36.81	66.34
	04/25/01		34.26	68.89
	07/31/01		36.57	66.58
	11/20/01		Dry @ 39.0	
	04/24/02		Dry @ 39.0	
	08/01/02		Dry @ 39.0	
	04/29/03		33.72	69.43
	07/30/03		35.91	67.24
	11/11/03		Dry	
	04/30/04		36.55	66.60
	07/01/04		35.77	67.38
	11/11/04		38.34	64.81
	04/29/05		32.89	70.26
	07/22/05		34.19	68.96
	10/31/05		37.31	65.84
	04/28/06		35.08	68.07
	07/19/06		31.61	71.54
	11/21/06		34.54	68.61
	04/27/07		32.34	70.81
	07/03/07		33.72	69.43
	11/29/07		NS	
	05/01/08		32.95	70.20
	07/02/08		35.03	68.12
	11/03/08		35.78	67.37
	05/01/09		32.98	70.17
	11/11/09		37.06	66.09
	04/29/10		30.90	72.25
	11/04/10		Well not sampled - Dry	
	04/29/11		33.45	69.70
	11/22/11		36.35	66.80
	05/01/12		35.72	67.43
	11/20/12		Well not sampled - Dry	
	05/01/13		36.62	66.53
	11/26/13		Well not sampled - Dry	
	04/30/14		35.57	67.58
	05/01/15		33.85	69.30
	04/29/16		35.83	67.32
	05/24/17		33.22	69.93
	05/01/18		34.89	68.26
	04/02/19		33.55	69.60
	04/30/20		33.80	69.35
	04/09/21		38.30	64.85
	04/19/22		34.61	68.54
	04/03/23		35.05	68.10
	06/02/23		33.66	69.49
MW-3D		102.21		
	11/20/96		32.24	69.97
	12/18/96		32.02	70.19
	04/30/97		31.04	71.17
	07/31/97		35.83	66.38
	11/24/97		40.22	61.99
	04/15/98		33.06	69.15
	07/29/98		32.83	69.38
	11/17/98		37.32	64.89
	04/29/99		35.06	67.15
	07/27/99		38.80	63.41
	11/18/99		40.93	61.28
	05/09/00		34.75	67.46
	07/31/00		36.30	65.91
	11/28/00		38.65	63.56
	04/25/01		33.35	68.86
	07/31/01		36.12	66.09
	11/20/01		40.84	61.37
	04/24/02		39.54	62.67
	08/01/02		38.73	63.48
	04/29/03		33.51	68.70
	07/30/03		35.39	66.82
	11/11/03		39.12	63.09
	04/30/04		35.61	66.60
	07/01/04		35.20	67.01
	11/11/04		38.10	64.11
	04/29/05		32.05	70.16

**GROVE ROAD LANDFILL**  
**Rye, New Hampshire**

**Table 1 - Groundwater Table Elevations**  
**Groundwater Management Permit No. GWP-198704080-R-005**

Well	Date	MP Elevation (ft MSL)	Depth to Water (ft TOPVC)	Groundwater Elevation (ft MSL)
	07/22/05		33.81	68.40
	10/31/05		36.45	65.76
	04/28/06		34.49	67.72
	07/19/06		31.18	71.03
	11/21/06		33.60	68.61
	04/27/07		31.31	70.90
	07/03/07		33.41	68.80
	11/29/07		39.79	62.42
	05/01/08		32.10	70.11
	07/02/08		34.52	67.69
	11/03/08		34.64	67.57
	05/01/09		32.20	70.01
	11/11/09		36.46	65.75
	04/29/10		30.11	72.10
	11/04/10		38.73	63.48
	04/29/11		32.77	69.44
	11/22/11		35.56	66.65
	05/01/12		35.72	66.49
	11/20/12		40.73	61.48
	05/01/13		35.91	66.30
	11/26/13		56.74	45.47
	04/30/14		35.66	66.55
	05/01/15		33.26	68.95
	04/29/16		35.14	67.07
	05/24/17		32.48	69.73
	05/01/18		34.03	68.18
	04/02/19		33.01	69.20
	04/30/20		33.30	68.91
	04/09/21		37.32	64.89
	04/19/22		34.11	68.10
	04/03/23		34.28	67.93
	06/02/23		33.18	69.03
MW-4		110.78		
	04/30/97		37.99	72.79
	07/31/97		42.75	68.03
	11/24/97		47.79	62.99
	04/15/98		40.19	70.59
	07/29/98		39.67	71.11
	11/17/98		44.57	66.21
	04/29/99		NS	-
	07/27/99		NS	-
	11/18/99		48.46	62.32
	05/09/00		48.46	62.32
	07/31/00		43.41	67.37
	11/28/00		NS	-
	04/25/01		40.37	70.41
	07/31/01		NS	-
	11/20/01		48.31	62.47
	04/24/02		47.38	63.40
	08/01/02		46.00	64.78
	07/30/03		NS	-
	06/02/23		40.11	70.67
MW-5		91.98		
	11/20/96		22.06	69.92
	12/18/96		21.83	70.15
	04/30/97		20.82	71.16
	07/31/97		25.50	66.48
	11/24/97		29.98	62.00
	04/15/98		22.81	69.17
	07/29/98		22.52	69.46
	11/17/98		27.08	64.90
	04/29/99		24.81	67.17
	07/27/99		28.50	63.48
	11/18/99		30.72	61.26
	05/09/00		24.52	67.46
	07/31/00		26.06	65.92
	11/28/00		28.41	63.57
	04/25/01		23.15	68.83
	07/31/01		25.81	66.17
	11/20/01		30.66	61.32
	04/24/02		29.39	62.59
	08/01/02		28.53	63.45
	04/29/03		22.77	69.21
	07/30/03		25.11	66.87
	11/11/03		28.85	63.13
	04/30/04		25.41	66.57
	07/01/04		24.94	67.04
	11/11/04		27.85	64.13
	04/29/05		21.82	70.16
	07/22/05		23.44	68.54
	10/31/05		26.23	65.75
	04/28/06		24.22	67.76
	07/19/06		20.38	71.60
	11/21/06		23.40	68.58
	04/27/07		21.20	70.78
	07/03/07		23.03	68.95
	11/29/07		29.60	62.38

GROVE ROAD LANDFILL

Rye, New Hampshire

Table 1 - Groundwater Table Elevations

Groundwater Management Permit No. GWP-198704080-R-005

Well	Date	MP Elevation (ft MSL)	Depth to Water (ft TOPVC)	Groundwater Elevation (ft MSL)
	05/01/08		21.84	70.14
	07/02/08		24.13	67.85
	11/03/08		24.43	67.55
	05/01/09		21.81	70.17
	11/11/09		26.20	65.78
	04/29/10		19.83	72.15
	11/04/10		28.45	63.53
	04/29/11		22.56	69.42
	11/22/11		25.31	66.67
	05/01/12		25.41	66.57
	11/20/12		30.53	61.45
	05/01/13		25.62	66.36
	11/26/13		30.05	61.93
	04/30/14		25.46	66.52
	05/01/15		23.01	68.97
	04/29/16		24.89	67.09
	05/24/17		22.28	69.70
	05/01/18		23.88	68.10
	04/02/19		22.71	69.27
	04/30/20		23.02	68.96
	04/09/21		27.18	64.80
	04/19/22		23.80	68.18
	04/03/23		24.08	67.90
	06/02/23		22.88	69.10
MW-6		98.97		
	11/20/96		28.83	70.14
	12/18/96		28.63	70.34
	04/30/97		27.64	71.33
	07/31/97		32.32	66.65
	11/24/97		36.77	62.20
	04/15/98		29.60	69.37
	07/29/98		29.07	69.90
	11/17/98		33.81	65.16
	04/29/99		31.44	67.53
	07/27/99		35.30	63.67
	11/18/99		37.43	61.54
	05/09/00		31.35	67.62
	07/31/00		32.81	66.16
	11/28/00		35.20	63.77
	04/25/01		29.83	69.14
	07/31/01		32.42	66.55
	11/20/01		37.38	61.59
	04/24/02		36.10	62.87
	08/01/02		35.25	63.72
	04/29/03		29.91	69.06
	07/30/03		31.90	67.07
	11/11/03		35.68	63.29
	04/30/04		32.19	66.78
	07/01/04		31.74	67.23
	11/11/04		34.63	64.34
	04/29/05		28.50	70.47
	07/22/05		30.12	68.85
	10/31/05		33.03	65.94
	04/28/06		30.80	68.17
	07/19/06		26.82	72.15
	11/21/06		36.24	62.73
	04/27/07		27.79	71.18
	07/03/07		29.45	69.52
	11/29/07		36.34	62.63
	05/01/08		28.33	70.64
	07/02/08		30.71	68.26
	11/03/08		30.99	67.98
	05/01/09		28.35	70.62
	11/11/09		32.76	66.21
	04/29/10		26.07	72.90
	11/04/10		35.27	63.70
	04/29/11		29.30	69.67
	11/22/11		32.03	66.94
	05/01/12		32.04	66.93
	11/20/12		37.30	61.67
	05/01/13		32.33	66.64
	11/26/13		36.83	62.14
	04/30/14		32.26	66.71
	05/01/15		29.79	69.18
	04/29/16		31.66	67.31
	05/24/17		29.00	69.97
	05/01/18		30.67	68.30
	04/02/19		29.43	69.54
	04/30/20		29.66	69.31
	04/09/21		33.87	65.10
	04/19/22		30.47	68.50
	04/03/23		30.83	68.14
	06/02/23		29.58	69.39
MW-101		100.94		
	11/20/96		19.62	81.32
	12/18/96		19.07	81.87
	04/30/97		18.37	82.57



GROVE ROAD LANDFILL

Rye, New Hampshire

Table 1 - Groundwater Table Elevations

Groundwater Management Permit No. GWP-198704080-R-005

Well	Date	MP Elevation (ft MSL)	Depth to Water (ft TOPVC)	Groundwater Elevation (ft MSL)
	07/31/97		22.34	78.60
	11/24/97		24.69	76.25
	04/15/98		19.91	81.03
	07/29/98		20.43	80.51
	11/17/98		22.81	78.13
	04/29/99		21.45	79.49
	07/27/99		23.95	76.99
	11/18/99		25.47	75.47
	05/09/00		20.29	80.65
	07/31/00		22.31	78.63
	11/28/00		23.14	77.80
	04/25/01		20.46	80.48
	07/31/01		22.31	78.63
	11/20/01		27.13	73.81
	04/24/02		23.82	77.12
	08/01/02		23.51	77.43
	04/29/03		19.53	81.41
	07/30/03		21.71	79.23
	11/11/03		24.13	76.81
	04/30/04		20.70	80.24
	07/01/04		21.26	79.68
	11/11/04		23.44	77.50
	04/29/05		19.38	81.56
	07/22/05		20.99	79.95
	10/31/05		20.91	80.03
	04/28/06		21.22	79.72
	07/19/06		18.64	82.30
	11/21/06		19.66	81.28
	04/27/07		18.40	82.54
	07/03/07		20.75	80.19
	11/29/07		25.49	75.45
	05/01/08		16.69	84.25
	07/02/08		21.00	79.94
	11/03/08		20.98	79.96
	05/01/09		19.21	81.73
	11/11/09		22.40	78.54
	04/29/10		18.12	82.82
	11/04/10		23.69	77.25
	04/29/11		19.16	81.78
	11/22/11		21.08	79.86
	05/01/12		21.53	79.41
	11/20/12		26.77	74.17
	05/01/13		20.95	79.99
	11/26/13		26.08	74.86
	04/30/14		20.38	80.56
	05/01/15		18.73	82.21
	04/29/16		20.54	80.40
	05/24/17		18.75	82.19
	05/01/18		18.82	82.12
	04/02/19		19.19	81.75
	04/30/20		18.94	82.00
	04/09/21		21.09	79.85
	04/19/22		19.68	81.26
	04/03/23		10.19	90.75
	06/02/23		19.17	81.77
MW-102		71.57		
	07/16/98		9.25	62.32
	07/29/98		10.25	61.32
	11/17/98		12.77	58.80
	04/29/99		11.13	60.44
	07/27/99		15.00	56.57
	11/18/99		16.10	55.47
	05/09/00		10.58	60.99
	07/31/00		12.27	59.30
	11/28/00		13.64	57.93
	04/25/01		9.87	61.70
	07/31/01		12.46	59.11
	11/20/01		15.82	55.75
	04/24/02		14.33	57.24
	08/01/02		15.30	56.27
	04/29/03		9.37	62.20
	07/30/03		12.30	59.27
	11/11/03		14.26	57.31
	04/30/04		11.16	60.41
	07/01/04		11.67	59.90
	11/11/04		13.59	57.98
	04/29/05		8.62	62.95
	07/22/05		11.00	60.57
	10/31/05		12.03	59.54
	04/28/06		10.74	60.83
	07/19/06		8.47	63.10
	11/21/06		9.74	61.83
	04/27/07		8.15	63.42
	07/03/07		10.84	60.73
	11/29/07		14.88	56.69
	05/01/08		8.69	62.88
	07/02/08		10.98	60.59
	11/03/08		10.64	60.93

GROVE ROAD LANDFILL

Rye, New Hampshire

Table 1 - Groundwater Table Elevations

Groundwater Management Permit No. GWP-198704080-R-005

Well	Date	MP Elevation (ft MSL)	Depth to Water (ft TOPVC)	Groundwater Elevation (ft MSL)
	05/01/09		8.82	62.75
	11/11/09		12.12	59.45
	04/29/10		7.70	63.87
	11/04/10		14.35	57.22
	04/29/11		9.20	62.37
	11/22/11		11.41	60.16
	05/01/12		11.37	60.20
	11/20/12		15.73	55.84
	05/01/13		11.75	59.82
	11/26/13		15.46	56.11
	04/30/14		11.40	60.17
	05/01/15		9.48	62.09
	04/29/16		11.14	60.43
	05/24/17		9.21	62.36
	05/01/18		9.81	61.76
	04/02/19		9.26	62.31
	04/30/20		9.70	61.87
	04/09/21		12.60	58.97
	04/19/22		10.35	61.22
	04/03/23		10.25	61.32
	06/02/23		10.32	61.25
TW 15-74		67.15		
	07/29/98		2.44	64.71
	11/17/98		5.76	61.39
	04/29/99		3.75	63.40
	07/27/99		7.58	59.57
	11/18/99		9.09	58.06
	05/09/00		3.20	63.95
	07/31/00		5.01	62.14
	11/28/00		6.75	60.40
	04/25/01		2.42	64.73
	07/31/01		5.08	62.07
	11/20/01		9.01	58.14
	04/24/02		7.48	59.67
	08/01/02		7.72	59.43
	04/29/03		1.88	65.27
	07/30/03		4.68	62.47
	11/11/03		7.34	59.81
	04/30/04		4.00	63.15
	07/01/04		4.19	62.96
	11/11/04		6.55	60.60
	04/29/05		1.21	65.94
	07/22/05		3.23	63.92
	10/31/05		4.90	62.25
	04/28/06		3.40	63.75
	07/19/06		Overflowing	
	11/21/06		2.48	64.67
	04/27/07		0.65	66.50
	07/03/07		2.95	64.20
	11/29/07		8.03	59.12
	05/01/08		1.23	65.92
	07/02/08		3.50	63.65
	11/03/08		3.39	63.76
	05/01/09		1.31	65.84
	11/11/09		5.02	62.13
	04/29/10		0.00	67.15
	11/04/10		0.25	66.90
	04/29/11		1.78	65.37
	11/22/11		4.20	62.95
	05/01/12		4.26	62.89
	11/20/12		8.92	58.23
	05/01/13		4.48	62.67
	11/26/13		8.56	58.59
	04/30/14		4.16	62.99
	05/01/15		2.21	64.94
	04/29/16		3.88	63.27
	05/24/17		1.73	65.42
	05/01/18		2.70	64.45
	04/02/19		2.08	65.07
	04/30/20		2.32	64.83
	04/09/21		5.59	61.56
	04/19/22		3.04	64.11
	04/03/23		3.02	64.13
	06/02/23		2.61	64.54

**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 2 - Field Indicator Parameters, Inorganic Compounds, and Metals Analysis**

**Groundwater Management Permit No. GWP-198704080-R-005**

Well	Date	Specific								
		Conductance (umhos/cm)	pH (units)	Cl (mg/l)	NO <sub>3</sub> (mg/l)	TKN (mg/l)	Fe (mg/l)	Mn (mg/l)	Turbidity (NTU)	As (mg/l)
	<b>AGQS/RCMP</b>			NL	10.0	NL	NL	0.30	NL	<b>0.005</b>
	<b>SMCL</b>			250	NL	NL	0.30	0.050	NL	NL
MW-1										
	11/20/96	355	6.09	<b>57</b>	<b>2.9</b>	< 0.5	< 0.01	<b>0.009</b>		-
	12/18/96	-		-	-	-	-	-		
	04/30/97	323	6.59	<b>72</b>	<b>3</b>	< 0.5	< 0.01	<0.005		< 0.01
	07/31/97	316	6	<b>70</b>	<b>3.1</b>	< 0.5	<b>0.16</b>	<0.005		< 0.01
	11/24/97	NS	NS	NS	NS	NS	NS	NS		NS
	04/15/98	293	5.16	<b>57</b>	<b>3.1</b>	< 0.5	<b>0.01</b>	<b>0.055</b>		-
	07/29/98	72.3	6.38	<b>58</b>	<b>3.9</b>	-	<b>0.88</b>	<b>0.11</b>		-
	11/17/98	318	6.26	<b>72</b>	<b>3.5</b>	<0.5	<b>0.02</b>	<b>0.15</b>		-
	04/29/99	289	6.17	<b>60</b>	<b>3.3</b>	<0.5	<b>0.02</b>	<b>0.01</b>		-
	07/27/99	-	-	<b>61</b>	<b>2.7</b>	<0.5	<b>0.09</b>	<b>0.5</b>		-
	11/18/99	-	-	NS	NS	NS	NS	NS		-
	05/09/00	291	5.94	<b>51</b>	<b>3.1</b>	<0.5	<b>0.07</b>	<0.005		-
	07/31/00	273	7.18	<b>62</b>	<b>3.3</b>	<0.5	<b>0.1</b>	<b>0.008</b>		< 0.01
	11/28/00	NS	NS	NS	NS	NS	NS	NS		-
	04/25/01	311	5.18	<b>67</b>	<b>1.9</b>	< 0.5	<b>0.01</b>	<b>0.006</b>		-
	07/31/01	NS	NS	NS	NS	NS	NS	NS		-
	11/20/01	NS	NS	NS	NS	NS	NS	NS		-
	04/24/02	NS	NS	NS	NS	NS	NS	NS		-
	08/01/02	NS	NS	NS	NS	NS	NS	NS		-
	04/29/03	360	6.1	<b>72</b>	<b>4.2</b>	<0.5	<0.05	<0.005		-
	07/30/03	360	6.2	<b>77</b>	<b>4.1</b>	<0.5	<0.05	<0.005		<0.001
	11/11/03	Unable to Sample -Dry								
	04/30/04	370	6.1	<b>77</b>	<b>4</b>	<0.5	<0.05	<0.005		-
	07/01/04	370	6.5	<b>77</b>	<b>4.1</b>	<0.5	<0.05	<0.005		-
	11/11/04	390	6.3	<b>75</b>	<b>4.2</b>	<0.5	<b>0.35</b>	<b>0.33</b>		-
	04/29/05	310	5.9	<b>70</b>	<b>4.4</b>	<0.5	<0.5	<0.005		-
	07/22/05	350	6	<b>71</b>	<b>4.1</b>	<0.5	<0.05	<b>0.006</b>		-
	10/31/05	370	6.2	<b>69</b>	<b>3.9</b>	<0.5	<0.05	<b>0.015</b>		-
	04/28/06	360	6.3	<b>76</b>	<b>3.8</b>	<0.5	<0.05	<0.005		-
	07/19/06	310	5.9	<b>59</b>	<b>2.9</b>	<0.5	<0.05	<0.005		-
	11/21/06	380	6.3	<b>74</b>	<b>3.6</b>	<0.5	<0.05	<0.005		-
	04/27/07	300	7.5	<b>55</b>	<b>3.5</b>	<0.5	<0.05	<0.005		-
	07/03/07	300	7.2	<b>54</b>	<b>3.1</b>	<0.5	<0.05	<0.005		<0.001
	11/29/07	Unable to Sample -Dry								
	05/01/08	310	6.6	<b>63</b>	<b>3.3</b>	<0.5	<0.05	<0.005		-
	07/02/08	290	<0.5	<b>56</b>	<b>3.1</b>	<0.5	<0.05	<0.005		-
	11/03/08	330	6.3	<b>63</b>	<b>3.8</b>	<0.5	<0.05	<0.005		-
	05/01/09	350	6.5	<b>72</b>	<b>3.2</b>	<0.5	<0.05	<0.005		-
	11/11/09	330	6.3	<b>66</b>	<b>3.1</b>	<0.5	<0.05	<0.005		-
	04/29/10	310	6.3	<b>64</b>	<b>2.8</b>	<0.5	<0.05	<0.005		-
	11/04/10	300	6.0	<b>56</b>	<b>2.7</b>	<0.5	<0.05	<b>0.031</b>		<0.001

**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 2 - Field Indicator Parameters, Inorganic Compounds, and Metals Analysis**

**Groundwater Management Permit No. GWP-198704080-R-005**

Well	Date	Specific								
		Conductance (umhos/cm)	pH (units)	Cl (mg/l)	NO <sub>3</sub> (mg/l)	TKN (mg/l)	Fe (mg/l)	Mn (mg/l)	Turbidity (NTU)	As (mg/l)
	<b>AGQS/RCMP</b>			NL	10.0	NL	NL	0.30	NL	<b>0.005</b>
	<b>SMCL</b>			250	NL	NL	0.30	0.050	NL	NL
	04/29/11	310	6.0	<b>62</b>	<b>3.3</b>	<0.5	<0.05	<0.005		-
	11/22/11	320	7.0	<b>59</b>	<b>3.5</b>	<0.5	<0.05	<0.005		-
	05/01/12	320	6.7	<b>63</b>	<b>3.2</b>	<0.5	<0.05	<0.005		-
	11/20/12	Unable to Sample -Dry								
	05/01/13	330	6.4	<b>55</b>	<b>3.5</b>	<0.5	<0.05	<0.005		-
	11/26/13	Unable to Sample -Dry								
	04/30/14	320	6.4	<b>58</b>	<b>4.3</b>	<0.5	<0.05	<0.005		-
	05/01/15	310	6.4	<b>62</b>	<b>4.1</b>	<0.5	<0.05	<0.005		-
	04/29/16	320	6.1	<b>62</b>	<b>4.5</b>	<0.5	<0.05	<0.005		-
	05/24/17	320	6.2	<b>65</b>	<b>4.4</b>	<0.5	<0.05	<0.005		-
	05/01/18	340	6.06	<b>64</b>	<b>5.0</b>	<0.5	<0.05	<0.005	<b>270</b>	-
	04/02/19	310	6.32	<b>58</b>	<b>4.3</b>	<0.5	<0.05	<0.005	<b>97</b>	<0.001
	04/30/20	320	6.64	<b>59</b>	<b>4.1</b>	<0.5	<0.05	<0.005	<b>210</b>	<0.001
	04/09/21	320	5.61	<b>61</b>	<b>3.6</b>	<0.5	<0.05	<0.005	<b>110</b>	<0.001
	04/19/22	300	6.09	<b>56</b>	<b>3.8</b>	<0.5	<0.05	<0.005	<b>26</b>	<0.0005
	04/03/23	320	5.82	<b>55</b>	<b>4.3</b>	<0.5	<0.05	<0.005	<b>200</b>	<0.0005
MW-2			49							
	11/20/96	190	5.56	<b>41</b>	<b>1.4</b>	<b>1.3</b>	<b>0.28</b>	<b>0.9</b>		-
	12/18/96	-		-	-	-	-	-		
	04/30/97	222	5.94	<b>42</b>	<b>1.3</b>	< 0.5	<b>0.12</b>	<b>0.72</b>		< 0.01
	07/31/97	179	5.5	<b>28</b>	<b>0.8</b>	< 0.5	<b>1.7</b>	<b>0.61</b>		< 0.01
	11/24/97	150	5.12	<b>44</b>	<b>1.2</b>	< 0.5	<b>0.12</b>	<b>0.01</b>		-
	04/15/98	197	5.03	<b>18</b>	<b>3.7</b>	< 0.5	<b>0.58</b>	<b>0.66</b>		-
	07/29/98	40.8	5.85	<b>15</b>	<b>1.1</b>	< 0.5	<b>0.41</b>	<b>0.4</b>		-
	11/17/98	191.1	5.56	<b>35</b>	<b>0.9</b>	< 0.5	<0.01	<b>0.32</b>		-
	04/29/99	200	5.68	<b>18</b>	<b>0.7</b>	< 0.5	<b>1</b>	<b>0.83</b>		-
	07/27/99	197	5.25	<b>18</b>	<b>1.3</b>	< 0.5	<b>0.18</b>	<b>0.052</b>		-
	11/18/99	182.7	5.67	<b>16</b>	<b>1.3</b>	< 0.5	<b>0.03</b>	<b>0.011</b>		-
	05/09/00	380	6.03	<b>15</b>	<0.5	<b>0.9</b>	<b>4.3</b>	<b>1.5</b>		-
	07/31/00	225	5.92	<b>16</b>	<b>1.2</b>	<b>1</b>	<b>0.98</b>	<b>0.85</b>		< 0.01
	11/28/00	261	6.23	<b>23</b>	<b>1.1</b>	<0.5	<b>0.23</b>	<b>0.37</b>		-
	04/25/01	194	5.26	<b>17</b>	< 0.5	<0.5	<b>0.65</b>	<b>0.49</b>		-
	07/31/01	NS	NS	NS	NS	NS	NS	NS		-
	11/20/01	NS	NS	NS	NS	NS	NS	NS		-
	04/24/02	280	6.51	<b>19</b>	<b>0.9</b>	<b>0.6</b>	<b>0.51</b>	<b>0.43</b>		-
	08/01/02	295	6.27	<b>26</b>	<b>2.5</b>	<b>0.9</b>	<b>0.05</b>	<b>0.49</b>		-
	07/30/03	Unable to Sample, Well Plugged								
	11/11/03	Unable to Sample, Well Damaged								
	04/30/04	Unable to Sample, Well Damaged								
	07/01/04	Unable to Sample, Well Damaged								
	11/11/04	Unable to Sample, Well Damaged								
	11/29/07	Unable to Sample, Well Damaged								

**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 2 - Field Indicator Parameters, Inorganic Compounds, and Metals Analysis**

**Groundwater Management Permit No. GWP-198704080-R-005**

Well	Date	Specific								
		Conductance (umhos/cm)	pH (units)	Cl (mg/l)	NO <sub>3</sub> (mg/l)	TKN (mg/l)	Fe (mg/l)	Mn (mg/l)	Turbidity (NTU)	As (mg/l)
	<b>AGQS/RCMP</b>			NL	10.0	NL	NL	0.30	NL	<b>0.005</b>
	<b>SMCL</b>			250	NL	NL	0.30	0.050	NL	NL
MW-3										
	11/20/96	777	5.96	7	1	< 0.5	< 0.01	<b>0.025</b>		-
	12/18/96	-		-	-	-	-	-		
	04/30/97	392	5.93	18	2.4	0.6	0.61	<b>0.053</b>		< 0.01
	07/31/97	350	6.4	15	2.7	5.7	0.17	<b>0.15</b>		< 0.01
	11/24/97	NS	NS	NS	NS	NS	NS	NS		NS
	04/15/98	321	5.87	8	1.4	< 0.5	0.28	<b>0.02</b>		-
	07/29/98	165	6	8	2.4	< 0.5	0.72	<b>0.13</b>		-
	11/17/98	628	6.36	11	<0.5	13	0.05	<b>0.73</b>		-
	04/29/99	747	6.22	10	3.2	10	9	<b>0.68</b>		-
	07/27/99	NS	NS	NS	NS	NS	NS	NS		-
	11/18/99	NS	NS	NS	NS	NS	NS	NS		-
	05/09/00	810	6.45	10	0.7	8.5	0.05	<b>6.6</b>		-
	07/31/00	707	6.55	10	0.6	9.4	<0.01	<b>5.8</b>		< 0.01
	11/28/00	NS	NS	NS	NS	NS	NS	NS		-
	04/25/01	324	6.1	7	2.8	1.5	0.73	<b>0.42</b>		-
	07/31/01	NS	NS	NS	NS	NS	NS	NS		-
	11/20/01	NS	NS	NS	NS	NS	NS	NS		-
	04/24/02	NS	NS	NS	NS	NS	NS	NS		-
	08/01/02	NS	NS	NS	NS	NS	NS	NS		-
	04/29/03	290	5.9	25	<0.5	<0.5	0.1	<0.005		-
	07/30/03	420	6.3	17	<0.5	<0.5	<0.05	<b>0.011</b>		<0.001
	11/11/03	Unable to Sample -Dry								
	04/30/04	800	6.4	12	<0.5	8.7	<0.05	<b>6.4</b>		-
	07/01/04	320	6.4	17	<0.5	1.9	<0.05	<b>0.093</b>		-
	11/11/04	390	6.5	10	<0.5	11	<0.05	<b>7.1</b>		-
	04/29/05	590	6	16	<0.5	6.7	<0.05	<b>2.7</b>		-
	07/22/05	510	6	5	4.1	0.7	<0.05	<b>0.088</b>		-
	10/31/05	550	6.3	25	<0.5	7.9	<0.05	<b>1.5</b>		-
	04/28/06	390	6	8	0.9	<0.5	<0.05	<0.005		-
	07/19/06	680	6.1	11	0.6	2.8	<0.05	<b>0.38</b>		-
	11/21/06	590	6.1	8	<0.5	5.8	<0.05	<b>1.4</b>		-
	04/27/07	510	6	7	10	0.8	<0.05	<b>0.42</b>		-
	07/03/07	750	6.3	5	15	3.1	<0.05	<b>0.4</b>		<0.001
	11/29/07	Unable to Sample -Dry								
	05/01/08	710	6.2	7	1.9	7.1	1.5	<b>1.1</b>		-
	07/02/08	510	6.3	6	10	<0.5	<0.05	<0.005		-
	11/03/08	670	6.3	8	21	<0.5	<0.05	<b>0.007</b>		-
	05/01/09	590	6.3	5	3.2	2.1	<0.05	<b>0.16</b>		-
	11/11/09	520	6.3	12	0.6	5.6	<0.05	<b>0.21</b>		-
	04/29/10	630	6.2	6	<0.5	1.8	0.09	<b>0.006</b>		-
	11/04/10	Well not sampled - Dry								
	04/29/11	440	6.0	9	4.2	<0.5	<0.05	<0.005		-
	11/22/11	650	6.6	5	0.8	6.6	3.5	<b>2.3</b>		-

**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 2 - Field Indicator Parameters, Inorganic Compounds, and Metals Analysis**

**Groundwater Management Permit No. GWP-198704080-R-005**

Well	Date	Specific								
		Conductance (umhos/cm)	pH (units)	Cl (mg/l)	NO <sub>3</sub> (mg/l)	TKN (mg/l)	Fe (mg/l)	Mn (mg/l)	Turbidity (NTU)	As (mg/l)
	<b>AGQS/RCMP</b>			NL	10.0	NL	NL	0.30	NL	<b>0.005</b>
	<b>SMCL</b>			250	NL	NL	0.30	0.050	NL	NL
	05/01/12	490	6.6	<b>12</b>	<b>3.2</b>	<b>1.3</b>	<0.05	<b>0.044</b>		-
	11/20/12	Unable to Sample -Dry								
	05/01/13	700	6.3	<b>8</b>	<b>1.4</b>	<b>8</b>	<0.05	<b>0.73</b>		-
	11/26/13	Unable to Sample -Dry								
	04/30/14	680	6.5	<b>9</b>	<b>0.5</b>	<b>4.9</b>	<0.05	<b>0.29</b>		-
	05/01/15	300	6.4	<b>13</b>	<0.5	<0.5	<0.05	<0.005		-
	04/29/16	580	6.2	<b>10</b>	<0.5	<b>1.9</b>	<0.05	<b>0.2</b>		-
	05/24/17	280	6	<b>11</b>	<0.5	<0.5	<0.05	<0.005		-
	05/01/18	310	6.07	<b>14</b>	<0.5	<0.5	<0.05	<b>0.0068</b>	<b>38</b>	-
	04/02/19	280	6.08	<b>7.7</b>	<0.5	<b>1.0</b>	<0.05	<0.005	<b>76</b>	<0.001
	04/30/20	200	6.02	<b>12</b>	<0.5	<0.5	<0.05	<0.005	<b>40</b>	<0.001
	04/09/21	580	6.14	<b>7.1</b>	<0.5	<b>0.51</b>	<0.05	<b>0.013</b>	<b>120</b>	<0.001
	04/19/22	240	6.03	<b>9.6</b>	<0.5	<0.5	<0.05	<0.005	<b>2</b>	<0.0005
	04/03/23	280	5.65	<b>12</b>	<0.5	<0.5	<0.05	<0.005	<b>17</b>	<0.0005
MW-3D										
	11/20/96	560	6.7	<b>37</b>	<b>4.8</b>	<0.5	<0.01	<b>0.038</b>		-
	12/18/96	-		-	-	-	-	-		
	04/30/97	753	6.79	<b>47</b>	<b>6.8</b>	<0.5	<b>0.03</b>	<0.005		<0.01
	07/31/97	650	6.7	<b>45</b>	<b>4.4</b>	<0.5	<b>0.2</b>	<b>0.018</b>		<0.01
	11/24/97	350	6.46	<b>42</b>	<b>3.2</b>	<0.5	<b>0.2</b>	<b>0.011</b>		-
	04/15/98	680	6.61	<b>44</b>	<b>3.6</b>	<0.5	<b>0.06</b>	<b>0.014</b>		-
	07/29/98	182	6.58	<b>46</b>	<b>5.7</b>	<0.5	<b>1.1</b>	<b>0.095</b>		-
	11/17/98	625	6.62	<b>45</b>	<b>4.1</b>	<0.5	<0.01	<0.005		-
	04/29/99	653	6.7	<b>44</b>	<b>3.8</b>	<0.5	<b>0.01</b>	<b>0.054</b>		-
	07/27/99	651	6.15	<b>50</b>	<b>3</b>	<0.5	<b>0.04</b>	<b>0.021</b>		-
	11/18/99	561	6.58	<b>49</b>	<b>2.8</b>	<0.5	<0.01	<b>0.021</b>		-
	05/09/00	640	6.82	<b>51</b>	<b>3</b>	<0.5	<b>0.06</b>	<b>0.014</b>		-
	07/31/00	549	6.96	<b>56</b>	<b>3.6</b>	<0.5	<b>0.01</b>	<b>0.006</b>		<0.01
	11/28/00	599	6.59	<b>56</b>	<b>3.4</b>	<0.5	<0.01	<b>0.027</b>		-
	04/25/01	652	6.28	<b>52</b>	<b>2.5</b>	<0.5	<0.01	<b>0.009</b>		-
	07/31/01	688	6.91	<b>55</b>	<b>5</b>	<0.5	<b>0.21</b>	<b>0.012</b>		-
	11/20/01	745	6.51	<b>55</b>	<b>3.6</b>	<0.5	<0.01	<b>0.011</b>		-
	04/24/02	620	6.87	<b>60</b>	<b>3.6</b>	<0.5	<0.01	<b>0.011</b>		-
	08/01/02	404	6.97	<b>62</b>	<b>3.6</b>	<0.5	<0.01	<b>0.014</b>		-
	04/29/03	650	6.6	<b>65</b>	<b>3.7</b>	<0.5	<0.05	<b>0.007</b>		-
	07/30/03	650	6.7	<b>61</b>	<b>5</b>	<0.5	<0.05	<0.005		<0.001
	11/11/03	610	6.5	<b>58</b>	<b>3.8</b>	<0.5	<0.05	<b>0.016</b>		-
	04/30/04	680	6.5	<b>56</b>	<b>4</b>	<0.5	<0.05	<b>0.007</b>		-
	07/01/04	680	6.7	<b>57</b>	<b>4.4</b>	<0.5	<0.05	<b>0.012</b>		-
	11/11/04	660	6.7	<b>54</b>	<b>3.8</b>	<0.5	<0.05	<b>0.007</b>		-
	04/29/05	600	6.5	<b>53</b>	<b>5.2</b>	<0.5	<0.05	<b>0.006</b>		-
	07/22/05	680	6.7	<b>55</b>	<b>5.7</b>	<0.5	<0.05	<0.005		-
	10/31/05	680	6.6	<b>47</b>	<b>4.1</b>	<0.5	<0.05	<0.005		-

**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 2 - Field Indicator Parameters, Inorganic Compounds, and Metals Analysis**

**Groundwater Management Permit No. GWP-198704080-R-005**

Well	Date	Specific								
		Conductance (umhos/cm)	pH (units)	Cl (mg/l)	NO <sub>3</sub> (mg/l)	TKN (mg/l)	Fe (mg/l)	Mn (mg/l)	Turbidity (NTU)	As (mg/l)
	<b>AGQS/RCMP</b>			NL	10.0	NL	NL	0.30	NL	<b>0.005</b>
	<b>SMCL</b>			250	NL	NL	0.30	0.050	NL	NL
	04/28/06	690	6.6	<b>59</b>	<b>4.9</b>	<0.5	<0.05	<0.005		-
	07/19/06	480	6.4	<b>79</b>	<b>3.8</b>	<0.5	<0.05	<0.005		-
	11/21/06	690	6.7	<b>63</b>	<b>4.3</b>	<0.5	<b>0.09</b>	<0.005		-
	04/27/07	720	7.4	<b>72</b>	<b>5.7</b>	<0.5	<0.05	<0.005		-
	07/03/07	720	6.7	<b>70</b>	<b>5.8</b>	<0.5	<0.05	<0.005		<0.001
	11/29/07	650	6.1	<b>51</b>	<b>3.3</b>	<0.5	<0.05	<0.005		-
	05/01/08	660	6.6	<b>54</b>	<b>4.4</b>	<0.5	<0.05	<0.005		-
	07/02/08	640	6.5	<b>54</b>	<b>4.9</b>	<0.5	<0.05	<0.005		-
	11/03/08	650	6.7	<b>52</b>	<b>5.1</b>	<0.5	<0.05	<0.005		-
	05/01/09	670	6.7	<b>51</b>	<b>5.4</b>	<0.5	<0.05	<0.005		-
	11/11/09	660	6.8	<b>52</b>	<b>5.0</b>	<0.5	<0.05	<b>0.007</b>		-
	04/29/10	450	6.9	<b>77</b>	<b>2.8</b>	<0.5	<0.05	<0.005		-
	11/04/10	640	6.8	<b>52</b>	<b>3.6</b>	<0.5	<0.05	<0.005		<0.001
	04/29/11	630	6.5	<b>58</b>	<b>3.5</b>	<0.5	<0.05	<0.005		-
	11/22/11	630	6.9	<b>51</b>	<b>3.5</b>	<0.5	<0.05	<0.005		-
	05/01/12	620	6.6	<b>51</b>	<b>3.7</b>	<0.5	<0.05	<0.005		-
	11/20/12	980	6.8	<b>43</b>	<b>3.1</b>	<0.5	<0.05	<0.005		-
MW-4						<0.5				
	04/30/97	1296	6.61	<b>36</b>	<0.5	<0.5	<b>0.07</b>	<b>14</b>		< 0.01
	07/31/97	1035	6.4	<b>26</b>	<0.5	<0.5	<b>0.34</b>	<b>13</b>		< 0.01
	11/24/97	NS	NS	NS	NS	<0.5	NS	NS		NS
	04/15/98	NS	NS	NS	NS	<0.5	NS	NS		NS
	07/29/98	NS	NS	NS	NS	<0.5	NS	NS		NS
	11/17/98	NS	NS	NS	NS	<0.5	NS	NS		NS
	04/29/99	NS	NS	NS	NS	<0.5	NS	NS		NS
	07/27/99	NS	NS	NS	NS	<0.5	NS	NS		NS
	11/18/99	NS	NS	NS	NS	<0.5	NS	NS		NS
	05/09/00	NS	NS	NS	NS	<0.5	NS	NS		NS
	07/31/00	NS	NS	NS	NS	<0.5	NS	NS		NS
	11/28/00	NS	NS	NS	NS	<0.5	NS	NS		NS
	04/25/01	NS	NS	NS	NS	<0.5	NS	NS		NS
	07/31/01	NS	NS	NS	NS	<0.5	NS	NS		NS
	11/20/01	NS	NS	NS	NS	<0.5	NS	NS		NS
	04/24/02	NS	NS	NS	NS	<0.5	NS	NS		NS
	08/01/02	NS	NS	NS	NS	<0.5	NS	NS		NS
	07/30/03	No Sample, Not required				<0.5				
						<0.5				
	05/01/13	590	6.9	<b>43</b>	<b>3.1</b>	<0.5	<0.05	<0.005		-
	11/26/13	560	6.7	<b>43</b>	<b>3.5</b>	<b>0.6</b>	<0.05	<0.005		<0.001
	04/30/14	590	6.8	<b>43</b>	<b>3.6</b>	<0.5	<0.05	<0.005		-
	05/01/15	550	6.9	<b>46</b>	<b>3.8</b>	<0.5	<0.05	<0.005		-
	04/29/16	600	6.7	<b>47</b>	<b>3.6</b>	<0.5	<0.05	<0.005		-
	05/24/17	570	6.7	<b>53</b>	<b>3.4</b>	<0.5	<0.05	<0.005		-
	05/01/18	580	6.40	<b>48</b>	<b>3.7</b>	<0.5	<0.05	<0.005	<b>52</b>	-

**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 2 - Field Indicator Parameters, Inorganic Compounds, and Metals Analysis**

**Groundwater Management Permit No. GWP-198704080-R-005**

Well	Date	Specific								
		Conductance (umhos/cm)	pH (units)	Cl (mg/l)	NO <sub>3</sub> (mg/l)	TKN (mg/l)	Fe (mg/l)	Mn (mg/l)	Turbidity (NTU)	As (mg/l)
	<b>AGQS/RCMP</b>			NL	10.0	NL	NL	0.30	NL	<b>0.005</b>
	<b>SMCL</b>			250	NL	NL	0.30	0.050	NL	NL
	04/02/19	590	6.76	<b>54</b>	<b>5.2</b>	<0.5	<0.05	<0.005	<b>20</b>	<0.001
	04/30/20	580	6.40	<b>51</b>	<b>4.2</b>	<0.5	<0.05	<0.005	<b>36</b>	<0.001
	04/09/21	520	6.32	<b>52</b>	<b>3.2</b>	<0.5	<0.05	<0.005	<b>25</b>	<0.001
	04/19/22	550	6.54	<b>52</b>	<b>4.4</b>	<b>0.87</b>	<0.05	<0.005	<b>6</b>	<b>0.00053</b>
	04/03/23	560	6.21	<b>46</b>	<b>3.6</b>	<0.5	<0.05	<0.005	<b>14</b>	<b>0.00069</b>
MW-5										
	11/20/96	288	6	<b>39</b>	<b>1.8</b>	< 0.5	<b>0.02</b>	<b>0.007</b>		-
	12/18/96	-		-	-	-	-	-		
	04/30/97	274	6.33	<b>62</b>	<b>2.4</b>	< 0.5	<b>0.13</b>	<b>0.018</b>		< 0.01
	07/31/97	166	6.1	<b>16</b>	<b>0.7</b>	< 0.5	<b>0.15</b>	<b>0.045</b>		< 0.01
	11/24/97	110	5.33	<b>19</b>	<b>0.8</b>	< 0.5	<b>0.15</b>	<b>0.024</b>		-
	04/15/98	130.6	5.53	<b>9</b>	<b>0.5</b>	< 0.5	<0.01	<0.005		-
	07/29/98	35.3	6.36	<b>8</b>	<0.5	< 0.5	<b>0.88</b>	<b>0.064</b>		-
	11/17/98	51.7	6.12	<b>11</b>	<0.5	< 0.5	<0.01	<0.005		-
	04/29/99	134	6.11	<b>12</b>	<b>0.5</b>	< 0.5	<0.01	<b>0.011</b>		-
	07/27/99	151	5.68	<b>10</b>	<0.5	< 0.5	<b>0.01</b>	<0.005		-
	11/18/99	109.4	6.31	<b>5</b>	<0.5	< 0.5	<b>0.01</b>	<0.005		-
	05/09/00	134	6.69	<b>10</b>	<0.5	< 0.5	<0.01	<0.005		-
	07/31/00	110	7.09	<b>4</b>	<0.5	< 0.5	<b>0.11</b>	<0.005		< 0.01
	11/28/00	128	6.39	<b>8</b>	<0.5	< 0.5	<0.01	<0.005		-
	04/25/01	235	5.19	<b>53</b>	<0.5	< 0.5	<0.01	<0.005		-
	07/31/01	235	6.79	<b>10</b>	<0.5	<0.5	<b>0.03</b>	<0.005		-
	11/20/01	155	6.25	<b>10</b>	<0.5	<0.5	<0.01	<0.005		-
	04/24/02	292	6.91	<b>54</b>	<b>2.3</b>	<0.5	<b>0.02</b>	<b>0.007</b>		-
	08/01/02	128	6.92	<b>5</b>	< 0.5	<0.5	< 0.01	< 0.005		-
	04/29/03	140	6.4	<b>9</b>	<b>0.5</b>	<0.5	<0.05	<0.005		-
	07/30/03	130	6.2	<b>7</b>	<b>0.7</b>	<0.5	<b>0.06</b>	<0.005		<0.001
	11/11/03	150	6.1	<b>10</b>	<b>0.9</b>	<0.5	<0.05	<0.005		-
	04/30/04	210	6.1	<b>26</b>	<b>1.2</b>	<0.5	<0.05	<0.005		-
	07/01/04	150	6.2	<b>9</b>	<b>0.7</b>	<0.5	<0.05	<0.005		-
	11/11/04	170	6.1	<b>7</b>	<b>0.7</b>	<0.5	<0.05	<0.005		-
	04/29/05	130	5.7	<b>15</b>	<b>0.7</b>	<0.5	<0.05	<0.005		-
	07/22/05	140	5.9	<b>14</b>	<b>0.7</b>	<0.5	<0.05	<0.005		-
	10/31/05	160	6.1	<b>47</b>	<b>4.1</b>	<0.5	<0.05	<0.005		-
	04/28/06	150	6.5	<b>14</b>	<b>0.9</b>	<0.5	<0.05	<0.005		-
	07/19/06	350	5.9	<b>65</b>	<b>2.5</b>	<0.5	<0.05	<0.005		-
	11/21/06	170	5.8	<b>14</b>	<b>0.6</b>	<0.5	<0.05	<0.005		-
	04/27/07	360	6	<b>71</b>	<b>2.6</b>	<0.5	<0.05	<0.005		-
	07/03/07	160	6.6	<b>18</b>	<b>0.5</b>	<0.5	<0.05	<0.005		<0.001
	11/29/07	170	5.7	<b>26</b>	<b>0.7</b>	<0.5	<0.05	<0.005		-
	05/01/08	160	6.4	<b>20</b>	<b>0.7</b>	<0.5	<0.05	<0.005		-
	07/02/08	140	5.7	<b>13</b>	<b>0.6</b>	<0.5	<0.05	<0.005		-
	11/03/08	160	5.9	<b>12</b>	<b>0.6</b>	<0.5	<0.05	<0.005		-



**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 2 - Field Indicator Parameters, Inorganic Compounds, and Metals Analysis**

**Groundwater Management Permit No. GWP-198704080-R-005**

Well	Date	Specific								
		Conductance (umhos/cm)	pH (units)	Cl (mg/l)	NO <sub>3</sub> (mg/l)	TKN (mg/l)	Fe (mg/l)	Mn (mg/l)	Turbidity (NTU)	As (mg/l)
	<b>AGQS/RCMP</b>			NL	10.0	NL	NL	0.30	NL	<b>0.005</b>
	<b>SMCL</b>			250	NL	NL	0.30	0.050	NL	NL
	05/01/09	130	6.1	<b>13</b>	<b>0.5</b>	<0.5	<0.05	<0.005		-
	11/11/09	220	6.2	<b>28</b>	<b>0.9</b>	<0.5	<0.05	<0.005		-
	04/29/10	410	6.2	<b>78</b>	<b>2.6</b>	<0.5	<0.05	<0.005		-
	11/04/10	200	6.4	<b>28</b>	<b>1.0</b>	<0.5	<0.05	<0.005		<0.001
	04/29/11	170	5.9	<b>18</b>	<b>0.6</b>	<0.5	<0.05	<0.005		-
	11/22/11	150	6.9	<b>18</b>	<b>0.6</b>	<0.5	<0.05	<0.005		-
	05/01/12	140	6.5	<b>16</b>	<0.5	<0.5	<0.05	<0.005		-
	11/20/12	200	6.8	<b>12</b>	<0.5	<0.5	<0.05	<0.005		-
	05/01/13	130	6.4	<b>10</b>	<0.5	<0.5	<0.05	<0.005		-
	11/26/13	140	6.6	<b>11</b>	<0.5	<0.5	<0.05	<0.005		<0.001
	04/30/14	200	6.5	<b>26</b>	<b>1.3</b>	<0.5	<0.05	<0.005		-
	05/01/15	120	6.3	<b>9</b>	<0.5	<0.5	<0.05	<0.005		-
	04/29/16	170	6	<b>17</b>	<b>0.8</b>	<0.5	<0.05	<0.005		-
	05/24/17	140	6.2	<b>11</b>	<0.5	<0.5	<0.05	<0.005		-
	05/01/18	180	5.99	<b>23</b>	<b>1.1</b>	<0.5	<0.05	<0.005	<b>47</b>	-
	04/02/19	170	6.29	<b>18</b>	<b>0.65</b>	<b>0.52</b>	<0.05	<0.005	<b>21</b>	<0.001
	04/30/20	140	6.25	<b>23</b>	<0.5	<0.5	<0.05	<0.005	<b>39</b>	<0.001
	04/09/21	180	5.88	<b>19</b>	<0.5	<0.5	<0.05	<0.005	<b>38</b>	<0.001
	04/19/22	130	5.90	<b>11</b>	<0.5	<b>0.82</b>	<0.05	<0.005	<b>28</b>	<0.0005
	04/03/23	140	5.62	<b>18</b>	<b>0.50</b>	<0.5	<0.05	<0.005	<b>9</b>	<b>0.00051</b>
MW-6										
	11/20/96	667	6.14	<b>11</b>	<b>0.8</b>	< 0.5	<b>0.02</b>	<b>0.18</b>		-
	12/18/96	-	-	-	-	-	-	-		-
	04/30/97	617	6.19	<b>16</b>	<b>0.7</b>	< 0.5	<b>0.12</b>	<b>1.9</b>		< 0.01
	07/31/97	492	6	<b>16</b>	<b>0.8</b>	< 0.5	<b>0.27</b>	<b>1.9</b>		< 0.01
	11/24/97	370	6	<b>15</b>	<0.5	0.5	<b>0.09</b>	<b>2.5</b>		-
	04/15/98	561	5.63	<b>17</b>	<b>0.6</b>	< 0.5	<0.01	<b>0.28</b>		-
	07/29/98	140	6.06	<b>17</b>	<b>4.5</b>	< 0.5	<b>0.41</b>	<b>1.6</b>		-
	11/17/98	542	6.29	<b>17</b>	<b>2.4</b>	< 0.5	<0.01	<b>0.98</b>		-
	04/29/99	503	6.2	<b>14</b>	<b>2.5</b>	< 0.5	<0.01	<b>0.13</b>		-
	07/27/99	584	5.86	<b>16</b>	<b>1.9</b>	< 0.5	<b>0.01</b>	<b>0.007</b>		-
	11/18/99	612	6.47	<b>16</b>	<b>1.1</b>	< 0.5	<b>0.04</b>	<b>0.06</b>		-
	05/09/00	746	6.67	<b>38</b>	<b>1.9</b>	< 0.5	<b>0.03</b>	<b>0.027</b>		-
	07/31/00	435	6.27	<b>12</b>	<b>2.2</b>	< 0.5	<b>0.03</b>	<b>0.012</b>		< 0.01
	11/28/00	543	6.62	<b>19</b>	<b>0.9</b>	< 0.5	<0.01	<b>0.009</b>		-
	04/25/01	504	NM	<b>10</b>	< 0.5	< 0.5	<b>0.01</b>	<b>0.008</b>		-
	07/31/01	469	6.42	<b>10</b>	<b>2.4</b>	<0.5	<b>0.14</b>	<b>0.12</b>		-
	11/20/01	660	6.32	<b>11</b>	<b>2</b>	<0.5	<0.01	<b>0.005</b>		-
	04/24/02			<b>38</b>	<b>2.9</b>	<0.5	<0.01	<b>0.014</b>		-
	08/01/02	379	7.1	<b>19</b>	<b>4.7</b>	<0.5	<0.01	< 0.005		-
	04/29/03	560	6.6	<b>19</b>	<b>3.3</b>	<0.5	<0.05	<0.005		-
	07/30/03	480	6.2	<b>19</b>	<b>2.9</b>	<0.5	<0.05	<b>0.005</b>		<0.001
	11/11/03	510	6.2	<b>14</b>	<b>2.5</b>	<0.5	<0.05	<0.005		-

**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 2 - Field Indicator Parameters, Inorganic Compounds, and Metals Analysis**

**Groundwater Management Permit No. GWP-198704080-R-005**

Well	Date	Specific		Cl (mg/l)	NO <sub>3</sub> (mg/l)	TKN (mg/l)	Fe (mg/l)	Mn (mg/l)	Turbidity (NTU)	As (mg/l)
		Conductance (umhos/cm)	pH (units)							
	<b>AGQS/RCMP</b>			NL	10.0	NL	NL	0.30	NL	<b>0.005</b>
	<b>SMCL</b>			250	NL	NL	0.30	0.050	NL	NL
	04/30/04	700	6.4	<b>27</b>	<b>2.1</b>	<0.5	<0.05	<b>0.005</b>		-
	07/01/04	510	6.2	<b>16</b>	<b>3.1</b>	<0.5	<0.05	<0.005		-
	11/11/04	610	6.3	<b>12</b>	<b>2.2</b>	<0.5	<0.05	<0.005		-
	04/29/05	560	6.0	<b>15</b>	<b>1.5</b>	<0.5	<0.05	<b>0.11</b>		-
	07/22/05	490	5.9	<b>16</b>	<b>1.4</b>	<0.5	<0.05	<b>0.52</b>		-
	10/31/05	610	6.2	<b>14</b>	<b>1</b>	<0.5	<0.05	<b>0.22</b>		-
	04/28/06	600	6.1	<b>13</b>	<b>1</b>	<b>0.6</b>	<0.05	<b>2.3</b>		-
	07/19/06	610	5.9	<b>12</b>	<b>0.7</b>	<b>0.6</b>	<0.05	<b>2.5</b>		-
	11/21/06	610	6.1	<b>20</b>	<b>0.6</b>	<0.5	<0.05	<b>2.2</b>		-
	04/27/07	600	6.0	<b>17</b>	<0.5	<b>1.2</b>	<0.05	<b>4.2</b>		-
	07/03/07	480	6.2	<b>16</b>	<b>1.6</b>	<0.5	<0.05	<b>1.4</b>		<0.001
	11/29/07	790	6.0	<b>19</b>	<0.5	<0.5	<0.05	<b>0.009</b>		-
	05/01/08	500	6.3	<b>16</b>	<b>2</b>	<0.5	<0.05	<b>0.77</b>		-
	07/02/08	440	6.4	<b>16</b>	<b>3.7</b>	<0.5	<0.05	<b>0.009</b>		-
	11/03/08	530	6.4	<b>16</b>	<b>6</b>	<0.5	<0.05	<b>0.027</b>		-
	05/01/09	540	6.3	<b>11</b>	<b>1.8</b>	<0.5	<0.05	<b>1.3</b>		-
	11/11/09	620	6.6	<b>16</b>	<b>1.2</b>	<0.5	<0.05	<b>0.029</b>		-
	04/29/10	540	6.2	<b>12</b>	<b>0.8</b>	<0.5	<0.05	<b>0.07</b>		-
	11/04/10	720	6.6	<b>15</b>	<b>0.8</b>	<0.5	<0.05	<b>0.011</b>		<0.001
	04/29/11	520	6.1	<b>13</b>	<0.5	<0.5	<0.05	<0.005		-
	11/22/11	680	6.6	<b>23</b>	<b>0.9</b>	<0.5	<0.05	<0.005		-
	05/01/12	470	6.4	<b>14</b>	<b>6.2</b>	<0.5	<0.05	<b>0.25</b>		-
	11/20/12	770	6.7	<b>12</b>	<b>0.6</b>	<0.5	<0.05	<b>0.011</b>		-
	05/01/13	380	6.2	<b>10</b>	<b>5.6</b>	<0.5	<0.05	<b>0.007</b>		-
	11/26/13	590	6.6	<b>19</b>	<b>1.6</b>	<0.5	<0.05	<0.005		<0.001
	04/30/14	710	6.7	<b>22</b>	<b>1.3</b>	<0.5	<0.05	<0.005		-
	05/01/15	460	6.3	<b>8</b>	<b>3.7</b>	<.5	<0.05	<0.005		-
	04/29/16	470	6.4	<b>8</b>	<b>2.6</b>	<.5	<0.05	<0.005		-
	05/24/17	420	6.2	<b>8</b>	<b>0.7</b>	<0.5	<0.05	<0.005		-
	05/01/18	640	6.27	<b>24</b>	<b>1.7</b>	<0.5	<0.05	<0.005	<b>11</b>	-
	12/10/18	610	5.97	<b>34</b>	-	-	-	-	-	-
	04/02/19	520	6.23	<b>10</b>	<b>0.84</b>	<0.5	<0.05	<0.005	<b>4.2</b>	<0.001
	04/30/20	580	6.15	<b>11</b>	<0.5	<0.5	<0.05	<0.005	<b>4</b>	<0.001
	04/09/21	750	5.98	<b>22</b>	<b>1.2</b>	<0.5	<0.05	<0.005	<b>4</b>	<0.001
	04/19/22	490	6.21	<b>11</b>	<b>0.93</b>	<b>0.52</b>	<0.05	<0.005	<b>26</b>	<0.0005
	04/03/23	650	6.14	<b>30</b>	<b>2.5</b>	<0.5	<0.05	<0.005	<b>21</b>	<b>0.00059</b>
MW-101										
	11/20/96	690	6.25	-	-	-	-	-		<0.01
	12/18/96	712	6.65	<b>27</b>	<0.5	<b>3.3</b>	<b>96</b>	<b>1.3</b>		-
	04/30/97	542	6.86	<b>31</b>	<0.5	<b>3.3</b>	<b>67</b>	<b>0.92</b>		<0.01
	07/31/97	512	6.4	<b>30</b>	<0.5	<b>1.8</b>	<b>80</b>	<b>1.1</b>		<0.01
	11/24/97	NS	NS	NS	NS	NS	NS	NS		-
	04/15/98	NS	NS	NS	NS	NS	NS	NS		-

**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 2 - Field Indicator Parameters, Inorganic Compounds, and Metals Analysis**

**Groundwater Management Permit No. GWP-198704080-R-005**

Well	Date	Specific								
		Conductance (umhos/cm)	pH (units)	Cl (mg/l)	NO <sub>3</sub> (mg/l)	TKN (mg/l)	Fe (mg/l)	Mn (mg/l)	Turbidity (NTU)	As (mg/l)
	<b>AGQS/RCMP</b>			NL	10.0	NL	NL	0.30	NL	<b>0.005</b>
	<b>SMCL</b>			250	NL	NL	0.30	0.050	NL	NL
	07/29/98	157	6.7	<b>16</b>	<0.5	<b>2.3</b>	<b>62</b>	<b>0.48</b>		< 0.01
	11/17/98	NS	NS	NS	NS	NS	NS	NS		-
	04/29/99	640	6.36	<b>18</b>	<0.5	<b>3.0</b>	<b>88</b>	<b>0.64</b>		-
	07/27/99	611	5.95	<b>20</b>	<0.5	<b>2.1</b>	<b>100</b>	<b>0.67</b>		< 0.01
	11/18/99	669	6.39	<b>12</b>	<0.5	<b>5.9</b>	<b>100</b>	<b>0.4</b>		-
	05/09/00	774	6.49	<b>12</b>	<0.5	<b>6.5</b>	<b>85</b>	<b>0.56</b>		< 0.01
	07/31/00	550	6.65	<b>16</b>	<0.5	<b>3.5</b>	<b>75</b>	<b>0.65</b>		< 0.01
	11/28/00	661	6.79	<b>15</b>	<0.5	<b>4.4</b>	<b>84</b>	<b>0.46</b>		-
	04/25/01	506	NM	<b>14</b>	<b>2.1</b>	<b>5.5</b>	<b>56</b>	<b>0.75</b>		-
	07/31/01	542	6.56	<b>17</b>	<0.5	<b>3.4</b>	<b>68</b>	<b>0.75</b>		<0.001
	11/20/01	831	6.31	<b>19</b>	<0.5	<b>3.5</b>	<b>94</b>	<b>0.42</b>		-
	04/24/02	822	6.43	<b>12</b>	<0.5	<b>7.5</b>	<b>92</b>	<b>0.43</b>		-
	08/01/02	685	6.58	<b>24</b>	<0.5	<b>3.6</b>	<b>82</b>	<b>0.56</b>		<b>0.001</b>
	04/29/03	690	6.4	<b>14</b>	<0.5	<b>9.2</b>	<b>67</b>	<b>0.55</b>		-
	07/30/03	600	6.5	<b>60</b>	<b>3.7</b>	<b>4.0</b>	<b>40</b>	<b>0.28</b>		<0.001
	11/11/03	630	6.2	<b>19</b>	<0.5	<b>2.9</b>	<b>87</b>	<b>0.56</b>		-
	04/30/04	790	6.5	<b>14</b>	<0.5	<b>6.2</b>	<b>80</b>	<b>0.57</b>		-
	07/01/04	700	6.6	<b>20</b>	<0.5	<b>5.0</b>	<b>53</b>	<b>0.33</b>		<0.001
	11/11/04	640	6.4	<b>18</b>	<0.5	<b>3.0</b>	<b>75</b>	<b>0.5</b>		-
	04/29/05	530	6.3	<b>16</b>	<0.5	<b>6.1</b>	<b>57</b>	<b>0.48</b>		
	07/22/05	540	6.5	<b>20</b>	<0.5	<b>3.8</b>	<b>39</b>	<b>0.34</b>		<0.001
	10/31/05	670	6.4	<b>15</b>	<0.5	<b>4.2</b>	<b>79</b>	<b>0.64</b>		
	04/28/06	590	6.3	<b>24</b>	<0.5	<b>3.7</b>	<b>53</b>	<b>0.4</b>		
	07/19/06	380	6.6	<b>20</b>	<0.5	<b>1.8</b>	<b>34</b>	<b>0.96</b>		<0.001
	11/21/06	610	6.5	<b>20</b>	<0.5	<b>3.0</b>	<b>78</b>	<b>0.9</b>		-
	04/27/07	500	7.4	<b>15</b>	<0.5	<b>2.9</b>	<b>63</b>	<b>0.88</b>		-
	07/03/07	450	6.5	<b>17</b>	<0.5	<b>2.0</b>	<b>48</b>	<b>0.93</b>		<0.001
	11/29/07	720	5.9	<b>27</b>	<0.5	<b>2.0</b>	<b>110</b>	<b>0.53</b>		-
	05/01/08	560	6.5	<b>14</b>	<0.5	<b>3.2</b>	<b>62</b>	<b>0.53</b>		-
	07/02/08	530	6.4	<b>15</b>	<0.5	<b>2.9</b>	<b>50</b>	<b>0.4</b>		<b>0.001</b>
	11/03/08	650	6.5	<b>16</b>	<0.5	<b>2.8</b>	<b>64</b>	<b>0.35</b>		-
	05/01/09	540	6.6	<b>14</b>	<0.5	<b>2.5</b>	<b>58</b>	<b>0.66</b>		-
	11/11/09	600	6.6	<b>32</b>	<0.5	<b>2.4</b>	<b>65</b>	<b>0.54</b>		-
	04/29/10	360	6.5	<b>18</b>	<0.5	<b>1.8</b>	<b>31</b>	<b>0.91</b>		-
	11/04/10	680	6.6	<b>35</b>	<0.5	<b>1.8</b>	<b>69</b>	<b>0.57</b>		<0.001
	04/29/11	620	6.4	<b>15</b>	<0.5	<b>2.8</b>	<b>80</b>	<b>0.72</b>		-
	11/22/11	620	6.5	<b>16</b>	<0.5	<b>4.3</b>	<b>74</b>	<b>0.57</b>		-
	05/01/12	560	6.4	<b>19</b>	<0.5	<b>2.3</b>	<b>59</b>	<b>0.46</b>		-
	11/20/12	720	6.4	<b>20</b>	<0.5	<b>2.2</b>	<b>91</b>	<b>0.40</b>		-
	05/01/13	660	6.4	<b>10</b>	<0.5	<b>3.4</b>	<b>87</b>	<b>0.56</b>		-
	11/26/13	680	6.4	<b>16</b>	<0.5	<b>3.2</b>	<b>73</b>	<b>0.26</b>		<0.001
	04/30/14	630	6.6	<b>8</b>	<0.5	<b>3.8</b>	<b>81</b>	<b>0.74</b>		-
	05/01/15	600	6.6	<b>8</b>	<0.5	<b>3.9</b>	<b>57</b>	<b>0.42</b>		-
	04/29/16	700	6.6	<b>17</b>	<0.5	<b>4.7</b>	<b>51</b>	<b>0.29</b>		-

**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 2 - Field Indicator Parameters, Inorganic Compounds, and Metals Analysis**

**Groundwater Management Permit No. GWP-198704080-R-005**

Well	Date	Specific								
		Conductance (umhos/cm)	pH (units)	Cl (mg/l)	NO <sub>3</sub> (mg/l)	TKN (mg/l)	Fe (mg/l)	Mn (mg/l)	Turbidity (NTU)	As (mg/l)
	<b>AGQS/RCMP</b>			NL	10.0	NL	NL	0.30	NL	<b>0.005</b>
	<b>SMCL</b>			250	NL	NL	0.30	0.050	NL	NL
	05/24/17	650	6.5	<b>11</b>	<0.5	<b>4.8</b>	<b>55</b>	<b>0.35</b>		-
	05/01/18	640	6.36	<b>16</b>	<0.5	<b>3.5</b>	<b>70</b>	<b>0.52</b>	<b>87</b>	-
	04/02/19	480	6.59	<b>15</b>	<0.5	<b>2.4</b>	<b>48</b>	<b>0.47</b>	<b>13</b>	<0.001
	04/30/20	610	6.30	<b>16</b>	<0.5	<b>2.6</b>	<b>60</b>	<b>0.46</b>	<b>42</b>	<0.001
	04/09/21	370	6.15	<b>12</b>	<0.5	<b>4.2</b>	<b>70</b>	<b>0.56</b>	<b>64</b>	<0.001
	04/19/22	580	6.38	<b>13</b>	<0.5	<b>3.5</b>	<b>57</b>	<b>0.46</b>	<b>76</b>	<0.0005
	04/03/23	780	6.07	<b>13</b>	<0.5	<b>3.0</b>	<b>58</b>	<b>0.36</b>	<b>36</b>	<b>0.00055</b>

**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 2 - Field Indicator Parameters, Inorganic Compounds, and Metals Analysis**

**Groundwater Management Permit No. GWP-198704080-R-005**

Well	Date	Specific								
		Conductance (umhos/cm)	pH (units)	Cl (mg/l)	NO <sub>3</sub> (mg/l)	TKN (mg/l)	Fe (mg/l)	Mn (mg/l)	Turbidity (NTU)	As (mg/l)
	<b>AGQS/RCMP</b>			NL	10.0	NL	NL	0.30	NL	<b>0.005</b>
	<b>SMCL</b>			250	NL	NL	0.30	0.050	NL	NL
MW-102										
	07/16/98	270	6.1	<b>48</b>	<b>3.4</b>	< 0.5	<b>0.05</b>	<b>0.016</b>		< 0.01
	07/29/98	104	6.43	<b>44</b>	<b>4.7</b>	< 0.5	<b>0.14</b>	<b>0.008</b>		< 0.01
	11/17/98	360	6.27	<b>52</b>	<b>3.2</b>	< 0.5	<0.01	<b>0.005</b>		-
	04/29/99	352	6.3	<b>50</b>	<b>3</b>	< 0.5	<b>0.02</b>	<0.005		-
	07/27/99	354	5.95	<b>52</b>	<b>3</b>	< 0.5	<b>0.02</b>	<b>0.006</b>		<b>0.02</b>
	11/18/99	310	6.67	<b>45</b>	<b>2.8</b>	< 0.5	<b>0.01</b>	<0.005		-
	05/09/00	347	6.56	<b>43</b>	<b>2.3</b>	< 0.5	<b>0.2</b>	<b>0.01</b>		-
	07/31/00	336	6.86	<b>51</b>	<b>2.8</b>	<b>0.5</b>	< 0.01	<0.005		< 0.01
	11/28/00	314	6.86	<b>40</b>	<b>3.2</b>	<b>0.5</b>	< 0.01	<0.005		-
	04/25/01	288	5.82	<b>41</b>	<b>0.6</b>	< 0.5	< 0.01	<0.005		-
	07/31/01	369	7.04	<b>51</b>	<b>3.2</b>	<0.5	<b>0.09</b>	<0.005		<0.001
	11/20/01	365	6.71	<b>49</b>	<b>3.2</b>	<0.5	<0.01	<0.005		-
	04/24/02	360	6.91	<b>50</b>	<b>3.7</b>	<0.5	<b>0.02</b>	<b>0.007</b>		-
	08/01/02	332	6.98	<b>46</b>	<b>3.4</b>	<0.5	<b>0.07</b>	< 0.005		<0.001
	04/29/03	330	6.5	<b>49</b>	<b>2.5</b>	<0.5	<0.05	<0.005		-
	07/30/03	410	6.4	<b>87</b>	<0.5	<0.5	<0.05	<0.005		<0.001
	11/11/03	420	6.3	<b>57</b>	<b>6.1</b>	<0.5	<0.05	<0.005		-
	04/30/04	440	6.3	<b>62</b>	<b>4.1</b>	<0.5	<0.05	<0.005		-
	07/01/04	430	6.4	<b>64</b>	<b>4.2</b>	<0.5	<0.05	<0.005		<0.001
	11/11/04	440	6.2	<b>58</b>	<b>3.9</b>	<0.5	<0.05	<0.005		-
	04/29/05	280	5.9	<b>47</b>	<b>3.1</b>	<0.5	<0.05	<0.005		-
	07/22/05	430	6.1	<b>63</b>	<b>4</b>	<0.5	<0.05	<0.005		<0.001
	10/31/05	410	6.2	<b>56</b>	<b>3.8</b>	<0.5	<0.05	<0.005		-
	04/28/06	390	6.3	<b>59</b>	<b>4.1</b>	<0.5	<0.05	<0.005		-
	07/19/06	400	5.9	<b>56</b>	<b>3.9</b>	<0.5	<0.05	<0.005		<0.001
	11/21/06	350	6.3	<b>50</b>	<b>3</b>	<0.5	<0.05	<0.005		-
	04/27/07	400	6.1	<b>58</b>	<b>3.6</b>	<0.5	<0.05	<0.005		-
	07/03/07	410	6.4	<b>59</b>	<b>3.1</b>	<0.5	<0.05	<0.005		<0.001
	11/29/07	390	5.7	<b>56</b>	<b>3.3</b>	<0.5	<0.05	<0.005		-
	05/01/08	560	6.5	<b>53</b>	<b>3.3</b>	<0.5	<0.05	<0.005		-
	07/02/08	370	6.5	<b>52</b>	<b>3.3</b>	<0.5	<0.05	<0.005		<0.001
	11/03/08	350	6.4	<b>45</b>	<b>2.8</b>	<0.5	<0.05	<0.005		-
	05/01/09	320	6.4	<b>40</b>	<b>3.1</b>	<0.5	<0.05	<0.005		-
	11/11/09	360	6.4	<b>50</b>	<b>3.2</b>	<0.5	<0.05	<0.005		-
	04/29/10	360	6.4	<b>53</b>	<b>2.9</b>	<0.5	<0.05	<0.005		-
	11/04/10	350	6.5	<b>53</b>	<b>3.1</b>	<0.5	<0.05	<0.005		<0.001
	04/29/11	300	6.0	<b>35</b>	<b>2.0</b>	<0.5	<0.05	<0.005		-
	11/22/11	380	6.7	<b>49</b>	<b>2.8</b>	<0.5	<0.05	<0.005		-
	05/01/12	360	6.6	<b>49</b>	<b>2.8</b>	<0.5	<0.05	<0.005		-
	11/20/12	400	6.7	<b>46</b>	<b>2.6</b>	<0.5	<0.05	<0.005		-
	05/01/13	360	6.4	<b>51</b>	<b>2.8</b>	<0.5	<0.05	<0.005		-
	11/26/13	350	6.6	<b>46</b>	<b>3.0</b>	<0.5	<0.05	<0.005		<0.001
	04/30/14	360	6.5	<b>45</b>	<b>3.2</b>	<0.5	<0.05	<0.005		-

**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 2 - Field Indicator Parameters, Inorganic Compounds, and Metals Analysis**

**Groundwater Management Permit No. GWP-198704080-R-005**

Well	Date	Specific								
		Conductance (umhos/cm)	pH (units)	Cl (mg/l)	NO <sub>3</sub> (mg/l)	TKN (mg/l)	Fe (mg/l)	Mn (mg/l)	Turbidity (NTU)	As (mg/l)
	<b>AGQS/RCMP</b>			NL	10.0	NL	NL	0.30	NL	<b>0.005</b>
	<b>SMCL</b>			250	NL	NL	0.30	0.050	NL	NL
	05/01/15	120	7.8	<b>9</b>	<b>0.5</b>	<0.5	<0.05	<0.005		-
	04/29/16	320	6.4	<b>41</b>	<b>2.8</b>	<0.5	<0.05	<b>0.02</b>		-
	05/24/17	180	6.4	<b>21</b>	<b>0.5</b>	<0.5	<0.05	<b>0.038</b>		-
	05/01/18	140	6.24	<b>15</b>	<b>0.7</b>	<0.5	<0.05	<b>0.030</b>	<b>13</b>	-
	12/10/18	160	5.56	<b>16</b>	-	-	-	-	-	-
	04/02/19	240	6.44	<b>30</b>	<b>2.3</b>	<0.5	<0.05	<b>0.063</b>	<b>12</b>	<0.001
	04/30/20	200	6.50	<b>25</b>	<b>0.95</b>	<0.5	<0.05	<b>0.010</b>	<b>21</b>	<0.001
	04/09/21	370	6.15	<b>53</b>	<b>3.1</b>	<0.5	<0.05	<0.005	<b>27</b>	<0.001
	04/19/22	270	6.03	<b>35</b>	<b>2.2</b>	<0.5	<0.05	<0.005	<b>6</b>	<0.0005
	04/03/23	220	5.70	<b>28</b>	<b>1.4</b>	<0.5	<0.05	<0.005	<b>54</b>	<0.0005
TW 15-74										
	07/29/98	105	6.35	<b>79</b>	<b>2.5</b>	<0.5	<b>8.7</b>	<b>0.26</b>		< 0.01
	11/17/98	315	7.92	<b>75</b>	<0.5	<b>1.8</b>	<0.01	<b>0.14</b>		-
	04/29/99	331	6.45	<b>66</b>	<b>2.9</b>	<0.5	<b>3</b>	<b>0.09</b>		-
	07/27/99	327	8.02	<b>73</b>	<0.5	<b>2.3</b>	<b>1.4</b>	<b>0.17</b>		< 0.01
	11/18/99	281	8.55	<b>71</b>	<0.5	<b>2.2</b>	<b>0.02</b>	<b>0.009</b>		-
	05/09/00	317	8.64	<b>76</b>	<0.5	<b>2.1</b>	<b>0.02</b>	<b>0.031</b>		-
	07/31/00	297	7.29	<b>61</b>	<b>2.8</b>	<0.5	<b>1.8</b>	<b>0.065</b>		< 0.01
	11/28/00	2460	8.29	<b>54</b>	<0.5	<b>2.2</b>	<0.01	<b>0.009</b>		-
	04/25/01	288	NM	<b>60</b>	<b>2.9</b>	<b>1.6</b>	<b>1.4</b>	<b>0.1</b>		-
	07/31/01	333	8.07	<b>65</b>	<b>2.6</b>	<b>0.6</b>	<b>1.6</b>	<b>0.11</b>		<0.001
	11/20/01	307	8.79	<b>62</b>	<0.5	<b>2.2</b>	<b>0.07</b>	<b>0.052</b>		-
	04/24/02	NS	NS	<b>74</b>	<b>0.6</b>	<b>1.9</b>	<b>1.8</b>	<b>0.12</b>		-
	08/01/02	315	8.5	<b>74</b>	< 0.5	<b>2.6</b>	<b>0.06</b>	<b>0.074</b>		<0.001
	04/29/03	380	6.3	<b>84</b>	<b>1.5</b>	<b>1.5</b>	<b>6.5</b>	<b>0.22</b>		-
	07/30/03	380	8.6	<b>20</b>	<0.5	<b>2.4</b>	<0.05	<b>0.095</b>		<0.001
	11/11/03	340	8.2	<b>91</b>	<0.5	<b>2.3</b>	<b>0.06</b>	<b>0.086</b>		-
	04/30/04	360	8.1	<b>93</b>	<0.5	<b>2.8</b>	<b>0.78</b>	<b>0.15</b>		-
	07/01/04	370	8.1	<b>94</b>	<0.5	<b>2.8</b>	<b>0.06</b>	<b>0.17</b>		<0.001
	11/11/04	350	8.5	<b>87</b>	<0.5	<b>2.6</b>	<b>0.13</b>	<b>0.091</b>		-
	04/29/05	300	8.5	<b>91</b>	<0.5	<b>2.5</b>	<0.05	<b>0.058</b>		-
	07/22/05	350	8.7	<b>78</b>	<0.5	<b>2.7</b>	<0.05	<b>0.081</b>		<0.001
	10/31/05	350	8.34	<b>74</b>	<0.5	<b>3</b>	<0.05	<b>0.09</b>		-
	04/28/06	350	8.5	<b>85</b>	<0.5	<b>2.4</b>	<0.05	<b>0.044</b>		-
	07/19/06	440	7.9	<b>91</b>	<0.5	<b>2.8</b>	<b>0.32</b>	<b>0.2</b>		<0.001
	11/21/06	390	8.3	<b>84</b>	<0.5	<b>2.8</b>	<0.05	<b>0.06</b>		-
	04/27/07	370	7.4	<b>85</b>	<0.5	<b>2.8</b>	<0.05	<b>0.046</b>		-
	07/03/07	410	8.6	<b>98</b>	<0.5	<b>2.8</b>	<b>1.1</b>	<b>0.017</b>		<0.001
	11/29/07	600	7.9	<b>200</b>	<0.5	<b>2.9</b>	<b>0.06</b>	<b>0.15</b>		-
	05/01/08	480	8.5	<b>110</b>	<0.5	<b>2.2</b>	<b>0.09</b>	<b>0.05</b>		-
	07/02/08	430	7.4	<b>90</b>	<0.5	<b>2.1</b>	<b>0.06</b>	<b>0.11</b>		<0.001
	11/03/08	360	8.4	<b>82</b>	<0.5	<b>2.5</b>	<0.05	<b>0.033</b>		-
	05/01/09	310	8.9	<b>72</b>	<0.5	<b>1.9</b>	<b>0.75</b>	<b>0.03</b>		-

**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 2 - Field Indicator Parameters, Inorganic Compounds, and Metals Analysis**

**Groundwater Management Permit No. GWP-198704080-R-005**

Well	Date	Specific								
		Conductance (umhos/cm)	pH (units)	Cl (mg/l)	NO <sub>3</sub> (mg/l)	TKN (mg/l)	Fe (mg/l)	Mn (mg/l)	Turbidity (NTU)	As (mg/l)
	<b>AGQS/RCMP</b>			NL	10.0	NL	NL	0.30	NL	<b>0.005</b>
	<b>SMCL</b>			250	NL	NL	0.30	0.050	NL	NL
	11/11/09	320	9.3	<b>83</b>	<0.5	<b>2.2</b>	<0.05	<b>0.019</b>		-
	04/29/10	410	6.9	<b>72</b>	<0.5	<b>1.5</b>	<b>6.7</b>	<b>0.42</b>		-
	11/04/10	360	9.1	<b>79</b>	<0.5	<b>1.9</b>	<0.05	<b>0.017</b>		<0.001
	04/29/11	340	8.1	<b>88</b>	<0.5	<b>1.6</b>	<b>0.06</b>	<b>0.076</b>		-
	11/22/11	340	9.2	<b>93</b>	<0.5	<b>1.8</b>	<0.05	<b>0.027</b>		-
	05/01/12	390	7.6	<b>89</b>	<0.5	<b>2.0</b>	<b>0.07</b>	<b>0.077</b>		-
	11/20/12	330	8.9	<b>79</b>	<0.5	<b>1.8</b>	<0.05	<b>0.018</b>		-
	05/01/13	350	8.6	<b>94</b>	<0.5	<b>1.6</b>	<b>0.05</b>	<b>0.077</b>		-
	11/26/13	330	9.0	<b>74</b>	<0.5	<b>1.3</b>	<0.05	<b>0.019</b>		<0.001
	04/30/14	330	8.4	<b>86</b>	<0.5	<b>1.5</b>	<0.05	<b>0.058</b>		-
	05/01/15	320	8.7	<b>83</b>	<0.5	<b>1.2</b>	<0.05	<b>0.071</b>		-
	04/29/16	300	9	<b>72</b>	<0.5	<b>1.3</b>	<0.05	<b>0.024</b>		-
	05/24/17	290	8.9	<b>79</b>	<0.5	<b>1.0</b>	<0.05	<b>0.038</b>		-
	05/01/18	300	8.16	<b>71</b>	<0.5	<b>1.9</b>	<0.05	<b>0.030</b>	<b>170</b>	-
	04/02/19	340	8.94	<b>79</b>	<0.5	<b>1.3</b>	<0.05	<b>0.044</b>	<b>230</b>	<0.001
	04/30/20	330	6.96	<b>78</b>	<0.5	<b>1.4</b>	<0.05	<b>0.056</b>	<b>340</b>	<0.001
	04/09/21	340	8.18	<b>88</b>	<0.5	<b>3.1</b>	<0.5	<b>0.051</b>	<b>90</b>	<0.001
	04/19/22	340	7.30	<b>89</b>	<0.5	<b>1.5</b>	<0.05	<b>0.10</b>	<b>12</b>	<0.0005
	04/03/23	330	8.70	<b>77</b>	<0.5	<b>1.5</b>	<0.05	<b>0.017</b>	<b>130</b>	<0.0005
111 Garland Road										
	12/10/18	290	5.88	<b>38</b>	-	-	-	-		-

- = Not Analyzed

MDL = Method Detection Limit

N/S = Not Sampled

AGQS = Ambient Groundwater Quality Standards / NH Code of Administrative Rules

SMCL = Secondary Maximum Contaminant Levels

NL = Not Listed as Regulated Compound

**Bold** values are detected

Shaded values exceed standards

**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 3 - Per- and Polyfluoroalkyl Substances**

**Groundwater Management Permit No. GWP-198704080-R-005**

DATE	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctanoic acid (PFOA)	Perfluoronanoic acid (PFNA)	Perfluorooctane sulfonic acid (PFOS)	TOTAL (PFOA & PFOS)
CAS #	375-22-4	2706-90-3	375-73-5	307-24-4	375-85-4	355-46-4	335-67-1	375-95-1	1763-23-1	-
Current NH AGQS	NS	NS	NS	NS	NS	18	12	11	15	*
<b>MW-1</b>										
05/24/17	<8.6	<4.3	<4.3	<4.3	<4.3	<4.3	4.5	<4.3	4.4	8.9
09/19/17	<4.37	<4.37	<4.37	<4.37	<4.37	<4.37	<4.37	<4.37	<4.37	ND
05/01/18	<4.01	<4.01	<4.01	<4.01	<4.01	<4.01	5.84	<4.01	<4.01	5.84
04/02/19	<4.25	<4.25	<4.25	<4.25	<4.25	<4.25	<4.25	<4.25	<4.25	ND
04/30/20	<4.29	<4.29	<4.29	<4.29	<4.29	<4.29	<4.29	<4.29	<4.29	ND
04/09/21	<4.23	<4.23	<4.23	<4.23	<4.23	<4.23	<4.23	<4.23	<4.23	*
04/19/22	<1.97	2.61	3.08	3.09	<1.97	<1.97	3.49	<1.97	2.52	*
04/03/23	<1.94	3.50	2.16	3.81	<1.94	<1.94	3.58	<1.94	<1.94	*
<b>MW-3</b>										
05/24/17	<8.9	<4.5	<4.5	<4.5	<4.5	<4.5	6.1	<4.5	8.9	15.0
09/19/17	<4.55	<4.55	<4.55	<4.55	<4.55	<4.55	35.3	<4.55	30.6	65.9
05/01/18	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00	10.4	<4.00	28.7	39.1
<b>MW-3D</b>										
05/01/18	<4.12	<4.12	<4.12	<4.12	<4.12	<4.12	14.1	<4.12	16.8	30.9
<b>MW-5</b>										
05/01/18	<4.13	<4.13	<4.13	<4.13	<4.13	<4.13	6.19	<4.13	<4.13	6.19
04/02/19	<4.26	<4.26	<4.26	<4.26	<4.26	<4.26	5.73	<4.26	<4.26	5.73
04/30/20	<4.13	<4.13	<4.13	<4.13	<4.13	<4.13	6.56	<4.13	<4.13	6.56
04/09/21	<4.10	<4.10	<4.10	<4.10	<4.10	<4.10	5.75	<4.10	<4.10	*
04/19/22	<1.97	<1.97	<1.97	<1.97	<1.97	<1.97	7.89	<1.97	<1.97	*
04/03/23	<1.95	<1.95	<1.95	<1.95	<1.95	<1.95	4.49	<1.95	<1.95	*
<b>MW-6</b>										
05/24/17	11	7.9	5.6	17	13	25	41	<4.5	110	151
07/11/17	5.24	6.19	<4.11	7.42	9.16	18.8	35.1	<4.11	53.5	88.6
09/19/17	5.57	7.59	<4.28	11.0	10.2	20.1	41.8	<4.28	53.6	95.4
05/01/18	<4.10	6.94	4.98	8.93	7.97	15.5	35.2	<4.10	44.7	79.9
12/10/18	<4.48	4.66	<4.48	8.21	8.10	15.1	36.8	<4.48	36.7	73.5
04/02/19	7.5	11.1	6.43	16.4	14.2	24.2	60.1	<4.24	58.2	118.3
04/30/20	8.03	14.4	5.39	19.7	18.9	28.1	82.3	<4.24	84.9	167.2
04/09/21	4.62	9.37	4.93	10.2	11.1	24.4	55.4	<4.27	46.5	*
04/19/22	5.18	5.93	5.63	10.0	10.5	33.0	119	<1.93	96.6	*
04/03/23	4.41	5.36	4.35	7.0	7.2	17.7	60	<1.94	30.1	*
<b>MW-101</b>										
07/11/17	<4.52	<4.52	<4.52	5.81	5.75	10.8	43.3	<4.52	60.5	104
09/19/17	<4.36	<4.36	<4.36	<4.36	<4.36	<4.36	13.3	<4.36	43.8	57.1
05/01/18	7.18	5.92	4.33	10.4	7.84	10.4	35.9	<4.28	57.4	93.3
04/02/19	<4.49	<4.49	<4.49	4.75	5.64	5.66	28.6	<4.49	51.7	80
04/30/20	6.94	8.16	5.99	11.50	7.79	11.00	43.9	<4.25	50.6	95



**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 3 - Per- and Polyfluoroalkyl Substances**

**Groundwater Management Permit No. GWP-198704080-R-005**

DATE	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctanoic acid (PFOA)	Perfluoronanoic acid (PFNA)	Perfluorooctane sulfonic acid (PFOS)	TOTAL (PFOA & PFOS)
CAS #	375-22-4	2706-90-3	375-73-5	307-24-4	375-85-4	355-46-4	335-67-1	375-95-1	1705-23-1	-
Current NH AGQS	NS	NS	NS	NS	NS	18	12	11	15	*
04/09/21	6.93	10.1	4.87	14.2	10.8	15.8	50.4	<4.20	40.8	*
04/19/22	4.60	5.30	3.15	7.67	7.05	9.95	39.8	<2.01	51.0	*
04/03/23	5.77	10.7	4.21	13.6	11.4	11.7	48.7	<1.96	42.2	*
<b>MW-102</b>										
07/11/17	<4.08	<4.08	<4.08	<4.08	<4.08	<4.08	4.70	<4.08	<4.08	4.70
09/19/17	<4.56	5.43	<4.56	<4.56	<4.56	<4.56	7.93	<4.56	<4.56	7.93
05/01/18	<4.22	<4.22	<4.22	<4.22	<4.22	<4.22	7.69	<4.22	<4.22	7.69
12/10/18	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	ND
04/02/19	<4.28	<4.28	<4.28	<4.28	<4.28	<4.28	4.34	<4.28	<4.28	4.34
04/30/20	<4.28	<4.28	<4.28	<4.28	<4.28	<4.28	6.42	<4.28	<4.28	6.42
04/09/21	<4.18	<4.18	<4.18	<4.18	<4.18	<4.18	7.75	<4.18	<4.18	*
04/19/22	<2.00	<2.00	2.62	2.06	<2.00	<2.00	6.31	<2.00	4.04	*
04/03/23	2.52	<1.95	2.02	<1.95	<1.95	<1.95	3.96	<1.95	4.42	*
<b>TW 15-74</b>										
07/11/17	<4.15	<4.15	<4.15	<4.15	<4.15	<4.15	4.32	<4.15	<4.15	4.32
09/19/17	<4.31	<4.31	<4.31	<4.31	<4.31	<4.31	<4.31	<4.31	<4.31	ND
05/01/18	<4.74	<4.74	<4.74	<4.74	<4.74	<4.74	4.87	<4.74	<4.74	4.87
<b>111 Garland Road</b>										
12/10/18	<4.64	<4.64	<4.64	<4.64	<4.64	<4.64	<4.64	<4.64	<4.64	ND

NOTE:

AGQS - Ambient Groundwater Quality Standard (AGQS)

ND - Not detected

BOLD - detected

NS - No standard

**[shaded box]** - AGQS exceedance

\* No longer regulated

**GROVE ROAD LANDFILL**

Rye, New Hampshire

**Table 4 - Per- and Polyfluoroalkyl Substances in Private Water Supply Wells  
Groundwater Management Permit No. GWP-198704080-R-005**

DATE	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorobutane sulfonic acid (PFBS)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorooctane sulfonic acid (PFOS)
CAS #	375-22-4	2706-90-3	375-73-5	307-24-4	375-85-4	355-46-4	335-67-1	375-95-1	1705-23-4
Current NH AGQS	NS	NS	NS	NS	NS	18	12	11	15
<b>00 Garland Rd (Tax Map 7, Lot 10)</b>									
06/02/23	<1.92	<1.92	<1.92	<1.92	<1.92	<b>2.68</b>	<1.92	<1.92	<b>7.48</b>
<b>11 Garland Rd (Tax Map 7, Lot 12)</b>									
12/10/18	<4.64	<4.64	<4.64	<4.64	<4.64	<4.64	<4.64	<4.64	<4.64
06/02/23	<b>2.28</b>	<b>2.51</b>	<b>2.49</b>	<b>2.72</b>	<1.96	<1.96	<b>5.48</b>	<1.96	<b>2.30</b>
<b>21 Garland Rd (Tax Map 7, Lot 11)</b>									
06/02/23	<1.99	<1.99	<b>2.38</b>	<1.99	<1.99	<1.99	<b>2.67</b>	<1.99	<1.99
<b>50 Garland Rd (Tax Map 7, Lot 15)</b>									
06/02/23	<b>4.70</b>	<b>5.80</b>	<b>5.58</b>	<b>5.46</b>	<b>2.52</b>	<1.87	<b>7.08</b>	<1.87	<b>2.32</b>
<b>Washington Rd (Tax Map 11, Lot 7)</b>									
06/08/23	<1.91	<1.91	<b>2.47</b>	<1.91	<1.91	<1.91	<b>2.65</b>	<1.91	<b>2.32</b>
<b>Washington Rd (Tax Map 7, Lot 31)</b>									
06/08/23	<1.90	<1.90	<1.90	<1.90	<1.90	<1.90	<b>2.35</b>	<1.90	<b>3.50</b>

NOTE:

AGQS - Ambient Groundwater Quality Standard (AGQS)

ND - Not detected

**BOLD** - detected

NS - No standard

**[Grey Box]** - AGQS exceedance

### Grove Road Landfill

#### 5 - Per- and Polyfluoroalkyl Substances in Rye District Water Supply

	Perfluorooctane sulfonic acid (PFOS)	Perfluorooctanoic acid (PFOA)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoronanoic acid (PFNA)
DATE				
CAS #	1763-23-1	335-67-1	355-46-4	375-95-1
NHDES MCL/AGOS	15	12	18	11
Garland Well				
4/2016	6	6	<3	<2
1/2017	7.8	7.8	<3	
1/2017	6.9(DUP)	7.1(DUP)	<3	<2
7/2017	11	10	5	<2
8/2017	6	5	3	<2
9/2017	6	7	3	<2
10/2017	4	5	<3	<2
11/2017	5	4	<3	<2
12/2017	4	5	<3	<2
1/2018	6	5	<3	<2
2/2018	<4	4	<3	<2
3/2018	6	5	<3	<2
4/2018	<4	6	<3	<2
5/2018	<4	7	<3	<2
6/2018	5	7	<3	<2
7/2018	7	7	<3	<2
8/2018	6	6	<3	<2
9/2018	4	4	<3	<2
10/2018	7	6	<3	<2
11/2018	6	6	<3	<2
12/2018	4	6	<3	<2
1/2019	5	7	<3	<2
2/2019	7	8	<3	<2
3/2019	5	6	<3	<2
4/2019	<4	5	<3	<2
5/2019	6	6	<3	<2
6/2019	<4	6	<3	<2
7/2019	6	5	<3	<2
8/2019	6	6	<3	<2
9/2019	5	5	<2	<2
10/2019	5	5	<2	<2
11/2019	5	5	<2	<2
12/2019	6.50	7.33	<2	<2
1/2020	4.55	7.62	<2	<2
2/2020	6.04	7.14	<2	<2
3/2020	7.32	6.92	<2	<2
4/2020	5.64	8.03	<2	<2
5/2020	4.74	7.47	<2	<2
6/2020	6.75	6.82	<2	<2
7/2020	6.29	6.44	<2	<2
8/2020	7.38	7.34	<2	<2
9/2020	5.22	6.51	2.12	<2
10/2020	6.80	6.91	<2	<2
11/2020	<2	<2	<2	<2
12/2020	7.69	6.20	<2	<2
1/2021	6.04	6.76	<2	<2
4/2021	5.76	6.81	<2	<2

**Grove Road Landfill**

**5 - Per- and Polyfluoroalkyl Substances in Rye District Water Supply**

<b>DATE</b>	<b>Perfluorooctane sulfonic acid (PFOS)</b>	<b>Perfluorooctanoic acid (PFOA)</b>	<b>Perfluorohexane sulfonic acid (PFHxS)</b>	<b>Perfluoronanoic acid (PFNA)</b>
<b>CAS #</b>	1763-23-1	335-67-1	355-46-4	375-95-1
<b>NHDES MCL/AGQS</b>	15	12	18	11
7/2021	5.72	6.52	<2	<2
10/2021	7.97	7.72	<2	<2
2/2022	6.85	8.64	<2	<2
4/2022	6.21	8.49	<2	<2
8/2022	8.47	8.97	2.09	<2
11/2022	7.93	5.87	<2	<2
3/2023	8.03	5.09	<2	<2
<b>Bailey Well</b>				
4/2016	<4	<2	<3	<2
1/2017	<4	2.5	<3	<2
7/2017	<4	<2	<3	<2
8/2017	<4	<2	<3	<2
9/2017	<4	<2	<3	<2
10/2017	<4	<2	<3	<2
11/2017	<4	<2	<3	<2
12/2017	<4	<2	<3	<2
1/2018	<4	<2	<3	<2
2/2018	<4	<2	<3	<2
3/2018	<4	<2	<3	<2
4/2018	<4	<2	<3	<2
5/2018	<4	<2	<3	<2
6/2018	<4	<2	<3	<2
7/2018	<4	<2	<3	<2
8/2018	<4	<2	<3	<2
9/2018	<4	<2	<3	<2
10/2018	<4	<2	<3	<2
11/2018	<4	<2	<3	<2
12/2018	<4	<2	<3	<2
1/2019	<4	<2	<3	<2
2/2019	<4	<2	<3	<2
3/2019	<4	<2	<3	<2
4/2019	<4	<2	<3	<2
5/2019	<4	<2	<3	<2
6/2019	<4	<2	<3	<2
7/2019	<4	<2	<3	<2
8/2019	<4	<2	<3	<2
9/2019	<2	<2	<2	<2
10/2019	<2	<2	<2	<2
11/2019	<2	<2	<2	<2
12/2019	<2	2.43	<2	<2
1/2020	<2	2.42	<2	<2
2/2020	<2	2.29	<2	<2
3/2020	<2	2.34	<2	<2
4/2020	<2	2.45	<2	<2
5/2020	<2	<2	<2	<2
6/2020	<2	<2	<2	<2
7/2020	<2	<2	<2	<2
8/2020	<2	2.31	<2	<2

**Grove Road Landfill**

**5 - Per- and Polyfluoroalkyl Substances in Rye District Water Supply**

<b>DATE</b>	<b>Perfluorooctane sulfonic acid (PFOS)</b>	<b>Perfluorooctanoic acid (PFOA)</b>	<b>Perfluorohexane sulfonic acid (PFHxS)</b>	<b>Perfluoronanoic acid (PFNA)</b>
<b>CAS #</b>	1763-23-1	335-67-1	355-46-4	375-95-1
<b>NHDES MCL/AGQS</b>	15	12	18	11
9/2020	<2	2.12	<2	<2
10/2020	<2	2.16	<2	<2
11/2020	<2	3.21	<2	<2
12/2020	<2	2.85	<2	<2
1/2021	<2	2.81	<2	<2
4/2021	<2	2.46	<2	<2
7/2021	<2	2.31	<2	<2
10/2021	<2	2.32	<2	<2
2/2022	<2	2.07	<2	<2
4/2022	<2	2.23	<2	<2
8/2022	<2	3.02	<2	<2
11/2022	<2	2.23	<2	<2
3/2023	<2	<2	<2	<2
<b>Cedar Run Well</b>				
4/2016	<4	2	<3	<2
1/2017	<4	3	<3	<2
7/2017	<4	<2	3	<2
8/2017	<4	2	<3	<2
9/2017	<4	<2	<3	<2
10/2017	<4	<2	<3	<2
11/2017	<4	<2	<3	<2
12/2017	<4	2	<3	<2
1/2018	<4	3	<3	<2
2/2018	<4	<2	<3	<2
3/2018	<4	<2	<3	<2
4/2018	<4	<2	<3	<2
5/2018	<4	<2	<3	<2
6/2018	<4	<2	<3	<2
7/2018	<4	2	<3	<2
8/2018	<4	2	<3	<2
9/2018	<4	2	<3	<2
10/2018	<4	3	<3	<2
11/2018	<4	4	<3	<2
12/2018	<4	3	<3	<2
1/2019	<4	3	<3	<2
2/2019	<4	<2	<3	<2
3/2019	<4	4	<3	<2
4/2019	<4	2	<3	<2
5/2019	<4	2	<3	<2
6/2019	<4	3	<3	<2
7/2019	<4	4	<3	<2
8/2019	<4	4	<3	<2
9/2019	<2	4	<2	<2
10/2019	<2	4	<2	<2
11/2019	<2	3	<2	<2
12/2019	<2	5.11	<2	<2
1/2020	<2	5.67	<2	<2
2/2020	<2	4.85	<2	<2

**Grove Road Landfill**

**5 - Per- and Polyfluoroalkyl Substances in Rye District Water Supply**

<b>DATE</b>	<b>Perfluorooctane sulfonic acid (PFOS)</b>	<b>Perfluorooctanoic acid (PFOA)</b>	<b>Perfluorohexane sulfonic acid (PFHxS)</b>	<b>Perfluoronanoic acid (PFNA)</b>
<b>CAS #</b>	1763-23-1	335-67-1	355-46-4	375-95-1
<b>NHDES MCL/AGQS</b>	15	12	18	11
3/2020	<2	4.72	<2	<2
4/2020	<2	5.23	<2	<2
5/2020	<2	4.36	<2	<2
6/2020	<2	4.39	<2	<2
7/2020	2.06	4.28	2.06	<2
8/2020	<2	5.09	<2	<2
9/2020	<2	4.32	<2	<2
10/2020	2.07	3.61	2.07	<2
11/2020	2.62	5.59	<2	<2
12/2020	2.77	5.13	2.04	<2
1/2021	2.62	5.17	3.04	<2
4/2021	<2	5.68	<2	<2
7/2021	<2	4.00	<2	<2
10/2021	2.12	5.47	2.26	<2
2/2022	<2	4.37	<2	<2
4/2022	<2	4.80	<2	<2
8/2022	2.43	5.59	<2	<2
11/2022	2.27	4.33	<2	<2
3/2023	5.40	<2	<2	<2
<b>System Sample (Taken at Washington Road Storage Tanks)</b>				
8/2017	7	4	<3	<2
9/2017	5	3	<3	<2
10/2017	4	2	<3	3
11/2017	5	3	<3	<2
12/2017	<4	3	<3	<2
1/2018	<4	3	<3	<2
2/2018	<4	3	<3	<2
3/2018	<4	2	<3	<2
4/2018	5	3	<3	<2
5/2018	<4	4	<3	<2
6/2018	<4	5	<3	<2
7/2018	4	5	<3	<2
8/2018	<4	4	<3	<2
9/2018	<4	3	<3	<2
10/2018	<4	4	<3	<2
11/2018	4	4	<3	<2
12/2018	<4	3	<3	<2
1/2019	5	4	<3	<2
2/2019	<4	5	<3	<2
3/2019	<4	4	<3	<2
4/2019	<4	3	<3	<2
5/2019	<4	5	<3	<2
6/2019	<4	4	<3	<2
7/2019	<4	4	<3	<2
8/2019	4	4	<3	<2
9/2019	<2	4	<2	<2
10/2019	2	4	<2	<2
11/2019	<2	<2	<2	<2

**Grove Road Landfill**

**5 - Per- and Polyfluoroalkyl Substances in Rye District Water Supply**

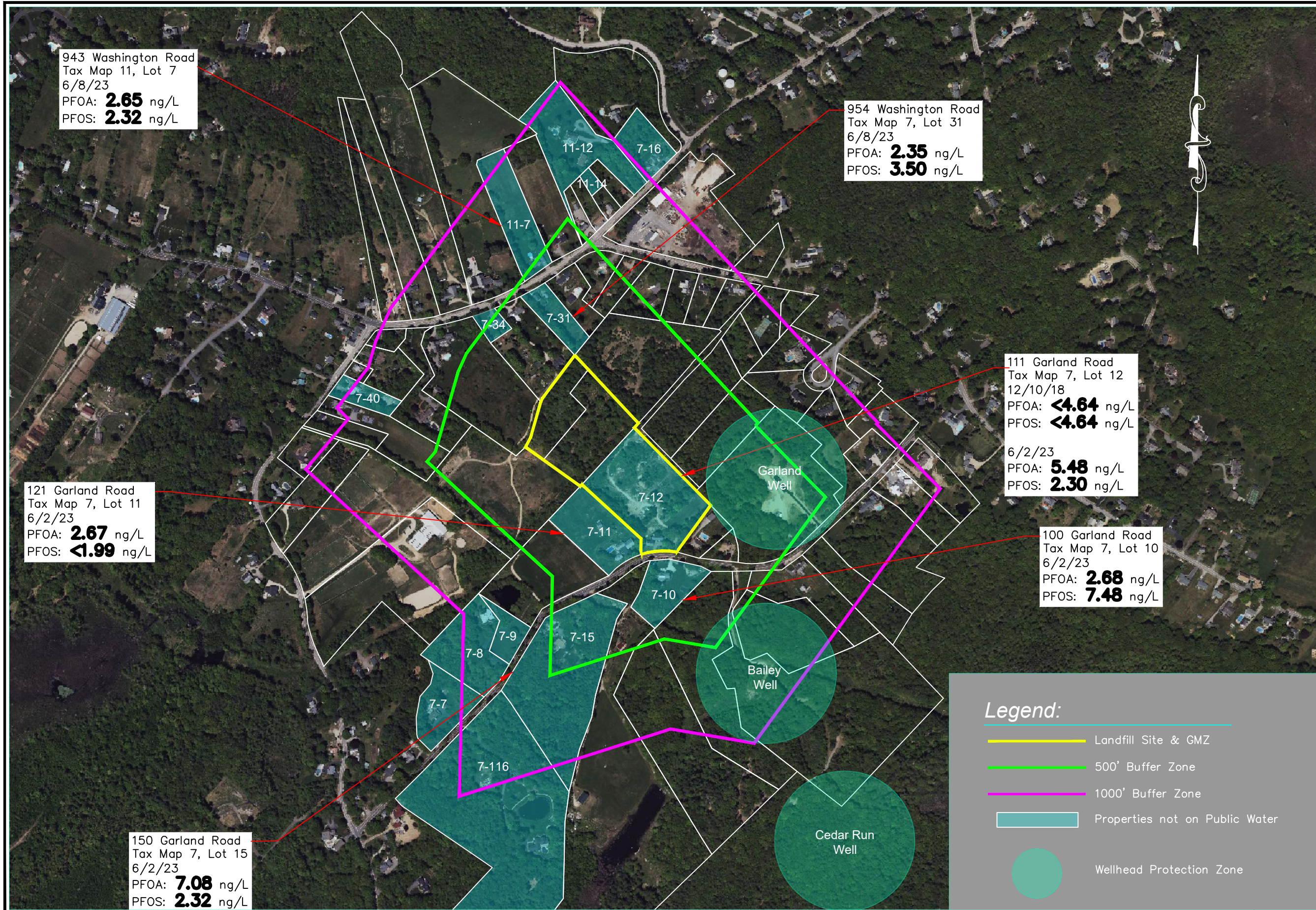
<b>DATE</b>	<b>Perfluorooctane sulfonic acid (PFOS)</b>	<b>Perfluorooctanoic acid (PFOA)</b>	<b>Perfluorohexane sulfonic acid (PFHxS)</b>	<b>Perfluoronanoic acid (PFNA)</b>
<b>CAS #</b>	1763-23-1	335-67-1	355-46-4	375-95-1
<b>NHDES MCL/AGQS</b>	15	12	18	11
12/2019	3.56	4.80	<2	<2
1/2020	3.66	5.45	<2	<2
2/2020	2.84	5.16	<2	<2
3/2020	4.52	5.21	<2	<2
4/2020	4.91	5.62	<2	<2
5/2020	2.90	5.40	<2	<2
6/2020	4.32	5.68	<2	<2
7/2020	4.35	5.04	<2	<2
8/2020	4.42	5.11	<2	<2
9/2020	4.64	4.61	<2	<2
10/2020	5.31	5.31	<2	<2
11/2020	3.12	4.20	<2	<2
12/2020	4.69	5.32	<2	<2
1/2021	5.04	6.27	<2	<2
4/2021	4.35	5.71	<2	<2
7/2021	3.91	4.61	<2	<2
10/2021	4.63	4.70	<2	<2
2/2022	5.92	7.90	<2	<2
4/2022	4.02	5.74	<2	<2
8/2022	5.71	6.71	<2	<2
9/2022	4.12	5.29	<2	<2
11/2022	5.23	5.24	<2	<2
3/2023	5.77	3.37	<2	<2

## APPENDIX B

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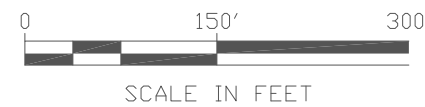
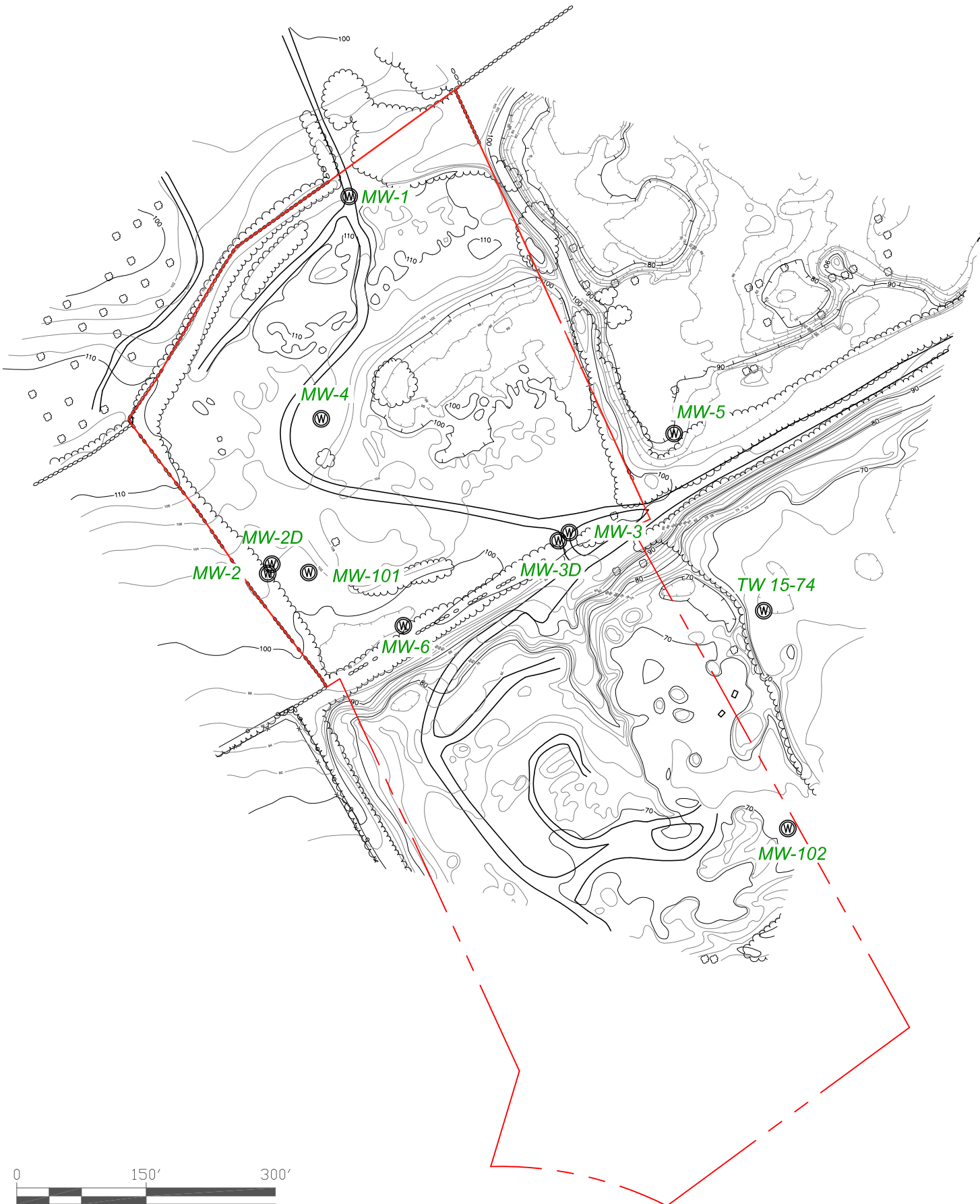
Figure 1: Potential Receptors Map with PFAS Data  
Figure 2: Site Plan with Updated Groundwater Management  
Zone and Sampling Locations





designed by:	MHH	drawn by:	MHH	approved by:	CNM	scale:	500'
date:	7/14/23	project no.:	527	checked by:	CNM	Scale:	1" = 250'
Grove Road Landfill				Private Water Supplies within 500/1,000'			
Town of Rye				New Hampshire			
drawing no. <b>Fig-1</b>							
sheet: 1 of 1							

**CMA ENGINEERS**  
CIVIL/ENVIRONMENTAL/STRUCTURAL  
Portland, ME  
603/431-6196 • 603/627-0708 • 207/541-4223  
c.m.a.e.n.g.i.n.e.e.r.s.c.o.m



1-1 OBS 74

79-44

GARLAND ROAD WELL

**Notes:**

1. Base topography by Eastern Topographics, Inc. and provided by Roy F. Weston, Inc.
2. Property line survey based on survey performed by Richard P. Millette and Assoc. Imported onto plan using common monitoring points.
3. Groundwater Management Zone (GMZ) from Rye Tax map.

**Legend:**

- 80 — 10' Contour
- Edge of Pavement
- ~ Treeline
- MW-5 (W) Groundwater Monitoring Well
- - - - - Groundwater Monitoring Zone - 2019

**CMA ENGINEERS**  
 CIVIL/ENVIRONMENTAL/STRUCTURAL  
 Portsmouth, NH • Manchester, NH • Portland, ME  
 603/431-6196 • 603/627-0708 • 207/541-4223  
 cmaengineers.com

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Town of Rye, NH  
 Grove Road Municipal Landfill  
 Rye, New Hampshire

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Site Plan

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Figure 2 June 2023