# FORMER NUHART PLASTIC MANUFACTURING SITE 280 FRANKLIN STREET, BROOKLYN, NY NYSDEC SITE \#224136 

## PROJECT STATUS REPORT - January 2015

| TO: | Bryan Wong (NYSDEC) | Email: yukyin.wong@dec.ny.gov |
| :--- | :--- | :--- |
| CC: | Dawn Hettrick (NYSDOH) | Email: dawn.hettrick@health.ny.gov |
|  | Yi Han | Email: experta8@gmail.com |
|  | Jane O'Connell (NYSDEC) | Email: jane.oconnell@dec.ny.gov |
|  | Michael Roux | Email: mroux@rouxinc.com |
|  | Wendy A. Marsh | Email: wmarsh@hancocklaw.com |

FROM: Stephanie O. Davis, CPG, Vice President
DATE: February 9, 2016
This status report summarizes activities conducted at the Former Nuhart Plastic Manufacturing Site (Site) in January 2016. Activities during this time period were conducted by FPM Group (FPM). Roux Associates, Inc. (Roux) representatives have also participated in Site evaluations and communications. A site plan showing the general site layout, nearby area, and associated wells is included as Figure 1. Schedule information is presented under each activity discussion.

Interim remedial measure (IRM) activities for monitoring and removal of light non-aqueous-phase liquid (LNAPL) at the Site were performed during the monitoring period in general conformance with the NYSDEC-approved Operation, Maintenance and Monitoring Plan (OM\&M Plan) for the product recovery system. The Feasibility Study (FS) for the Site was also completed and submitted to the NYSDEC. Investigation activities for the Site were previously completed as documented in previous project status reports and are not discussed herein.

## A. Interim Remedial Measure Activities

Monthly IRM routine activities were conducted by FPM on January 15, 2016. A table documenting the product apparent thickness measurements is provided as Attachment A and a Well Location Map showing the extent of LNAPL on the monitoring date is provided as Figure 1.

## > Maintenance Activities

General maintenance activities were performed, including collection of spent IRM-related absorbent materials in the vicinity of recovery wells, placing new absorbent materials as needed to contain product, and proper labeling of waste containers used during this IRM event.

## > Monitoring and Product Removal

Gauging of all onsite and offsite monitoring and recovery wells associated with the Site was conducted on January 15, 2016. Wells that could not be accessed due to obstructions are noted on Attachment A. All wells containing LNAPL are noted, as are wells where LNAPL is absent. No changes were noted in the extent of the product. The area of offsite wells MW-12 and MW-13 (located within the Greenpoint Landing construction area) was accessed; however, the wells could not be monitored as construction activities were occurring in the well area and the wells were covered by soil.

In January 2016 the depth to the water table decreased (generally by 0.2 to 0.6 feet) in all of the wells relative to the level observed in December 2015; the rise in the water table is likely due late December and early January rainfall. Product apparent thicknesses were also noted to decrease in the monitoring and recovery wells where product is present, with some of the decreases in the one to two-foot range. This response is typical when the water table rises.

The total amount of LNAPL removed from the wells during this event is estimated as 80 gallons, including LNAPL from the approximately 30 -gallon drums associated with recovery wells RW-8 and RW-12 (currently equipped with PetroXtractor Well Oil Skimmers, Model PX-B). Based on LNAPL estimates in previous project status reports, an estimated 1,011 gallons of product have been removed from the subsurface since early 2015 , with most of the product previously disposed. Approximately 274 gallons of product remain stored onsite at this time.

All recovered product is presently stored in IBC tanks located within the Site building, pending pickup and offsite disposal. When the IBC tanks are nearly full and/or the containerized spent absorbent materials require disposal, the designated waste management company will be contacted and waste disposal requested.

Eastern Environmental Solutions, Inc. (Eastern) is presently contracted to conduct waste management activities for disposal of product from the IBC tanks at the Site. To date Eastern has transported and disposed an estimated 737 gallons of product at the Cycle Chem facility in Elizabeth, NJ as hazardous waste. Disposal dates include August 28 and November 12, 2015. The completed waste manifest from the November 12, 2015 disposal event is attached. As noted in previous reports, low levels of PCBs are present in a limited portion of the onsite product plume near the southwest side of the Site and extend offsite to MW-5, which directly adjoins the southwest side of the Site. This product is classified as non-TSCA regulated hazardous waste (U028 and U107) and has been managed separately from product that does not contain PCBs. Waste transport and disposal information will continue to be included in the progress reports following the months during which waste disposal activities occur.

## B. Feasibility Study

FPM has prepared an FS for the Site that includes evaluations of potential remedial methods to address onsite and offsite Site-related contamination. Internal review of the FS draft was completed in mid-January 2016 and the FS was transmitted to the NYSDEC, NYSDOH, and the established document repositories for review on January 28, 2016.

## C. Meetings and NYSDEC Communication

The NYSDEC participated in periodic informal email communications in January 2016. Communication on Site-related technical matters will continue, as needed, between NYSDEC, FPM, Roux and others.

## Attachments

Attachment A - Apparent Thickness of LNAPL
Figure 1 - Well Location Map showing areal extent of LNAPL on groundwater
Manifest for November 12, 2015 waste disposal

U:IRigano LLCI49 Dupont BrooklynlMonthlyreporting And IRMIMonthlyreportslJanuary2016_Monthlystatusrpt.Docx


Attachment A: Apparent Thickness of LNAPL
Atachment A: Apparent Thickness of LNAPL
Former NuHart Plastic Manufacturing Site, NYSDEC \#224136
280 Franklin Street, Brooklyn, NY

| INumber |  | * Depht | Jan.16 | Dec. 15 | Nov-15 | 0 Ot, 15 | Se. 15 | Au9.15 | Jul15 | Jun.15 | May 15 | Ap. 15 | Mar | 2015 | Sent 2014 | 90, 2014 | Jul14 | Jun 14 |  |  |  | Fob, 2 | Jan 2014 | Dec, 213 | Nov 2013 | Ot 213 | Sent 2013 | Aut 2013 | 20. 2013 | 013 | Mar | Feo | Jan. 213 | Dec. 212 | Nou. 212 | Ot. 2012 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MW-4 | 11.66 | ${ }^{13,43}$ | 1.77 | 1.96 | 204 | 1.99 | 1.77 | 222 | 4.27 | 0.35 | 0.44 | , | 0.56 | , | 1.75 | 1.90 | 1.24 | Trace | - | 0.01 | Trace | ${ }^{0.23}$ | 0.22 | ${ }^{0.30}$ | ${ }^{0.66}$ | 0.78 | \# | ${ }^{3.49}$ | 222 | 0.59 | 0.67 | 0.44 | 0.44 | 0.80 | ${ }^{0.31}$ | ${ }^{0.33}$ | ${ }^{3.13}$ |
| MW-5 | 9.93 | 13.17 | ${ }^{3} 24$ | 4.83 | 5.41 | 4.16 | 4.26 | 4.45 | 4.22 | 230 | 241 | 2.55 | 3.10 | 4.40 | 4.79 | 5.03 | 1.97 | 3.39 | - | 3.14 | 280 | 2.98 | - | 6.46 | 7.17 | 5.54 | \# | 5.08 | 3.92 | 3.00 | 239 | 4.32 | 3.00 | 4.11 | 3.50 | 3.41 | 5.58 |
| Mw -6 | 8.96 | - | \#\# | \# | \#\# | \#\# | \#\# | \#\# | \# | 2.30 | \# | \#\# | \# | \# | \#+ | \# | \#\# | \# | - |  | 284 | 3.43 | - | 289 | 276 | 200 | \# | 242 | 282 |  |  |  |  |  |  | 3.49 | 2.14 |
| MW-7 | 9.18 | 11.65 | 247 | ${ }^{3} 4$ | ${ }_{3} 31$ | 2.58 | 1.46 | 1.28 | 0.99 | 1.58 | No | 1.94 | 1.79 | \# | 201 | 2.16 | 0.60 | 0.01 | - | 0.17 | 0.17 | - | - | 4.78 | 4.70 | 4.00 | \# | 2.77 | 1.08 | 1.92 | 4.92 | 5.45 | 1.30 | 1.36 | 2.00 | 1.84 | 1.83 |
| MN-8 | No | 9.91 | No | No | no | No | No | No | No | No | No | No | No | - | No | No | no | No | - | No | No | - | - | No | No | No | No | No | No | No | No | No | No | No | No | No | No |
| MN-12 | - | - | - | No | No | - | - | - | - | No | No | No | No | - | No | - | No | No | - | No | No | - | - | No | No | No | No | No | No | No | No | No | No | No | No | No | No |
| MW-13 | - | - | - | No | no | - | - | - | - | No | No | no | No | - | No | - | no | No | - | No | No | - | - | No | No | No | no | No | no | no | No | No | no | No | No | no | No |
| MW-14 | No | 9.70 | No | No | No | No | No | No | ND | No | No | No | No | No | No | No | No | N0 | - | No | No | , | - | No | No | No | No | No | No | No | No | No | No | No | No | No | No |
| MW-15 | 10.58 | 11.18 | 0.50 | ${ }^{3} .08$ | 3.07 | 1.97 | 1.05 | 1.05 | No | 1.24 | 1.21 | 1.56 | 1.67 | 1.71 | 2.19 | ${ }_{2} .32$ | \# | 0.45 | - | 0.61 | 0.30 | 0.38 | - | 3.11 | 3.19 | ${ }_{3} 34$ | \#+ | 2.14 | 0.70 |  | 0.32 | 1.07 |  | 1.56 | 0.99 | 0.76 | 2.67 |
| MN-16 | 11.25 | 11.27 | 0.02 | 0.11 | 0.02 | 0.12 | 0.05 | 0.05 | 0.14 | 0.13 | 0.15 | 0.03 | 0.08 | 0.02 |  | 0.03 | 0.99 | Trace | - | 0.01 | 0.01 | 0.10 |  | 0.23 | 0.22 | 0.19 | \# | 0.05 | 0.07 | 0.02 | 0.01 | 0.10 | 0.25 | 0.20 | No | 0.24 | 0.20 |
| MN- 20 | 10.60 | 13.06 | 246 | 3.52 | 3.02 | ${ }^{3.33}$ | 3.25 | 3.12 | 288 | 2.58 | 2.79 | ${ }^{3.84}$ | 4.38 | 5.13 | 1.87 | 1.71 | 2.92 | 208 | - | 1.47 | 2.90 | 2.58 | 4.19 | 5.07 | 4.90 | 4.11 | \# | ${ }_{3} 33$ | ${ }^{1.37}$ | 3.32 | 1.20 | 1.10 | 1.35 | 1.38 | 3.39 | 3.15 | 3.80 |
| MN-21 | 11.48 | 14.45 | 2.97 | ${ }_{4.46}$ | 3.85 | 4.51 | ${ }^{3.63}$ | 3.32 | 2.97 | 2.53 | 2.77 | 2.98 | ${ }^{3.46}$ | ${ }^{323}$ | 3.62 | 4.6 | 4.90 | 1.99 | - | 269 | 247 | 248 | ${ }_{3} 37$ | 3.13 | 3.72 | 4.66 | \# | 4.37 | 3.66 | 3.38 | 3.43 | 3.75 | 4.10 | 4.23 | 289 | 204 | 4.15 |
| Mw-22 | 1225 | ${ }^{1247}$ | 0.22 | 1.33 | 1.01 | 0.49 | 1.17 | 1.04 | 0.79 | 0.86 | 0.84 | 0.74 | 1.33 | 1.27 | 1.03 | 1.02 | 0.54 | 0.85 | - | 0.74 | 0.86 | 0.75 | 1.22 | 1.07 | 0.69 | 0.50 | \# | 1.12 | 0.86 | 0.50 | 0.62 | 1.15 | 1.20 | 0.18 | 0.21 | 0.18 | 1.80 |
| Mw-23 | no | 11.21 | ND | No | No | no | No | No | ND | no | No | No | No | No | No | No | No | no | - | ND | No | No | No | ND | No | No | No | No | No | No | No | No | No | No | No | No | No |
| MN-24 | No | 10.40 | No | No | No | No | No | No | No | No | No | No | No | No | No | No | no | No | - | No | No | - | - | No | No | No | No | No | No | No | No | No | No | No | No | No | No |
| MN- 25 | 10.19 | 13.62 | ${ }^{3,43}$ | 3.68 | ${ }^{3.53}$ | ${ }^{3.63}$ | ${ }^{3.53}$ | ${ }^{3.68}$ | 3.53 | ${ }^{2.81}$ | ${ }^{324}$ | ${ }^{3.36}$ | 1.07 | 1.03 | 3.16 | 4.02 | 3.65 | 3.48 | - | 3.91 | 3.75 | - | - | 5.68 | 5.56 | 4.01 | \# | 4.41 | 3.58 | 3.96 | 3.96 | 4.34 | 3.70 | 2.82 | 7.86 | 4.40 | 3.96 |
| MN- 26 | 10.22 | ${ }^{13.63}$ | 3.41 | 4.23 | 4.08 | 3.77 | 4.00 | 3.70 | 3.65 | 3.18 | 3.33 | 3.64 | 4.14 | 4.11 | 3.84 | 3.70 | 4.50 | 3.02 | - | 2.71 | ${ }^{3.48}$ | 3.80 | 4.34 | 4.44 | 447 | 4.62 | \# | 4.18 | 3.69 | 286 | 2.33 | 1.00 | 245 | 1.62 |  | 261 | 4.02 |
| MN-27 | No | 10.64 | No | No | no | No | No | No | ND | No | N0 | No | No | ND | ND | No | ND | No | - | No | No |  |  | No | No | No | No | No | No | ND | No | No | No | No | 0.99 | No | No |
| MN-28 | No | 10.98 | No | No | no | no | No | No | ND | No | No | No | No | No | No | No | No | No | - | No | No | No | No | No | No | No | No | No | No | No | No | No | No | ${ }^{N}$ | N | ${ }^{N}$ | $\cdots$ |
| MN-29 | No | 11.21 | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | - | ND | No | No | No | No | No | No | No | No | No | No | No | No | No | N | N | N | N |
| MN-30 | No | 9.83 | No | No | no | No | No | No | No | No | No | No | No | No | No | No | No | No | - | No | No | - | - | No | No | No | No | No | N | ${ }^{\mathrm{N}}$ | N | N | N | N | N | ${ }^{N}$ | N |
| MN-31 | No | 9.20 | No | No | - | No | No | No | No | no | No | No | No | No | No | No | no | No | - | No | No | - | - | No | No | No | No | No | N | ${ }^{\mathrm{N}}$ | N | N | ${ }^{\mathrm{N}}$ | N | N | N | ${ }^{\mathrm{N}}$ |
| MW-32 | No | ${ }^{9.88}$ | No | No | No | no | No | No | No | No | No | No | No | No | No | No | No | No | - | No | No | - | - | No | No | No | No | No | N | ${ }^{\text {N }}$ | N | N | N | N | N | N | N |
| Mw-34 | No | 11.59 | No | No | no | No | No | No | N0 | no | No | No | No | No | No | No | no | No | - | No | No | No | No | No | No | No | No | No | N | ${ }^{\mathrm{N}}$ | N | N | N | N | N | N | N |
| MN- 35 | No | ${ }^{14.58}$ | No | No | No | No | No | No | N0 | No | No | No | No | No | No | No | No | No | - | No | No | No | No | No | No | No | No | No | N | ${ }^{N}$ | N | N | N | N | N | N | N |
| MN- 36 | No | 10.67 | No | No | no | No | No | No | No | No | No | No | No | No | No | No | ${ }^{N}$ | N | N | ${ }^{N}$ | ${ }^{\text {N }}$ | ${ }_{\text {N }}$ | N | N | ${ }^{N}$ | N | N | N | N | ${ }^{\mathrm{N}}$ | N | N | N | N | N | N | N |
| MN-37 | No | 11.09 | No | No | No | No | No | No | No | No | No | No | No | No | No | No | N | ${ }^{\mathrm{N}}$ | N | N | ${ }^{\mathrm{N}}$ | N | N | ${ }^{\mathrm{N}}$ | N | N | ${ }^{\mathrm{N}}$ | ${ }^{N}$ | N | ${ }^{\mathrm{N}}$ | N | N | ${ }^{\mathrm{N}}$ | N | N | N | N |
| MN-38 | No | 8.90 | No | No | no | no | No | no | No | no | No | no | No | - | No | N | ${ }^{\mathrm{N}}$ | N | N | N | N | N | N | N | N | N | ${ }^{\mathrm{N}}$ | ${ }^{\mathrm{N}}$ | N | ${ }^{\mathrm{N}}$ | N | N | N | N | N | N | N |
| MN-39 | No | 8.72 | No | No | no | no | No | no | No | No | No | No | No | No | No | N | ${ }^{\mathrm{N}}$ | N | N | N | N | N | N | ${ }^{\mathrm{N}}$ | N | N | N | ${ }^{\mathrm{N}}$ | N | N | N | N | N | N | N | N | N |
| MN-40 | No | 7.10 | No | No | - | No | No | No | ND | No | No | No | No | No | No | N | ${ }^{N}$ | N | N | N | N | N | N | ${ }^{N}$ | ${ }^{\mathrm{N}}$ | N | ${ }^{N}$ | ${ }^{N}$ | N | ${ }^{\mathrm{N}}$ | N | N | ${ }^{N}$ | N | N | ${ }^{N}$ | N |
| MN-41 | No | 9.79 | No | No | No | No | No | No | No | No | No | No | No | No | N | N | $\cdots$ | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |
| MW-42 | No | 9.09 | No | No | no | No | No | No | N0 | No | No | No | No | No | N | N | ${ }^{\mathrm{N}}$ | ${ }^{\mathrm{N}}$ | N | ${ }^{\mathrm{N}}$ | ${ }^{\mathrm{N}}$ | N | N | ${ }^{N}$ | ${ }^{\mathrm{N}}$ | N | N | N | ${ }^{\mathrm{N}}$ | ${ }^{\mathrm{N}}$ | ${ }^{N}$ | ${ }^{N}$ | ${ }^{\mathrm{N}}$ | N | ${ }^{N}$ | ${ }^{\text {N }}$ | N |
| RW-1 | No | 8.85 | No | No | - | No | No | No | ND | No | ND | No | ND | ND | No | ND | ND | No | - | ND | No | No | ND | ND | No | No | ND | N0 | ${ }^{\text {No }}$ | ${ }^{-}$ | ${ }^{\text {No }}$ | ND | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | No | ${ }_{5}^{\text {No }}$ |
| RWW-2 | 12.08 | 14.91 | ${ }^{283}$ | 428 | - | ${ }^{2} 84$ | 2.97 | ${ }^{3} 41$ | 5.54 | 5.28 | 5.44 | ${ }^{282}$ | 4.19 | 4.52 | 4.52 | 4.53 | ${ }^{4.52}$ | 0.11 | - | ${ }^{1.38}$ | ${ }^{3.05}$ | ${ }^{2} 31$ | 280 | 3.19 | 509 | ${ }_{3} .86$ | \# | 4.07 | 296 | 292 | 3.48 | ${ }^{3} 75$ | 4.20 | ${ }^{2} 52$ | 1.92 | ${ }^{1.50}$ | ${ }_{5.85}$ |
| RW-3 | 15.14 | 17.51 | ${ }^{237}$ | 4.27 | 2.92 | 4.14 | 1.39 | 2.14 | 4.31 | 223 | 223 | 1.81 | ${ }^{3.28}$ | ${ }^{3.41}$ | ${ }^{3.50}$ | ${ }^{3} 45$ | ${ }^{3.56}$ | 4.12 | - | 1.58 | 2.90 | 228 | 4.80 (est) | 3.60 | ${ }^{3.3}$ | ${ }^{1.88}$ | \# | 2.96 | 1.44 | ${ }^{3.90}$ | ${ }^{3} 20$ | ${ }^{3.34}$ | ${ }^{3.7}$ | ${ }^{3.58}$ | 284 | ${ }^{3.50}$ | 3.88 |
| RW-4 | 12.12 | ${ }_{14.63}$ | 2.51 | 2.82 | 2.31 | 1.99 | 1.09 | 202 | 3.65 | 3.68 | ${ }^{3.53}$ | ${ }^{3.53}$ | ${ }^{1.43}$ | 1.35 | 278 | 288 | \#\# | 2.86 | - | 1.81 | 325 | 327 | 245 | 2.67 | 230 | 1.46 | \# | 2.75 | 1.08 | 3.06 | 3.15 | 3.00 | 3.05 | 295 | - | ${ }_{3} 35$ | 3.35 |
| RW-5 | 11.87 | 13.79 | 1.92 | 1.96 | 5.64 | 4.18 | 2.03 | 5.79 | 4.87 | 4.69 | 4.75 | 0.70 | 0.85 | 0.91 | 0.85 | 0.43 | 0.17 | 0.17 | - | 0.12 | 0.93 | 0.43 | 0.52 | 0.60 | 0.79 | 0.54 | \# | 0.69 | 0.51 | 262 |  |  |  | 2.35 | 3.00 | 1.88 |  |
| ${ }^{\text {RWW-6 }}$ | ${ }^{12.06}$ | ${ }^{12.80}$ | 0.74 | 0.77 | 0.65 | ${ }^{0.66}$ | 0.65 | 0.61 | 0.78 | 1.96 | 235 | ${ }^{0.71}$ | ${ }^{1.19}$ | ${ }^{1.14}$ | 0.71 | 0.84 | 0.78 | 0.79 | - | 0.45 | ${ }^{128}$ | 0.96 | 0.41 | 0.94 | ${ }^{1.30}$ | 0.67 | \# | 0.10 | 0.08 | 0.45 | 0.50 | 0.21 | 0.40 | 0.15 | 0.90 | 0.22 | 0.06 |
| RW-8* | - | - | - | - | - | - |  |  | - |  | - | 2.14 | 2.93 | 292 | 4.01 | 4.48 | \# | 2.95 | - | 0.65 | 1.47 | 0.86 | 2.37 | 2.46 | 3.92 | 4.13 | \# | 4.59 | 3.64 |  |  |  |  |  |  |  |  |
| RW-9 | 13.41 | 16.87 | ${ }^{346}$ | 4.62 | ${ }^{4.37}$ | ${ }^{3} .52$ | 2.68 | ${ }^{323}$ | 3.04 | ${ }^{4.82}$ | 4.79 | 4.28 | 5.68 | 5.55 | 4.81 | 4.59 | 4.92 | 4.14 | - | 1.02 | 290 | 2.71 | 4.34 | 5.25 | 4.88 | 3.08 | \# | 4.9 | 237 | 4.40 | 262 | 3.11 | 3.50 | 3.08 | 3.83 | 2.98 | ${ }_{5.33}$ |
| RW-10 | 13.12 | 17.89 | 4.77 | 4.46 | ${ }_{5} 5.32$ | 4.45 | 4.12 | 4.12 | 5.71 | ${ }_{3} .80$ | 3.95 | 3.65 | 4.96 | 5.04 | 3.93 | 3.74 | 3.57 | 3.18 | - | 3.38 | 3.89 | ${ }^{3.48}$ | 3.80 | 3.81 | 3.99 | 4.11 | \# | 4.11 | 3.55 | - |  |  |  |  |  | , |  |
| Rw-11 | 13.44 | 16.51 | 3.07 | 4.65 | 4.39 | 3.59 | 3.24 | 3.62 | 3.43 | ${ }_{3.66}$ | 3.67 | 3.00 | 3.87 | 3.97 | 4.43 | 4.42 | ${ }_{4} 4.46$ | 3.87 | - | 203 | 2.54 | 259 | 3.66 | 4.27 | 5.48 | 2.65 | \# | ${ }_{3} 31$ | ${ }_{3,49}$ | ${ }^{3.15}$ | ${ }^{267}$ | ${ }^{3.11}$ | ${ }_{3.50}$ | ${ }^{2.93}$ | 4.49 | ${ }^{2.58}$ | 4.40 |
| NW-12 | - | - | - |  | - | - |  | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |  | - | - |  |



est $=$ Esimated value
St
$=$ Wel equipeos dith



# FORMER NUHART PLASTIC MANUFACTURING SITE 280 FRANKLIN STREET, BROOKLYN, NY NYSDEC SITE \#224136 

## PROJECT STATUS REPORT - February 2016

| TO: | Bryan Wong (NYSDEC) | Email: yukyin.wong@dec.ny.gov |
| :--- | :--- | :--- |
| CC: | Dawn Hettrick (NYSDOH) | Email: dawn.hettrick@health.ny.gov |
|  | Yi Han | Email: experta8@gmail.com |
|  | Jane O'Connell (NYSDEC) | Email: jane.oconnell@dec.ny.gov |
|  | Michael Roux | Email: mroux@rouxinc.com |
|  | Wendy A. Marsh | Email: wmarsh@hancocklaw.com |

FROM: Stephanie O. Davis, CPG, Vice President
DATE: March 9, 2016
This status report summarizes activities conducted at the Former Nuhart Plastic Manufacturing Site (Site) in February 2016. Activities during this time period were conducted by FPM Group (FPM). Roux Associates, Inc. (Roux) representatives have also participated in Site evaluations and communications. A site plan showing the general site layout, nearby area, and associated wells is included as Figure 1. Schedule information is presented under each activity discussion.

Interim remedial measure (IRM) activities for monitoring and removal of light non-aqueous-phase liquid (LNAPL) at the Site were performed during the monitoring period in general conformance with the NYSDEC-approved Operation, Maintenance and Monitoring Plan (OM\&M Plan) for the product recovery system. The Feasibility Study (FS) for the Site previously submitted to the NYSDEC and NYSDOH was undergoing review. Investigation activities for the Site were previously completed as documented in previous project status reports and are not discussed herein.

## A. Interim Remedial Measure Activities

Monthly IRM routine activities were conducted by FPM on February 9, 2016. A table documenting the product apparent thickness measurements is provided as Attachment A and a Well Location Map showing the extent of LNAPL on the monitoring date is provided as Figure 1.

## > Maintenance Activities

General maintenance activities were performed, including collection of spent IRM-related absorbent materials in the vicinity of recovery wells, placing new absorbent materials as needed to contain product, and proper labeling of waste containers used during this IRM event.

Both skimming systems associated with recovery wells RW-8 and RW-12 were found to be powered and operational during the site visit. As a precaution new power cords were installed for the skimming systems, with the cords secured and labeled.

## > Monitoring and Product Removal

Gauging of all onsite and offsite monitoring and recovery wells associated with the Site was conducted; wells that could not be accessed are noted on Attachment A. All wells containing LNAPL are noted, as
are wells where LNAPL is absent. No changes were noted in the extent of the product. The area of offsite wells MW-12 and MW-13 (located within the Greenpoint Landing construction area) was accessed; however, the wells could not be monitored as the wells were covered. Shortly after the monitoring event FPM was contacted by a representative of Langan, which is working at the Greenpoint Landing property, and provided with contact information such that the construction team can be notified in advance of the monitoring events and the wells can be made accessible. FPM will contact the construction team in advance of future monitoring events.

In February 2016 the depth to the water table decreased (generally by 0.2 to 0.4 feet) in most of the wells relative to the level observed in January 2016; the rise in the water table is likely due to infiltration of January rainfall and snowmelt runoff. Product apparent thicknesses were also noted to decrease in most of the wells where product is present, which is a typical response when the water table rises.

The amount of LNAPL removed from the wells during this event is estimated as 105 gallons, including LNAPL from the drums associated with the skimmers on recovery wells RW-8 and RW-12. Based on previous LNAPL estimates, an estimated 1,116 gallons of product have been removed from the subsurface since early 2015, with most of the product disposed. Approximately 104 gallons of product remain stored at this time in IBC tanks located in the Site building, pending pickup and offsite disposal. When the IBC tanks are nearly full and/or the containerized spent absorbent materials require disposal, the designated waste management company will be contacted and waste disposal requested.

Eastern Environmental Solutions, Inc. (Eastern) is presently contracted to conduct waste management activities for disposal of product from the IBC tanks at the Site; the most recent waste removal event was conducted on February 9, 2016. To date Eastern has transported and disposed an estimated 1,012 gallons of product at the Cycle Chem facility in Elizabeth, NJ as hazardous waste. The completed waste manifest from the February 9, 2016 disposal event is pending and will be attached to the monthly report issued following its receipt. Waste transport and disposal information will continue to be included in the progress reports following the months during which waste disposal activities occur.

## B. Feasibility Study

FPM prepared an FS for the Site that includes evaluations of potential remedial methods to address Site-related contamination. The FS was transmitted to the NYSDEC, NYSDOH, and the established document repositories for review on January 28, 2016. Shortly after the period covered by this report the NYSDEC transmitted correspondence to the remedial party concerning the FS; this correspondence is presently under consideration.

## C. Meetings and NYSDEC Communication

The NYSDEC participated in periodic informal communications in February 2016. Communication on Site-related technical matters will continue, as needed, between NYSDEC, FPM, Roux and others.

## Attachments

Attachment A - Apparent Thickness of LNAPL
Figure 1 - Well Location Map showing areal extent of LNAPL on groundwater
U:IRigano LLC149 Dupont BrooklynlMonthlyreporting And IRMIMonthlyreportsIFebruary2016_Monthlystatusrpt.Docx


\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Well Number} \& \multirow[t]{2}{*}{- oent} \& \multirow[t]{2}{*}{( Depento} \& \multicolumn{2}{|c|}{2016} \& \multicolumn{11}{|c|}{2015} \& \multicolumn{9}{|c|}{\({ }^{\text {Apparenen Thickness of t LAPL (teet) }}\)} \& \multicolumn{10}{|c|}{2013} \& \multicolumn{4}{|c|}{2012} \\
\hline \& \& \& Fobic \& Jan16 \& Doc.15 \& Nov.15 \& Oot15 \& Sep.15 \& Aug 15 \& Ju1.15 \& Jun15 \& May.15 \& Appr15 \& Mar-15 \& Jan 2015 \& sept 2014 \& Aug. 2014 \& Jul14 \& Jun-14 \& may. 14 \& Apr. 214 \& Mar 2014 \& Fen. 2014 \& Jan. 214 \& Doc. 213 \& Noo. 213 \& Oct 2013 \& Sppt 2013 \& Aug. 2013 \& Ju1. 2013 \& Ap. 2013 \& Mar 2013 \& Feb. 2013 \& Jan. 213 \& Doc. 212 \& Nov. 2012 \& Oct 2012 \& Sep. 2012 \\
\hline Mw-4 \& 11.48 \& \({ }^{13,33}\) \& 1.85 \& 1.77 \& 1.96 \& 2.04 \& 1.99 \& 1.77 \& 222 \& 4.27 \& 0.35 \& 0.44 \& \& 0.56 \& \& 1.75 \& 1.90 \& 1.24 \& Traee \& \& 0.01 \& traee \& 0.23 \& 0.22 \& 0.30 \& 0.66 \& 0.78 \& \# \& 3.49 \& 222 \& 0.59 \& 0.67 \& 0.44 \& 0.44 \& 0.80 \& 0.31 \& 0.33 \& 3.13 \\
\hline Mw-5 \& 10.76 \& 12.81 \& 1.85 \& \({ }^{3} 24\) \& 4.83 \& 5.41 \& 4.16 \& 4.26 \& 4.45 \& 422 \& 230 \& 241 \& 2.55 \& 3.10 \& 4.40 \& 4.79 \& 503 \& 1.97 \& 3.39 \& - \& 3.14 \& 280 \& 298 \& - \& 6.46 \& 7.17 \& 5.54 \& \# \& 5.08 \& 3.92 \& 3.00 \& 239 \& 4.32 \& 3.00 \& 4.11 \& 3.50 \& 3.41 \& 5.58 \\
\hline MW-6 \& \({ }_{8.75}\) \& 迷 \& \#\# \& \# \& \#\# \& \#\# \& \# \& \#\# \& \#+ \& \#\# \& \({ }^{230}\) \& \#\# \& \#\# \& \#\# \& \#\# \& \#\# \& \#+ \& \# \& \#\# \& - \& - \& 284 \& \({ }_{3,3}\) \& - \& 289 \& 2.76 \& 2.0 \& \#+ \& 242 \& \({ }_{2} 28\) \& \& \& \& - \& - \& \& 3.49 \& \({ }_{2.14}\) \\
\hline MW-7 \& 8.91 \& \({ }^{11.22}\) \& \({ }^{231}\) \& 247 \& 3.44 \& 3.31 \& \({ }^{258}\) \& \({ }_{1.46}\) \& \({ }^{128}\) \& 0.99 \& 1.58 \& No \& 1.94 \& 1.79 \& \# \& 201 \& 2.16 \& 0.60 \& 0.01 \& - \& 0.17 \& 0.17 \& \& - \& 4.78 \& 4.70 \& 4.00 \& \#+ \& 2.7 \& 1.06 \& 1.92 \& 4.92 \& 5.45 \& 1.30 \& 1.36 \& 200 \& 1.84 \& 1.83 \\
\hline mw-8 \& No \& 9.63 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& No \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& ND \& No \& No \& ND \& ND \& No \& No \& No \& \({ }^{\text {No }}\) \& No \\
\hline Mw-12 \& - \& - \& - \& - \& No \& No \& \& \& \& - \& No \& No \& No \& No \& - \& No \& - \& No \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \\
\hline MW-13 \& - \& - \& - \& - \& No \& No \& - \& - \& - \& - \& No \& No \& No \& No \& - \& No \& - \& No \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& No \& No \& No \& No \& no \& No \& No \& No \& no \& No \\
\hline MW-14 \& No \& 8.44 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& No \& no \& No \& No \& No \& No \& No \& No \& No \& No \\
\hline \(\cdots \mathrm{N}-15\) \& 10.32 \& 10.36 \& 0.04 \& 0.60 \& 3.08 \& 3.07 \& 1.97 \& 1.05 \& 1.05 \& No \& 1.24 \& 1.21 \& 1.56 \& 1.67 \& 1.71 \& 2.19 \& 232 \& \# \& 0.45 \& - \& 0.61 \& 0.30 \& 0.38 \& - \& 3.11 \& 3.19 \& 3.34 \& \# \& 2.14 \& 0.70 \& \& 0.32 \& 1.07 \& \& 1.56 \& 0.99 \& 0.76 \& \(2{ }^{267}\) \\
\hline MW-16 \& 10.99 \& 11.15 \& 0.16 \& 0.02 \& 0.11 \& 0.02 \& 0.12 \& 0.05 \& 0.05 \& 0.14 \& 0.13 \& 0.15 \& 0.03 \& 0.08 \& 0.02 \& \& 0.03 \& 0.99 \& Traee \& - \& 0.01 \& 0.01 \& 0.10 \& - \& 0.23 \& 0.22 \& 0.19 \& \# \& 0.05 \& 0.07 \& 0.02 \& 0.01 \& 0.10 \& 0.25 \& 0.20 \& No \& 0.24 \& 0.20 \\
\hline MW-20 \& 10.33 \& \({ }^{1232}\) \& 1.98 \& \({ }^{246}\) \& 3.52 \& 3.02 \& \({ }_{3}^{3} 3\) \& \({ }_{3.25}\) \& \({ }_{3.12}\) \& 288 \& \({ }^{2} 58\) \& 279 \& \({ }_{3} 34\) \& 4.38 \& 5.13 \& 1.87 \& 1.71 \& 2.92 \& \({ }_{2} 06\) \& - \& 1.47 \& 2.90 \& \({ }_{2} 25\) \& 4.19 \& 5.07 \& 4.90 \& 4.11 \& \# \& \({ }_{3,33}\) \& \({ }_{1}^{1.37}\) \& \({ }_{3} 32\) \& \({ }_{1}^{120}\) \& \({ }^{1.10}\) \& \({ }_{1}^{1.35}\) \& \({ }_{1.38}^{1.3}\) \& 3.39 \& 3.15 \& \({ }_{3.80}\) \\
\hline Mw-21 \& 11.26 \& \({ }^{13.68}\) \& 242 \& 297 \& 4.46 \& 3.85 \& 4.51 \& 3.63 \& 3.32 \& 2.97 \& \({ }^{253}\) \& 277 \& \({ }^{2} 98\) \& 3.46 \& \({ }^{323}\) \& 3.62 \& 4.64 \& 4.90 \& 1.99 \& - \& 269 \& 247 \& 248 \& \({ }_{3} 37\) \& 3.13 \& 3.72 \& 4.66 \& \# \& 4.37 \& 3.66 \& \({ }_{3} 38\) \& \({ }_{3} 33\) \& \({ }^{3.75}\) \& 4.10 \& \({ }^{423}\) \& 289 \& 204 \& 4.15 \\
\hline mw-22 \& 12.07 \& 12.22 \& 0.15 \& 0.22 \& 1.33 \& 1.01 \& 0.49 \& 1.17 \& 1.04 \& 0.79 \& 0.86 \& 0.84 \& 0.74 \& 1.33 \& 1.27 \& 1.03 \& 1.02 \& 0.54 \& 0.85 \& - \& 0.74 \& 0.86 \& 0.75 \& 1.22 \& 1.07 \& 0.69 \& 0.50 \& \# \& 1.12 \& 0.86 \& 0.50 \& 0.62 \& 1.15 \& 1.20 \& 0.18 \& 0.21 \& 0.18 \& 1.80 \\
\hline MW-23 \& No \& 10.98 \& No \& No \& No \& No \& No \& no \& no \& no \& No \& No \& No \& no \& No \& no \& No \& No \& No \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& ND \& No \& No \& No \& No \& No \& No \& No \& No \\
\hline MN-24 \& No \& 10.19 \& No \& ND \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& ND \& No \& No \& No \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& No \& No \& No \& N0 \& No \& No \& No \& No \& No \& No \\
\hline MN-25 \& 10.00 \& \({ }^{13,32}\) \& \({ }_{3} .32\) \& \({ }^{3,43}\) \& 3.68 \& 3.53 \& \({ }^{3.63}\) \& 3.53 \& 3.68 \& \({ }_{3} .53\) \& \({ }^{2} 81\) \& \({ }^{324}\) \& \({ }_{3} 36\) \& 1.07 \& 1.03 \& \({ }^{3.16}\) \& 4.02 \& 3.65 \& \({ }_{3.48}\) \& - \& 3.91 \& 3.75 \& - \& - \& 5.66 \& 5.56 \& 4.01 \& \# \& 4.41 \& 3.58 \& 3.96 \& \({ }_{3.96}\) \& 4.34 \& \({ }^{3.70}\) \& \({ }^{282}\) \& \({ }^{7} .86\) \& 4.40 \& 3.96 \\
\hline Mw-26 \& 10.00 \& 13.82 \& 3.82 \& 3.41 \& 423 \& 4.08 \& 3.7 \& 4.00 \& 3.70 \& 3.65 \& 3.18 \& \({ }_{3} 33\) \& 3.64 \& 4.14 \& 4.11 \& 3.84 \& 3.70 \& 4.50 \& 3.02 \& - \& 271 \& \({ }_{3.48}\) \& 3.80 \& 4.34 \& 4.44 \& 4.47 \& 4.62 \& \# \& 4.18 \& 3.69 \& \({ }_{286}\) \& \({ }_{2} 23\) \& 1.00 \& 245 \& 1.62 \& \& 261 \& 4.02 \\
\hline MWW-27 \& No \& 10.40 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& \& \& No \& No \& No \& No \& ND \& No \& No \& ND \& No \& No \& No \& 0.99 \& No \& No \\
\hline MN-28 \& No \& 10.75 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& N \& N \& N \& N \\
\hline MW-29 \& No \& 11.00 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& no \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& N \& N \& N \& N \\
\hline MW-30 \& No \& 9.55 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& No \& N \& N \& N \& N \& N \& N \& N \& N \& N \\
\hline MW-31 \& No \& 8.90 \& No \& No \& No \& \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& No \& N \& N \& N \& N \& N \& N \& N \& N \& N \\
\hline MW-32 \& no \& 9.60 \& No \& No \& No \& No \& No \& no \& No \& No \& No \& No \& No \& No \& No \& No \& No \& no \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& No \& N \& N \& N \& N \& N \& N \& N \& N \& N \\
\hline MW-34 \& No \& \({ }^{11.30}\) \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& N \& N \& N \& N \& N \& N \& N \& N \& N \\
\hline MW-35 \& No \& 14.38 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& N \& N \& N \& N \& N \& N \& N \& N \& N \\
\hline MW-36 \& no \& 10.40 \& No \& no \& No \& No \& No \& no \& no \& no \& no \& No \& No \& No \& No \& No \& No \& N \& \({ }^{\text {N }}\) \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \\
\hline MW-37 \& No \& 10.84 \& No \& No \& No \& No \& No \& No \& No \& No \& no \& No \& No \& No \& No \& No \& No \& N \& N \& N \& N \& N \& \({ }^{N}\) \& N \& \({ }^{\mathrm{N}}\) \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \\
\hline MW-38 \& No \& 9.61 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& \& No \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \\
\hline MW-39 \& No \& \({ }^{8.37}\) \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& N \& N \& N \& \(\cdots\) \& N \& N \& \({ }^{N}\) \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \\
\hline Mw-40 \& No \& 6.84 \& No \& No \& No \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \\
\hline Mw-41 \& No \& 9.52 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& м \& \({ }^{\mathrm{N}}\) \\
\hline MW-42 \& No \& \({ }_{8,79}\) \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& N \& N \& N \& N \& N \& N \& N \& \({ }^{\text {N }}\) \& N \& N \& N \& N \& \({ }^{\mathrm{N}}\) \& N \& N \& N \& \({ }^{N}\) \& N \& \({ }^{N}\) \& \({ }^{\mathrm{N}}\) \& \({ }^{\mathrm{N}}\) \& N \& \({ }^{\mathrm{N}}\) \\
\hline Rw-1 \& No \& \({ }^{8.55}\) \& No \& No \& No \& - \& no \& no \& no \& no \& no \& No \& no \& no \& no \& No \& N0 \& No \& No \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& \& N0 \& N0 \& No \& No \& No \& No \& N0 \\
\hline RW-2 \& 11.88 \& \({ }^{14.58}\) \& \({ }^{2} 70\) \& 2.83 \& 4.28 \& - \& 264 \& 297 \& 3.41 \& 5.54 \& 5.28 \& 5.44 \& \({ }^{2} 82\) \& 4.19 \& 4.52 \& 4.52 \& 4.53 \& 4.52 \& 0.11 \& - \& 1.30 \& 3.05 \& 2.31 \& 280 \& 3.19 \& 5.09 \& 3.86 \& \#+ \& 4.07 \& 2.96 \& 292 \& 3.48 \& 3.75 \& 4.20 \& 252 \& 1.92 \& \({ }_{1} 1.50\) \& 5.85 \\
\hline RW-3 \& 14.91 \& 16.55 \& 1.64 \& 237 \& 4.27 \& 2.92 \& 4.14 \& 1.39 \& 2.14 \& 4.31 \& 223 \& \({ }^{223}\) \& \({ }^{1.81}\) \& \({ }^{328}\) \& 3.41 \& 3.50 \& 3.45 \& \({ }^{3.56}\) \& 4.12 \& - \& 1.58 \& 290 \& 228 \& 4.60 (ess) \& 3.60 \& \({ }^{3.33}\) \& 1.88 \& \# \& 2.96 \& 1.44 \& 3.90 \& 3.20 \& 3.34 \& \({ }^{3.70}\) \& \({ }^{3.58}\) \& 284 \& \({ }^{3.50}\) \& 3.88 \\
\hline RW-4 \& 11.95 \& \({ }^{13.98}\) \& \({ }^{2} 03\) \& 2.51 \& 282 \& \({ }^{231}\) \& 1.99 \& 1.09 \& 202 \& 3.65 \& \({ }_{3} .66\) \& \({ }^{3.53}\) \& \({ }_{3.53}\) \& \({ }^{1.43}\) \& 1.35 \& 278 \& 288 \& \# \& 286 \& - \& 1.81 \& 3.25 \& 3.27 \& 245 \& 267 \& 230 \& 1.46 \& \# \& 275 \& 1.08 \& 3.08 \& 3.15 \& 3.00 \& 3.05 \& 295 \& \& \({ }_{3.45}\) \& 3.35 \\
\hline RW-5 \& 11.64 \& 14.17 \& 2.53 \& 1.92 \& 1.96 \& 5.64 \& 4.18 \& 2.03 \& 5.79 \& 4.87 \& 4.89 \& 4.75 \& 0.70 \& 0.85 \& 0.91 \& 0.85 \& 0.43 \& 0.17 \& 0.17 \& - \& 0.12 \& 0.93 \& 0.43 \& 0.52 \& 0.80 \& 0.79 \& 0.54 \& \# \& 0.69 \& 0.51 \& 262 \& - \& - \& - \& 235 \& 3.00 \& 1.88 \& \\
\hline RW-6 \& 11.85 \& 12.81 \& 0.76 \& 0.74 \& 0.77 \& 0.65 \& 0.66 \& 0.65 \& 0.61 \& 0.78 \& 1.96 \& 235 \& 0.71 \& 1.19 \& 1.14 \& 0.71 \& 0.64 \& 0.78 \& 0.79 \& - \& 0.45 \& 1.28 \& 0.96 \& 0.41 \& 0.94 \& 1.30 \& 0.87 \& \# \& 0.10 \& 0.08 \& 0.45 \& 0.50 \& 0.21 \& 0.40 \& 0.15 \& 0.90 \& 0.22 \& 0.06 \\
\hline \({ }_{\text {RWW-8** }}\) \& \& \& \& \& \& \& \& \& \& \& \& \& 2.14 \& \({ }^{2.93}\) \& \({ }_{2}^{292}\) \& 4.01 \& 4.48 \& \#\# \& 2.95 \& \& \& \& \& \({ }^{2,37}\) \& \& \& 4.13 \& \& 4.59 \& \({ }_{3}^{3.64}\) \& \& 262 \& \& \& \& \& \& \\
\hline \begin{tabular}{l} 
RW-9 \\
\hline \(\mathrm{RW-10}\) \\
\hline
\end{tabular} \& \({ }_{13,18}^{13,}\) \& 15.50 \& \[
2.42
\] \& \[
3.46
\] \& 4.62 \& \({ }_{4}^{4.37}\) \& \({ }^{3.52}\) \& \({ }^{268}\) \& \({ }^{323}\) \& \({ }^{3.04}\) \& \({ }_{4}^{482}\) \& \({ }_{3}^{4.99}\) \& \begin{tabular}{l}
4.28 \\
3.65 \\
\hline
\end{tabular} \& 5.68
4.96 \& 5.65
504
50 \& 4.81

3 \& | 4.59 |
| :--- |
| 3.74 | \& ${ }_{4}^{4.92}$ \& 4.14

3.18 \& - \& | 1.02 |
| :--- |
| 138 |
| 1 | \& 290

3.89 \& ${ }_{348}^{274}$ \& 4.34
3
3 \& 525

381 \& 4.88
3 \& 3.08
411 \& \#\# \& 4.09
411 \& 237
3
3 \& 4.40 \& 262 \& 3.11 \& ${ }_{3.50}$ \& ${ }^{3.08}$ \& ${ }_{3.3}$ \& ${ }^{2} 98$ \& <br>

\hline ${ }_{\text {RWW-11 }}$ \& ${ }_{13,16}^{12.39}$ \& 15.91 \& ${ }_{2}^{4.45}$ \& ${ }_{3} .07$ \& ${ }_{4.65}^{4.65}$ \& ${ }_{\text {¢ }}^{4.39}$ \& ${ }_{3.59}^{4.5}$ \& ${ }_{3.24}^{4.24}$ \& ${ }_{3.62}^{4.12}$ \& ${ }^{5.43}$ \& ${ }_{3.66}$ \& ${ }_{3.97}$ \& | 3.00 |
| :--- |
| 3.00 | \& ${ }_{3.97}^{4.88}$ \& ${ }_{3} 5.97$ \& ${ }_{4.43}$ \& ${ }_{4.42}$ \& ${ }_{4.46}$ \& ${ }^{3.18} \begin{aligned} & \text { 3.87 }\end{aligned}$ \& - \& ${ }_{203}$ \& 2.54 \& 2.59 \& ${ }_{3.66}$ \& ${ }_{4.27}$ \& ¢, \& ${ }_{2} 2.15$ \& "\# \& ${ }_{3.91}$ \& ( ${ }_{3.99}$ \& $\stackrel{-}{3.15}$ \& ${ }_{267}$ \& 3.11 \& $\stackrel{-}{3.50}$ \& ${ }_{2.93}$ \& $\stackrel{-}{4.9}$ \& ${ }_{2.58}$ \& $\stackrel{-}{4.40}$ <br>

\hline RW-12.* \& - \& - \& - \& - \& - \& , \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& , \& , \& - \& - \& , \& , \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - <br>
\hline
\end{tabular}

Notes:


| $N=$ Not insiled |
| :--- |
| NO Nontedeceded |





# FORMER NUHART PLASTIC MANUFACTURING SITE 280 FRANKLIN STREET, BROOKLYN, NY NYSDEC SITE \#224136 

## PROJECT STATUS REPORT - March 2016

| TO: | Bryan Wong (NYSDEC) | Email: yukyin.wong@dec.ny.gov |
| :--- | :--- | :--- |
| CC: | Dawn Hettrick (NYSDOH) | Email: dawn.hettrick@health.ny.gov |
|  | Yi Han | Email: experta8@gmail.com |
|  | Jane O'Connell (NYSDEC) | Email: jane.oconnell@dec.ny.gov |
|  | Michael Roux | Email: mroux@rouxinc.com |
|  | Wendy A. Marsh | Email: wmarsh@hancocklaw.com |

FROM: Stephanie O. Davis, CPG, Vice President
DATE: April 7, 2016
This status report summarizes activities conducted at the Former Nuhart Plastic Manufacturing Site (Site) in March 2016. Activities during this time period were conducted by FPM Group (FPM). Roux Associates, Inc. (Roux) representatives have also participated in Site evaluations and communications. A site plan showing the general site layout, nearby area, and associated wells is included as Figure 1. Schedule information is presented under each activity discussion.

Interim remedial measure (IRM) activities for monitoring and removal of light non-aqueous-phase liquid (LNAPL) at the Site were performed during the monitoring period in general conformance with the NYSDEC-approved Operation, Maintenance and Monitoring Plan (OM\&M Plan) for the product recovery system. Some issues with offsite wells MW-12 and MW-13 were also addressed. The Feasibility Study (FS) for the Site previously submitted to the NYSDEC and NYSDOH was undergoing revision. Investigation activities for the Site were previously completed as documented in previous project status reports and are not discussed herein.

## A. Interim Remedial Measure Activities

Monthly IRM routine activities were conducted by FPM on March 11, 2016. A table documenting the product apparent thickness measurements is provided as Attachment A and a Well Location Map showing the extent of LNAPL on the monitoring date is provided as Figure 1.

## > Maintenance Activities

General maintenance activities were performed, including collection of spent IRM-related absorbent materials in the vicinity of recovery wells, placing new absorbent materials as needed to contain product, and proper labeling of waste containers used during this IRM event. Both skimming systems associated with recovery wells RW-8 and RW-12 were found to be powered and operational during the site visit.

Monitoring wells MW-12 and MW-13 located within the Greenpoint Landing construction area were found to have been damaged. Well MW-12 was found to have soil blocking the casing above the level of the screen and small-diameter tubing was present within the casing from below the soil to the top of the casing. A water level measurement could not be obtained from MW-12. The protective manhole above MW-13 had been removed, together with the well cap and small-diameter tubing was also found
in this well. MW-13 was not blocked and a water level measurement was obtained. A Langan representative was contacted and it was determined that the Greenpoint Landing construction contractor had inadvertently damaged the wells and then attempted to clear the soil that had fallen into the wells; Langan had not been notified of this issue. FPM returned to well MW-12 on March 18 and removed the obstructing soil by flushing and circulating clean water and pumping the well until the soil was cleared and the well's connection with the formation was re-established. No signs suggestive of potential contamination, including LNAPL, were noted during this process. The casings for wells MW-12 and MW-13 were secured and Langan was notified of the need for the protective manholes to be restored as soon as feasible.

## > Monitoring and Product Removal

Gauging of all onsite and offsite monitoring and recovery wells associated with the Site was conducted; wells that could not be accessed are noted on Attachment A. All wells containing LNAPL are noted, as are wells where LNAPL is absent. No changes were noted in the extent of the product. As noted above, although well MW-12 located within the Greenpoint Landing construction area could not be accessed during the monitoring event, when the well was cleared the following week no LNAPL was noted.

In March 2016 changes in the depth to the water table relative to the levels observed in February 2016 were variable, with some wells showing increases and some wells showing decreases. Product apparent thicknesses were noted to decrease in most of the wells where the water table rose and increase in the wells where the water table dropped. These are typical responses to water table changes.

The amount of LNAPL removed from the wells during this event is estimated as 90 gallons, including LNAPL from the drums associated with the skimmers on recovery wells RW-8 and RW-12. Based on previous LNAPL estimates, an estimated 1,206 gallons of product have been removed from the subsurface since early 2015, with most of the product disposed. Approximately 194 gallons of product remain stored at this time in IBC tanks located in the Site building, pending pickup and offsite disposal. When the IBC tanks are nearly full and/or the containerized spent absorbent materials require disposal, the designated waste management company will be contacted and waste disposal requested.

Eastern Environmental Solutions, Inc. (Eastern) is presently contracted to conduct waste management activities for disposal of product from the IBC tanks at the Site; the most recent waste removal event was conducted on February 9, 2016. To date Eastern has transported and disposed an estimated 1,012 gallons of product at the Cycle Chem facility in Elizabeth, NJ as hazardous waste. The completed waste manifest from the February 9, 2016 disposal event is pending and will be attached to the monthly report issued following its receipt. Waste transport and disposal information will continue to be included in the progress reports following the months during which waste disposal activities occur.

## > Additional Activities

Wells MW-12 and MW-13, located within the Greenpoint Landing construction area, were not surveyed during the 2015 surveying project as the surveyors could not access the construction area at that time. The wells were surveyed on March 18, 2016, with the resulting information added to the well elevation data sheet for the Site. During the surveying event it was noted by FPM representatives that both well casings had been damaged relative to their condition in 2015 and that the tops of both casings appeared to be lower than previously observed. Therefore, depth-to-water measurements made in these wells in 2015 were likely not referenced to the current tops of the casings and should not be integrated with the current well casing elevations to evaluate the water table elevation. Unless
additional damage is noted in the future, water level measurements made during future water level monitoring events are anticipated to be usable for determining the water table elevations in these wells.

## B. Feasibility Study

FPM prepared an FS for the Site that includes evaluations of potential remedial methods to address Site-related contamination. The FS was transmitted to the NYSDEC, NYSDOH, and the established document repositories for review on January 28, 2016. The NYSDEC transmitted correspondence to the remedial party concerning the FS on March 3, 2016. On March 15, 2016 the NYSDEC was notified that the FS would be revised to address the comments in the NYSDEC's March 3 correspondence and a request was made to re-submit the revised FS by April 25, 2016. The NYSDEC responded on March 16 confirming the re-submittal date. The FS is presently being revised to address the comments in the NYSDEC's March 3, 2016 correspondence and is scheduled to be resubmitted to the NYSDEC and NYSDOH on or before April 25, 2016.

## C. Meetings and NYSDEC Communication

The NYSDEC participated in periodic informal communications in March 2016. Communication on Site-related technical matters will continue, as needed, between NYSDEC, FPM, Roux and others.

## Attachments

Attachment A - Apparent Thickness of LNAPL
Figure 1 - Well Location Map showing areal extent of LNAPL on groundwater

U:\Rigano LLC\49 Dupont Brooklyn\Monthlyreporting And IRM\Monthlyreports\March2016_Monthlystatusrpt.Docx


Attachment A: Apparent Thickness of LNAPL
Former NuHart Plastic Manufacturing Site, NYSDEC \#224136
280 Franklin Street, Brooklyn, NY

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Number} \& \multirow[t]{2}{*}{} \& \multirow[t]{2}{*}{Wepert} \& \multicolumn{3}{|c|}{2016} \& \multicolumn{11}{|c|}{2015} \& \multicolumn{9}{|c|}{} \& \multicolumn{10}{|c|}{2013} \& \multicolumn{4}{|c|}{2012} \\
\hline \& \& \& Mar16 \& Fen,16 \& jan.16 \& cat \& No. 15 \& 0ot15 \& Sep.15 \& Aug 15 \& Ju15 \& Jum 15 \& May,15 \& Apr 15 \& Mar 15 \& jan 205 \& Spt 2044 \& Aus, 2014 \& Jul14 \& Jun 14 \& day-14 \& Apr 2014 \& mar. 204 \& Fen 2004 \& Jan 2014 \& Dec. 2031 \& No. 2013 \& \({ }^{\text {ot } 2013}\) \& Sept 203 \& U9.201 \& \& Apr. 213 \& nar. 203 \& Fob. 2013 \& \& Dec. 2012 \& 2 \& Oat \& \\
\hline Mw-4 \& 11.22 \& \({ }^{12.65}\) \& \({ }_{1} 1.43\) \& 1.85 \& 1.77 \& 1.96 \& 204 \& 1.99 \& \& 222 \& 4.27 \& 0.35 \& 0.44 \& \& 0.56 \& \& 1.75 \& 1.90 \& 12 \& ase \& \& 01 \& Traee \& 023 \& 0.22 \& 0.30 \& 0.86 \& 0.78 \& " \& 39 \& 222 \& 059 \& 087 \& \& 0.44 \& \& \& 0.33 \& 3.13 \\
\hline mw-5 \& 9.71 \& 12.85 \& 3.14 \& 1.85 \& 3.24 \& 4.83 \& 5.41 \& 4.16 \& 4.26 \& 4.45 \& 4.22 \& 230 \& 2.4 \& 2.55 \& 3.10 \& 4.40 \& 4.79 \& 5.03 \& 1.97 \& 3.39 \& - \& 3.14 \& 2.80 \& 2.98 \& - \& 6.46 \& 7.17 \& 5.54 \& \# \& 5.08 \& 3.92 \& 3.00 \& 239 \& 4.32 \& 3.00 \& 4.11 \& 3.50 \& 3.4 \& 5.58 \\
\hline MW-6 \& 8.70 \& \& \#+ \& \#\# \& \#\# \& \#+ \& \#\# \& \#\# \& \# \& \# \& \#\# \& 230 \& \#\# \& "\# \& \# \& \#\# \& \# \& " \& \# \& \# \& - \& - \& 284 \& \({ }_{3,4}\) \& - \& 289 \& 2.76 \& 200 \& \#\# \& 242 \& 282 \& - \& - \& - \& - \& - \& - \& 3.49 \& 2.14 \\
\hline Mw-7 \& 8.95 \& 10.61 \& 1.68 \& 2.31 \& 2.47 \& 3.44 \& 3.31 \& 2.58 \& 1.46 \& 1.28 \& 0.99 \& 1.58 \& No \& 1.94 \& 1.79 \& \# \& 201 \& 2.16 \& 0.60 \& 0.01 \& - \& 0.17 \& 0.17 \& \& - \& 4.78 \& 4.70 \& 4.00 \& "\# \& 27 \& 1.08 \& 1.92 \& 4.92 \& 5.45 \& 1.30 \& \({ }^{1.36}\) \& 200 \& 1.84 \& 1.83 \\
\hline MW -8 \& No \& \({ }^{9.55}\) \& No \& no \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& No \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& no \\
\hline MN-12 \& - \& - \& - \& - \& - \& No \& No \& - \& - \& - \& - \& No \& No \& No \& No \& - \& No \& - \& No \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& no \\
\hline MN-13 \& No \& \({ }_{7.42}\) \& - \& - \& - \& No \& No \& - \& - \& - \& - \& No \& No \& No \& No \& - \& No \& - \& No \& No \& - \& No \& No \& - \& - \& No \& No \& No \& no \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \\
\hline NW-14 \& No \& \({ }^{8.41}\) \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \\
\hline MN-15 \& 10.45 \& 10.48 \& 0.03 \& 0.04 \& 0.60 \& 3.08 \& 3.07 \& 1.97 \& 1.05 \& 1.05 \& No \& 124 \& 1.21 \& 1.56 \& 1.87 \& 1.71 \& 2.19 \& \({ }^{232}\) \& \# \& 0.45 \& - \& 0.81 \& 0.30 \& 0.38 \& - \& 3.11 \& 3.19 \& \({ }^{3.34}\) \& \& 2.14 \& 0.70 \& \& 0.32 \& 1.07 \& \& 1.50 \& 0.99 \& 0.76 \& 267 \\
\hline MWV-16 \& \begin{tabular}{l}
10.95 \\
1032 \\
\hline 10
\end{tabular} \& \({ }_{10,97}^{1295}\) \& \begin{tabular}{l}
0.02 \\
\hline 2
\end{tabular} \& \({ }^{0.16}\) \& \({ }^{0.02}\) \& \({ }^{0.11}\) \& \({ }_{0}^{0.02}\) \& \({ }_{3}^{0.12}\) \& \({ }_{0}^{0.05}\) \& \({ }^{0.05}\) \& 0.14 \& \begin{tabular}{l}
0.13 \\
0.28 \\
\hline
\end{tabular} \& \begin{tabular}{l}
0.15 \\
0.1 \\
\hline 10
\end{tabular} \& \({ }^{0.03}\) \& \({ }_{0}^{0.088}\) \& \({ }_{0}^{0.02}\) \& 187 \& 0.03 \& \({ }^{0.99}\) \& Trace \& - \& \({ }_{0}^{0.01}\) \& 0.01
0.20 \& \begin{tabular}{l}
0.10 \\
0.28 \\
\hline
\end{tabular} \& \(\stackrel{-}{4}\) \& O.23 \& 0.22
40 \& 0.19 \& \#\# \& 0.05

0.35 \& ${ }_{0}^{0.07}$ \& ${ }_{0}^{0.02}$ \& 0.01 \& 0.10 \& ${ }_{0}^{0.25}$ \& \begin{tabular}{l}
0.20 <br>
\hline 1.28

 \& No \& 

0.24 <br>
\hline 2.5

 \& 

0.20 <br>
3.80 <br>
\hline
\end{tabular} <br>

\hline MW-20 \& 10.32 \& 12.75 \& ${ }^{243}$ \& ${ }^{1.99}$ \& ${ }^{246}$ \& 3.52 \& ${ }^{3} \mathbf{0 2}$ \& ${ }_{3}^{3.33}$ \& ${ }_{3}^{325}$ \& ${ }^{3.12}$ \& 288 \& ${ }_{2}^{258}$ \& ${ }_{2}^{279}$ \& ${ }^{3} 288$ \& ${ }_{4}^{438}$ \& ${ }_{5}^{5.13}$ \& ${ }_{1}^{1.87}$ \& 1.71 \& 2.92 \& ${ }^{206}$ \& - \& ${ }_{2}^{124}$ \& 2.20 \& ${ }_{2}^{258}$ \& 4.19 \& 5.07 \& 4.30 \& 4.11 \& \#\# \& ${ }_{3}^{3} 33$ \& ${ }^{1.37}$ \& ${ }_{3}^{3.32}$ \& ${ }^{122}$ \& 1.10 \& ${ }_{1}^{1.35}$ \& ${ }_{1}^{1.38}$ \& 3.39 \& 3.15 \& ${ }_{3.80}$ <br>
\hline MN-21 \& ${ }^{11.32}$ \& ${ }^{14.00}$ \& ${ }^{268}$ \& ${ }^{2.42}$ \& ${ }^{297}$ \& 4.46 \& ${ }^{3.85}$ \& 4.51 \& ${ }^{3.63}$ \& ${ }_{3}^{3,32}$ \& 2.97 \& ${ }^{253}$ \& ${ }^{2.7}$ \& ${ }^{298}$ \& ${ }^{3,46}$ \& ${ }^{323}$ \& ${ }^{3.62}$ \& 4.4 \& 4.90 \& ${ }^{1.99}$ \& - \& ${ }^{269}$ \& 2.47 \& ${ }^{248}$ \& ${ }_{3}^{3.37}$ \& ${ }^{3.13}$ \& 3.72 \& 4.65 \& "\# \& ${ }_{4}^{4.37}$ \& ${ }^{3.66}$ \& ${ }_{3}^{3.38}$ \& ${ }^{3.3}$ \& ${ }^{3.75}$ \& 4.10 \& 423 \& 289 \& 204 \& 4.15 <br>
\hline MW-22 \& 11.93 \& 1237 \& 0.44 \& 0.15 \& 0.22 \& 1.33 \& 1.01 \& 0.49 \& 1.17 \& 1.04 \& 0.79 \& 0.86 \& 0.84 \& 0.74 \& 1.33 \& 1.27 \& 1.03 \& 1.02 \& 0.54 \& 0.85 \& - \& 0.74 \& 0.86 \& 0.75 \& ${ }^{122}$ \& 1.07 \& 0.69 \& 0.50 \& \# \& ${ }^{1.12}$ \& 0.86 \& 0.50 \& 0.62 \& ${ }^{1.15}$ \& 1.20 \& 0.18 \& 0.21 \& 0.18 \& 1.80 <br>
\hline MW-23 \& No \& 10.93 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& no \& ND \& ND \& No \& No \& No \& No \& ND \& No \& No \& No \& ND \& No \& No \& No \& No <br>
\hline nW-24 \& No \& 10.11 \& No \& no \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& no \& No \& No \& No \& No \& no \& No \& No \& No \& No <br>
\hline MN-25 \& 9.96 \& ${ }^{13,38}$ \& ${ }^{342}$ \& ${ }^{3.32}$ \& 3.43 \& 3.68 \& 3.53 \& 3.63 \& ${ }^{3.53}$ \& 3.68 \& 3.53 \& ${ }^{281}$ \& ${ }^{324}$ \& ${ }^{3} 36$ \& 1.07 \& 1.03 \& 3.16 \& 4.02 \& ${ }^{3.65}$ \& ${ }_{3.8}$ \& - \& 3.9 \& 3.75 \& O \& \& 5.66 \& 5.56 \& 4.01 \& "\# \& 4.41 \& 3.58 \& 3.96 \& ${ }^{3.96}$ \& 4.34 \& 3.70 \& 282 \& 7.86 \& 4.40 \& 3.96 <br>
\hline MW-26 \& 10.08 \& 13.05 \& 297 \& ${ }^{3} 82$ \& 3.41 \& 423 \& 4.08 \& 3.7 \& 400 \& 3.70 \& 3.65 \& 3.18 \& ${ }_{3} 33$ \& 3.64 \& 4.4 \& 4.11 \& 3.84 \& 3.70 \& 4.50 \& 3.02 \& - \& 271 \& 3.48 \& 3.80 \& 4.34 \& 4.4 \& 447 \& 4.62 \& \# \& 4.18 \& 3.69 \& 286 \& ${ }^{233}$ \& 1.00 \& 245 \& 1.62 \& \& ${ }^{261}$ \& 4.02 <br>
\hline MWV-27 \& No \& 10.37 \& ${ }^{\text {No }}$ \& No \& No \& ${ }^{\text {No }}$ \& No \& No \& ${ }^{\text {No }}$ \& ${ }^{\text {No }}$ \& No \& No \& No \& ${ }^{\text {No }}$ \& No \& No \& No \& No \& No \& No \& - \& No \& No \& \& \& No \& No \& No \& No \& No \& No \& No \& No \& No \& ${ }^{\text {No }}$ \& ${ }^{\text {No }}$ \& 0.99 \& No \& No <br>
\hline $\frac{\mathrm{MWN}-28}{}$ \& No \& 10.69
1091 \& No \& ${ }^{\text {No }}$ \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& ${ }^{\text {No }}$ \& No \& - \& No \& No \& No \& ND \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& N \& $\stackrel{\mathrm{N}}{\mathrm{N}}$ \& $\stackrel{N}{N}$ \& <br>

\hline MW-29 \& No \& | 10.9 |
| :--- | :--- |
| 0.97 | \& No \& No \& No \& No \& No \& ${ }^{\text {No }}$ \& No \& No \& No \& No \& No \& No \& ${ }^{\text {No }}$ \& ${ }^{\text {No }}$ \& No \& No \& No \& No \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& ${ }^{\text {No }}$ \& ${ }^{\text {No }}$ \& No \& N \& $\stackrel{\mathrm{N}}{ }$ \& N \& <br>


\hline MWN-30 \& No \& | 9.97 |
| :--- |
| 8.95 |
| .8 | \& | No |
| :--- |
| No | \& | No |
| :--- |
| No | \& | No |
| :--- |
| No | \& No \& No \& No \& | No |
| :--- |
| No | \& No \& No \& | No |
| :--- |
| No | \& | No |
| :--- |
| No | \& No \& No \& No \& No \& No \& No \& ${ }_{\text {No }}^{\text {No }}$ \& - \& | No |
| :--- |
| No | \& No \& - \& - \& No \& No \& No \& No \& No \& N

N \& $\stackrel{\mathrm{N}}{\mathrm{N}}$ \& $\stackrel{\mathrm{N}}{\mathrm{N}}$ \& \begin{tabular}{c}
N <br>
N <br>
\hline

 \& $\stackrel{N}{N}$ \& $\stackrel{N}{\mathrm{~N}}$ \& $\stackrel{\mathrm{N}}{\mathrm{N}}$ \& $\stackrel{N}{N}$ \& 

Ni <br>
Ni <br>
\hline
\end{tabular} <br>

\hline MW-32 \& No \& ${ }_{\substack{9.92}}^{9.62}$ \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& No \& N \& N \& N \& N \& N \& N \& N \& N \& N <br>
\hline MN-34 \& No \& ${ }^{1126}$ \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& no \& No \& No \& No \& No \& - \& No \& No \& No \& No \& ND \& No \& No \& No \& No \& N \& N \& N \& N \& N \& N \& N \& N \& <br>
\hline NW-35 \& No \& 1425 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& N \& N \& N \& N \& N \& N \& N \& N \& N <br>
\hline MN-36 \& No \& 10.42 \& No \& no \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& $\cdots$ \& N \& N \& N \& N \& N \& ${ }^{\prime}$ \& N \& N \& ${ }^{N}$ \& N \& N \& N \& N \& N \& $\stackrel{ }{\text { N }}$ \& N \& N \& N \& N \& N <br>
\hline MW-37 \& No \& 10.82 \& No \& no \& No \& No \& No \& no \& No \& No \& No \& No \& No \& No \& No \& No \& No \& no \& N \& N \& N \& N \& N \& N \& n \& N \& N \& N \& N \& N \& N \& N \& N \& ${ }^{\text {N }}$ \& N \& N \& м \& N \& <br>
\hline MW-38 \& No \& 8.60 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& \& No \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& ${ }^{\text {N }}$ \& N \& \& N \& N \& <br>
\hline nW-39 \& no \& ${ }_{8.48}$ \& No \& no \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& no \& No \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& м \& N \& N <br>
\hline MW-40 \& No \& 6.92 \& No \& No \& No \& No \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& N \& N \& N \& N \& N \& N \& N \& $\cdots$ \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N <br>
\hline MN-41 \& No \& ${ }_{9} 953$ \& No \& no \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& м \& N \& N <br>
\hline MW-42 \& No \& ${ }^{8.79}$ \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& N \& N \& ${ }^{\mathrm{N}}$ \& N \& N \& ${ }^{\mathrm{N}}$ \& N \& N \& N \& N \& N \& N \& N \& ${ }^{\mathrm{N}}$ \& N \& N \& N \& N \& N \& N \& N \& ${ }^{\mathrm{N}}$ \& N <br>
\hline RN-1 \& No \& 8.61 \& No \& no \& No \& No \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& \& No \& No \& No \& No \& No \& No \& No <br>
\hline RN-2 \& 11.77 \& 15.11 \& 3.34 \& 2.70 \& 283 \& 428 \& - \& 2.64 \& 297 \& ${ }^{3.41}$ \& 5.54 \& 528 \& 5.44 \& 282 \& 4.19 \& 4.52 \& 4.52 \& 4.53 \& 4.52 \& 0.11 \& - \& 1.30 \& 305 \& ${ }^{231}$ \& 280 \& 3.19 \& 5.09 \& ${ }_{3} .86$ \& "\# \& 4.07 \& 2.96 \& 292 \& 3.48 \& 3.75 \& 4.20 \& 2.52 \& 1.92 \& 1.50 \& 5.85 <br>

\hline RN-3 \& | 14.88 |
| :--- |
| 1198 |
| 18 | \& | 16.97 |
| :--- |
| 192 |
| 18 | \& 209 \& ${ }^{1.64}$ \& ${ }^{237}$ \& ${ }^{4.27}$ \& ${ }^{292}$ \& 4.14 \& ${ }_{1}^{1.39}$ \& 2.14 \& 4.41 \& ${ }_{2}^{238}$ \& ${ }_{2}^{223}$ \& ${ }^{1.81}$ \& ${ }^{328}$ \& ${ }_{3}^{3.45}$ \& ${ }^{3.50}$ \& ${ }_{3.45}$ \& ${ }^{3.56}$ \& 4.12 \& - \& ${ }_{1}^{1.58}$ \& ${ }_{2}^{290}$ \& ${ }_{3}^{228}$ \& 4.600 (es) \& 3.60 \& ${ }_{3}^{3.33}$ \& ${ }^{1.198}$ \& \#\# \& 2.96 \& 1.48 \& ${ }^{3.90}$ \& ${ }_{3} 320$ \& ${ }_{3}^{3.34}$ \& ${ }_{3}^{3.70}$ \& | 3.58 |
| :--- |
| 205 |
| 205 | \& 284 \& ${ }_{3}^{3.50}$ \& - 3.88 <br>

\hline RN-4 \& 11189 \& ${ }^{1482}$ \& 293 \& ${ }^{203}$ \& ${ }^{2.51}$ \& 282 \& ${ }^{231}$ \& 1.99 \& ${ }^{1.09}$ \& ${ }^{202}$ \& 3.65 \& ${ }^{366}$ \& ${ }^{3.53}$ \& ${ }^{3.53}$ \& ${ }^{1.43}$ \& ${ }^{1.35}$ \& 278 \& 288 \& ${ }^{\text {\#17 }}$ \& 286 \& - \& 1.81 \& ${ }^{325}$ \& ${ }^{327}$ \& 245 \& 267 \& 230 \& ${ }^{1.46}$ \& " \& 275 \& ${ }^{1.08}$ \& ${ }^{3} 206$ \& 3.15 \& ${ }^{300}$ \& ${ }^{305}$ \& 295 \& \& 3.45 \& ${ }^{335}$ <br>
\hline RW-5 \& ${ }^{11.51}$ \& ${ }^{14.72}$ \& ${ }_{321}$ \& ${ }^{253}$ \& ${ }^{192}$ \& 1.98 \& 5.64 \& 4.18 \& ${ }^{203}$ \& ${ }^{579}$ \& 4.87 \& 4.98 \& 4.75 \& 0.70 \& ${ }^{0.85}$ \& 0.91 \& 0.85 \& 0.43 \& 0.17 \& 0.17 \& - \& 0.12 \& 0.93 \& 0.43 \& 0.52 \& 0.60 \& 0.79 \& ${ }^{0.54}$ \& "\# \& 0.69 \& 0.51 \& 262 \& \& \& \& ${ }_{2} 235$ \& ${ }^{3} 00$ \& ${ }_{1}^{1,88}$ \& <br>
\hline RN-6 \& 11.84 \& 12.58 \& 0.74 \& 0.76 \& 0.74 \& 0.77 \& 0.65 \& 0.66 \& 0.65 \& 0.61 \& 0.78 \& 1.98 \& 235 \& 0.71 \& 1.19 \& 1.14 \& 0.71 \& 0.64 \& 0.78 \& 0.79 \& - \& 0.45 \& ${ }^{128}$ \& 0.96 \& 0.41 \& 0.94 \& 1.30 \& 0.67 \& \# \& 0.10 \& 0.08 \& 0.45 \& 0.50 \& 0.21 \& 0.40 \& 0.15 \& 0.90 \& 022 \& 0.06 <br>
\hline RW-8. \& \& \& \& - \& \& \& \& \& \& \& \& \& \& 2.14 \& 2.93 \& 292 \& 4.01 \& 4.48 \& \# \& 295 \& - \& 0.65 \& 1.47 \& 0.86 \& 237 \& 246 \& 3.92 \& 4.13 \& \#\# \& 4.59 \& 3.64 \& \& \& \& - \& \& , \& \& <br>
\hline RN-9 \& ${ }^{13.08}$ \& 16.89 \& ${ }^{3.81}$ \& ${ }^{242}$ \& 3.46 \& 4.82 \& 4.37 \& 3.52 \& 268 \& ${ }^{323}$ \& 3.04 \& 4.82 \& 479 \& 428 \& 5.68 \& 5.65 \& 4.81 \& 4.59 \& 4.92 \& 4.14 \& - \& 1.02 \& 2.90 \& 271 \& 434 \& 5.25 \& 4.88 \& 3.08 \& \#+ \& 4.09 \& ${ }^{237}$ \& 4.40 \& 262 \& 3.11 \& 3.50 \& 308 \& 3.83 \& 298 \& ${ }_{5}^{533}$ <br>
\hline RW-10 \& 12.85 \& 16.52 \& 3.6 \& 4.69 \& 4.77 \& 4.46 \& 5.32 \& 4.45 \& 4.12 \& 4.12 \& 5.71 \& 3.80 \& 3.95 \& 3.65 \& 4.96 \& 5.04 \& 3.93 \& 3.74 \& ${ }^{3.57}$ \& 3.18 \& - \& ${ }_{3} 38$ \& 3.89 \& ${ }_{3.4}$ \& 3.80 \& 3.81 \& 3.99 \& 4.11 \& + \& 4.11 \& 3.55 \& \& \& \& \& \& \& \& <br>
\hline RW-11 \& ${ }^{13,15}$ \& 16.20 \& ${ }^{3} 05$ \& 2.45 \& 3.07 \& 4.65 \& 4.39 \& 3.59 \& ${ }^{324}$ \& 3.62 \& 3.43 \& ${ }^{3.66}$ \& ${ }_{3} .67$ \& ${ }^{300}$ \& ${ }^{387}$ \& ${ }^{3.97}$ \& 4.43 \& 4.42 \& ${ }_{4} 46$ \& ${ }_{387}$ \& - \& 203 \& 2.54 \& 2.59 \& 3.6 \& 427 \& 5.48 \& 265 \& \# \& ${ }^{3.9}$ \& 3.49 \& 3.15 \& 267 \& ${ }^{3.11}$ \& 3.50 \& 293 \& ${ }_{449}$ \& 2.58 \& 4.40 <br>
\hline RW-12" \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - <br>
\hline
\end{tabular}

| Noess |
| :--- |
| Datireorrete |






# FORMER NUHART PLASTIC MANUFACTURING SITE 280 FRANKLIN STREET, BROOKLYN, NY NYSDEC SITE \#224136 

## PROJECT STATUS REPORT - April 2016

| TO: | Bryan Wong (NYSDEC) | Email: yukyin.wong@dec.ny.gov |
| :--- | :--- | :--- |
| CC: | Dawn Hettrick (NYSDOH) | Email: dawn.hettrick@health.ny.gov |
|  | Yi Han | Email: experta8@gmail.com |
|  | Jane O'Connell (NYSDEC) | Email: jane.oconnell@dec.ny.gov |
|  | Michael Roux | Email: mroux@rouxinc.com |
|  | Wendy A. Marsh | Email: wmarsh@hancocklaw.com |

FROM: Stephanie O. Davis, CPG, Vice President
DATE: May 5, 2016
This status report summarizes activities conducted at the Former NuHart Plastic Manufacturing Site (Site) in April 2016. Activities during this period were conducted by FPM Group (FPM). Roux Associates, Inc. (Roux) representatives also participated in Site evaluations and communications. A site plan showing the general site layout, nearby area, and associated wells is included as Figure 1. Schedule information is presented under each activity discussion.

Interim remedial measure (IRM) activities for monitoring and removal of light non-aqueous-phase liquid (LNAPL) at the Site were performed during the monitoring period in general conformance with the NYSDEC-approved Operation, Maintenance and Monitoring Plan (OM\&M Plan) for the product recovery system. New well covers were installed for offsite wells MW-12 and MW-13. The Feasibility Study (FS) for the Site previously submitted to the NYSDEC and NYSDOH was revised and re-submitted. Investigation activities for the Site were previously completed as documented in previous project status reports and are not discussed herein.

## A. Interim Remedial Measure Activities

Monthly IRM routine activities were conducted by FPM on April 15, 2016. A table documenting the product apparent thickness measurements is provided as Attachment A and a Well Location Map showing the extent of LNAPL on the monitoring date is provided as Figure 1.

## > Maintenance Activities

General maintenance activities were performed, including collection of spent IRM-related absorbent materials in the vicinity of recovery wells, placing new absorbent materials as needed to contain product, and proper labeling of waste containers used during this IRM event. Both skimming systems associated with recovery wells RW-8 and RW-12 were found to be powered and operational during the site visit.

New well covers (manholes) were installed for offsite monitoring wells MW-12 and MW-13 located within the Greenpoint Landing construction area. The well covers were installed in late April during reconstruction of the sidewalk in the well vicinity; a photo showing one of the new manholes during sidewalk installation is attached. A representative of the Greenpoint Landing construction contractor has verified that the tops of the well casings were not altered during this process.

## > Monitoring and Product Removal

Gauging of all onsite and offsite monitoring and recovery wells associated with the Site was conducted;
wells that could not be accessed are noted on Attachment A. All wells containing LNAPL are noted, as are wells where LNAPL is absent. No changes were noted in the extent of the product. Wells MW-12 and MW-13 located within the Greenpoint Landing construction area were accessed and no LNAPL was noted.
In April 2016 the depth to the water table generally increased relative to the levels observed in March 2016, most likely due to the relatively dry conditions in April. Product apparent thicknesses were noted to increase in most of the wells, which is a typical response to a decline in the water table. However, product apparent thicknesses were noted to decrease in several of the onsite recovery wells, despite a decline in the water table. It is possible that this response is due to ongoing product recovery at the RW-8 and RW-12 wells.

The amount of LNAPL removed from the wells during this event is estimated as 90 gallons, including LNAPL from the drums associated with the skimmers on recovery wells RW-8 and RW-12. Based on previous LNAPL estimates, an estimated 1,296 gallons of product have been removed from the subsurface since early 2015, with most of the product disposed. Approximately 284 gallons of product remain stored at this time in IBC tanks located in the Site building, pending pickup and offsite disposal. When the IBC tanks are nearly full and/or the containerized spent absorbent materials require disposal, the designated waste management company will be contacted and waste disposal requested.
Eastern Environmental Solutions, Inc. (Eastern) is presently contracted to conduct waste management activities for disposal of product from the IBC tanks at the Site; the most recent waste removal event was conducted on February 9, 2016. To date Eastern has transported and disposed an estimated 1,012 gallons of product at the Cycle Chem facility in Elizabeth, NJ as hazardous waste. The completed waste manifest from the February 9, 2016 disposal event is pending and will be attached to the monthly report issued following its receipt. Waste transport and disposal information will continue to be included in the progress reports following the months during which waste disposal activities occur.

## B. Feasibility Study

FPM prepared an FS for the Site that includes evaluations of potential remedial methods to address Site-related contamination. The FS was transmitted to the NYSDEC, NYSDOH, and the established document repositories for review on January 28, 2016. The NYSDEC transmitted correspondence to the remedial party concerning the FS on March 3, 2016. On March 15, 2016 the NYSDEC was notified that the FS would be revised to address the comments in the NYSDEC's March 3 correspondence and a request was made to re-submit the revised FS by April 25, 2016. The NYSDEC responded on March 16 confirming the re-submittal date. During April the FS was revised to address the comments in the NYSDEC's March 3, 2016 correspondence and the revised FS was transmitted to the NYSDEC, NYSDOH, and document repositories on April 21, 2016.

## C. Meetings and NYSDEC Communication

The NYSDEC participated in periodic informal communications in April 2016. Communication on Site-related technical matters will continue, as needed, between NYSDEC, FPM, Roux and others.

## Attachments

Photograph showing new well cover - MW-12 and MW-13 area
Attachment A - Apparent Thickness of LNAPL
Figure 1 - Well Location Map showing areal extent of LNAPL on groundwater

[^0]
Attachment A: Apparent Thickness of LNAPL
Former NuHart Plastic Manufacturing Site, NYSDEC \#224136
280 Franklin Street, Brooklyn, NY

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline \multirow[t]{2}{*}{Well Number} \& \multirow[t]{2}{*}{} \& \multirow[t]{2}{*}{} \& \multicolumn{4}{|l|}{\multirow[t]{2}{*}{2016}} \& \multicolumn{11}{|l|}{\multirow[t]{2}{*}{2015}} \& \multicolumn{9}{|l|}{Apparent Thickness of LN} \& \multicolumn{10}{|l|}{\multirow[t]{2}{*}{2013}} \& \multicolumn{4}{|l|}{2012} \\
\hline \& \& \& \& \& \& \({ }_{\text {Jan-16 }}\) \& \& \& \& \& \& \& \& \& \& \& \& Sept 2014 \& Aug, 2014 \& Jul14 \& Jum14 \& \({ }_{\text {max-14 }}^{2014}\) \& Apr. 2014 \& Mar 2014 \& Feb. 2014 \& Jan. 2014 \& Doc. 2013 \& Nor.2013 \& Ot 2013 \& \& \& \& \& Mar. 2013 \& Feb. 2013 \& Jan. 2013 \& Doc. 2012 \& Nor. 20012 \& Oct 2012 \& 21 sep. 2 \\
\hline MN-4 \& 11.29 \& 13.02 \& 1.73 \& 143 \& 1.85 \& 1.77 \& 1.96 \& 204 \& 1.99 \& 1.77 \& 222 \& 4.27 \& \({ }_{0}^{0.35}\) \& 0.44 \& \& 0.56 \& \& 1.75 \& \({ }_{1} .90\) \& 1.24 \& Trace \& , \& 0.01 \& Trace \& 023 \& 0.22 \& 0.30 \& 0.66 \& 0.78 \& \#\# \& 349 \& 222 \& 0.59 \& 0.67 \& 0.44 \& 0.44 \& 0.80 \& 0.31 \& 0.33 \& 3.13 \\
\hline MW-5 \& \({ }_{9} 9.85\) \& \({ }^{13,03}\) \& \({ }^{3.18}\) \& 3.14 \& 1.85 \& \({ }^{3.2}\) \& 4.83 \& 541 \& 4.16 \& 426 \& 4.45 \& 422 \& \({ }^{230}\) \& 2.41 \& 2.55 \& 3.10 \& \({ }_{4} 40\) \& 4.79 \& 5.03 \& 1.97 \& \({ }_{3} 39\) \& \& \({ }^{3.14}\) \& 280 \& 2.98 \& \& \({ }_{6.46}\) \& 7.17 \& \({ }_{5}^{5.54}\) \& + \& 5.08 \& \({ }^{3.92}\) \& 3.00 \& 239 \& 432 \& \({ }^{3.00}\) \& 4.11 \& \({ }^{3.50}\) \& \({ }^{3.41}\) \& \({ }_{5.58}\) \\
\hline MN-6 \& \({ }^{8.93}\) \& \& \#\# \& "\# \& "\# \& \#\# \& "\# \& "\# \& "\# \& "\# \& "\# \& "\# \& 230 \& "\# \& "\# \& "\# \& "\# \& "\# \& "\# \& " \& \#\# \& - \& \& \({ }^{284}\) \& \({ }_{343}\) \& - \& 2.89 \& 276 \& 200 \& "\# \& 242 \& 282 \& \& \& \& \& \& \& \({ }^{3.49}\) \& \\
\hline Mw-7 \& 9.15 \& \({ }^{11.05}\) \& 1.90 \& \({ }_{1} .68\) \& 2.31 \& 2.47 \& \({ }^{3.44}\) \& \({ }_{3}^{31}\) \& 2.58 \& \({ }_{1.46}\) \& \({ }^{1.28}\) \& 0.99 \& \({ }_{1} 1.58\) \& No \& 1.94 \& 1.79 \& \#\# \& 201 \& \({ }_{2} 216\) \& 0.60 \& 0.01 \& \& 0.17 \& 0.17 \& \& - \& 4.78 \& 4.70 \& 4.00 \& "\# \& \({ }^{277}\) \& 1.06 \& 1.92 \& 4.92 \& \({ }_{545}\) \& \({ }^{1.30}\) \& \({ }^{1.36}\) \& \({ }^{200}\) \& \({ }_{1}^{1.84}\) \& \({ }^{1.83}\) \\
\hline MW-8 \& no \& 9.90 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& no \& no \& No \& - \& No \& No \& no \& No \& - \& no \& No \& - \& - \& No \& No \& No \& no \& No \& No \& no \& No \& No \& No \& no \& ND \& No \& No \\
\hline MN-12 \& No \& 6.86 \& No \& - \& - \& - \& No \& No \& - \& - \& - \& - \& No \& No \& No \& No \& - \& No \& - \& No \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& \\
\hline MW-13 \& No \& 7.75 \& No \& No \& - \& - \& No \& No \& \& \& \& - \& No \& No \& no \& No \& - \& No \& \& no \& No \& - \& no \& No \& - \& - \& No \& No \& No \& No \& No \& no \& No \& No \& No \& No \& No \& No \& No \& No \\
\hline Mw-14 \& No \& \({ }^{8.70}\) \& No \& No \& No \& No \& No \& No \& no \& No \& no \& no \& No \& No \& No \& no \& No \& No \& No \& No \& No \& - \& No \& No \& \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \\
\hline MW-15 \& 10.50 \& 11.21 \& 0.71 \& 0.03 \& 0.04 \& 0.60 \& 3.08 \& 3.07 \& 1.97 \& 1.05 \& 1.05 \& N0 \& 1.24 \& 1.21 \& 1.56 \& 1.67 \& 1.71 \& 2.19 \& 232 \& \#\# \& 0.45 \& - \& 0.81 \& 0.30 \& 0.38 \& - \& 3.11 \& 3.19 \& 334 \& \#+ \& 2.14 \& 0.70 \& \& 0.32 \& 1.07 \& \& 1.56 \& 0.99 \& 0.76 \& 2.87 \\
\hline MW-16 \& 11.15 \& \({ }^{11.16}\) \& 0.01 \& 0.02 \& 0.16 \& 0.02 \& 0.11 \& 0.02 \& 0.12 \& 0.05 \& 0.05 \& 0.14 \& 0.13 \& 0.15 \& 0.03 \& 0.08 \& 0.02 \& \& 0.03 \& 0.99 \& Trace \& - \& 0.01 \& 0.01 \& 0.10 \& - \& 0.23 \& 0.22 \& 0.19 \& "\# \& 0.05 \& 0.07 \& 0.02 \& 0.01 \& 0.10 \& 0.25 \& 020 \& No \& 0.24 \& 0.20 \\
\hline MW-20 \& 10.56 \& 13.05 \& 249 \& 243 \& 1.99 \& 246 \& 3.52 \& 3.02 \& \({ }^{3} 33\) \& 325 \& 3.12 \& 288 \& 258 \& 2.79 \& 3.84 \& 4.38 \& 5.13 \& 1.87 \& 1.71 \& 2.92 \& 206 \& - \& 1.47 \& 290 \& 258 \& 4.19 \& 5.07 \& 4.90 \& 4.11 \& \#+ \& \({ }_{3} 33\) \& \({ }_{1}^{1.37}\) \& 3.32 \& 1.20 \& 1.10 \& \({ }_{1}^{1.35}\) \& \({ }_{1}^{1.38}\) \& 3.39 \& 3.15 \& 3.80 \\
\hline MW-21 \& 10.52 \& 14.70 \& 4.18 \& 2.68 \& 2.42 \& 297 \& \({ }^{4.46}\) \& 3.85 \& 4.51 \& \({ }^{3.63}\) \& 3.32 \& 2.97 \& \({ }^{253}\) \& 2.7 \& 298 \& 3.46 \& \({ }^{323}\) \& 3.62 \& 4.46 \& 4.90 \& 1.99 \& - \& 269 \& 247 \& \({ }^{248}\) \& \({ }^{3.37}\) \& 3.13 \& 3.72 \& 4.66 \& \#\# \& \({ }^{4.37}\) \& 3.66 \& \({ }^{3.38}\) \& \({ }^{3.43}\) \& \({ }^{3} 75\) \& 4.10 \& \({ }^{423}\) \& 289 \& 2.04 \& \\
\hline MV-22 \& 12.15 \& 12.63 \& 0.48 \& 0.44 \& 0.15 \& 0.22 \& 1.33 \& 1.01 \& 0.49 \& 1.17 \& 1.04 \& 0.79 \& 0.86 \& 0.84 \& 0.74 \& 1.33 \& \({ }_{1} 127\) \& 1.03 \& 1.02 \& 0.54 \& 0.85 \& - \& 0.74 \& 0.86 \& 0.75 \& 1.22 \& 1.07 \& 0.69 \& 0.50 \& "\# \& 1.12 \& 0.86 \& 0.50 \& 0.62 \& 1.15 \& \({ }_{1} 120\) \& 0.18 \& \({ }_{0} 0.21\) \& 0.18 \& 1.80 \\
\hline MW-23 \& No \& \({ }^{11,12}\) \& No \& No \& No \& No \& No \& No \& no \& No \& no \& no \& No \& No \& No \& No \& No \& No \& No \& no \& No \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \\
\hline MW-24 \& No \& 10.35 \& no \& No \& no \& No \& no \& no \& No \& no \& No \& no \& No \& no \& no \& no \& No \& No \& No \& no \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \\
\hline MW-25 \& 10.20 \& 13.53 \& \({ }^{3} 33\) \& 3.42 \& 3.32 \& \({ }^{3.43}\) \& \({ }^{3.68}\) \& 3.53 \& \({ }^{3.63}\) \& \({ }^{3.53}\) \& \({ }^{3.68}\) \& \({ }^{3.53}\) \& \({ }^{281}\) \& \({ }^{3.24}\) \& \({ }^{3.36}\) \& 1.07 \& 1.03 \& 3.16 \& 402 \& \({ }^{3.65}\) \& \({ }^{3.48}\) \& - \& 3.1 \& \({ }^{3.75}\) \& - \& - \& 5.66 \& 5.56 \& 401 \& "\# \& \({ }^{441}\) \& \({ }^{3.58}\) \& \({ }^{3.96}\) \& \({ }^{3.96}\) \& 434 \& \({ }^{3.70}\) \& 282 \& 7.86 \& 4.40 \& \({ }^{3.96}\) \\
\hline MW-26 \& 10.33 \& 13.70 \& \({ }_{3} 37\) \& 2.97 \& 3.82 \& \({ }^{3.41}\) \& 4.23 \& 4.08 \& \({ }^{3} 77\) \& 400 \& 3.70 \& 3.65 \& 3.18 \& \({ }_{3} 33\) \& \({ }^{3.64}\) \& 4.14 \& 4.11 \& 384 \& \({ }^{3} 70\) \& 4.50 \& 3.02 \& - \& 271 \& 348 \& 3.80 \& 4.34 \& 4.44 \& 4.47 \& 4.6 \& \#\# \& 4.18 \& 3.69 \& 286 \& 233 \& 1.00 \& 245 \& 1.62 \& \& 2.61 \& 4.02 \\
\hline MW-27 \& No \& 10.56 \& No \& No \& No \& No \& no \& No \& no \& No \& \({ }^{\text {No }}\) \& no \& No \& No \& No \& No \& No \& No \& No \& no \& No \& - \& No \& No \& \& \& N0 \& N0 \& No \& No \& No \& no \& No \& \({ }^{\text {No }}\) \& No \& no \& no \& 0.99 \& No \& No \\
\hline MW-28 \& No \& 10.89 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& ND \& No \& No \& No \& No \& N \& N \& N \& \(\cdots\) \\
\hline MW-29 \& No \& 11.13 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& N \& N \& N \& N \\
\hline MW -30 \& No \& \({ }_{9} 976\) \& No \& No \& No \& No \& No \& No \& ND \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& No \& \({ }^{\mathrm{N}}\) \& \({ }^{\mathrm{N}}\) \& \({ }^{\mathrm{N}}\) \& \({ }^{\mathrm{N}}\) \& N \& N \& N \& N \& N \\
\hline MV-31 \& No \& \({ }^{9.12}\) \& No \& No \& No \& No \& No \& \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& No \& \({ }^{\mathrm{N}}\) \& N \& N \& \({ }^{\mathrm{N}}\) \& \({ }^{\mathrm{N}}\) \&  \& \({ }^{\mathrm{N}}\) \& N \& N \\
\hline MW-32 \& No \& 9.81 \& No \& No \& No \& No \& No \& no \& no \& no \& No \& no \& No \& no \& No \& No \& No \& No \& No \& no \& No \& - \& No \& No \& - \& - \& No \& No \& No \& No \& no \& N \& N \& N \& N \& \& N \& \({ }^{\mathrm{N}}\) \& N \& N \\
\hline \begin{tabular}{l} 
MWW-34 \\
\hline \(\mathrm{MW-35}\) \\
\hline
\end{tabular} \& \({ }_{\text {No }}^{\text {No }}\) \& \({ }_{1}^{1.56}\) \& \begin{tabular}{|c} 
No \\
No \\
\hline
\end{tabular} \& \begin{tabular}{l} 
No \\
No \\
\hline
\end{tabular} \& \({ }_{\text {No }}^{\text {No }}\) \& \({ }^{\text {No }}\) \& No \& No \& N0 \& \(\stackrel{\text { No }}{\text { No }}\) \& No \& \begin{tabular}{|c} 
No \\
No \\
\hline
\end{tabular} \& \begin{tabular}{l} 
No \\
No \\
\hline
\end{tabular} \& \({ }^{\text {No }}\) No \& \({ }_{\text {No }}^{\text {No }}\) \& No \& \({ }^{\text {No }}\) N0 \& \({ }_{\text {No }}^{\text {No }}\) \& \(\stackrel{\text { No }}{\text { No }}\) \& No \& \({ }^{\text {No }}\) \& - \& \({ }_{\text {No }}^{\text {No }}\) \& \({ }_{\text {No }}^{\text {No }}\) \& No
No \& \({ }_{\text {No }}^{\text {No }}\) \& \({ }_{\text {No }}^{\text {No }}\) \& \({ }_{\text {No }}^{\text {No }}\) \& No \& No
No \& \(\stackrel{\text { No }}{\text { No }}\) \& \(\stackrel{N}{N}\) \& \(\stackrel{N}{N}\) \& \(\stackrel{N}{N 1}\) \& \(\stackrel{N}{N}\) \& \(\stackrel{N}{N}\) \& \(\stackrel{N}{N}\) \& \(\stackrel{N}{N}\) \& \(\stackrel{N}{N}\) \& \(\stackrel{N}{N}\) \\
\hline \(\frac{\mathrm{MWW}-35}{\mathrm{MW}-36}\) \& \(\stackrel{\text { No }}{\text { No }}\) \& \({ }_{14.55}^{10.58}\) \& \({ }_{\text {No }}^{\text {No }}\) \& No \& \({ }_{\text {No }}^{\text {No }}\) \& No \& \({ }^{\text {No }}\) \& \({ }_{\text {No }}\) \& N0 \& \({ }_{\text {No }}^{\text {No }}\) \& No \& \({ }_{\text {No }}^{\text {No }}\) \& \({ }_{\text {No }}^{\text {No }}\) \& \(\stackrel{\text { No }}{\text { No }}\) \& No \& No \& \(\stackrel{\text { No }}{\text { No }}\) \& \({ }_{\text {No }}^{\text {No }}\) \& \({ }_{\text {No }}^{\text {No }}\) \& \begin{tabular}{c} 
No \\
Nı \\
\hline
\end{tabular} \& \(\frac{\mathrm{No}}{\mathrm{N}}\) \& N \& \(\stackrel{\text { No }}{\text { N }}\) \& \(\stackrel{\text { No }}{\text { N }}\) \& \(\frac{\mathrm{No}}{\mathrm{NI}}\) \& \(\stackrel{\text { No }}{\text { N1 }}\) \& \(\stackrel{\text { No }}{\text { N }}\) \& \(\stackrel{\text { No }}{\text { N }}\) \& \(\stackrel{\text { No }}{\text { N1 }}\) \& \(\frac{\mathrm{No}}{\mathrm{N}}\) \& \(\stackrel{\mathrm{No}}{\mathrm{N}}\) \& \(\stackrel{\mathrm{N}}{\mathrm{N}}\) \& \(\stackrel{\mathrm{N}}{\mathrm{N}}\) \& \(\stackrel{\mathrm{N}}{\mathrm{N}}\) \& \(\stackrel{\mathrm{N}}{\mathrm{N}}\) \& \(\stackrel{\mathrm{N}}{\mathrm{N}}\) \& \(\stackrel{\mathrm{N}}{\mathrm{N}}\) \& \(\stackrel{\mathrm{N}}{\mathrm{N}}\) \& \(\stackrel{\mathrm{N}}{\mathrm{N}}\) \& \(\stackrel{\mathrm{N}}{\mathrm{N}}\) \\
\hline MW W -37 \& No \& 11.00 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& no \& No \& No \& No \& No \& No \& No \& No \& N \& N \& \({ }^{\text {N }}\) \& N \& N \& \({ }^{\mathrm{N}}\) \& N \& \({ }^{\mathrm{N}}\) \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \& N \\
\hline MW-38 \& No \& \({ }^{8.91}\) \& No \& No \& No \& No \& No \& No \& No \& No \& \({ }^{\text {No }}\) \& No \& No \& No \& No \& No \& \& No \& \({ }^{N}\) \& N \& \({ }^{\text {N }}\) \& N \& \({ }^{\mathrm{N}}\) \& N \& \({ }^{\mathrm{N}}\) \& \({ }^{\text {N }}\) \& N \& N \& N \& N \& N \& \({ }^{\mathrm{N}}\) \& N \& N \& N \& N \& N \& \({ }^{\text {N }}\) \& N \& N \\
\hline Mw-39 \& No \& \({ }^{8.73}\) \& No \& No \& No \& No \& No \& No \& No \& No \& No \& no \& No \& No \& No \& No \& No \& No \& \({ }^{\text {N }}\) \& N \& \({ }^{\mathrm{N}}\) \& N \& \({ }^{\text {N }}\) \& N \& \({ }^{\mathrm{N}}\) \& \({ }^{\mathrm{N}}\) \& \({ }^{\text {N }}\) \& N \& N \& \({ }^{N}\) \& \({ }^{\mathrm{N}}\) \& \({ }^{\text {N }}\) \& N \& N \& \({ }^{\mathrm{N}}\) \& \({ }^{\mathrm{N}}\) \& N \& \({ }^{\text {N }}\) \& N \& N \\
\hline Mw - 40 \& No \& 7.10 \& No \& No \& No \& No \& No \& \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& N \& N \& N \& \({ }^{N}\) \& \({ }^{N}\) \& N \& \({ }^{N}\) \& \({ }^{N}\) \& \({ }^{N}\) \& N \& N \& \({ }^{N}\) \& \({ }^{\mathrm{N}}\) \& \({ }^{N}\) \& N \& N \& \({ }^{N}\) \& \({ }^{N}\) \& N \& \({ }^{N}\) \& N \& \({ }^{N}\) \\
\hline mw-41 \& no \& 9.75 \& No \& No \& no \& No \& No \& no \& no \& no \& No \& no \& No \& no \& No \& No \& No \& \({ }^{N}\) \& N \& N \& \({ }^{\mathrm{N}}\) \& \({ }^{\text {N }}\) \& \({ }^{N}\) \& \({ }^{N}\) \& \({ }^{\mathrm{N}}\) \& \({ }^{\mathrm{N}}\) \& \({ }^{N}\) \& N \& N \& \({ }^{N}\) \& N \& \({ }^{\text {N }}\) \& N \& \({ }^{\text {N }}\) \& N \& \({ }^{\text {N }}\) \& N \& \({ }^{\text {N }}\) \& N \& N \\
\hline MW-42 \& No \& 9.04 \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& No \& \({ }^{N}\) \& \({ }^{N}\) \& N \& N \& N \& \({ }^{\mathrm{N}}\) \& N \& \({ }^{\mathrm{N}}\) \& \({ }^{\mathrm{N}}\) \& N \& \({ }^{\mathrm{N}}\) \& N \& N \& \({ }^{\mathrm{N}}\) \& \({ }^{\mathrm{N}}\) \& N \& \({ }^{\mathrm{N}}\) \& N \& \({ }^{N}\) \& \({ }^{\mathrm{N}}\) \& \({ }^{\mathrm{N}}\) \& N \& N \\
\hline \(\frac{\mathrm{RW}-1}{}\) \& No \& \({ }^{8.78}\) \& No \& No \& no \& No \& No \& - \& no \& no \& no \& no \& No \& No \& No \& No \& No \& No \& No \& no \& No \& - \& \({ }^{\text {No }}\) \& No \& No \& No \& no \& No \& No \& no \& No \& No \& \& No \& No \& No \& No \& No \& No \& No \\
\hline \begin{tabular}{l} 
RN-2 \\
\hline \(\mathrm{RNW}-3\) \\
\hline
\end{tabular} \& \({ }_{1}^{11.98}\) \& \begin{tabular}{l}
14.10 \\
1725 \\
\hline
\end{tabular} \& 212 \& \({ }^{3} 34\) \& 270 \& \({ }^{283}\) \& \({ }^{4.28}\) \& \& \({ }^{264}\) \& \({ }^{297}\) \& \({ }^{3} 411\) \& \({ }_{5}^{5.54}\) \& \({ }^{528}\) \& \({ }_{5}^{5.44}\) \& \({ }^{282}\) \& \({ }_{3}^{4.19}\) \& \({ }_{4}^{4.52}\) \& \({ }_{4}^{4.52}\) \& \begin{tabular}{l}
4.53 \\
\hline 35 \\
\hline
\end{tabular} \& \[
{ }_{4.52}^{256}
\] \& \({ }_{0}^{0.11}\) \& - \& \begin{tabular}{l}
1.30 \\
\hline 1.58 \\
\hline
\end{tabular} \& 305

200 \& ${ }_{2}^{231}$ \& ${ }_{4680}^{28085}$ \& ${ }^{3} 1.19$ \& ${ }_{3}^{5.09}$ \& \begin{tabular}{l}
3,66 <br>
1.88 <br>
\hline

 \& \#\# \& ${ }_{4}^{4.07}$ \& ${ }_{1}^{296}$ \& ${ }_{2}^{2.92}$ \& 

3.48 <br>
3.20 <br>
\hline

 \& ${ }_{3}^{375}$ \& $\stackrel{420}{370}$ \& 

252 <br>
<br>
<br>
\hline 288 <br>
\hline

 \& 

1.92 <br>
\hline 28 <br>
\hline 1

 \& 

1.50 <br>
.350 <br>
\hline 1
\end{tabular} \& <br>

\hline  \& (15.08 \& $\stackrel{1725}{1233}$ \& ${ }_{217}^{222}$ \& ${ }_{2}^{209}$ \& ${ }_{208}^{1.04}$ \& ${ }_{2}^{2.51}$ \& ${ }^{4.27}$ \& ${ }_{231}^{292}$ \& ${ }_{4}^{4.19}$ \& | 1.39 |
| :--- |
| 109 | \& ${ }_{2}^{202}$ \& ${ }_{3.65}^{4.35}$ \& ${ }_{3.66}^{223}$ \& ${ }_{3.53}^{223}$ \& ${ }_{3.181}^{1.38}$ \& ${ }_{1.43}^{1.48}$ \& | 3.41 |
| :--- |
| 1.35 | \& | 3.50 |
| :--- |
| 278 | \& ${ }^{345}$ \& ${ }^{\text {3.56 }}$ \& 4.12

286 \& - \& ${ }_{1}^{1.88}$ \& ${ }_{325}^{295}$ \& ${ }_{327}^{228}$ \& ${ }_{4}^{4.601859}$ \& ${ }^{3.60}$ \& ${ }^{3.33}$ \& ${ }_{1}^{1.488}$ \& \#\# \&  \& ${ }_{1}^{1.48}$ \& ${ }_{3.06}^{3.90}$ \& 3. ${ }_{3}^{3.5}$ \& ${ }_{3}^{3.34}$ \& ${ }_{3}^{3.05}$ \& | 3.58 |
| :--- |
| 295 |
| 29 | \& ${ }^{2} 88$ \& ${ }_{3}^{3.50}$ \& ${ }_{3}^{3.88}$ <br>

\hline RW-5 \& 11.85 \& 14.51 \& 266 \& ${ }_{321} 3$ \& 2.53 \& 1.92 \& 1.96 \& 5.64 \& 4.18 \& 203 \& 5.79 \& ${ }_{4.87}$ \& 4.69 \& ${ }_{4} .75$ \& 0.70 \& 0.85 \& 0.91 \& 0.85 \& 0.43 \& 0.17 \& 0.17 \& - \& 0.12 \& 0.93 \& 0.43 \& 0.52 \& 0.60 \& 0.79 \& 0.54 \& \#\# \& 0.69 \& 0.51 \& 2.62 \& \& \& \& ${ }_{235} 23$ \& 3.00 \& ${ }_{1} 1.88$ \& <br>
\hline RW-6 \& ${ }^{12.05}$ \& 1278 \& 0.73 \& 0.74 \& 0.76 \& 0.74 \& 0.77 \& 0.65 \& ${ }^{0.66}$ \& 0.65 \& 0.61 \& 0.78 \& 1.96 \& 2.35 \& 0.71 \& 1.19 \& 1.14 \& 0.71 \& 0.64 \& 0.78 \& 0.79 \& - \& 0.45 \& 128 \& 0.96 \& 0.41 \& 0.94 \& 1.30 \& 0.87 \& " \& 0.10 \& 0.08 \& 0.45 \& 0.50 \& 021 \& 0.40 \& 0.15 \& 0.90 \& 0.22 \& 0.06 <br>
\hline RW-8.* \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& 2.14 \& 2.93 \& 292 \& 4.01 \& 448 \& \#\# \& 295 \& - \& 0.65 \& 1.47 \& 0.86 \& 237 \& 246 \& 3.92 \& 4.13 \& \# \& 4.59 \& 3.64 \& \& \& \& \& \& \& \& <br>
\hline RW-9 \& 13.31 \& 16.40 \& 3.09 \& ${ }^{381}$ \& 2.42 \& ${ }^{3.46}$ \& 4.62 \& 4.37 \& ${ }^{3.52}$ \& ${ }^{268}$ \& ${ }^{323}$ \& 3.04 \& ${ }_{4} 82$ \& 4.79 \& 4.28 \& 5.68 \& 5.55 \& 4.81 \& 4.59 \& 4.92 \& 4.14 \& - \& 1.02 \& 290 \& 271 \& 4.34 \& 5.25 \& 4.88 \& ${ }^{308}$ \& "\# \& 409 \& ${ }^{2,37}$ \& 4.40 \& 2.62 \& 3.11 \& 3.50 \& 308 \& ${ }_{3.83}$ \& 2.98 \& ${ }_{5} 53$ <br>
\hline RW-10 \& 13.09 \& 16.75 \& ${ }^{3.66}$ \& ${ }_{3,7}$ \& 4.69 \& 4.77 \& ${ }_{4.46}$ \& ${ }_{5} 532$ \& 445 \& 4.12 \& 4.12 \& 5.71 \& ${ }_{3}^{380}$ \& 3.95 \& ${ }^{3.65}$ \& 4.96 \& 504 \& ${ }^{3} 93$ \& ${ }^{3,74}$ \& ${ }^{3.57}$ \& ${ }_{3}^{3.18}$ \& - \& ${ }^{338}$ \& ${ }^{329}$ \& ${ }^{348}$ \& ${ }_{3}^{3} 80$ \& ${ }_{3}^{3.81}$ \& 3.99 \& 4.11 \& \#\# \& 4.11 \& ${ }^{3.55}$ \& \& \& \& \& \& \& \& <br>
\hline RW-11 \& 13.61 \& 11.55 \& ${ }^{294}$ \& ${ }^{305}$ \& 2.45 \& ${ }^{3.07}$ \& 4.65 \& ${ }_{4} 39$ \& 3.59 \& ${ }^{324}$ \& ${ }_{3} .62$ \& ${ }_{343}$ \& ${ }_{366}$ \& ${ }^{3.67}$ \& ${ }^{3.00}$ \& 3.87 \& ${ }^{39}$ \& ${ }_{4} 43$ \& ${ }_{4}{ }^{4}$ \& ${ }_{4}^{4.46}$ \& ${ }^{387}$ \& - \& ${ }^{203}$ \& 254 \& 259 \& ${ }^{3.66}$ \& ${ }_{4}^{42}$ \& ${ }_{548}$ \& ${ }^{265}$ \& \# \& ${ }^{3,9}$ \& ${ }^{3,4}$ \& ${ }^{3.15}$ \& ${ }^{267}$ \& ${ }^{3.11}$ \& ${ }^{3.50}$ \& ${ }^{293}$ \& 4.49 \& 2.58 \& ${ }_{4,40}$ <br>
\hline RN-12.* \& - \& - \& - \& \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& - \& <br>
\hline \multicolumn{41}{|l|}{} <br>
\hline \#\# = LNAPL observed, apparent thickness not determine \& \& thicmes not dele \& emined \& \& \& \& \& \& \& \& \& \& \& \& \& \& \multicolumn{5}{|l|}{(e)} \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& <br>
\hline \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& \& <br>
\hline
\end{tabular}



# FORMER NUHART PLASTIC MANUFACTURING SITE 280 FRANKLIN STREET, BROOKLYN, NY NYSDEC SITE \#224136 

## PROJECT STATUS REPORT - May 2016

TO: Bryan Wong (NYSDEC)<br>CC: Dawn Hettrick (NYSDOH)<br>Dupont Street Developers, LLC<br>Joseph Brunner<br>Jane O'Connell (NYSDEC)<br>Michael Roux<br>Wendy A. Marsh

Email: yukyin.wong@dec.ny.gov
Email: dawn.hettrick@health.ny.gov
Email: adm@expertainc.com
Email: yb321@yahoo.com
Email: jane.oconnell@dec.ny.gov
Email: mroux@rouxinc.com
Email: wmarsh@hancocklaw.com
FROM: Stephanie O. Davis, CPG, Vice President
DATE: June 9, 2016
This status report summarizes activities conducted at the Former NuHart Plastic Manufacturing Site (Site) in May 2016. Activities during this period were conducted by FPM Group (FPM). Roux Associates, Inc. (Roux) representatives also participated in Site evaluations and communications. A site plan showing the general site layout, nearby area, and associated wells is included as Figure 1. Schedule information is presented under each activity discussion.

Interim remedial measure (IRM) activities for monitoring and removal of light non-aqueous-phase liquid (LNAPL) at the Site were performed during the monitoring period in general conformance with the NYSDEC-approved Operation, Maintenance and Monitoring Plan (OM\&M Plan) for the product recovery system. The revised Feasibility Study (FS) for the Site was undergoing review by the NYSDEC and NYSDOH. Investigation activities for the Site were previously completed as documented in previous project status reports and are not discussed herein.

## A. Interim Remedial Measure Activities

Monthly IRM routine activities were conducted by FPM on May 13, 2016. A table documenting the product apparent thickness measurements is provided as Attachment A and a Well Location Map showing the extent of LNAPL on the monitoring date is provided as Figure 1.

## > Maintenance Activities

General maintenance activities were performed, including collection of spent IRM-related absorbent materials in the vicinity of recovery wells, placing new absorbent materials as needed to contain product, and proper labeling of waste containers used during this IRM event. Both skimming systems associated with recovery wells RW-8 and RW-12 were found to be powered and operational during the site visit.

New well covers (manholes) were noted for offsite monitoring wells MW-12 and MW-13 located within the Greenpoint Landing construction area. The well covers appear to have been properly installed, the tops of the well casings appeared to have remained undisturbed, and both wells were functional.

## > Monitoring and Product Removal

Gauging of all onsite and offsite monitoring and recovery wells associated with the Site was conducted; wells that could not be accessed are noted on Attachment A. All wells containing LNAPL are noted, as are wells where LNAPL is absent. No changes were noted in the extent of the product.

In May 2016 the depth to the water table generally decreased in most wells relative to the depths observed in April 2016, most likely in response to May rainfall events. Product apparent thicknesses were noted to decrease in most of the wells, which is a typical response to a rise in the water table.

The amount of LNAPL removed from the wells during this event is estimated as 60 gallons, including LNAPL from the drums associated with the skimmers on recovery wells RW-8 and RW-12. Based on previous LNAPL estimates, an estimated 1,356 gallons of product have been removed from the subsurface since early 2015, with most of the product disposed. Approximately 344 gallons of product remain stored at this time in IBC tanks located in the Site building, pending pickup and offsite disposal. When the IBC tanks are nearly full and/or the containerized spent absorbent materials require disposal, the designated waste management company will be contacted and waste disposal requested.

Eastern Environmental Solutions, Inc. (Eastern) is presently contracted to conduct waste management activities for disposal of product from the IBC tanks at the Site; the most recent waste removal event was conducted on February 9, 2016; the completed waste manifest from the February 9, 2016 disposal event was received in May 2016 and is attached. To date Eastern has transported and disposed an estimated 1,012 gallons of product at the Cycle Chem facility in Elizabeth, NJ as hazardous waste. Waste transport and disposal information will continue to be included in the progress reports following the months during which waste disposal activities occur.

## B. Feasibility Study

FPM prepared an FS for the Site that includes evaluations of potential remedial methods to address Site-related contamination. The FS was transmitted to the NYSDEC, NYSDOH, and the established document repositories for review on January 28, 2016. The NYSDEC transmitted comments regarding the FS to the remedial party on March 3, 2016. The FS was revised to address the NYSDEC's comments and the revised FS was transmitted to the NYSDEC, NYSDOH, and document repositories on April 21, 2016. On May 16, 2016 the NYSDEC conducted a conference call with FPM and Roux representatives to discuss additional comments concerning the FS.

## C. Meetings and NYSDEC Communication

The NYSDEC participated in periodic informal communications in May 2016. Communication on Site-related technical matters will continue, as needed, between NYSDEC, FPM, Roux and others.

## Attachments

Attachment A - Apparent Thickness of LNAPL
Figure 1 - Well Location Map showing areal extent of LNAPL on groundwater
February 9, 2016 waste disposal manifest

S:IRigano LLC\49 Dupont Brooklyn\Monthlyreporting And IRM\Monthlyreports\May2016_Monthlystatusrpt.Docx
Attachment A: Apparent Thickness of LNAPL
Former NuHart Plastic Manufacturing Site, NYSDEC \#224136
280 Franklin Street, Brooklyn, NY




# FORMER NUHART PLASTIC MANUFACTURING SITE 280 FRANKLIN STREET, BROOKLYN, NY NYSDEC SITE \#224136 

## PROJECT STATUS REPORT - June 2016

| TO: | Bryan Wong (NYSDEC) | Email: | yukyin.wong@dec.ny.gov |
| :---: | :---: | :---: | :---: |
| CC: | Dawn Hettrick (NYSDOH) | Email: | dawn.hettrick@health.ny.gov |
|  | Dupont Street Developers, LLC | Email: | adm@expertainc.com |
|  | Joseph Brunner | Email: | yb321@yahoo.com |
|  | Jane O'Connell (NYSDEC) | Email: | jane.oconnell@dec.ny.gov |
|  | Michael Roux | Email: | mroux@rouxinc.com |
|  | Wendy A. Marsh | Email: | wmarsh@hancocklaw.com |

FROM: Stephanie O. Davis, CPG, Vice President
DATE: July 13, 2016
This status report summarizes activities conducted at the Former NuHart Plastic Manufacturing Site (Site) in June 2016. Activities during this period were conducted by FPM Group (FPM). Roux Associates, Inc. (Roux) representatives also participated in Site evaluations and communications. A site plan showing the general site layout, nearby area, and associated wells is included as Figure 1. Schedule information is presented under each activity discussion.

Interim remedial measure (IRM) activities for monitoring and removal of light non-aqueous-phase liquid (LNAPL) at the Site were performed shortly after the monitoring period in general conformance with the NYSDEC-approved Operation, Maintenance and Monitoring Plan (OM\&M Plan) for the product recovery system. The revised Feasibility Study (FS) for the Site was undergoing review by the NYSDEC and NYSDOH in June 2016. Investigation activities for the Site were previously completed as documented in previous project status reports and are not discussed herein.

## A. Interim Remedial Measure Activities

Monthly IRM routine activities were conducted by FPM on July 8, 2016. A table documenting the product apparent thickness measurements is provided as Attachment A and a Well Location Map showing the extent of LNAPL on the monitoring date is provided as Figure 1.

## > Maintenance Activities

General maintenance activities were performed, including collection of spent IRM-related absorbent materials in the vicinity of recovery wells, placing new absorbent materials as needed to contain product, and proper labeling of waste containers used during this IRM event. Both skimming systems associated with recovery wells RW-8 and RW-12 were found to be powered and operational during the site visit.

## > Monitoring and Product Removal

Gauging of all onsite and offsite monitoring and recovery wells associated with the Site was conducted; wells that could not be accessed are noted on Attachment A. All wells containing LNAPL are noted, as are wells where LNAPL is absent. No changes were noted in the extent of the product.
The depth to the water table generally increased in most wells relative to the depths observed in May 2016, most likely in response to relatively dry conditions in June. Product apparent thicknesses were
noted to increase in most of the wells, which is a typical response to a drop in the water table.
The amount of LNAPL removed from the wells during this event is estimated as 120 gallons, including LNAPL from the drums associated with the skimmers on recovery wells RW-8 and RW-12. Based on previous LNAPL estimates, an estimated 1,476 gallons of product have been removed from the subsurface since early 2015, with most of the product disposed. Approximately 464 gallons of product remain stored at this time in IBC tanks located in the Site building, pending pickup and offsite disposal. When the IBC tanks are nearly full and/or the containerized spent absorbent materials require disposal, the designated waste management company will be contacted and waste disposal requested. As of the date of this report waste disposal activities are being scheduled.
Eastern Environmental Solutions, Inc. (Eastern) is presently contracted to conduct waste management activities for disposal of product from the IBC tanks at the Site; the most recent waste removal event was conducted on February 9, 2016. To date Eastern has transported and disposed an estimated 1,012 gallons of product at the Cycle Chem facility in Elizabeth, NJ as hazardous waste. Waste transport and disposal information will continue to be included in the progress reports following the months during which waste disposal activities occur.

## B. Feasibility Study

FPM prepared an FS for the Site that includes evaluations of potential remedial methods to address Site-related contamination. The FS was transmitted to the NYSDEC, NYSDOH, and the established document repositories for review on January 28, 2016. The NYSDEC transmitted comments regarding the FS to the remedial party on March 3, 2016. The FS was revised to address the NYSDEC's comments and the revised FS was transmitted to the NYSDEC, NYSDOH, and document repositories on April 21, 2016. As of the date of this report, additional comments from the NYSDEC concerning the FS had been received by the remedial party on July 6, 2016.

## C. Meetings and NYSDEC Communication

The NYSDEC participated in periodic informal communications in June 2016. Communication on Site-related technical matters will continue, as needed, between NYSDEC, FPM, Roux and others.

## Attachments

Attachment A - Apparent Thickness of LNAPL
Figure 1 - Well Location Map showing areal extent of LNAPL on groundwater

Attachment A: Apparent Thickness of LNAPL
280 Frankkin Street, Brooklyn, NY
$\longrightarrow$

| Well Number |  | Weoper (toen |  |  |  |  |  |  | 2015 |  |  |  |  |  |  |  |  |  |  | Apparent Thickness of LNAPL (feet)2014 |  |  |  |  |  |  |  |  | 2013 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Jumb | ney/16 | Apmels |  | en, | amis | beat | Now15 | Oet15 | sop15 | Aug1s | Ju1.15 | Jom 15 | mel\| | Ap,75 | narts | 2020 |  |  |  |  |  |  |  |  |  | 20.200 | 20.200 | ct 20 | set 2013 | S | Jul2013 | Ant 2013 |  |  |  | oc. 2012 | 2012 | ot 2012 | seot |
| mw-4 | ${ }^{11.35}$ | ${ }_{13,15}$ | 1.80 |  |  | 1.43 | 1.85 | 1.77 | 1.96 | 204 | 1.99 |  |  | 427 | 0.35 | 0.4 |  | 0.56 |  |  | 1.90 | 124 | traed |  | 0.01 | trace | 023 | 022 | 030 | 0.68 | 0.78 | " |  | 222 | 099 | 067 | O4 | 0.44 | 0.80 |  | 0.33 |  |
| ( $\mathrm{MW-5}$ | ${ }_{\substack{9.95 \\ 888}}$ | ${ }^{13,84}$ | ${ }_{4}^{429}$ | ${ }_{\substack{307 \\ \hline \\ \hline \\ \hline}}$ | ${ }^{3.18}$ | ${ }^{3.14}$ | ${ }_{\substack{1.85 \\{ }_{4} \\ \hline \\ \hline}}$ | $\stackrel{324}{324}$ | ${ }_{4}^{483}$ | $\stackrel{541}{\text { \%41 }}$ | ${ }_{4}^{4.16}$ | $\stackrel{426}{4 .}$ | $\stackrel{4.45}{4 .}$ |  | 230 <br> 230 | $\stackrel{241}{4}$ | ${ }_{\text {\% }}^{2.55}$ | $\stackrel{3}{3.0}$ | ${ }_{4}^{4.40}$ | $\stackrel{4.79}{ }{ }_{4}$ | $\stackrel{\substack{503 \\ \hline \\ \hline}}{ }$ | $\stackrel{1.97}{ }$ | $\stackrel{3}{39}$ | - | 3.14 | ${ }_{2}^{288}$ | ${ }_{3}^{298}$ | - | ${ }_{\substack{4.46 \\ 289}}$ | ${ }_{276}^{7.17}$ | ${ }_{2}^{5.54}$ | "\# | ${ }_{\text {cise }}^{54}$ | ${ }_{\substack{392 \\ 282}}$ | 300 | 239 | 4.32 | 3.0 | 4.11 | 3.50 | ${ }_{3}^{341}$ |  |
| MW T | ${ }_{8,93}$ | ${ }^{11.15}$ | 222 | ${ }_{2}^{211}$ | ${ }^{1.00}$ | ${ }^{1.66}$ | ${ }^{231}$ | ${ }^{247}$ | ${ }_{34} 3$ | ${ }^{3} 31$ | ${ }^{258}$ | ${ }^{1.46}$ | ${ }_{128}^{128}$ | 0.98 | ${ }_{1.58}^{208}$ | No | ${ }_{1}^{1.94}$ | ${ }_{1}^{1,79}$ | \#' | 201 | ${ }_{2}^{216}$ | 0.60 | 0.01 |  | 0.17 |  |  |  | 4.78 | 4.0 | ${ }_{4.00}^{200}$ | " | ${ }_{27}^{2.7}$ | ${ }_{1}^{1.06}$ | 1.92 | 4.92 | 545 | ${ }_{1}^{130}$ | ${ }_{1}^{1.36}$ | 200 | ${ }_{1}^{1.84}$ |  |
| Mw-8 | No | 8.05 | No | No | no | No | No | No | No | no | No | No | No | No | No | No | No | No |  | No | No | ${ }^{\text {No }}$ |  |  | No | No |  |  | No | No | No | No | No | ${ }_{\text {No }}$ | No | ${ }^{\text {No }}$ | ${ }_{\text {No }}$ | No | No | ${ }^{200}$ | N0 | N0 |
| MN-12 | No | ${ }^{122}$ | No | No | no |  |  | - | No | No |  |  |  |  | No | No | No | No | - | No | - | No | No | - | No | No |  | - | No | No | No | No | No | No | No | No | No | no | No | No | No | No |
| MN-13 | No | ${ }_{7} 7.5$ | No | No | no | No | - | - | No | no | - | - | - | - | No | No | No | No | - | No | - | No | No | - | No | No | - | - | No | No | No | No | No | No | ${ }^{\text {No }}$ | No | no | No | No | No | No | No |
| mv-14 | No | ${ }_{9.40}$ | No | No | No | No | No | no | No | No | No | No | No | No | no | No | No | No | No | No | No | No | No | - | No | No | - | - | No | No | No | No | No | No | No | No | No | No | No | No | No | No |
| mw-15 | 10.29 | 10.77 | 0.48 | 0.22 | 0.71 | 0.03 | 0.04 | 0.80 | ${ }^{3.08}$ | 307 | 1.97 | ${ }^{1.05}$ | 1.05 | No | ${ }^{124}$ | 121 | 1.56 | 1.87 | 1.71 | 219 | 232 | "\#t | ${ }^{0.45}$ | - | 0.81 | 0.30 | 0.38 | - | 3.11 | 3.19 | ${ }^{3} 3$ | "\# | 2.14 | 0.70 |  | 0.32 | 1.07 |  | 1.56 | 0.99 | 0.76 | 267 |
| Nw-16 | ${ }^{11.00}$ | ${ }^{1125}$ | 0.25 | 0.02 | 0.01 | 0.02 | 0.16 | 0.02 | 0.11 | 0.02 | 0.12 | 0.05 | 0.05 | 0.14 | 0.13 | 0.15 | 0.03 | 0.08 | 0.02 |  | 0.03 | 0.99 | Traee | - | 0.01 | 0.01 | 0.10 | - | 0.23 | 0.22 | 0.19 | " | 0.05 | 0.0 | 0.02 | 0.0 | 0.10 | 0.25 | 020 | No | 024 | 020 |
| NW-20 | 10.25 | ${ }^{13,10}$ | 285 | 222 | 249 | ${ }^{243}$ | 1.98 | 246 | ${ }^{3.52}$ | 302 | ${ }^{3} 33$ | ${ }^{325}$ | 3.12 | ${ }^{288}$ | 258 | 279 | 3.84 | 4.38 | 5.13 | 1.87 | 1.71 | 292 | 206 | - | 1.47 | 290 | 258 | 4.19 | 5.07 | 4.90 | 4.11 | + | ${ }_{3}^{3} 3$ | ${ }_{1}^{1.37}$ | 3.32 | 1.20 | 1.10 | 1.35 | 1.38 | 339 | 3.15 | 3.80 |
| NW-21 | ${ }^{11.34}$ | 1429 | 295 | ${ }^{263}$ | 4.18 | ${ }^{268}$ | 242 | 297 | 4.46 | ${ }^{385}$ | ${ }^{4.51}$ | ${ }^{3.63}$ | 332 | ${ }^{297}$ | ${ }^{2} 53$ | 277 | ${ }^{298}$ | ${ }^{3.46}$ | ${ }^{323}$ | 3.62 | 4.48 | 4.90 | 1.99 |  | 269 | 248 | ${ }^{248}$ | ${ }^{3.37}$ | 3.13 | 3.72 | 4.66 | " | ${ }_{4}^{437}$ | ${ }^{3.66}$ | ${ }^{3.38}$ | ${ }^{3,4}$ | 375 | 4.10 | ${ }^{423}$ | 289 | ${ }^{204}$ | 4.15 |
| mv-22 | 11.96 | ${ }^{1258}$ | 0.82 | 0.45 | 0.48 | 0.44 | 0.15 | 0.22 | 1.33 | 1.01 | 0.49 | ${ }^{1.17}$ | 1.04 | 0.79 | 0.86 | . | - | ${ }^{133}$ | , | . 1.0 | 1.02 | 0.54 | 0.85 |  | 0.74 | 0.86 | 0.75 |  | , | 0.69 | ${ }^{0.50}$ |  | 1.12 | 0.86 | 0.50 | 0.82 | 1.15 | 120 | - | 021 | 0.10 |  |
| nv-23 | No | 9.81 | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | ${ }^{\text {No }}$ | No | ${ }^{\text {No }}$ | No | No | - | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | No | No | ${ }^{\text {No }}$ No | ${ }^{\text {No }}$ No | No | No | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | No | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | No | No | No | No |
|  | $\stackrel{\text { No }}{\substack{\text { N0 }}}$ |  | ${ }_{3}{ }^{\text {N0 }}$ | ${ }_{3.55}^{\text {N0 }}$ | ${ }_{3.38}^{\text {No }}$ | ${ }_{3.42}^{\text {No }}$ | ${ }_{3}^{\text {No }}$ | ${ }_{3.3}^{\text {N0 }}$ | ${ }_{\text {N08 }}^{\text {N }}$ | ${ }_{3.53}^{\text {No }}$ | ${ }_{363}$ | ${ }_{3.53}^{\text {No }}$ | ${ }_{3.88}^{\text {No }}$ | ${ }_{3.53}^{\text {No }}$ | ${ }_{281}^{\text {No }}$ | ${ }_{324}^{\text {No }}$ | ${ }_{3}^{\text {No }}$ | ${ }_{1}^{\text {No }}$ | N0 | ${ }_{3}^{\text {N0 }}$ | ${ }_{402}^{\text {No }}$ | ${ }_{3.65}^{\text {No }}$ | ${ }_{348}^{\text {No }}$ | - | ${ }_{3}{ }^{\text {No }}$ | ${ }_{3} \mathrm{N0}$ | - | - | ${ }_{5}^{\text {N0 }}$ | ${ }_{5.56}^{\text {No }}$ | ${ }_{4}^{\text {No }}$ | ${ }_{\text {No }}^{\text {\#, }}$ | ${ }_{4.41}^{\text {No }}$ | ${ }_{3}^{\text {No }}$ | ${ }_{3}^{\text {N0 }}$ | ${ }_{3}^{\text {N0 }}$ | ${ }_{4}^{\text {No }}$ | ${ }_{3}{ }_{3}$ | ${ }_{282}^{\text {No }}$ | ${ }_{7}^{\text {No }}$ | ${ }_{4}^{\text {No }}$ | ${ }_{3}^{\text {NO }}$ |
| MN-26 | 9.91 | ${ }_{13,73}$ | 382 | ${ }_{3,4}$ | ${ }_{337}$ | ${ }^{297}$ | ${ }_{3,82}$ | ${ }_{3.41}$ | ${ }^{423}$ | ${ }^{4.08}$ | ${ }_{3} 37$ | ${ }_{4} .00$ | ${ }_{3} 370$ | ${ }_{365}$ | ${ }^{3,18}$ | ${ }_{33}{ }^{3}$ | ${ }_{364}$ | 4.14 | 4.11 | ${ }_{3} 34$ | ${ }_{3} 30$ | ${ }_{4} 50$ | ${ }_{3.02}$ | - | 271 | ${ }_{3,4}$ | 380 | 4.34 | ${ }_{4} 44$ | 447 | 4.62 | " | 4.18 | ${ }_{369} 3$ | ${ }_{268} 28$ | ${ }_{233}$ | ${ }_{1} 1.00$ | 245 | 1.62 |  | ${ }_{261}$ | 4.02 |
| MN-27 | no | 10.40 | No | No | no | no | No | no | No | No | No | No | No | No | No | No | No | No | No | No | No | No | ${ }^{\text {No }}$ | - | ND | No |  |  | No | No | ${ }^{\text {No }}$ | No | No | ${ }^{\text {No }}$ | ${ }^{206}$ | ${ }^{20}$ | No | ${ }^{29}$ | ${ }^{\text {No }}$ | 0.98 | No |  |
| MN-28 | no | 929 | No | No | no | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | - | No | No | No | no | no | No | No | No | No | No | No | No | No | No | N | м | N | N |
| MN-29 | no | 11.01 | No | No | No | No | No | No | No | No | No | No | no | no | no | no | No | No | No | No | No | No | no | - | no | No | No | No | No | No | No | No | No | No | No | No | No | No | N | N | N | N |
| MN-30 | no | ${ }_{9,42}$ | No | No | No | No | no | no | no | No | no | No | no | no | no | No | no | no | no | No | no | no | no | - | no | no | - | , | No | No | No | No | No | ${ }^{\prime}$ | N | N | N | N | N | N | N | N |
| MN-31 | No | ${ }_{9,38}$ | No | No | No | No | No | No | No | - | No | No | No | No | No | No | No | No | No | No | No | No | No | - | No | No | - | - | No | No | No | No | No | ${ }^{N}$ | N | N | N | N | N | N | N | N |
| - ${ }_{\text {NWV-32 }}$ | No |  | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | $\stackrel{\text { No }}{\text { No }}$ | No | $\stackrel{\text { No }}{\text { No }}$ | ${ }^{\text {No }}$ | ${ }_{\text {No }}^{\text {No }}$ | No | ${ }_{\text {No }}^{\text {N0 }}$ | No | ${ }^{\text {No }}$ | ${ }_{\text {No }}^{\text {No }}$ | No | No | No | No | ${ }^{\text {No }}$ | No | $\stackrel{\text { No }}{\text { No }}$ | ${ }_{\text {No }}^{\text {N0 }}$ | - | No | ${ }^{\text {No }}$ | - | - | No | No | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }_{\text {No }}^{\text {No }}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ | $\stackrel{\mathrm{N}}{\mathrm{N}}$ | N | N | $\stackrel{\mathrm{N}}{\mathrm{N}}$ | $\stackrel{\mathrm{N}}{\mathrm{N}}$ | $\stackrel{\mathrm{N}}{\mathrm{N}}$ | $\stackrel{\mathrm{N}}{\mathrm{N}}$ |
| - ${ }^{\text {mN- }-38}$ | ${ }_{\text {No }}^{\text {No }}$ | ${ }_{\text {li.4. }}^{11.49}$ | No | ${ }_{\text {No }}^{\text {No }}$ | ${ }^{\text {No }}$ No | No | ${ }_{\text {No }}^{\text {No }}$ | No | No | No | ${ }_{\text {No }}$ No | No | ${ }_{\text {No }}^{\text {No }}$ | ${ }^{\text {No }}$ NO | ${ }_{\text {No }}^{\text {No }}$ | ${ }^{\text {No }}$ N0 | ${ }^{\text {No }}$ No | ${ }_{\text {No }}$ No | ${ }_{\text {No }}$ No | ${ }_{\text {No }}^{\text {No }}$ | ${ }^{\text {No }}$ No | No | ${ }_{\text {No }}^{\text {No }}$ | - | ${ }_{\text {No }}$ No | ${ }_{\text {No }}$ No | ${ }_{\text {No }}^{\text {No }}$ | ${ }_{\text {No }}^{\text {No }}$ | ${ }_{\text {No }}$ No | ${ }_{\text {No }}$ No | ${ }_{\text {No }}^{\text {No }}$ | $\stackrel{\text { No }}{\text { No }}$ | $\stackrel{\text { No }}{\text { No }}$ | $\stackrel{N}{\text { N }}$ | $\stackrel{N}{N}$ | $\stackrel{N}{\text { N }}$ | $\stackrel{N}{N}$ | $\stackrel{N}{N}$ | $\stackrel{N}{N}$ | $\stackrel{N}{N}$ | $\stackrel{N}{\mathrm{~N}}$ | $\stackrel{N}{\text { N }}$ |
| MN-36 | No | ${ }^{10.38}$ | No | No | No | No | No | No | No | No | No | No | ${ }^{\text {No }}$ | No | No | No | No | No | No | No | No | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |  |
| MN-37 | No | ${ }_{8.81}$ | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | No | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N |  |
| MN-38 | no | ${ }^{8.95}$ | No | No | no | no | No | No | No | no | No | no | no | no | no | no | No | No |  | No | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | ${ }^{N}$ | N | N | N | N |  |
| MN-39 | No | ${ }^{8.78}$ | No | No | no | no | No | no | No | No | No | No | No | No | No | No | No | No | No | No | ${ }^{N}$ | N | $\cdots$ | N | N | ${ }^{N}$ | N | N | N | N | N | N | N | ${ }^{N}$ | N | N | ${ }^{N}$ | N | ${ }^{N}$ | N | $N$ | N |
| $\frac{\mathrm{MN}-40}{}$ | ${ }^{\text {No }}$ No | ${ }_{\substack{7.10 \\ 8.0}}$ | No | ${ }_{\text {No }}^{\text {No }}$ | ${ }_{\text {No }}^{\text {No }}$ | ${ }_{\text {No }}^{\text {No }}$ | ${ }^{\text {No }}$ No | ${ }_{\text {No }}^{\text {No }}$ | No No | No | ${ }_{\text {No }}^{\text {No }}$ | ${ }_{\text {No }}^{\text {No }}$ | ${ }_{\text {No }}^{\text {No }}$ | No <br> No | ${ }_{\text {No }}^{\text {No }}$ | ${ }^{\text {No }}$ N0 | ${ }^{\text {No }}$ No | ${ }^{\text {No }}$ No | ${ }_{\text {No }}^{\text {No }}$ | $\stackrel{\text { No }}{\text { No }}$ | N <br> N | N N | N <br> N | $\stackrel{\mathrm{N}}{\mathrm{N}}$ | N <br> N | $\stackrel{N}{N}$ | $\stackrel{N}{N}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ | N <br> N | N N | N N | N N | N N | N <br> N | N N | $\stackrel{\mathrm{N}}{\mathrm{N}}$ | $\stackrel{N}{N}$ | $\stackrel{N}{N}$ | $\stackrel{N}{N}$ | $\stackrel{N}{N}$ |  |  |
| (mN-41 | ${ }_{\text {No }}$ | ${ }_{8,8,}^{8,40}$ | No | ${ }_{\text {No }}$ | ${ }_{\text {No }}$ | ${ }_{\text {No }}^{\text {No }}$ | ${ }^{\text {No }}$ No | ${ }_{\text {No }}^{\text {No }}$ | ${ }^{\text {No }}$ No | ${ }^{\text {No }}$ No | ${ }^{\text {No }}$ No | No | ${ }_{\text {No }}$ | ${ }^{\text {No }}$ No | No | ${ }^{\text {No }}$ No | ${ }^{\text {No }}$ No | No | No | $\stackrel{N}{\text { N }}$ | $\stackrel{N}{\mathrm{~N}}$ | $\stackrel{N}{\mathrm{~N}}$ | $\stackrel{N}{N}$ | $\stackrel{N}{N}$ | $\stackrel{N}{N}$ | $\stackrel{N}{N}$ | $\stackrel{N}{N}$ | $\stackrel{N}{N}$ | $\stackrel{N}{\mathrm{~N}}$ | $\stackrel{N}{\mathrm{~N}}$ | $\stackrel{N}{\text { N }}$ | ${ }_{\text {N }}$ | N | $\stackrel{N}{N}$ | $\stackrel{N}{N}$ | $\stackrel{N}{\mathrm{~N}}$ | $\stackrel{N}{N}$ | $\stackrel{N}{N}$ | $\stackrel{\mathrm{N}}{\mathrm{N}}$ | $\stackrel{\mathrm{N}}{\mathrm{N}}$ | $\stackrel{\mathrm{N}}{\mathrm{N}}$ | $\stackrel{\mathrm{N}}{\mathrm{N}}$ |
| RW-1 | No | ${ }_{8.81}$ | No | No | No | No | No | No | No | - | No | No | No | No | No | No | No | No | No | No | No | No | No | - | ND | No | No | No | No | No | No | No | No | No |  | No | No | No | No | No | No | No |
| RW-2 | 1221 | ${ }_{14,62}$ | 241 | 3.02 | 212 | ${ }^{3} 34$ | 270 | ${ }^{283}$ | ${ }^{4} 28$ | - | 264 | 297 | 3.41 | ${ }^{5.54}$ | 528 | 5.4 | 282 | 4.19 | 4.52 | 4.52 | 4.53 | 4.52 | 0.11 | - | 1.30 | ${ }^{305}$ | 231 | 280 | 3.19 | 509 | ${ }^{3} 86$ | "+ | 4.07 | 296 | 292 | ${ }_{3,8}$ | ${ }^{3} 75$ | 420 | 252 | 1.92 | 1.50 | 5.95 |
| RW-3 | ${ }^{14.46}$ | ${ }^{173.5}$ | 249 | 1.64 | ${ }^{2,17}$ | ${ }^{209}$ | 1.64 | ${ }^{237}$ | ${ }^{427}$ | 292 | 4.14 | ${ }^{1,39}$ | 214 | ${ }^{431}$ | ${ }^{223}$ | ${ }^{223}$ | 1.81 | ${ }^{328}$ | 3.31 | 3.50 | ${ }^{3,45}$ | ${ }^{3.56}$ | 4.12 | - | 1.58 | 290 | 228 | 4.80 (ess) | 3.60 | ${ }^{3.3}$ | 1.88 | "+ | ${ }^{296}$ | 1.44 | 3.00 | 320 | ${ }^{3.3}$ | 3.70 | ${ }^{3.58}$ | 284 | 3.50 | ${ }^{3.88}$ |
| RW-4 | 7.90 | 1022 | 232 | 202 | ${ }^{222}$ | ${ }^{293}$ | 203 | ${ }^{2.51}$ | ${ }^{282}$ | ${ }^{231}$ | 1.99 | 1.09 | 202 | 3.65 | ${ }^{3.66}$ | ${ }^{3.53}$ | ${ }^{3.53}$ | ${ }^{1.43}$ | ${ }^{1.35}$ | 278 | ${ }^{288}$ | "\#t | ${ }^{286}$ | - | 1.81 | ${ }^{325}$ | 327 | 245 | 287 | 230 | 1.46 | "+ | 275 | 1.08 | ${ }^{3.06}$ | 3.15 | 3.00 | 3.05 | 2.95 |  | ${ }^{3.4}$ | 3.35 |
| RW-5 | 11.75 | ${ }^{14.51}$ | 276 | ${ }^{247}$ | ${ }^{266}$ | ${ }^{321}$ | 2.53 | 1.92 | 1.96 | 5.64 | 4.18 | ${ }^{203}$ | ${ }^{5} 79$ | 4.87 | 4.69 | 4.75 | 0.70 | 0.85 | 0.91 | 0.85 | 0.43 | 0.17 | 0.17 | - | 0.12 | 0.93 | 0.43 | 0.52 | 0.60 | 0.79 | 0.54 | "+ | 0.69 | 0.51 | 262 |  |  |  | 235 | 3.00 | 1.88 |  |
| ${ }^{\text {PNW-6 }}$ | 11.96 | 1277 | 0.81 | ${ }_{0}^{0.87}$ | 0.73 | 0.74 | 0.76 | 0.74 | 0.77 | 0.65 | 0.66 | ${ }^{0.65}$ | 0.61 | 0.78 | 1.96 | ${ }^{235}$ | ${ }_{0}^{0.71}$ | ${ }^{1119}$ | ${ }_{12}^{114}$ | 0.71 | ${ }_{0}^{0.64}$ | ${ }^{0.78}$ | 0.79 <br> 29 | - | 0.45 0.05 | ${ }_{1}^{128}$ | ${ }^{0.96}$ | ${ }^{0} 248$ | ${ }_{0} 2.94$ | ${ }^{130}$ | ${ }^{0.87}$ | "+ | 0.10 4 4 | 0.08 <br> 304 <br> 0 | 0.45 | 0.50 | 021 | 0.40 | 0.15 | 0.90 | 0.22 | 0.06 |
| $\frac{\mathrm{RW-8}}{\text { RW-9 }}$ | ${ }_{13,08}$ | ${ }_{1626}$ | 3.18 | 275 | ${ }^{3} \mathbf{0} 9$ | ${ }_{3.81}$ | ${ }_{242}$ | 3.46 | 4.6 | $4{ }_{4}$ | ${ }_{3.52}$ | 268 | ${ }_{323}$ | ${ }_{3}$. | 4.82 | 4.79 | ${ }_{4.28}^{2.4}$ | ${ }_{5.68}^{298}$ | ${ }_{5.65}^{298}$ | 4.81 | 4.59 | ${ }_{4.92}$ | ${ }_{4}^{29.14}$ | - | 10, 0 | 220 | 2.28 | ${ }_{4}^{23}$ | ${ }_{525}^{24}$ | ${ }_{4.88}^{4.88}$ | ${ }_{3.08}^{4.18}$ | " | ${ }_{4}^{4.99}$ | ${ }_{238}^{238}$ | 4.40 | 262 | ${ }_{3.11}$ | 3.50 | 3.08 | 3.93 | 298 | ${ }_{5.33}$ |
| RW-10 | ${ }^{1286}$ | ${ }_{16,55}$ | 3.69 | ${ }^{3,74}$ | ${ }_{3.68}$ | 3.67 | 4.6 | 4.77 | ${ }_{4} 46$ | 5.32 | ${ }_{4} 45$ | 4.12 | 4.12 | ${ }_{5} 57$ | 3.80 | ${ }^{3.95}$ | ${ }_{3.65}$ | ${ }_{4} 96$ | 5.04 | ${ }_{3,93}$ | ${ }_{3} 34$ | ${ }^{3.57}$ | ${ }^{3.18}$ |  | ${ }_{3,38}$ | 3.89 | ${ }_{3,48}$ | 3.30 | ${ }_{3.81}$ | 3.9 | ${ }_{4} 411$ | "+ | 4.11 | ${ }^{3} 55$ |  |  |  |  |  |  |  |  |
| RW-11 | ${ }_{13,10}$ | 16.53 | ${ }_{3,43}$ | ${ }_{3,8}$ | ${ }^{294}$ | ${ }_{3.05}$ | ${ }^{245}$ | 3.07 | 4.45 | 439 | 359 | ${ }^{324}$ | ${ }_{362}$ | ${ }_{3,3}$ | ${ }_{368}$ | 3.8 | 3.00 | ${ }_{387}$ | ${ }_{3} 37$ | 4.43 | 4.42 | 446 | ${ }_{3.8}$ |  | 203 | 254 | 259 | ${ }_{3.68}$ | 4.27 | ${ }_{548}^{548}$ | ${ }^{265}$ | "+ | 3.91 | 3.49 | 3.15 | 267 | 3.11 | 3.50 | ${ }^{293}$ | 4.49 | 258 |  |

Nooss

,




# FORMER NUHART PLASTIC MANUFACTURING SITE 280 FRANKLIN STREET, BROOKLYN, NY NYSDEC SITE \#224136 

## PROJECT STATUS REPORT - July 2016

| TO: | Bryan Wong (NYSDEC) | Email: | yukyin.wong@dec.ny.gov |
| :---: | :---: | :---: | :---: |
| CC: | Dawn Hettrick (NYSDOH) | Email: | dawn.hettrick@health.ny.gov |
|  | Dupont Street Developers, LLC | Email: | adm@expertainc.com |
|  | Joseph Brunner | Email: | yb321@yahoo.com |
|  | Jane O'Connell (NYSDEC) | Email: | jane.oconnell@dec.ny.gov |
|  | Michael Roux | Email: | mroux@rouxinc.com |
|  | Wendy A. Marsh | Email: | wmarsh@hancocklaw.com |

FROM: Stephanie O. Davis, CPG, Vice President
DATE: August 9, 2016
This status report summarizes activities conducted at the Former NuHart Plastic Manufacturing Site (Site) in July 2016. Activities during this period were conducted by FPM Group (FPM). Roux Associates, Inc. (Roux) representatives also participated in Site evaluations and communications, and additional activities were conducted by others, as noted below. A site plan showing the general site layout, nearby area, and associated wells is included as Figure 1. Schedule information is presented under each activity discussion.

Interim remedial measure (IRM) activities for monitoring and removal of light non-aqueous-phase liquid (LNAPL) at the Site were performed during the monitoring period in general conformance with the NYSDEC-approved Operation, Maintenance and Monitoring Plan (OM\&M Plan) for the product recovery system. The revised Feasibility Study (FS) for the Site was undergoing additional revision following receipt of comments from the NYSDEC and NYSDOH on July 6, 2016. Investigation activities for the Site were previously completed as documented in previous project status reports and are not discussed herein.

## A. Interim Remedial Measure Activities

Monthly IRM routine activities were conducted by FPM on July 21, 2016. A table documenting the product apparent thickness measurements is provided as Attachment A and a Well Location Map showing the extent of LNAPL on the monitoring date is provided as Figure 1.

## > Maintenance Activities

General maintenance activities were performed, including collection of spent IRM-related absorbent materials in the vicinity of recovery wells, placing new absorbent materials as needed to contain product, and proper labeling of waste containers used during this IRM event. Both skimming systems associated with recovery wells RW-8 and RW-12 were found to be powered and operational during the site visit.

## > Monitoring and Product Removal

Gauging of all onsite and offsite monitoring and recovery wells associated with the Site was conducted; wells that could not be accessed are noted on Attachment A. All wells containing LNAPL are noted, as are wells where LNAPL is absent. No changes were noted in the extent of the product.

The depths to the water table were variable relative to the depths noted in the June 2016 status report, with some wells showing increases and some wells showing decreases. Product apparent thicknesses were also variable, with increases generally noted in wells where the depth to water increased and decreases noted in wells where the depth to water decreased. These are typical responses to changes in the water table.
The amount of LNAPL removed from the wells during this event is estimated as 70 gallons, including LNAPL from the drums associated with the skimmers on recovery wells RW-8 and RW-12. Based on previous LNAPL estimates, an estimated 1,546 gallons of product have been removed from the subsurface since early 2015, with most of the product disposed. The removed product is stored in IBC tanks located in the Site building, pending pickup and offsite disposal. When the IBC tanks are nearly full and/or the containerized spent absorbent materials require disposal, the designated waste management company will be contacted and waste disposal requested.
Eastern Environmental Solutions, Inc. (Eastern) is presently contracted to conduct waste management activities for disposal of product from the IBC tanks at the Site. Waste removal was conducted on July 21, 2016 during the monitoring event, and included removal of 500 gallons of product for proper disposal offsite. To date Eastern has transported and disposed an estimated 1,512 gallons of product at the Cycle Chem facility in Elizabeth, NJ as hazardous waste. The manifest from this disposal event is pending and will be provided in the monthly progress report after it is received. Waste transport and disposal information will continue to be included in the progress reports following the months during which waste disposal activities occur.

Additional monitoring of select offsite wells is being conducted by Langan as of July 27, 2016 during dewatering operations for the nearby Greenpoint Landing project. Langan is providing the monitoring data to the NYSDEC as well as to Roux and FPM on a weekly basis during dewatering operations and will provide additional notifications if any unexpected conditions occur. To date the dewatering has been intermittent, no product has been noted in any of the monitored wells, and no significant changes in the water table configuration have been noted.

## B. Feasibility Study

FPM prepared an FS for the Site that includes evaluations of potential remedial methods to address Site-related contamination. The FS was transmitted to the NYSDEC, NYSDOH, and the established document repositories for review on January 28, 2016. The NYSDEC transmitted comments regarding the FS to the remedial party on March 3, 2016. The FS was revised to address the NYSDEC's comments and the revised FS was transmitted to the NYSDEC, NYSDOH, and document repositories on April 21, 2016. Additional NYSDEC comments concerning the FS were received by the remedial party on July 6, 2016. The NYSDEC was notified on July 21, 2016 that the FS will be revised and resubmitted on or before August 19, 2016.

## C. Meetings and NYSDEC Communication

The NYSDEC participated in periodic informal communications in July 2016. Communication on Site-related technical matters will continue, as needed, between NYSDEC, FPM, Roux and others.

## Attachments

Attachment A - Apparent Thickness of LNAPL
Figure 1 - Well Location Map showing areal extent of LNAPL on groundwater

[^1]

Attachment A: Apparent Thickness of LNAPL
280 Frankin Street, Brooklyn, NY


GZA GeoEnvironmental of NY
104 West 29th Street
10th Floor
New York, NY 10001
T: 212.594.8140
F: 212.279 .8180
www.gza.com

September 9, 2016
File No. 12.0076850 .00

Via email: yukyin.wong@dec.ny.gov
Mr. Bryan Wong
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 2
47-40 $21^{\text {st }}$ Street
Long Island City, New York 11101

Re: Project Status Report
Former NuHart Plastic Manufacturing Site \# 224136
28o Franklin Street
Brooklyn, New York

Dear Mr. Wong:

Goldberg Zoino and Associates of New York, PC d/b/a GZA GeoEnvironmental of New York is transmitting this Project Status Report on behalf of Dupont Street Developers, LLC for the above referenced Site. Copies of this Project Status Report have also been provided to Dawn Hettrick of the New York State Department of Health. The Project Status Report is for August 2016 to September 2016. If you have any questions, please contact us at 973-7743350.

Sincerely,
GZA GeoEnvironmental


Senior Project Manager


Ernest R. Hanna, P.E.
Consultant Reviewer

Cc:

Dawn Hettrick (NYSDOH)
Dupont Street Developers, LLC
Joseph Brunner
Jane O'Connell (NYSDEC)
Wendy A. Marsh


## 

This status report summarizes activities conducted at the Former NuHart Plastic Manufacturing Site (Site) in August 2016. During this period, Dupont Street Developers, LLC retained GZA GeoEnvironmental, of New York. (GZA) as its environmental consultant. Activities during this period were conducted by FPM Group (FPM), Roux Associates, and GZA. GZA representatives also participated in Site evaluations and communications, and additional activities were conducted by others, as noted below. A Site Plan showing the general Site layout, nearby area, and associated wells is included as Figure 1. Schedule information is presented under each activity discussion.

Interim remedial measure (IRM) activities for monitoring and removal of light non-aqueousphase liquid (LNAPL) at the Site were performed during the monitoring period in general conformance with the NYSDEC-approved Operation, Maintenance and Monitoring Plan (OM\&M Plan) for the product recovery system. The revised Feasibility Study (FS) for the Site was submitted to NYSDEC on August 24, 2016. Copies of the FS were sent to the respective repositories via mail on September 6, 2016. Investigation activities for the Site were previously completed as documented in previous project status reports and are not discussed herein.

## Interim Remedial Measure Activities

Monthly IRM routine activities were conducted by GZA on August 30, 2016. A table documenting the apparent LNAPL thickness measurements is provided as Attachment A and a Well Location Map showing the extent of LNAPL based on the monitoring date is provided as Figure 1.

## Maintenance Activities

General maintenance activities were performed, including collection of spent IRM-related absorbent materials in the vicinity of recovery wells, placing new absorbent materials as needed to contain product, and proper labeling of waste containers used during this IRM event. Both skimming systems associated with recovery wells RW-8 and RW-12 were found to be powered but not operational during the Site visit. The skimmer holding cells were both filled and it appeared that there was an overflow mechanism to prevent overfilling.

## Monitoring and LNAPL Removal

Gauging of all onsite and offsite monitoring and recovery wells associated with the Site was conducted; two of the off-Site monitoring wells (MW-31 and MW-38) were no longer discoverable due to new sidewalk slags installed on August 8, 2016 by others. Other wells that could not be accessed are noted on Attachment A. All wells containing LNAPL are noted, as are wells where LNAPL is absent. No changes were noted in the extent of the product. Low tide was observed (by NOAA/NOS/CO-OPS Station ID (8517673) Hunters Point, Newtown Creek, NY) on August 30, 2016 during the well gauging period (11:30 to 15:30) and appeared to have a limited impact on measured LNAPL thickness in the wells over time.

The depths to the water table were variable relative to the depths noted in the July 2016 status report, with some wells showing increases and some wells showing decreases.

Product apparent thicknesses were also variable, with increases generally noted in wells where the depth to water increased and decreases noted in wells where the depth to water decreased. These are typical responses to changes in the water table.

The skimmer holding cells were emptied during this event. The amount of LNAPL removed from the wells was estimated at 100 gallons, including LNAPL from the drums associated with the skimmers on recovery wells RW-8 and RW-12. Based on previous LNAPL estimates, an estimated 1,646 gallons of product have been removed from the subsurface since early 2015, with most of the LNAPL disposed. The removed LNAPL is stored in intermediate bulk container (IBC) tanks located in the Site building, pending pickup and offsite disposal. When the IBC tanks are nearly full and/or the containerized spent absorbent materials require disposal, the designated waste management company will be contacted and waste disposal requested.

Eastern Environmental Solutions, Inc. (Eastern) is presently contracted to conduct waste management activities for disposal of product from the IBC tanks at the Site. Waste removal was conducted on July 21, 2016 during the monitoring event, and included removal of 500 gallons of product for proper disposal offsite. To date, Eastern has transported and disposed an estimated 1,512 gallons of product at the Cycle Chem facility in Elizabeth, NJ as hazardous waste. The manifest from this disposal event is pending and will be provided in the monthly progress report after it is received. Waste transport and disposal information will continue to be included in the progress reports following the months during which waste disposal activities occur.

Additional monitoring of select offsite wells is being conducted by Langan as of August 26, 2016 during dewatering operations for the nearby Greenpoint Landing project. Langan is providing the monitoring data to the NYSDEC as well as to the owner's consultant on a weekly basis during dewatering operations and will provide additional notifications if any unexpected conditions occur. To date, the dewatering has been intermittent, no product has been noted in any of the monitored wells, and no significant changes in the water table configuration have been noted. The Langan project manager noted that there are two dewatering events that are currently being planned. Langan intends to coordinate the efforts of both of these events with the NYSDEC and the Owner's consultant.

## Feasibility Study

FPM prepared an FS for the Site that includes evaluations of potential remedial methods to address Site-related contamination. The FS was transmitted to the NYSDEC, NYSDOH for review on January 28, 2016. The NYSDEC transmitted comments regarding the FS to the remedial party on March 3, 2016. The FS was revised to address the NYSDEC's comments and the revised FS was transmitted to the NYSDEC, NYSDOH, on April 21, 2016. Additional NYSDEC comments concerning the FS were received by the remedial party on July 6, 2016. At this time, the Owner retained GZA as the environmental consultant responsible for the resubmission of the he FS to address the NYSDEC's comments and include thermal conductive heating (TCH) enhanced recovery as an alternative. The revised FS was resubmitted to the NYSDEC on August 24, 2016.

## Meetings and NYSDEC Communication

On August 22 2016, the NYSDEC met with the new project team, GZA, and the property owner to discuss the project status. Communication pertaining to Site-related technical matters will continue, as needed, between NYSDEC, GZA, the property owner, and others.

## LNAPL Spill

On August 8, 2016, an offsite spill was observed on the Franklin Street sidewalk and a NYSDEC petroleum spill (\#1604714) was reported. The spill was related to a release of LNAPL from a holding drum for recovery well RW-12. The tube of the belt skimmer became dislodged from the holding drum and resulted in LNAPL leaking onto the floor. The LNAPL exited the building through a drain hole located on the western wall abutting Franklin Street. Information from the spill is considered herein as appropriate. The NYSDEC case manager is Ryan M. Piper and the case is pending closure. The amount released is unknown with an estimate of 10 gallons inside and 1 gallon outside of the building. An initial cleaning of the sidewalk with degreasers and absorbents and the interior area was conducted right after the spill and additional cleaning was performed on August 11, 2016. The sidewalk and the interior area after cleaning was completed leaving no visible residual material in the area. In addition, secondary containment was constructed around the RW-8 and RW-12 recovery systems. The secondary containment included 6 -mil poly sheeting placed beneath the recovery equipment and absorbent booms applied within the secondary containment areas around the recovery equipment. Additional absorbent materials and related equipment were staged onsite in proximity to the recovery systems and readily for use. All cleaning wastes were contained in a labeled drum that will be scheduled for removal and proper disposal. In addition, the horizontal wall drain (at floor elevation) drain leading to the sidewalk was cleaned and plugged.

## Attachments

Attachment A - Apparent Thickness of LNAPL
Figure 1-Well Location Map showing areal extent of LNAPL on groundwater

| Well Nimber |  | Dephto Water feet |  |  |  | ${ }^{2016}$ |  |  |  |  |  |  |  |  |  | 2015 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | \%eat | 10.16 |  | Marl\| |  | Mar-16 | Foble | ${ }^{\text {am-16 }}$ | cels |  |  | Spor | 迷 |  |  | , | Apr-15 |  | jant | sp.14 | Aup.14 |  | dem | Mar 14 |  |  |  | jam 14 | Decti3 |  |  |  |  | ${ }^{\text {jull13 }}$ |  |  |  | Jan.13 | Dect12 | 12 |  |  |
| Mw-4 | ${ }^{11.34}$ | ${ }_{1}^{13,5}$ | ${ }^{1.71}$ | ${ }^{1.73}$ | 1.80 | ${ }^{1.53}$ | ${ }^{1.73}$ | ${ }^{1.43}$ | ${ }_{1}^{1.85}$ | ${ }^{1.77}$ | ${ }^{1.96}$ | 204 | ${ }^{1.99}$ | ${ }^{1.77}$ | 222 | 427 | ${ }^{035}$ | ${ }_{0} 0.4$ |  | ${ }_{0}^{0.56}$ |  | 1.75 | ${ }^{1.90}$ | ${ }^{124}$ | ${ }_{\text {Thac }}$ |  | 0.01 | Trac | ${ }^{0.23}$ | 022 | ${ }^{0.30}$ | 0.66 | 0.78 | "+ | ${ }_{3} 3.9$ | 222 | 0.59 | 0.67 | 0.4 | ${ }_{0} 0.4$ | ${ }^{0.80}$ | ${ }^{0.31}$ | ${ }^{0.33}$ |  |
| Mw-5 | 9,4 | 4.25 | ${ }_{4}^{431}$ | 4.03 | ${ }^{429}$ | 3.07 | 3.18 | ${ }^{3.14}$ | ${ }^{1.85}$ | ${ }^{324}$ | ${ }_{4}^{483}$ | ${ }_{5}{ }_{4}$ | ${ }^{4.16}$ | ${ }^{426}$ | 4.45 | 422 | 230 | ${ }^{241}$ | ${ }^{235}$ | 3.10 | ${ }_{4}^{4.0}$ | ${ }^{4.79}$ | ${ }_{503}$ | ${ }^{1.97}$ | ${ }^{3,39}$ | - | ${ }^{3.14}$ | ${ }^{280}$ | 238 |  | ${ }_{6.46}$ | 2.17 | ${ }_{5}^{5.4}$ | " | ${ }_{5}^{508}$ | ${ }^{3} 22$ | ${ }^{3.00}$ | 2.39 | ${ }_{432}$ | 3,00 | ${ }_{4} 4.1$ | ${ }^{3,50}$ | ${ }_{3.4}$ | ${ }_{5}^{588}$ |
| MW-6 | 9.12 |  | "t | "t | "t | "+ | " | +t | "t | "t | "' | "+ | "t | "' | "t | "'t | ${ }^{230}$ | "'t | "t | "t | "t+ | "t | "t | "t | "t |  |  | ${ }^{284}$ | ${ }^{3,43}$ |  | 2.89 | 276 | 200 | "t | ${ }^{2} 42$ | 282 |  |  |  |  |  |  | ${ }^{3.4}$ |  |
| Mw-7 | 941 | 1130 | 1.89 | ${ }_{1} 58$ | 222 | 2.1 | ${ }^{1.90}$ | ${ }^{1.66}$ | ${ }^{231}$ | 247 | ${ }^{3.4}$ | ${ }^{3} 31$ | 2.88 | ${ }^{1.46}$ | ${ }^{128}$ | 0.98 | ${ }^{1.88}$ | ND | ${ }^{1.94}$ | ${ }^{1.79}$ | "t+ | 201 | ${ }^{216}$ | 0.60 | 0.01 |  | 0.17 | 0.17 |  |  | 478 | 470 | ${ }_{4}^{4.00}$ | "t | ${ }^{277}$ | ${ }^{1.06}$ | 1.92 | 4.92 | ${ }_{4} 55$ | ${ }^{13} 3$ | ${ }^{136}$ | 200 | ${ }^{1.84}$ |  |
| Mw-8 | ND | 10.41 | ND | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND |  | ND | ${ }^{\text {ND }}$ | ND | ND |  | ND | ND |  |  | ${ }^{\text {ND }}$ | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ${ }^{\text {ND }}$ | N | ${ }^{\text {ND }}$ |
| Mv-12 | ND | 7.9 | ND | ND | ND | ND | ND | - | - | - | ND | ND | - | - | - |  | ND | ND | ND | ND | - | ND | - | ND | ND | - | ND | ND | - |  | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ |
| mv-13 | ND | 8.17 | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND |  |  | ND | ND |  | - |  |  | ND | N | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ |  | ND | - | ${ }^{\text {ND }}$ | ND |  | - | ${ }^{\text {ND }}$ | - |  | ${ }^{\text {ND }}$ | ND | ND | ND | - | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | N | ND |  |
| Mw-14 | ${ }^{\text {ND }}$ | ${ }_{8}^{873}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | - | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | 038 | - | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }_{1}^{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ |
| mw-15 | ${ }^{10.64}$ | ${ }^{11.45}$ | 0.81 | 0.07 | ${ }_{0}^{0.48}$ | 0.22 | ${ }_{0}^{0.71}$ | ${ }^{0.03}$ | ${ }_{0} 0.04$ | 0.60 | ${ }^{3,08}$ | 3.07 | ${ }^{1.97}$ | ${ }^{1.05}$ | ${ }^{\text {L.05 }}$ | ND | ${ }^{124}$ | ${ }^{121}$ | ${ }^{1.56}$ | ${ }^{1.07}$ | 1.71 | 2.19 | 232 | "** | ${ }^{0.45}$ | - | ${ }_{0}^{0.61}$ | ${ }^{0.30}$ | ${ }_{0}^{0.38}$ | - | ${ }^{3.11}$ | ${ }_{3}^{3.19}$ | ${ }^{3.34}$ | ${ }_{\text {! }}$ | ${ }_{2}^{214}$ | ${ }_{0}^{0.70}$ |  | ${ }_{0}^{03}$ | 1.07 |  | ${ }_{1}^{1.56}$ | $\stackrel{0.98}{ }$ | 0.76 |  |
| MV-16 | ${ }^{\text {ND }}$ | ${ }_{1135}^{138}$ | ND | $\frac{0.01}{208}$ | ${ }_{2}^{025}$ | 0.02 | ${ }_{201}^{0.01}$ | ${ }_{20}^{0.02}$ | 0.16 | ${ }_{0}^{0.02}$ | 0.11 | $\stackrel{0.02}{0.02}$ | 0.12 | ${ }_{3}^{10.05}$ | ${ }^{0.05}$ | ${ }_{0}^{0.14}$ | ${ }_{0}^{0.13}$ | ${ }_{0}^{0.15}$ | ${ }_{3}^{0.03}$ | ${ }_{\text {a }}^{0.088}$ | ${ }_{50,02}^{0.13}$ | 1.87 | ${ }^{0.03}$ | ${ }_{209}^{092}$ | ${ }_{206}^{\text {Tace }}$ | - | ${ }_{0}^{0.01}$ | ${ }^{0.01}$ | ${ }_{20}^{0.10}$ | ${ }^{4.19}$ | ${ }_{50.23}^{0.2}$ | ${ }_{4}^{0.22}$ | ${ }_{0}^{0.19}$ | ¢\#tm | ${ }_{3}^{0.05}$ | ${ }_{\text {a }}^{0.07}$ | ${ }_{0}^{0.02}$ | $\stackrel{0.01}{120}$ | 0.10 | ${ }^{0.25}$ | ${ }^{0.128}$ | ${ }_{3}^{\text {ND }}$ | ${ }^{0.24}$ |  |
| MV-21 | ${ }^{11092}$ | ${ }_{1}^{13,99}$ | ${ }^{\frac{2}{3.9}}$ | ${ }_{228}^{298}$ | ${ }_{295}^{295}$ | ${ }_{2}^{263}$ | ${ }_{4}^{24.18}$ | ${ }_{268}^{268}$ | ${ }_{2}^{192}$ | ${ }_{29}^{29}$ | ${ }_{4}^{346}$ | ${ }_{3.85}^{3.8}$ | ${ }_{4}^{3.51}$ | ${ }_{3,3}^{3,5}$ | ${ }_{3}^{3.2}$ | ${ }_{28}^{298}$ | ${ }_{2}^{283}$ | ${ }_{2}^{279}$ | ${ }^{\frac{3}{298}}$ | ${ }_{3,6}^{4.4}$ | ${ }_{3.23}^{3.3}$ | ${ }_{3.2}^{1.8}$ | ${ }_{4} / 4$ | ${ }_{4}{ }_{4}^{29}$ | ${ }^{1.99}$ | - | 269 | ${ }_{247}$ | ${ }_{248}^{248}$ | ${ }_{3,37}$ | ${ }^{3.13}$ | ${ }_{3} 3$ | ${ }_{4.66}$ | +m | ${ }_{3}^{3.37}$ | ${ }_{3,6}^{13}$ | ${ }_{3}^{3} 3$ | ${ }_{3,1}^{12}$ | ${ }_{3.15}$ | ${ }_{4.10}$ | ${ }_{4}^{123}$ | ${ }^{329}$ | ${ }^{3.15}$ | ${ }_{4}^{\frac{3}{4.15}}$ |
| Mw-22 | 1235 | ${ }_{12,86}$ | 0.51 | 0.87 | 0.62 | ${ }_{0}^{0.45}$ | 0.48 | 0.4 | 0.15 | 0.2 | 133 | 1.01 | 0.49 | 1.17 | 1.04 | 0.79 | 0.86 | 084 | 0.74 | ${ }^{1.33}$ | 1.27 | ${ }^{1.03}$ | 1.102 | 0.54 | ${ }^{0.85}$ | - | 0.74 | 0.86 | 0.75 | ${ }^{122}$ | 1.07 | 0.69 | ${ }_{0} 0.50$ | "t | ${ }^{1.12}$ | ${ }_{0}^{0.86}$ | 0.50 | 0.62 | ${ }^{1.15}$ | ${ }^{120}$ | 0.18 | 21 | 0.18 | 1.80 |
| mw-23 | ${ }^{\text {ND }}$ | ${ }_{1.31}$ | ND | ND | ND | ND | ND | ND | ND | No | ND | ND | ND | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | - | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| mw-24 | ND | 10.7 | ND | ND | ND | ND | ND | ND | ND | No | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - | ND | ND | - | - | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| mw-25 | ${ }^{1025}$ | 13,30 | ${ }^{3.65}$ | 401 | ${ }^{3,75}$ | ${ }^{3.55}$ | ${ }^{3,3}$ |  | ${ }^{3} 32$ | ${ }^{343}$ | 3.88 | ${ }^{3.53}$ | ${ }^{3,3}$ | ${ }^{3,3}$ | ${ }^{3.68}$ | ${ }^{\text {3,53 }}$ | 281 | ${ }^{324}$ | ${ }^{336}$ | ${ }^{1} 107$ | ${ }^{1.03}$ | ${ }^{3.6}$ | 402 | ${ }^{3.65}$ | ${ }^{3.48}$ | - | ${ }^{3,91}$ | ${ }^{375}$ |  |  | ${ }_{5}^{5.66}$ | ${ }_{5}^{566}$ | ${ }_{4}^{401}$ | ${ }^{\text {! }}$ | 4.41 | ${ }^{3.38}$ | ${ }^{3,36}$ | ${ }^{396}$ | ${ }_{4}^{4.34}$ | ${ }^{377}$ | 282 | ${ }^{7} 86$ | ${ }_{4}^{4.0}$ |  |
| $\frac{\mathrm{MW}-26}{\mathrm{MWW}-27}$ | $\frac{1026}{\text { ND }}$ | $\frac{14.52}{1074}$ | $\frac{426}{\text { ND }}$ | $\frac{3.88}{\text { ND }}$ | $\frac{3.82}{\text { ND }}$ | ${ }^{3}{ }^{3.41}$ ND | $\frac{337}{\text { ND }}$ | ${ }_{\text {2 }}^{29}$ | $\frac{3.82}{\text { ND }}$ | ${ }^{3.41}$ | $\frac{423}{\text { ND }}$ | ${ }^{4.08}$ | $\frac{3.77}{\text { ND }}$ | ${ }_{\text {4, }}^{\text {ND }}$ | $\frac{3.70}{\text { ND }}$ | $\frac{3.65}{\text { ND }}$ | $\frac{3.18}{\text { ND }}$ | ${ }^{\frac{3}{3} / 3}$ ND | ${ }^{3.04}$ | $\frac{4.14}{\text { ND }}$ | ${ }_{\text {4, }}^{\text {ND }}$ | $\frac{384}{\text { ND }}$ | $\frac{370}{\text { ND }}$ | ${ }^{\text {4.50 }}$ ND | $\frac{3.32}{\text { ND }}$ | - | $\frac{271}{\text { ND }}$ | $\frac{3.88}{\text { ND }}$ | ${ }^{3.80}$ | ${ }_{4}^{4.34}$ | ${ }_{\text {4, }}^{4}$ | ${ }_{\text {4 }}^{\text {ND }}$ | $\frac{4.62}{\text { ND }}$ | " mD | ${ }_{4}^{4.18}$ | ${ }^{3.9}$ ND | $\frac{286}{\text { ND }}$ | $\frac{233}{\text { ND }}$ | ${ }_{\text {L }}^{\text {L, }}$ ND | $\frac{245}{\text { ND }}$ | $\frac{1.162}{\text { ND }}$ | 09 | $\frac{261}{\text { ND }}$ | ${ }_{\text {4, }}^{\text {N0 }}$ |
| Mw-28 | ND | ${ }_{11.12}$ | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | N | N | N | N |
| Mw-29 | ND | ${ }^{11.41}$ | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | - | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\mathrm{NI}}$ | ${ }^{\mathrm{N}}$ | ${ }^{\mathrm{N}}$ |  |
| Mw-30 | ND | 9,09 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - | ND | ND | - | - | ${ }^{\text {ND }}$ | ND | ND | ND | ${ }^{\text {ND }}$ | N | м | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | N | ${ }^{\text {NI }}$ | ${ }^{\text {N }}$ | ${ }^{\text {NI }}$ | N |
| Mw-31 |  | - | - | ND | ND | ND | ND | ND | ND | ND | ND | - | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - | ND | ND | - | - | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {N }}$ | м | ${ }^{\mathrm{NI}}$ | ${ }^{\text {N }}$ | ${ }^{\mathrm{N}}$ | ${ }^{\text {N }}$ | ${ }^{\mathrm{N}}$ | ${ }^{\text {N }}$ |  |
| Mw-32 | ND | 9,2 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND | ND | - | ND | ND | $-$ |  | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\mathrm{N}}$ | N | $\cdots$ | - | ${ }^{\mathrm{N}}$ | ${ }^{\mathrm{N}}$ | $\cdots$ | N |  |
| MW-34 | ${ }_{\text {ND }}$ | $\frac{.901194}{14.61}$ | $\frac{\mathrm{ND}}{\mathrm{ND}}$ | ND | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ND | ND | ND | ND | $\frac{\mathrm{ND}}{\text { ND }}$ | ND | $\frac{\mathrm{ND}}{\text { ND }}$ | ${ }_{\text {ND }}$ ND | ND | $\begin{array}{\|l\|} \hline \mathrm{ND} \\ \hline \mathrm{ND} \\ \hline \end{array}$ | ND | ND | ${ }_{\text {ND }}{ }^{\text {ND }}$ | ND | ND | ND | ND | ND | ND | $\frac{-}{-}$ | ND | ND | ND | ND | $\frac{\text { ND }}{\text { ND }}$ | $\stackrel{\text { ND }}{\text { ND }}$ | $\frac{\text { ND }}{\text { ND }}$ | $\frac{\mathrm{ND}}{\mathrm{ND}}$ | ND | $\frac{\mathrm{N}}{\mathrm{N}}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ |  | $\frac{\mathrm{N}}{\mathrm{NI}}$ | $\frac{\mathrm{N}}{\mathrm{NI}}$ | $\frac{\mathrm{N}}{\mathrm{NI}}$ |  |
| MW-36 | ND | 10.72 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ल | м | ${ }_{\text {N }}$ | м | м | N | м | ल | N | N | N | N | N | N | ${ }_{\text {NI }}$ | ल | N | N | ल | N |  |
| MW-37 | ND | ${ }^{11.15}$ | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ |  | ${ }^{\text {N }}$ | N | N | N | ${ }^{\text {N }}$ | N | ${ }_{\text {NI }}$ | ${ }^{\text {N }}$ |  | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | , | N | ${ }_{\text {NI }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\mathrm{N}}$ |
|  |  |  |  | ND | ND | No | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND | ND | ND | - | ND | N | ${ }^{\mathrm{NI}}$ | ${ }^{\mathrm{N}}$ | ${ }_{\text {N }}$ | N | N | ${ }^{\mathrm{N}}$ | ${ }^{\text {N }}$ | ${ }^{\mathrm{N}}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ | N | $\frac{\mathrm{N}}{\mathrm{N}}$ | ${ }_{\text {N }}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ | N | ${ }^{\mathrm{NI}}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ | N | ${ }^{\text {N }}$ | ${ }^{\mathrm{N}}$ | ${ }^{\text {N }}$ |  |
| MW-39 | $\frac{\mathrm{ND}}{\mathrm{ND}}$ | ${ }_{\text {2, }}^{1.35}$ | - ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ND | ND | ${ }_{\text {ND }}^{\text {ND }}$ | ND | ND | ${ }^{\text {ND }}$ | ND | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}$ | ND | ND | ${ }_{\text {ND }}$ | $\frac{\mathrm{ND}}{\text { ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ND | - N | ${ }^{\mathrm{N}}$ | $\frac{\mathrm{N}}{\mathrm{Nl}}$ | - ${ }_{\text {N }}$ | - ${ }_{\text {N }}$ | $\stackrel{\mathrm{N}}{\mathrm{N}}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ | ${ }^{\mathrm{N}} \mathrm{N}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ | ${ }^{\mathrm{N}}$ | $\stackrel{\mathrm{N}}{\mathrm{N}}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ | N <br> NI <br>  <br>  | - ${ }_{\text {N }}$ | N | ${ }^{\mathrm{N} \text { N }}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ | $\frac{\mathrm{N}}{\mathrm{NI}}$ | - ${ }_{\text {N }}$ | N | ${ }^{\mathrm{N}}$ | $\stackrel{\mathrm{NH}}{\mathrm{NH}}$ |
| mv-41 | ND | 975 | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND | ND | N | N | N | N | ${ }^{\mathrm{N}}$ | N | N | N | N | N |  | N |  | N |  | N |  | N |  |  |  | N |  |
| Mv-42 | ND | 9.01 | ND | ND | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | м | N | N | N | ${ }^{\text {N }}$ | N | N | N | N | N | N | N | N | N | м | м | N | м | N | N | ${ }^{\text {N }}$ | N | N |
| ${ }_{\text {RW-1 }}$ | ND | 899 | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | - | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ND | ND | - | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND |  | ${ }^{\text {ND }}$ | N | N |  | ND | ND |  |
| $\frac{\mathrm{RWW}-2}{\mathrm{RW}-3}$ | $\frac{12.11}{1522}$ | $\frac{13,99}{1180}$ | - | ${ }^{205}$ | ${ }_{241}^{249}$ | ${ }^{3,02}$ | ${ }_{2212}^{212}$ | ${ }_{\text {\% }}^{23}$ | ${ }^{270}$ | ${ }^{283}$ | ${ }_{427}^{428}$ | ${ }_{2}$ | ${ }_{4}^{264}$ | ${ }_{1}^{297}$ | ${ }^{314}$ | ${ }_{5}^{5.54}$ | ${ }^{528}$ | ${ }_{5}^{523}$ | ${ }^{288} 1$ | ${ }^{\frac{4}{3} 28}$ | ${ }_{3}^{4.42}$ | ${ }_{4}^{45}$ | ${ }^{4.35}$ | ${ }_{4}^{435}$ | 0.11 | - | ${ }^{1.150}$ | $\frac{305}{200}$ | ${ }^{231}$ | ${ }^{280}$ | ${ }^{3.19}$ | ${ }^{509}$ | ${ }^{\frac{3886}{1 / 88}}$ | ${ }_{\text {"m }}$ | ${ }_{4}^{407}$ | ${ }^{296}$ | ${ }^{292}$ | ${ }^{3,48}$ | ${ }^{3,35}$ | ${ }^{420}$ | ${ }_{2}^{258}$ | $\stackrel{192}{124}$ | ${ }_{\text {L }}^{1.50}$ |  |
| ¢ |  | ${ }_{\text {L }}^{12,30}$ | ¢ ${ }_{\text {3,08 }}^{273}$ | ${ }_{2}^{1.97}$ | ${ }_{24}^{249}$ | ${ }_{1}^{1.64}$ | ${ }_{22}^{221}$ | ${ }_{2}^{209}$ | ${ }_{1}^{1.64}$ | ${ }_{251}^{237}$ | ${ }_{2}^{427}$ | ${ }_{2}^{292}$ | ${ }_{4}^{4.19}$ | ${ }_{1}^{1.39}$ | ${ }_{2}^{214}$ | ${ }_{3}^{4.55}$ | ${ }_{3}^{223}$ | ${ }_{3,3}^{223}$ | ${ }_{3.51}^{1.85}$ | ${ }^{\frac{3}{1.83}}$ | ${ }_{1}^{3.35}$ | ${ }^{\text {2307 }}$ | ${ }^{3} 288$ | ${ }_{\text {\% }}^{\text {\%/4 }}$ | ${ }_{2}^{4.12}$ | - | ${ }_{\text {L }}^{1.58}$ | ${ }_{3}^{295}$ | ${ }_{327}^{228}$ | ${ }^{4.606051}$ | ${ }^{3.60}$ | ${ }^{333}$ | $\frac{1.188}{1.46}$ | $\stackrel{\text { m+ }}{\text { \%+t }}$ | ${ }_{2}^{296}$ | ${ }_{1}^{1.44}$ | ${ }^{3.306}$ | ${ }_{3}^{3.5}$ | ${ }_{3.3}^{3.4}$ | ${ }^{\frac{3}{3} 70}$ |  |  |  |  |
| RW-5 | 11.72 | 1222 | 0.50 | ${ }^{497}$ | 276 | ${ }^{247}$ | 2.6 | 3.21 | 253 | 1.92 | 1.96 | 5.64 | 4.18 | 203 | 5.79 | ${ }_{487}$ | ${ }_{4}{ }^{49}$ | 475 | 0.70 | 0.85 | 0.91 | 0.85 | 0.43 | 0.17 | 0.17 | - | 0.12 | 0.93 | 0.43 | 0.52 | 0.00 | 0.79 | 0.54 | \#+ | 0.69 | 0.51 | 2.2 |  |  |  | 235 | 3.00 | 1.88 |  |
| RW-6 | 1224 | 13.70 | 1.46 | 129 | ${ }_{0}^{0.81}$ | 0.6 | ${ }^{0.73}$ | 0.74 | 0.76 | 0.74 | 0.77 | 0.65 | 0.66 | 0.65 | 0.61 | ${ }_{0}^{0.78}$ | 1.96 | 235 | 0.71 | 1.19 | ${ }^{1.14}$ | 0.71 | ${ }_{0} 0.4$ | 0.78 | 0.79 | - | 0.45 | 1.28 | 0.96 | 0.41 | 0.94 | 130 | 0.67 | \#+ | 0.10 | 0.08 | ${ }^{0.45}$ | 0.50 | ${ }^{0.21}$ | ${ }_{0}^{0.40}$ | 0.15 | 0,90 | 0.22 | 0.06 |
|  |  | - |  | - |  | - | - | - |  |  |  |  |  |  | - |  |  |  | 2.14 | 293 | 292 | 4.01 | ${ }_{4}^{48}$ | ${ }^{\text {\#+t }}$ | 295 | - | ${ }_{0}^{0.65}$ | ${ }^{1.47}$ | ${ }_{0}^{0.86}$ | 237 | ${ }^{246}$ | 3.2 | ${ }^{4.13}$ | "t+ | ${ }_{4}^{459}$ | ${ }_{3} 3.4$ |  |  |  |  |  |  |  |  |
| RW-9 | ${ }_{13,46}$ | ${ }_{16,65}$ | 3.19 | 2.15 | ${ }^{3.18}$ | 275 | 3.9 | ${ }_{3,81}$ | 242 | ${ }^{3.46}$ | 4.6 | 437 | ${ }_{3,2}$ | 2.8 | ${ }^{3,3}$ | ${ }^{3.9}$ | ${ }_{4.82}$ | ${ }^{4} 79$ | ${ }_{4}^{428}$ | ${ }_{5}^{5.8}$ | ${ }_{5} 5.5$ | ${ }_{4}^{4.81}$ | ${ }_{4}^{4.59}$ | ${ }_{4}^{49}$ | ${ }_{4}^{4.15}$ |  | ${ }_{1}^{1.02}$ | 290 | 2.71 | ${ }_{4}^{4.3}$ | ${ }_{5} 52$ | ${ }_{4.88}$ | ${ }^{3.08}$ | " | ${ }_{4} 409$ | ${ }^{237}$ | ${ }_{4}^{40}$ | 262 | 3.11 | ${ }_{3}^{3.0}$ | ${ }^{3.08}$ | ${ }_{3.83}$ | 298 | ${ }_{5}^{5,3}$ |
| ${ }^{\text {RWV-10 }}$ | ${ }^{13,22}$ | ${ }_{17.66}$ | 4.4 | 3,91 | 3.9 | ${ }^{3,74}$ | ${ }^{3.66}$ | 3.67 | ${ }_{4}^{4.6}$ | 4.77 | 4.46 | ${ }_{5} 53$ | ${ }_{4} 45$ | 4.12 | 4.12 | 5.71 | ${ }_{3} 8.0$ | ${ }^{3,95}$ | ${ }^{3.65}$ | 4.96 | 5.04 | ${ }^{3,3}$ | ${ }^{3,7}$ | ${ }^{3.57}$ | ${ }^{3.18}$ | - | ${ }^{3388}$ | 3.89 | ${ }^{3.48}$ | ${ }^{3.80}$ | ${ }^{3.81}$ | ${ }^{3} 99$ | 4.11 | "+m | 4.11 | ${ }^{3.5}$ |  |  |  |  |  |  |  |  |
| ${ }_{\text {Rw-11 }}$ | ${ }_{13,48}$ | ${ }^{17.14}$ | 3.6 | ${ }_{2} 28$ | ${ }_{3,43}$ | ${ }^{3} 08$ | 294 | ${ }^{3}, 05$ | 2.45 | 3.07 | ${ }_{4} 4.5$ | ${ }_{4}^{439}$ | 3.59 | ${ }^{324}$ | 3.6 | ${ }_{3,43}$ | ${ }_{3} 36$ | ${ }_{3} 36$ | 3.00 | ${ }_{3} 38$ | ${ }^{3,7}$ | ${ }_{4}^{48}$ | 4.42 | ${ }_{4} 46$ | ${ }_{3} 38$ | - | 203 | 2.54 | 2.59 | ${ }^{3.66}$ | 4.27 | ${ }_{4}^{548}$ | 2.65 | "\# | ${ }_{3} 31$ | ${ }_{3.9}$ | ${ }^{3.15}$ | 267 | 3.11 | ${ }^{3.50}$ | 2,3 | ${ }_{4}^{49}$ | 2.58 | 4.40 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Notes:





$=$ Data not rearded due ta tacess sisus


GZA GeoEnvironmental of NY
104 West 29th Street
10th Floor
New York, NY 10001
T: 212.594.8140
F: 212.279 .8180
www.gza.com

October 7, 2016
File No. 12.0076485 .00

Via email: yukyin.wong@dec.ny.gov
Mr. Bryan Wong
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 2
47-40 $21^{\text {st }}$ Street
Long Island City, New York 11101

Re: Project Status Report
Former NuHart Plastic Manufacturing Site \# 224136
28o Franklin Street
Brooklyn, New York

Dear Mr. Wong:

Goldberg Zoino and Associates of New York, PC d/b/a GZA GeoEnvironmental of New York is transmitting this Project Status Report on behalf of Dupont Street Developers, LLC for the above referenced Site. Copies of this Project Status Report have also been provided to Dawn Hettrick of the New York State Department of Health. The Project Status Report is for September 2016 to October 2016. If you have any questions, please contact us at 973-7743350.

Sincerely,
GZA GeoEnvironmental


Senior Project Manager



Ernest R. Hanna, P.E.
Consultant Reviewer

Cc:

Dawn Hettrick (NYSDOH)
Dupont Street Developers, LLC
Joseph Brunner
Jane O'Connell (NYSDEC)
Wendy A. Marsh

Email: dawn.hettrick@health.ny.gov
Email: bojinzhu@gmail.com Email: yb321@yahoo.com Email: jane.oconnell@dec.ny.gov Email: wmarsh@hancocklaw.com

This status report summarizes activities conducted at the Former NuHart Plastic Manufacturing Site (Site) in September 2016. Activities during this period were conducted by GZA GeoEnvironmental, of New York. (GZA). GZA representatives also participated in Site evaluations and communications, and additional activities were conducted by others, as noted below. A Site Plan showing the general Site layout, nearby area, and associated wells is included as Figure 1. Schedule information is presented under each activity discussion.

Interim remedial measure (IRM) activities for monitoring and removal of light non-aqueousphase liquid (LNAPL) at the Site were performed during the monitoring period in general conformance with the NYSDEC-approved Operation, Maintenance and Monitoring Plan (OM\&M Plan) for the product recovery system. The revised Feasibility Study (FS) for the Site is currently under review by NYSDEC. The Draft Site Soil Management has been prepared and submitted to NYSDEC on September 19, 2016. Investigation activities for the Site were previously completed as documented in previous project status reports and are not discussed herein.

## Interim Remedial Measure Activities

Monthly IRM routine activities were conducted by GZA on October 3, 2016. A table documenting the apparent LNAPL thickness measurements is provided as Attachment A and a Well Location Map showing the extent of LNAPL based on the monitoring date is provided as Figure 1.

## Maintenance Activities

General maintenance activities were performed, including collection of spent IRM-related absorbent materials in the vicinity of recovery wells, placing new absorbent materials as needed to contain product, and proper labeling of waste containers used during this IRM event. Both skimming systems associated with recovery wells RW-8 and RW-12 were found to be powered and operational during the Site visit. The skimmer holding cells were both filled and it appeared that there was an overflow mechanism to prevent overfilling.

## Monitoring and LNAPL Removal

Gauging of all onsite and offsite monitoring and recovery wells associated with the Site was conducted; two of the off-Site monitoring wells (MW-31 and MW-38) were no longer discoverable due to new sidewalk slags installed on August 8, 2016 by others. Other wells that could not be accessed are noted on Attachment A. All wells containing LNAPL are noted, as are wells where LNAPL is absent. No changes were noted in the extent of the product. High tide was observed (by NOAA/NOS/CO-OPS Station ID (8517673) Hunters Point, Newtown Creek, NY) on October 3, 2016 during the well gauging period (10:30 am to 15:30 pm).

The depths to the water table were variable relative to the depths noted in the August 2016 status report, with some wells showing increases and some wells showing decreases. Product apparent thicknesses were also variable, with increases generally noted in wells
where the depth to water increased and decreases noted in wells where the depth to water decreased.
The skimmer holding cells were emptied during this event. The amount of LNAPL removed from the wells was estimated at 100 gallons, including LNAPL from the drums associated with the skimmers on recovery wells RW-8 and RW-12. Based on previous LNAPL estimates, an estimated 1,746 gallons of product have been removed from the subsurface since early 2015, with most of the LNAPL disposed. The removed LNAPL is stored in intermediate bulk container (IBC) tanks located in the Site building, pending pickup and offsite disposal. When the IBC tanks are nearly full and/or the containerized spent absorbent materials require disposal, the designated waste management company will be contacted and waste disposal requested.

Eastern Environmental Solutions, Inc. (Eastern) is presently contracted to conduct waste management activities for disposal of product from the IBC tanks at the Site. Waste removal was conducted on July 21, 2016 during the monitoring event, and included removal of 500 gallons of product for proper disposal offsite. To date, Eastern has transported and disposed an estimated 1,512 gallons of product at the Cycle Chem facility in Elizabeth, NJ as hazardous waste. The manifest from this disposal event is pending and will be provided in the monthly progress report after it is received. Waste transport and disposal information will continue to be included in the progress reports following the months during which waste disposal activities occur.

Additional monitoring of select offsite wells is being conducted by Langan as of July 27, 2016 during dewatering operations for the nearby Greenpoint Landing project. Langan is providing the monitoring data to the NYSDEC as well as to the owner's consultant on a weekly basis during dewatering operations and will provide additional notifications if any unexpected conditions occur. To date, the dewatering has been intermittent, no product has been noted in any of the monitored wells, and no significant changes in the water table configuration have been noted. The Langan project manager noted that there are two dewatering events that are currently being planned. Langan intends to coordinate the efforts of both of these events with the NYSDEC and the Owner's consultant.

## Feasibility Study and Site Soil Management Report

FPM prepared an FS for the Site that includes evaluations of potential remedial methods to address Site-related contamination. The FS was transmitted to the NYSDEC and NYSDOH for review on January 28, 2016. The NYSDEC transmitted comments regarding the FS to the remedial party on March 3, 2016. The FS was revised to address the NYSDEC's comments and the revised FS was transmitted to the NYSDEC and NYSDOH, on April 21, 2016. Additional NYSDEC comments concerning the FS were received by the remedial party on July 6, 2016. At this time, the Owner retained GZA as the environmental consultant responsible for the resubmission of the FS to address the NYSDEC's comments and include thermal conductive heating (TCH) enhanced recovery as an alternative. The revised FS was resubmitted to the NYSDEC on August 24, 2016 and is currently under review.

Pursuant to a request by the NSYDEC, GZA has prepared the Site Soil Management Plan (SSMP) to provide guidance for utility contractors regarding management for soils and groundwater potentially impacted by the Site. The draft SSMP was submitted to NYSDEC on September 19, 2016.

## Meetings and NYSDEC Communication

Communication pertaining to Site-related technical matters will continue, as needed, between NYSDEC, GZA, the property owner, and others.

## Attachments

Attachment A - Apparent Thickness of LNAPL
Figure 1 - Well Location Map showing areal extent of LNAPL on groundwater

| Well |  |  | ${ }^{2016}$ |  |  |  |  |  |  |  |  | 2015 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }^{201}$ |  |  |  |  |  |  |  |  |  | 212 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | ${ }_{\text {sppl } 16}$ | Aus:16 | Jol.16 | Jum.16 | ${ }^{\text {Max-16 }}$ |  | Nar-16 | Feb, 16 | Jamm | Decals | No. 15 | Octis | Sppr15 | ${ }^{\text {Augels }}$ | Junls |  | Maras | Aprcs | Mar-15 | Jamis | Sp.14 | Aug:14 | Jul14 | Jm | Ma.14 | Apr.14 |  |  | Jami4 | Dect 3 | Nor:13 | ${ }^{\text {otal }}$ | Spp/13 |  | ${ }^{\text {junl13 }}$ |  |  | Fob,13 | Jam13 | Decti2 | No. 12 | Oot.12 | 为 |
| MV-4 | 11.70 | ${ }^{13,05}$ | ${ }^{1.35}$ | 1.71 | ${ }^{1.13}$ | ${ }^{1.80}$ | 1.53 | ${ }^{1.73}$ | ${ }^{1.43}$ | ${ }^{1.85}$ | 1.7 | ${ }^{1.196}$ | 2.04 |  |  | 222 | ${ }^{427}$ | ${ }^{0.35}$ | 0.4 |  | 0.56 |  | ${ }^{1.75}$ | 1.90 | ${ }^{124}$ | Trac |  | 0.01 | Trace | ${ }^{0.23}$ | 0.22 | 0.30 | 0.66 | 0.78 | \#+ | ${ }_{3}{ }^{\text {a }}$, 9 | 222 | ${ }_{0} 0.59$ | ${ }_{0}^{0.7}$ | 0.4 | ${ }_{0}$ | 0.80 | ${ }^{0.31}$ | 0.33 |  |
| Mv-s | 9.57 | ${ }^{1279}$ | ${ }_{3} 32$ | ${ }^{4.31}$ | ${ }^{4.3}$ | ${ }^{429}$ | 3.07 | 3.18 | 3.14 | ${ }^{1.85}$ | ${ }^{324}$ | ${ }_{4.83}$ | ${ }_{5} 51$ | 4.46 | ${ }_{4}^{4.6}$ | 4.45 | 4.22 | 230 | 2.41 | ${ }^{235}$ | 3.10 | ${ }_{4} 40$ | ${ }^{4.79}$ | ${ }_{503}$ | 1.97 | ${ }^{3,3}$ |  | ${ }^{3.14}$ | 280 | 298 |  | ${ }_{6} 64$ | 7.17 | ${ }_{5}^{5.4}$ | "+ | 508 | 3,92 | 3.00 | ${ }^{239}$ | ${ }_{4}^{43}$ | 3.00 | 4.11 | 3.30 | ${ }^{3,41}$ |  |
| MV-6 |  |  | "t | "t | "t' | "t | "+ | "t | +10 | It | "t | , | "t' | "t | "' | "t | "' | 230 | "t | "t' | "+ | "+ | ${ }^{\text {"m }}$ | "+ | "t | +t |  |  | 284 | ${ }^{3,3}$ |  | ${ }^{288}$ |  | 200 | +t |  |  |  |  |  |  |  |  |  |  |
| Mw-7 | 9.03 | 9.07 | 0.04 | ${ }_{1.89}$ | ${ }_{1.58}$ | 222 | 2.11 | , | ${ }^{1.66}$ | ${ }^{231}$ | , | ${ }^{3,4}$ |  | 238 | ${ }^{1,46}$ | ${ }^{1.28}$ | 0.9 |  | ND | 194 | ${ }^{1.79}$ | \#+ | ${ }^{201}$ | ${ }^{216}$ | 0.00 |  |  |  |  |  |  | \% |  | 0 | + |  |  |  |  |  |  | ${ }^{36}$ |  | ${ }_{1,84}$ |  |
| Mw-8 | ${ }^{\text {ND }}$ | ${ }^{10,30}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ |  | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {nd }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ |  | ND |  | ${ }^{\text {ND }}$ |  |  | ${ }^{\text {ND }}$ | ND | ND |  |  | ${ }^{\text {ND }}$ |  |  | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ |  |  |  | ND |  |  |  |  |  | ${ }^{\text {ND }}$ |
| Mw-12 | ${ }^{\text {ND }}$ | 605 | ${ }^{\text {ND }}$ | ${ }^{\text {nD }}$ | ${ }^{\text {nD }}$ | ND | ND | ${ }^{\text {nD }}$ |  |  |  | ND | ND |  |  |  |  | ND | ND | ND | nd |  | ND | - | ND | ND |  | ${ }^{\text {ND }}$ | ND |  |  | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | nd | ${ }^{\text {ND }}$ |
| MTV-13 | ${ }^{\text {ND }}$ | ${ }^{1.74}$ | ${ }^{\text {ND }}$ | ${ }^{\mathrm{ND}}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | N | - | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | - | v | - | vo | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | - | ${ }^{\text {ND }}$ | v | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | - | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | - | - | ${ }^{\mathrm{ND}}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\mathrm{ND}}$ | ${ }^{\text {ND }}$ | ${ }^{\mathrm{ND}}$ | ${ }^{\text {ND }}$ |
| $\frac{\mathrm{MvV}-14}{}$ | ND |  | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {N0, }}$ | 007 | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | 219 | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }_{0}^{\text {ND }}$ | - | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {N03 }}$ |  |  | 311 | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | 156 | ${ }^{\text {ND }}$ |  |  |
| MV-15 | ${ }^{10.21}$ | ${ }^{10.388}$ | ${ }_{0}^{0.17}$ | ${ }_{0}^{0.81}$ | ${ }_{0}^{0.07}$ | ${ }^{0.48}$ | 0.22 | ${ }^{0.71}$ | ${ }_{0}^{0.03}$ | ${ }_{0}^{0.04}$ | 0.00 | ${ }^{308}$ | ${ }^{3} 07$ | ${ }^{1.97}$ | ${ }^{1.05}$ | ${ }^{1.05}$ | ${ }^{\text {ND }}$ | ${ }^{12} 2$ | ${ }^{1.21}$ | ${ }^{1.56}$ | ${ }^{1.107}$ | ${ }^{1.71}$ | 2.19 | ${ }^{232}$ | ${ }^{\text {mot }}$ | ${ }_{\text {O }}^{\text {O }}$ / | - | ${ }_{0}^{0.61}$ | ${ }_{0}^{0.30}$ | ${ }^{0.38}$ | - | ${ }^{\frac{3}{023}}$ | ${ }^{3.19}$ | ${ }^{3,34}$ | "tm | ${ }_{2}^{2,4}$ | ${ }_{0}^{0.70}$ | 00 | ${ }_{0}^{0.32}$ | ${ }_{1}^{1.10}$ | 25 | ${ }^{1.156}$ | ${ }_{\text {O }}^{0.9}$ | ${ }_{0}^{0.76}$ | ${ }^{\frac{2.07}{020}}$ |
| MW-20 | ${ }_{10.15}$ |  | ${ }_{3}^{\text {N. }}$ | ${ }_{2}^{289}$ | ${ }_{2}^{2088}$ | ${ }_{285}^{025}$ | ${ }^{2022}$ | ${ }_{2}^{294}$ | ${ }_{2}^{223}$ | ${ }_{1}^{0.19}$ | ${ }_{20}$ | ${ }_{3}^{0.32}$ | ${ }_{3}^{0.02}$ | ${ }_{3,33}^{0.12}$ | ${ }_{3}{ }^{\text {025 }}$ | ${ }_{3}^{1.2}$ | ${ }_{2}^{288}$ | ${ }_{2}^{238}$ | ${ }_{2}^{279}$ | ${ }_{384}$ | ${ }_{4.38}^{\text {a, }}$ | ${ }_{5}^{0.13}$ | ${ }_{1}^{1.87}$ | ${ }_{0}^{1.17}$ | ${ }^{292}$ | ${ }_{206}$ | - | ${ }_{1}^{1.17}$ | ${ }^{290}$ | ${ }^{28}$ | ${ }_{4.19}$ | ${ }_{5}^{507}$ | ${ }_{4}{ }_{40}$ | ${ }_{4}$ | ! m | ${ }_{3}^{3} 8$ | ${ }_{1}^{1.137}$ | ${ }_{3}^{3}$ | ${ }_{1}^{120}$ | $\frac{1.10}{1.10}$ | ${ }^{135}$ | ${ }_{1}^{1.38}$ | ${ }_{3} 3.3$ | ${ }^{3.15}$ | ${ }^{\frac{0}{3.80}}$ |
| Mv-21 | ${ }^{11.35}$ | ${ }^{13,74}$ | ${ }^{238}$ | 3.6 | 296 | 295 | 2.63 | 4.18 | 268 | 2.42 | 297 | ${ }^{4.4}$ | 3.85 | ${ }^{4.5}$ | ${ }^{3.3}$ | ${ }^{3} 32$ | 297 | $2{ }^{23}$ | 2.77 | 298 | ${ }^{3.46}$ | ${ }^{323}$ | 3.2 | 4.6 | 490 | ${ }^{199}$ | - | 2.9 | 247 | 2.48 | ${ }^{3.37}$ | ${ }^{3.13}$ | 3.72 | 4.68 | \#t | ${ }_{4}^{4,37}$ | 3.66 | ${ }^{3.38}$ | ${ }^{3.43}$ | 3.75 | 4.10 | 4.4 | 289 |  | ${ }_{4}^{4.15}$ |
| Mv-22 | 12.01 | ${ }^{12,22}$ | 0.01 | ${ }_{0}^{0.51}$ | ${ }_{0} 087$ | 0.6 | 0.45 | 0.48 | 0.4 | 0.15 | 0.22 | ${ }^{133}$ | 1.01 | 0.9 | 1.17 | ${ }^{1.04}$ | 0.79 | 0.86 | ${ }^{0.84}$ | 0,74 | ${ }^{133}$ | 127 | 1.03 | 1.02 | 0.54 | 0.85 | - | 0.74 | ${ }^{0.86}$ | 0.75 | 1.22 | 1.07 | 0.6 | ${ }_{0}^{0.50}$ | tm | ${ }^{1.12}$ | 0.86 | ${ }^{0.50}$ | 0.62 | ${ }^{1.15}$ | ${ }^{120}$ | 0.18 | ${ }^{0.21}$ | ${ }_{0} 0.18$ | ${ }^{1.80}$ |
| Mw- 23 | ND | 10.83 | ${ }^{\text {ND }}$ | nd | ND | ND | nd | ND | nD | ${ }^{\text {ND }}$ | nD | ND | ${ }^{\text {ND }}$ | nd |  | ND | ND | ND | ND | nd | ${ }^{\text {nd }}$ | ND | ND | ND | ND | ND |  | ND | No | ${ }^{\text {nd }}$ | ND | ND | ND | ND | ND |  | ND | ND | N | ND | N | ND |  | No |  |
| ${ }^{\text {mv- } 24}$ | ${ }^{\text {ND }}$ | ,94 | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {nd }}$ | ${ }^{\text {ND }}$ | ND | ND | ND | ND |  | ND | nd |  |  | ${ }^{\text {Ni }}$ | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ |  | ${ }^{\text {ND }}$ | ${ }^{\text {N0 }}$ | ${ }^{\text {ND }}$ | Ni | ${ }^{\text {ND }}$ | ND | ND |  |
| NW-25 | ${ }^{9.76}$ | ${ }_{13,55}$ | ${ }^{3.79}$ | ${ }^{3.65}$ | 4.01 | ${ }^{375}$ | 3.35 | ${ }^{3,3}$ | 3,2 | ${ }^{3,32}$ | ${ }^{3.3}$ | 3.68 | ${ }^{3.3}$ | ${ }^{3.3}$ | ${ }^{3,3}$ | 3.68 | ${ }^{3.3}$ | ${ }^{2.81}$ | ${ }^{324}$ | ${ }^{336}$ | 1.07 | ${ }^{1.03}$ | ${ }^{3.16}$ | ${ }_{4}^{4.2}$ | ${ }_{3} \mathbf{6}$ | ${ }^{3} 48$ | - | 3.91 | ${ }_{3} 35$ | - | - | ${ }_{5}^{5} .6$ | ${ }_{5}^{5.56}$ | ${ }^{4.01}$ | !t | ${ }_{4}^{4.4}$ | 3.38 | ${ }^{3.96}$ | ${ }^{3,6}$ | ${ }_{4}^{43}$ | 3.70 | 282 | ${ }^{7} 86$ | ${ }_{4}^{4.0}$ | ${ }_{3,96}$ |
| MV-26 | 9.86 | ${ }^{13.14}$ | ${ }^{3,2}$ | ${ }_{4}^{426}$ | ${ }_{3} 38$ | ${ }^{3} 82$ | ${ }^{34}$ | ${ }^{337}$ | ${ }^{297}$ | ${ }^{3} 82$ | ${ }^{3} .4$ | ${ }^{423}$ | 4.8 | ${ }^{3} 77$ | ${ }^{4.00}$ | ${ }^{3.70}$ | ${ }^{3.65}$ | ${ }^{3.18}$ | ${ }^{3,3}$ | ${ }^{3} 64$ | ${ }^{4.1}$ | 4.11 | ${ }^{3.4}$ | ${ }^{3.70}$ | 4,50 | ${ }^{3}, 2$ | - | 271 | ${ }^{3} 48$ | ${ }^{3.80}$ | ${ }^{4.3}$ | ${ }_{4} 4$ | 447 | ${ }_{4} .42$ | ${ }^{\text {m+ }}$ | ${ }_{4} 4.18$ | ${ }^{3} 80$ | ${ }^{286}$ | ${ }^{233}$ | ${ }^{1.00}$ | 245 | ${ }_{1}^{1,2}$ |  |  | ${ }_{4.2}$ |
| MVV-27 | ND | - 10.31 | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | - | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | N | No | No | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | $\stackrel{0.9}{N}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ |
| MW-28 | ND | ${ }^{10.57}$ | ND | ${ }^{\text {ND }}$ |  | ND |  | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | No | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | - | ND | No |  | ND | No | ND |  | ND | ${ }^{\text {No }}$ |  |  | No | ND | No | ${ }^{\text {N }}$ | N | ${ }^{\mathrm{NI}}$ | ${ }^{\mathrm{NI}}$ |
| MW-29 | ND | ${ }^{11.06}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {No }}$ | ND | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | No | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | - | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | N | N | N | N |
|  | ND | ${ }_{9,39}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}$ ND | - | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}$ ND | - | - | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }^{\text {ND }}$ | N | N | $\frac{\mathrm{N}}{\mathrm{N}}$ | ${ }^{\mathrm{N}}$ | N N | ${ }^{\mathrm{N}} \mathrm{N}$ | N | ${ }^{\mathrm{N} 1}$ | $\stackrel{\mathrm{N}}{\mathrm{N}}$ |
| MV-32 | ND | 9,4 | ND | ND | ND | No | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - | ND | ND | - | - | ND | ND | ND | ND | ND | м | ${ }^{\text {NT }}$ | N | N | м | N | N | ल |  |
| Nw-34 | ND | ${ }^{11.66}$ | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | - | ND | ND | ND | ND | ND | ND | ND | ND | ND | N | м | N | м | N | N | N | N | ${ }^{\mathrm{NF}}$ |
| Mw-35 | ND | ${ }^{14,771}$ | ND | ND | ND | no | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ${ }^{\text {nd }}$ | nd | ND | ND | ND | ND |  | ND | ND | ND | ND | ND | ND | ND | ND |  | N | mi | N | м | N | ${ }^{\mathrm{N}}$ | N | ${ }^{\text {NI }}$ |  |
| MV-36 | ${ }^{\text {ND }}$ | ${ }^{1021}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | no | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {No }}$ | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | m | ${ }^{\mathrm{N}}$ | ${ }^{\mathrm{N}}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {NI }}$ | ${ }^{\text {N }}$ | ${ }^{\mathrm{N}}$ |  | ${ }^{\text {N }}$ | ${ }^{\mathrm{N}}$ | ${ }^{\mathrm{N}}$ | N | м | ${ }^{\mathrm{N}}$ | ${ }^{\mathrm{NI}}$ | ${ }^{\mathrm{N}}$ |  | N |
| MW-37 | ND | 10.66 | ND | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ND | ल | ${ }^{\text {N }}$ | м | м | ${ }^{\mathrm{N}}$ | N | ${ }^{\mathrm{N}}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\mathrm{N}}$ | ${ }^{\mathrm{NI}}$ | ${ }^{\text {N }}$ | ${ }^{\mathrm{NI}}$ | ${ }^{\text {m }}$ | ${ }^{\text {N }}$ | м | ${ }^{\text {N }}$ | ${ }^{\mathrm{N}}$ | ${ }^{\text {N }}$ | ${ }^{\text {NI }}$ | ${ }^{\mathrm{N}}$ |
|  | ND | $\underline{21}$ | No | vo | ND | ${ }_{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }^{\text {ND }}$ ND | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}$ | ND | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | - | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {NI }}^{\text {NI }}$ | N | $\stackrel{\mathrm{N}}{\mathrm{NI}}$ | N | N | N | N | ${ }^{\text {N }}$ | $\frac{\mathrm{N}}{\mathrm{NL}}$ | ${ }^{\text {N }}$ | ${ }^{\mathrm{N}}$ | $\frac{\mathrm{NI}}{\mathrm{NI}}$ | ${ }_{\text {N }}$ | ${ }^{\text {N }}$ | ${ }_{\text {N }}$ | ${ }^{\text {N }}$ | N | ${ }_{\text {N }}$ | ${ }^{\text {N }}$ | N |  | N |
| MW-40 | No | 21 | N0 | ND | ND | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ND | ND | ${ }^{\text {ND }}$ |  | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ND | N | N | N | N | N | N | N | N | N | N | M | N | N | ${ }_{\text {NI }}$ | M | N |  | N |  |  |  |  |
| Mw-41 | ND | ${ }_{9} 93$ | ND | ND | ND | No | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | No | ND | м | ${ }^{\text {N }}$ | м | ${ }^{\text {N }}$ | м | м | м | N | N | м | ${ }^{\text {N }}$ | м | ${ }^{\mathrm{N}}$ | м | м | м | N | м | м | ${ }^{\mathrm{N}}$ | м | ${ }^{\text {NI }}$ | ${ }^{\mathrm{NT}}$ |
| Mw-42 | ${ }^{\text {ND }}$ | ${ }^{8.66}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {No }}$ | ${ }^{\text {nd }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ND | м | N | ${ }^{\text {m }}$ | N | ${ }_{\text {м }}$ | N | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {m }}$ | ${ }^{\text {N }}$ | m | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ |  |
| - ${ }^{\mathrm{RWW}-1}$ | ${ }_{1176}^{\text {ND }}$ | $\frac{8.85}{13.11}$ | ${ }_{\text {ND }}^{\text {N }}$ | ${ }_{\text {ND }}^{\text {N }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ |  |  | ${ }_{3}^{\text {N }} 3$ | ${ }_{20}^{\text {ND }}$ | ${ }_{283}$ | ${ }_{4}^{\text {ND }}$ | - | ${ }_{204}^{\text {N }}$ | ${ }^{\text {ND }}$ | ${ }_{3}^{\text {ND }}$ | ${ }_{\text {c }}^{\text {S }}$, | ${ }_{5}^{\text {ND }}$ | ${ }_{5}^{\text {ND }}$ | ${ }_{2}^{\text {ND }}$ | ${ }_{4}^{\text {N }} 19$ | ${ }_{4}^{\text {N }}$ | ${ }_{4}^{\text {ND }}$ | ${ }_{4}^{\text {ND }}$ | ${ }_{4}^{\text {ND }}$ | ${ }^{\text {No }}$ | - | ${ }_{1,180}^{\text {ND }}$ | ${ }_{30}^{\text {N0 }}$ | ${ }_{2}^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }_{3}^{\text {ND }}$ | ${ }_{\text {¢ }}^{\text {N09 }}$ | ${ }_{\text {ND }}^{\text {N }}$ | $\stackrel{\text { ND }}{\text { N+m }}$ | ${ }_{4}^{\text {N07 }}$ | ${ }_{296}^{\text {ND }}$ | 292 | ${ }_{\text {N }}^{3} \times$ | ${ }_{3}^{\text {3 } 75}$ | ${ }_{4}^{\text {ND }}$ | ${ }_{2}^{\text {ND }}$ | ${ }_{1,2}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {N }}$ |  |
| RW-3 | ${ }_{1 / 4.81}$ | ${ }^{1731}$ | 250 | 308 | ${ }^{1.97}$ | 249 | 1.64 | 2.17 | 209 | ${ }^{1.64}$ | 237 | 427 | 222 | 4.14 | 139 | 2.14 | ${ }^{4.31}$ | ${ }^{223}$ | 223 | ${ }^{1.81}$ | ${ }^{328}$ | ${ }^{3} 41$ | ${ }_{3}^{3.0}$ | ${ }^{345}$ | ${ }^{3.6}$ | ${ }^{4.12}$ | - | 1.88 | 290 | 228 | 4.400 | 3.60 | ${ }^{3} 3$ | ${ }^{1.68}$ | "t+ | 296 | ${ }^{1.4}$ | ${ }^{3,90}$ | ${ }^{320}$ | ${ }^{334}$ | ${ }^{3} 70$ | ${ }^{3} 88$ | 284 | ${ }_{3,50}$ | ${ }^{3,88}$ |
| ${ }^{\text {RWN-4 }}$ | ${ }_{\text {H1. } 1.5}$ | ${ }_{\text {IS }}^{15} 5$ | ${ }^{3,30}$ | ${ }_{273}$ | ${ }^{265}$ | 232 | 202 | 222 | ${ }^{293}$ | 203 | ${ }^{2.51}$ | ${ }^{282}$ | ${ }^{231}$ | ${ }^{1.9}$ | ${ }^{1.09}$ | 2.2 | ${ }^{3} 65$ | ${ }^{3.66}$ | ${ }^{3,3}$ | ${ }^{3,3}$ | ${ }^{1.43}$ | ${ }^{135}$ | 278 | ${ }^{288}$ | ${ }^{\text {"tm }}$ | ${ }^{286}$ | - | ${ }^{1.81}$ | ${ }^{325}$ | ${ }^{327}$ | ${ }^{245}$ | 267 | ${ }^{230}$ | ${ }^{1.46}$ | "tm | ${ }^{275}$ | ${ }^{1.08}$ | ${ }^{3.06}$ | ${ }^{3.15}$ | ${ }^{3,00}$ | ${ }^{3}, 5$ | ${ }^{295}$ |  | ${ }^{3,5}$ | ${ }^{3,35}$ |
| \% ${ }_{\text {RVW-5 }}$ | ${ }_{\text {L1.49 }}^{11.48}$ | - | ${ }^{\frac{0.36}{0.02}}$ | ${ }_{\text {a }}^{\text {O. }}$ | ${ }^{122}$ | ${ }_{\text {- }}^{\text {276 }}$ | ${ }_{0}^{247}$ | ${ }_{0}^{206}$ | ${ }_{0}^{\frac{3214}{321}}$ | ${ }_{0}^{2.75}$ | ${ }_{0}^{1.92}$ | ${ }_{0}^{1.77}$ | ${ }_{0}^{5065}$ | ${ }_{0}^{4.66}$ | ${ }^{20,5}$ | ${ }_{0}^{5.91}$ | ${ }_{0}^{4.87}$ | ${ }_{1}^{4.96}$ | ${ }_{2}^{435}$ | ${ }_{0}^{0.71}$ | ${ }^{0.19}$ | ${ }^{1.14}$ | ${ }_{0}^{0.81}$ | ${ }_{0}^{0.45}$ | ${ }_{0}^{0.78}$ | ${ }_{0}^{0.17}$ | - | ${ }_{0.45}^{0.12}$ | ${ }_{1038}^{128}$ | ${ }_{0}^{0.48}$ | ${ }_{0}^{0.41}$ | ${ }_{0}^{0.09}$ | ${ }_{1}^{0.90}$ | ${ }_{0}^{0.54}$ | ${ }_{\text {m }}^{\text {m+ }}$ | ${ }_{0}^{0.09}$ | ${ }_{0}^{0.08}$ | ${ }_{0}^{202}$ | ${ }_{0} 0.50$ | $\stackrel{-}{0.21}$ | ${ }_{0}+0$ | ${ }^{2.15}$ | ${ }^{3.00}$ | ${ }_{0}^{1282}$ | ${ }_{0}^{0.06}$ |
| RW-8.* |  |  |  |  |  | - |  |  | - |  | - | - | - | - |  | - | - | - | - | 2.14 | 293 | 292 | 4.01 | 448 | "t | ${ }^{295}$ | - | 0.65 | 1.47 | ${ }^{0.86}$ | 237 | 246 | 3,2 | ${ }_{4}^{4.13}$ | "t | 4.59 | ${ }^{3.6}$ | - | - | - |  | - |  |  |  |
| ${ }^{\text {Rev-9 }}$ | ${ }_{1}^{13,06}$ | ${ }_{15}^{1541}$ | ${ }^{235}$ | ${ }^{3.19}$ | 2.15 | 3.18 | 275 | ${ }^{3.09}$ | ${ }^{3.81}$ | 2.42 | ${ }^{3.6}$ | 4.6 | ${ }_{4}^{437}$ | ${ }^{3.52}$ | ${ }_{2} 2.8$ | ${ }^{3.3}$ | ${ }^{304}$ | 4.82 | ${ }^{4} 79$ | ${ }_{4}^{4.8}$ | ${ }_{5} 568$ | ${ }_{5} 5.65$ | ${ }_{4}^{4.81}$ | ${ }^{4.59}$ | 492 | 4.14 | - | 1.02 | 290 | 271 | ${ }_{4}^{4.3}$ | ${ }^{5} 25$ | 4.88 | ${ }^{3.08}$ | ${ }^{\text {"\#t }}$ | 4.09 | ${ }^{237}$ | 440 | 2.2 | 3.11 | ${ }^{3.50}$ | ${ }^{3.88}$ | ${ }^{3.8}$ | ${ }^{298}$ | ${ }_{5}^{5} 5$ |
|  | ${ }_{\text {12, }}^{1285}$ | $\frac{1621}{1521}$ | ${ }^{\frac{3}{236}}$ | ${ }^{\frac{4}{4} 46}$ | 208 | ${ }^{\frac{3}{3,9}}$ | ${ }^{\frac{3}{3} / 3}$ | ${ }^{3.66}$ | 305 | 215 | ${ }^{4} 47$ | ${ }_{4}^{465}$ | ${ }^{\frac{3}{42}}$ | ${ }_{4}^{4.45}$ | ${ }^{32}$ | ${ }_{4}^{4,12}$ | $\frac{5.71}{3 / 2}$ | ${ }^{\frac{3}{3} 30}$ | ${ }^{395}$ | ${ }^{3.35}$ | ${ }^{\text {4, }}$ |  | ${ }^{3,3}$ | ${ }^{3,74}$ | ${ }^{3.37}$ | ${ }^{3.18}$ | - | ${ }^{338}$ | ${ }^{3.89}$ | ${ }_{\text {3,48 }}^{3.8}$ | ${ }^{3.80}$ | ${ }^{3.81}$ | ${ }_{3}^{3,39}$ | ${ }^{4.11}$ | ${ }_{\text {\#** }}$ | ${ }_{4}^{4011}$ | ${ }^{3.35}$ | 315 | 26 | 31 | 350 | 293 | - | 288 | 40 |
| ${ }^{\text {Rw- }-11}$ | 11.09 | ${ }^{1522]}$ | ${ }^{2.12}$ | ${ }^{3.6}$ | ${ }^{298}$ | ${ }^{3,4}$ | ${ }^{3.08}$ | ${ }^{294}$ | ${ }^{305}$ | ${ }^{245}$ | ${ }^{3,07}$ | ${ }^{4.65}$ | ${ }^{4} 9$ | ${ }^{3} 5$ | ${ }^{32}$ | ${ }_{3}, 2$ | ${ }^{3,3}$ | ${ }^{3,66}$ | ${ }^{3} 6$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Notes:

$\mathrm{N}=$ Not Insaled
$\mathrm{ND}=\mathrm{Notopectected}$



$=$ Esimand Value



GZA GeoEnvironmental of NY
104 West 29th Street
10th Floor
New York, NY 10001
T: 212.594.8140
F: 212.279 .8180
www.gza.com

November 8, 2016
File No. 12.0076485 .00

Via email: yukyin.wong@dec.ny.gov
Mr. Bryan Wong
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 2
47-40 $21^{\text {st }}$ Street
Long Island City, New York 11101

Re: Project Status Report
Former NuHart Plastic Manufacturing Site \# 224136
28o Franklin Street
Brooklyn, New York

Dear Mr. Wong:

Goldberg Zoino and Associates of New York, PC d/b/a GZA GeoEnvironmental of New York is transmitting this Project Status Report on behalf of Dupont Street Developers, LLC for the above referenced Site. Copies of this Project Status Report have also been provided to Dawn Hettrick of the New York State Department of Health. The Project Status Report is for September 2016 to October 2016. If you have any questions, please contact us at 973-7743350.

Sincerely,
GZA GeoEnvironmental


Senior Project Manager


Ernest R. Hanna, P.E.
Consultant Reviewer

Cc:

Dawn Hettrick (NYSDOH)
Dupont Street Developers, LLC
Joseph Brunner
Jane O'Connell (NYSDEC)
Wendy A. Marsh


## 

This status report summarizes activities conducted at the Former NuHart Plastic Manufacturing Site (Site) in October 2016. Activities during this period were conducted by GZA GeoEnvironmental, of New York. (GZA). GZA representatives also participated in Site evaluations and communications, and additional activities were conducted by others, as noted below. A Site Plan showing the general Site layout, nearby area, and associated wells is included as Figure 1. Schedule information is presented under each activity discussion.

Interim remedial measure (IRM) activities for monitoring and removal of light non-aqueousphase liquid (LNAPL) at the Site were performed during the monitoring period in general conformance with the NYSDEC-approved Operation, Maintenance and Monitoring Plan (OM\&M Plan) for the product recovery system. The revised Feasibility Study (FS) for the Site is currently under review by NYSDEC. The Site Soil Management has been revised and submitted to NYSDEC on October 28, 2016. Investigation activities for the Site were previously completed as documented in previous project status reports and are not discussed herein.

## Interim Remedial Measure Activities

Monthly IRM routine activities were conducted by GZA on November 1, 2016. A table documenting the apparent LNAPL thickness measurements is provided as Attachment A and a Well Location Map showing the extent of LNAPL based on the monitoring date is provided as Figure 1.

## Maintenance Activities

General maintenance activities were performed, including collection of spent IRM-related absorbent materials in the vicinity of recovery wells, placing new absorbent materials as needed to contain LNAPL, and proper labeling of waste containers used during this IRM event. Both skimming systems associated with recovery wells RW-8 and RW-12 were found to be powered and operational during the Site visit. The skimmer holding cells were both filled and it appeared that there was an overflow mechanism to prevent overfilling.

On October 5, 2016, a secondary containment was constructed on the registered site for IBC totes and drums storage. The secondary containment dimension is 15 ft by 15 ft with 1 ft containment walls. Six-millimeter reinforced polyethylene (poly) sheeting was installed on the base of the containment area and overlapped the containment walls by 24 inches. This poly sheeting was fastened to the interior and a rubber matting was installed over the reinforced poly sheeting base for tote and drum storage.

## Monitoring and LNAPL Removal

Gauging of all onsite and offsite monitoring and recovery wells associated with the Site was conducted; two of the off-Site monitoring wells (MW-31 and MW-38) remain undiscoverable due to new sidewalk slabs installed on August 8, 2016 by others. Other wells that could not be accessed are noted on Attachment A. All wells containing LNAPL are noted, as are wells where LNAPL is absent. No changes were noted in the horizontal extent of the LNAPL. High tide was observed (by NOAA/NOS/CO-OPS Station ID (8517673) Hunters Point, Newtown Creek, NY) on November 1, 2016 during the well gauging period (7:30 am to 13:30 pm).

The depths to the water table were variable relative to the depths noted in the September 2016 status report, with some wells showing increases and some wells showing decreases. Product apparent thicknesses were also variable, with increases generally noted in wells where the depth to water increased and decreases noted in wells where the depth to water decreased.

The skimmer holding cells were emptied during this event. The amount of LNAPL removed from the wells was estimated at 100 gallons, including LNAPL from the drums associated with the skimmers on recovery wells RW-8 and RW-12. Based on previous LNAPL estimates, an estimated 1,846 gallons of product have been removed from the subsurface since early 2015, with most of the LNAPL disposed. The removed LNAPL is stored in intermediate bulk container (IBC) tanks located in the Site building, pending pickup and offsite disposal. When the IBC tanks are nearly full and/or the containerized spent absorbent materials require disposal, the designated waste management company will be contacted and waste disposal requested.

Eastern Environmental Solutions, Inc. (Eastern) is presently contracted to conduct waste management activities for disposal of product from the IBC tanks at the Site. Waste removal was conducted on July 21, 2016 during the monitoring event, and included removal of 500 gallons of product for proper disposal offsite. To date, Eastern has transported and disposed an estimated 1,512 gallons of product at the Cycle Chem facility in Elizabeth, NJ as hazardous waste. The manifest from this disposal event is pending and will be provided in the monthly progress report after it is received. Waste transport and disposal information will continue to be included in the progress reports following the months during which waste disposal activities occur.

Additional monitoring of select offsite wells is being conducted by Langan as of July 27, 2016 continuing into the month of October during dewatering operations for the nearby Greenpoint Landing project. Langan is providing the monitoring data to the NYSDEC as well as to the owner's consultant on a weekly basis during dewatering operations and will provide additional notifications if any unexpected conditions occur. To date, the dewatering has been intermittent, no product has been noted in any of the monitored wells, and no significant changes in the water table configuration have been noted. The Langan project manager noted that there are two dewatering events that are currently being planned. Langan intends to coordinate the efforts of both of these events with the NYSDEC and the Owner's consultant.

## Feasibility Study and Site Soil Management Report

FPM prepared an FS for the Site that includes evaluations of potential remedial methods to address Site-related contamination. The FS was transmitted to the NYSDEC and NYSDOH for review on January 28, 2016. The NYSDEC transmitted comments regarding the FS to the remedial party on March 3, 2016. The FS was revised to address the NYSDEC's comments and the revised FS was transmitted to the NYSDEC and NYSDOH, on April 21, 2016. Additional NYSDEC comments concerning the FS were received by the remedial party on July 6, 2016. At this time, the Owner retained GZA as the environmental consultant responsible for the resubmission of the FS to address the NYSDEC's comments and include thermal conductive heating (TCH) enhanced recovery as an alternative. The revised FS was resubmitted to the NYSDEC on August 24, 2016 and is currently under review.

Pursuant to a request by the NSYDEC, GZA has prepared the Site Soil Management Plan (SSMP) to provide guidance for utility contractors regarding management for soils and groundwater potentially impacted by the Site. The draft SSMP was revised and submitted to NYSDEC on October 28, 2016.

## Meetings and NYSDEC Communication

On November $1^{\text {st }}$, GZA met with the representatives from Con Edison and the NYSDEC to discuss upcoming utility work located on Clay and Commercial Street. The meeting discussed the work proposed and how it may affect site operations. Con Edison will continue to communicate with NYSDEC and GZA regarding the upcoming work plan. In addition, on November 1, 2016, GZA attended the North Brooklyn Development Meeting that transpired at the Greenpoint Polish Slavic Center. During the meeting, GZA provided a Site update and answered questions from the community. Communication pertaining to Site-related technical matters will continue, as needed, between NYSDEC, GZA, the property owner, and others.

## Attachments

Attachment A - Apparent Thickness of LNAPL
Figure 1-Well Location Map showing areal extent of LNAPL on groundwater


| val: Nomber | $\underset{\substack{\text { popentio } \\ \text { Proutatae) }}}{\text { - }}$ |  |  |  | ${ }^{\text {A09,16 }}$ | $$ |  |  | Apr-16 |  |  |  |  | No.ts |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | No.13 |  | ${ }^{2013}$ |  |  |  | - |  |  | ${ }^{2012}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{array}{\|c\|} \hline \text { Nov-12 } \\ \hline 0.31 \\ \hline \end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{\text {nw- }}$ | ${ }_{11,2}$ | ${ }^{12.20}$ |  |  |  |  |  |  |  |  | , |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\frac{124}{19}$ | ${ }_{\text {Tince }}$ |  |  | ${ }^{\text {Tmec }}$ |  |  |  |  |  | \% |  |  |  |  | ${ }^{\text {0.4 }}$ | ${ }^{\text {a,4 }}$ |  |  |
| NW-5 | 0,2 | ${ }^{13,46}$ | ${ }^{3,4}$ | 3.2 | ${ }^{41}$ | ${ }_{4}^{48}$ | ${ }^{29}$ | ${ }^{3}$ | ${ }^{318}$ | ${ }^{1.4}$ | ${ }^{1} 8$ | ${ }^{124}$ | ${ }^{188}$ | ${ }_{5}$ | ${ }^{1.16}$ | ${ }^{2} 26$ | ${ }_{4}$ | ${ }^{122}$ | $\frac{20}{20}$ | ${ }^{2,1}$ | ${ }^{25}$ | ${ }^{10}$ | ${ }_{4}$ | ${ }_{4}^{4 \times}$ | ${ }_{5}^{503}$ | ${ }^{1} 9$ | ${ }^{39}$ |  |  |  | ${ }^{2 / 8}$ |  | ${ }^{6.68}$ |  |  |  |  |  |  |  |  | ${ }^{200}$ |  |  |  |  |
| - | 0 | $\stackrel{-}{10,4}$ | ${ }^{0.1}$ | $\stackrel{10}{0.4}$ | ${ }^{1189}$ | ${ }_{\text {is }}{ }^{\text {a }}$ | ${ }_{22}{ }^{22}$ | $\cdots$ | ${ }_{100}$ | " | \% | ${ }^{2} 17$ | ${ }^{3}$ | ${ }^{331}$ | ${ }_{28}$ | ${ }^{1.6}$ | . | "', | 20 | " | ${ }^{19}$ | $\stackrel{1}{17}$ | " | ${ }^{201}$ | - | ${ }_{0}^{0.0}$ | $\stackrel{\square}{001}$ |  |  | ${ }^{20}$ |  |  | 20 | 480 | ${ }_{\text {20 }}^{\text {com }}$ | \# | 27 | ${ }^{2 \times 6}$ | 1.2 | ${ }_{102}$ | s, | ${ }^{120}$ | ${ }^{1.36}$ | 220 | ${ }^{11}$ |  |
| nw | ND | 10.11 | ${ }^{\text {ND }}$ | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ${ }^{\text {ND }}$ | v0 | ND | ${ }^{\text {ND }}$ |  | ${ }^{\text {sD }}$ | vo | ND |  | vo | ${ }^{\text {ND }}$ | vo |  | ${ }^{\text {ND }}$ | ND |  | ${ }^{\text {ND }}$ |  | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ |  |  | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | No | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND |  |  |
| Miv-12 | ${ }^{\text {ND }}$ | ${ }_{6}^{6.5}$ | - ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | No | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ |  | ${ }^{\text {ND }}$ |  |  |  |  |  |  |  |  |  |  |  | ${ }^{\text {ND }}$ |  |  |  |  |  |  |  |  |  |  |  | ${ }^{\text {No }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| wiv-II | No | ${ }_{870}$ | No | No | , | ND | N | v | ND | vo | N | vo | v | v | vo | vo | vo | No | vo | xD | ND | v | No | vo | ND | vo | vD | - | ND | vo |  |  | N | vo | vo | vo | ND | vo | ND | vo | v | ND | v | vo | N |  |
| Mv-15 | 1.105 | ${ }_{1075}$ | 0.20 | ${ }_{0} 17$ | ${ }_{0}^{0 \times 1}$ | ${ }^{0} 0$ | 0.48 |  |  | ${ }^{003}$ | ${ }^{\text {asa }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | S |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | ${ }^{1129}$ | ${ }^{1138}$ | ND | ND | ND | 0 | 02 |  |  |  | 0.14 |  |  |  |  |  |  | 0.18 |  |  |  |  |  |  |  | , |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0 | ${ }^{0.25}$ |  |  |  |  |
| -20 | luss | ${ }^{13,45}$ | ${ }^{20}$ | ${ }^{3.16}$ | ${ }^{250}$ | ${ }^{288}$ | $2{ }^{285}$ | 22 | 240 | ${ }^{23}$ | 19 | $2{ }^{26}$ |  | 3.2 |  | ${ }^{325}$ | 3.12 | ${ }^{288}$ |  | - | ${ }^{39}$ | 48 |  |  | 1.71 |  | ${ }^{268}$ |  |  | 20 | 238 | ${ }^{\text {A19 }}$ |  |  |  | " |  |  |  | 120 | 1.10 | ${ }^{135}$ | 13 |  |  |  |
| mv-21 | ${ }^{1155}$ | ${ }^{12} 280$ | ${ }^{125}$ | ${ }_{29} 29$ | ${ }^{3,161}$ | 236 | 225 | $2{ }^{26}$ | 4.18 | $2{ }^{2 \times 8}$ | 2.2 |  | 4.46 | ${ }^{3 \times 5}$ | ${ }^{4} 1$ |  | ${ }^{32}$ |  |  |  |  | ${ }^{3.6}$ | ${ }^{323}$ | ${ }^{36}$ | $4 \times$ | 48 | ${ }^{1,9}$ |  | ${ }^{260}$ | 24 | - | ${ }^{33}$ | 313 |  | 4.6 | " | ${ }^{43}$ | 3.6 | ${ }^{3,38}$ | ${ }^{3,3}$ | , | 4.10 | ${ }^{43}$ | - |  |  |
| Mv-22 | 1227 | ${ }^{1237}$ | 0.30 | 0. | ${ }^{0.51}$ | ${ }^{08}$ | 0. | ${ }^{\text {ass }}$ | 0.8 | ${ }^{0.4}$ | ${ }_{0}^{0.15}$ | ${ }^{02}$ | ${ }^{133}$ | ${ }^{101}$ | 0.9 | ${ }^{1.17}$ | ${ }^{1} 10$ | ${ }_{0}^{0,9}$ | ${ }^{\text {axo }}$ | ${ }^{0} 4$ | ${ }^{0,7}$ | ${ }^{13}$ | ${ }^{127}$ | ${ }^{1.08}$ | ${ }_{1}^{1,2}$ | 0.4 | ${ }^{\text {ass }}$ | - | 0.7 | ${ }_{0}^{080}$ | ${ }_{0} 0$ | ${ }^{122}$ | ${ }^{1.9}$ | $\stackrel{009}{ }$ | ${ }^{0.30}$ | "' | ${ }^{1.12}$ | ${ }_{0}^{0.80}$ | ${ }^{0.50}$ | ${ }_{0} 0$ | ${ }^{1.15}$ | ${ }_{120}$ | 0.18 | ${ }^{021}$ | ${ }_{0}^{018}$ | $\stackrel{1.80}{\text { vo }}$ |
| $\frac{\text { miv-23 }}{\text { Mv-24 }}$ | ${ }_{\text {ND }}^{\text {ND }}$ |  | $\stackrel{\text { ND }}{\text { ND }}$ | $\stackrel{\text { ND }}{\text { ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | $\stackrel{\text { ND }}{\text { ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }_{\text {xD }}^{\text {xD }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}{ }_{\text {ND }}$ | ${ }_{\text {xD }}^{\text {xp }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }^{\text {ND }}$ | - | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}$ | $\stackrel{\text { No }}{ }$ | ND | ${ }_{\text {ND }}^{\text {ND }}$ | $\stackrel{\text { ND }}{\text { ND }}$ | ${ }_{\text {ND }}$ | ${ }_{\text {ND }}$ | $\stackrel{\text { ND }}{\text { ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}{ }^{\text {ND }}$ | ${ }_{\text {No }}^{\text {ND }}$ |  |  |  |
| MV-25 | 10.15 | ${ }^{1.345}$ | 420 | 370 | ${ }_{365}$ | ${ }^{401}$ | ${ }^{375}$ |  | ${ }^{233}$ | 3 3,2 | ${ }^{332}$ | 3 3, | 338 | 33 | ${ }^{3,3}$ | ${ }^{33}$ | 3,8 | ${ }_{3}{ }^{3}$ | 2, | ${ }^{124}$ | ${ }^{336}$ | - | ${ }^{103}$ | ${ }^{316}$ | ${ }^{402}$ | ${ }^{365}$ | ${ }^{3,8}$ | - | 39 | ${ }^{375}$ |  |  | 56 | S56 | 401 | "' | 4.4 | ${ }^{388}$ | ${ }^{336}$ | ${ }^{396}$ | ${ }^{134}$ | ${ }^{30} 0$ | $2{ }^{2 \times 2}$ | ${ }^{7} 86$ | ${ }_{4} 40$ |  |
| MvV-26 | 1025 | ${ }^{1425}$ | ${ }_{4.00}$ | ${ }^{328}$ | 4 | ${ }^{388}$ | 3.2 | 3.4 | ${ }^{337}$ | ${ }^{27}$ | ${ }^{332}$ | 3.4 | ${ }^{123}$ | ${ }_{4}+8$ |  | ${ }^{40}$ | ${ }^{30}$ | ${ }_{3} 36$ | ${ }^{3118}$ | ${ }^{33}$ | ${ }^{364}$ | 4. | 41 | 3 3, | 330 | $4{ }^{40}$ | 312 | - | 271 | 3,48 | ${ }^{30} 0$ | ${ }^{43}$ | 4 | $4{ }^{4}$ | ${ }_{4}{ }^{12}$ | " | 4.18 | ${ }_{3} 36$ | 286 | ${ }^{23}$ | ${ }^{1.00}$ | 2.45 | 12 |  | 201 | ${ }_{4}{ }^{12}$ |
| miv-27 | ${ }^{\text {xD }}$ | ${ }^{10.65}$ | ${ }^{\text {nd }}$ | ${ }^{\text {nd }}$ | ${ }^{\text {nd }}$ | ${ }^{\text {nd }}$ | ND | ${ }^{\text {nd }}$ | ${ }^{\text {nd }}$ | no | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {no }}$ | ${ }^{\text {no }}$ | ${ }^{\text {No }}$ | ND | no | ${ }^{\text {nd }}$ | no | ${ }^{\text {no }}$ | ${ }^{\text {xD }}$ | ND | ${ }^{\text {nD }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | - | ${ }^{\text {nd }}$ | nD | - | - | no | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | No | ${ }^{\text {ND }}$ | ${ }^{\text {nd }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ${ }^{\text {n }}$ | $\stackrel{09}{ }$ | ${ }^{\text {nd }}$ | ${ }^{\mathrm{ND}}$ |
|  | ND | (1098 | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | No | No | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | N0 | No | ${ }_{\text {ND }}^{\text {ND }}$ | N0 | ${ }^{\text {ND }}$ | ND | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | No |  | ${ }^{\text {No }}$ | ${ }^{\text {N0 }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | $\stackrel{\text { No }}{ }$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }_{\text {ND }}$ | - | N0 | ${ }_{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }_{\text {No }}$ | ${ }_{\text {ND }}$ | ${ }^{\text {No }}$ | $\stackrel{\text { No }}{\text { N }}$ | ${ }_{\text {ND }}{ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }_{\text {No }}$ | ${ }_{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | N | N | $\stackrel{N}{\text { N }}$ |  |
| MV-30 | ${ }^{\text {ND }}$ | 976 | ND | N0 | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND | ND | ND | N0 | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ${ }^{\text {ND }}$ | - | ${ }^{\text {ND }}$ | ${ }^{\text {no }}$ | - | - | no | no | No | ND | ND | м | м | м | N | N | м | M | м | N |
| mv-31 |  |  |  |  |  | ${ }^{\text {nd }}$ | No | ${ }^{\text {nd }}$ | ${ }^{\text {no }}$ | no | ND | ND | ND |  | ND | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | no | No | ND | no | so | no | so | ND | no | nd |  | ${ }^{\text {no }}$ | ND | - | - | no | ND | ${ }^{\text {No }}$ | ${ }^{\text {nd }}$ | ${ }^{\text {nd }}$ | ${ }^{\text {m }}$ | ${ }^{\text {ni }}$ | м | ${ }^{\text {m }}$ | N |  |  |  |  |
| Mv- 22 | ${ }^{\text {xD }}$ | , | ${ }^{\text {ND }}$ | ${ }^{\mathrm{ND}}$ | ${ }^{\mathrm{ND}}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | No | ${ }^{\text {ND }}$ | ND | No | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {no }}$ | ${ }^{\text {no }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | - | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | - | - | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {N }}$ | ${ }^{\mathrm{N}}$ | N | N | N | ${ }^{\text {N }}$ | N | N | ${ }^{\text {N }}$ |
| , | ${ }^{\text {ND }}$ | ${ }^{1170}$ | ${ }^{\text {ND }}$ | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | No | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | N0 | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | - | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | No | ${ }^{\mathrm{ND}}$ | ${ }^{\text {ND }}$ | N | $\stackrel{\text { m }}{ }$ | ${ }^{\mathrm{N}}$ | N | N | $\stackrel{ }{\text { s }}$ | N | N | ${ }^{\mathrm{N}}$ |
| Mv-36 | ${ }_{\text {ND }}$ |  | $\stackrel{\text { ND }}{\text { ND }}$ | $\stackrel{\text { ND }}{\text { ND }}$ | ${ }_{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }^{\text {ND }}$ | No | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ND | ${ }^{\text {ND }}$ | N | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {no }}$ | ${ }^{\text {ND }}$ | No | N | ${ }^{\text {xD }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {N }}$ | м | M | м | м | ${ }^{\text {m }}$ | N | ${ }^{\text {s }}$ | ${ }^{\text {N }}$ | $\stackrel{1}{ }$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{1}$ | ${ }^{1}$ | ${ }^{\text {NT }}$ | ${ }^{\text {N }}$ | ${ }^{\mathrm{N}}$ | ${ }^{\text {m }}$ |  |  |  |
| Mv-37 | ${ }^{\text {ND }}$ | ${ }^{11.08}$ | ND | ND | ND | ND | ND | ND | ND | No | ${ }^{\text {ND }}$ | ND | ND | ${ }^{\text {no }}$ | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\mathrm{N}}$ | N | ${ }^{1}$ | м | N | ${ }^{1}$ | , | ${ }^{\text {m }}$ | ${ }^{\text {N }}$ | ${ }^{1}$ | N | N | M | ${ }^{\text {m }}$ | N | N | N | , | M | ${ }^{1}$ | ${ }^{\mathrm{N}}$ |
| mv-38 |  |  |  | - | - | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | No | ${ }^{\text {ND }}$ | ND | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ND | ${ }^{\text {No }}$ | - | ${ }^{\text {No }}$ | N | N | N | ${ }^{\text {N }}$ | N | N | N | N | N | N | ${ }^{\text {m }}$ | ${ }^{\mathrm{N}}$ | N | N | N | m | N | N | ${ }^{\text {N }}$ | m | ${ }^{\text {m }}$ |  |
| ${ }^{\text {NVP-3 }}$ | No | 0.4 | ${ }^{\mathrm{ND}}$ | ${ }^{\text {No }}$ | No | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ND | N0 | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | No | ${ }^{\text {xD }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {xD }}$ | ${ }_{\text {No }}{ }_{\text {No }}$ | ${ }_{\text {No }}{ }_{\text {No }}$ | ${ }_{\text {No }}{ }_{\text {No }}$ | ${ }_{\text {No }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | N | ${ }_{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }_{\text {N }}$ | ${ }_{\text {N }}$ | ${ }_{\text {N }} \mathrm{N}$ | ${ }_{\text {N }}^{\text {N }}$ | ${ }_{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\mathrm{N}}$ | ${ }_{\text {N }}^{\text {N }}$ | ${ }_{\text {N }}$ | ${ }_{\text {N }}$ | ${ }_{\text {N }}$ |  |  |
| Mv-41 | ND | $\stackrel{-2}{2,4}$ | ${ }_{\text {ND }}$ | ND | ${ }_{\text {ND }}$ | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | - | ${ }_{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {N0 }}$ | ${ }^{\text {N }}$ | M | м | ल | N | ${ }^{\text {N }}$ | м | ${ }^{\mathrm{N}}$ | ${ }^{\text {m }}$ | ${ }^{\text {N }}$ | N | $\stackrel{N}{\text { N }}$ | ${ }^{\text {N }}$ | N | ${ }^{\text {N }}$ | ${ }^{\mathrm{N}}$ | ${ }^{\mathrm{N}}$ | ${ }^{\mathrm{N}}$ | ${ }^{\text {N }}$ | N | N |  |
| $\frac{\mathrm{Mv-42}}{\text { Rw- }}$ | ${ }^{\text {ND }}$ | ${ }_{\text {8, }}^{8.85}$ | ${ }_{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }_{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ND | ND | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {N0 }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | N0 | ${ }^{\text {No }}$ | ${ }^{\mathrm{N}}$ | ${ }^{\text {N }}$ | ${ }^{\mathrm{N}}$ | ${ }^{\text {N }}$ | ${ }^{\text {m }}$ | ${ }^{1}$ | ${ }^{\text {m }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N1 }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{1}$ | ${ }^{1}$ | ${ }^{\mathrm{N}}$ | ${ }^{\text {N }}$ | N | ${ }^{1}$ | N | ${ }^{\text {m }}$ | ${ }^{\mathrm{N}}$ |
|  | A10 | ${ }^{21236}$ | ${ }_{\text {N }}$ | ${ }^{125}$ | ${ }^{1 \times 2}$ | ${ }^{215}$ | 211 | ${ }^{3}$ | , | ${ }^{24}$ | ${ }^{270}$ | ${ }^{288}$ | ${ }^{\text {as }}$ | $-$ | 2010 | ${ }^{29}$ | ${ }^{\text {a }}$ | ${ }_{54}$ | ${ }_{5}^{428}$ | ${ }_{5}$ | ${ }^{212}$ | ${ }^{\text {a } 19}$ | ${ }_{4}$ | ${ }^{\text {a } 2}$ | ${ }_{4}{ }^{53}$ | ${ }_{4}$ | ${ }^{\circ}$ | $\cdots$ | ${ }^{120}$ | ${ }_{305}$ | ${ }^{211}$ | ${ }^{20}$ | ${ }_{31}{ }^{2}$ | smo | ${ }^{3} 86$ | ${ }^{\prime \prime}$ | ${ }^{4} 7$ | ${ }^{296}$ | 22 | ${ }^{2.8}$ | ${ }^{2} 15$ | ${ }_{4}^{\text {a }}$ (20 | ${ }^{2} 2$ | ${ }^{\text {N }}$ | ${ }_{150}$ |  |
| ${ }_{\text {Rv-3 }}$ | Ls,10 | ${ }^{1735}$ | ${ }^{240}$ | ${ }^{230}$ | ${ }^{308}$ | ${ }^{1} 97$ | ${ }^{249}$ | ${ }^{154}$ | ${ }^{217}$ | ${ }^{200}$ | ${ }^{1} 4$ | ${ }^{237}$ | ${ }^{47}$ | 22 | ${ }^{4.4}$ | ${ }^{139}$ | ${ }^{214}$ | ${ }^{431}$ | ${ }^{23}$ | ${ }^{23}$ | ${ }^{181}$ | ${ }^{328}$ | ${ }^{3,11}$ | ${ }^{3.0}$ | ${ }^{3.5}$ | ${ }^{36}$ | ${ }_{4} 12$ | - | 158 | 220 | ${ }^{228}$ | ${ }_{40 \mathrm{Clam}}$ | ${ }^{30}$ | ${ }^{33}$ | $1{ }^{158}$ | " | 296 | ${ }^{1.4}$ | ${ }^{30}$ | ${ }^{320}$ | ${ }^{334}$ | ${ }^{370}$ | ${ }^{388}$ | $2{ }^{2 \times}$ | ${ }^{330}$ | 3xis |
| $\frac{\mathrm{Rw}}{\text { Rw }}$ | 12.10 | ${ }^{124}$ | $\stackrel{27}{10}$ | - | ${ }^{\frac{223}{0.0}}$ | ${ }_{2}^{245}$ | ${ }_{2}^{227}$ | $\frac{202}{20}$ | ${ }^{22}$ | ${ }^{293}$ | ${ }^{203}$ | ${ }^{21}$ | ${ }^{2.2}$ | ${ }_{4}^{23}$ |  | ${ }^{1.00}$ |  | ${ }^{1.65}$ | +6 |  | ${ }^{\frac{13}{20} 3}$ |  | ${ }^{10}$ | ${ }^{228}$ | ${ }^{288}$ | $\cdots$ | ${ }^{206}$ | - | ${ }^{1}$ | ${ }^{\frac{123}{109}}$ | 13 | ${ }^{245}$ | ${ }^{207}$ | ${ }^{200}$ | ${ }^{1.46}$ |  |  | ${ }_{\text {L }}^{108}$ |  |  |  |  |  | m |  |  |
| RV-6 | 11.95 | ${ }_{12}^{122}$ | 0.87 | 0.2 | ${ }^{1.66}$ | 129 | ${ }_{0} 81$ | ${ }_{0} 06$ | 0.3 | $0{ }^{074}$ | 0.76 | 0.74 | 0.7 | ${ }_{0}$ | 0.6 | ass | ${ }_{0} 06$ | 0,78 | ${ }^{186}$ | ${ }^{235}$ | 0.1 | ${ }_{1}^{1.9}$ | ${ }^{1.14}$ | ${ }_{0} 0$ | ${ }_{0}$ | 0.78 | 0,7 | - | 0.4 | ${ }^{128}$ | 0.8 | 0.41 | ${ }^{09}$ | ${ }^{130}$ | ${ }_{0} 06$ | " | 0.10 | ${ }_{0} 0$ | ${ }_{0}$ a,s | ${ }_{0} 080$ | ${ }^{021}$ | 0.0 | ${ }_{0} 15$ | ${ }_{0} 9$ | ${ }^{02}$ | ${ }_{0} 0$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 214 | 293 | 22 | ${ }^{401}$ | ${ }_{4} 4$ | " | 295 |  | ${ }^{\text {ass }}$ | ${ }^{1,7}$ | 0.88 |  | 2.46 |  | ${ }^{4.1}$ |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{\text {Rw }}$ | ${ }_{13,}$ | ${ }_{159}$ | ${ }^{245}$ | ${ }^{235}$ | ${ }^{3,19}$ | ${ }^{215}$ | ${ }^{3,18}$ | ${ }^{275}$ | 3,909 | ${ }^{318}$ | 2.2 | 3.6 | $4{ }_{4}$ | ${ }^{4} 7$ | ${ }_{3} 3$ | ${ }^{268}$ | ${ }^{23}$ | ${ }^{304}$ | $4{ }^{4}$ | 179 | ${ }^{48}$ | ${ }_{568}$ | ${ }_{5 S 5}$ | ${ }^{\text {ss }}$ |  | $4{ }^{4}$ | ${ }^{1.4}$ |  | ${ }^{1} 2$ | ${ }^{20}$ | ${ }^{27}$ | ${ }^{134}$ | ${ }^{35}$ | ${ }^{4 \times 8}$ | ${ }^{3,8}$ | $\ldots$ | ${ }_{409}$ | ${ }^{23}$ | 4 400 | $2{ }^{26}$ | 3.1 | ${ }_{3} 30$ | 3 | ${ }^{3 \times 5}$ | ${ }^{28}$ | s,3 |
| ${ }_{\text {Rw- } 10}$ | 13,10 | ${ }_{1690}$ | ${ }^{3.30}$ | ${ }^{336}$ | ${ }_{4}$ | ${ }^{3,1}$ | ${ }^{3.0}$ | ${ }^{3,4}$ | ${ }^{3.6}$ | ${ }^{36}$ | ${ }^{46}$ | ${ }^{47}$ | ${ }_{4} 46$ | ${ }_{52}$ | ${ }_{4} 4.5$ | ${ }^{12}$ |  | 511 | ${ }^{30} 0$ | ${ }^{1,95}$ | ${ }^{3} 5$ | 480 | ${ }_{5} \mathrm{sar}$ | ${ }^{3,3}$ | ${ }^{3,4}$ | ${ }^{35}$ | ${ }^{3.18}$ |  | ${ }^{338}$ | ${ }^{3} 9$ | ${ }^{3,4}$ | ${ }^{3.30}$ | ${ }^{318}$ | ${ }^{39}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }_{\text {RWW }}$ | ${ }_{13}^{139}$ | ${ }_{\text {is }}$ 2 | ${ }^{2,3}$ | 212 | ${ }_{3} 36$ | ${ }^{298}$ | ${ }^{3,3}$ | ${ }^{3,18}$ | 29 | ${ }_{305}$ | ${ }^{24} 5$ | 3 m | 4.4 | 43 | ${ }^{139}$ | ${ }^{324}$ | 3.2 | ${ }^{3,3}$ | ${ }^{36}$ | ${ }^{36}$ | 3.30 | ${ }^{3 \times 7}$ | ${ }^{197}$ | 4.4 | 4,2 | 4.4 | ${ }^{3,8}$ | - | ${ }^{203}$ | 24 | ${ }^{29}$ | ${ }^{3.6}$ | ${ }^{127}$ | s,s | ${ }^{245}$ | * | ${ }^{39}$ | 3.4 | ${ }^{31} 5$ | ${ }^{267}$ | ${ }^{3.11}$ | ${ }^{3} 50$ | ${ }^{293}$ | 4 | ${ }_{28}$ | 140 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

${ }^{\text {Natess }}$ D







GEOTECHNICAL
ENVIRONMENTAL
Ecological
Water
CONSTRUCTION
MANAGEMENT

GZA GeoEnvironmental of NY
104 West 2gth Street
10th Floor
New York, NY 10001
T: 212.594.8140
F: 212.279.8180
www.gza.com

December 8, 2016
File No. 12.0076485 .00

Via email: yukyin.wong@dec.ny.gov
Mr. Bryan Wong
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 2
47-40 $21^{\text {st }}$ Street
Long Island City, New York 11101

Re: Project Status Report
Former NuHart Plastic Manufacturing Site \# 224136
280 Franklin Street
Brooklyn, New York

Dear Mr. Wong:

Goldberg Zoino and Associates of New York, PC d/b/a GZA GeoEnvironmental of New York is transmitting this Project Status Report on behalf of Dupont Street Developers, LLC for the above referenced Site. Copies of this Project Status Report have also been provided to Dawn Hettrick of the New York State Department of Health. The Project Status Report is for October 2016 to November 2016. If you have any questions, please contact us at 973-7743350.

Sincerely,
GZA GeoEnvironmental


Senior Project Manager


Ernest R. Hanna, P.E.
Consultant Reviewer

Cc:

Dawn Hettrick (NYSDOH)
Dupont Street Developers, LLC
Joseph Brunner
Jane O'Connell (NYSDEC)
Wendy A. Marsh


Principal

Email: dawn.hettrick@health.ny.gov
Email: bojinzhu@gmail.com
Email: yb321@yahoo.com
Email: jane.oconnell@dec.ny.gov
Email: wmarsh@hancocklaw.com

This status report summarizes activities conducted at the Former NuHart Plastic Manufacturing Site (Site) in November 2016. Activities during this period were conducted by GZA GeoEnvironmental, of New York. (GZA). GZA representatives also participated in Site evaluations and communications, and additional activities were conducted by others, as noted below. A Site Plan showing the general Site layout, nearby area, and associated wells is included as Figure 1. Schedule information is presented under each activity discussion.

Interim remedial measure (IRM) activities for monitoring and removal of light non-aqueousphase liquid (LNAPL) at the Site were performed during the monitoring period in general conformance with the NYSDEC-approved Operation, Maintenance and Monitoring Plan (OM\&M Plan) for the product recovery system. The revised Feasibility Study (FS) for the Site is currently under review by NYSDEC. Investigation activities for the Site were previously completed as documented in previous project status reports and are not discussed herein.

## Interim Remedial Measure Activities

Monthly IRM routine activities were conducted by GZA on November 29, 2016. A table documenting the apparent LNAPL thickness measurements is provided as Attachment A and a Well Location Map showing the extent of LNAPL based on the monitoring date is provided as Figure 1.

## Maintenance Activities

General maintenance activities were performed, including collection of spent IRM-related absorbent materials in the vicinity of recovery wells, placing new absorbent materials as needed to contain LNAPL, and proper labeling of waste containers used during this IRM event. Both skimming systems associated with recovery wells RW-8 and RW-12 were found to be powered and operational during the Site visit. The skimmer holding cells were both filled and it appeared that there was an overflow mechanism to prevent overfilling. On November 29, 2016, a secondary containment was constructed on the registered site for wells RW-8.

## Monitoring and LNAPL Removal

Gauging of all onsite and offsite monitoring and recovery wells associated with the Site was conducted; two of the off-Site monitoring wells (MW-31 and MW-38) remain undiscoverable due to new sidewalk slabs installed on August 8, 2016 by others. These wells are scheduled for replacement. Other wells that could not be accessed are noted on Attachment A. All wells containing LNAPL are noted, as are wells where LNAPL is absent. No changes were noted in the horizontal extent of the LNAPL. High tide was observed (by NOAA/NOS/COOPS Station ID (8517673) Hunters Point, Newtown Creek, NY) on November 29, 2016 during the well gauging period (7:00 am to 13:00 pm).

The depths to the water table were variable relative to the depths noted in the October 2016 status report, with some wells showing increases and some wells showing decreases. Product apparent thicknesses were also variable, with increases generally noted in wells where the depth to water increased and decreases noted in wells where the depth to water decreased.

The skimmer holding cells were emptied during this event. The amount of LNAPL removed from the wells was estimated at 80 gallons, including LNAPL from the drums associated with the skimmers on recovery wells RW-8 and RW-12. Based on previous LNAPL estimates, an estimated 1,926 gallons of product have been removed from the subsurface since early 2015, with most of the LNAPL disposed. The removed LNAPL is stored in intermediate bulk container (IBC) tanks located in the Site building, pending pickup and offsite disposal. When the IBC tanks are nearly full and/or the containerized spent absorbent materials require disposal, the designated waste management company will be contacted and waste disposal requested.

Eastern Environmental Solutions, Inc. (Eastern) is presently contracted to conduct waste management activities for disposal of product from the IBC tanks at the Site. Waste removal was conducted on July 21, 2016 during the monitoring event, and included removal of 500 gallons of product for proper disposal offsite. To date, Eastern has transported and disposed an estimated 1,512 gallons of product at the Cycle Chem facility in Elizabeth, NJ as hazardous waste. The manifest from this disposal event is pending and will be provided in the monthly progress report after it is received. Waste transport and disposal information will continue to be included in the progress reports following the months during which waste disposal activities occur.

Additional monitoring of select offsite wells is being conducted by Langan as of July 27, 2016 continuing into the month of October during dewatering operations for the nearby Greenpoint Landing project. Langan is providing the monitoring data to the NYSDEC as well as to the owner's consultant on a weekly basis during dewatering operations and will provide additional notifications if any unexpected conditions occur. To date, the dewatering has been intermittent, no product has been noted in any of the monitored wells, and no significant changes in the water table configuration have been noted. The Langan project manager noted that there are two dewatering events that are currently being planned. Langan intends to coordinate the efforts of both of these events with the NYSDEC and the Owner's consultant.

## Feasibility Study and Site Soil Management Report

FPM prepared an FS for the Site that includes evaluations of potential remedial methods to address Site-related contamination. The FS was transmitted to the NYSDEC and NYSDOH for review on January 28, 2016. The NYSDEC transmitted comments regarding the FS to the remedial party on March 3, 2016. The FS was revised to address the NYSDEC's comments and the revised FS was transmitted to the NYSDEC and NYSDOH, on April 21, 2016. Additional NYSDEC comments concerning the FS were received by the remedial party on July 6, 2016. At this time, the Owner retained GZA as the environmental consultant responsible for the resubmission of the FS to address the NYSDEC's comments and include thermal conductive heating ( TCH ) enhanced recovery as an alternative. The revised FS was resubmitted to the NYSDEC on August 24, 2016 and is currently under review.

Pursuant to a request by the NSYDEC, GZA has prepared the Site Soil Management Plan (SSMP) to provide guidance for utility contractors regarding management for soils and groundwater potentially impacted by the Site. The draft SSMP was revised and submitted to NYSDEC on October 28, 2016.

## Attachments

Attachment A - Apparent Thickness of LNAPL
Figure 1-Well Location Map showing areal extent of LNAPL on groundwater




wie winw 1 vuw




GZA GeoEnvironmental of NY
104 West 29th Street
10th Floor
New York, NY 10001
T: 212.594.8140
F: 212.279 .8180
www.gza.com

January 12, 2016
File No. 12.0076485 .00

Via email: yukyin.wong@dec.ny.gov
Mr. Bryan Wong
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 2
47-40 $21^{\text {st }}$ Street
Long Island City, New York 11101

Re: Project Status Report
Former NuHart Plastic Manufacturing Site \# 224136
28o Franklin Street
Brooklyn, New York

Dear Mr. Wong:

Goldberg Zoino and Associates of New York, PC d/b/a GZA GeoEnvironmental of New York is transmitting this Project Status Report on behalf of Dupont Street Developers, LLC for the above referenced Site. Copies of this Project Status Report have also been provided to Dawn Hettrick of the New York State Department of Health. The Project Status Report is for November 2016 to December 2016. If you have any questions, please contact us at 973-7743350.

Sincerely,
GZA GeoEnvironmental


Senior Project Manager


Ernest R. Hanna, P.E.
Consultant Reviewer

Cc:

Dawn Hettrick (NYSDOH)
Dupont Street Developers, LLC
Joseph Brunner
Jane O'Connell (NYSDEC)
Wendy A. Marsh


This status report summarizes activities conducted at the Former NuHart Plastic Manufacturing Site (Site) in December 2016. Activities during this period were conducted by GZA GeoEnvironmental, of New York. (GZA). GZA representatives also participated in Site evaluations and communications, and additional activities were conducted by others, as noted below. A Site Plan showing the general Site layout, nearby area, and associated wells is included as Figure 1. Schedule information is presented under each activity discussion.

Interim remedial measure (IRM) activities for monitoring and removal of light non-aqueousphase liquid (LNAPL) at the Site were performed during the monitoring period in general conformance with the NYSDEC-approved Operation, Maintenance and Monitoring Plan (OM\&M Plan) for the product recovery system. GZA is currently addressing the comments from NYSDEC pertaining to the Feasibility Study (FS) for the Site. Investigation activities for the Site were previously completed as documented in previous project status reports and are not discussed herein.

## Interim Remedial Measure Activities

Monthly IRM routine activities were conducted by GZA on January 3, 2016. A table documenting the apparent LNAPL thickness measurements is provided as Attachment A and a Well Location Map showing the extent of LNAPL based on the monitoring date is provided as Figure 1.

## Maintenance Activities

General maintenance activities were performed, including collection of spent IRM-related absorbent materials in the vicinity of recovery wells, placing new absorbent materials as needed to contain LNAPL, and proper labeling of waste containers used during this IRM event. Both skimming systems associated with recovery wells RW-8 and RW-12 were found to be powered and operational during the Site visit. The skimmer holding cells were both filled and it appeared that there was an overflow mechanism to prevent overfilling.

## Monitoring and LNAPL Removal

Gauging of onsite and offsite monitoring and recovery wells associated with the Site was conducted; two of the off-Site monitoring wells (MW-31 and MW-38) remain undiscoverable due to new sidewalk slabs installed on August 8, 2016 by others. These wells are scheduled for replacement prior to the next gauging event pending NYCDOT permits. Other wells that could not be accessed are noted on Attachment A. All wells containing LNAPL are noted, as are wells where LNAPL is absent. No changes were noted in the horizontal extent of the LNAPL. High tide was observed (by NOAA/NOS/CO-OPS Station ID (8517673) Hunters Point, Newtown Creek, NY) on January 3, 2016 during the well gauging period ( $7: 30 \mathrm{am}$ to 14:30 pm).

The depths to the water table were variable relative to the depths noted in the November 2016 status report, with some wells showing increases and some wells showing decreases. Product apparent thicknesses were also variable, with increases generally noted in wells where the depth to water increased and decreases noted in wells where the depth to water decreased.

The skimmer holding cells were emptied during this event. The amount of LNAPL removed from the wells was estimated at 95 gallons, including LNAPL from the drums associated with the skimmers on recovery wells RW-8 and RW-12. Based on previous LNAPL estimates, an estimated 2,006 gallons of product have been removed from the subsurface since early 2015, with most of the LNAPL disposed. The removed LNAPL is stored in intermediate bulk container (IBC) tanks located in the Site building, pending pickup and offsite disposal. When the IBC tanks are nearly full and/or the containerized spent absorbent materials require disposal, the designated waste management company will be contacted and waste disposal requested.

Eastern Environmental Solutions, Inc. (Eastern) is presently contracted to conduct waste management activities for disposal of product from the IBC tanks at the Site. Waste removal was conducted on July 21, 2016 during the monitoring event, and included removal of 500 gallons of product for proper disposal offsite. To date, Eastern has transported and disposed an estimated 1,512 gallons of product at the Cycle Chem facility in Elizabeth, NJ as hazardous waste. The manifest from the July 2016 event is provided in Attachment B. Waste transport and disposal information will continue to be included in the progress reports following the months during which waste disposal activities occur.

Additional monitoring of select offsite wells is being conducted by Langan as of July 27, 2016 continuing into the month of November during dewatering operations for the nearby Greenpoint Landing project. Langan is providing the monitoring data to the NYSDEC as well as to the owner's consultant on a weekly basis during dewatering operations and will provide additional notifications if any unexpected conditions occur. To date, the dewatering has been intermittent, no product has been noted in any of the monitored wells, and no significant changes in the water table configuration have been noted. The Langan project manager noted that there are two dewatering events that are currently being planned. Langan intends to coordinate the efforts of both of these events with the NYSDEC and the Owner's consultant.

## Feasibility Study and Site Soil Management Report

FPM prepared an FS for the Site that includes evaluations of potential remedial methods to address Site-related contamination. The FS was transmitted to the NYSDEC and NYSDOH for review on January 28, 2016. The NYSDEC transmitted comments regarding the FS to the remedial party on March 3, 2016. The FS was revised to address the NYSDEC's comments and the revised FS was transmitted to the NYSDEC and NYSDOH, on April 21, 2016. Additional NYSDEC comments concerning the FS were received by the remedial party on July 6, 2016. At that time, the Owner retained GZA as the environmental consultant responsible for the resubmission of the FS to address the NYSDEC's comments and include thermal conductive heating (TCH) enhanced recovery as an alternative. The revised FS was resubmitted to the NYSDEC on August 24, 2016 and comments regarding TCH were received on December 5, 2016. GZA is currently addressing these comments.

Pursuant to a request by the NSYDEC, GZA has prepared the Site Soil Management Plan (SSMP) to provide guidance for utility contractors regarding management for soils and groundwater potentially impacted by the Site. The draft SSMP was revised and submitted to NYSDEC on October 28, 2016. On January 4, 2017, GZA had a teleconference with the NSYDEC regarding a future bioswale project that is planned in the off-Site areas of Clay Street and Dupont Street which is in the vicinity of the TCE and Phthalate plume. Based on the information provided by the NYSDEC, GZA provided potential impacts that the proposed work could have on both plumes.

## Attachments

Attachment A - Apparent Thickness of LNAPL
Attachment B - Hazardous Waste Disposal Manifest
Figure 1-Well Location Map showing areal extent of LNAPL on groundwater

|  |  | Wept |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Oat15 | sp.15 | Aner ${ }^{\text {at }}$ | ${ }_{\substack{2015 \\ \text { Junls }}}^{\text {dis }}$ | Jm.15 |  |  | Mar-15 | Jam-15 |  |  |  | Jum | ${ }_{\text {a }}^{2014}$ |  |  |  | jan-14 |  |  |  | sp.13 | ${ }^{\text {Aupl }}$ |  |  |  |  |  |  |  |  |  |
| Mw-4 | ${ }^{11.50}$ | ${ }^{1280}$ | ${ }^{1.30}$ | 1.00 | ${ }^{1.18}$ | ${ }^{1.35}$ |  | ${ }_{173}$ | ${ }^{1.80}$ | ${ }^{1.33}$ | 173 | ${ }^{1.43}$ | ${ }^{1.85}$ |  | ${ }^{1.96}$ | ${ }^{204}$ | ${ }^{1.99}$ |  | 22 | ${ }^{4.27}$ | ${ }^{035}$ | 0.4 |  | ${ }^{0.56}$ |  |  |  | ${ }^{1.24}$ | ${ }_{\text {Tamac }}$ |  | ${ }^{0.01}$ | Trace | 023 |  |  | 0.66 | ${ }_{0}^{0.78}$ | ${ }^{\text {m }}$ + | $\frac{3.99}{40}$ |  | ${ }^{0.59}$ | , | ${ }_{0}$ | ${ }^{0.44}$ | ${ }_{0}^{0.80}$ | ${ }^{03}$ | - |  |
| $\frac{\mathrm{NW}-5}{}$ | 9,75 | ${ }^{13,30}$ | ${ }^{3.5}$ | ${ }^{4.8}$ | ${ }^{364}$ | ${ }^{3,2}$ | ${ }_{4}^{431}$ | ${ }^{403}$ | ${ }^{429}$ | ${ }^{3,07}$ | ${ }^{3.18}$ | ${ }^{3.14}$ | ${ }^{1.85}$ | ${ }^{324}$ | 4.83 | ${ }_{5}^{5.11}$ |  | ${ }^{426}$ | ${ }_{4}{ }^{45}$ | ${ }^{422}$ | 230 | ${ }^{2,41}$ | ${ }^{255}$ | 3.0 | ${ }_{4}^{4.0}$ | 479 | ${ }_{5}^{503}$ |  | ${ }^{3.39}$ |  | ${ }^{3.14}$ | 280 | ${ }^{298}$ |  | ${ }^{6.46}$ | 2.17 | ${ }^{\text {s. } 54}$ | "t | 5 | ${ }^{3,2}$ | 3.0 | ${ }^{239}$ | ${ }_{4}^{43}$ | 3 3,0 | 4.11 | ${ }^{330}$ | 329 |  |
| $\frac{\mathrm{MW}-6}{\mathrm{MW}-7}$ | ${ }_{9.16}$ | ,9,4 | ${ }_{0}^{\text {mot }}$ |  | ${ }_{0}^{\text {mot }}$ | ${ }_{0}^{\text {mo4 }}$ | ${ }_{1}^{1.48}$ | ${ }_{\text {m"t }}^{1.88}$ | ${ }_{2 \times 2}$ | ${ }_{2 \text { mit }}$ | ${ }_{\text {l/m }}^{1.90}$ | ${ }^{\text {! } 1 \text { It }}$ | ${ }_{2 \text { "13 }}$ | ${ }_{24}{ }^{\text {m }}$ | ${ }_{3.4}^{\text {mit }}$ |  | ${ }_{2 \text { 2m8 }}$ | ${ }^{1.14}$ | ${ }_{1}^{12.8}$ | 099 | ${ }_{\text {L }}^{2.58}$ | ${ }_{\text {mo }}$ N0 | ${ }_{1+9}$ | ${ }^{\text {\% }} 1.7$ | ${ }^{\text {"m }}$ | ${ }_{201}^{201}$ | ${ }_{2 \times 16}^{216}$ | ${ }_{0}^{\text {\% }}$ | ${ }_{0}^{\text {mot }}$ |  | 0.17 | ${ }_{0}^{284}$ |  |  | ${ }_{4}^{289}$ | ${ }^{276}$ | ${ }_{200}^{200}$ | ${ }_{\text {"m }}^{\text {" }}$ | ${ }_{2}^{242}$ | ${ }_{1}^{2.08}$ | 1.92 | 492 | ${ }_{5}{ }^{4} 5$ | 130 | ${ }_{136}^{13}$ | 200 | ${ }_{1}^{3.89}$ |  |
| MV-8 | ND | 10.06 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ${ }^{\text {ND }}$ |  | ${ }^{\text {ND }}$ | No | ${ }^{\text {ND }}$ | ND |  | ND | ${ }^{\text {ND }}$ |  |  | ${ }^{\text {ND }}$ | ND | ${ }^{\mathrm{ND}}$ | ${ }^{\text {ND }}$ | ${ }^{\text {no }}$ | ${ }^{\text {ND }}$ | ND | N0 | vo | N | ND | ${ }^{\text {ND }}$ | N |  |
| Mv-12 | ND | ${ }^{620}$ | ND | ND | ND | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ |  | - |  | ND | ND |  | - |  | - | ND | ND | ND | ND | - | ${ }^{\text {ND }}$ | - | ND | ND |  | vD | W | - | - | ND | ${ }^{\text {ND }}$ | v | W | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND |
| Mv-13 | ND | ${ }^{1,55}$ | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | - |  | v | ${ }^{\text {ND }}$ | - | - |  |  | v | v | N | ${ }^{\text {ND }}$ |  | ${ }^{\text {ND }}$ | - | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | - | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | - |  | ND | v | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | v | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | N | ${ }^{\text {ND }}$ | ND | ND |
| wiw- | ND | ${ }_{845}$ | ND | , | , | ND | ND | ${ }^{\text {ND }}$ |  |  | ND | ND | ND | ${ }^{\text {ND }}$ | ND |  | ND | ND | N0 | ${ }^{\text {ND }}$ | ND |  |  | ${ }^{\text {No }}$ |  | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND |  | ND |  |  |  |  |  |  | ND |  |  | ND | ND |  | ND | ND |  |  |  |
| nw- | ${ }_{\text {L0.50 }}$ | ${ }_{\text {a } 1070}$ | 020 | ${ }_{0}^{0.80}$ | ${ }^{0.20}$ | 0.17 | ${ }_{0} .81$ |  | 0.48 |  | 0.71 |  | 0.04 | 0.60 | 308 |  | ${ }^{197}$ | 1.05 | 1.05 | ND | ${ }^{124}$ | ${ }^{121}$ | ${ }^{1.56}$ | 1.67 | ${ }^{171}$ | 2.19 | 232 | "'m | 0.45 | , | 0.61 | 0.30 | ${ }^{0.38}$ |  | 3.11 | 3.19 | ${ }^{334}$ | "'m | 2.14 | 0.70 |  | ${ }_{0}^{0.32}$ | 1.07 |  |  | ,98 | 0.76 |  |
| MW-16 | $\frac{112}{10.4}$ | ${ }_{\text {L }}^{12.25}$ | ${ }_{20}^{\text {N0 }}$ | ${ }^{\text {N0 }}$ | ${ }^{\text {ND }}$ | ${ }_{3}^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{0.01}$ | 285 | 22 | 249 | ${ }_{\text {O, }}^{2+3}$ | ${ }_{0}^{0.19}$ | 246 | ${ }_{3}^{0.11}$ | 302 | ${ }^{333}$ | ${ }^{325}$ | 3,12 | 288 | ${ }^{288}$ | 279 | ${ }_{3} 8.4$ | ${ }_{4}^{0.088}$ | ${ }_{513}$ | 1.87 | ${ }_{0}^{0.31}$ | 202 | 206 | - | 147 | ${ }^{\text {0,01 }}$ | ${ }^{288}$ | ${ }^{419}$ | 507 | ${ }^{490}$ | 411 | ${ }_{\text {" }}^{\text {"m }}$ | ${ }^{\text {O.05 }}$ | 137 | ${ }_{3} 32$ | ${ }^{0.00}$ | ${ }_{0}^{0.10}$ | ${ }^{0.25}$ | ${ }^{138}$ | 3.39 | ${ }^{3,15}$ |  |
| mv-2 | ${ }^{11.03}$ | ${ }^{1438}$ | ${ }_{3,2}$ | ${ }_{3,32}$ | ${ }^{125}$ | ${ }_{2}^{239}$ | , | ${ }_{296}$ |  | ${ }^{263}$ |  | ${ }_{268}{ }^{68}$ | 242 |  | ${ }_{4} 46$ |  | - |  | ${ }^{332}$ | ${ }^{297}$ | ${ }^{23} 3$ |  |  | ${ }^{346}$ | ${ }^{3,23}$ | ${ }_{362}$ | ${ }^{464}$ | ${ }_{4}^{40}$ | ${ }^{1.98}$ |  | ${ }^{265}$ | ${ }^{247}$ | ${ }^{248}$ | ${ }^{337}$ |  | ${ }_{3}^{3} 2$ | 4.46 | "'t | ${ }_{4}^{437}$ |  | ${ }^{338}$ |  | ${ }^{375}$ |  | ${ }_{4}^{42}$ |  |  |  |
|  | ${ }^{1210}$ | ${ }^{12,61}$ | 0.51 | ${ }_{0}^{038}$ | 030 | 0.01 | 0.51 | ${ }^{0.87}$ | 0.62 | ${ }^{0.45}$ | 0.48 | ${ }_{0} 0.4$ | 0.15 | 022 | ${ }^{1,33}$ |  | ${ }_{0}^{0,49}$ |  | 1.94 | 0.79 | ${ }_{0} 086$ | ${ }_{0} 08$ |  | ${ }^{133}$ | 127 | 1.03 | 1.102 | 0.54 | ${ }_{0.85}$ |  | 0.74 | ${ }_{0} .86$ | 0,75 | ${ }^{1.22}$ | 1.07 | 0.69 | 0.0 | "+ | ${ }^{1.12}$ | ${ }^{0.86}$ | 0.50 | 0.02 | 1.15 | 120 | 0.18 | 021 | 0.18 | 80, |
|  | ND | ${ }^{\text {1, } 1.80}$ | nd | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | nd | ND | nd | ND | ND | ${ }^{\text {nd }}$ | no | ND | ND | ND | No | ND | ND | no | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ND | nd |  | nd | ${ }^{\text {ND }}$ | ${ }^{\text {nd }}$ | ${ }^{\text {nD }}$ | ND | ${ }^{\text {nd }}$ | ND | ND | nD | no | ND | ${ }^{\text {no }}$ |  | ND | nd |  |  |  |
| Mv-24 | ND | ${ }_{\text {10,33 }}$ | ND | ND | ND | ND | ND | ND | ND | ND | ND | nd | ND | ND | ND | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ND | ${ }^{\text {nd }}$ | ND | ND | ${ }^{\text {ND }}$ |  | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ |  |  | ${ }^{\text {ND }}$ | ND | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ND | ND | ND | ND | ${ }^{\text {ND }}$ |  | ND |  |
| mv-25 | ${ }^{10.02}$ | ${ }_{13,4}^{13,4}$ | 3.2 | ${ }^{3,00}$ | ${ }^{420}$ | 3,9 | ${ }^{3} 65$ | 4.01 | ${ }_{3}^{375}$ | ${ }^{3} 55$ | ${ }^{3,3}$ | ${ }^{3} / 2$ | ${ }^{3} 32$ | ${ }^{3,3}$ | ${ }_{3} 38$ | ${ }^{3,5}$ | ${ }^{3.8}$ | ${ }^{3,3}$ | ${ }^{3.68}$ | ${ }^{3,3}$ | ${ }^{281}$ | ${ }^{324}$ | ${ }^{3,36}$ | 1.07 | ${ }^{1.03}$ | ${ }^{3.16}$ | ${ }_{4} .42$ | 3.5 | ${ }^{3.8}$ |  | ${ }^{3,91}$ | ${ }^{3,75}$ |  |  | ${ }_{5}^{5.6}$ | ${ }_{5} \mathrm{~s}_{6}$ | ${ }_{4} .01$ | "t | ${ }_{4} 4.4$ | ${ }_{3.38}$ | ${ }^{3,6}$ | 3,96 | ${ }^{4.34}$ | ${ }^{3,70}$ | 282 | ${ }^{2,86}$ | ${ }_{4} 40$ |  |
| -26 | ${ }^{0.19}$ | ${ }^{13,39}$ | ${ }_{320}$ | ${ }^{3,56}$ | ${ }_{400}$ | ${ }^{328}$ | ${ }_{4}^{426}$ | ${ }^{3} 88$ | ${ }_{3,2}$ | ${ }^{3} 41$ | ${ }^{337}$ | ${ }^{29}$ | ${ }_{3}{ }^{3} 2$ | ${ }^{3.4}$ | ${ }^{423}$ | 4.08 | ${ }^{3,77}$ | ${ }^{4.00}$ | ${ }^{3,70}$ | ${ }^{3.5}$ | ${ }^{3.18}$ | ${ }^{3,3}$ | ${ }^{3,4}$ | ${ }^{4.14}$ | 4.11 | ${ }^{3.84}$ | ${ }^{3,70}$ | 450 | ${ }_{3,02}$ |  | 2.71 | ${ }^{3,48}$ | ${ }^{3.80}$ | 4.3 | ${ }_{4} 4$ | ${ }_{4} 47$ | ${ }_{4} 4$ | "'m | ${ }_{4} 4.18$ | ${ }^{3,9}$ | ${ }^{286}$ | ${ }^{23}$ | ${ }^{1.00}$ | 245 | ${ }^{1.62}$ |  |  |  |
|  | ND | ${ }^{10.57}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ND | ND | ND | ${ }^{\text {ND }}$ | $\frac{\mathrm{ND}}{\mathrm{ND}}$ | ND | ND | ND | No | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | No | ND | No | ND | ND | ND | ND | ND | ND | ND | ${ }_{\text {ND }}$ | ${ }_{\text {No }}$ | - | $\frac{\mathrm{ND}}{\mathrm{ND}}$ | ND | vo | N | ND | ${ }_{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | $\frac{\mathrm{ND}}{\mathrm{ND}}$ | ND | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }_{0}^{09}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ |
| MV-29 | ND | ${ }^{1120}$ | ND | ND | ND | ND | ND | ND | ND | No | ND | ND | No | ND | ND | ND | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND | ND | ND | - | ND | ND | ND | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND | м | N | N |  |
| Mv-30 | ND | 9,71 | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | No | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | No | ND | - | ND | ND | - | $-$ | ND | ND | ND | ND | ND | N | N | м | N | N | m | N | N |  |
| ww-31 |  |  |  |  |  |  |  | ${ }^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND |  | ND | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ND | ND | - | ${ }^{\text {ND }}$ | ND | - |  | ${ }^{\text {ND }}$ | - | ND | - | - | $\cdots$ | - | ${ }^{\text {N }}$ | N |  | N |  | м |  |
| - MV 32 | ${ }_{\text {ND }}^{\text {ND }}$ | ¢, ${ }_{\text {975 }}^{1161}$ | ${ }_{\text {ND }}^{\text {ND }}$ | $\stackrel{\text { ND }}{\text { ND }}$ | $\stackrel{\text { No }}{\text { ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | $\stackrel{\text { ND }}{\text { ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | $\stackrel{\text { ND }}{\text { ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | $\frac{\text { ND }}{\text { ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | $\frac{\mathrm{ND}}{\mathrm{ND}}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ND | ${ }^{\text {ND }}$ | ND | $\stackrel{\text { ND }}{\text { ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ND | $\frac{\text { ND }}{\text { ND }}$ | - | $\frac{\text { ND }}{\text { ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | - | ND | ND | ${ }_{\text {ND }}^{\text {ND }}$ | ND | ND | N ${ }_{\text {ND }}^{\text {ND }}$ | N | $\frac{\mathrm{Nr}}{\mathrm{Nr}}$ | N | $\frac{\mathrm{N}}{\mathrm{NI}}$ | ${ }^{\text {N }}$ | $\frac{\mathrm{N}}{}$ | N | $\frac{\mathrm{NI}}{}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ |
| mv-35 | ND | ${ }_{14,60}$ | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ${ }^{\text {N }}$ | ND | ${ }^{\text {ND }}$ | ND | N | ND | No | ND | ${ }^{\text {ND }}$ | ND | ND | ND |  | ND | ${ }^{\text {ND }}$ | ND | ND | ND | No | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | N | N | N | N |  | N | N | ${ }^{\text {NT }}$ |  |
| nw-3 | ${ }^{\text {nd }}$ | ${ }^{\text {io. }}$. 8 | no | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | ND | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND | ND | ND | ${ }^{\text {nd }}$ | ${ }^{\text {ND }}$ | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {N }}$ | N | м | ${ }^{\text {N }}$ | N | ${ }^{\text {N }}$ |  |  |  | N | N | N | ${ }^{\text {N }}$ | N |  |  |  | ${ }^{\text {N }}$ | ${ }^{\text {m }}$ | N |  |
|  | ND | ${ }^{11.01}$ | ND | ND | ND | ${ }^{\text {nD }}$ | ND |  | nD | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | no | ND | No | ND | ${ }^{\text {No }}$ | ND | ND | ND | no | ND | ${ }^{\text {ND }}$ | ND | м | N | м | ${ }^{\text {m }}$ | ${ }^{\text {m }}$ | N | ${ }^{\text {m }}$ | м | ${ }^{\text {N }}$ | ${ }^{\text {m }}$ | ${ }^{\text {N }}$ | м | ${ }^{\text {m }}$ | м | ${ }^{\text {mi }}$ | ${ }^{\text {m }}$ | ${ }^{\text {m }}$ | м | ${ }^{\text {m }}$ |  |  |
| $\frac{\mathrm{MV}-38}{\mathrm{MV}-38}$ | No | $\stackrel{-}{0.5}$ | ND | ND | ND | ND | ND | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | $\frac{\mathrm{ND}}{\mathrm{ND}}$ | $\frac{\mathrm{ND}}{\text { ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }^{\text {ND }}$ | $\frac{\mathrm{ND}}{\text { ND }}$ | ND | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ND | $\frac{\mathrm{ND}}{\mathrm{ND}}$ | $\frac{\mathrm{ND}}{\text { ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ${ }_{\text {ND }}^{\text {ND }}$ | ND | $\frac{\mathrm{ND}}{\text { ND }}$ | N | $\frac{\mathrm{N}}{\mathrm{N}}$ | N | $\frac{\mathrm{N}}{\mathrm{N}}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ | N | $\frac{\mathrm{N}}{\mathrm{N}}$ | N | N | ${ }^{\text {N }}$ | $\frac{\mathrm{NI}}{\mathrm{NI}}$ | $\frac{\mathrm{N}}{\mathrm{N}}$ | N | N | N | N | N | $\stackrel{\mathrm{N}}{\mathrm{N}}$ | $\frac{\mathrm{N}}{\mathrm{NI}}$ | N | N | N |
| mv- |  | ${ }_{7}$ | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |  | ND | ND | ND | ND | ND | ND |  | ND | ND | ND | м |  | N |  | м | м | м | м | м | N | м | м | м | м | N |  |  |  | N |  |  |  |
|  | No | ${ }^{9.66}$ | ND | ND | No | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ND | no | ND | ND | ND | No | ND | No | ${ }^{\text {ND }}$ | No | ND | No | ND | ND | No | ND | No | N | N | ${ }^{\text {N }}$ | N | ${ }^{\text {m }}$ | N | N | N | N | N | N | ${ }^{\text {N }}$ | N | N | N | ${ }^{\text {N }}$ | ${ }^{\text {m }}$ | m | ${ }^{\text {N }}$ | ${ }^{\text {N }}$ | ${ }^{\text {m }}$ | m |  |
|  | no | ${ }^{8,1}$ | ${ }^{\text {ND }}$ | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ND | ${ }^{\text {nd }}$ | ND | ND | ND | ND | ND | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | No | ND | ND | ${ }^{\text {No }}$ | N | м | N | ${ }^{\mathrm{N}}$ | м | ${ }^{\text {m }}$ | N | ${ }^{\mathrm{m}}$ | N | ${ }^{\text {m }}$ | ${ }^{\mathrm{N}}$ | ${ }^{\text {N }}$ | м | м | м | м | N | ल | ${ }^{\text {m }}$ | N | N | м |  |
| ${ }_{\text {Rv- }}$ | ${ }^{\text {ND }}$ | ${ }_{8}^{869}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | - | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\mathrm{ND}}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | - | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | , | 20 | - | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {No }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | ${ }^{\text {ND }}$ | N0 |
| ${ }_{\text {RW-2 }}$ | ${ }^{12200}$ | ${ }^{13,65}$ | ${ }^{1.65}$ | ${ }^{1.18}$ | ${ }^{122}$ | ${ }^{135}$ | ${ }^{1.88}$ | ${ }^{205}$ | 241 | 3.2 | 2.12 | ${ }^{3.3}$ | 270 | ${ }^{283}$ | ${ }^{428}$ |  | 26. | ${ }^{297}$ | 3.1 | ${ }_{5}^{5} 5$ | ${ }^{528}$ | ${ }_{5}^{544}$ | 282 | ${ }^{4.19}$ | 4.52 | ${ }_{4}^{425}$ | ${ }^{4.33}$ | ${ }_{4}^{4.52}$ | ${ }^{0.11}$ | - | ${ }_{1}^{130}$ | 305 | ${ }^{231}$ | 280 | ${ }^{3.19}$ | ${ }_{5} 509$ | ${ }_{\text {a }}^{3.86}$ | "'m | ${ }_{4}^{407}$ | ${ }^{296}$ | ${ }^{2} 22$ | ${ }^{3.8}$ | ${ }^{3} 75$ | ${ }^{420}$ | ${ }^{232}$ |  | ${ }_{1}^{1.50}$ |  |
|  | ${ }_{\text {L }}^{1.500}$ |  | ${ }_{\text {- }}^{1.19}$ | ${ }_{\text {3 }}^{3.95}$ | $\stackrel{240}{27}$ | ${ }_{3}^{250}$ | ${ }^{3.08}$ | ${ }_{2}^{195}$ | ${ }_{2}^{248}$ | ${ }^{1.4}$ | ${ }_{2}^{217}$ | ${ }^{209}$ | ${ }_{1}^{1.04}$ | ${ }_{2}^{231}$ | ${ }_{227}^{42}$ | ${ }^{292}$ | ${ }^{4.19}$ | ${ }_{1}^{1.199}$ | ${ }_{214}^{202}$ | ${ }_{3.5}^{4.5}$ | ${ }_{3}^{238}$ | ${ }_{3,5}^{223}$ | ${ }_{1}^{1.81}$ | ${ }^{\frac{3}{128}}$ | ${ }_{1}^{3.45}$ | ${ }^{350}$ | ${ }^{3.45}$ | ${ }^{\text {3/4.6 }}$ | ${ }_{2}{ }^{4.12}$ | - | ${ }_{1}^{1.81}$ | ${ }_{3}^{295}$ | ${ }^{228}$ | ${ }^{245}$ | ${ }^{3207}$ | ${ }^{330}$ | ${ }_{1.146}^{1.46}$ | ${ }_{\text {! }}^{\text {+' }}$ | ${ }_{226}^{275}$ | ${ }_{1}^{1.48}$ | ${ }^{3}$ | ${ }^{3} 8.15$ | ${ }^{3.3}$ | ${ }^{3} 8$ | ${ }_{2}^{3,88}$ | ${ }^{284}$ | ${ }^{\frac{1}{3} \times 15}$ | ${ }_{3,88}$ |
| Rw-s | $\stackrel{\text { 10.50 }}{ }$ | ${ }^{1205}$ | ${ }^{1.55}$ | 3.05 | 0,42 | 036 | 0.50 | 497 | 276 | 247 | 266 | ${ }^{321}$ | 238 | 192 | 1.96 | 5.4 | ${ }_{4} 18$ | 203 | 579 | 487 | 4.49 | 4.75 | 0,70 | 0.85 | 0.91 | 0.85 | ${ }_{0}^{043}$ | 0.17 | ${ }^{0.17}$ | - | 0.12 | 0,9 | ${ }^{0.4}$ | 0.52 | ${ }^{0.60}$ | 0.79 | 0.4 | "+ | 0.60 | ${ }_{0} 0.51$ | 262 |  |  |  | ${ }^{235}$ | ${ }^{3.00}$ | ${ }_{1}^{1.88}$ |  |
| ${ }^{\text {Rw-6 }}$ | ${ }^{1230}$ | ${ }^{1285}$ | 0.85 | ${ }_{0}^{0.88}$ | ${ }_{0}^{0.87}$ | 0.92 | ${ }^{1.46}$ | 129 | ${ }_{0}^{0.81}$ | 0.67 | ${ }^{0.73}$ | ${ }^{0.74}$ | ${ }^{0.76}$ | 0.74 | 0.77 | ${ }^{0.65}$ | 0.6 | ${ }^{0.65}$ | ${ }^{0.61}$ | ${ }^{0.78}$ | ${ }^{1.96}$ | 235 | 0.71 | ${ }^{1.19}$ | ${ }^{1.14}$ | 0.71 | ${ }^{0.64}$ | ${ }^{0.78}$ | ${ }_{0}^{0.79}$ |  | 0.45 | ${ }^{1.28}$ | 0.96 | 0.41 | 0.9 | ${ }^{13} 8$ | 0.07 | "+ | 0.10 | 0.08 | ${ }_{0.45}$ | 0.50 | ${ }^{021}$ | 0.40 | ${ }_{0}^{0.15}$ | ${ }^{0,00}$ | ${ }^{0.22}$ |  |
|  | $\stackrel{-}{1326}$ | $\stackrel{-}{1.35}$ | ${ }_{3,0}$ | ${ }_{3,5}$ | ${ }_{2} 24$ | ${ }^{235}$ | $\stackrel{-}{3.19}$ | 215 | ${ }_{3}{ }^{-18}$ | ${ }^{275}$ | $\stackrel{-}{309}$ | ${ }_{381}$ | 242 | ${ }^{\text {3,46 }}$ | 4.8 | ${ }_{4}$ | ${ }_{3}{ }_{32}$ | 268 | ${ }_{3.3}$ | ${ }^{39}$ | ${ }_{482}$ | ${ }^{499}$ | ${ }_{214}^{2.8}$ | ${ }_{5.88}^{298}$ | 292 | ${ }_{481}^{401}$ | ${ }_{49}^{489}$ | ${ }_{\text {ma }}^{4.1}$ | ${ }_{\text {2, }}^{4}$ | - | ${ }_{0}^{0.65}$ | ${ }_{2}^{129}$ | 0.86 | ${ }_{43}^{234}$ | ${ }_{5}^{246}$ | ${ }_{\text {388 }}^{392}$ | ${ }_{3,88}^{4.8}$ | ${ }_{\text {" }}$ + | ${ }_{4}^{4.99}$ | ${ }^{3,4}$ | $\stackrel{\square}{4.0}$ | 22 | 3.11 | ${ }_{3,50}$ | ${ }^{3,08}$ | $\stackrel{-}{3.83}$ | ${ }^{298}$ |  |
| ev-10 | ${ }_{13,02}$ | ${ }_{1.888}$ | ${ }_{3}^{3.86}$ | ${ }^{3.45}$ | ${ }^{3.80}$ | ${ }^{3,36}$ | ${ }^{4.4}$ | ${ }^{3,9}$ |  | ${ }^{3,74}$ | ${ }^{3.66}$ | 3.7 | , | ${ }^{477}$ |  | ${ }_{3} 32$ | ${ }_{4}^{4.45}$ | 4.12 | , | 5.71 |  | , | ${ }^{3.5}$ | ${ }^{498}$ |  | ${ }^{3,38}$ | ${ }^{3,74}$ | ${ }^{3,57}$ | ${ }^{3,18}$ | - | \% | ${ }^{3,89}$ | ${ }^{3,4}$ | ${ }^{3,80}$ | ${ }^{3.81}$ | 3.99 | 4.11 | +t+ | 4.11 | ${ }^{3,5}$ |  |  | - |  |  |  |  |  |
| w-1 |  | ${ }_{1}^{1520}$ | ${ }^{1.90}$ | ${ }^{204}$ | ${ }^{2,3}$ | ${ }^{212}$ | ${ }^{3.66}$ | ${ }^{298}$ | ${ }^{3,3}$ | ${ }^{3,08}$ | ${ }^{29}$ | ${ }^{3.05}$ | ${ }^{245}$ | ${ }^{3,7}$ | ${ }^{4.65}$ | ${ }^{439}$ | ${ }^{3,5}$ | ${ }^{3,24}$ | ${ }_{3} 3,2$ | ${ }^{3,3}$ | ${ }^{3.6}$ | ${ }^{3,7}$ | 3.00 | ${ }_{3}^{387}$ | ${ }_{3} 37$ | ${ }_{4}^{43}$ | 4.42 | ${ }_{4} 46$ | ${ }^{387}$ |  | ${ }^{203}$ | ${ }^{254}$ | ${ }^{239}$ | ${ }^{3.68}$ | ${ }_{4}^{42}$ | ${ }_{5} 548$ | ${ }^{265}$ | "+ | ${ }^{3,9}$ | ${ }_{3} 39$ | ${ }^{3.15}$ | ${ }^{267}$ | ${ }^{3.11}$ | ${ }^{3.50}$ | ${ }^{293}$ | ${ }_{4}{ }^{4}$ | 288 |  |
| 边 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Nous

$\mathrm{N}=$ Not hastalled
Wenw

ste Etimate Valae





[^0]:    S:\Rigano LLC\49 Dupont Brooklyn\Monthlyreporting And IRM\Monthlyreports\April2016_Monthlystatusrpt.Docx

[^1]:    S:\Rigano LLC\49 Dupont Brooklyn\Monthlyreporting And IRM\Monthlyreports\July2016_Monthlystatusrpt.Docx

