Remedy Performance Evaluation
Conrail Rail Yard Superfund Site
Elkhart, Indiana

S.S. PAPADOPULOS & ASSOCIATES, INC.
Environmental & Water-Resource Consultants

April 2009

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Prepared For:

U.S. EPA Region 5

Prepared By:

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Executive Summary

This report has been prepared by S.S. Papadopulos & Associates, Inc. (SSP&A) on behalf of the U.S. Environmental Protection Agency (U.S. EPA), Region V, Groundwater Evaluation and Optimization System (GEOS) program. This report evaluates the performance of the groundwater remediation at the Conrail Rail Yard Superfund Site, located in the City of Elkhart, Indiana. Statistical and spatial mapping analyses were used to evaluate contamination concentration trends and physical extents at the site. The likely extent of hydraulic capture developed by the Rail Yard groundwater extraction system was evaluated using a mapping technique that includes kriging with a trend to account for the effect of pumping on the shape of the groundwater surface. An analytical element model was developed to help evaluate the likely extent of hydraulic capture generated by the Drag Strip groundwater circulation well.

The principal conclusions and recommendations reached in this report are the following: (a) it appears necessary to increase extraction, and/or supplement the existing groundwater extraction system at the Rail Yard, to meet the objectives of hydraulic containment of DNAPL source areas; (b) additional monitoring is required to confidently evaluate the performance of the Drag Strip groundwater circulation well; and (c) it appears that there is a need to provide additional treatment of the Drag Strip sources, as required by the Record of Decision.

REPORT

Section 1
Introduction

This report has been prepared by S.S. Papadopulos & Associates, Inc. (SSP&A) on behalf of the U.S. Environmental Protection Agency (U.S. EPA), Region V, Groundwater Evaluation and Optimization System (GEOS) program to assist in the preparation of the next Five-Year review report for Conrail Rail Yard Superfund Site, located in the City of Elkhart, Indiana (Figure 1). Analyses performed consist of: (a) an evaluation of the contaminant trends at monitoring and extraction wells at the site, and the spatial extent of contaminated groundwater; (b) a hydraulic capture zone analysis for the groundwater recovery system in operation at the Rail Yard since June 2004; and, (c) a hydraulic capture analysis for the groundwater circulation well in operation since October 2004 at the Drag Strip. The methods and analyses used in preparation of this report used publicly available data. The programs used to complete the hydraulic capture analyses are public domain and available upon request.

Section 2
Regulatory Background

The amended Record of Decision (U.S. EPA, 2000) lists the Conrail Rail Yard remedial action objectives (RAOs), and describes the components of the remedy selected to accomplish these objectives. The following brief summary is derived from that document.

2.1 Remedial Action Objectives

For groundwater contamination at the Conrail Site, the cleanup objectives are the maximum concentration levels (MCLs) for the following compounds:

- Trichloroethylene (TCE) - 5 μg/L
- Carbon tetrachloride (CCl_4) - 5 μg/L
- 1,1-dichloroethene (1,1-DCE) - 7 μg/L
- 1,2-dichloroethene (1,2-DCE) - 70 μg/L
- Chloroform - 6 μg/L
- Tetrachloroethylene (PCE) - 5 μg/L
- Vinyl chloride (VC) - 2 μg/L.

A technical impracticability (TI) waiver for the DNAPL source areas on the Rail Yard waives these RAOs within the area to which the Tl waiver applies. Instead, hydraulic containment is required for these DNAPL source areas.

2.2 Selected Remedy

The selected groundwater remedy for the Conrail Site (U.S. EPA, 2000) is described as Alternative 2 - hydraulic containment of DNAPL source areas; natural gradient flushing; Drag Strip source area remediation; ground water monitoring; and contingency remedy. The components of the selected alternative are as follows:

- Waiver of groundwater ARARs in the area on the Rail Yard indicated on Figure 1;
- Installation of a line of extraction wells to hydraulically contain the DNAPL source areas on the Rail Yard;
- Air stripping of contaminated ground water that is extracted, with subsequent discharge of treated water in a manner that will not adversely impact Crawford Ditch and the St. Joseph River;
- Treatment of exhaust from the air strippers with vapor phase carbon adsorption prior to emission, with proper disposal of spent carbon generated by the process;
- Natural gradient flushing of the dissolved portion of the contaminant plumes;
- Establishment of a ground water monitoring program to determine the effectiveness of the source containment and natural gradient flushing, as well as further characterization

of the contaminant plume emanating from the Track 69 area and some off-Rail Yard areas where TCE levels may be increasing;

- Development of a contingency remedy to address failure of the hydraulic containment system to adequately contain the DNAPL sources and/or inadequate performance of natural gradient flushing. The contingency remedy for inadequate performance of natural gradient flushing would be to install and operate additional extraction wells off the Rail Yard, as outlined in Alternative 3. For inadequate containment of DNAPLs, the contingency remedy would be to increase the pumping rate of some or all of the extraction wells on the Rail Yard and/or installation and operation of additional extraction wells; and
- Further investigation and remediation of the Drag Strip area. Investigation activities could include geophysical investigations, such as magnetometer surveys or ground-penetrating radar, excavation of test pits, and/or further ground water monitoring. Remedial action at the Drag Strip area could include removal of soil and/or drums, tanks, and containers and off-site disposal, soil vapor extraction, and/or hydraulic containment of the source areas on the Drag Strip property.

The amended ROD (U.S. EPA, 2000) indicates a remedial time-frame of approximately 70 years for the selected alternative. The Rail Yard groundwater extraction system has been in operation since June 2004, and the Drag Strip Groundwater Circulation Well (GCW) has been in operation since October 2004.

Section 3
Evaluation of Groundwater Quality Data

3.1 Statistical Analyses

U.S. EPA Region V completed statistical analyses of groundwater concentration data for wells throughout the Conrail site, using software developed by Subterranean Research, Inc., and referred to in this report as PAM. The data used for this analysis is contained in the database "BAH.zip", provided by the consultants to the responsible party (RP), URS. Monitoring of water level elevation occurs on a monthly basis, generally in 59 wells and up to 80 wells on a few occasions (Table 1). Monitoring of groundwater quality occurs on a quarterly basis since September 2004 in approximately 30 to 43 wells (Table 2). Extraction wells (EW-2, EW-3 and EW-4), and 37 monitoring wells, are routinely sampled. Approximately 50 residential wells have been sampled historically.

Complete tabulated results and selected graphs of the PAM analyses are provided in Appendix A. The PAM program was used to complete the following three analyses for each combination of well, contaminant of concern (COC), and performance criteria (cleanup goals and MCLs):

1. Standard Test: compares the 95% upper confidence level constructed from the 4 most recent data points to COC-specific standards. The standard test reports the result (Compliance, Exceedance, None); the 95% upper confidence level (UCL); and the COC specific standard, in consistent units. Note that "None" generally indicates that the standard test result is inconclusive because the reporting limit is greater than the COC-specific standard.

2. Trend Test: identifies upward or downward trends through time. The trend method used is the Sen's Test, a non-parametric trend analysis similar to the Mann-Kendall test. The trend statistics reported are the slope result (Upward, Downward, No Trend, NR); and the slope estimate (in units per year). Because the trend is calculated on the natural logarithm of the concentration, the slope estimate is actually reported in terms of the log of the concentration units per year. Note that "NR" indicates that the trend could not be calculated generally because all results are below the reporting limit.

3. Baseline Test: compares recent data to a baseline level that is calculated from the first 8 available samples collected at each point. The baseline test reports the result (Better, Worse, No Change); and the 95% upper confidence level (UPL).

Figures 2, 3, 4, 5, and 6 illustrate the geographic distribution of the results of the Standard Test (Exceedance, Compliance, None) for the COCs that presented exceedances compared to the site cleanup goals - i.e., TCE, CCl_4, Chloroform, Vinyl Chloride, and PCE, respectively. Figures

7, 8, and 9 illustrate the geographic distribution of the results of the Trend Test (Upward, Downward, none, or not reported) for the COCs that presented standard exceedances and increasing trends - i.e., TCE, CCl_4, and Chloroform, respectively. Figure 10 illustrates the geographic distribution of the results of the Trend Test (Upward, Downward, none, or NR) for the sole COC that presented increasing trends but no standard exceedance, 1,2-DCE. Note that the comparison to MCLs did not identify either statistically significant exceedances or trends for other potential COCs (111-TCA, toluene, ethyl benzene and xylenes).

Figures 2 through 6 suggest that TCE is the COC with the largest number of standard exceedances and that these exceedances are distributed across the entire site. CCl_4 and Chloroform have similar number of exceedances, and are found at similar locations: this appears consistent with the interpretation that the chloroform is likely a degradation byproduct of CCl_4. Vinyl chloride exceedances are observed at two wells, EW-3 and MW-3D.

Figures 7, 8, 9 and 10 suggest that concentrations are generally stable (i.e., no statistically significant trend) or decreasing at the site. However, TCE concentrations are increasing in two monitoring wells, MW-14 and MW-51I, located directly downgradient of the Rail Yard area groundwater extraction wells; in monitoring well MW-38D located in the Drag Strip area; and, in residential wells located in the eastern portion of the site. The impacts in residential wells in the eastern portion of the site appear to be associated with the LaRue Street plume, which is considered part of the Conrail Superfund Site and is required to be included in the Site groundwater monitoring program (U.S.EPA, 2000). CCl_4 concentration trends, shown in Figure 8, are increasing in extraction well EW-4. Chloroform concentration trends are increasing in extraction well EW-4 and in a monitoring well located just outside the TI waiver area north-west corner, MW-24.

3.2 Target Zones

The U.S. EPA Region V GEOS program defines a Target Zone as the area or volume of an aquifer that exhibits groundwater concentrations – expressed as the 95% UCL of the mean of the recent sample data – that exceed relevant target cleanup levels. For the Conrail Site, Target Zone maps were constructed for COCs based upon historical groundwater monitoring data provided by U.S. EPA. The 95% UCL values calculated using results from the last four sampling quarters were interpolated to produce an approximate spatial distribution of each contaminant of concern using a quantile kriging algorithm (Reed et al., 2004), including an anisotropy ratio of 2 oriented at an azimuth of 280 degrees to represent the influence of groundwater flow on the migration of dissolved contaminants. The direction of 280 degrees was based upon the resulting shape of the contours that provided the best continuity between concentrations observed at the Rail Yard and concentrations observed further downgradient.

At locations where co-located data from multiple depths were available, the maximum calculated UCL was used for the two-dimensional (2D) interpolation. Since DNAPL is present at the Site - representing the sources for TCE and CCl_4 at the Rail Yard - concentrations for TCE of 11,000 μg/L and for CCl_4 of 110,000 μg/L were included in the data sets used for interpolation.

According to the ROD, these concentrations are the maximum concentrations observed at the Site for these compounds (Ecology & Environment, 1994). These data were then interpolated to a grid and concentrations above their respective target cleanup levels contoured to produce Target Zone maps, illustrating the approximate spatial distribution of the groundwater contaminated at concentrations above target cleanup levels. Data from site monitoring wells and residential wells were included in the interpolation of all COCs, except for CCl_4 where only site monitoring well data was used. Using site monitoring well data only to generate the CCl_4 Target Zone provided a more reasonable distribution of concentrations to be expected in the vicinity of the Drag Strip source.

Figures 11 through 15 show Target Zones for the COCs that presented exceedances of the remedial action objectives - i.e., TCE, CCl_4, Chloroform, PCE and Vinyl Chloride, respectively. Figure 16 presents a Composite Target Zone map constructed by superposing the Target Zones developed for each individual COC. The Composite Target Zone is differentiated in the following sections:

- Rail Yard: limited by the northern extent of the TI waiver area to distinguish the Rail Yard Target Zone from the plume treated via natural gradient flushing;
- Drag Strip: limited to the south by the extent of the CCl_4 target zone associated with the Drag Strip source, and extends to the River;
- Eastern: defined by the detached portion of the Composite Target Zone encountered in an area northeast of the Rail Yard; and
- Plume: defined by the area of the Composite Target Zone lying between the Rail Yard and the Drag Strip Target Zones.

It is apparent from these figures that TCE is the largest individual contributor to the spatial extent of the Composite Target Zone: the individual Target Zones for all other COCs lie within the TCE Target Zone, with the exception of a small area where PCE is detected outside this extent, and a larger CCl_4 area in the vicinity of the Drag Strip. TCE concentrations above the standard are also present in an area to the northeast of the Rail Yard, and may be associated with the LaRue plume (U.S. EPA, 2000).

The Rail Yard Target Zone shows that the concentration mapping is not constrained by measurement data to the east, south and west of the DNAPL source areas. This results in a map that shows concentrations above the cleanup target level outside the TI waiver area. It is noted that since groundwater flow is toward the northwest, groundwater contamination above cleanup levels would not be expected to be present upgradient of the DNAPL source areas and as such the depicted contamination in this area may represent an artifact of the interpolation scheme: however, this cannot be verified with the available data.

Section 4
Capture Zone Analysis – Rail Yard

The database provided by the U.S. EPA GEOS program ("BAH.zip"), containing measured groundwater elevation records and groundwater extraction rates, was used as a basis for this analysis. Grids of groundwater elevations were generated using the software KT3D_H2O (SSP&A, 2008) that employs a universal kriging method that incorporates (a) linear drift (trend) terms in the X (easting) and Y (northing) directions together with (b) a drift term that accounts for the effect of pumping on the shape of the groundwater elevation in the vicinity of extraction and/or injection wells (Tonkin and Larson, 2002). Approximate capture zones were generated using a particle tracking routine included in the KT3D_H2O software. Using the tracking routine, particles are released over the gridded domain and the fate of each (margins of the grid domain; stagnation zones; sinks when forward tracking; etc) is recorded and used to estimate the extent of hydraulic capture.

4.1 Groundwater Elevation Contours and Capture Zone Maps

The first part of this analysis consisted of generating groundwater elevation and hydraulic capture maps that reproduce two recent water level maps and capture zone delineations completed by the site contractor for the November 2006 and March 2007 monitoring events (URS, 2007). To accomplish this, SSP&A mapped measured groundwater elevations – including elevations measured in extraction wells – using a linear drift, under the assumption that this was the method employed by URS. Particle tracking was then completed on this surface to estimate the extent of hydraulic capture. The analysis was completed using the mapping and tracking capabilities of the KT3D_H2O program. Figure 17 was generated to compare the results of this water-level and capture-zone mapping exercise with an estimated capture zone prepared by URS for the period March 2007, as presented on Figure 18. Comparison of Figure 17 and 18 shows that – with the exception of the north-east area - the mapped water level contours compare well and as a result so too do the estimated extents of hydraulic capture.

A limitation of this approach for evaluating capture is that water levels measured in the extraction wells were included in the mapping. Water levels measured in extraction wells are typically significantly lower than the groundwater elevations within the aquifer outside the well, due to well inefficiencies: the use of these low extraction well water levels when preparing contours can result in an overestimation of the extent of hydraulic capture, unless substantial efforts are made to adjust those water levels by considering these inefficiencies (U.S. EPA, 2008a). One approach to improving the interpretation and contouring of water level data consists of integrating in the kriging algorithm a drift (or trend) function that approximates the aquifer response to pumping in the vicinity of each extraction well (U.S. EPA, 2008a). The second part of this capture zone analysis employed this approach.

Figure 19 shows water-level contours and the approximate capture zone obtained using the same dataset as employed in preparing Figure 17 however (a) using the KT3D_H2O program

incorporating the well drift function, and (b) excluding water levels measured in the extraction wells. Figures 20, 21, and 22 present similar analyses for November 2006. Figures 19 and 22 show that the hydraulic capture estimated with this technique typically is of smaller extent than presented in Figures 17, 18, 19, and 21. Review of Figures 19 and 22 also suggests that capture may be incomplete between extraction wells EW-2 and EW-3.

Note that an anomalously low water-level elevation contained in the November 2006 dataset shown on Figure 22 - possibly a field or data transcription error - generated an "internal stagnation" zone while preparing the water level map. In addition, in the process of generating contour maps for the November 2006 event, some discrepancies between data contained in the database and on Figure 21 (URS Figure 2) were observed, for example in wells MW-19 and MW-21, as shown in the table below. Other discrepancies may exist, however a systematic and complete verification of the available data was not undertaken. The completion of such a systematic verification of measured water level data is recommended.

Well ID	Database Values	URS Figure 2 Values
MW-19S	736.31	737.43
MW-19D	738.05	739.17
MW-21S	739.58	740.71
MW-21D	739.51	740.64

Appendix B presents capture zone maps for a total of 47 groundwater elevation monitoring events that took place between June 2004 and June 2008. Upon review of the gridded groundwater elevation maps, groundwater elevation data from the September 2007 event and from monitoring wells MW-53 (February 2005), NE-80I (27 December 2005), and MW-14 (November 2006) were excluded from the dataset as they appear anomalous (as noted earlier a systematic verification of the available water level data is recommended). The retained monitoring events were selected on the basis of available groundwater elevation data corresponding to periods where all three remediation wells (EW-2, EW-3, and EW-4) were in operation. Groundwater elevation data available in each monitoring event served as the basis for generating grids of groundwater elevations.

Several of the individual capture maps presented in Appendix B (such as, Figure B2: 23 Jul 2004; Figure B4, 21 Jun 2005; Figure B5, 17 Aug 2005; Figure B7, 30 Mar 2006; and others) present almost text-book images of hydraulic capture for the system, with no gaps in capture depicted. On several other occasions (such as, Figure B1, 16 Jul 2004; Figure B2, 19 Nov 2004; Figure B9, 27 Feb 2007) the capture maps illustrate unexpected patterns that may be due to errors in water level measurements; non-synchronous water level monitoring; changes in pump rates during the water level monitoring event(s); and/or other occurrences.

The former set of figures, depicting 'textbook' capture, may be used to help optimize groundwater extraction rates, and re-balance extraction rates among the wells: for example, each of the 4 listed figures suggests that the most likely area of potential weakness in the capture is on

the south side where the TCE DNAPL source zone appears to be only partially encompassed by the typical capture zone. The latter set of figures, depicting atypical patterns of groundwater flow and hydraulic capture may be used to identify possible sources of error and/or ambiguity when preparing capture zone maps, and hence lead to an improved monitoring and data analysis program capable of providing defensible estimates of hydraulic capture in the Rail Yard area.

4.2 Capture Frequency Maps

The second part of the analysis consisted of generating Capture Frequency Maps (CFMs). Such a map describes the number of times a particle tracked on a mapped water level surface is removed at an extraction well, as a fraction of the number of particle tracking exercises completed (i.e., events mapped). For example, a frequency of 0.5 indicates that over all the events for which capture zones were calculated, the particle was captured by an extraction well 50% of the time. This suggests that on the basis of the measured water levels, the assumed measurement errors, and the mapping and particle tracking approaches employed, a particle originating from a given location would be captured by the combined pumping of extraction wells about half of the time. Hence, a CFM illustrates the approximate, relative, frequency with which groundwater is captured under the varying conditions represented by different water level events. When calculating a CFM, particle tracking is typically conducted independently on each mapped surface until the fate of all particles is determined – i.e., integrated 'transient' particle tracking is not typically used. As a result, the calculated capture frequency is not directly analogous to "capture efficiency" as described by Festger and Walter (2002), who use a transient groundwater model for their calculations. However, applications of the CFM method to field data suggest that calculated CFMs can empirically reflect the transient development of hydraulic capture.

The 47 capture zone maps contained in Appendix B were considered for this capture frequency analysis. Capture zone maps were generated for each period and were combined to create a single CFM (Figure 23). Figure 23 suggests that variations in the background groundwater flow direction, the magnitude of groundwater extraction at the remedial wells, and other factors, can lead to variations in the frequency of groundwater capture at a given point within the mapped area.

Figure 24 summarizes the rate of groundwater extraction versus time for wells EW-2, EW-3 and EW-4. This graph suggests that the extraction regime was fairly constant over time, with the exception of a redistribution of the extraction flow rates around December 20, 2005 (a decrease of about 50 gpm in EW-4; and corresponding increases of about 25 gpm in EW-2 and EW-3). CFMs generated for monitoring events pre- and post-December 20, 2005, shown on Figures 25 and 26, respectively, suggest that the rebalancing of these flow rates post-December 20, 2005 favors a larger and more frequent capture around EW-2, as would be expected. All CFMs (Figures 23, 25 and 26) show areas of relatively low capture frequency between the extractions wells, although Figure 26 suggests that increasing pumping at EW-2 (and hence increasing the *net* extraction at wells EW-2 and EW-3 combined) increased the capture frequency between EW-2 and EW-3, as would be expected.

4.3 Horizontal Flow Benchmark Calculation

To assess the reasonableness of the capture extents developed by the mapping technique described above, simple relationships, though strictly applicable in limited circumstances, can provide rule-of-thumb guidelines to the approximate extent of groundwater capture that might be expected under more complex conditions.

For example, the ultimate width of the capture zone, W, for a single fully penetrating recovery well extracting groundwater at a rate, Q, within a fully confined aquifer is equivalent to the pumping rate divided by the hydraulic gradient, i, multiplied by the aquifer transmissivity, T.

$$W = Q/Ti \qquad (1)$$

When local recharge is relatively minor compared to the through-flow (Darcy flux) in the aquifer, this equation can also be applied in the case of an unconfined aquifer.

Rearranging equation (1), an equivalent extraction rate Q can be obtained by multiplying the capture zone width (W), determined through a mapping exercise, by the aquifer transmissivity (T) and hydraulic gradient (i): i.e., Q = WTi. The graph shown on Figure 27 was constructed based on this equation and using the following parameters:

- T = 16,800 ft^2/day (based on T= Kb= 120 ft/day x 140 ft): this value lies at about mid-range of the transmissivities reported for the site (1100-27,300 ft^2/day; URS, 2005).
- i = 0.002 (URS, 2005: SDMS DOC ID 294226)
- the maximum capture widths, measured perpendicular to flow, associated to the different frequencies shown on Figure 26.

Figure 27 plots the equivalent groundwater extraction rate obtained from the capture widths associated with various capture frequencies and compares with the average pumping rate observed at the site for the period post-December 20, 2005. Capture widths ranging from 1530 to 2410 feet are observed, corresponding to an equivalent extraction rate range of about 270-420 gpm for the capture frequencies ranging from 0.9 to 0.1. An equivalent extraction rate of 300 gpm corresponds with the 0.5 capture frequency. These calculations, derived from the capture mapping, can be compared with the average actual extraction rate of about 530 gpm during the same period. In comparison, the capture widths developed by URS, as shown on Figures 18 and 21, are approximately 2100 and 2400 feet in November 2006 and March 2007, respectively. These capture widths appear to represent the upper bound of the capture widths obtained from the CFM (corresponding to the lowest capture frequency).

The equivalent extraction rates values plotted on figure 27 tend to suggest that the capture width derived from the mapping-based analyses is narrower than the ultimate capture width that

is calculated using the simple relationships described above. This is consistent with what might be expected, since the simple relationships (by definition) ignore the contribution of local recharge – which would tend to lead to a narrower ultimate capture zone width. The width of capture illustrated by URS for November 2006 and March 2007 may approximate the *ultimate* steady-state capture width that could be sustained by constant-rate pumping at 530 gpm in the absence of local recharge, but likely exceeds the actual historic with of capture due to (a) the presence of local recharge and (b) the contribution of water from storage depletion as hydraulic capture has developed. It is further note that the results of the simple relationships described above are directly dependent on the hydraulic gradient and transmissivity: estimates for the latter vary considerably at the site.

While a numerical model could provide additional capabilities for evaluating groundwater capture, such a model would also require the definition of boundary conditions, recharge rates, spatially-varying aquifer properties, and would require calibration, prior to it use for capture zone analysis. The mapping approach employed earlier, which is auto-conditioned by the measured water levels, provides reasonable estimates of capture for the Site without explicitly requiring the effort that a numerical model would require. It is therefore suggested that the mapping method is suitable for use at the Site.

4.4 Conclusions

The possibility of incomplete capture appears to be supported by increasing TCE concentrations observed at monitoring wells located directly downgradient of the row of extraction wells (Figure 28). Figures 29 and 30 show the extent of the Rail Yard capture zone that provides a capture frequency of more than 90% (Figure 29 for all monitoring events and Figure 30 for monitoring events since December 20, 2005), superimposed on the Combined Rail Yard Target Zone. Also shown is the location of the monitoring wells MW-14 and MW-51I that exhibit upward trends for TCE, downgradient of extraction wells EW-2, 3 and 4. Collectively, these figures suggest that the capture of the DNAPL source zones by the extraction system is incomplete.

Some individual capture zone maps presented in Appendix B suggest that the most likely area of potential weakness in the capture is on the south side, where the TCE DNAPL source zone appears to be only partially encompassed by the typical capture zone. Again, this is consistent with the observation of increasing TCE concentrations in wells MW-14 and MW-51I. As noted earlier, net increases in extraction at wells EW-2 and EW-3 appear to have partially but not fully addressed this concern.

In summary, the Rail Yard capture zone analysis suggests that:

- The use of automated kriging with a linear drift together with particle tracking appears to generally replicate the analysis performed by the site contractor;

- The extent of hydraulic capture delineated by the site contractor, on the basis of water level maps that include water levels measured in extraction wells, may be overestimated;
- Evaluation of hydraulic capture using a variant of the kriging technique that incorporates the effect of the extraction wells on water levels appears appropriate for use at the site;
- The capture zone evaluation completed using this technique indicates that:
  - at times the zone contributing water to the extraction wells did not encompass the DNAPL zones, and capture was incomplete between the extraction wells. These lines of evidence include individual capture zone maps; the capture zone frequency maps; and concentrations of TCE measured in monitoring wells downgradient of the extraction wells.
  - previous net increases of extraction at wells EW-2 and EW-3 led to a southwesterly realignment of the capture zone, and increased the extent of capture in the vicinity, and downgradient of, the TCE DNAPL zone. It is, however, presently unclear whether this net increase is sufficient to develop a capture zone that encompasses the TCE DNAPL zone, while also encompassing the CCL_4 DNAPL zone to the east.
  - the mapping approach described should be used to identify the likely extent of capture over time; the likely background hydraulic gradient; and hence any further re-balancing and/or addition of groundwater extraction at the Rail Yard.

Section 5
Capture Zone Analysis – Drag Strip

5.1 Introduction

According to URS (2008) "The objective of the (Drag Strip) RA is the removal of CCl_4, chloroform (a CCl_4 degradation product), and TCE from groundwater within the West Source Area at the Drag Strip." To evaluate the performance of the Drag Strip groundwater circulation well (GCW), SSP&A undertook a 3-step evaluation comprising:

1. Capture zone modeling using the Analytic Element Method (AEM), referred to herein as the Drag Strip AEM model.
2. Capture zone calculation by application of methods developed by Herrling et al. (1991), as used by URS to design pilot tests of the GCW technology (URS, 2001).
3. Comparison of capture analyses to field observations (hydraulic heads and concentration trends and extents in the vicinity of the Drag Strip GCW.

Figure 31 summarizes the design of the Drag Strip GCW and provides the conceptual model that formed the basis of the calculations presented in this section.

5.2 Analytic Element Modeling

SSP&A developed an analytic element model to estimate the extent of the groundwater circulation cell, the extent of the upgradient capture zone, and the extent of the downgradient discharge zone, developed by the as-built GCW. To accomplish this, the multi-aquifer analytic element model TimML (Bakker, 2008) was used. Analytic element modeling possesses distinct advantages over numerical modeling for the purposes required of this analysis: in particular, a local-scale AEM model does not require lateral (model margin) boundary conditions to be defined; and, the model execution time is short enabling rapid and repeated analyses.

The Drag Strip AEM model simulates steady-state groundwater elevations in an idealized, confined aquifer system, with a horizontal hydraulic conductivity of 120 feet/day (ft/d), an anisotropy ratio (K_h/K_z) of 10, and a background horizontal hydraulic gradient of 0.002 feet-per-foot oriented with an azimuth of 334 degrees. This direction was obtained by calculating the average direction of the drift obtained when interpolating measured groundwater elevations for 8 periods between November 2006 and August 2008 in 19 shallow and intermediate zone wells located north of the Rail Yard. For modeling purposes it was assumed that the top of the model coincided with the potentiometric surface measured in the vicinity of the GCW, and the upper discharge well screen was considered to be saturated instead of extending (as actually built) into the vadose zone. Although the analytic element method provides solutions that are continuous in space and time, a calculational grid is used, particularly when simulating multi-aquifer conditions: the Drag Strip AEM model was constructed by superimposing 150 1-foot-thick layers. Forward and backward particle tracking using the

computed steady-state head solution was used to estimate the extent of the circulation cell, capture zone, and discharge zone.

Figures 32, 33 and 34 show the distribution of hydraulic heads calculated by the Drag Strip AEM model, in plan view, at elevations corresponding to (a) the middle of the top injection screen, (b) the middle of the center extraction screen; and (c) the middle of the bottom injection screen. Figure 32 and 34 show a pattern of hydraulic head distribution consistent with a mounding around injection wells, and Figure 33 show a pattern consistent with a depression around an extraction well.

Figures 35 and 36 show depictions of groundwater flow around the GCW calculated by the Drag Strip AEM model in addition to the CCl_4, plume as interpolated using the visualization software EVS (U.S. EPA, pers. comm., 2008b). Figure 35 a) shows a three-dimensional view of the CCl_4 plume (yellow) and the GCW capture and recirculation zones displayed in the same grey color; Figure 35A on the subsequent page shows an animated 3D version of Figure 35a) which can be viewed with Adobe® Reader® 9; Figure 35 b) shows a vertical cross section of the CCl_4 plume perpendicular to flow and a three-dimensional view of the GCW recirculation and capture zones as seen looking in a southeast direction (upgradient); and Figure 35 c) shows a vertical cross section of the CCl_4 plume parallel to flow and a three-dimensional view of the GCW recirculation zone and capture zone with groundwater flowing from right to left. Figure 36 shows three horizontal sections of the CCl_4 plume, the GCW recirculation and capture zones: a) a section at the elevation corresponding to the middle of the GCW top injection screen; b) a section at the elevation corresponding to the middle of the GCW center extraction screen; and c) a section at the elevation corresponding to the middle of the GCW bottom extraction screen. Figure 35c suggests that the maximum extent of the circulation cell parallel to groundwater flow is about 105 ft downgradient and about 100 ft upgradient of the GCW well. Figure 36a, b and c suggest ultimate hydraulic capture widths of about 150 ft (top of aquifer), 370 ft (middle of aquifer), and 110 ft (bottom of aquifer), respectively.

5.3 Application of the Herrling Nomographs

To supplement the AEM modeling analysis, estimates of the extent of capture were calculated based on the work of Herrling et al. (1991), who presents nomographs developed to support the design of groundwater circulation wells. Review of the Superfund Document Management System (SDM) indicates that URS used this approach to support the design of pilot tests of the GCW technology (URS, 2001).

Figure 37a presents a schematic of the geometry of groundwater flow in the vicinity of a single injection-extraction pair GCW (modified after IEG Technologies). Figure 37b defines the principal parameters that describe the extent of the circulation cell and capture zone for a single injection-extraction pair GCW. These comprise:

H = circulation cell height corresponding to the distance between the beginning of the injection screen to the center of the extraction screen;

B_b = the groundwater capture zone width at a distance 5H from the influent screen;
B_t = groundwater capture zone at a distance 5H from the effluent screen;
S = the distance from the GCW to the upstream or downstream stagnation point;
Q_0 = the upstream discharge in the capture zone which is diluted with the circulating water to the total well discharge (not shown on Figure 39b)

Figure 37c provides a schematic of the expected pattern of the capture zone that is developed by the dual-injection/single-extraction design as-built GCW at the Conrail Site, developed by URS (URS, 2001). Comparison of Figure 37c with Figures 35 and 36 suggests that the depiction of groundwater capture provided by URS and included as Figure 37c may be somewhat misleading: that is, the as-built GCW more likely develops a 3D capture zone whose greatest width occurs at elevations within the aquifer approximating the center of the extraction well screen, and whose capture narrows at the top and bottom of the aquifer. It is therefore assumed that Figure 37c should be interpreted as representing the approximate geometry of the release zone area rather than the capture zone area.

For purposes of these GCW calculations, the following input parameters, obtained from URS (2005) were used:

Groundwater recirculation rate (Q) ≅ 40 gpm per circulation cell (80 gpm total flow)
Length of upper screen (a) = 20 ft (from 5 to 25 ft bgs).
Length of intermediate screen (a) = 20 ft (from 70 to 90 ft bgs).
Length of lower screen (a) = 20 ft (from 128 to 148 ft bgs).
Darcy velocity (v=Ki) = 120 ft/d x 0.002 = 0.24 ft/d
Anisotropy (K_h/K_v) = 10

Parameter	Upper Circulation Cell	Lower Circulation Cell
H [a]	75	68
a/H [b]	0.27	0.29
Q/H^2v [b]	5.70	6.94
B_b/H [c]	5.25	5.52
B_t/H [c]	0.8	0.8
A/H^2 [c]	4	4
D/H [c]	3.5	3.5
Q_0/Q [c]	0.55	0.55
S/H [c]	1.6	1.7

Notes:
a. Defined
b. Calculated
c. Read from nomograph

The application of these parameters to the Herrling nomographs produced the following estimates describing the likely geometry of the groundwater capture and the circulation cell developed by the Drag Strip GCW:

Parameter	Upper Circulation Cell	Lower Circulation Cell
S (ft)	120	115
Width B_b (ft)	394	357
Width Bt (ft)	60	54
Q_0 (gpm)	22	22

Figure 38 shows the approximate extent of the calculated upper circulation cell (S ≅ 120 ft) and maximum groundwater capture extent (B_b ≅ 390 feet). Comparison of the distance to the stagnation zone (S) calculated by the Drag Strip AEM model (S ≅ 110 ft) with the results obtained using the Herrling nomographs as presented above suggests that the calculated distance to the stagnation zone are similar. Furthermore, the maximum capture width, which is predicted to occur at the top or bottom of the aquifer in Herrling's model (≅ 390 ft and ≅ 360 ft) compare in extent with the model results, except that the model predicts a capture width of ≅ 370 feet in the center of the aquifer, instead of at the top. The width of the narrow capture zone predicted using the Herrling nomographs (≅ 60 ft and ≅ 54 ft) are about half the size of those predicted by the Drag Strip AEM model (≅ 150 ft and ≅ 110 ft).

A comparison of the results of the Drag Strip AEM modeling analyses with Figure 37c prepared by URS for the stacked circulation cell application, and with the results obtained above using the Herrling nomographs, suggests that that the application of the Herrling nomographs in the design of a dual-injection/single-extraction design – such as built at the Conrail Site – involves nuances that are not immediately obvious and may lead to misinterpretation of the likely dimensions and geometry of the capture zone that will ultimately develop.

5.4 Comparison of Drag Strip Capture Analyses with Field Observations

5.4.1 Hydraulic Heads

For purposes of the analyses described in this report, the parameters of the Drag Strip AEM model specified above were used: these parameter values were not formally calibrated on the basis of measured groundwater level data. This is not a limitation of the approach or of the Drag Strip AEM model: the model could be calibrated using formal parameter-estimation techniques, and this is recommended at the end of this report. To provide groundwater elevations that approximate those measured at the Site, the Drag Strip AEM model requires a "constant" value to be provided (Bakker, 2008): this constant acts as an 'offset' for heads calculated using the model. By default, this constant has a value of zero, and occurs at an (X, Y) coordinate of (0, 0). The constant for the Drag Strip AEM model (4738.651 feet at X,Y=0,0) was calculated by taking the initial solution calculated using the default constant; calculating mean of the measured water levels in wells near the GCW and the corresponding mean of the values simulated at those locations; and subtracting these means to provide a suitable mean adjustment.

Since a formal calibration was not undertaken, a quantitative comparison of absolute water levels simulated by the model with those measured at the Site is not a reasonable use of the current version of the model for evaluating the capture developed by the GCW. However, since the constant offset required by the Drag Strip AEM model affects all simulated heads uniformly (i.e., introduces no difference to simulated vertical head differences) a qualitative comparison of vertical head differences (and gradients) simulated by the model with those measured in the field may be used to identify whether groundwater conditions that are expected to develop in response to pumping the GCW – principally, strong convergent flow toward the central extraction screen – have developed or are developing.

Figure 39 shows the model predicted hydraulic head distribution versus depth, together with the heads observed at monitoring wells located within the calculated circulation cell (DSMW-3, DSMW-4, MW-38S and MW-38D). The table below summarizes the hydraulic head differences predicted by the model together with the head differences calculated on the basis of heads measured in these wells at well groups allowing vertical comparison of groundwater elevations (MW-38S and MW-38D, MW-56S and MW-56I, and MW-56D and MW-56I). The observed hydraulic head differences were obtained by calculating the difference in groundwater elevations over the entire data set (generally monthly data during the period June 2004 to August 2008) after removing a few outliers and by calculating the average and median of all the differences for each well pair.

Monitoring Well Pairs	**Modeled Hydraulic Head Differences (feet)**	**Observed Hydraulic Head Differences (feet)**
MW-38S/D	0.3	0.09 average 0.04 median
MW-56S/I	0.06	0.09 average 0.011 median
MW-56D/I	0.02	-0.01average 0.00 median

A qualitative comparison of the modeled and the observed hydraulic head differences comprises two components – i.e., direction and magnitude. Given the objective of creating convergent flow toward the central extraction screen, and the fact that the model is not formally calibrated, the first qualitative metric – i.e., the direction of the head difference and gradient – is the principal metric of interest of such a qualitative comparison.

This qualitative comparison suggests the following:

- MW-38S/D: Direction – consistent; Magnitude – measured data show smaller head difference.
- MW-56S/I: Direction – consistent; Magnitude – measured data show larger but similar head difference.

- MW-56D/I: Direction – different; Magnitude – measured data show smaller head difference.

In general terms, the direction of the head difference is the same for the measured data and simulated equivalents for the well pair MW-38S/D and MW-56S/I; the magnitude of the observed head difference is significantly lower in well pair MW-38S/D; inconsistent gradient direction is evident when comparing hydraulic head differences between the measured data and simulated equivalents for the shallow monitoring well pair MW-56D/I. This qualitative comparison suggests that convergent flow is being developed by the as-built GCW, however it may suggest that the circulation cell created by the operation of the GCW may not extend as far as anticipated. If this is indeed the case, this most likely occurs as a result of differences between the conceptual site model and the actual conditions encountered in the field – principally, those aquifer properties that would have the most significant effect on the quasi-steady-state geometry of the circulation cell, transmissivity and vertical anisotropy. Local heterogeneities, like the presence of clay lenses, as indicated on Figure 40, may impart an important local control over the extent and the shape of the circulation cell developed that is not taken into account by the idealized models. Higher hydraulic conductivity zones near the well may also act as preferential flow channels.

It is noted that the limited data available to assess the hydraulic performance of the GCW well render the interpretation of these results as approximate and uncertain. Ideally, a monitoring network developed to evaluate the performance of such a circulation well would comprise multi-level piezometers constructed with screened intervals corresponding with the elevations of the GCW injection and extraction screens.

5.4.2 Contaminant Concentrations

Figure 41 shows the GCW capture, the CCl_4 groundwater target zone and soil gas concentrations that were used to delineate the contaminant sources at the Drag Strip (URS, 2007). The following observations are made from this Figure:

- The CCl_4 target zone emanating from the Drag Strip extends to monitoring well MW-08 located by the St-Joseph River;
- The source of CCl_4, as characterized by soil gas concentrations does not appear to be completely delineated to the west;
- the extent of the GCW well influence is very limited compared to the groundwater CCl_4 target zone;
- comparison of the CCl_4 soil gas concentrations to the extent of the GCW influence suggests that the GCW capture likely does not address the full extent of the source contamination present to the west and to the north of the GCW; and
- CCl_4 soil gas concentrations indicate the presence of another source of CCl_4 located to the east of the source currently being treated by the GCW.

Figure 41 also suggests that the orientation of the capture zone, as obtained from 8 monitoring periods over the last two years, differs from the general orientation of the CCl_4 target zone. This suggests that the historical migration of contaminants may have occurred under flow conditions that are slightly different from recent observations. Also, since the St-Joseph River flows in a westward direction, a more westerly groundwater flow direction might be expected than that which is estimated from the water levels.

Figures 42, 43 and 44 show the CCl_4, TCE and Chloroform contaminant distribution in a vertical cross-section in the vicinity of the GCW well (Figure 41 illustrates the location of the cross-section). The UCL values are posted next to each well screen and the result of the trend test also are posted. Figures 42, 43 and 44 show that CCl_4 and Chloroform concentrations are decreasing with depth, whereas TCE concentrations are generally greater at depth. All concentration profiles have decreasing trends, except for TCE concentration in well MW-38D.

Review of the latest performance report for the remedy (URS, 2008) indicates that the GCW system has removed approximately 1040 lbs of total VOCs since startup in 2004. The mass removal rate appears to have been stable around 1 lbs/day over the last year. URS indicates that the GCW treatment reduced the influent concentrations of CCl_4 of 820 μg/L to 59 μg/L in the effluent in 2007.

Section 6
Conclusions and Recommendations

6.1 Conclusions

1. Concentrations are generally decreasing at the site: however, TCE concentrations are increasing in two wells located directly downgradient of the groundwater extraction area (MW-14 and MW-51I), and in well MW-38D located in the Drag Strip area, and also in residential wells located in the eastern portion of the site (La Rue Plume). CCl_4 concentrations are increasing at a single location (extraction well EW-4). Chloroform concentrations are increasing in extraction well EW-4 and in MW-24 located outside the TI waiver area north-west corner.
2. Review of the Rail Yard Target Zone suggests that concentration mapping is not constrained by measurement data to the east, south and west of the DNAPL sources: although groundwater contamination above cleanup levels would not be expected to be present upgradient of the DNAPL source areas and as such the depicted contamination in this area may represent an artifact of the interpolation scheme, this cannot be verified with the available data set.
3. The Rail Yard capture zone evaluation indicates that the extent of hydraulic capture is less than previously estimated, and that hydraulic capture appears to be incomplete between the extraction wells. This inference is supported by increasing TCE concentrations in wells MW-14 and MW-51I located downgradient of the extraction wells.
4. The Drag Strip capture zone evaluation suggests that the circulation cell is not as large as, and does not behave as the idealized design basis anticipated. This inference may be supported by observed increasing TCE concentrations in well MW-38D downgradient of the GCW.
5. The western source zone at the Drag Strip may not be well defined, and may not be currently remediated by the as-built GCW; the eastern source is not currently being remediated.
6. The GCW is achieving a reduction in CCl_4 source concentration of approximately one order of magnitude (influent range of 1000µg/L to an effluent range of 100µg/L). The effluent of this remedy does not appear to meet groundwater cleanup objective for the contaminants of concern at the site.
7. An approach to evaluate capture in the Rail Yard area based on a mapping technique that incorporates the effect of extraction wells appears to be suitable at this site. In addition, although relatively simplistic, an approach based on analytic element modeling appears to be suitable for evaluating the likely performance of the Drag Strip GCW. As such, it does not appear necessary at this time to develop a numerical groundwater model of the site to support remedy evaluations.

8. Finally, it is noted that the database provided by URS, the consultants to the RP, both facilitated and provided an excellent basis for the analysis presented herein. A small number of discrepancies were noted between some data contained in the database and some report figures, which should be clarified and/or corrected. The database also is missing water level and concentration data for the GCW.

6.2 Recommendations

1. Employ statistical analyses of the sample data to evaluate trends, and patterns in concentrations of the COCs over time, and combine these analyses with the capture analyses to identify potential areas of concern and/or poor remedy performance.
2. Provide historical data and/or modify the current monitoring program to provide a better delineation of the extent of groundwater contamination in the Rail Yard source area.
3. Focus future capture zone analyses at the Rail Yard on confirming the development of complete capture in this area and identifying whether additional extraction is required – either by increasing rates at the existing wells, and/or extracting from an additional well.
4. Future capture zone analyses at the Drag Strip should focus on confirming the development of vertical head differences, and on trends in concentrations of COCs in monitoring wells downgradient of the GCW, that are expected in order to confirm effective capture and circulation in this area. This may require the installation of an additional nested monitoring well downgradient of the GCW.
5. Future evaluations should confirm the extent of groundwater contamination at the Drag Strip western source zone and provide appropriate treatment; the eastern source zone requires treatment.
6. Additional remediation, including hydraulic containment of the source areas may have to be considered for cleanup of the Drag Strip sources, as indicated in the ROD (U.S. EPA, 2000).
7. Develop a systematic approach to evaluating the performance of the Rail Yard and Drag Strip groundwater remedy components using appropriate methods. The methods described in this report are considered likely to be suitable for these purposes.
8. Complete QA/QC of the current monitoring data to identify discrepancies and supplement the database with contaminant concentration and water level data from the GCW, if these exist. In particular, a systematic verification of the measured water level data should be undertaken to identify discrepancies prior to undertaking any additional hydraulic capture and/or capture frequency mapping analyses.

Section 7
References

Bakker, M. 2008. TimMLA Multiaquifer Analytic Element Model Version 3.2. July 7, 2008. www.bakkerhydro.org/timml

Ecology & Environment, Inc. 1994. Remedial Investigation/Feasibility Study, Conrail Site, Elkhart, Indiana, Vol. 1 of 2. March 31.

Festger, A.D. and Walter, G.R. (2002). The Capture Efficiency Map: The Capture Zone Under Time-Varying Flow, Ground Water, v40 (6) p619-628, DOI 10.1111/j.1745-6584.2002.tb02548, November 2002.

Herrling, B., W. Bürmann, and J. Stamm. (1991): Hydraulic Circulation System for In Situ Bioreclamation and/or in Situ Remediation of Strippable Contaminants. In: "In Situ and on-Site Bioreclamation" e. by R.E. Hinchee, Butterworth-Heinemann, Boston, London, 1991, pp. 173-195.

Reed, P.M., T.R. Ellsworth, and B.S. Minsker. 2004. Spatial Interpolation Methods for Nonstationary Plume Data. Ground Water. 42, no. 2, March-April: 190-202.

SSP&A, 2008, KT3D_H2O,A program for Kriging Water Level Data using Hydrologic Drift Terms. User manual, Beta Version 3.0. http://www.sspa.com/Software/kt3d.shtml

Tonkin, M.J., and S.P. Larson. 2002. Kriging water levels with a regional-linear and point-logarithmic drift. Ground Water, 40 (2), 185-193, March/April.

URS, 2001. Work Plan For GCW Pumping Test, Conrail Railyard Superfund Site, Elkhart, Indiana, July 23.

URS, 2005 Pilot Testing of GCW Treatment System, Osceola Drag Strip, Conrail Railyard Superfund Site, Elkhart, Indiana, January.

URS, 2007 Third Annual Performance Evaluation, Second Remedial Design/Remedial Action, Conrail Railyard Superfund Site, Elkhart, Indiana, October 30.

URS, 2008. Third Annual Performance Evaluation, Second Remedial Design/Remedial Action. Conrail Railyard Superfund Site, Elkhart, Indiana

U.S. EPA, 2000, Record of Decision Amendment to Change Groundwater Remedy**,** Conrail Superfund Site, Elkhart, Indiana.

U.S. EPA, 2008a. A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems; EPA/600/R-08/003 January.

U.S. EPA, 2008b. Email from Angela Rozinski "Quick Comment on CCl4 contour map" December 16, 2008.

TABLES

Table 1
Groundwater Elevation Monitoring Program
Conrail Rail Yard, Elkhart, Indiana

Well ID	Number of Groundwater Elevation Records between September 2004 and August 2008
BMW-6D	47
BMW-6S	46
DSMW-3	49
DSMW-4	49
EW-2	50
EW-2(2in)	44
EW-3	50
EW-4	50
EW-4(2in)	44
GS-1	49
GS-2	49
GS-3D	49
GS-3I	49
GS-4	49
MW-13D	50
MW-14	50
MW-15	50
MW-19D	24
MW-19S	24
MW-21D	24
MW-21S	23
MW-23D	50
MW-23S	50
MW-24	48
MW-26	49
MW-27I	50
MW-29I	50
MW-30D	50
MW-34I	49
MW-35S	23
MW-38D	49
MW-38S	49
MW-41	50
MW-48	24
MW-51D	50
MW-51I	50
MW-53	48
MW-54	50
MW-55	50
MW-56D	47
MW-56I	49
MW-56S	49
NE-26D	50
NE-26I	50
NE-26S	50
NE-50D	50
NE-50I	50
NE-50S	50
NE-80D	48
NE-80I	47
NE-80S	48
RAW-01D	48
RAW-01I	48
RAW-01S	48
RAW-02D	46
RAW-02I	46
RAW-02S	46
River	51
RMW-03	48

Notes:
1. Only wells monitored more than 10 times out of 52 events are listed.
2. Source: Database "BAH.zip" provided to U.S. EPA by URS

Table 2
Groundwater Quality Monitoring Program
Conrail Rail Yard, Elkhart, Indiana

Well ID	Number of Groundwater Quality Samples between September 2004 and June 2008
56675SpringAvenue	4
57063PorterAvenue	3
DSMW-3	14
DSMW-4	14
EW-2	16
EW-3	16
EW-4	15
GS-1	16
GS-2	16
GS-3D	16
GS-3I	16
MW-07D	16
MW-07S	16
MW-08BR	16
MW-08D	16
MW-08S	15
MW-09D	16
MW-14	16
MW-15	16
MW-23D	16
MW-23S	16
MW-24	6
MW-25	6
MW-34I	16
MW-38D	15
MW-38S	16
MW-3D	16
MW-3I	16
MW-41	16
MW-42I	16
MW-43BR	16
MW-51I	16
MW-53	16
MW-55	16
MW-56D	15
MW-56I	15
MW-56S	15
RAW-01D	16
RAW-01I	16
RAW-02I	15
RMW-02D	6
RMW-02S	6

Notes:
1. Maximum of 18 groundwater monitoring events since September 2004
2. Source: Database "BAH.zip" provided to U.S. EPA by URS

Appendix A

PAM RESULTS

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
1,1-DICHLOROETHENE	56675SpringAvenue	ug/l	No Trend	0#	Compliance	0.625	7	Worse	0.8
1,1-DICHLOROETHENE	DSMW-4	ug/l	No Trend	0#	None	12.25	7	No Change	25
1,1-DICHLOROETHENE	EW-3	ug/l	No Trend	-0.01118#	Compliance	4.234	7	Worse	4.173
1,1-DICHLOROETHENE	GS-2	ug/l	No Trend	0#	None	12.5	7	No Change	34.5
1,1-DICHLOROETHENE	MW-07D	ug/l	No Trend	0#	None	7.75	7	No Change	18.25
1,1-DICHLOROETHENE	MW-09D	ug/l	No Trend	0#	None	22.5	7	No Change	25
1,1-DICHLOROETHENE	MW-41	ug/l	No Trend	0#	None	145	7	No Change	145
1,1-DICHLOROETHENE	MW-51I	ug/l	No Trend	0#	Compliance	3.2	7	Worse	2.6
1,1-DICHLOROETHENE	MW-53	ug/l	No Trend	0#	Compliance	0.5	7	Worse	0.5
1,1-DICHLOROETHENE	MW-55	ug/l	No Trend	0#	Compliance	0.7784	7	Worse	0.5
1,1-DICHLOROETHENE	RAW-01I	ug/l	No Trend	0#	None	92.5	7	No Change	63.75
CARBON TETRACHLORIDE	10225VistulaRoad	ug/l	No Trend	0.08839#	Exceedance	198.6	5	No Change	357.7
CARBON TETRACHLORIDE	56506AshRoad	ug/l	NR	#	Exceedance	36	5	NR	
CARBON TETRACHLORIDE	56783BurbankStreet	ug/l	NR	#	Exceedance	59.67	5	NR	
CARBON TETRACHLORIDE	DSMW-3	ug/l	Downward	-0.2634#	Exceedance	417	5	No Change	2615
CARBON TETRACHLORIDE	DSMW-4	ug/l	Downward	-0.1348#	Exceedance	1280	5	Better	1981
CARBON TETRACHLORIDE	EW-4	ug/l	Upward	0.08093#	Exceedance	255.7	5	No Change	345.8
CARBON TETRACHLORIDE	GS-2	ug/l	No Trend	0#	None	12.5	5	No Change	29.25
CARBON TETRACHLORIDE	MW-07D	ug/l	Downward	-0.3765#	Exceedance	74.39	5	No Change	220.5
CARBON TETRACHLORIDE	MW-08D	ug/l	Downward	-0.4365#	Exceedance	1009	5	Better	3385
CARBON TETRACHLORIDE	MW-08S	ug/l	Downward	-0.2727#	Exceedance	211.1	5	No Change	4175
CARBON TETRACHLORIDE	MW-09D	ug/l	No Trend	0#	None	22.5	5	No Change	25
CARBON TETRACHLORIDE	MW-23D	ug/l	No Trend	0#	None	6	5	Worse	7.5
CARBON TETRACHLORIDE	MW-34I	ug/l	No Trend	0.3674#	Exceedance	66.08	5	No Change	8
CARBON TETRACHLORIDE	MW-38D	ug/l	Downward	-0.5504#	Exceedance	92.39	5	Better	2476
CARBON TETRACHLORIDE	MW-38S	ug/l	No Trend	0#	Exceedance	187	5	No Change	5770
CARBON TETRACHLORIDE	MW-41	ug/l	No Trend	0#	None	145	5	No Change	145
CARBON TETRACHLORIDE	MW-42I	ug/l	Downward	-0.2504#	Exceedance	21.8	5	Better	99.67
CARBON TETRACHLORIDE	MW-43BR	ug/l	No Trend	0#	Compliance	0.5	5	Worse	0.5
CARBON TETRACHLORIDE	MW-56D	ug/l	Downward	-0.2231#	Exceedance	138.2	5	No Change	1.378e+004
CARBON TETRACHLORIDE	MW-56I	ug/l	Downward	-0.2516#	Exceedance	726.2	5	Better	5244
CARBON TETRACHLORIDE	MW-56S	ug/l	Downward	-0.1255#	Exceedance	743	5	Better	1875
CARBON TETRACHLORIDE	RAW-01I	ug/l	No Trend	0.105#	Exceedance	5597	5	No Change	5661
CARBON TETRACHLORIDE	RMW-02S	ug/l	Downward	-0.5902#	Exceedance	5.264	5	No Change	13.97
CHLOROFORM	10077NeelyRoad	ug/l	No Trend	0#	Compliance	0.5676	6	Worse	0.5
CHLOROFORM	10225VistulaRoad	ug/l	No Trend	0.1296#	Exceedance	10.98	6	No Change	13
CHLOROFORM	56675SpringAvenue	ug/l	No Trend	0#	Compliance	0.5	6	Worse	0.5
CHLOROFORM	DSMW-3	ug/l	No Trend	0#	Exceedance	31.26	6	No Change	67.62

Conrail Railyard- Elkhart, IN										
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
CHLOROFORM	DSMW-4	ug/l	Downward	-0.05963#	Exceedance	40.68	6	No Change	86.04
CHLOROFORM	EW-4	ug/l	Upward	0.08996#	Exceedance	226.5	6	No Change	293.2
CHLOROFORM	GS-2	ug/l	No Trend	0#	None	12.5	6	No Change	29.25
CHLOROFORM	MW-07D	ug/l	No Trend	-0.099#	Exceedance	22.67	6	No Change	45.64
CHLOROFORM	MW-08D	ug/l	No Trend	-0.1502#	Exceedance	35.07	6	No Change	1177
CHLOROFORM	MW-08S	ug/l	Downward	-0.1567#	Exceedance	13.95	6	No Change	154.3
CHLOROFORM	MW-09D	ug/l	No Trend	0#	None	22.5	6	No Change	25
CHLOROFORM	MW-23D	ug/l	No Trend	0#	Exceedance	9.143	6	No Change	6.75
CHLOROFORM	MW-24	ug/l	Upward	5.037#	Exceedance	17.36	6	No Change	19.17
CHLOROFORM	MW-34I	ug/l	No Trend	0.06486#	Exceedance	25.07	6	Worse	12
CHLOROFORM	MW-38D	ug/l	Downward	-0.4666#	Exceedance	15.7	6	Better	169.2
CHLOROFORM	MW-38S	ug/l	No Trend	-0.02787#	Exceedance	16.49	6	No Change	90.72
CHLOROFORM	MW-41	ug/l	No Trend	0#	None	145	6	No Change	145
CHLOROFORM	MW-56D	ug/l	Downward	-0.1491#	Exceedance	52.21	6	No Change	1554
CHLOROFORM	MW-56I	ug/l	Downward	-0.1213#	Exceedance	26.72	6	No Change	306.5
CHLOROFORM	MW-56S	ug/l	Downward	-0.09599#	Exceedance	19.51	6	Better	32.27
CHLOROFORM	RAW-01I	ug/l	Downward	-0.05323#	Exceedance	3930	6	No Change	6141
CHLOROFORM	RMW-02D	ug/l	No Trend	0#	Compliance	0.5846	6	Worse	0.5
CIS-1,2-DICHLOROETHYLENE	28537WarrenAvenue	ug/l	Upward	0.05003#	Compliance	1.268	70	No Change	1.615
CIS-1,2-DICHLOROETHYLENE	30575EdgewaterDrive	ug/l	No Trend	0#	Compliance	0.5	70	Worse	0.5
CIS-1,2-DICHLOROETHYLENE	MW-23D	ug/l	No Trend	0#	Compliance	6	70	Worse	4.55
CIS-1,2-DICHLOROETHYLENE	MW-41	ug/l	No Trend	0#	None	145	70	No Change	72.5
CIS-1,2-DICHLOROETHYLENE	MW-55	ug/l	Upward	0.07133#	Compliance	1.089	70	Worse	0.5
CIS-1,2-DICHLOROETHYLENE	RAW-01I	ug/l	No Trend	0#	None	92.5	70	No Change	45.75
TETRACHLOROETHYLENE(PCE)	28864CR16W	ug/l	No Trend	0#	Compliance	0.5	5	Worse	0.5
TETRACHLOROETHYLENE(PCE)	30174WolfAvenue	ug/l	NR	#	Exceedance	21.65	5	NR	
TETRACHLOROETHYLENE(PCE)	56684SpringAvenue	ug/l	No Trend	0#	Compliance	0.5	5	Worse	0.5
TETRACHLOROETHYLENE(PCE)	DSMW-4	ug/l	No Trend	0#	None	12.25	5	No Change	25
TETRACHLOROETHYLENE(PCE)	GS-2	ug/l	No Trend	0#	None	12.5	5	No Change	29.25
TETRACHLOROETHYLENE(PCE)	MW-07D	ug/l	No Trend	0#	None	7.75	5	No Change	18.25
TETRACHLOROETHYLENE(PCE)	MW-09D	ug/l	No Trend	0#	None	22.5	5	No Change	25
TETRACHLOROETHYLENE(PCE)	MW-23D	ug/l	No Trend	0#	Exceedance	8.455	5	Better	8.5
TETRACHLOROETHYLENE(PCE)	MW-41	ug/l	No Trend	0#	None	145	5	No Change	145
TETRACHLOROETHYLENE(PCE)	MW-56I	ug/l	No Trend	0#	None	7	5	No Change	15.5
TETRACHLOROETHYLENE(PCE)	MW-56S	ug/l	No Trend	0#	None	7	5	No Change	13.5
TETRACHLOROETHYLENE(PCE)	RAW-01I	ug/l	No Trend	0#	None	92.5	5	No Change	63.75
TRANS-1,2-DICHLOROETHENE	56675SpringAvenue	ug/l	No Trend	-0.009134#	Compliance	1.418	70	Worse	1.1
TRANS-1,2-DICHLOROETHENE	EW-3	ug/l	No Trend	0#	Compliance	3.138	70	Worse	2.6

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
TRANS-1,2-DICHLOROETHENE	GS-2	ug/l	No Trend	0#	Compliance	12.5	70	Worse	17.25
TRANS-1,2-DICHLOROETHENE	MW-23S	ug/l	No Trend	0#	Compliance	0.5	70	Worse	0.42
TRANS-1,2-DICHLOROETHENE	MW-3D	ug/l	No Trend	0#	Compliance	2.5	70	Worse	2.5
TRANS-1,2-DICHLOROETHENE	MW-41	ug/l	No Trend	0#	None	145	70	No Change	72.5
TRANS-1,2-DICHLOROETHENE	MW-51I	ug/l	No Trend	0#	Compliance	2.5	70	Worse	0.8088
TRANS-1,2-DICHLOROETHENE	RAW-01I	ug/l	No Trend	0#	None	92.5	70	No Change	45.75
TRICHLOROETHYLENE (TCE)	10225VistulaRoad	ug/l	No Trend	-0.03287#	Exceedance	203.8	5	No Change	353.6
TRICHLOROETHYLENE (TCE)	30789CR16	ug/l	NR	#	Exceedance	12.9	5	NR	
TRICHLOROETHYLENE (TCE)	56577SpringAvenue	ug/l	NR	#	Exceedance	13.36	5	NR	
TRICHLOROETHYLENE (TCE)	56675SpringAvenue	ug/l	Upward	0.1102#	Exceedance	114.6	5	No Change	735.9
TRICHLOROETHYLENE (TCE)	56684SpringAvenue	ug/l	Upward	0.06172#	Exceedance	34.66	5	No Change	38.17
TRICHLOROETHYLENE (TCE)	56783BurbankStreet	ug/l	NR	#	Exceedance	51.28	5	NR	
TRICHLOROETHYLENE (TCE)	56803Southgate	ug/l	No Trend	0#	Exceedance	28.47	5	No Change	75
TRICHLOROETHYLENE (TCE)	DSMW-3	ug/l	No Trend	-0.05977#	Exceedance	27.84	5	No Change	150.6
TRICHLOROETHYLENE (TCE)	DSMW-4	ug/l	Downward	-0.1393#	Exceedance	58.9	5	Better	97.61
TRICHLOROETHYLENE (TCE)	EW-2	ug/l	Downward	-0.1636#	Exceedance	277.3	5	No Change	1027
TRICHLOROETHYLENE (TCE)	EW-3	ug/l	Downward	-0.1127#	Exceedance	217.9	5	No Change	1134
TRICHLOROETHYLENE (TCE)	GS-1	ug/l	Downward	-0.3894#	Exceedance	381.3	5	Better	2062
TRICHLOROETHYLENE (TCE)	GS-2	ug/l	Downward	-0.3219#	Exceedance	775.1	5	Better	6443
TRICHLOROETHYLENE (TCE)	GS-3D	ug/l	No Trend	-0.3454#	Exceedance	184.9	5	No Change	1731
TRICHLOROETHYLENE (TCE)	GS-3I	ug/l	Downward	-0.3021#	Exceedance	332.3	5	Better	4083
TRICHLOROETHYLENE (TCE)	MW-07D	ug/l	Downward	-0.2654#	Exceedance	666.1	5	Better	1840
TRICHLOROETHYLENE (TCE)	MW-08D	ug/l	Downward	-0.309#	Exceedance	84.61	5	Better	368.6
TRICHLOROETHYLENE (TCE)	MW-08S	ug/l	Downward	-0.2538#	Exceedance	20.74	5	No Change	279.2
TRICHLOROETHYLENE (TCE)	MW-09D	ug/l	Downward	-0.03579#	Exceedance	1654	5	No Change	2056
TRICHLOROETHYLENE (TCE)	MW-14	ug/l	Upward	0.0758#	Exceedance	8.118	5	No Change	14.9
TRICHLOROETHYLENE (TCE)	MW-15	ug/l	No Trend	0#	Compliance	0.5	5	Worse	0.5
TRICHLOROETHYLENE (TCE)	MW-23D	ug/l	Downward	-0.09359#	Exceedance	420.1	5	No Change	1314
TRICHLOROETHYLENE (TCE)	MW-23S	ug/l	Downward	-0.2345#	Exceedance	19.16	5	Better	78.14
TRICHLOROETHYLENE (TCE)	MW-34I	ug/l	Downward	-0.6385#	Exceedance	27.23	5	Better	1369
TRICHLOROETHYLENE (TCE)	MW-38D	ug/l	Upward	0.3586#	Exceedance	41.28	5	Worse	27.46
TRICHLOROETHYLENE (TCE)	MW-38S	ug/l	Downward	-0.1341#	Exceedance	17.87	5	No Change	151.3
TRICHLOROETHYLENE (TCE)	MW-3D	ug/l	Downward	-0.07337#	Exceedance	168.4	5	No Change	1452
TRICHLOROETHYLENE (TCE)	MW-3I	ug/l	Downward	-0.5432#	Exceedance	654.5	5	No Change	9332
TRICHLOROETHYLENE (TCE)	MW-41	ug/l	Downward	-0.1572#	Exceedance	8843	5	Better	2.138e+004
TRICHLOROETHYLENE (TCE)	MW-43BR	ug/l	Downward	-0.2249#	Exceedance	24.79	5	No Change	203.7
TRICHLOROETHYLENE (TCE)	MW-51I	ug/l	Upward	0.5029#	Exceedance	168.4	5	No Change	512.9
TRICHLOROETHYLENE (TCE)	MW-55	ug/l	No Trend	0.1918#	Exceedance	52.18	5	No Change	0.5

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
TRICHLOROETHYLENE (TCE)	MW-56D	ug/l	No Trend	-0.06735#	**Exceedance**	**116.6**	**5**	No Change	2208
TRICHLOROETHYLENE (TCE)	MW-56I	ug/l	**Downward**	**-0.2495#**	**Exceedance**	**56.23**	**5**	No Change	363.6
TRICHLOROETHYLENE (TCE)	MW-56S	ug/l	**Downward**	**-0.1592#**	**Exceedance**	**47.59**	**5**	**Better**	**90.23**
TRICHLOROETHYLENE (TCE)	RAW-01I	ug/l	No Trend	0#	**None**	**92.5**	**5**	No Change	63.75
TRICHLOROETHYLENE (TCE)	RMW-02D	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	**Worse**	**0.5**
VINYL CHLORIDE	DSMW-3	ug/l	No Trend	0#	**None**	**2.75**	**2**	No Change	2.925
VINYL CHLORIDE	DSMW-4	ug/l	No Trend	0#	**None**	**12.25**	**2**	No Change	25
VINYL CHLORIDE	EW-2	ug/l	No Trend	0#	**None**	**4.45**	**2**	No Change	6.25
VINYL CHLORIDE	EW-3	ug/l	**Downward**	**-0.09337#**	**Exceedance**	**2.574**	**2**	No Change	6.414
VINYL CHLORIDE	EW-4	ug/l	No Trend	0#	**None**	**3.313**	**2**	No Change	2.85
VINYL CHLORIDE	GS-1	ug/l	No Trend	0#	**None**	**3.625**	**2**	No Change	20.75
VINYL CHLORIDE	GS-2	ug/l	No Trend	0#	**None**	**12.5**	**2**	No Change	29.25
VINYL CHLORIDE	GS-3I	ug/l	No Trend	0#	**None**	**4.575**	**2**	**Better**	**17**
VINYL CHLORIDE	MW-07D	ug/l	No Trend	0#	**None**	**7.75**	**2**	No Change	18.25
VINYL CHLORIDE	MW-09D	ug/l	No Trend	0#	**None**	**22.5**	**2**	No Change	25
VINYL CHLORIDE	MW-23D	ug/l	No Trend	0#	**None**	**6**	**2**	No Change	6.75
VINYL CHLORIDE	MW-3D	ug/l	**Downward**	**-0.1001#**	**Exceedance**	**2.725**	**2**	No Change	9.418
VINYL CHLORIDE	MW-41	ug/l	No Trend	0#	**None**	**145**	**2**	No Change	145
VINYL CHLORIDE	MW-51I	ug/l	No Trend	0#	**None**	**2.5**	**2**	No Change	8.9
VINYL CHLORIDE	MW-56I	ug/l	No Trend	0#	**None**	**7**	**2**	No Change	15.5
VINYL CHLORIDE	MW-56S	ug/l	No Trend	0#	**None**	**7**	**2**	No Change	13.5
VINYL CHLORIDE	RAW-01I	ug/l	No Trend	0#	**None**	**92.5**	**2**	No Change	63.75

means trend coefficient of log-transformed data. Log(2) times reciprocal is doubling(+)/halving(-) time.

Statistical Note: ND surrogate = 0.5 X Median of Nondetects' PQLs.

Results created on 14-Nov-2008.

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
1,1-DICHLOROETHENE	10061NeelyRoad	ug/l	NR	#	Compliance	0.5	7	NR	
1,1-DICHLOROETHENE	10077NeelyRoad	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	10218LehmanStreet	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	10225VistulaRoad	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	10301GlenwoodRoad	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	10326VistulaRoad	ug/l	NR	#	Compliance	0.5	7	NR	
1,1-DICHLOROETHENE	10452VistulaRoad	ug/l	NR	#	Compliance	0.5	7	NR	
1,1-DICHLOROETHENE	28502CR16	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	28537WarrenAvenue	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	28793WestwyndDrive	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	28864CR16W	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	29334RivershoreEst	ug/l	NR	#	Compliance	0.5	7	NR	
1,1-DICHLOROETHENE	29386CR16W	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	29550RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	29628RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	29651CarolinaAvenue	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	29671CarolinaAvenue	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	29788CR16W	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	29861OregonAvenue	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	29892ConnecticutAve	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	29925FloridaAvenue	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	30174WolfAvenue	ug/l	NR	#	Compliance	0.5	7	NR	
1,1-DICHLOROETHENE	30201WolfAvenue	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	30266CR16W	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	30307US33	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	30551EdgewaterDrive	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	30575EdgewaterDrive	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	30789CR16	ug/l	NR	#	Compliance	0.5	7	NR	
1,1-DICHLOROETHENE	30803US33W	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	30945CarrollAvenue	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	55718RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	55943RivershoreLane	ug/l	NR	#	Compliance	0.5	7	NR	
1,1-DICHLOROETHENE	55955RivershoreLane	ug/l	NR	#	Compliance	0.5	7	NR	
1,1-DICHLOROETHENE	55965RivershoreEst	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	55984RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	56183AshRoad	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	56398PrimroseCircle	ug/l	NR	#	Compliance	0.5	7	NR	
1,1-DICHLOROETHENE	56400WhiteStreet	ug/l	NR	#	NR		7	NR	

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
1,1-DICHLOROETHENE	56547EastviewSteet	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	56577SpringAvenue	ug/l	NR	#	Compliance	0.5	7	NR	
1,1-DICHLOROETHENE	56675SpringAvenue	ug/l	No Trend	0#	Compliance	0.625	7	Worse	0.8
1,1-DICHLOROETHENE	56683ShoreAvenue	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	56684SpringAvenue	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	56708AshRoad	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	56783BurbankStreet	ug/l	NR	#	Compliance	0.5	7	NR	
1,1-DICHLOROETHENE	56803Southgate	ug/l	No Trend	0#	Compliance	1	7	No Change	0.5
1,1-DICHLOROETHENE	56974Ash Road	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	57001Ash Road	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	57063PorterAvenue	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	BMW-6D	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	DSMW-3	ug/l	No Trend	0#	Compliance	2.75	7	No Change	2.925
1,1-DICHLOROETHENE	DSMW-4	ug/l	No Trend	0#	None	12.25	7	No Change	25
1,1-DICHLOROETHENE	EW-2	ug/l	No Trend	0#	Compliance	4.45	7	No Change	6.25
1,1-DICHLOROETHENE	EW-3	ug/l	No Trend	-0.01118#	Compliance	4.234	7	Worse	4.173
1,1-DICHLOROETHENE	EW-4	ug/l	No Trend	0#	Compliance	3.313	7	No Change	2.85
1,1-DICHLOROETHENE	GS-1	ug/l	No Trend	0#	Compliance	3.625	7	No Change	20.75
1,1-DICHLOROETHENE	GS-2	ug/l	No Trend	0#	None	12.5	7	No Change	34.5
1,1-DICHLOROETHENE	GS-3D	ug/l	Downward	-0.134#	Compliance	1.424	7	No Change	3.077
1,1-DICHLOROETHENE	GS-3I	ug/l	No Trend	0#	Compliance	4.575	7	No Change	20.75
1,1-DICHLOROETHENE	GS-4	ug/l	NR	#	Compliance	0.5	7	NR	
1,1-DICHLOROETHENE	MW-02BR	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	MW-02D	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	MW-02S	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	MW-05S	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	MW-07D	ug/l	No Trend	0#	None	7.75	7	No Change	18.25
1,1-DICHLOROETHENE	MW-07S	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	MW-08BR	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	MW-08D	ug/l	No Trend	0#	Compliance	0.5	7	No Change	13.25
1,1-DICHLOROETHENE	MW-08S	ug/l	No Trend	0#	Compliance	1.863	7	No Change	10
1,1-DICHLOROETHENE	MW-09D	ug/l	No Trend	0#	None	22.5	7	No Change	25
1,1-DICHLOROETHENE	MW-12	ug/l	NR	#	Compliance	0.5	7	NR	
1,1-DICHLOROETHENE	MW-14	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	MW-15	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5
1,1-DICHLOROETHENE	MW-23D	ug/l	No Trend	0#	Compliance	6	7	No Change	6.75
1,1-DICHLOROETHENE	MW-23S	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.675
1,1-DICHLOROETHENE	MW-24	ug/l	No Trend	0#	Compliance	0.5	7	No Change	0.5

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
1,1-DICHLOROETHENE	MW-25	ug/l	No Trend	0#	**Compliance**	**0.5**	**7**	No Change	0.5
1,1-DICHLOROETHENE	MW-34I	ug/l	No Trend	0#	**Compliance**	**0.5**	**7**	No Change	8
1,1-DICHLOROETHENE	MW-37D	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	MW-37S	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	MW-38D	ug/l	No Trend	0#	**Compliance**	**0.775**	**7**	No Change	9.75
1,1-DICHLOROETHENE	MW-38S	ug/l	No Trend	0#	**Compliance**	**0.55**	**7**	No Change	4.675
1,1-DICHLOROETHENE	MW-3D	ug/l	No Trend	0#	**Compliance**	**2.5**	**7**	No Change	2.925
1,1-DICHLOROETHENE	MW-3I	ug/l	No Trend	0#	**Compliance**	**0.875**	**7**	No Change	26.5
1,1-DICHLOROETHENE	MW-41	ug/l	No Trend	0#	**None**	**145**	**7**	No Change	145
1,1-DICHLOROETHENE	MW-42I	ug/l	No Trend	0#	**Compliance**	**0.5**	**7**	No Change	0.6
1,1-DICHLOROETHENE	MW-43BR	ug/l	No Trend	0#	**Compliance**	**0.5**	**7**	No Change	0.5
1,1-DICHLOROETHENE	MW-51D	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	MW-51I	ug/l	No Trend	0#	**Compliance**	**3.2**	**7**	**Worse**	**2.6**
1,1-DICHLOROETHENE	MW-53	ug/l	No Trend	0#	**Compliance**	**0.5**	**7**	**Worse**	**0.5**
1,1-DICHLOROETHENE	MW-54	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	MW-55	ug/l	No Trend	0#	**Compliance**	**0.7784**	**7**	**Worse**	**0.5**
1,1-DICHLOROETHENE	MW-56D	ug/l	No Trend	0#	**Compliance**	**1.65**	**7**	No Change	5
1,1-DICHLOROETHENE	MW-56I	ug/l	No Trend	0#	None	7	7	No Change	15.5
1,1-DICHLOROETHENE	MW-56S	ug/l	No Trend	0#	None	7	7	No Change	13.5
1,1-DICHLOROETHENE	NE-26D	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	NE-26I	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	NE-26S	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	NE-50D	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	NE-50I	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	NE-50S	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	NE-80D	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	NE-80I	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	NE-80S	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	RAW-01D	ug/l	**Downward**	**-0.02699#**	**Compliance**	**0.6149**	**7**	No Change	0.9149
1,1-DICHLOROETHENE	RAW-01I	ug/l	No Trend	0#	**None**	**92.5**	**7**	No Change	63.75
1,1-DICHLOROETHENE	RAW-02D	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	RAW-02I	ug/l	No Trend	0#	**Compliance**	**0.5**	**7**	No Change	0.5
1,1-DICHLOROETHENE	RAW-02S	ug/l	NR	#	NR		7	NR	
1,1-DICHLOROETHENE	RMW-02D	ug/l	No Trend	0#	**Compliance**	**0.5**	**7**	No Change	0.5
1,1-DICHLOROETHENE	RMW-02S	ug/l	No Trend	0#	**Compliance**	**0.5**	**7**	No Change	0.5
CARBON TETRACHLORIDE	10021AshwoodForestDr	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	10061NeelyRoad	ug/l	NR	#	**Compliance**	**0.5**	**5**	NR	
CARBON TETRACHLORIDE	10071AshwoodForestDr	ug/l	NR	#	NR		5	NR	

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
CARBON TETRACHLORIDE	10077NeelyRoad	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
CARBON TETRACHLORIDE	10092LehmanStreet	ug/l	No Trend	-0.004736#	Compliance	0.355	5	No Change	2.521
CARBON TETRACHLORIDE	10095VistulaRoad	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	10104VistulaRoad	ug/l	NR	#	Compliance	0.5	5	NR	
CARBON TETRACHLORIDE	10109VistulaRoad	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	10112LehmanStreet	ug/l	NR	#	Compliance	0.5	5	NR	
CARBON TETRACHLORIDE	10132VistulaRoad	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	10133VistulaRoad	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	10141VistulaRoad	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	10143LehmanStreet	ug/l	No Trend	-0.01686#	Compliance	0.6826	5	No Change	4.059
CARBON TETRACHLORIDE	10147VistulaRoad	ug/l	NR	#	Compliance	0.3588	5	NR	
CARBON TETRACHLORIDE	10152VistulaRoad	ug/l	No Trend	0#	Compliance	0.1	5	Better	4.8
CARBON TETRACHLORIDE	10155VistulaRoad	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	10162LehmanStreet	ug/l	NR	#	Compliance	0.5	5	NR	
CARBON TETRACHLORIDE	10177VistulaRoad	ug/l	NR	#	Compliance	0.5	5	NR	
CARBON TETRACHLORIDE	10188AshwoodForestDr	ug/l	No Trend	0#	Compliance	0.1	5	No Change	0.1
CARBON TETRACHLORIDE	10197LehmanStreet	ug/l	NR	#	Compliance	0.5	5	NR	
CARBON TETRACHLORIDE	10204VistulaRoad	ug/l	No Trend	0#	Compliance	0.1	5	Better	6.25
CARBON TETRACHLORIDE	10218LehmanStreet	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
CARBON TETRACHLORIDE	10225VistulaRoad	ug/l	No Trend	0.08839#	Exceedance	198.6	5	No Change	357.7
CARBON TETRACHLORIDE	10231AshwoodForestDr	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	10244LehmanStreet	ug/l	NR	#	Compliance	0.37	5	NR	
CARBON TETRACHLORIDE	10245VistulaRoad	ug/l	No Trend	0#	Compliance	0.12	5	No Change	71.96
CARBON TETRACHLORIDE	10268VistulaRoad	ug/l	NR	#	Compliance	3.799	5	NR	
CARBON TETRACHLORIDE	10277VistulaRoad	ug/l	No Trend	0#	Compliance	0.1	5	No Change	48.31
CARBON TETRACHLORIDE	10287VistulaRoad	ug/l	No Trend	0#	Compliance	0.1	5	Better	3.95
CARBON TETRACHLORIDE	10301GlenwoodRoad	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
CARBON TETRACHLORIDE	10306VistulaRoad	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	10311VistulaRoad	ug/l	No Trend	0#	Compliance	0.2217	5	Better	4.65
CARBON TETRACHLORIDE	10326VistulaRoad	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
CARBON TETRACHLORIDE	10352VistulaRoad	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	10353VistulaRoad	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	10379VistulaRoad	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	10381VistulaRoad	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	10425VistulaRoad	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	10452VistulaRoad	ug/l	NR	#	Compliance	0.5	5	NR	
CARBON TETRACHLORIDE	28502CR16	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	28537WarrenAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5

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			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
CARBON TETRACHLORIDE	28793WestwyndDrive	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	28864CR16W	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	29334RivershoreEst	ug/l	NR	#	**Compliance**	**0.5**	**5**	NR	
CARBON TETRACHLORIDE	29386CR16W	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	29550RivershoreLane	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	29628RivershoreLane	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	29651CarolinaAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	29671CarolinaAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	29788CR16W	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	29861OregonAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	29892ConnecticutAve	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	29925FloridaAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	30174WolfAvenue	ug/l	NR	#	**Compliance**	**0.5**	**5**	NR	
CARBON TETRACHLORIDE	30201WolfAvenue	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	30266CR16W	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	30307US33	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	30551EdgewaterDrive	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	30575EdgewaterDrive	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	30789CR16	ug/l	NR	#	**Compliance**	**0.5**	**5**	NR	
CARBON TETRACHLORIDE	30803US33W	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	30945CarrollAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	55718RivershoreLane	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	55943RivershoreLane	ug/l	NR	#	**Compliance**	**0.5**	**5**	NR	
CARBON TETRACHLORIDE	55955RivershoreLane	ug/l	NR	#	**Compliance**	**0.5**	**5**	NR	
CARBON TETRACHLORIDE	55965RivershoreEst	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	55984RivershoreLane	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5
CARBON TETRACHLORIDE	56183AshRoad	ug/l	No Trend	0#	**Compliance**	**0.1675**	**5**	No Change	0.1675
CARBON TETRACHLORIDE	56310AshRoad	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	56328AshRoad	ug/l	NR	#	**Compliance**	**0.3237**	**5**	NR	
CARBON TETRACHLORIDE	56355AshRoad	ug/l	No Trend	0#	**Compliance**	**1.376**	**5**	No Change	8.247
CARBON TETRACHLORIDE	56398PrimroseCircle	ug/l	NR	#	**Compliance**	**0.5**	**5**	NR	
CARBON TETRACHLORIDE	56400WhiteStreet	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	56415AshRoad	ug/l	No Trend	0#	**Compliance**	**0.1**	**5**	**Better**	**1.215**
CARBON TETRACHLORIDE	56436AshRoad	ug/l	No Trend	0#	**Compliance**	**0.6904**	**5**	No Change	0.8
CARBON TETRACHLORIDE	56447AshRoad	ug/l	No Trend	0#	**Compliance**	**0.2549**	**5**	**Better**	**4.6**
CARBON TETRACHLORIDE	56464AshRoad	ug/l	No Trend	0#	**Compliance**	**0.7347**	**5**	**Better**	**0.78**
CARBON TETRACHLORIDE	56506AshRoad	ug/l	NR	#	**Exceedance**	**36**	**5**	NR	
CARBON TETRACHLORIDE	56547EastviewSteet	ug/l	No Trend	0#	**Compliance**	**0.5**	**5**	No Change	0.5

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CARBON TETRACHLORIDE	56577SpringAvenue	ug/l	NR	#	Compliance	0.5	5	NR	
CARBON TETRACHLORIDE	56675SpringAvenue	ug/l	No Trend	0#	Compliance	0.625	5	No Change	0.5
CARBON TETRACHLORIDE	56683ShoreAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
CARBON TETRACHLORIDE	56684SpringAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
CARBON TETRACHLORIDE	56708AshRoad	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	56783BurbankStreet	ug/l	NR	#	Exceedance	59.67	5	NR	
CARBON TETRACHLORIDE	56803Southgate	ug/l	No Trend	0#	Compliance	1	5	No Change	0.5
CARBON TETRACHLORIDE	56974Ash Road	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
CARBON TETRACHLORIDE	56993WhiteStreet	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	57001Ash Road	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
CARBON TETRACHLORIDE	57063PorterAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
CARBON TETRACHLORIDE	BMW-6D	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	DSMW-3	ug/l	Downward	-0.2634#	Exceedance	417	5	No Change	2615
CARBON TETRACHLORIDE	DSMW-4	ug/l	Downward	-0.1348#	Exceedance	1280	5	Better	1981
CARBON TETRACHLORIDE	EW-2	ug/l	No Trend	0#	Compliance	4.902	5	No Change	6.25
CARBON TETRACHLORIDE	EW-3	ug/l	No Trend	0#	Compliance	4.86	5	No Change	3.45
CARBON TETRACHLORIDE	EW-4	ug/l	Upward	0.08093#	Exceedance	255.7	5	No Change	345.8
CARBON TETRACHLORIDE	GS-1	ug/l	No Trend	0#	Compliance	3.625	5	No Change	20.75
CARBON TETRACHLORIDE	GS-2	ug/l	No Trend	0#	None	12.5	5	No Change	29.25
CARBON TETRACHLORIDE	GS-3D	ug/l	No Trend	0#	Compliance	1.338	5	No Change	0.5
CARBON TETRACHLORIDE	GS-3I	ug/l	No Trend	0#	Compliance	4.575	5	No Change	20.75
CARBON TETRACHLORIDE	GS-4	ug/l	NR	#	Compliance	0.5	5	NR	
CARBON TETRACHLORIDE	MW-02BR	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	MW-02D	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	MW-02S	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	MW-05S	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	MW-07D	ug/l	Downward	-0.3765#	Exceedance	74.39	5	No Change	220.5
CARBON TETRACHLORIDE	MW-07S	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
CARBON TETRACHLORIDE	MW-08BR	ug/l	No Trend	0#	Compliance	0.5	5	No Change	34
CARBON TETRACHLORIDE	MW-08D	ug/l	Downward	-0.4365#	Exceedance	1009	5	Better	3385
CARBON TETRACHLORIDE	MW-08S	ug/l	Downward	-0.2727#	Exceedance	211.1	5	No Change	4175
CARBON TETRACHLORIDE	MW-09D	ug/l	No Trend	0#	None	22.5	5	No Change	25
CARBON TETRACHLORIDE	MW-12	ug/l	NR	#	Compliance	0.5	5	NR	
CARBON TETRACHLORIDE	MW-14	ug/l	No Trend	0.1356#	Compliance	3.12	5	No Change	3.133
CARBON TETRACHLORIDE	MW-15	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
CARBON TETRACHLORIDE	MW-23D	ug/l	No Trend	0#	None	6	5	Worse	7.5
CARBON TETRACHLORIDE	MW-23S	ug/l	No Trend	0#	Compliance	1.422	5	No Change	0.675
CARBON TETRACHLORIDE	MW-24	ug/l	Downward	-0.3401#	Compliance	3.464	5	No Change	5.616

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			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
CARBON TETRACHLORIDE	MW-25	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
CARBON TETRACHLORIDE	MW-34I	ug/l	No Trend	0.3674#	Exceedance	66.08	5	No Change	8
CARBON TETRACHLORIDE	MW-37D	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	MW-37S	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	MW-38D	ug/l	Downward	-0.5504#	Exceedance	92.39	5	Better	2476
CARBON TETRACHLORIDE	MW-38S	ug/l	No Trend	0#	Exceedance	187	5	No Change	5770
CARBON TETRACHLORIDE	MW-3D	ug/l	No Trend	0#	Compliance	2.5	5	No Change	2.925
CARBON TETRACHLORIDE	MW-3I	ug/l	No Trend	0#	Compliance	0.875	5	No Change	26.5
CARBON TETRACHLORIDE	MW-41	ug/l	No Trend	0#	None	145	5	No Change	145
CARBON TETRACHLORIDE	MW-42I	ug/l	Downward	-0.2504#	Exceedance	21.8	5	Better	99.67
CARBON TETRACHLORIDE	MW-43BR	ug/l	No Trend	0#	Compliance	0.5	5	Worse	0.5
CARBON TETRACHLORIDE	MW-51D	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	MW-51I	ug/l	No Trend	0#	Compliance	2.5	5	No Change	0.5
CARBON TETRACHLORIDE	MW-53	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
CARBON TETRACHLORIDE	MW-54	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	MW-55	ug/l	Downward	-0.405#	Compliance	0.6	5	No Change	45.5
CARBON TETRACHLORIDE	MW-56D	ug/l	Downward	-0.2231#	Exceedance	138.2	5	No Change	1.378e+004
CARBON TETRACHLORIDE	MW-56I	ug/l	Downward	-0.2516#	Exceedance	726.2	5	Better	5244
CARBON TETRACHLORIDE	MW-56S	ug/l	Downward	-0.1255#	Exceedance	743	5	Better	1875
CARBON TETRACHLORIDE	NE-26D	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	NE-26I	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	NE-26S	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	NE-50D	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	NE-50I	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	NE-50S	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	NE-80D	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	NE-80I	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	NE-80S	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	RAW-01D	ug/l	No Trend	-0.06078#	Compliance	0.5521	5	No Change	6.194
CARBON TETRACHLORIDE	RAW-01I	ug/l	No Trend	0.105#	Exceedance	5597	5	No Change	5661
CARBON TETRACHLORIDE	RAW-02D	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	RAW-02I	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
CARBON TETRACHLORIDE	RAW-02S	ug/l	NR	#	NR		5	NR	
CARBON TETRACHLORIDE	RMW-02D	ug/l	No Trend	-0.1201#	Compliance	1.208	5	No Change	1.625
CARBON TETRACHLORIDE	RMW-02S	ug/l	Downward	-0.5902#	Exceedance	5.264	5	No Change	13.97
CHLOROFORM	10061NeelyRoad	ug/l	NR	#	Compliance	0.5	6	NR	
CHLOROFORM	10077NeelyRoad	ug/l	No Trend	0#	Compliance	0.5676	6	Worse	0.5
CHLOROFORM	10218LehmanStreet	ug/l	No Trend	0#	Compliance	0.5	6	No Change	0.5

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
CHLOROFORM	10225VistulaRoad	ug/l	No Trend	0.1296#	**Exceedance**	**10.98**	**6**	No Change	13
CHLOROFORM	10301GlenwoodRoad	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	10326VistulaRoad	ug/l	NR	#	**Compliance**	**0.5**	**6**	NR	
CHLOROFORM	10452VistulaRoad	ug/l	NR	#	**Compliance**	**0.5**	**6**	NR	
CHLOROFORM	28502CR16	ug/l	NR	#	NR		6	NR	
CHLOROFORM	28537WarrenAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	28793WestwyndDrive	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	28864CR16W	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	29334RivershoreEst	ug/l	NR	#	**Compliance**	**0.5**	**6**	NR	
CHLOROFORM	29386CR16W	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	29550RivershoreLane	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	29628RivershoreLane	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	29651CarolinaAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	29671CarolinaAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	29788CR16W	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	29861OregonAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	29892ConnecticutAve	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	29925FloridaAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	30174WolfAvenue	ug/l	NR	#	**Compliance**	**0.5**	**6**	NR	
CHLOROFORM	30201WolfAvenue	ug/l	NR	#	NR		6	NR	
CHLOROFORM	30266CR16W	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	30307US33	ug/l	NR	#	NR		6	NR	
CHLOROFORM	30551EdgewaterDrive	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	30575EdgewaterDrive	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	30789CR16	ug/l	NR	#	**Compliance**	**0.5**	**6**	NR	
CHLOROFORM	30803US33W	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	1.1
CHLOROFORM	30945CarrollAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	55718RivershoreLane	ug/l	No Trend	0.1421#	**Compliance**	**3.778**	**6**	No Change	5.226
CHLOROFORM	55943RivershoreLane	ug/l	NR	#	**Compliance**	**0.8328**	**6**	NR	
CHLOROFORM	55955RivershoreLane	ug/l	NR	#	**Compliance**	**1.031**	**6**	NR	
CHLOROFORM	55965RivershoreEst	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	55984RivershoreLane	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	56183AshRoad	ug/l	NR	#	NR		6	NR	
CHLOROFORM	56398PrimroseCircle	ug/l	NR	#	**Compliance**	**0.5**	**6**	NR	
CHLOROFORM	56400WhiteStreet	ug/l	NR	#	NR		6	NR	
CHLOROFORM	56547EastviewSteet	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	No Change	0.5
CHLOROFORM	56577SpringAvenue	ug/l	NR	#	**Compliance**	**0.5**	**6**	NR	
CHLOROFORM	56675SpringAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**6**	**Worse**	**0.5**

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
CHLOROFORM	56683ShoreAvenue	ug/l	No Trend	0#	Compliance	0.5	6	No Change	0.5
CHLOROFORM	56684SpringAvenue	ug/l	No Trend	0#	Compliance	0.5	6	No Change	0.5
CHLOROFORM	56708AshRoad	ug/l	NR	#	NR		6	NR	
CHLOROFORM	56783BurbankStreet	ug/l	NR	#	Compliance	0.5	6	NR	
CHLOROFORM	56803Southgate	ug/l	No Trend	0#	Compliance	1	6	No Change	0.5
CHLOROFORM	56974Ash Road	ug/l	No Trend	0#	Compliance	0.5	6	No Change	0.5
CHLOROFORM	57001Ash Road	ug/l	No Trend	0#	Compliance	0.5	6	No Change	5.3
CHLOROFORM	57063PorterAvenue	ug/l	No Trend	0#	Compliance	0.5	6	No Change	0.5
CHLOROFORM	BMW-6D	ug/l	NR	#	NR		6	NR	
CHLOROFORM	DSMW-3	ug/l	No Trend	0#	Exceedance	31.26	6	No Change	67.62
CHLOROFORM	DSMW-4	ug/l	Downward	-0.05963#	Exceedance	40.68	6	No Change	86.04
CHLOROFORM	EW-2	ug/l	No Trend	0#	Compliance	4.45	6	No Change	6.25
CHLOROFORM	EW-3	ug/l	No Trend	0#	Compliance	3.138	6	No Change	3.45
CHLOROFORM	EW-4	ug/l	Upward	0.08996#	Exceedance	226.5	6	No Change	293.2
CHLOROFORM	GS-1	ug/l	No Trend	0#	Compliance	3.625	6	No Change	20.75
CHLOROFORM	GS-2	ug/l	No Trend	0#	None	12.5	6	No Change	29.25
CHLOROFORM	GS-3D	ug/l	No Trend	0#	Compliance	0.5	6	No Change	0.5
CHLOROFORM	GS-3I	ug/l	No Trend	0#	Compliance	4.575	6	No Change	20.75
CHLOROFORM	GS-4	ug/l	NR	#	Compliance	0.5	6	NR	
CHLOROFORM	MW-02BR	ug/l	NR	#	NR		6	NR	
CHLOROFORM	MW-02D	ug/l	NR	#	NR		6	NR	
CHLOROFORM	MW-02S	ug/l	NR	#	NR		6	NR	
CHLOROFORM	MW-05S	ug/l	NR	#	NR		6	NR	
CHLOROFORM	MW-07D	ug/l	No Trend	-0.099#	Exceedance	22.67	6	No Change	45.64
CHLOROFORM	MW-07S	ug/l	No Trend	0#	Compliance	0.6117	6	No Change	0.5
CHLOROFORM	MW-08BR	ug/l	No Trend	0#	Compliance	0.5	6	No Change	7.9
CHLOROFORM	MW-08D	ug/l	No Trend	-0.1502#	Exceedance	35.07	6	No Change	1177
CHLOROFORM	MW-08S	ug/l	Downward	-0.1567#	Exceedance	13.95	6	No Change	154.3
CHLOROFORM	MW-09D	ug/l	No Trend	0#	None	22.5	6	No Change	25
CHLOROFORM	MW-12	ug/l	NR	#	Compliance	0.5	6	NR	
CHLOROFORM	MW-14	ug/l	No Trend	0.02891#	Compliance	0.9695	6	No Change	1.055
CHLOROFORM	MW-15	ug/l	No Trend	0#	Compliance	0.5	6	No Change	0.5
CHLOROFORM	MW-23D	ug/l	No Trend	0#	Exceedance	9.143	6	No Change	6.75
CHLOROFORM	MW-23S	ug/l	No Trend	0#	Compliance	0.6046	6	No Change	0.675
CHLOROFORM	MW-24	ug/l	Upward	5.037#	Exceedance	17.36	6	No Change	19.17
CHLOROFORM	MW-25	ug/l	No Trend	0#	Compliance	0.5	6	No Change	0.5
CHLOROFORM	MW-34I	ug/l	No Trend	0.06486#	Exceedance	25.07	6	Worse	12
CHLOROFORM	MW-37D	ug/l	NR	#	NR		6	NR	

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
CHLOROFORM	MW-37S	ug/l	NR	#	NR		6	NR	
CHLOROFORM	MW-38D	ug/l	Downward	-0.4666#	Exceedance	15.7	6	Better	169.2
CHLOROFORM	MW-38S	ug/l	No Trend	-0.02787#	Exceedance	16.49	6	No Change	90.72
CHLOROFORM	MW-3D	ug/l	No Trend	0#	Compliance	2.5	6	No Change	2.925
CHLOROFORM	MW-3I	ug/l	No Trend	0#	Compliance	0.875	6	No Change	26.5
CHLOROFORM	MW-41	ug/l	No Trend	0#	None	145	6	No Change	145
CHLOROFORM	MW-42I	ug/l	No Trend	0.01849#	Compliance	3.944	6	No Change	14.16
CHLOROFORM	MW-43BR	ug/l	No Trend	0#	Compliance	0.5	6	No Change	0.5
CHLOROFORM	MW-51D	ug/l	NR	#	NR		6	NR	
CHLOROFORM	MW-51I	ug/l	No Trend	0#	Compliance	2.5	6	No Change	0.5
CHLOROFORM	MW-53	ug/l	No Trend	0#	Compliance	0.5	6	No Change	0.5
CHLOROFORM	MW-54	ug/l	NR	#	NR		6	NR	
CHLOROFORM	MW-55	ug/l	Downward	-0.5192#	Compliance	0.6	6	No Change	276
CHLOROFORM	MW-56D	ug/l	Downward	-0.1491#	Exceedance	52.21	6	No Change	1554
CHLOROFORM	MW-56I	ug/l	Downward	-0.1213#	Exceedance	26.72	6	No Change	306.5
CHLOROFORM	MW-56S	ug/l	Downward	-0.09599#	Exceedance	19.51	6	Better	32.27
CHLOROFORM	NE-26D	ug/l	NR	#	NR		6	NR	
CHLOROFORM	NE-26I	ug/l	NR	#	NR		6	NR	
CHLOROFORM	NE-26S	ug/l	NR	#	NR		6	NR	
CHLOROFORM	NE-50D	ug/l	NR	#	NR		6	NR	
CHLOROFORM	NE-50I	ug/l	NR	#	NR		6	NR	
CHLOROFORM	NE-50S	ug/l	NR	#	NR		6	NR	
CHLOROFORM	NE-80D	ug/l	NR	#	NR		6	NR	
CHLOROFORM	NE-80I	ug/l	NR	#	NR		6	NR	
CHLOROFORM	NE-80S	ug/l	NR	#	NR		6	NR	
CHLOROFORM	RAW-01D	ug/l	Downward	-0.1726#	Compliance	1.295	6	No Change	7.825
CHLOROFORM	RAW-01I	ug/l	Downward	-0.05323#	Exceedance	3930	6	No Change	6141
CHLOROFORM	RAW-02D	ug/l	NR	#	NR		6	NR	
CHLOROFORM	RAW-02I	ug/l	No Trend	0#	Compliance	0.5	6	No Change	0.5
CHLOROFORM	RAW-02S	ug/l	NR	#	NR		6	NR	
CHLOROFORM	RMW-02D	ug/l	No Trend	0#	Compliance	0.5846	6	Worse	0.5
CHLOROFORM	RMW-02S	ug/l	No Trend	-0.107#	Compliance	0.4009	6	No Change	0.506
CIS-1,2-DICHLOROETHYLENE	10061NeelyRoad	ug/l	NR	#	Compliance	0.5	70	NR	
CIS-1,2-DICHLOROETHYLENE	10077NeelyRoad	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	10218LehmanStreet	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	10225VistulaRoad	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	10301GlenwoodRoad	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	10326VistulaRoad	ug/l	NR	#	Compliance	0.5	70	NR	

Conrail Railyard- Elkhart, IN									
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			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
CIS-1,2-DICHLOROETHYLENE	10452VistulaRoad	ug/l	NR	#	Compliance	0.5	70	NR	
CIS-1,2-DICHLOROETHYLENE	28502CR16	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	28537WarrenAvenue	ug/l	Upward	0.05003#	Compliance	1.268	70	No Change	1.615
CIS-1,2-DICHLOROETHYLENE	28793WestwyndDrive	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	28864CR16W	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	29334RivershoreEst	ug/l	NR	#	Compliance	0.5	70	NR	
CIS-1,2-DICHLOROETHYLENE	29386CR16W	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	29550RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	29628RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	29651CarolinaAvenue	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	29671CarolinaAvenue	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	29788CR16W	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	29861OregonAvenue	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	29892ConnecticutAve	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	29925FloridaAvenue	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	30174WolfAvenue	ug/l	NR	#	Compliance	0.5	70	NR	
CIS-1,2-DICHLOROETHYLENE	30201WolfAvenue	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	30266CR16W	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	30307US33	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	30551EdgewaterDrive	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	30575EdgewaterDrive	ug/l	No Trend	0#	Compliance	0.5	70	Worse	0.5
CIS-1,2-DICHLOROETHYLENE	30789CR16	ug/l	NR	#	Compliance	0.7875	70	NR	
CIS-1,2-DICHLOROETHYLENE	30803US33W	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	30945CarrollAvenue	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	55718RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	55943RivershoreLane	ug/l	NR	#	Compliance	0.5	70	NR	
CIS-1,2-DICHLOROETHYLENE	55955RivershoreLane	ug/l	NR	#	Compliance	0.5	70	NR	
CIS-1,2-DICHLOROETHYLENE	55965RivershoreEst	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	55984RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	56183AshRoad	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	56398PrimroseCircle	ug/l	NR	#	Compliance	0.5	70	NR	
CIS-1,2-DICHLOROETHYLENE	56400WhiteStreet	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	56547EastviewSteet	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	56577SpringAvenue	ug/l	NR	#	Compliance	6.931	70	NR	
CIS-1,2-DICHLOROETHYLENE	56675SpringAvenue	ug/l	No Trend	-0.05649#	Compliance	4.932	70	No Change	109.6
CIS-1,2-DICHLOROETHYLENE	56683ShoreAvenue	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	56684SpringAvenue	ug/l	No Trend	-0.02842#	Compliance	6.354	70	No Change	8.904
CIS-1,2-DICHLOROETHYLENE	56708AshRoad	ug/l	NR	#	NR		70	NR	

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
CIS-1,2-DICHLOROETHYLENE	56783BurbankStreet	ug/l	NR	#	Compliance	0.5	70	NR	
CIS-1,2-DICHLOROETHYLENE	56803Southgate	ug/l	No Trend	0#	Compliance	1	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	56974Ash Road	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	57001Ash Road	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	57063PorterAvenue	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	BMW-6D	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	DSMW-3	ug/l	No Trend	0#	Compliance	2.75	70	No Change	2.925
CIS-1,2-DICHLOROETHYLENE	DSMW-4	ug/l	No Trend	0#	Compliance	12.25	70	No Change	20
CIS-1,2-DICHLOROETHYLENE	EW-2	ug/l	No Trend	0#	Compliance	6.022	70	No Change	4.35
CIS-1,2-DICHLOROETHYLENE	EW-3	ug/l	Downward	-0.08527#	Compliance	25.02	70	No Change	51.05
CIS-1,2-DICHLOROETHYLENE	EW-4	ug/l	No Trend	0#	Compliance	3.313	70	No Change	1.95
CIS-1,2-DICHLOROETHYLENE	GS-1	ug/l	No Trend	0#	Compliance	3.625	70	No Change	12.5
CIS-1,2-DICHLOROETHYLENE	GS-2	ug/l	No Trend	0#	Compliance	12.5	70	No Change	54
CIS-1,2-DICHLOROETHYLENE	GS-3D	ug/l	Downward	-0.4006#	Compliance	16.08	70	No Change	1378
CIS-1,2-DICHLOROETHYLENE	GS-3I	ug/l	No Trend	0#	Compliance	4.575	70	No Change	3729
CIS-1,2-DICHLOROETHYLENE	GS-4	ug/l	NR	#	Compliance	0.25	70	NR	
CIS-1,2-DICHLOROETHYLENE	MW-02BR	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	MW-02D	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	MW-02S	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	MW-07D	ug/l	No Trend	0#	Compliance	7.75	70	No Change	10
CIS-1,2-DICHLOROETHYLENE	MW-07S	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.375
CIS-1,2-DICHLOROETHYLENE	MW-08BR	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.25
CIS-1,2-DICHLOROETHYLENE	MW-08D	ug/l	No Trend	0#	Compliance	0.5	70	No Change	10
CIS-1,2-DICHLOROETHYLENE	MW-08S	ug/l	No Trend	0#	Compliance	1.863	70	No Change	5
CIS-1,2-DICHLOROETHYLENE	MW-09D	ug/l	No Trend	0#	Compliance	30.85	70	No Change	12.5
CIS-1,2-DICHLOROETHYLENE	MW-12	ug/l	NR	#	Compliance	0.5	70	NR	
CIS-1,2-DICHLOROETHYLENE	MW-14	ug/l	No Trend	0#	Compliance	0.5575	70	No Change	0.25
CIS-1,2-DICHLOROETHYLENE	MW-15	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.25
CIS-1,2-DICHLOROETHYLENE	MW-23D	ug/l	No Trend	0#	Compliance	6	70	Worse	4.55
CIS-1,2-DICHLOROETHYLENE	MW-23S	ug/l	Downward	-0.199#	Compliance	0.5	70	No Change	39.35
CIS-1,2-DICHLOROETHYLENE	MW-24	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	MW-25	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	MW-34I	ug/l	No Trend	0#	Compliance	0.5	70	Better	54
CIS-1,2-DICHLOROETHYLENE	MW-37D	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	MW-37S	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	MW-38D	ug/l	No Trend	0#	Compliance	0.8216	70	No Change	5.025
CIS-1,2-DICHLOROETHYLENE	MW-38S	ug/l	No Trend	0#	Compliance	0.55	70	No Change	2.375
CIS-1,2-DICHLOROETHYLENE	MW-3D	ug/l	No Trend	-0.05442#	Compliance	27.15	70	No Change	55.47

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Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
CIS-1,2-DICHLOROETHYLENE	MW-3I	ug/l	No Trend	-0.2819#	**Compliance**	**5.294**	**70**	No Change	119.6
CIS-1,2-DICHLOROETHYLENE	MW-41	ug/l	No Trend	0#	**None**	**145**	**70**	No Change	72.5
CIS-1,2-DICHLOROETHYLENE	MW-42I	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.395
CIS-1,2-DICHLOROETHYLENE	MW-43BR	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.375
CIS-1,2-DICHLOROETHYLENE	MW-51D	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	MW-51I	ug/l	No Trend	0.09034#	**Compliance**	**9.085**	**70**	No Change	42.95
CIS-1,2-DICHLOROETHYLENE	MW-53	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.25
CIS-1,2-DICHLOROETHYLENE	MW-54	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	MW-55	ug/l	**Upward**	**0.07133#**	**Compliance**	**1.089**	**70**	**Worse**	**0.5**
CIS-1,2-DICHLOROETHYLENE	MW-56D	ug/l	No Trend	0#	**Compliance**	**2.056**	**70**	No Change	4
CIS-1,2-DICHLOROETHYLENE	MW-56I	ug/l	No Trend	0#	**Compliance**	**7**	**70**	No Change	13.5
CIS-1,2-DICHLOROETHYLENE	MW-56S	ug/l	No Trend	0#	**Compliance**	**7**	**70**	No Change	8.5
CIS-1,2-DICHLOROETHYLENE	NE-26D	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	NE-26I	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	NE-26S	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	NE-50D	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	NE-50I	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	NE-50S	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	NE-80D	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	NE-80I	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	NE-80S	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	RAW-01D	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.25
CIS-1,2-DICHLOROETHYLENE	RAW-01I	ug/l	No Trend	0#	**None**	**92.5**	**70**	No Change	45.75
CIS-1,2-DICHLOROETHYLENE	RAW-02D	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	RAW-02I	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.25
CIS-1,2-DICHLOROETHYLENE	RAW-02S	ug/l	NR	#	NR		70	NR	
CIS-1,2-DICHLOROETHYLENE	RMW-02D	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
CIS-1,2-DICHLOROETHYLENE	RMW-02S	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
DICHLOROETHYLENES	10225VistulaRoad	ug/l	NR	#	NR		70	NR	
DICHLOROETHYLENES	56675SpringAvenue	ug/l	NR	#	**Compliance**	**62.84**	**70**	NR	
DICHLOROETHYLENES	56684SpringAvenue	ug/l	NR	#	NR		70	NR	
DICHLOROETHYLENES	56783BurbankStreet	ug/l	NR	#	NR		70	NR	
DICHLOROETHYLENES	56803Southgate	ug/l	No Trend	0#	**Compliance**	**2.5**	**70**	No Change	2.5
DICHLOROETHYLENES	EW-3	ug/l	NR	#	NR		70	NR	
DICHLOROETHYLENES	MW-05S	ug/l	NR	#	NR		70	NR	
DICHLOROETHYLENES	MW-07D	ug/l	NR	#	NR		70	NR	
DICHLOROETHYLENES	MW-07S	ug/l	NR	#	NR		70	NR	
DICHLOROETHYLENES	MW-38S	ug/l	NR	#	NR		70	NR	

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Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
DICHLOROETHYLENES	MW-43BR	ug/l	NR	#	NR		70	NR	
TETRACHLOROETHYLENE(PCE)	10061NeelyRoad	ug/l	NR	#	Compliance	0.5	5	NR	
TETRACHLOROETHYLENE(PCE)	10077NeelyRoad	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	10218LehmanStreet	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	10225VistulaRoad	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	10301GlenwoodRoad	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	10326VistulaRoad	ug/l	NR	#	Compliance	0.756	5	NR	
TETRACHLOROETHYLENE(PCE)	10452VistulaRoad	ug/l	NR	#	Compliance	0.5	5	NR	
TETRACHLOROETHYLENE(PCE)	28502CR16	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	28537WarrenAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	28793WestwyndDrive	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	28864CR16W	ug/l	No Trend	0#	Compliance	0.5	5	Worse	0.5
TETRACHLOROETHYLENE(PCE)	29334RivershoreEst	ug/l	NR	#	Compliance	0.5	5	NR	
TETRACHLOROETHYLENE(PCE)	29386CR16W	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	29550RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	5	No Change	1
TETRACHLOROETHYLENE(PCE)	29628RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	29651CarolinaAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	29671CarolinaAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	29788CR16W	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	29861OregonAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	29892ConnecticutAve	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	29925FloridaAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	30174WolfAvenue	ug/l	NR	#	Exceedance	21.65	5	NR	
TETRACHLOROETHYLENE(PCE)	30201WolfAvenue	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	30266CR16W	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	30307US33	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	30551EdgewaterDrive	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	30575EdgewaterDrive	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	30789CR16	ug/l	NR	#	Compliance	0.5	5	NR	
TETRACHLOROETHYLENE(PCE)	30803US33W	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	30945CarrollAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	55718RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	55943RivershoreLane	ug/l	NR	#	Compliance	0.5	5	NR	
TETRACHLOROETHYLENE(PCE)	55955RivershoreLane	ug/l	NR	#	Compliance	0.5	5	NR	
TETRACHLOROETHYLENE(PCE)	55965RivershoreEst	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	55984RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	56183AshRoad	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	56398PrimroseCircle	ug/l	NR	#	Compliance	0.5	5	NR	

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Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
TETRACHLOROETHYLENE(PCE)	56400WhiteStreet	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	56547EastviewSteet	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	56577SpringAvenue	ug/l	NR	#	Compliance	0.5	5	NR	
TETRACHLOROETHYLENE(PCE)	56675SpringAvenue	ug/l	No Trend	0#	Compliance	0.625	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	56683ShoreAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	56684SpringAvenue	ug/l	No Trend	0#	Compliance	0.5	5	Worse	0.5
TETRACHLOROETHYLENE(PCE)	56708AshRoad	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	56783BurbankStreet	ug/l	NR	#	Compliance	0.5	5	NR	
TETRACHLOROETHYLENE(PCE)	56803Southgate	ug/l	No Trend	0#	Compliance	1	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	56974Ash Road	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	57001Ash Road	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	57063PorterAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	BMW-6D	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	DSMW-3	ug/l	No Trend	0#	Compliance	2.75	5	No Change	2.925
TETRACHLOROETHYLENE(PCE)	DSMW-4	ug/l	No Trend	0#	None	12.25	5	No Change	25
TETRACHLOROETHYLENE(PCE)	EW-2	ug/l	No Trend	0#	Compliance	4.45	5	No Change	6.25
TETRACHLOROETHYLENE(PCE)	EW-3	ug/l	No Trend	0#	Compliance	3.138	5	No Change	3.45
TETRACHLOROETHYLENE(PCE)	EW-4	ug/l	No Trend	0#	Compliance	3.313	5	No Change	2.85
TETRACHLOROETHYLENE(PCE)	GS-1	ug/l	No Trend	0#	Compliance	3.625	5	No Change	20.75
TETRACHLOROETHYLENE(PCE)	GS-2	ug/l	No Trend	0#	None	12.5	5	No Change	29.25
TETRACHLOROETHYLENE(PCE)	GS-3D	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	GS-3I	ug/l	No Trend	0#	Compliance	4.575	5	No Change	20.75
TETRACHLOROETHYLENE(PCE)	GS-4	ug/l	NR	#	Compliance	0.5	5	NR	
TETRACHLOROETHYLENE(PCE)	MW-02BR	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	MW-02D	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	MW-02S	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	MW-05S	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	MW-07D	ug/l	No Trend	0#	None	7.75	5	No Change	18.25
TETRACHLOROETHYLENE(PCE)	MW-07S	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	MW-08BR	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	MW-08D	ug/l	No Trend	0#	Compliance	0.5508	5	No Change	13.25
TETRACHLOROETHYLENE(PCE)	MW-08S	ug/l	No Trend	0#	Compliance	1.863	5	No Change	10
TETRACHLOROETHYLENE(PCE)	MW-09D	ug/l	No Trend	0#	None	22.5	5	No Change	25
TETRACHLOROETHYLENE(PCE)	MW-12	ug/l	NR	#	Compliance	0.5	5	NR	
TETRACHLOROETHYLENE(PCE)	MW-14	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	MW-15	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	MW-23D	ug/l	No Trend	0#	Exceedance	8.455	5	Better	8.5
TETRACHLOROETHYLENE(PCE)	MW-23S	ug/l	No Trend	0#	Compliance	2.099	5	No Change	2.36

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
TETRACHLOROETHYLENE(PCE)	MW-24	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	MW-25	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	MW-34I	ug/l	Downward	-0.2504#	Compliance	0.7047	5	No Change	18.74
TETRACHLOROETHYLENE(PCE)	MW-37D	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	MW-37S	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	MW-38D	ug/l	No Trend	0#	Compliance	0.775	5	No Change	9.75
TETRACHLOROETHYLENE(PCE)	MW-38S	ug/l	No Trend	0#	Compliance	0.55	5	No Change	4.675
TETRACHLOROETHYLENE(PCE)	MW-3D	ug/l	No Trend	0#	Compliance	2.5	5	No Change	2.925
TETRACHLOROETHYLENE(PCE)	MW-3I	ug/l	No Trend	0#	Compliance	0.875	5	No Change	26.5
TETRACHLOROETHYLENE(PCE)	MW-41	ug/l	No Trend	0#	None	145	5	No Change	145
TETRACHLOROETHYLENE(PCE)	MW-42I	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.6
TETRACHLOROETHYLENE(PCE)	MW-43BR	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	MW-51D	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	MW-51I	ug/l	No Trend	0#	Compliance	2.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	MW-53	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	MW-54	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	MW-55	ug/l	No Trend	0#	Compliance	0.6	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	MW-56D	ug/l	No Trend	0#	Compliance	1.65	5	No Change	5
TETRACHLOROETHYLENE(PCE)	MW-56I	ug/l	No Trend	0#	None	7	5	No Change	15.5
TETRACHLOROETHYLENE(PCE)	MW-56S	ug/l	No Trend	0#	None	7	5	No Change	13.5
TETRACHLOROETHYLENE(PCE)	NE-26D	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	NE-26I	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	NE-26S	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	NE-50D	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	NE-50I	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	NE-50S	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	NE-80D	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	NE-80I	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	NE-80S	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	RAW-01D	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	RAW-01I	ug/l	No Trend	0#	None	92.5	5	No Change	63.75
TETRACHLOROETHYLENE(PCE)	RAW-02D	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	RAW-02I	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	RAW-02S	ug/l	NR	#	NR		5	NR	
TETRACHLOROETHYLENE(PCE)	RMW-02D	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TETRACHLOROETHYLENE(PCE)	RMW-02S	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRANS-1,2-DICHLOROETHENE	10061NeelyRoad	ug/l	NR	#	Compliance	0.5	70	NR	
TRANS-1,2-DICHLOROETHENE	10077NeelyRoad	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
TRANS-1,2-DICHLOROETHENE	10218LehmanStreet	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	10225VistulaRoad	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	10301GlenwoodRoad	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	10326VistulaRoad	ug/l	NR	#	**Compliance**	**0.5**	**70**	NR	
TRANS-1,2-DICHLOROETHENE	10452VistulaRoad	ug/l	NR	#	**Compliance**	**0.5**	**70**	NR	
TRANS-1,2-DICHLOROETHENE	28502CR16	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	28537WarrenAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	28793WestwyndDrive	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	28864CR16W	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	29334RivershoreEst	ug/l	NR	#	**Compliance**	**0.5**	**70**	NR	
TRANS-1,2-DICHLOROETHENE	29386CR16W	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	29550RivershoreLane	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	29628RivershoreLane	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	29651CarolinaAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	29671CarolinaAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	29788CR16W	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	29861OregonAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	29892ConnecticutAve	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	29925FloridaAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	30174WolfAvenue	ug/l	NR	#	**Compliance**	**0.5**	**70**	NR	
TRANS-1,2-DICHLOROETHENE	30201WolfAvenue	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	30266CR16W	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	30307US33	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	30551EdgewaterDrive	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	30575EdgewaterDrive	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	30789CR16	ug/l	NR	#	**Compliance**	**0.5**	**70**	NR	
TRANS-1,2-DICHLOROETHENE	30803US33W	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	30945CarrollAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	55718RivershoreLane	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	55943RivershoreLane	ug/l	NR	#	**Compliance**	**0.5**	**70**	NR	
TRANS-1,2-DICHLOROETHENE	55955RivershoreLane	ug/l	NR	#	**Compliance**	**0.5**	**70**	NR	
TRANS-1,2-DICHLOROETHENE	55965RivershoreEst	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	55984RivershoreLane	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	56183AshRoad	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	56398PrimroseCircle	ug/l	NR	#	**Compliance**	**0.5**	**70**	NR	
TRANS-1,2-DICHLOROETHENE	56400WhiteStreet	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	56547EastviewSteet	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	56577SpringAvenue	ug/l	NR	#	**Compliance**	**0.5**	**70**	NR	

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
TRANS-1,2-DICHLOROETHENE	56675SpringAvenue	ug/l	No Trend	-0.009134#	**Compliance**	**1.418**	**70**	**Worse**	**1.1**
TRANS-1,2-DICHLOROETHENE	56683ShoreAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	56684SpringAvenue	ug/l	**Downward**	**-0.04596#**	**Compliance**	**0.3961**	**70**	No Change	0.5693
TRANS-1,2-DICHLOROETHENE	56708AshRoad	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	56783BurbankStreet	ug/l	NR	#	**Compliance**	**0.5**	**70**	NR	
TRANS-1,2-DICHLOROETHENE	56803Southgate	ug/l	No Trend	0#	**Compliance**	**1**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	56974Ash Road	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	57001Ash Road	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	57063PorterAvenue	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	BMW-6D	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	DSMW-3	ug/l	No Trend	0#	**Compliance**	**2.75**	**70**	No Change	2.925
TRANS-1,2-DICHLOROETHENE	DSMW-4	ug/l	No Trend	0#	**Compliance**	**12.25**	**70**	No Change	20
TRANS-1,2-DICHLOROETHENE	EW-2	ug/l	No Trend	0#	**Compliance**	**4.45**	**70**	No Change	4.35
TRANS-1,2-DICHLOROETHENE	EW-3	ug/l	No Trend	0#	**Compliance**	**3.138**	**70**	**Worse**	**2.6**
TRANS-1,2-DICHLOROETHENE	EW-4	ug/l	No Trend	0#	**Compliance**	**3.313**	**70**	No Change	1.95
TRANS-1,2-DICHLOROETHENE	GS-1	ug/l	No Trend	0#	**Compliance**	**3.625**	**70**	No Change	12.5
TRANS-1,2-DICHLOROETHENE	GS-2	ug/l	No Trend	0#	**Compliance**	**12.5**	**70**	**Worse**	**17.25**
TRANS-1,2-DICHLOROETHENE	GS-3D	ug/l	No Trend	-0.0254#	**Compliance**	**0.5**	**70**	No Change	3.509
TRANS-1,2-DICHLOROETHENE	GS-3I	ug/l	No Trend	0#	**Compliance**	**4.575**	**70**	No Change	10.5
TRANS-1,2-DICHLOROETHENE	GS-4	ug/l	NR	#	**Compliance**	**0.25**	**70**	NR	
TRANS-1,2-DICHLOROETHENE	MW-02BR	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	MW-02D	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	MW-02S	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	MW-07D	ug/l	No Trend	0#	**Compliance**	**7.75**	**70**	No Change	10
TRANS-1,2-DICHLOROETHENE	MW-07S	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.375
TRANS-1,2-DICHLOROETHENE	MW-08BR	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.25
TRANS-1,2-DICHLOROETHENE	MW-08D	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	10
TRANS-1,2-DICHLOROETHENE	MW-08S	ug/l	No Trend	0#	**Compliance**	**1.863**	**70**	No Change	5
TRANS-1,2-DICHLOROETHENE	MW-09D	ug/l	No Trend	0#	**Compliance**	**22.5**	**70**	No Change	12.5
TRANS-1,2-DICHLOROETHENE	MW-12	ug/l	NR	#	**Compliance**	**0.5**	**70**	NR	
TRANS-1,2-DICHLOROETHENE	MW-14	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.25
TRANS-1,2-DICHLOROETHENE	MW-15	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.25
TRANS-1,2-DICHLOROETHENE	MW-23D	ug/l	No Trend	0#	**Compliance**	**6**	**70**	No Change	4.35
TRANS-1,2-DICHLOROETHENE	MW-23S	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	**Worse**	**0.42**
TRANS-1,2-DICHLOROETHENE	MW-24	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	MW-25	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	0.5
TRANS-1,2-DICHLOROETHENE	MW-34I	ug/l	No Trend	0#	**Compliance**	**0.5**	**70**	No Change	5
TRANS-1,2-DICHLOROETHENE	MW-37D	ug/l	NR	#	NR		70	NR	

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
TRANS-1,2-DICHLOROETHENE	MW-37S	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	MW-38D	ug/l	No Trend	0#	Compliance	0.775	70	No Change	5.025
TRANS-1,2-DICHLOROETHENE	MW-38S	ug/l	No Trend	0#	Compliance	0.55	70	No Change	2.375
TRANS-1,2-DICHLOROETHENE	MW-3D	ug/l	No Trend	0#	Compliance	2.5	70	Worse	2.5
TRANS-1,2-DICHLOROETHENE	MW-3I	ug/l	No Trend	0#	Compliance	0.875	70	No Change	16
TRANS-1,2-DICHLOROETHENE	MW-41	ug/l	No Trend	0#	None	145	70	No Change	72.5
TRANS-1,2-DICHLOROETHENE	MW-42I	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.395
TRANS-1,2-DICHLOROETHENE	MW-43BR	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.375
TRANS-1,2-DICHLOROETHENE	MW-51D	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	MW-51I	ug/l	No Trend	0#	Compliance	2.5	70	Worse	0.8088
TRANS-1,2-DICHLOROETHENE	MW-53	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.25
TRANS-1,2-DICHLOROETHENE	MW-54	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	MW-55	ug/l	No Trend	-0.005483#	Compliance	0.7849	70	No Change	0.375
TRANS-1,2-DICHLOROETHENE	MW-56D	ug/l	No Trend	0#	Compliance	1.65	70	No Change	4
TRANS-1,2-DICHLOROETHENE	MW-56I	ug/l	No Trend	0#	Compliance	7	70	No Change	13.5
TRANS-1,2-DICHLOROETHENE	MW-56S	ug/l	No Trend	0#	Compliance	7	70	No Change	8.5
TRANS-1,2-DICHLOROETHENE	NE-26D	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	NE-26I	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	NE-26S	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	NE-50D	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	NE-50I	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	NE-50S	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	NE-80D	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	NE-80I	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	NE-80S	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	RAW-01D	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.25
TRANS-1,2-DICHLOROETHENE	RAW-01I	ug/l	No Trend	0#	None	92.5	70	No Change	45.75
TRANS-1,2-DICHLOROETHENE	RAW-02D	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	RAW-02I	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.25
TRANS-1,2-DICHLOROETHENE	RAW-02S	ug/l	NR	#	NR		70	NR	
TRANS-1,2-DICHLOROETHENE	RMW-02D	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
TRANS-1,2-DICHLOROETHENE	RMW-02S	ug/l	No Trend	0#	Compliance	0.5	70	No Change	0.5
TRICHLOROETHYLENE (TCE)	10061NeelyRoad	ug/l	NR	#	Compliance	0.5	5	NR	
TRICHLOROETHYLENE (TCE)	10077NeelyRoad	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	10218LehmanStreet	ug/l	No Trend	0#	Compliance	1.252	5	No Change	1.4
TRICHLOROETHYLENE (TCE)	10225VistulaRoad	ug/l	No Trend	-0.03287#	Exceedance	203.8	5	No Change	353.6
TRICHLOROETHYLENE (TCE)	10301GlenwoodRoad	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	10326VistulaRoad	ug/l	NR	#	Compliance	0.5	5	NR	

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
TRICHLOROETHYLENE (TCE)	10452VistulaRoad	ug/l	NR	#	Compliance	0.564	5	NR	
TRICHLOROETHYLENE (TCE)	28502CR16	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	28537WarrenAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	28793WestwyndDrive	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	28864CR16W	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	29334RivershoreEst	ug/l	NR	#	Compliance	0.5	5	NR	
TRICHLOROETHYLENE (TCE)	29386CR16W	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	29550RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	29628RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	29651CarolinaAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	29671CarolinaAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	29788CR16W	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	29861OregonAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	29892ConnecticutAve	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	29925FloridaAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	30174WolfAvenue	ug/l	NR	#	Compliance	0.5	5	NR	
TRICHLOROETHYLENE (TCE)	30201WolfAvenue	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	30266CR16W	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	30307US33	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	30551EdgewaterDrive	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	30575EdgewaterDrive	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	30789CR16	ug/l	NR	#	Exceedance	12.9	5	NR	
TRICHLOROETHYLENE (TCE)	30803US33W	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	30945CarrollAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	55718RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	55943RivershoreLane	ug/l	NR	#	Compliance	0.5	5	NR	
TRICHLOROETHYLENE (TCE)	55955RivershoreLane	ug/l	NR	#	Compliance	0.5	5	NR	
TRICHLOROETHYLENE (TCE)	55965RivershoreEst	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	55984RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	56183AshRoad	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	56398PrimroseCircle	ug/l	NR	#	Compliance	0.5	5	NR	
TRICHLOROETHYLENE (TCE)	56400WhiteStreet	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	56547EastviewSteet	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	56577SpringAvenue	ug/l	NR	#	Exceedance	13.36	5	NR	
TRICHLOROETHYLENE (TCE)	56675SpringAvenue	ug/l	Upward	0.1102#	Exceedance	114.6	5	No Change	735.9
TRICHLOROETHYLENE (TCE)	56683ShoreAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	56684SpringAvenue	ug/l	Upward	0.06172#	Exceedance	34.66	5	No Change	38.17
TRICHLOROETHYLENE (TCE)	56708AshRoad	ug/l	NR	#	NR		5	NR	

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
TRICHLOROETHYLENE (TCE)	56783BurbankStreet	ug/l	NR	#	Exceedance	51.28	5	NR	
TRICHLOROETHYLENE (TCE)	56803Southgate	ug/l	No Trend	0#	Exceedance	28.47	5	No Change	75
TRICHLOROETHYLENE (TCE)	56974Ash Road	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	57001Ash Road	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	57063PorterAvenue	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	BMW-6D	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	DSMW-3	ug/l	No Trend	-0.05977#	Exceedance	27.84	5	No Change	150.6
TRICHLOROETHYLENE (TCE)	DSMW-4	ug/l	Downward	-0.1393#	Exceedance	58.9	5	Better	97.61
TRICHLOROETHYLENE (TCE)	EW-2	ug/l	Downward	-0.1636#	Exceedance	277.3	5	No Change	1027
TRICHLOROETHYLENE (TCE)	EW-3	ug/l	Downward	-0.1127#	Exceedance	217.9	5	No Change	1134
TRICHLOROETHYLENE (TCE)	EW-4	ug/l	No Trend	0#	Compliance	3.313	5	No Change	2.85
TRICHLOROETHYLENE (TCE)	GS-1	ug/l	Downward	-0.3894#	Exceedance	381.3	5	Better	2062
TRICHLOROETHYLENE (TCE)	GS-2	ug/l	Downward	-0.3219#	Exceedance	775.1	5	Better	6443
TRICHLOROETHYLENE (TCE)	GS-3D	ug/l	No Trend	-0.3454#	Exceedance	184.9	5	No Change	1731
TRICHLOROETHYLENE (TCE)	GS-3I	ug/l	Downward	-0.3021#	Exceedance	332.3	5	Better	4083
TRICHLOROETHYLENE (TCE)	GS-4	ug/l	NR	#	Compliance	0.5	5	NR	
TRICHLOROETHYLENE (TCE)	MW-02BR	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	MW-02D	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	MW-02S	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	MW-05S	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	MW-07D	ug/l	Downward	-0.2654#	Exceedance	666.1	5	Better	1840
TRICHLOROETHYLENE (TCE)	MW-07S	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	MW-08BR	ug/l	No Trend	0#	Compliance	0.5713	5	No Change	15
TRICHLOROETHYLENE (TCE)	MW-08D	ug/l	Downward	-0.309#	Exceedance	84.61	5	Better	368.6
TRICHLOROETHYLENE (TCE)	MW-08S	ug/l	Downward	-0.2538#	Exceedance	20.74	5	No Change	279.2
TRICHLOROETHYLENE (TCE)	MW-09D	ug/l	Downward	-0.03579#	Exceedance	1654	5	No Change	2056
TRICHLOROETHYLENE (TCE)	MW-12	ug/l	NR	#	Compliance	0.5	5	NR	
TRICHLOROETHYLENE (TCE)	MW-14	ug/l	Upward	0.0758#	Exceedance	8.118	5	No Change	14.9
TRICHLOROETHYLENE (TCE)	MW-15	ug/l	No Trend	0#	Compliance	0.5	5	Worse	0.5
TRICHLOROETHYLENE (TCE)	MW-23D	ug/l	Downward	-0.09359#	Exceedance	420.1	5	No Change	1314
TRICHLOROETHYLENE (TCE)	MW-23S	ug/l	Downward	-0.2345#	Exceedance	19.16	5	Better	78.14
TRICHLOROETHYLENE (TCE)	MW-24	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	MW-25	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	MW-34I	ug/l	Downward	-0.6385#	Exceedance	27.23	5	Better	1369
TRICHLOROETHYLENE (TCE)	MW-37D	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	MW-37S	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	MW-38D	ug/l	Upward	0.3586#	Exceedance	41.28	5	Worse	27.46
TRICHLOROETHYLENE (TCE)	MW-38S	ug/l	Downward	-0.1341#	Exceedance	17.87	5	No Change	151.3

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Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
TRICHLOROETHYLENE (TCE)	MW-3D	ug/l	Downward	-0.07337#	Exceedance	168.4	5	No Change	1452
TRICHLOROETHYLENE (TCE)	MW-3I	ug/l	Downward	-0.5432#	Exceedance	654.5	5	No Change	9332
TRICHLOROETHYLENE (TCE)	MW-41	ug/l	Downward	-0.1572#	Exceedance	8843	5	Better	2.138e+004
TRICHLOROETHYLENE (TCE)	MW-42I	ug/l	Downward	-0.1428#	Compliance	2.347	5	Better	6.36
TRICHLOROETHYLENE (TCE)	MW-43BR	ug/l	Downward	-0.2249#	Exceedance	24.79	5	No Change	203.7
TRICHLOROETHYLENE (TCE)	MW-51D	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	MW-51I	ug/l	Upward	0.5029#	Exceedance	168.4	5	No Change	512.9
TRICHLOROETHYLENE (TCE)	MW-53	ug/l	Downward	-0.134#	Compliance	0.9372	5	No Change	3.895
TRICHLOROETHYLENE (TCE)	MW-54	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	MW-55	ug/l	No Trend	0.1918#	Exceedance	52.18	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	MW-56D	ug/l	No Trend	-0.06735#	Exceedance	116.6	5	No Change	2208
TRICHLOROETHYLENE (TCE)	MW-56I	ug/l	Downward	-0.2495#	Exceedance	56.23	5	No Change	363.6
TRICHLOROETHYLENE (TCE)	MW-56S	ug/l	Downward	-0.1592#	Exceedance	47.59	5	Better	90.23
TRICHLOROETHYLENE (TCE)	NE-26D	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	NE-26I	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	NE-26S	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	NE-50D	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	NE-50I	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	NE-50S	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	NE-80D	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	NE-80I	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	NE-80S	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	RAW-01D	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	RAW-01I	ug/l	No Trend	0#	None	92.5	5	No Change	63.75
TRICHLOROETHYLENE (TCE)	RAW-02D	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	RAW-02I	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
TRICHLOROETHYLENE (TCE)	RAW-02S	ug/l	NR	#	NR		5	NR	
TRICHLOROETHYLENE (TCE)	RMW-02D	ug/l	No Trend	0#	Compliance	0.5	5	Worse	0.5
TRICHLOROETHYLENE (TCE)	RMW-02S	ug/l	No Trend	0#	Compliance	0.5	5	No Change	0.5
VINYL CHLORIDE	10061NeelyRoad	ug/l	NR	#	Compliance	0.5	2	NR	
VINYL CHLORIDE	10077NeelyRoad	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	10218LehmanStreet	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	10225VistulaRoad	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	10301GlenwoodRoad	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	10326VistulaRoad	ug/l	NR	#	Compliance	0.5	2	NR	
VINYL CHLORIDE	10452VistulaRoad	ug/l	NR	#	Compliance	0.5	2	NR	
VINYL CHLORIDE	28502CR16	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	28537WarrenAvenue	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5

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Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
VINYL CHLORIDE	28793WestwyndDrive	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	28864CR16W	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	29334RivershoreEst	ug/l	NR	#	Compliance	0.5	2	NR	
VINYL CHLORIDE	29386CR16W	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	29550RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	29628RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	29651CarolinaAvenue	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	29671CarolinaAvenue	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	29788CR16W	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	29861OregonAvenue	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	29892ConnecticutAve	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	29925FloridaAvenue	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	30174WolfAvenue	ug/l	NR	#	Compliance	0.5	2	NR	
VINYL CHLORIDE	30201WolfAvenue	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	30266CR16W	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	30307US33	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	30551EdgewaterDrive	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	30575EdgewaterDrive	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	30789CR16	ug/l	NR	#	Compliance	0.5	2	NR	
VINYL CHLORIDE	30803US33W	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	30945CarrollAvenue	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	55718RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	55943RivershoreLane	ug/l	NR	#	Compliance	0.5	2	NR	
VINYL CHLORIDE	55955RivershoreLane	ug/l	NR	#	Compliance	0.5	2	NR	
VINYL CHLORIDE	55965RivershoreEst	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	55984RivershoreLane	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	56183AshRoad	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	56398PrimroseCircle	ug/l	NR	#	Compliance	0.5	2	NR	
VINYL CHLORIDE	56400WhiteStreet	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	56547EastviewSteet	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	56577SpringAvenue	ug/l	NR	#	Compliance	0.5	2	NR	
VINYL CHLORIDE	56675SpringAvenue	ug/l	No Trend	0#	Compliance	0.625	2	No Change	0.5
VINYL CHLORIDE	56683ShoreAvenue	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	56684SpringAvenue	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	56708AshRoad	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	56783BurbankStreet	ug/l	NR	#	Compliance	0.5	2	NR	
VINYL CHLORIDE	56803Southgate	ug/l	No Trend	0#	Compliance	1.625	2	No Change	0.5
VINYL CHLORIDE	56974Ash Road	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5

Conrail Railyard- Elkhart, IN									
Analyte Name	Well ID	Units*	Trend Test (80.0% Confidence)		Compare-to-Standard Test (95.0% Confidence)			Compare-to-Baseline Test (95.0% Confidence)	
			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
VINYL CHLORIDE	57001Ash Road	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	57063PorterAvenue	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	BMW-6D	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	DSMW-3	ug/l	No Trend	0#	None	2.75	2	No Change	2.925
VINYL CHLORIDE	DSMW-4	ug/l	No Trend	0#	None	12.25	2	No Change	25
VINYL CHLORIDE	EW-2	ug/l	No Trend	0#	None	4.45	2	No Change	6.25
VINYL CHLORIDE	EW-3	ug/l	Downward	-0.09337#	Exceedance	2.574	2	No Change	6.414
VINYL CHLORIDE	EW-4	ug/l	No Trend	0#	None	3.313	2	No Change	2.85
VINYL CHLORIDE	GS-1	ug/l	No Trend	0#	None	3.625	2	No Change	20.75
VINYL CHLORIDE	GS-2	ug/l	No Trend	0#	None	12.5	2	No Change	29.25
VINYL CHLORIDE	GS-3D	ug/l	No Trend	-0.008991#	Compliance	0.5	2	No Change	88.7
VINYL CHLORIDE	GS-3I	ug/l	No Trend	0#	None	4.575	2	Better	17
VINYL CHLORIDE	GS-4	ug/l	NR	#	Compliance	0.5	2	NR	
VINYL CHLORIDE	MW-02BR	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	MW-02D	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	MW-02S	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	MW-05S	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	MW-07D	ug/l	No Trend	0#	None	7.75	2	No Change	18.25
VINYL CHLORIDE	MW-07S	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	MW-08BR	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	MW-08D	ug/l	No Trend	0#	Compliance	0.5	2	No Change	13.25
VINYL CHLORIDE	MW-08S	ug/l	No Trend	0#	Compliance	1.863	2	No Change	10
VINYL CHLORIDE	MW-09D	ug/l	No Trend	0#	None	22.5	2	No Change	25
VINYL CHLORIDE	MW-12	ug/l	NR	#	Compliance	0.5	2	NR	
VINYL CHLORIDE	MW-14	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	MW-15	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	MW-23D	ug/l	No Trend	0#	None	6	2	No Change	6.75
VINYL CHLORIDE	MW-23S	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.675
VINYL CHLORIDE	MW-24	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	MW-25	ug/l	No Trend	0#	Compliance	0.5	2	No Change	0.5
VINYL CHLORIDE	MW-34I	ug/l	No Trend	0#	Compliance	0.5	2	Better	27
VINYL CHLORIDE	MW-37D	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	MW-37S	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	MW-38D	ug/l	No Trend	0#	Compliance	0.775	2	No Change	9.75
VINYL CHLORIDE	MW-38S	ug/l	No Trend	0#	Compliance	0.55	2	No Change	4.675
VINYL CHLORIDE	MW-3D	ug/l	Downward	-0.1001#	Exceedance	2.725	2	No Change	9.418
VINYL CHLORIDE	MW-3I	ug/l	No Trend	0#	Compliance	0.875	2	No Change	28
VINYL CHLORIDE	MW-41	ug/l	No Trend	0#	None	145	2	No Change	145

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			Result	Slope Estimate (Units*/Yr)	Result	UCL (Units*)	Standard (Units*)	Result	UPL (Units*)
VINYL CHLORIDE	MW-42I	ug/l	No Trend	0#	**Compliance**	**0.5**	**2**	No Change	0.6
VINYL CHLORIDE	MW-43BR	ug/l	No Trend	0#	**Compliance**	**0.5**	**2**	No Change	0.5
VINYL CHLORIDE	MW-51D	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	MW-51I	ug/l	No Trend	0#	**None**	**2.5**	**2**	No Change	8.9
VINYL CHLORIDE	MW-53	ug/l	No Trend	0#	**Compliance**	**0.5**	**2**	No Change	0.5
VINYL CHLORIDE	MW-54	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	MW-55	ug/l	No Trend	0#	**Compliance**	**0.6**	**2**	No Change	0.5
VINYL CHLORIDE	MW-56D	ug/l	No Trend	0#	**Compliance**	**1.65**	**2**	No Change	5
VINYL CHLORIDE	MW-56I	ug/l	No Trend	0#	**None**	**7**	**2**	No Change	15.5
VINYL CHLORIDE	MW-56S	ug/l	No Trend	0#	**None**	**7**	**2**	No Change	13.5
VINYL CHLORIDE	NE-26D	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	NE-26I	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	NE-26S	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	NE-50D	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	NE-50I	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	NE-50S	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	NE-80D	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	NE-80I	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	NE-80S	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	RAW-01D	ug/l	No Trend	0#	**Compliance**	**0.5**	**2**	No Change	0.5
VINYL CHLORIDE	RAW-01I	ug/l	No Trend	0#	**None**	**92.5**	**2**	No Change	63.75
VINYL CHLORIDE	RAW-02D	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	RAW-02I	ug/l	No Trend	0#	**Compliance**	**0.5**	**2**	No Change	0.5
VINYL CHLORIDE	RAW-02S	ug/l	NR	#	NR		2	NR	
VINYL CHLORIDE	RMW-02D	ug/l	No Trend	0#	**Compliance**	**0.5**	**2**	No Change	0.5
VINYL CHLORIDE	RMW-02S	ug/l	No Trend	0#	**Compliance**	**0.5**	**2**	No Change	0.5

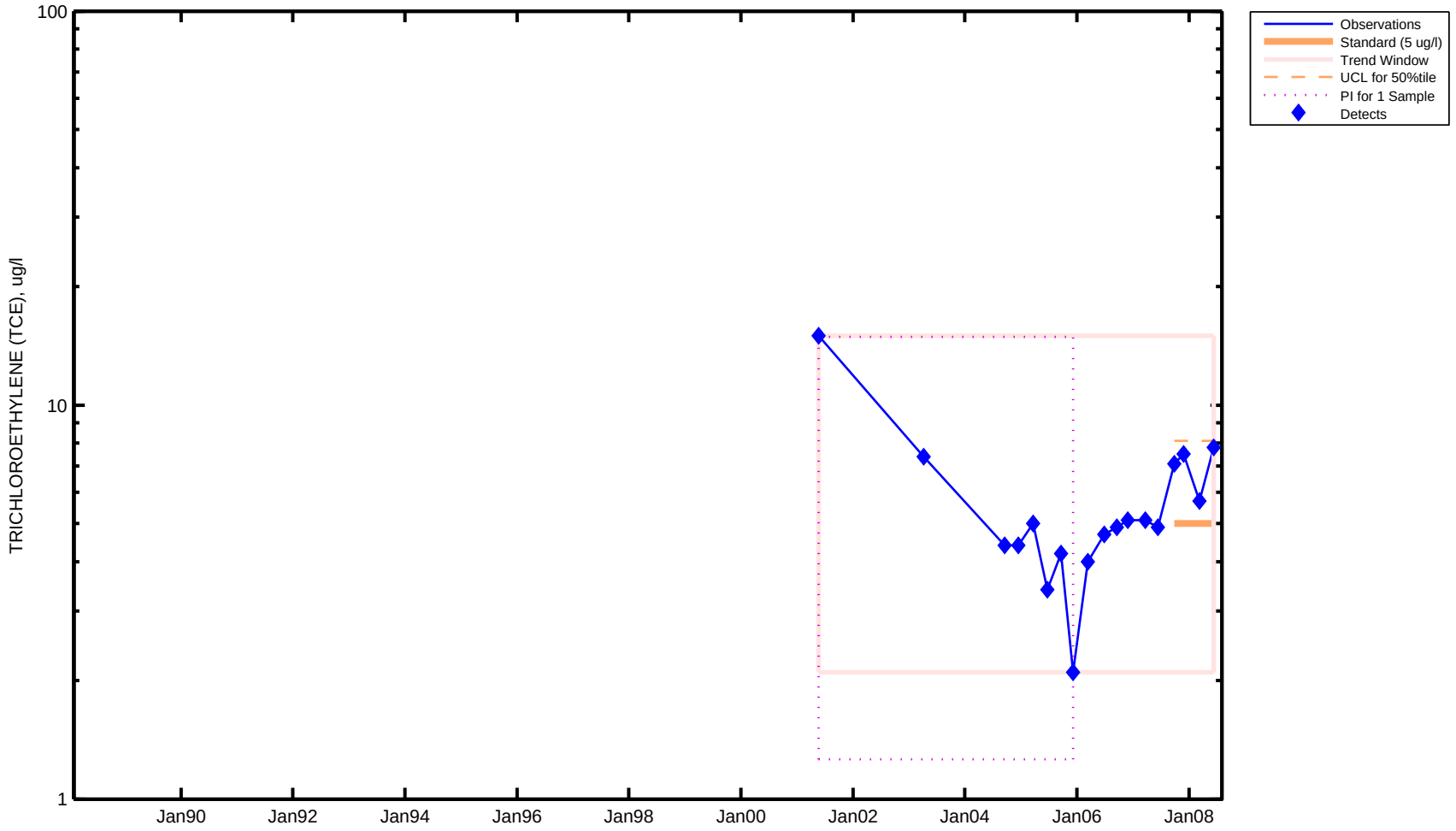
means trend coefficient of log-transformed data. Log(2) times reciprocal is doubling(+)/halving(-) time.

Statistical Note: ND surrogate = 0.5 X Median of Nondetects' PQLs.

Results created on 14-Nov-2008 .

MW−14
TRICHLOROETHYLENE (TCE)
Conrail Railyard− Elkhart, IN

Standard
Baseline
Trend

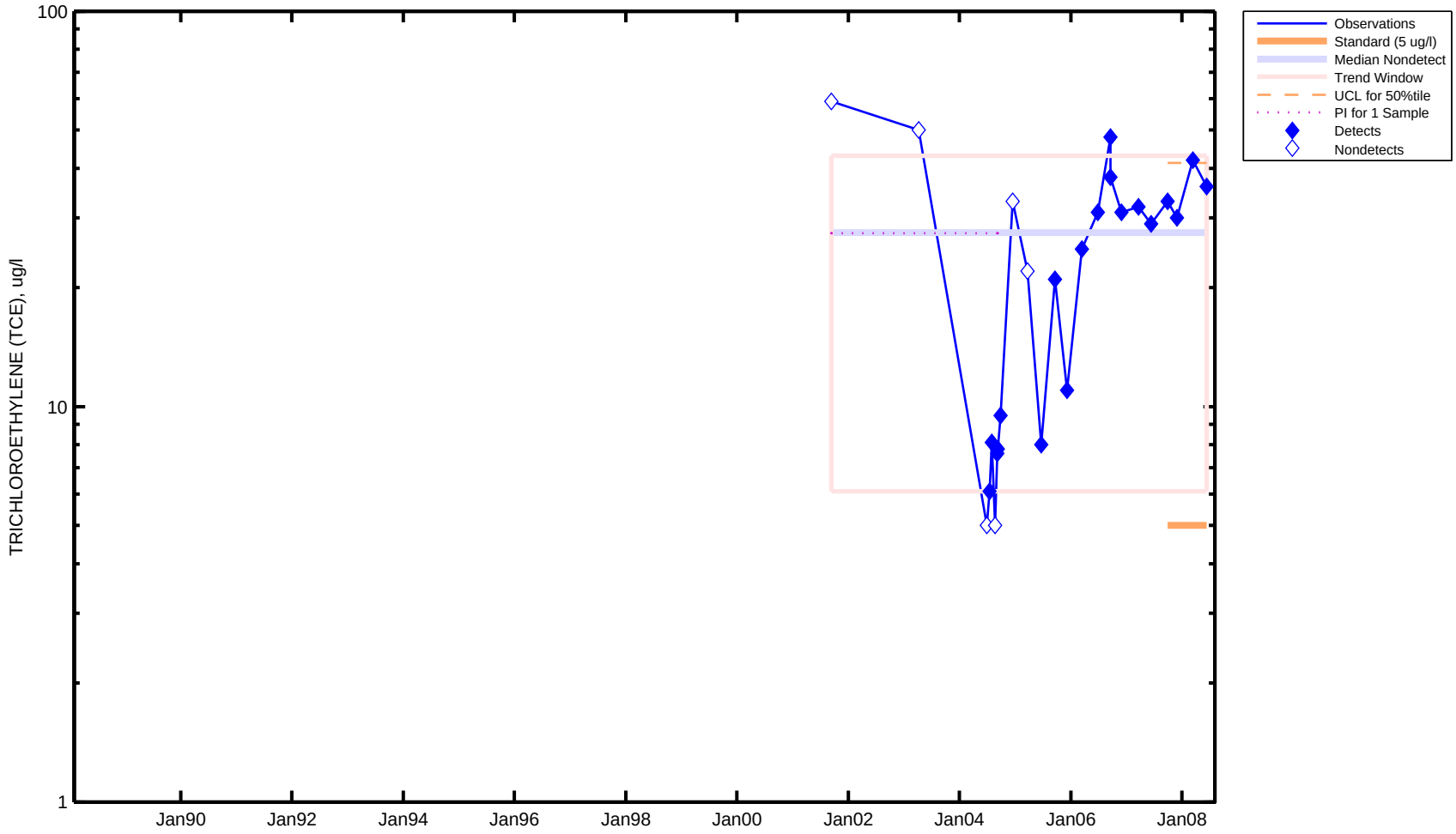


Standard Test (95%): Exceedance <UCL = 8.12e+000 ug/l>
Baseline Test (95%): No Change <UPL/LPL = 1.49e+001/1.26e+000 ug/l>
Trend Test (80%): Upward <Slope = 7.58e−002 log−ug/l/year>
Statistical Note: ND surrogate = 0.5 X Median of nondetects' PQLs

Run Date: 14−Nov−2008
Prepared by: US EPA, Region 5

MW−38D
TRICHLOROETHYLENE (TCE)
Conrail Railyard− Elkhart, IN

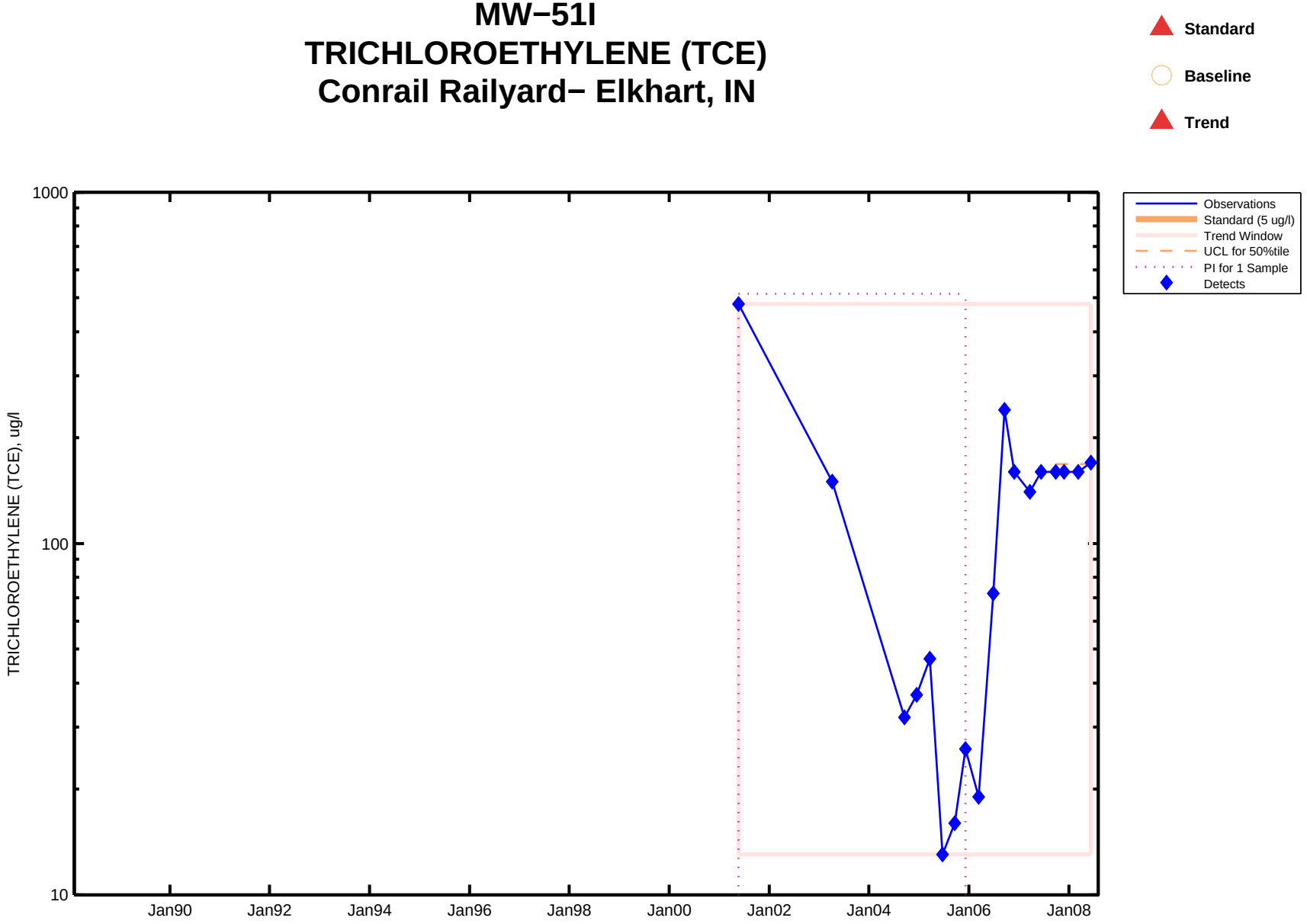
Standard
Baseline
Trend



Standard Test (95%): Exceedance <UCL = 4.13e+001 ug/l>
Baseline Test (95%): Worse <UPL/LPL = 2.75e+001/0.00e+000 ug/l>
Trend Test (80%): Upward <Slope = 3.59e−001 log−ug/l/year>
Statistical Note: ND surrogate = 0.5 X Median of nondetects' PQLs

Run Date: 14−Nov−2008
Prepared by: US EPA, Region 5

MW−51I
TRICHLOROETHYLENE (TCE)
Conrail Railyard− Elkhart, IN



Standard Test (95%): Exceedance <UCL = 1.68e+002 ug/l>
Baseline Test (95%): No Change <UPL/LPL = 5.13e+002/3.48e+000 ug/l>
Trend Test (80%): Upward <Slope = 5.03e−001 log−ug/l/year>
Statistical Note: ND surrogate = 0.5 X Median of nondetects' PQLs

Run Date: 14−Nov−2008
Prepared by: US EPA, Region 5

Appendix B

GROUNDWATER ELEVATION CONTOURS AND CAPTURE ZONES

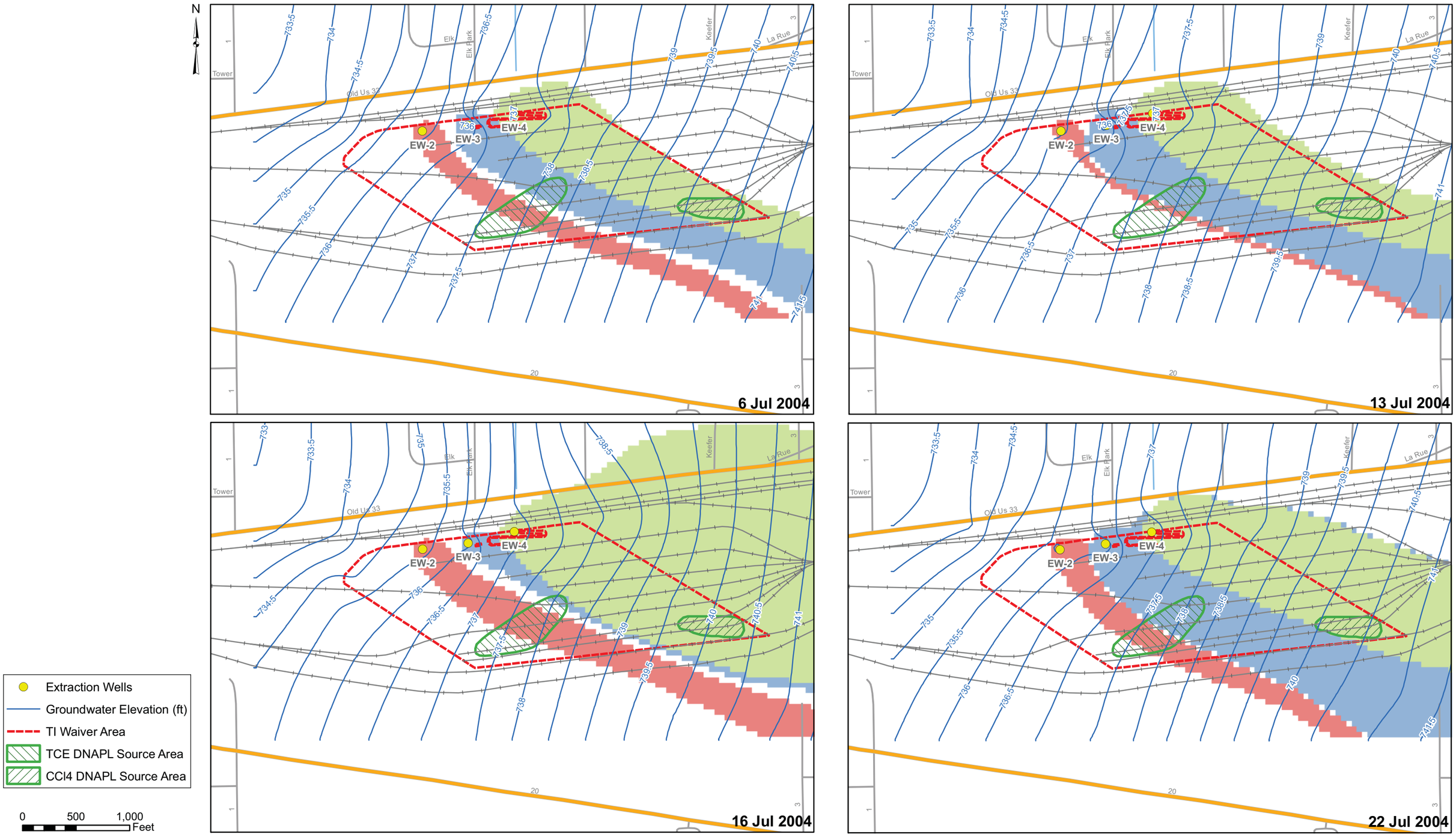
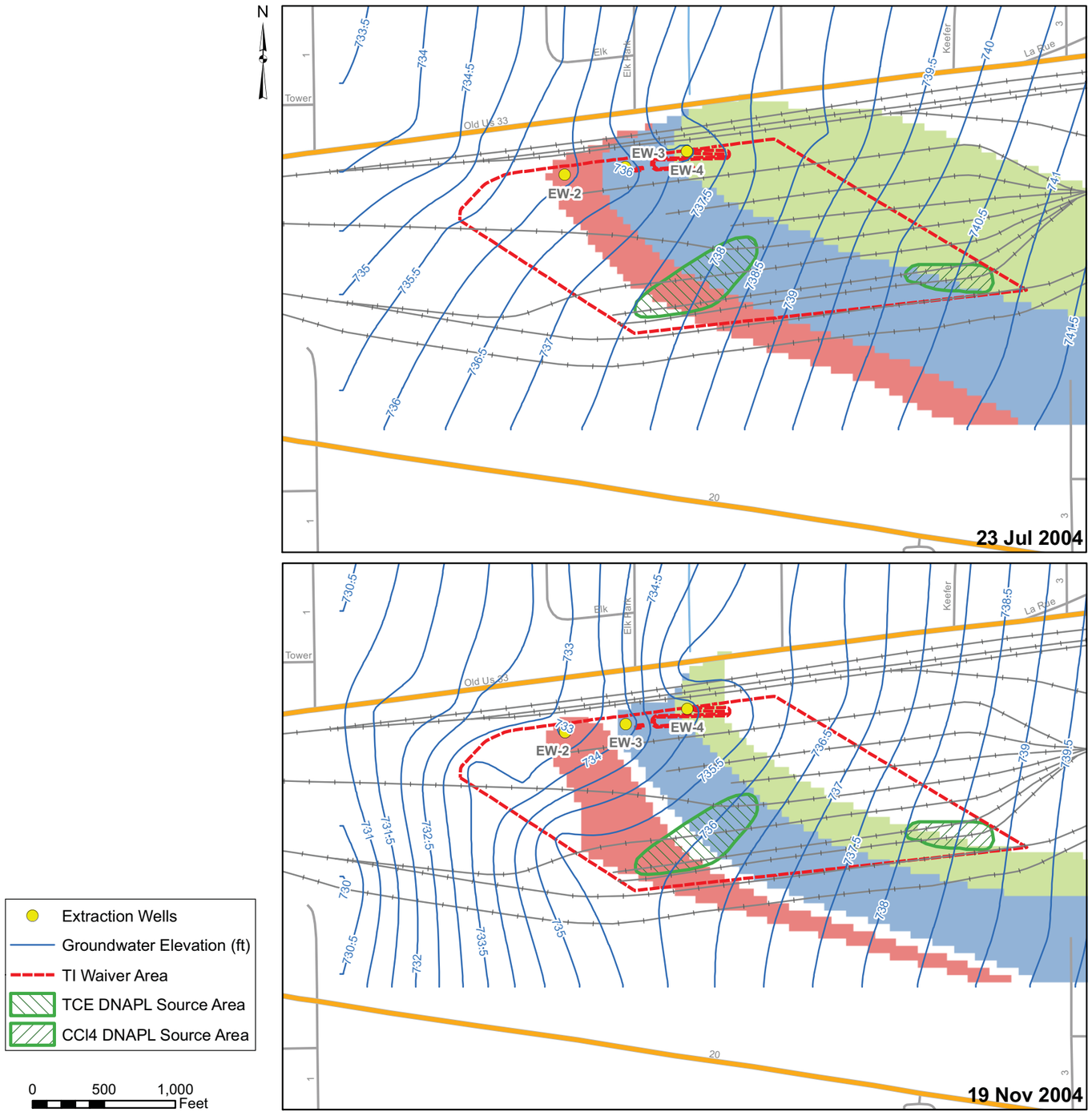


Figure B1 Groundwater Elevation Contours and Capture Zones



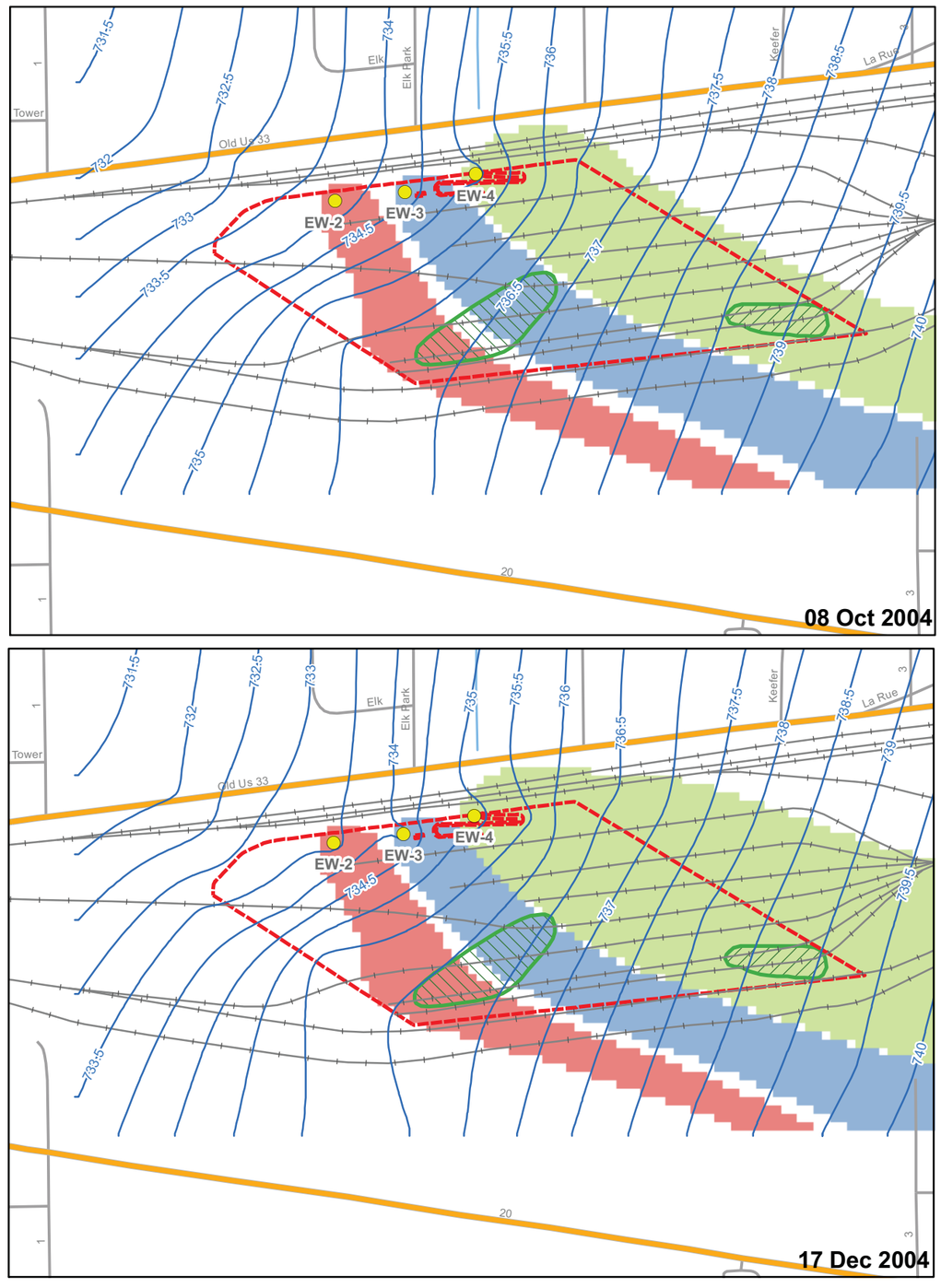


Figure B2 Groundwater Elevation Contours and Capture Zones

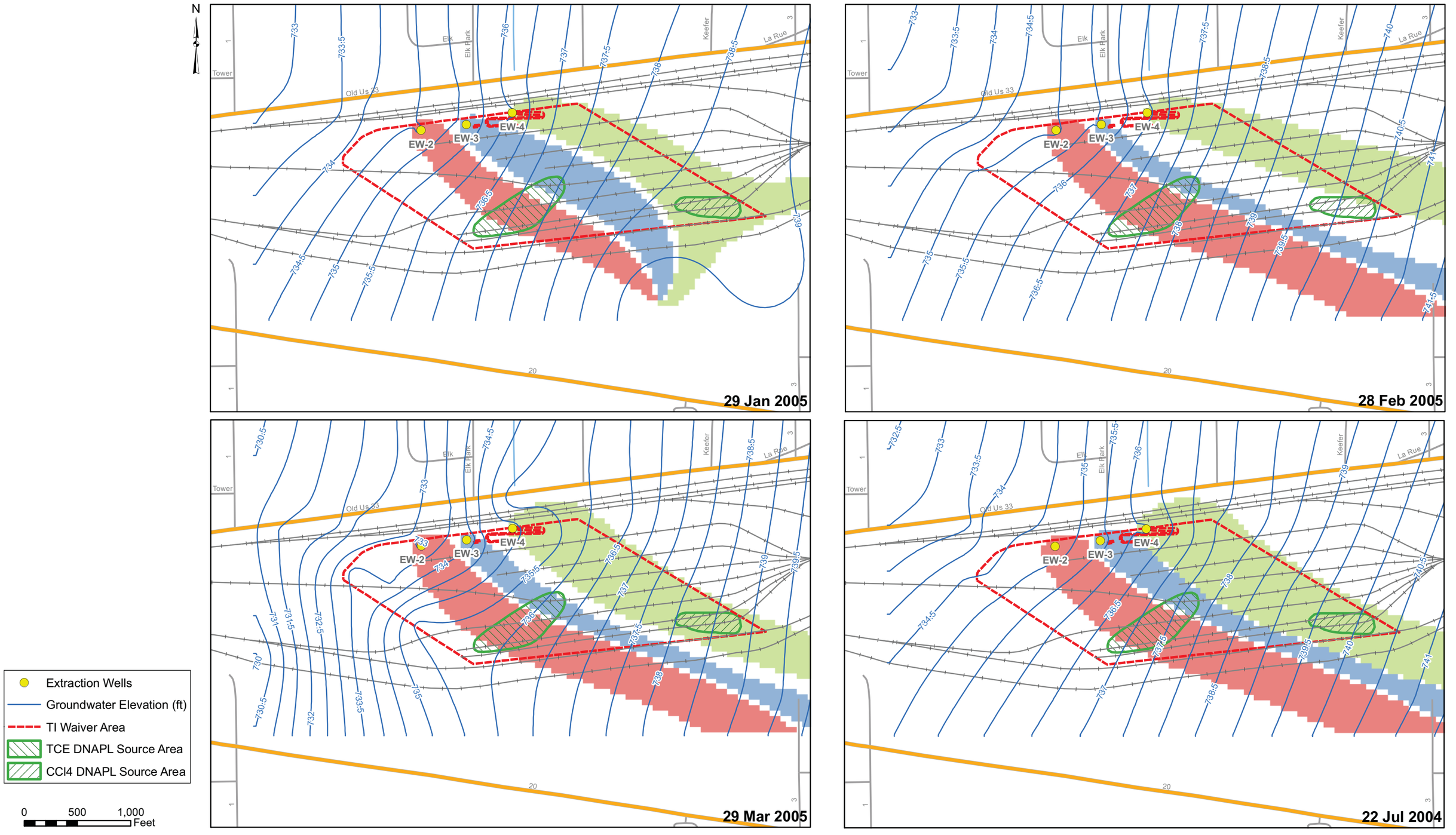


Figure B3 Groundwater Elevation Contours and Capture Zones

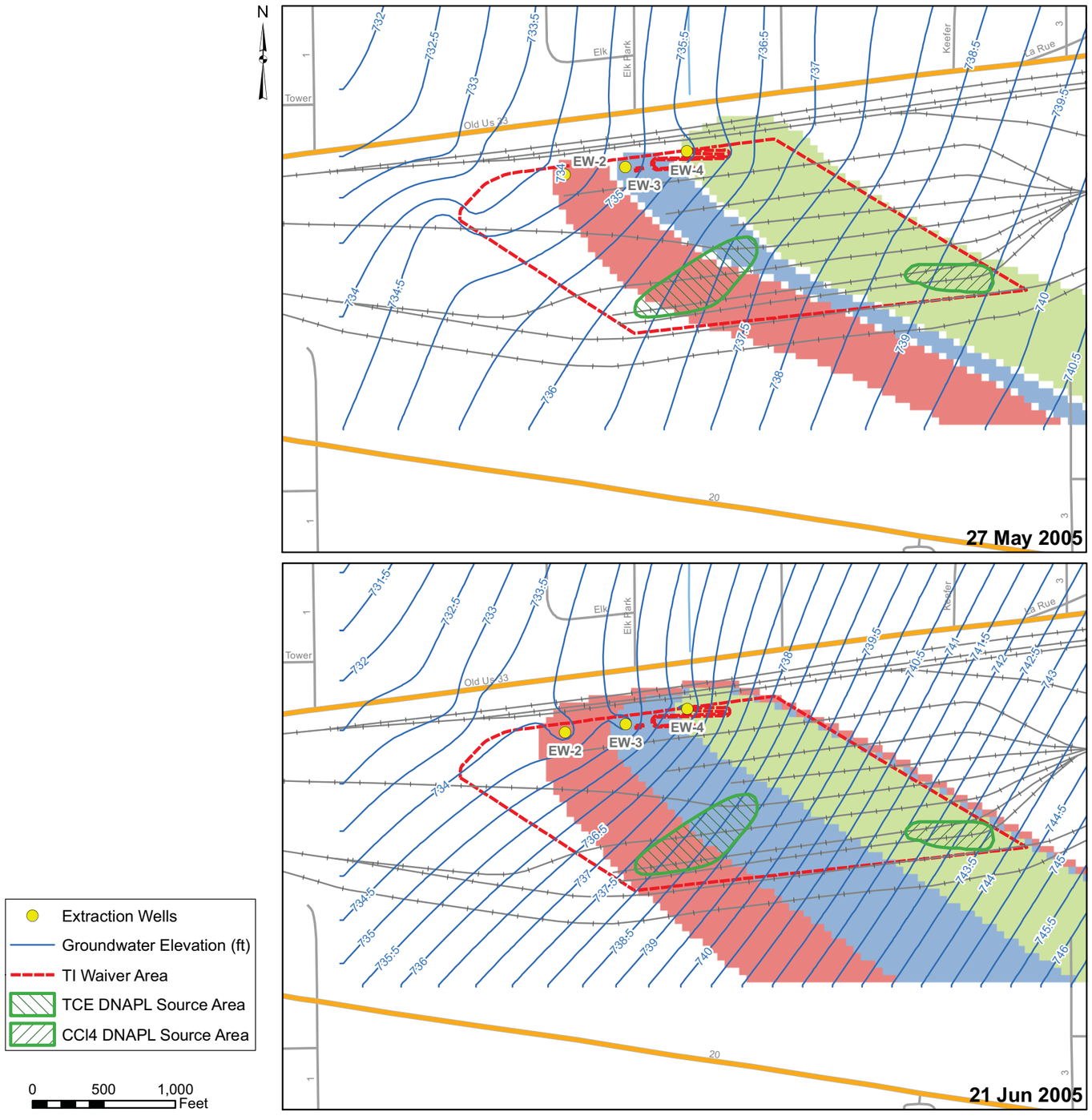


Figure B4 Groundwater Elevation Contours and Capture Zones

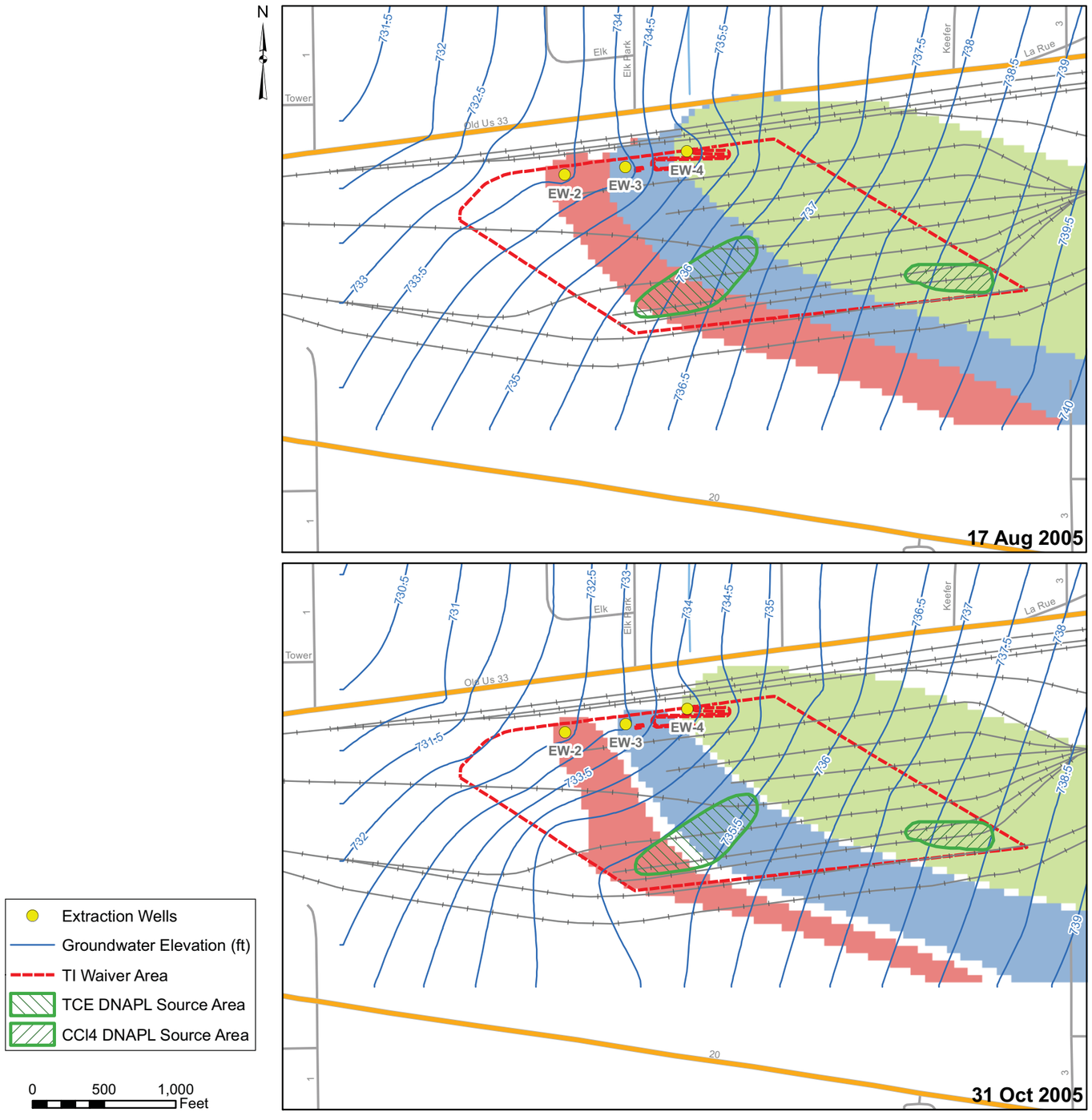


Figure B5 Groundwater Elevation Contours and Capture Zones

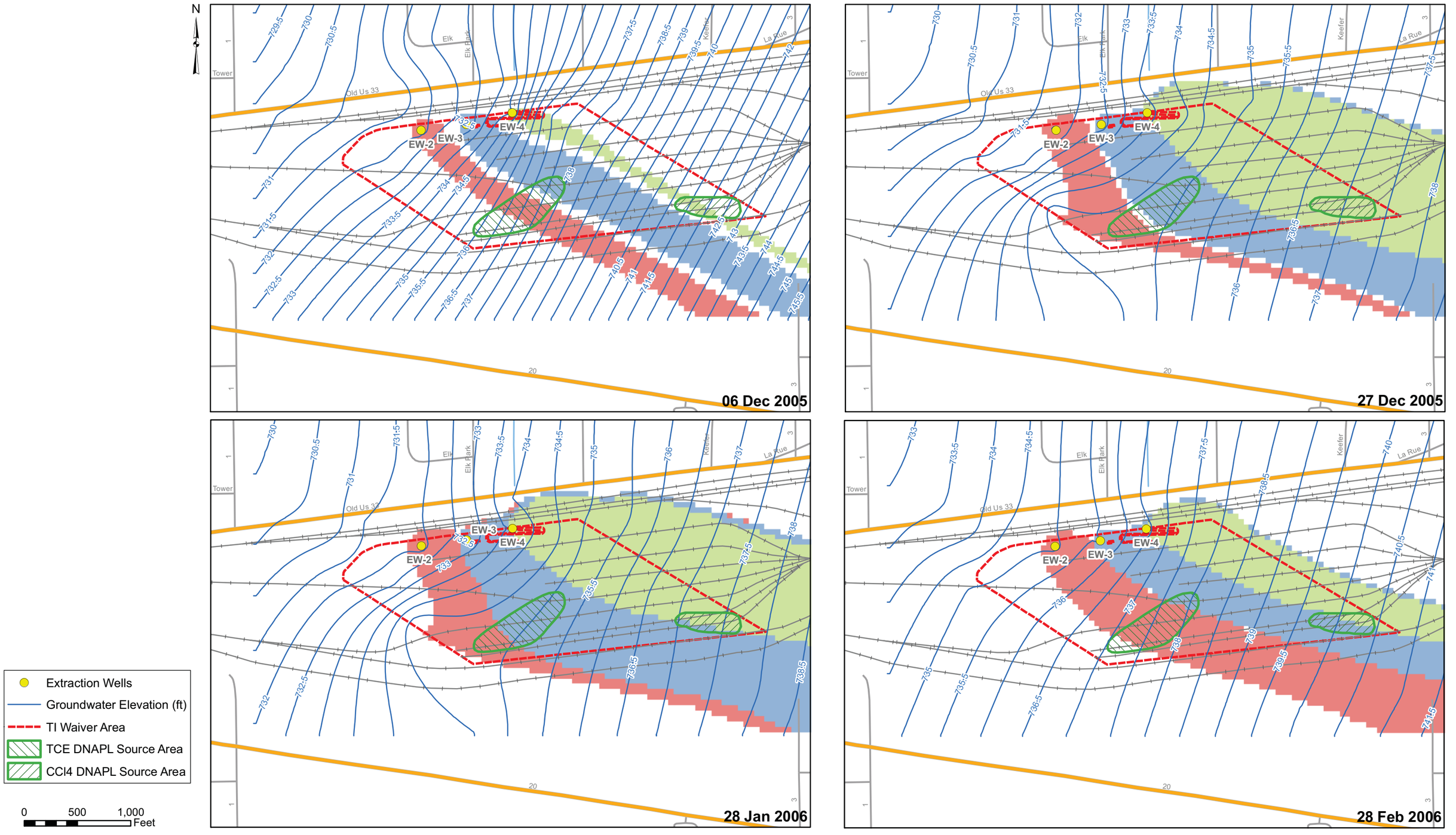


Figure B6 Groundwater Elevation Contours and Capture Zones

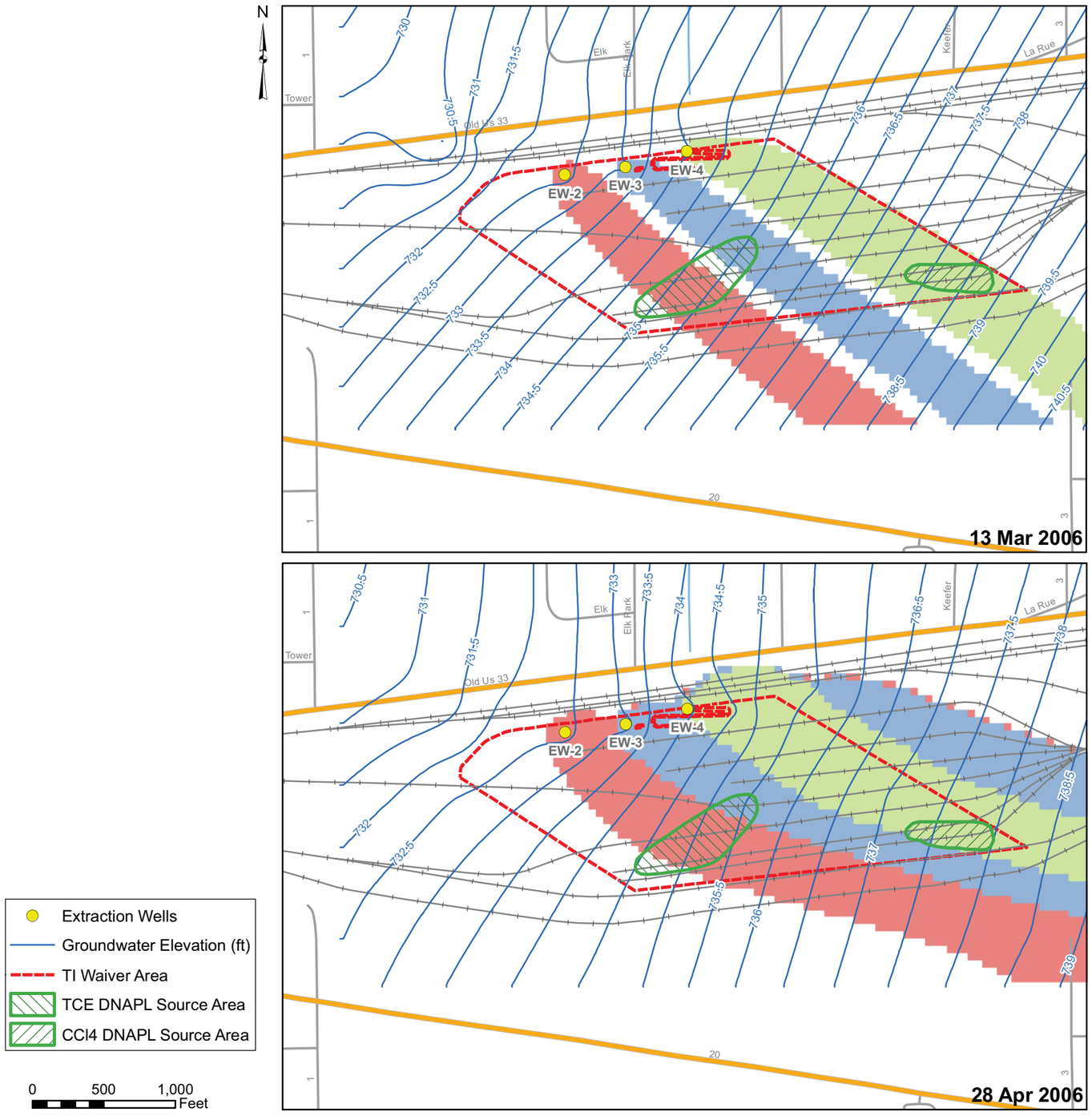


Figure B7 Groundwater Elevation Contours and Capture Zones

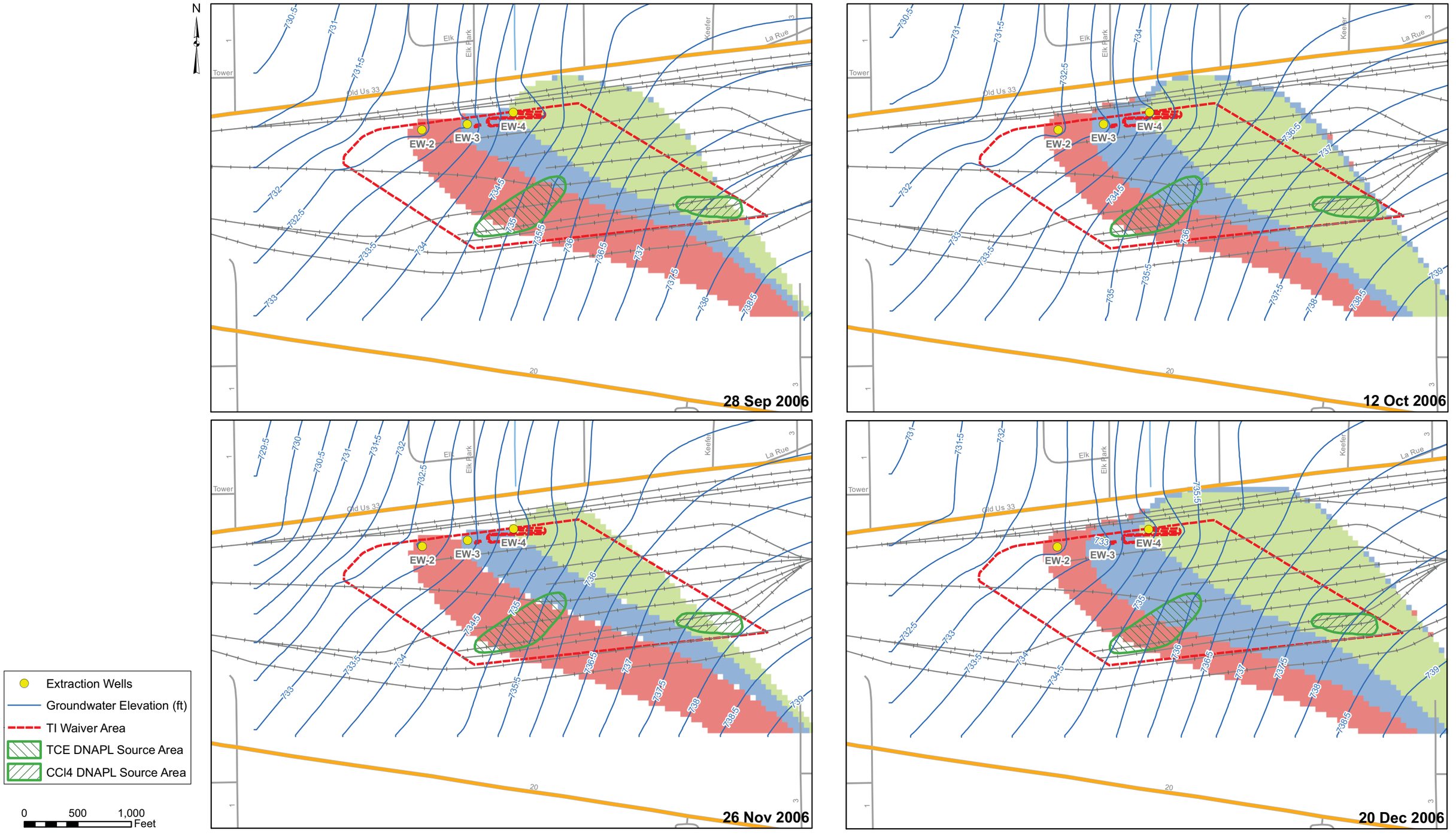
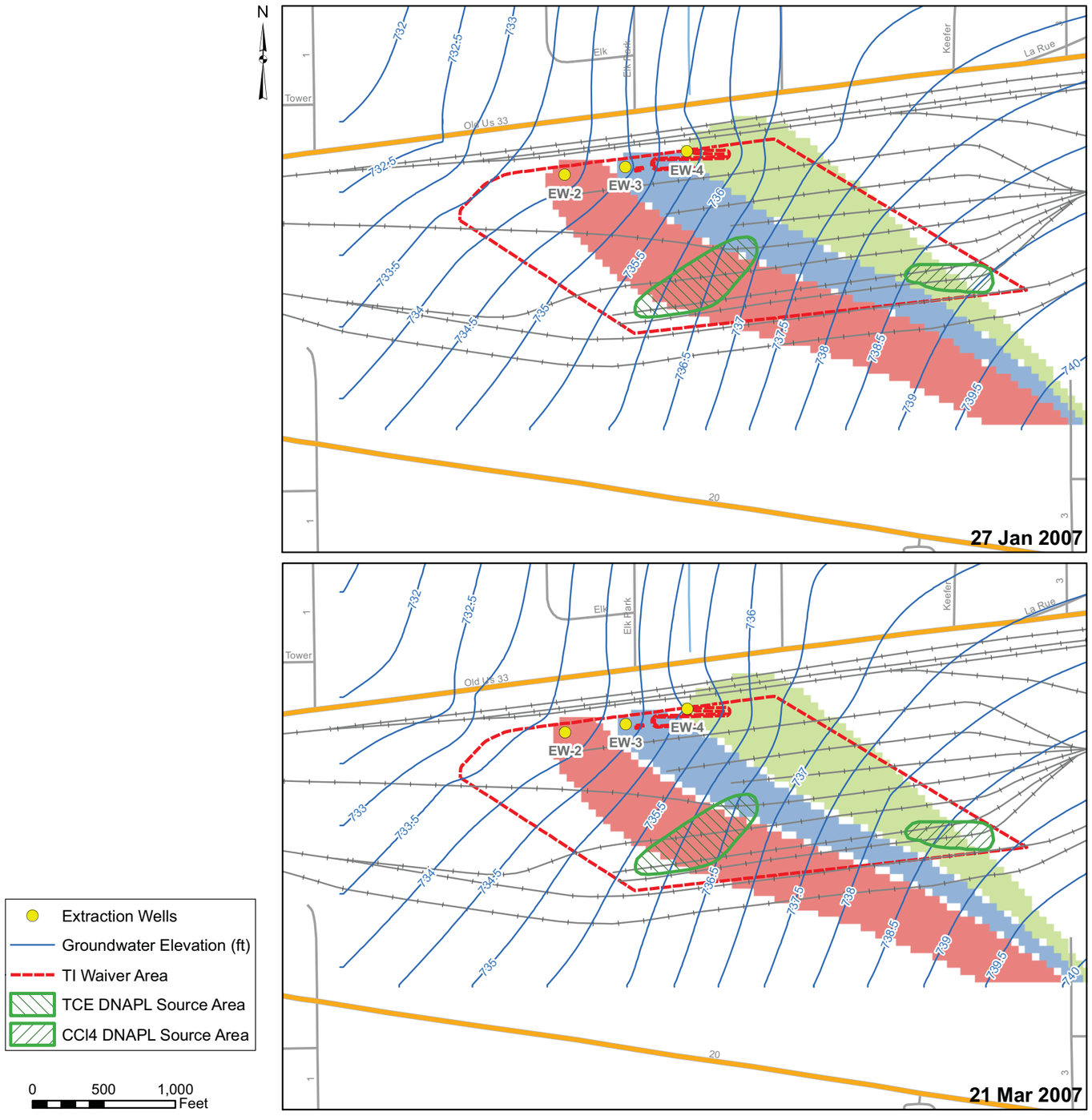


Figure B8 Groundwater Elevation Contours and Capture Zones



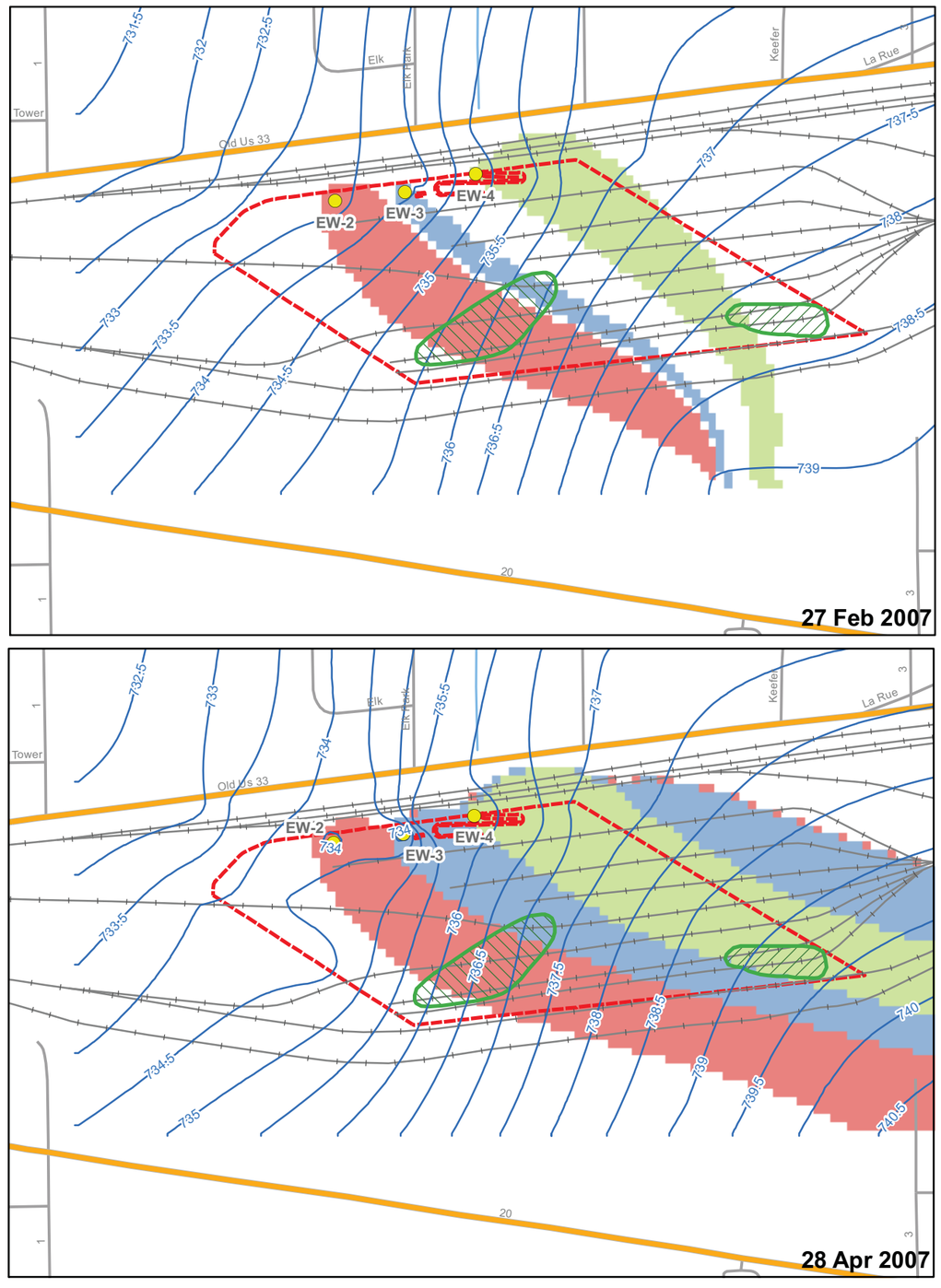


Figure B9 Groundwater Elevation Contours and Capture Zones

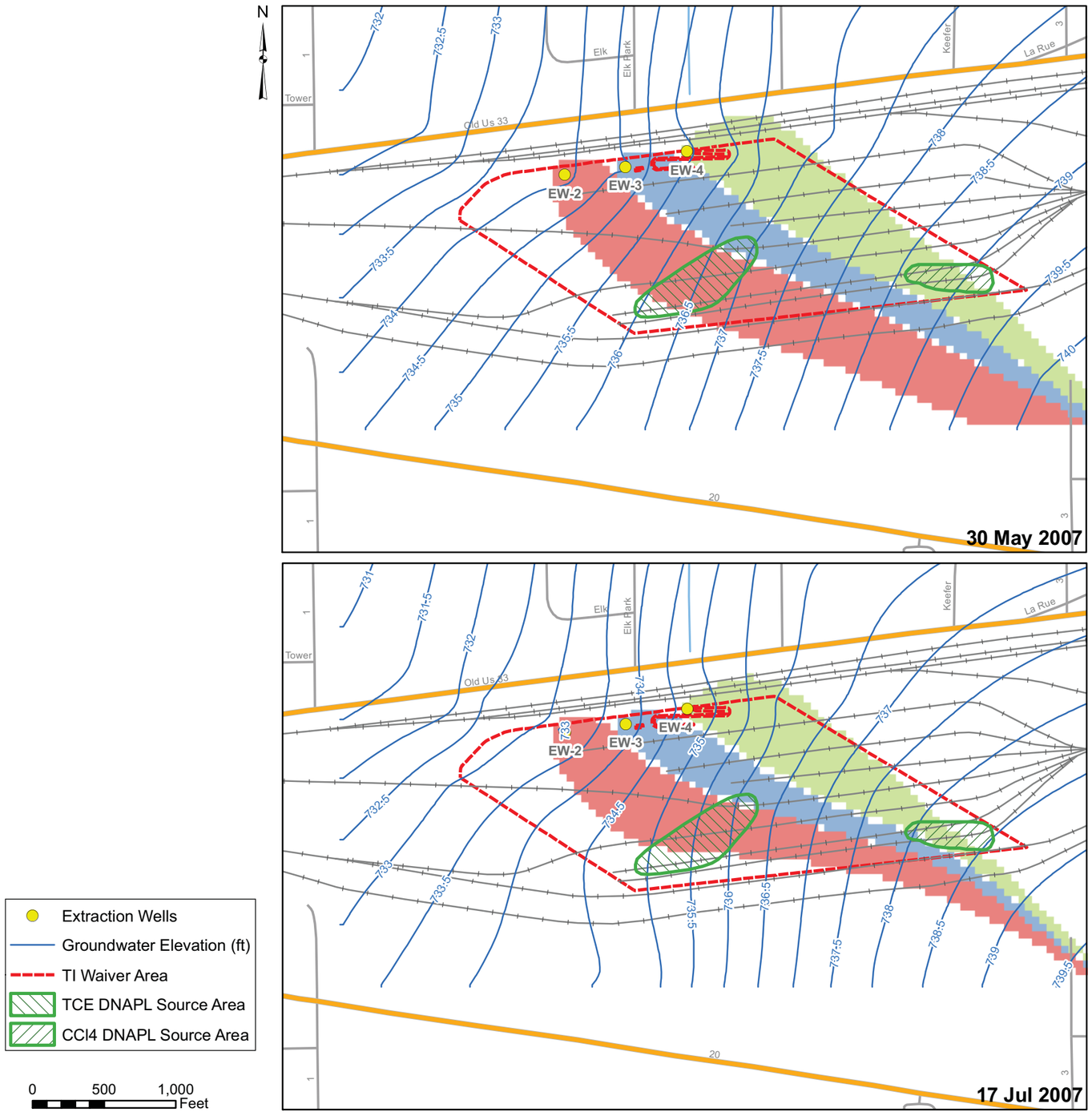


Figure B10 Groundwater Elevation Contours and Capture Zones

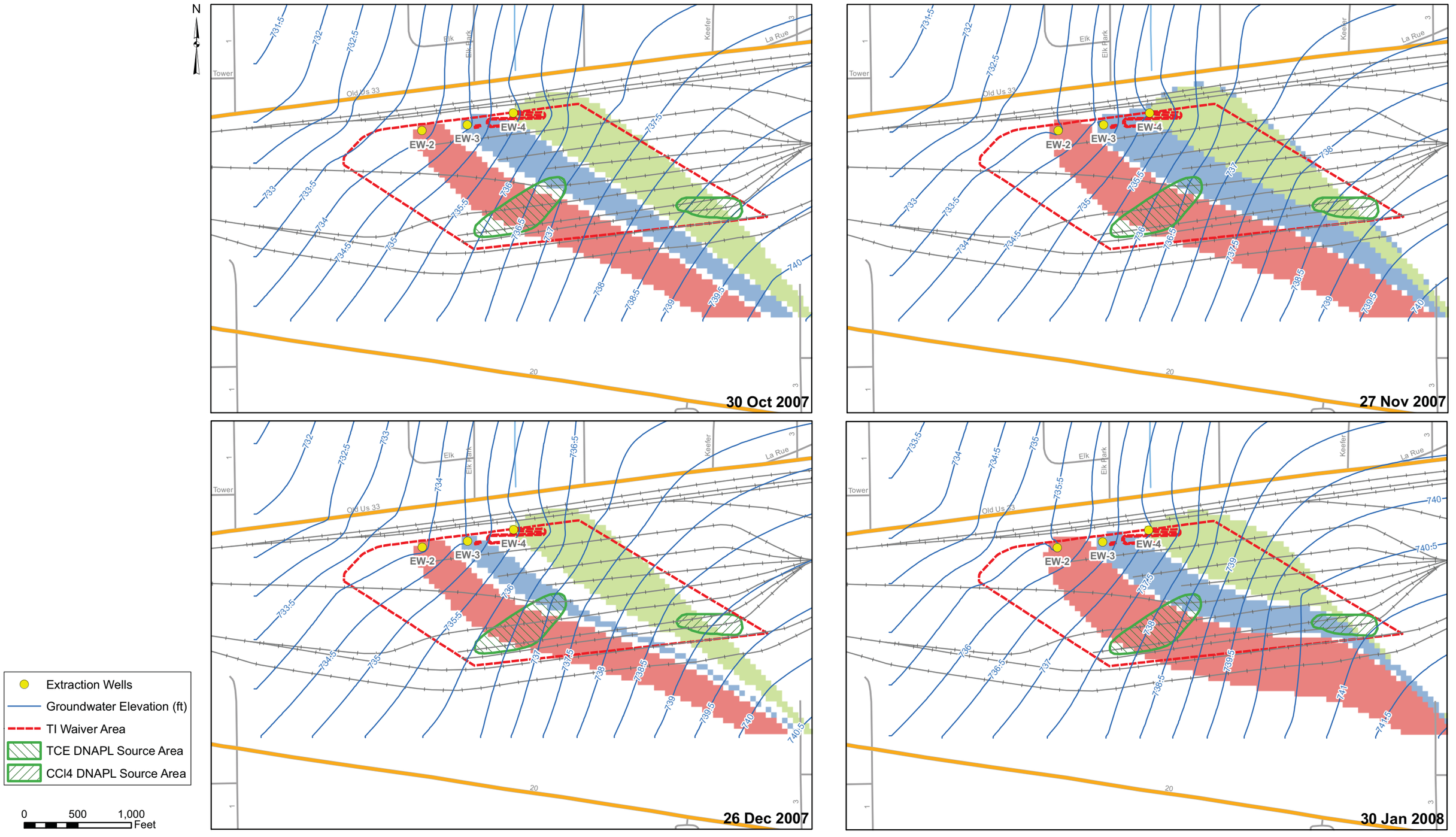


Figure B11 Groundwater Elevation Contours and Capture Zones