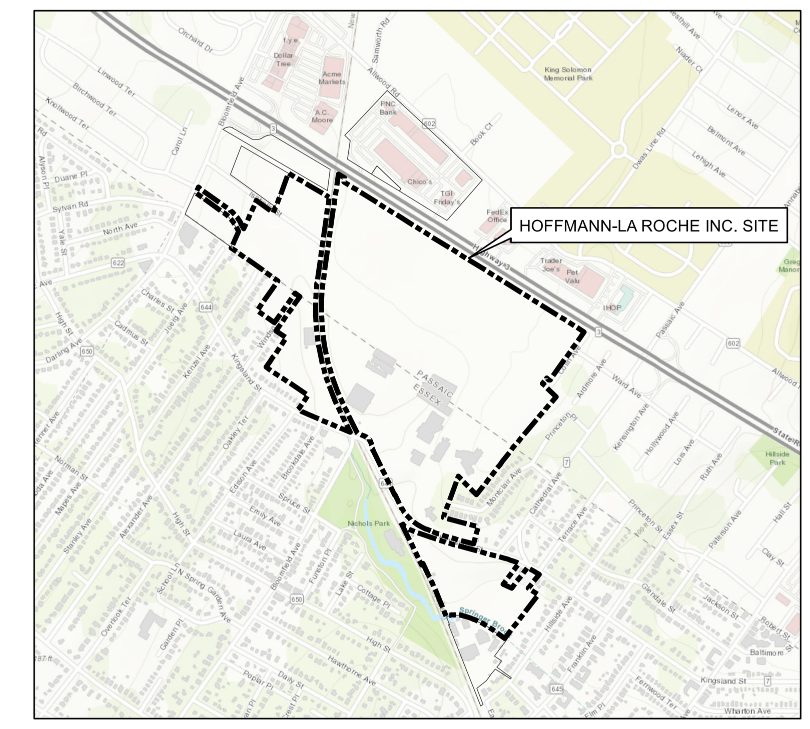

KEY MAP
SCALE: 1" = 1,000'

LEGEND

- HOFFMANN-LA ROCHE INC. SITE PROPERTY BOUNDARY
- INVESTIGATIVE AREAS
- OFF-SITE PROPERTY BOUNDARY
- DEMOLISHED BUILDING
- CURRENT BUILDING
- RAILROAD
- ROADWAY
- HGU SUBCROP BOUNDARY
- APPROXIMATE FAULT ZONE
- APPROXIMATE EXTENT OF IRM TREATMENT AREA(S)
- ST. PAUL'S BROOK
- SPRINGER BROOK (CULVERT)
- ST. PAUL'S BROOK (CULVERT)
- VALLEY DRAIN
- FORMER VALLEY DRAIN
- CLIFTON-ALLWOOD MUNICIPAL SEWER
- FORMER CLIFTON-ALLWOOD MUNICIPAL SEWER
- NUTLEY MUNICIPAL SEWER
- TRUNK SEWER

HGU 3 WELL LOCATIONS

- MW-214C 3.90 — WELL SAMPLED 3Q 2018 SEMI-ANNUAL & IRM PROGRAMS
- MW-292B (3/2017) 0.96 — WELL SAMPLED DURING PREVIOUS SAMPLING EVENTS - 2Q 2015 THROUGH 2Q 2018 (DATA USED FOR CONTOURING)
- MW-20W Port 7 — DATA NOT USED BECAUSE SAMPLE MDL WAS TOO HIGH OR WELL SAMPLED PRIOR TO 1Q 2015
- MW-425B — DECOMMISSIONED WELL THROUGH 3Q 2018

1,4-DIOXANE ISOCONCENTRATION CONTOURS

- > 0.4 AND ≤ 1 PPB
- > 1 AND ≤ 10 PPB
- > 10 AND ≤ 100 PPB
- > 100 PPB

1,4-DIOXANE DATA PRESENTATION

Data from Current Reporting Period - 3Q 2018

DW-70-174-D1 15.00 — Well ID and 1,4-dioxane concentration above the GWQS are shown in red.

DW-72-84-S2 ND — Well ID and 1,4-dioxane concentration at or below the GWQS are shown in black.

Data From Previous Sampling Events

MW-218C (3/2017) 1.10 — The most recent historical data were used for some wells not sampled during the current reporting period to interpolate 1,4-dioxane contours. Well ID, sample date, and 1,4-dioxane concentration are shown in gray.

GROUNDWATER QUALITY STANDARD TABLE

ABBREVIATION	GWQS (ppb)	COMPOUND
Diox	0.4	1,4-Dioxane

NOTES

1. HGU = HYDROGEOLOGIC UNIT.
2. REFER TO REPORT TABLE 2 FOR WELL GRID LOCATIONS.
3. THIS FIGURE DEPICTS THE 1,4-DIOXANE GROUNDWATER QUALITY DATA WITHIN HGU 3.
4. HGUs DIP TO THE NORTHWEST AND THEREFORE HGUs 1, 2, 3, AND 4 ARE NOT UNIFORMLY PRESENT BENEATH THE ENTIRE SITE AS THEY SUBCROP (i.e., INTERSECT THE OVERBURDEN) FROM WEST TO EAST ACROSS THE SITE. HGU SUBCROP BOUNDARIES FOR HGUs 1, 2, 3, AND 4 ARE SHOWN AND THE RESPECTIVE HGUs ARE NOT PRESENT EAST OF THESE LINES.
5. ALL CONCENTRATIONS ARE IN PARTS PER BILLION (PPB).
6. THE REPORTING LIMIT FOR 1,4-DIOXANE IS 0.2 PPB.
7. THE DATA SUMMARIZED ON THIS FIGURE INCLUDE THE SITE-WIDE SEMI-ANNUAL SAMPLING EVENT CONDUCTED IN 3Q 2018 AND INTERIM REMEDIAL MEASURES (IRM) PERFORMANCE MONITORING DATA COLLECTED IN 2Q18 AND 3Q18.
8. DURING THE 3Q 2018 SAMPLING EVENT, ALL WELLS WERE SAMPLED VIA RPPS FOR 1,4-DIOXANE BETWEEN SEPTEMBER 24, 2018 AND NOVEMBER 2, 2018. DURING IRM PERFORMANCE MONITORING EVENTS WELLS WERE SAMPLED VIA LOW-FLOW 1,4-DIOXANE BETWEEN AUGUST 2, 2018 AND OCTOBER 30, 2018. WESTBAY PORT SAMPLING (DW-65, DW-69, DW-70, AND DW-72) FOR 1,4-DIOXANE WAS CONDUCTED BETWEEN SEPTEMBER 6, 2018 AND SEPTEMBER 11, 2018.
9. THE MOST RECENT HISTORICAL DATA WERE USED FOR WELLS THAT WERE NOT SAMPLED DURING THE CURRENT REPORTING PERIOD TO INTERPOLATE 1,4-DIOXANE CONTOURS.
10. 1,4-DIOXANE ISOCONCENTRATION CONTOURS ARE SHOWN DASHED WHERE INFERRED.
11. ND = 1,4-DIOXANE NOT DETECTED ABOVE METHOD DETECTION LIMIT (MDL).
12. IN SOME CASES, ADJACENT WELLS SCREENED AT DIFFERENT DEPTH INTERVALS HAVE CONCENTRATIONS THAT DIFFER BY MORE THAN AN ORDER OF MAGNITUDE. IN THESE CASES, THE WELL WITH THE HIGHEST CONCENTRATION WAS USED FOR CONTOURING PURPOSES.
13. GROUNDWATER QUALITY DATA OF OFF-SITE WELLS ON THE BRIAD PROPERTY (NORTH OF ROUTE 3), COLLECTED IN FEBRUARY 2016 AND BETWEEN APRIL 5 AND 9, 2018, WERE USED FOR CONTOURING THE EXTENT OF 1,4-DIOXANE IN THIS AREA. 1,4-DIOXANE CONCENTRATIONS REPORTED AS "ND" WERE NOT INCLUDED ON THIS FIGURE DUE TO ELEVATED LABORATORY MDLs, ABOVE THE 0.4 PPB GWQS. REFER TO RANSOM RIR APRIL 2017 AND RANSOM RAR ADDENDUM JUNE 2018.
14. RECENT SAMPLES COLLECTED DURING IRM PROGRAMS (EXCEPT FOR THE IA-1/IA-4 DIOXANE IRM) WERE REPORTED WITH ELEVATED LABORATORY MDLs (ABOVE THE 0.4 PPB GWQS) FOR 1,4-DIOXANE. AS A RESULT, SELECT 1,4-DIOXANE DATA REPORTED AS "ND" WERE NOT INCLUDED ON THIS FIGURE. REFER TO TABLE 1-2A OF THIS REPORT FOR THE DATA THAT WERE NOT USED.
15. DELUXE WELLS LOCATED ON-SITE AND OFF-SITE WERE LAST SAMPLED BY ROCHE IN 2015 OR 2016.
16. GROUNDWATER IRM PROGRAMS TARGETING ON-SITE 1,4-DIOXANE CONSTITUENTS WERE INITIATED IN IA-1/IA-4 IN 2Q 2016. THIS IRM IS CURRENTLY IN PROGRESS.
17. PRE-IRM GROUNDWATER QUALITY DATA ARE EXCLUDED FROM THE PRESENT DEPICTION OF 1,4 DIOXANE IN THE FOLLOWING WELL: MW-427A.
18. SELECT WELLS SAMPLED DURING THE 3Q 2018 SAMPLING EVENT AND THE IRM PERFORMANCE MONITORING EVENTS WERE DECOMMISSIONED SUBSEQUENT TO SAMPLING.
19. SURVEYED PHYSICAL FEATURES MAY NOT ALIGN WITH AERIAL PHOTOGRAPHY DUE TO THE OBLIQUENESS OF THE AERIAL PHOTOGRAPH RELATIVE TO VERTICAL.

PROJECT:
HOFFMANN-LA ROCHE INC. SITE
NUTLEY, NEW JERSEY

TITLE:
1,4-DIOXANE IN GROUNDWATER HGU 3 - 3Q 2018

DATE: JANUARY 2020 | PROJ. NO.: 198233

FIGURE 45

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FILE NO.: Dioxane_HGU3.mxd