



January 2024  
450 Union Street  
Brooklyn, New York  
File No. 03.0034060.10

**450 UNION STREET  
NAPL GAUGING AND RECOVERY  
MONTHLY REPORT DECEMBER 2023**

BCP Site No. C224219

This report serves to document Dense Non-Aqueous Phase Liquid (DNAPL) gauging and recovery performed by GZA GeoEnvironmental, Inc. (GZA), on behalf of National Grid, at the 450 Union Street property in Brooklyn, New York (Site). Consistent with the October 2020 Remedial Action Work Plan (RAWP) prepared by Langan on behalf of 450 Union LLC and 450 Union Developer LLC, DNAPL gauging, and recovery was performed at two wells (RW-01 and RW-02) which are located on the eastern portion of the Site.

**Summary of Field Activities:**

- On December 27, 2023, GZA performed DNAPL gauging and recovery at RW-01 and RW-02. The table below provides a summary of this event, and the attached **Table 1** summarizes gauging and recovery data collected by GZA to date.

Pre-Recovery						Post Recovery	
Well ID	Date	Depth to Water (ft)	Depth to NAPL (ft)	DNAPL Thickness (ft)	DNAPL Volume Removed (gal)	Depth to NAPL (ft)	DNAPL Thickness (ft)
RW-01	12/27/23	9.60	45.00	3.90	15	Trace	Trace
RW-02	12/27/23	9.87	55.50	2.85	10	Trace	Trace

- The area around each well was covered with polyethylene sheeting prior to performance of gauging and recovery activities.
- Approximately 25 gallons of DNAPL/water mixture was recovered from the two wells during the December 27, 2023, recovery event with a submersible pump and the Pulse Pump® Model LP1301.
- The recovered DNAPL/water and polyethylene sheeting/PPE were containerized in 55-gallon drums. Prior to leaving the Site, these drums were transported off-Site for disposal by Miller Environmental Group at the Waterworks, facility in Newburgh, New York. A copy of the disposal manifests are attached.

Attachments: Table 1: Summary of NAPL Gauging and Recovery Activities

Attachment A: Disposal Manifest



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#### Certification

I, James J. Clark, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this field report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

James J. Clark, P.E., LEP  
Qualified Environmental Professional

1/24/2024  
Date

James J. Clark  
Signature



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**TABLE 1**  
**SUMMARY OF NAPL GAUGING ACTIVITIES**

**TABLE 1**  
**Summary of NAPL Gauging and Recovery Activities**  
450 Union Street  
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Location	Prior to DNAPL Recovery			Post DNAPL Recovery			Volume of DNAPL Removed	Cumulative Volume of DNAPL Removed	Comments
	Date	Depth to DNAPL (ft.)	DNAPL Thickness (ft)	Date/Time	Depth to DNAPL (ft.)	DNAPL Thickness (ft)	(gallons)	(gallons)	
<b>RW-01</b> <b>Total well depth = 48.90 ft.</b>	4/19/2022	38.2	10.7	4/19/22 8:30	Trace	Trace	14	14	Flooding observed prior to DNAPL recovery
	5/20/2022	40	8.90	5/20/22 8:55	Trace	Trace	20	34	Some flooding observed prior to DNAPL recovery
	6/21/2022	39.17	9.73	6/21/2022	Trace	Trace	40	74	No flooding observed
	7/28/2022	39.34	9.56	7/28/2022	Trace	Trace	16	90	Flooding observed prior to DNAPL recovery
	8/30/2022	39.15	9.75	8/30/2022	Trace	Trace	20	110	No flooding observed
	9/28/2022	39.19	9.71	9/28/2022	Trace	Trace	15	125	No flooding observed
	10/26/2022	38.65	10.25	10/26/2022	Trace	Trace	35	160	Some flooding observed prior to DNAPL recovery
	11/29/2022	45.30	3.6	11/29/2022	Trace	Trace	20	180	No flooding observed
	12/28/2022	39.51	9.39	12/28/2022	Trace	Trace	35	215	No flooding observed
	1/31/2023	39.10	9.8	1/31/2023	Trace	Trace	25	240	Flooding observed prior to DNAPL recovery
	2/21/2023	39.05	9.85	2/21/2023	Trace	Trace	27	267	Flooding observed prior to DNAPL recovery
	3/28/2023	38.45	10.45	3/28/2023	Trace	Trace	50	317	No flooding observed
	4/1/2023								Site Inaccessible due to demolition
	5/1/2023								Site Inaccessible due to demolition
	6/8/2023	38.60	10.3	3/28/2023	Trace	Trace	40	357	No flooding observed
	7/6/2023	39.45	9.45	7/6/2023	Trace	Trace	40	397	No flooding observed
	8/15/2023	38.85	10.05	8/15/2023	Trace	Trace	20	417	Flooding observed prior to DNAPL recovery
	9/19/2023	43.80	5.1	9/19/2023	Trace	Trace	25	442	Flooding observed prior to DNAPL recovery
	10/17/2023	45.35	3.55	10/17/2023	Trace	Trace	30	472	No flooding observed
	11/21/2023	45.05	3.85	11/21/2023	Trace	Trace	40	512	No flooding observed
	12/27/2023	45.00	3.9	12/27/2023	Trace	Trace	15	527	No flooding observed

**TABLE 1**  
**Summary of NAPL Gauging and Recovery Activities**  
450 Union Street  
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Location	Prior to DNAPL Recovery			Recovery after Removal			Volume of DNAPL Removed	Cumulative Volume of DNAPL Removed	Total Cumulative Volume of DNAPL Removed	Comments
	Date	Depth to DNAPL (ft.)	DNAPL Thickness (ft)	Date/Time	Depth to DNAPL (ft.)	DNAPL Thickness (ft)	(gallons)	(gallons)	(gallons)	
RW-02 Total well depth = 58.35 ft.	4/19/2022	39.00	19.35	4/19/22 10:30	42.0	16.35	31	31	45	Well cap damaged - needs to be replaced
	5/20/2022	39.75	18.60	5/20/22 11:00	50.41	10.66	68	99	133	Well cap damaged - needs to be replaced
	6/21/2022	43.17	15.18	6/21/2022	Trace	Trace	80	179	253	Well cap replaced with a 6-inch J-Plug
	7/28/2022	51.75	6.60	7/28/2022	Trace	Trace	22	201	291	
	8/30/2022	49.9	8.45	8/30/2022	56.85	1.5	35	236	346	
	9/28/2022	46.82	11.53	9/28/2022	Trace	Trace	65	301	426	
	10/26/2022	47.20	11.15	10/26/2022	Trace	Trace	105	406	566	
	11/29/2022	49.20	9.15	11/29/2022	Trace	Trace	80	486	666	
	12/28/2022	50.53	7.82	12/28/2022	Trace	Trace	55	541	756	
	1/31/2023	52.60	5.75	1/31/2023	Trace	Trace	70	611	851	
	2/21/2023	52.67	5.68	2/21/2023	57.5	0.85	82	693	960	
	3/28/2023	52.53	5.82	3/28/2023	Trace	Trace	50	743	1060	
										Site Inaccessible due to demolition
										Site Inaccessible due to demolition
	6/8/2023	45.40	12.95	6/8/2023	56.5	1.85	140	883	1240	
	7/6/2023	48.25	10.10	7/6/2023	57	1.35	110	993	1390	
	8/15/2023	49.50	8.85	8/15/2023	Trace	Trace	130	1123	1540	
	9/19/2023	51.81	6.54	9/19/2023	Trace	Trace	110	1233	1675	
	10/17/2023	54.70	3.65	10/17/2023	Trace	Trace	40	1273	1745	
	11/21/2023	53.65	4.70	11/21/2023	Trace	Trace	50	1323	1835	
	12/27/2023	55.50	2.85	12/27/2023	Trace	Trace	10	1333	1860	



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**ATTACHMENT A**  
**DISPOSAL MANIFEST**

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number		
		N/A			METRO 2644 1		
5. Generator's Name and Mailing Address		Generator's Site Address (if different than mailing address)					
NATIONAL GRID 175 East Old Country Road Hicksville, NY 11801 Generator's Phone: 516-408-8928		450 Union St Brooklyn NY 11201					
6. Transporter 1 Company Name		U.S. EPA ID Number					
MILLER ENVIRONMENTAL GROUP, INC		NYD986908085		800-394-8606			
7. Transporter 2 Company Name		U.S. EPA ID Number					
8. Designated Facility Name and Site Address		U.S. EPA ID Number					
WATERWORKS 77 STEWART AVENUE NEWBURGH, NY 12550 Facility's Phone:		NYR000236349		845-590-0408			
GENERATOR	9. Waste Shipping Name and Description		10. Containers		11. Total Quantity	12. Unit Wt./Vol.	
			No.	Type			
	1.	NON-RCRA, NON-DOT REGULATED SOLIDS (OILY DEBRIS) (oily PPE)		1	DM	15	P
	2.						
	3.						
4.							
13. Special Handling Instructions and Additional Information							
generated with manifest #2326  Document # 2644 Job #: 02232083 PO# 1) Approval # 19GDO0002M 2) Container Type: DM 3) Truck# 8806							
14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.							
Generator's/Officer's Printed/Typed Name		Signature		Month Day Year			
As Agent for National Grid Nicholas Dumont				12 27 23			
INT'L	15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.		Port of entry/exit: Date leaving U.S.:				
	Transporter Signature (for exports only):						
TRANSPORTER	16. Transporter Acknowledgment of Receipt of Materials		Signature		Month Day Year		
	Transporter 1 Printed/Typed Name				12 27 23		
	Transporter 2 Printed/Typed Name		Signature		Month Day Year		
DESIGNATED FACILITY	17. Discrepancy						
	17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
	Manifest Reference Number:						
	17b. Alternate Facility (or Generator)		U.S. EPA ID Number				
	Facility's Phone:						
17c. Signature of Alternate Facility (or Generator)		Month Day Year					
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a							
Printed/Typed Name		Signature		Month Day Year			
Christopher Morgan				12 29 23			

<b>NON-HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number  <b>N/A</b>	2. Page 1 of	3. Emergency Response Phone  <b>METRO</b>	4. Waste Tracking Number <b>2526</b>
5. Generator's Name and Mailing Address <b>NATIONAL GRID 175 East Old Country Road Hicksville NY 11801</b> Generator's Phone: <b>516-406-8928</b>			Generator's Site Address (if different than mailing address) <b>450 Union St Brooklyn NY 11201</b>		
6. Transporter 1 Company Name <b>MILLER ENVIRONMENTAL GROUP, INC</b>			NYD986908085		U.S. EPA ID Number <b>800-394-8606</b>
7. Transporter 2 Company Name					U.S. EPA ID Number
8. Designated Facility Name and Site Address <b>WATERWORKS 77 STEWART AVENUE NEWBURGH, NY 12550</b> Facility's Phone:			NYR000236349		U.S. EPA ID Number <b>845-590-0408</b>
GENERATOR	9. Waste Shipping Name and Description		10. Containers		11. Total
			No.	Type	Quantity
	1. <b>NON-RCRA, NON-DOT REGULATED LIQUIDS (OILY WATER)</b>		1	DM	25
	2.				
	3.				
4.					
13. Special Handling Instructions and Additional Information <b>Generated with manifest #2644</b>  <b>Document # 2526 Job #: 02332083 PO#</b> <b>1) Approval # 19GD0002M 2) Container Type: DM 3) Truck # 8806</b>					
14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste. Generator's/Officer's Printed/Typed Name <b>As Agent for National Grid Nicholas Dumont</b> Signature  Month Day Year <b>12 27 23</b>					
INT'L	15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: Date leaving U.S.:				
	16. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name <b>Nicholas Dumont</b> Signature  Month Day Year <b>12 27 23</b> Transporter 2 Printed/Typed Name Signature Month Day Year				
TRANSPORTER	17. Discrepancy				
	17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection Manifest Reference Number:				
	17b. Alternate Facility (or Generator) U.S. EPA ID Number Facility's Phone: 17c. Signature of Alternate Facility (or Generator) Month Day Year				
DESIGNATED FACILITY	18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a Printed/Typed Name <b>Christopher Morgan</b> Signature  Month Day Year <b>12 29 23</b>				





GZA GeoEnvironmental of New York