



**450 UNION STREET
 NAPL GAUGING AND RECOVERY
 MONTHLY REPORT OCTOBER 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 October 17, 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	10/17/23	9.10	45.35	3.55	30	Trace	Trace
RW-02	10/17/23	9.25	54.70	3.65	40	Trace	Trace

- The area around each well was covered with polyethylene sheeting prior to performance of gauging and recovery activities.
- Approximately 70 gallons of DNAPL/water mixture was recovered from the two wells during the October 17, 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 (PPE), and Norlite facility in Cohoes, New York (DNAPL). A copy of the disposal manifests are attached.

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

Attachment A: Disposal Manifest



November 2023
450 Union Street
Brooklyn, New York
File No. 03.0034060.10

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

11/7/2023
Date


Signature



November 2023
450 Union Street
Brooklyn, New York
File No. 03.0034060.10

TABLE 1
SUMMARY OF NAPL GAUGING ACTIVITIES

TABLE 1
Summary of NAPL Gauging and Recovery Activities
450 Union Street
Brooklyn, NY

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)	
RW-01 Total well depth = 48.90 ft.	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

TABLE 1
Summary of NAPL Gauging and Recovery Activities
450 Union Street
Brooklyn, NY

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		



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ATTACHMENT A
DISPOSAL MANIFEST

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST		1. Generator ID Number N/A	2. Page 1 of	3. Emergency Response Phone N 730 2341	4. Waste Tracking Number 1
5. Generator's Name and Mailing Address NATIONAL GRID 175 East Old Country Road Hicksville, NY 11801 Generator's Phone: 10-408-8928			Generator's Site Address (if different than mailing address) National Grid 450 Union Blvd Brooklyn, NY 11231		
6. Transporter 1 Company Name MILLER ENVIRONMENTAL GROUP, INC			U.S. EPA ID Number NYD888908085		800-394-8808
7. Transporter 2 Company Name			U.S. EPA ID Number		
8. Designated Facility Name and Site Address WATERWORKS 77 ... AVENUE ... NY 11230			U.S. EPA ID Number NYR000236349		845-590-0406
9. Waste Shipping Name and Description			10. Containers		11. Total Quantity
			No.	Type	12. Unit Wt./Vol.
1. NON-RCRA, NON-DOT REGULATED SOLIDS (OILY DEBRIS)			1	DM	50 P
2.					
3.					
4.					
13. Special Handling Instructions and Additional Information Document # _____ Job #: N1022319070# 1) Approval # 23D0158 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 CRAIG PEARCE as agent			Signature <i>Craig Pearce</i>		Month Day Year 10 17 23
15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Transporter Signature (for exports only): _____ Date leaving U.S.: _____					
16. Transporter Acknowledgment of Receipt of Materials					
Transporter 1 Printed/Typed Name <i>Justin H. ...</i>			Signature <i>Justin H. ...</i>		Month Day Year
Transporter 2 Printed/Typed Name			Signature		Month Day Year
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					
17b. Alternate Facility (or Generator)			U.S. EPA ID Number		
Facility's Phone:					
17c. Signature of Alternate Facility (or Generator)					
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a					
Printed/Typed Name Christopher Morgan			Signature <i>Christopher Morgan</i>		Month Day Year 10 20 23

GENERATOR
TRANSPORTER
DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST		1. Generator ID Number		2. Page 1 of 1		3. Emergency Response Phone 347-213-8874		4. Waste Tracking Number		
		5. Generator's Name and Mailing Address NATIONAL GRID 175 E. Old Country Rd. Hicksville NY 11801						Generator's Site Address (if different than mailing address) National Grid 450 Union St. Brooklyn NY 11231		
Generator's Phone: 347-213-8874						U.S. EPA ID Number NYD986908085				
6. Transporter 1 Company Name Miller Environmental Group Inc.						U.S. EPA ID Number				
7. Transporter 2 Company Name						U.S. EPA ID Number				
8. Designated Facility Name and Site Address Norhite Corp. 628 South Saratoga St. Cohoes NY 12047						U.S. EPA ID Number NYD080469935				
Facility's Phone: 518-235-0401										
9. Waste Shipping Name and Description						10. Containers		11. Total Quantity	12. Unit WU/Vol.	
						No.	Type			
1. NON RCRA, NON DOT Regulated Liquids (DNAPL)						2	DM F(L)	100	GL	
2.										
3.										
4.										
13. Special Handling Instructions and Additional Information TRUCK # 8806 (DM) App# 1000362876 3805375 PASS BY Y/M/Day 10/17/23 NY02231967										
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 CRAIG PEARCE as agent						Signature <i>Craig Pearce</i>		Month Day Year 10 17 23		
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 Justin Hancock						Signature <i>Justin Hancock</i>		Month Day Year 10 17 23		
Transporter 2 Printed/Typed Name						Signature		Month Day Year		
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										
17b. Alternate Facility (or Generator) Manifest Reference Number: _____ 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		

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

DESIGNATED FACILITY TO GENERATOR



GZA GeoEnvironmental of New York