

NJDEP Contour Map Reporting Form
Site-Wide Ground Water Remedial Investigation Report
Hoffman- La Roche Inc.- Nutley, New Jersey
Zone S1
September 16, 2013

1. Did any surveyed well casing elevations change from the previous sampling event? Yes No X. If yes, attach new "Well Certification - Form B – Location Certification" as found in the "Guide for the Submission of Remedial Action Workplans" (NJDEP, March 1995) and identify the reason for the elevation change (damage to casing, installation of recovery system in monitoring well, etc.).

All wells on-site have been surveyed and elevations and surveyor Form Bs are included in Appendix H of the Site-Wide Ground Water RIR.

2. Are there any monitor wells in unconfined aquifers in which the water table elevation is higher than the top of the well screen? Yes X No _____. If yes, identify these wells.
53RI-MW3, 66RI-MW1, 66RI-MW2, 66RI-MW3, 66RI-MW5, 66RI-MW6, 66RI-MW7, 6RI-MW8, 179RI-MW1, 186RI-MW1, 186RI-MW2, 187RI-MW1, MW-1A, MW-4A, MW-6A, MW-16, MW-18, MW-19A, MW-27, MW-28, MW-29, MW-30, MW-58, MW-60A, MW-64, MW-65, MW-68, MW-69, MW-72, MW-105A, MW-108A, MW-129, MW-136, MW-138, MW-157, MW-162, MW-182, MW-183, MW-197, MW-209A
3. Are there any monitoring wells present at the site but omitted from the contour map? Yes X No _____. Unless the omission of the well(s) has been previously approved by the Department, justify the omissions.

Monitoring Wells: MW-227A, MW-228A, MW-237A, MW-97; Wells *138 RI-MW-1, *MW-112, *MW-12, *MW-125, *MW-128, *MW-144A, *MW-161, *MW-165, *MW-17, *MW-175, *MW-190A, *MW-20W-1, *MW-213A, *MW-213B, *MW-21W, *MW-220, *MW-38, *MW-39-1, *MW-52, *MW-60F, *MW-95, *PZ-01, *MW-170, *MW-5AW were not included in the calculation for the contours because either the wells were not measured during that synoptic round or the ground water measurements were anomalous compared to surrounding wells.

Surface water locations -

No data was available for SPB350/SB 150 and SPB1250/SB880. Locations *SPB 050, *SPB1025, *SPB3030, *VD1575, *VD1870, *SPB 1875 were not included in the calculation for the contours because either the wells were not measured during that synoptic round or the ground water measurements were anomalous compared to surrounding wells.

Nova wells- Monitoring wells at Nova (MW-12N, MW-17N, MW-18N, MW-19N, MW-1N, MW-20N, MW-2N, MW-3N, MW-5N, MW-6N, MW-7N, MW-8N, MW-9N) were not included in the September 16, 2013 synoptic ground water measurement round were not included in the calculation for the contours because the wells were not measured during that synoptic round.

4. Are there any monitoring wells containing separate phase product during this measuring event?

Yes X No _____. Were any of the monitor wells with separate phase product included in the ground water contour map? Yes ___No X_. If yes, show the formula used to correct the water table elevation.

5. Has the ground water flow direction changed more than 45 degrees from the previous ground water contour map? Yes ____ No X_. If yes, discuss the reasons for the change.
6. Has ground water mounding and/or depressions been identified in the ground water contour map?
Yes ____ No X_. Unless the ground water mounds and/or depressions are caused by the ground water remediation system, discuss the reasons for this occurrence.
7. Are all the wells used in the contour map screened in the same water-bearing zone? Yes X
No _____. If no, justify inclusion of those wells.

Ground water is divided into 7 elevation zones. All wells within each zone, except for Zone S2 where Nova wells in Zone S2 are compared to Zone S1 at the Roche facility because the Zone S2 Nova wells represent the first occurrence of ground water.

8. Were the ground water contours computer generated _____, computer aided _____, or hand-drawn X? If computer aided or generated, identify the interpolation method(s) used.

NJDEP Contour Map Reporting Form
Site-Wide Ground Water Remedial Investigation Report
Hoffman- La Roche Inc.- Nutley, New Jersey
Zone S2
September 16, 2013

- 1 Did any surveyed well casing elevations change from the previous sampling event? Yes ___ No X. If yes, attach new "Well Certification - Form B – Location Certification" as found in the "Guide for the Submission of Remedial Action Workplans" (NJDEP, March 1995) and identify the reason for the elevation change (damage to casing, installation of recovery system in monitoring well, etc.).

All wells on-site have been surveyed and elevations and surveyor Form Bs are included in Appendix H of the Site-Wide Ground Water RIR.

- 2 Are there any monitor wells in unconfined aquifers in which the water table elevation is higher than the top of the well screen? Yes ___ No X. If yes, identify these wells.
- 3 Are there any monitoring wells present at the site but omitted from the contour map? Yes X No ___. Unless the omission of the well(s) has been previously approved by the Department, justify the omissions.

No data was available for MW-223B, MW-228B; The following Monitoring wells *MW-7W, *MW-9W, *MW-213C, *MW-106B, *MW-231B, *ART-MW-6, *MW-168B, *MW-115, *MW-40A, and *MW-236B were not used for contour calculations because either the wells were not measured during that synoptic round or the ground water measurements were anomalous compared to surrounding wells.

- 4 Are there any monitoring wells containing separate phase product during this measuring event? Yes ___ No X. Were any of the monitor wells with separate phase product included in the ground water contour map? Yes ___ No ___. If yes, show the formula used to correct the water table elevation.
- 5 Has the ground water flow direction changed more than 45 degrees from the previous ground water contour map? Yes ___ No X. If yes, discuss the reasons for the change.
- 6 Has ground water mounding and/or depressions been identified in the ground water contour map? Yes ___ No X. Unless the ground water mounds and/or depressions are caused by the ground water remediation system, discuss the reasons for this occurrence.
- 7 Are all the wells used in the contour map screened in the same water-bearing zone? Yes X No ___. If no, justify inclusion of those wells.

Ground water is divided into 7 elevation zones. All wells within each zone are comparable except for Zone S2 monitoring wells at the former Nova facility (MW-12N, MW-17N, MW-18N, MW-19N, MW-1N, MW-20N, MW-2N, MW-3N, MW-5N, MW-6N, MW-7N, MW-8N, and MW-9N) were compared with monitoring wells at Zone S1 at the Roche facility.

- 8 Were the ground water contours computer generated _____, computer aided _____, or hand-drawn X ? If computer aided or generated, identify the interpolation method(s) used.

NJDEP Contour Map Reporting Form
Site-Wide Ground Water Remedial Investigation Report
Hoffman- La Roche Inc.- Nutley, New Jersey
Zone S3
September 16, 2013

- 1 Did any surveyed well casing elevations change from the previous sampling event? Yes ___ No X. If yes, attach new "Well Certification - Form B – Location Certification" as found in the "Guide for the Submission of Remedial Action Workplans" (NJDEP, March 1995) and identify the reason for the elevation change (damage to casing, installation of recovery system in monitoring well, etc.).

All wells on-site have been surveyed and elevations and surveyor Form Bs are included in Appendix H of the Site-Wide Ground Water RIR.

- 2 Are there any monitor wells in unconfined aquifers in which the water table elevation is higher than the top of the well screen? Yes ___ No X. If yes, identify these wells.
- 3 Are there any monitoring wells present at the site but omitted from the contour map? Yes X No ___. Unless the omission of the well(s) has been previously approved by the Department, justify the omissions.

No data was available for monitoring wells MW-251C (NA), MW-252C (NA), MW-253C (NA), MW-227C (NA), MW-221C (NA), RW-51 (NA). Wells *MW-233C, *MW-232C, *MW-223C, *MW-186B, *MW-140, and Nova wells: MW-14N, MW-13N, MW-10N, MW-15N, MW-222, MW-258C, MW-4N were not included in the calculation for the contours because either the wells were not measured during that synoptic round or the ground water measurements were anomalous compared to surrounding wells.

- 4 Are there any monitoring wells containing separate phase product during this measuring event? Yes ___ No X. Were any of the monitor wells with separate phase product included in the ground water contour map? Yes ___ No ___. If yes, show the formula used to correct the water table elevation.
- 5 Has the ground water flow direction changed more than 45 degrees from the previous ground water contour map? Yes ___ No X. If yes, discuss the reasons for the change.
- 6 Has ground water mounding and/or depressions been identified in the ground water contour map? Yes X No ___. Unless the ground water mounds and/or depressions are caused by the ground water remediation system, discuss the reasons for this occurrence.

Unknown

- 7 Are all the wells used in the contour map screened in the same water-bearing zone?
Yes X No _____. If no, justify inclusion of those wells.

Ground water is divided into 7 elevation zones. All wells within each zone, except for Zone S2 where Nova wells in Zone S2 are compared to Zone S1 at the Roche facility.

- 8 Were the ground water contours computer generated _____, computer aided _____, or hand-drawn X? If computer aided or generated, identify the interpolation method(s) used.

NJDEP Contour Map Reporting Form
Site-Wide Ground Water Remedial Investigation Report
Hoffman- La Roche Inc.- Nutley, New Jersey
Zone D1
September 16, 2013

- 1 Did any surveyed well casing elevations change from the previous sampling event? Yes ___ No X. If yes, attach new "Well Certification - Form B – Location Certification" as found in the "Guide for the Submission of Remedial Action Workplans" (NJDEP, March 1995) and identify the reason for the elevation change (damage to casing, installation of recovery system in monitoring well, etc.).

- 2 Are there any monitor wells in unconfined aquifers in which the water table elevation is higher than the top of the well screen? Yes ___ No ___. If yes, identify these wells.

- 3 Are there any monitoring wells present at the site but omitted from the contour map? Yes X No ___. Unless the omission of the well(s) has been previously approved by the Department, justify the omissions.

No data was available for PW-37 PORT 9 (NA). Monitoring wells *DW-8B, *DW-18C, *MW-20W-4, *MW-12B, *CH-17 PORT 2, *CH-17 PORT 3, *DW-9B, and *DW-17C were not included in the calculation for the contours because either the wells were not measured during that synoptic round or the ground water measurements were anomalous compared to surrounding wells.

- 4 Are there any monitoring wells containing separate phase product during this measuring event? Yes ___ No X. Were any of the monitor wells with separate phase product included in the ground water contour map? Yes ___ No ___. If yes, show the formula used to correct the water table elevation.

- 5 Has the ground water flow direction changed more than 45 degrees from the previous ground water contour map? Yes ___ No X. If yes, discuss the reasons for the change.

- 6 Has ground water mounding and/or depressions been identified in the ground water contour map? Yes ___ No X. Unless the ground water mounds and/or depressions are caused by the ground water remediation system, discuss the reasons for this occurrence.

- 7 Are all the wells used in the contour map screened in the same water-bearing zone? Yes X No ___ . If no, justify inclusion of those wells.

Ground water is divided into 7 elevation zones. All wells within each zone, except for

Zone S2 where Nova wells in Zone S2 are compared to Zone S1 at the Roche facility.

- 8 Were the ground water contours computer generated _____, computer aided _____, or hand-drawn X ? If computer aided or generated, identify the interpolation method(s) used.

NJDEP Contour Map Reporting Form
Site-Wide Ground Water Remedial Investigation Report
Hoffman- La Roche Inc.- Nutley, New Jersey
Zone D2
September 16, 2013

1. Did any surveyed well casing elevations change from the previous sampling event? Yes No X. If yes, attach new "Well Certification - Form B – Location Certification" as found in the "Guide for the Submission of Remedial Action Workplans" (NJDEP, March 1995) and identify the reason for the elevation change (damage to casing, installation of recovery system in monitoring well, etc.).

2. Are there any monitor wells in unconfined aquifers in which the water table elevation is higher than the top of the well screen? Yes ___ No X. If yes, identify these wells.

3. Are there any monitoring wells present at the site but omitted from the contour map? Yes X No ___. Unless the omission of the well(s) has been previously approved by the Department, justify the omissions.

No data was available for CH-17 PORT 6 (NA). The following wells were not used for calculation the contours because either the wells were not measured during that synoptic round or the ground water measurements were anomalous compared to surrounding wells *CH-17 PORT 7,*CH-17 PORT 8, *CH-17 PORT 9, *MW-20W-6. Well *DW-15B had low yield.

4. Are there any monitoring wells containing separate phase product during this measuring event? Yes ___ No X. Were any of the monitor wells with separate phase product included in the ground water contour map? Yes ___ No ___. If yes, show the formula used to correct the water table elevation.

5. Has the ground water flow direction changed more than 45 degrees from the previous ground water contour map? Yes ___ No X. If yes, discuss the reasons for the change.

6. Has ground water mounding and/or depressions been identified in the ground water contour map? Yes ___ No X. Unless the ground water mounds and/or depressions are caused by the ground water remediation system, discuss the reasons for this occurrence.

7. Are all the wells used in the contour map screened in the same water-bearing zone? Yes X No ___ . If no, justify inclusion of those wells.

8. Were the ground water contours computer generated ____, computer aided ____, or hand-drawn X? If computer aided or generated, identify the interpolation method(s) used

NJDEP Contour Map Reporting Form
Site-Wide Ground Water Remedial Investigation Report
Hoffman- La Roche Inc.- Nutley, New Jersey
Zone D3
September 16, 2013

- 1 Did any surveyed well casing elevations change from the previous sampling event? Yes ___ No X. If yes, attach new "Well Certification - Form B – Location Certification" as found in the "Guide for the Submission of Remedial Action Workplans" (NJDEP, March 1995) and identify the reason for the elevation change (damage to casing, installation of recovery system in monitoring well, etc.).

- 2 Are there any monitor wells in unconfined aquifers in which the water table elevation is higher than the top of the well screen? Yes ___ No X. If yes, identify these wells.

- 3 Are there any monitoring wells present at the site but omitted from the contour map? Yes X No ___. Unless the omission of the well(s) has been previously approved by the Department, justify the omissions.

The following wells were not used for calculation the contours were not included in the calculation for the contours because either the wells were not measured during that synoptic round or the ground water measurements were anomalous compared to surrounding wells: MW-222C (NA), DW-19D (NA), CH-17 PORT 11 (NA), DW-13D (low yield), DW-12C (low yield), DW-16C (low yield), DW-21D (NA), DW-18D

- 4 Are there any monitoring wells containing separate phase product during this measuring event? Yes ___ No X. Were any of the monitor wells with separate phase product included in the ground water contour map? Yes ___ No ___. If yes, show the formula used to correct the water table elevation.

- 5 Has the ground water flow direction changed more than 45 degrees from the previous ground water contour map? Yes ___ No X. If yes, discuss the reasons for the change.

- 6 Has ground water mounding and/or depressions been identified in the ground water contour map? Yes ___ No X. Unless the ground water mounds and/or depressions are caused by the ground water remediation system, discuss the reasons for this occurrence.

- 7 Are all the wells used in the contour map screened in the same water-bearing zone? Yes X No ___. If no, justify inclusion of those wells.

- 8 Were the ground water contours computer generated _____, computer aided _____, or hand-drawn X ? If computer aided or generated, identify the interpolation method(s) used.