K P R G

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

GROUNDWATER IMPACTS SOUTH OF PERKINS AVENUE

November 15, 2018

Mr. Mark Drews, P.G.
Wisconsin Department of Natural Resources
141 NW Barstow Street, Room 180
Waukesha, WI 53188

VIA E-MAIL and FEDEX KPRG Project No. 11717

Re: Project Meeting Follow-up - South Data Summary and Position
Former Navistar/RMG Foundry - 1401 Perkins Avenue, Waukesha, WI
BRRTS # 02-68-098404

Dear Mr. Drews:

KPRG and Associates, Inc. (KPRG) in support of our client Navistar, Inc. (Navistar) has completed two rounds of additional site investigation work at the former Navistar/RMG Foundry (RMG Foundry) site in Waukesha, Wisconsin. Results of this sampling and supporting data were provided in the following documents:

- Interim Soil and Groundwater/Surface Water Data Summary, KPRG and Associates, Inc., April 26, 2018.
- Groundwater/Surface Water Sampling Update, KPRG and Associates, Inc., August 30, 2018.
- Interim Soil Vapor Intrusion Data Summary, KPRG and Associates, Inc., September 20, 2018.

The results of the additional investigation work were presented to the Wisconsin Department of Natural Resources (WDNR) in meetings on March 29, 2018 and October 2, 2018, respectively. In the first two submittals, KPRG and our client Navistar contend that the chlorinated solvent impacts detected in groundwater within the neighborhood to the south of Perkins Avenue are associated with a separate source and not with defined TCE impacts on the RMG Foundry property north of Perkins Avenue. In both submittals, various lines of evidence were presented in support of this conclusion. At the end of the October 2, 2018 WDNR meeting, it was requested that Navistar/KPRG perform a thorough review of the work that was completed on the industrial properties south of Perkins Avenue and integrate these data, as appropriate, with data from the

RMG Foundry site. This information would then be reviewed by WDNR to assist with their evaluation of whether chlorinated solvent groundwater impacts beneath the neighborhood to the south of Perkins Avenue are associated with a separate historic or ongoing source of impacts not related to RMG Foundry operations. To complete this task, KPRG performed a Freedom of Information Act (FOIA) file review of available WDNR files regarding former industrial operations over which the neighborhood to the south of Perkins Avenue is built. Specifically, the following files were reviewed:

- BRRTS # 03-68-004657 – Tews Company LUST
- BRRTS # 03-68-004424 – TBA Distributors LUST
- BRRTS # 02-68-168232 – General Castings Corp. Former Roundhouse Site

The files were reviewed by KPRG on October 22, 2018 and then again on October 31, 2018 as additional questions arose in reviewing the initially reproduced information from the first file review to make sure nothing was missed.

The subject tract of land is an approximate 20+-acre parcel that was owned by various railroad companies extending back to the late 1800's with the most recent railroad ownership being Wisconsin Central, Ltd. The southern approximate third of the property was occupied by a roundhouse for the maintenance and repair of locomotives and rail cars. The approximate central third of the property was leased to Werra Aluminum in the late 1940's for unspecified manufacturing purposes after which time it was leased to General Castings for foundry operations through the late 1980's. The northern third of the property was occupied by Tews Company operating a concrete batch plant and TBA Distributors which formerly included a bulk oil facility and gasoline station. The entire 20+-acre property was purchased by McGlenn Partnership from Wisconsin Central, Ltd. in 1984 for purposes of redevelopment.

The discussions below summarize the file review findings as a whole for the combined parcels with site specific references as appropriate. These discussions are followed by broader evaluations which tie together some of the historic data with more contemporaneous data being generated as part of the current RMG Foundry site investigation work.

It is also noted that the general surrounding area to the east (upgradient of groundwater flow) of the McGlenn Partnership property has a long history of industrial uses, some of which have documented chlorinated solvent issues, and these include, but not limited to:

- Healey Manufacturing (1231 The Strand) – Manufacturer of military and commercial wiring, harnesses and cable since 1957.

- Akerman - Former VME-FS (1005 Perkins Avenue) – Associated with construction equipment manufacturing since circa 1975. This is currently an "Open" WDNR Environmental Repair Program (ERP) site with documented trichloroethene (TCE) and 1,1,1-tyrichloroethane (TCA) groundwater impacts. The most recent information found on BRRTS on-the-web indicates a push-letter from WDNR dated June 2014.

- Alloy Products Corporation (1045 Perkins Avenue) – Manufacturer of stainless steel pressure vessels since circa 1929. This is also an "open" WDNR ERP site with documented chlorinated solvent contamination.

These sites have been highlighted to reiterate the past and present industrial history of the area, however, KPRG did not complete any specific file reviews of these sites and they are not included in the discussions below.

GENERAL FILE REVIEW COMMENTS/OBSERVATIONS

Initial work on the property south of Perkins Avenue was performed by Sigma Environmental Services, Inc. (Sigma) in 1992 which was summarized in A Preliminary Report of a Subsurface/Hydrogeologic Investigation at Railroad/Foundry Site dated April 15, 1992. This work focused on the General Castings portion of the property (approximate southern two-thirds of the overall combined redevelopment property). The work included soil and groundwater sampling with most of the investigation being focused on the former railroad roundhouse on the south side of the site and one monitoring well installed near the north border of the site (Sigma MW-1). There was no site investigation work completed within the central portion of that site that contained the former General Castings Foundry operations. The report omitted groundwater data from Sigma MW-1 (see page 17, Table 5 of above referenced Sigma report) which detected trichloroethene at 54 ug/l, above the WDNR NR 140 enforcement standard (ES) of 5 ug/l (see second bullet below in file review discussion and KPRG Figure 1 and Attachment 1 for well location in relation to the General Castings Foundry). Data for Sigma MW-1 was subsequently provided to WDNR by Wisconsin Central, Ltd. in a letter dated August 6, 1992 and is provided in Attachment 2. There was additional subsequent site investigation and cleanup work, focused on petroleum hydrocarbon impacts in both soil and groundwater, completed in the vicinity of the former roundhouse on the south side of the overall McGlenn property. Closure was issued relative to the petroleum hydrocarbon impacts was obtained in August 1999. The additional work did not include any soil or groundwater sampling from within the footprint of the former General Castings Foundry operations and we have not seen evidence that any was required by WDNR at that time.

The northern third of the overall combined redevelopment property included a parcel of land leased by TBA Distributors (TBA) and a parcel of land leased by Tews Company (Tews). Both of these sites were listed as having leaking underground storage tanks (LUSTs). Activities at both properties were initiated in 1994 and closure was received for the TBA LUST in September 1995 and for the Tews LUST in February 1997. Most of the LUST work was focused on petroleum volatile organic compounds (VOCs) however, some sampling for full VOC analysis was also performed. These data will be discussed further below.

Based on the overall file review, the following general observations are made:

- There was a substantial amount of site investigation and cleanup work performed on the southern third and northern third of the overall redevelopment property, but there is a complete paucity of data, either soil or groundwater, from the central third of the property where the General Castings Foundry was situated. This is illustrated by the map provided

in Attachment 1 which was copied from a Midwest Engineering Services (MES) submittal dated August 2, 1996. Numerous other similar maps can be found in the various site investigation and cleanup reports within the WDNR files, none of which present any data from beneath the former foundry which occupied the central third of the overall McGlenn property. It is noted that from a review of historical Sanborn Maps it is apparent that over the years this central portion of the property contained numerous features that are normally issues of environmental concern including machine shops, core rooms, and transformers.

- Based on the information available and reviewed in WDNR files, there were continued inconsistencies or inaccuracies in chlorinated VOC data within the various reports and submittals provided to WDNR. This includes the location of Sigma MW-1 which many of the Tews and TBA parcel investigation reports show being much further north than its true location which was obtained by KPRG from the initial Sigma well construction log that included measurements from a fixed building corner on the General Casting Foundry property. A scaled map of the various historical well locations along with existing well locations is provided as Figure 1. Other examples of data omission are:

    - MES Limited Phase II Environmental Assessment Report dated January 29, 1997 includes an appendix (appendices were grouped without specific number designation) of groundwater data generated by Precision Analytical Laboratory in October 1994 for Key Environmental for the Tews property. The data presentation starts with "Page 2" of the data package however, at the top of that page there is TCE groundwater data with a concentration of 330 ug/l. Without Page 1 of the data package it is not known from which location this data was collected. The 330 ug/l concentration is not mentioned anywhere in the report and the data package did not include a copy of the chain-of-custody (COC) so KPRG could not tie it back to a specific well (most other data packages provided did include COCs). The noted partial data package from Key Environmental presented in the MES report is provided in Attachment 3.

    - The potential for chlorinated solvents at the General Castings site is highlighted by a memo dated April 16, 1996 from Frank Schultz (WDNR) to the WDNR Southeast Region contact (copy provided in Attachment 4). The last paragraph of the memo indicates that Sigma (the first consultant used by McGlenn Partnership) was suing the Partnership for removing from their report the documentation of the presence of chlorinated solvents prior to submittal of the report to WDNR. The memo ends with a statement highlighting that cleanup of chlorinated solvents would be significantly higher than the petroleum products that they were addressing at the time

    - Key Environmental Services Tank Closure/Soil Remediation Report – TBA Distributors dated March 21, 1995. This report includes in the appendix (also grouped without specific number designation) a lab report from National Environmental Testing (NET) dated August 26, 1994. The COC includes two samples collected by Key. One was a soil sample from the base of the excavation

area identified as B-1 to be analyzed for gasoline range organics (GRO) and diesel range organics (DRO). The other sample is a water sample identified as S-1 (believed to be a sample of water accumulated within the base of the excavation) and this sample was to be analyzed for VOCs. The data package provided in the appendix also started with "Page 2" and only included the soil sample GRO/DRO data. The VOC water data was not provided nor were any results mentioned in the report. The referenced partial data package is included in Attachment 5 with the chain-of-custody which identifies water sample S-1 to be analyzed for VOCs.

- On August 2, 1996, Midwest Engineering Services (MES) submitted a report entitled Limited Phase II Environmental Site Assessment (ESA) – Perkins Street Property which discussed the chlorinated solvent impacts documented on the Tews property and ascribed the impacts to TCE contamination to the adjoining RMG Foundry property to the north.

- On December 18, 1996, WDNR issued a letter to McGlenn Partnership that approved closure of a petroleum tank release remediation documented in the "Tank Removal/Soil Remediation/Site Closure Report" for the Former Wisconsin Central Ltd Diesel AST Site (see Attachment 6) which clearly stated in the second paragraph that the letter strictly referred to the petroleum contamination but that the solvent contamination would be dealt with as a separate case. Based on the file review, it does not appear that the WDNR actually opened a new BRRTS number for the solvent contamination as would be the current practice for such a case. Nonetheless, the December 18, 1996 letter was limited to petroleum contamination, not solvent contamination.

- On January 29, 1997, MES revised and reissued the above referenced August 2, 1996 report with additional technical discussion in support of their contention that any chlorinated impacts to the south are associated with the impacts documented on the RMG Foundry property to the north. This is despite admitting that all groundwater studies in the area (the McGlenn combined properties and the RMG Foundry property investigations) all show consistently that groundwater flow is in a north-northwesterly direction which would place the noted chlorinated impact issues on the McGlenn property side-gradient (and in fact even slightly upgradient in some cases) of groundwater flow/transport relative to the RMG Foundry facility.

- On February 4, 1997 the WDNR issued a case closure letter for the petroleum LUST issue on the former Tews Company property. There is no mention or discussion of potential remaining chlorinated compound issues.

- On August 18, 1997 a meeting was held between WDNR and McGlenn Partnership to discuss the outstanding chlorinated solvent (TCE) issue. The WDNR requested an additional round of groundwater sampling from monitoring wells MES MW-5, Key MW-2, Key MW-3 and Sigma MW-1 for VOCs. In addition, the WDNR requested some additional unsaturated zone soil sampling to be performed for VOC analysis. On September 15, 1997, MES issued a letter summarizing the results and agreements of the meeting. The letter included a commitment to complete the groundwater sampling and

collect shallow soil samples from four new proposed soil borings with tentative locations shown on a figure (see Attachment 7).

- There is no subsequent documentation within the WDNR files provided to KPRG that the requested additional groundwater sampling was completed by the McGlenn Partnership. However, historical data presented in Appendix H of an August 2015 Site Investigation Report – RMG Foundry issued by TRC does provide some historical groundwater data that includes a round of groundwater sampling collected by RMT in March 1998, as part of early RMG Foundry site investigation work, which included existing wells on the McGlenn Partnership property as well as wells on the RMG Foundry property. The various well locations are included on Figure 1 and the following observations are made relative to McGlenn Partnership wells and closest RMG Foundry well NMW-3:

    - MES MW-5 – TCE concentration decreased from 270 ug/l to 38 ug/l from 1996 to 1998.
    - Key MW-2 – TCE concentration decreased from 130 ug/l to 14 ug/l from 1994 to 1998.
    - Key MW-3 – TCE concentration increased from 230 ug/l to 430 ug/l from 1994 to 1998 with a detection of 510 ug/l in 1996 sampling. It is noted that the highest concentration detected at RMG Foundry well NMW-3 (nearest well to subject area) was 220 ug/l in 1992 which is roughly half the concentration being detected on McGlenn property in 1998.
    - Sigma MW-1 – TCE was detected in the 1998 sampling at trace concentrations of 0.73 ug/l which is below the NR 140 enforcement standard (ES). Earlier data not presented in the above referenced report did show detections of TCE of 54 ug/l from a sample collected in May 1992 but omitted in the associated Sigma report that was submitted to WDNR by McGlenn Partnership (see discussion above and Attachment 2).
    - RMG Foundry NMW-3 – TCE concentration decreased from 220 ug/l in 1992 to 110 ug/l in 1998.

  Additional discussion regarding time versus concentration trends for TCE is provided further below in this letter.

- There is no documentation within the WDNR files that the McGlenn Partnership completed the agreed upon additional soil sampling for VOCs on their property.

- On April 23, 1999 there was a meeting held between WDNR and McGlenn Partnership with the specific purpose being "To assist Mr. McGlenn to bring the site's remedial efforts to successful conclusion." One of the "Remaining Tasks" noted on the discussion agenda was "Solvent Contamination".

- There is no further documentation within the provided WDNR files that indicates the results of those discussions or whether any additional assessment work was performed relative to the chlorinated solvent issue on McGlenn property.

- There is no documentation within the provided WDNR files that formally closes out the chlorinated solvent issue and on what basis that determination was made by WDNR, if any.

EVIDENCE OF TCE SOIL IMPACTS ON McGLENN (FORMER TEWS) PROPERTY

Although chlorinated VOC groundwater impacts beneath the McGlenn property have generally been the focus of discussions due to the paucity of McGlenn property VOC soil data, there is some limited soil data within the WDNR files that documents the presence of TCE impacts above the existing WDNR soil-to groundwater residual contaminant level (RCL) of 3.6 ug/kg (see Attachment 8). The WDNR file included a data package generated by NET dated August 31, 1994 for Key Environmental with soil data from three soil borings (B-3 through B-5) drilled on McGlenn Tews property. These boring locations are included in Figure 1. The TCE data are summarized as follows:

- B-3 (2-6') – TCE <0.10 mg/kg (or less than 100 ug/kg; note the detection limit which is well above the RCL).
- B-4 (10.5'-12') – TCE 0.49 mg/kg (or 490 ug/kg)
- B-5 (5'-8') – TCE 0.34 mg/kg (or 340 ug/kg).

Although it can be argued that the B-4 sampling interval is at or below the water table (i.e., saturated and potentially influenced by groundwater chemistry), the B-5 sample is from a shallower, unsaturated zone interval. This data is likely part of the basis of the request by WDNR in 1997 (see file review discussion above) for McGlenn Partnership to complete additional shallow soil sampling within that area of the site, however, as noted above, there is no documentation or evidence that the additional soil investigation was completed.

GROUNDWATER FLOW AND CONTAMINANT TRANSPORT CONSIDERATIONS

Groundwater flow conditions beneath the overall area have been consistently shown to be in a west to northwesterly direction in all studies that were completed for McGlenn property sites, the RMG Foundry site and the Wisconsin Coachlines site (north of RMG Foundry) by a variety of different consulting firms. This was agreed upon by MES in their revised Limited Phase II ESA dated January 29, 1997. This would place the McGlenn property south of Perkins Avenue to be side gradient, and even slightly upgradient in some cases, of the TCE impacts documented on the RMG Foundry property. MES made an argument within their above referenced report that despite the noted groundwater flow direction, the documented groundwater impacts beneath the McGlenn properties may be the result of potential dense non-aqueous liquid (DNAPL) migration from the RMG Foundry property which can move on top of and within bedrock in a direction opposite to groundwater flow depending on the attitude (direction of slope; a determination that MES did not provide although the data was available to make the determination) of the top of rock in the area and fracture orientation which they describe as "random". MES made generalized, theoretical

statements relative to DNAPL migration within groundwater systems that may be correct, but their reasoning was flawed relative to site specific conditions and they provided no formal evidence that this postulated scenario is actually occurring at the site. Given the more advanced state of the data in the more than twenty years since their study this seems even more clear. KPRG disagrees that this contaminant transport mechanism is the source of the dissolved phase TCE impacts documented on the McGlenn property based on the following:

- During none of the intensive soil and groundwater sampling completed in the 1990's and more recently over the past four years performed on the RMG Foundry property was there an indication of free phase DNAPL. There was no DNAPL smear zone within unsaturated soils noted in any of the borings and there was no evidence or indication of DNAPL in soil or bedrock cores, nor at the bottoms of any monitoring wells. Based on KPRG's experience at other DNAPL sites, there would be some indication or evidence of DNAPL in either the soil/bedrock column or within the monitoring wells.

- A review of the top of bedrock elevations encountered in monitoring wells installed on properties north and south of Perkins Avenue suggests the top of bedrock beneath the western portion of the RMG Foundry property (beneath defined source area) slopes to the west-northwest. This observation was also made by TRC in their Site Investigation Report dated August 2015. Therefore, even if there was documented DNAPL present, potential migration along the top of bedrock would not be towards, but away from the portions of the McGlenn property in question.

- MES stated that fractures within bedrock are random and therefore DNAPL can move randomly through the bedrock system. This statement may be correct in a solid igneous bedrock system such as a granite massif, however, carbonate rocks such as the Silurian Dolomite (the bedrock beneath the subject area) have a developed vertical jointing pattern and although the spacing between joints may be variable, there is a definite directionality with a primary and secondary orientation. The mining faces of limestone and dolomite bedrock quarries generally correspond to the primary and secondary jointing patterns in the rock formation to maximize mining efficiency and minimize breakup to the rock. Evaluating aerial photographs of the bedrock quarry operations just north-northwest of the RMG Foundry indicates jointing patterns with a northwest-southeast trace and southwest-northeast trace. Obtaining a series of measurements from the aerial photographs indicates that the primary joints are orientated approximately N50ºW with secondary jointing oriented approximately N34ºE. Since these joints are generally vertical fractures, flow within the bedrock should still be primarily to the west towards the local discharge boundary of the Fox River with an overriding northerly component and a smaller secondary southerly component. The trace of the impacted groundwater plume as currently presented in the above two referenced KPRG submittal is consistent with this interpretation.

- MES also made an argument that the movement of DNAPL within the fractures of bedrock can also move indiscriminately of flow direction due to the porosity of the face of the bedrock plane along the fracture lines allowing for diffusive transport (see additional discussion on diffusivity below). This observation may be true for some bedrock types such

as sandstone, however, making this broad statement relative to all bedrock formations is inaccurate. In the case of true dolomite, there is little porosity along the face of fracture planes since this is a sedimentary crystalline rock in nature that is formed through precipitation processes. The main source of secondary porosity, outside of fracture development, in the subject dolomite are vugs and although they do occur and have been documented within bedrock cores collected during site investigation work, vugs are generally poorly interconnected and therefore, although they can capture product, they do not readily transmit its movement through the system. It is noted that there was no indication of any DNAPL within vugs observed in bedrock cores. There is also a component of secondary porosity within the overall Silurian Dolomite Formation associated with the inter-bedding of mudstones and siltstones. Based on a review of boring logs from beneath the subject site, there is minimal interlayering of mudstone or siltstone noted. Areas where the more massive dolomite is present with minimal interlayered mudstones are generally where bedrock quarries can be found such as the quarry located north-northwest of the RMG Foundry site.

- MES also failed to recognize that the impacted wells in question on the McGlenn property are all completed within the overlying unconsolidated glacial deposits and not screened in bedrock. Therefore, even if there was some product migration at depth through the underlying bedrock in a direction opposite to that of groundwater flow, of which there is no indication, it is unlikely that wells screened within the overlying glacial deposits would be impacted.

In the January 29, 1997 report, MES also provides copies of computer generated isoconcentration contour maps (MES Figures 6 and 7) for TCE and 1,1,1-trichloroethane (TCA) in groundwater from 1994 data which are incorrect and misleading (see Attachment 9). The maps as presented suggest that all of the detected TCE/TCA impacts in groundwater can be correlated to a source area within the RMG Foundry property. This is because, although it is acceptable to use computer programs to aid in development of contour maps (the program SURFER was used by MES), a practicing professional did not verify these maps relative to standard contouring principles (SURFER uses mathematical averaging algorithms which may ignore important data distribution subtleties) and in the case of groundwater concentration distributions, acceptable groundwater flow and contaminant transport principles. This additional step of verifying the computer generated contours was not performed as can be seen on MES Figure 6 (see Attachment 9) which does not follow standard principals of contouring. On that figure, at well location NMW-2, the contour map indicates that the concentration at this location should be on the order of 2,400 ug/l. In fact, the TCE concentration at that location based on MES Figure 5 (see Attachment 9) was 150 ug/l and the highest concentration ever recorded at well NMW-2 was from RMT sampling in 1996 which showed a detection at 250 ug/l. At no time were there any concentrations at well NMW-2 on the order of 2,400 ug/l. This is just one example of many issues associated with the computer generated contour maps of MES Figures 6 and 7. Attachment 9 also includes a hand contoured reinterpretation of the data completed by KPRG following contouring principles and the understanding of the groundwater flow system. The two hand redrawn maps do not show that the groundwater impacts north of Perkins Avenue are related to the impacts south of Perkins Avenue.

In fact, these distributions are more consistent with the current understanding of TCE groundwater impact distribution suggesting a separate source south of Perkins Avenue.

During the March 2018 meeting between Navistar/KPRG and WDNR, it was postulated by WDNR that dissolved phase TCE from the RMG Foundry site may be pushed to the south by water emanating/leaking from the underground piped creek that flows from east to west beneath the southern third of the RMG Foundry property, daylighting in Frame Park. To evaluate this theory, KPRG installed electronic water level transducers down monitoring wells NMW-3R (on RMG Foundry property just south of the piped creek) and MW-35 (in the neighborhood south of Perkins Avenue, approximately 300 feet from NMW-3R) and recorded water levels at 15 to 30 minute intervals over a period of three months. Hydrographs of the data were provided in KPRG' s aforementioned report titled Groundwater/Surface Water Sampling Update dated August 30, 2018 along with the precipitation data for that time period obtained from the Waukesha County Airport meteorological metering station. A review of the hydrographs presented in that report showed that there was generally a 0.2' to 0.3' water level difference between the two wells, with the higher water level being at well location NMW-3R (this well is slightly east of well MW-35) with a hydraulic side-gradient of approximately (0.0007 to 0.001). This is over an order-of-magnitude lower than the overall horizontal hydraulic gradient beneath the site indicating that the overall preferential flow direction is much stronger to the west than in the slight vector to the southwest between the two subject wells. Further review of the hydrographs as compared to precipitation events indicated that with each precipitation event, water levels within well MW-35 rose more quickly than at NMW-3R. In fact, the water level elevation at MW-35 exceeded the water level elevation at NMW-3R in two instances and was at the same elevation in two other instances. This would not be the case if there was substantial movement of water from the piped creek beneath the foundry north of well NMW-3R due to precipitation events to transport groundwater impacts from the subject site into the neighborhood to the south. In fact, this suggests that the opposite may occur with transport being from south to north.

In the subsequent meeting between Navistar/KPRG and WDNR on October 2, 2018, the WDNR postulated that the dissolved phase TCE groundwater impacts on the McGlenn property could be the result of migration side gradient through diffusion/dispersion over time. Chemical diffusion in solutions is the movement of ionic or molecular constituents under the influence of their kinetic activity in the direction of their concentration gradient. Diffusion occurs in the absence of any bulk hydraulic movement of the solute (Freeze and Cherry, 1979; see Attachment 10 for full referenced literature citations). If the solution is flowing, as in the case of the groundwater flow system beneath the subject area, diffusion becomes a portion of the overall transport process of hydrodynamic dispersion which includes both processes of mechanical dispersion/mixing and molecular diffusion. For many field problems, dispersion caused by molecular diffusion and by flow around grains in the porous medium is negligible in comparison with dispersion caused by large-scale heterogeneities within the aquifer (Wang, H.F. and Anderson, M.P., 1982). Only in cases of extremely low hydraulic gradient where groundwater flow conditions approach near stagnant, would the process of molecular diffusion become a dominant contributor to hydrodynamic dispersion. This is not the situation in the groundwater flow system beneath the subject site. In considering dispersivity within an aquifer, one has to consider both longitudinal dispersivity (in direction of overall groundwater flow away from suspect source area) and

transverse or lateral dispersivity (perpendicular to longitudinal which would be considered side gradient). In general, it is recognized that longitudinal dispersivity is a function of scale which means that the further distance the groundwater plume travels from the source, the greater the longitudinal dispersivity (Fetter, C.W. 1988; Gelhar, L.W., 1986; Mercer, J.W. and Faust, C.R. 1981). Assuming a TCE impact source on the western portion of the RMG Foundry, the travel distance to the downgradient discharge boundary (Fox River) is approximately 975 feet (+/- 300 meters). Fetter (1988) states that as a practical matter, the coefficient of longitudinal dispersion can be estimated to be one-tenth of the length of the flow path which in this case would be on the order of thirty meters (about 100 feet) at the far end of the flow path. Based on a compilation of various field study data presented by Gelhar (1986), a study area of 300 meters in size would have a longitudinal dispersivity on the order of 10 to 30 meters which conservatively agrees with the rule of thumb provided by Fetter (1988). Fetter (1988) also goes on to state that solute will spread in the direction of groundwater flow more than in the direction perpendicular to the flow because longitudinal dispersivity is greater than lateral dispersivity. Anderson and Cherry (1979) present a table of dispersivities obtained using environmental tracers and trial and error calibration adjustments of numerical models from published studies with varying geology. The table indicates for alluvial aquifers and glacial deposits, the ratio between transverse and longitudinal dispersivity was between 0.1 and 0.3 (or 10 to 30 %). The same range of ratios were noted in limestone aquifers.

The approximate distances from the three nearest potential source area monitoring wells consistently referenced in historical MES reports and mentioned by WDNR in recent meetings on RMG Foundry property (wells NMW-3, NMW-7 and NMW-1) which are closest to wells south of Perkins Avenue that historically had TCE detections documented during McGlenn studies are summarized in the table below.

Well No.	MES MW-5	Key MW-3	Key MW-2	Sigma MW-1
NMW-3	105’	150’	390’	570’
NMW-7	285’	315’	525’	652’
NMW-1	352’	390’	600’	720’

In consideration of the discussion above, even if longitudinal dispersion estimates are off by an order of magnitude, it is not physically possible to account for the various TCE detections on McGlenn property to the south due to lateral dispersion of TCE through groundwater from the RMG Foundry property. It is further noted that the dispersion discussion does not take into account any retardation factor that will be associated with natural organic carbon found in the unconsolidated glacial deposits which will act to reduce TCE concentrations with migration distance from the source, nor the natural ongoing degradation of the TCE parent product which is evident with the presence of anaerobic breakdown products of cis-1,2-dichlroroethene (DCE) and vinyl chloride (VC). It also does not account for subsurface physical features that may act to intercept lateral migration of shallow groundwater to the south such as the piped creek beneath the southern third of the RMG Foundry property or the large subsurface utility corridor (approximately nine feet deep based on City of Waukesha as-built drawings) beneath Perkins Avenue, both of which would act as drains intercepting lateral flow migration and drawing it northwestward or westward.

GROUNDWATER CONCENTRATIONS OVER TIME

Another factor to consider are groundwater concentrations over time. These are illustrated on Figures 2 and 3 for the three above identified monitoring wells on the RMG Foundry property to the north of Perkins Avenue and monitoring wells located to the south of Perkins Avenue on McGlenn property, respectively. The RMG property wells shown on Figure 2 all clearly document decreasing concentrations with time from initial sampling events in the 1990s to the most recent sampling data from 2015 through 2018. Figure 3 shows the concentrations of TCE from the 1990s from the various monitoring wells that were installed by McGlenn property studies. The more contemporaneous data from 2017/2018 timeframe is from new monitoring wells installed as part of the current ongoing Navistar/RMG study (MW-35, MW-40, MW-41 and MW-42) which, although not in the exact same locations as the initial 1990s monitoring wells, do represent data from the same general area (see Figure 1). The graph on Figure 3 clearly indicates that dissolved phase TCE concentrations to the south of Perkins Avenue have remained consistent with little to no decrease of concentration over time. If these impacts were associated or connected to those on RMG Foundry property then it would be expected that there would also be a noted decrease in concentration over time.

What the data south of Perkins Avenue suggest is that there is a continuing, separate residual source of TCE impacts to groundwater not related to past or current issues at the RMG Foundry site. This conclusion is also supported by a forensics chemistry study completed by the chemical forensics group of Pace Analytical. To complete this study, KPRG collected groundwater samples from monitoring wells NMW-3R (RMG Foundry property) and MW-35 (closest current monitoring well south of Perkins Avenue). The samples were analyzed by the Pace forensic chemist using Compound Specific Isotope Analysis (CSIA). The subsequent conclusion of the forensic chemist interpretation was that the isotope ratios for wells NMW-3R and MW-35 were similar, however, detailed evaluation of the percent dichloroethane (DCA) indicated a substantial difference between the wells with the source of impacts in well NMW-3R being older than that in MW-35, suggesting separate sources of impacts. The details of the forensics study were provided within the above referenced KPRG August 30, 2018 submittal followed-up by an explanatory response dated October 15, 2018 by the forensic chemist to the WDNR regarding a question about the use of hydrochloric acid as a preservative for the groundwater samples collected for that study.

SUMMARY/CONCLUSIONS

As requested by WDNR, Navistar/KPRG has reviewed the available information in WDNR project files for the various historical studies performed on the combined McGlenn property south of Perkins Avenue and evaluated the information and data along with data from present and past studies performed on the RMG Foundry site. Based on the evaluations and discussions provided above as well as in the referenced KPRG April 26, 2018 and August 30, 2018 submittals, it is concluded that the dissolved phase TCE (and associated degradation products) impacts to groundwater south of Perkins Avenue are not associated with past or present operations at the RMG Foundry but rather with the former industrial operations that occurred historically on the combined McGlenn property and that there appears to be an ongoing residual source of TCE in

that area. This conclusion is based on the following lines of evidence presented in this submittal as well as in the April 26, 2018 and August 30, 2018 KPRG documents:

- The historical environmental studies on the combined McGlenn property south of Perkins Avenue focused on the northern and southern thirds of the site. There is a complete paucity of soil or groundwater data from the central third of the site which included the footprint of the former General Castings Foundry operations including the three core room areas identified on historical Sanborn Maps of the area (see Figure 1 for the core room locations). The monitoring well that was installed closest to that area (Sigma MW-1) historically had detections of TCE above the NR 140 enforcement standard.

- There is indication within the files that McGlenn Partnership apparently had information and data that indicated the need for a more detailed assessment of chlorinated solvent impacts in soil or groundwater on the combined property or, at the least, was aware of and agreed to that assessment with WDNR as documented in Attachment 7.

- There is no record or documentation of completing additional shallow soil characterization for chlorinated solvent impacts on the property south of Perkins that was requested by WDNR and formally agreed to by the McGlenn Partnership.

- There is no record of WDNR closing the open chlorinated solvent issue on the property south of Perkins Avenue and/or what technical basis that closure was determined by WDNR if it occurred. As a result, it appears clear that, with respect to chlorinated solvents, the property to the south of Perkins Ave. was never closed.

- There is evidence within WDNR files of data from the former Tews property (north side of combined McGlenn property) of TCE soil impacts above the WDNR soil-to-groundwater RCL.

- The technical arguments forwarded by MES (January 29, 1997) on behalf of McGlenn Partnership to ascribe the TCE groundwater impacts south of Perkins Avenue to historical impacts documented on RMG Foundry property north of Perkins Avenue were flawed and unsubstantiated as detailed in the discussions provided above.

- The isoconcentration groundwater contour maps provided by MES (January 29, 1997) for TCE and TCA were flawed and did not follow standard contouring principles and understanding of basic groundwater flow and contaminant transport conditions. Redrawn isoconcentration contours by KPRG do not allow for ascribing impacts south of Perkins Avenue to those north of Perkins Avenue on RMG Foundry property.

- During the March 29, 2018 meeting between Navistar/KPRG and WDNR, it was postulated by WDNR that dissolved phase TCE from the RMG Foundry site may be pushed to the south by water emanating/leaking from the underground piped creek that flows from east to west beneath the southern third of the RMG Foundry property, daylighting in Frame

Park. This concept was evaluated by KPRG during subsequent site investigation work and shown to be not feasible.

- During the October 2, 2018 meeting between Navistar/KPRG and WDNR it was postulated by WDNR that the impacts south of Perkins Avenue may be the result of diffusivity transport of TCE side gradient (and even in some cases it would have to be upgradient). This suggestion was evaluated and we believe this possibility was eliminated in above discussions using basic accepted hydrologic and contaminant transport principles.

- Time versus concentration evaluations of TCE impacts in groundwater on RMG property clearly show deceasing TCE concentrations from the time of initial studies completed in the 1990s to current conditions documented with site work since 2015. Time versus concentration evaluations of TCE impacts in groundwater on McGlenn property clearly show that dissolved phase TCE concentrations have remained consistent with little to no change in concentration over time. If these two areas shared a common source of impacts located on RMG property north of Perkins Avenue, it would be expected to see similar TCE concentration trends over time. The noted trends south of Perkins Avenue suggest a continuing, separate, residual source of TCE impacts to groundwater not related to past or current conditions at the RMG Foundry site.

- A focused forensic chemistry analysis completed by the Pace Analytical forensics group which was presented by KPRG in the above referenced August 30, 2018 submittal came to the same conclusion noted in the bullet above. Specifically, it stated that the isotope ratios for wells NMW-3R (on RMG property) and MW-35 (nearest existing well south of Perkins Avenue) were similar, however, detailed evaluation of the percent DCA indicated a substantial difference between the wells with the source of impacts in well NMW-3R being older than that in MW-35, suggesting separate sources of impacts.

Based on this preponderance of data, and when combining all of the lines of evidence presented above, it is KPRG/Navistar's position and conclusion that currently identified TCE impacts being detected south of Perkins Avenue are not related to past or present operations occurring at the RMG Foundry site north of Perkins Avenue. At this time, based on this conclusion, Navistar will complete the currently agreed upon scope of environmental work south of Perkins Avenue. This will include several additional rounds of groundwater sampling from monitoring wells already installed by KPRG south of Perkins Avenue and the agreed upon soil vapor intrusion study work within the agreed upon residences south of Perkins Avenue. This additional agreed upon work was summarized in a letter to WDNR dated October 9, 2018 as a summary follow-up to the October 2, 2018 meeting held with WDNR. However, any additional site investigation/remediation in this southern area that may need to be performed should not be tied or assigned to Navistar for the completion of investigation and any required remediation for documented issues north of Perkins Avenue on RMG Foundry property and to the west and northwest of the property. If WDNR is aware of any additional information of which we were unaware, particularly any additional data that would show that the chlorinated solvent issue to the south of Perkins Ave. was, in fact, closed out by the McGlenn or other parties associated with that area, KPRG and Navistar request that WDNR advise us of that since our review of WDNR files, as discussed above, clearly did not show

documentation that those parties took investigation or action, including actions that appear to have been agreed upon, to close that issue.

KPRG and Navistar appreciate the continued cooperative effort in completing the required site investigation work. If there are any questions, please contact me at 262-781-0475 or Ferdinand Alido of Navistar at 331-332-6364.

Sincerely,
KPRG and Associates, Inc.

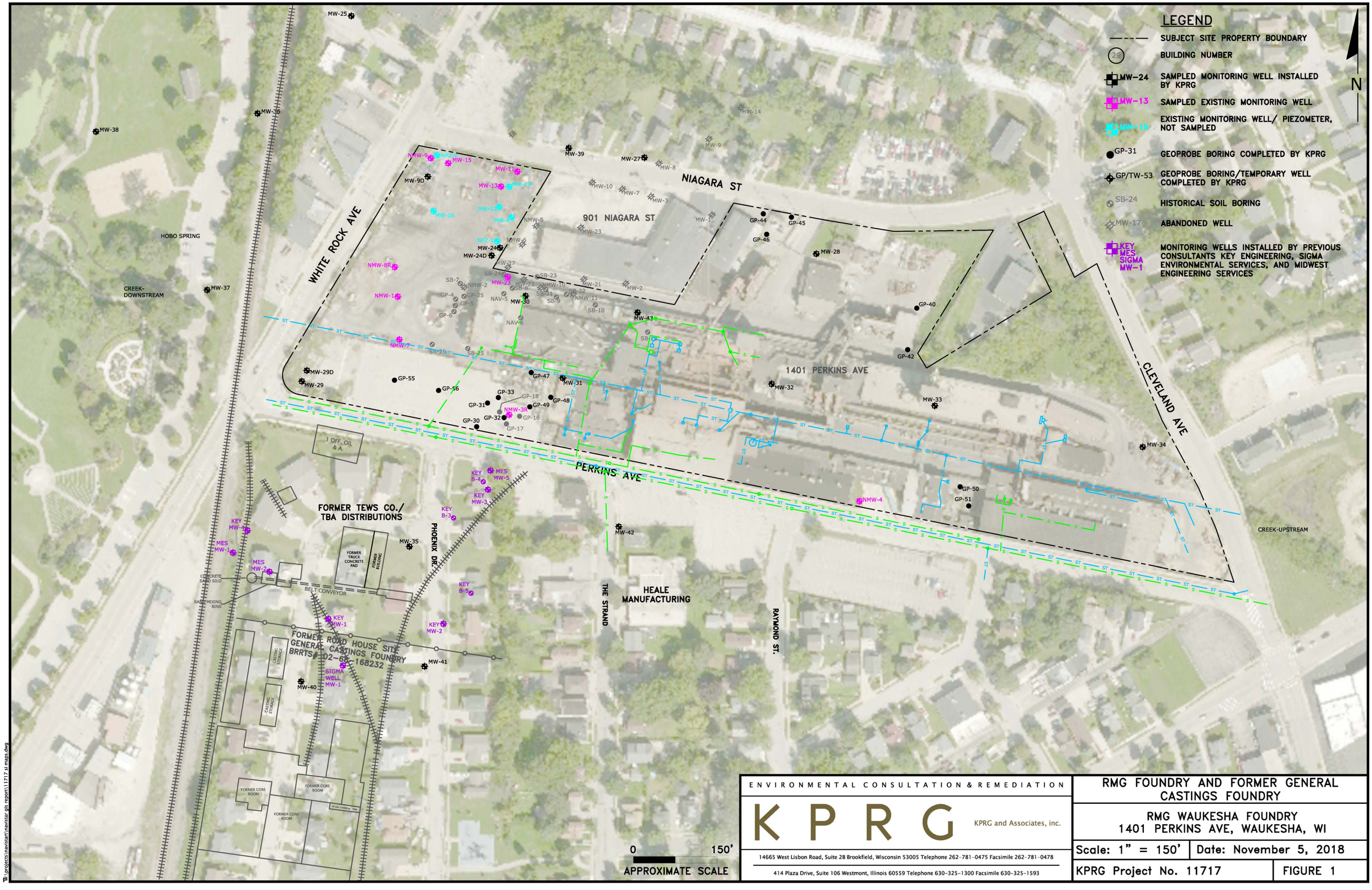
Richard R Gnat

Richard R. Gnat, P.G.
Principal

Attachments

cc: Ferdinand Alido, Navistar, Inc.

FIGURES



ENVIRONMENTAL CONSULTATION & REMEDIATION
KPRG and Associates, inc.
14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478
414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

RMG FOUNDRY AND FORMER GENERAL CASTINGS FOUNDRY

RMG WAUKESHA FOUNDRY
1401 PERKINS AVE, WAUKESHA, WI

Scale: 1" = 150' | Date: November 5, 2018

KPRG Project No. 11717 | FIGURE 1

W:\projects\navistar\navistar gis report\11717 si maps.dwg

Figure 2. Time vs Concentration for TCE in Wells North of Perkins Ave.

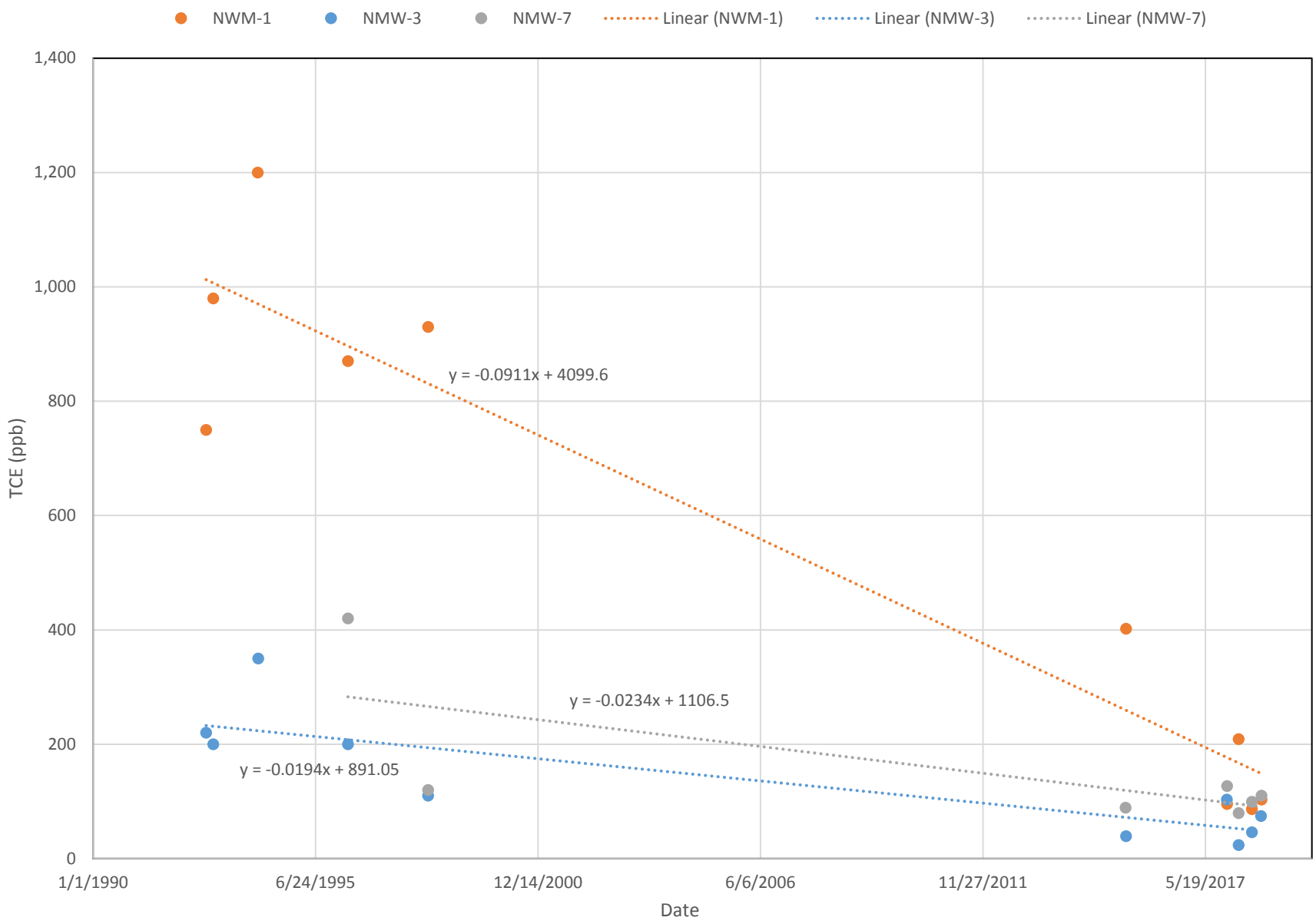
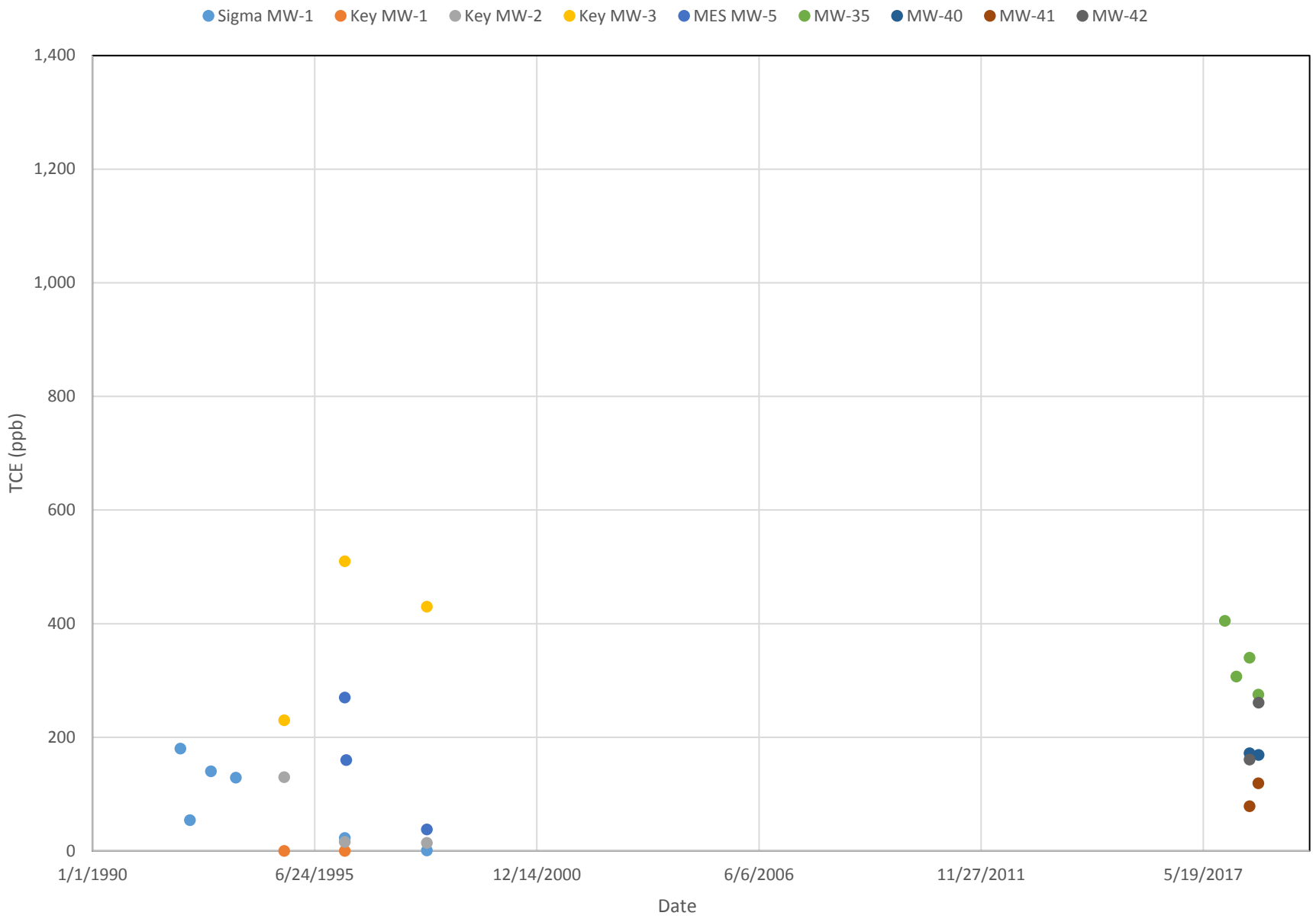
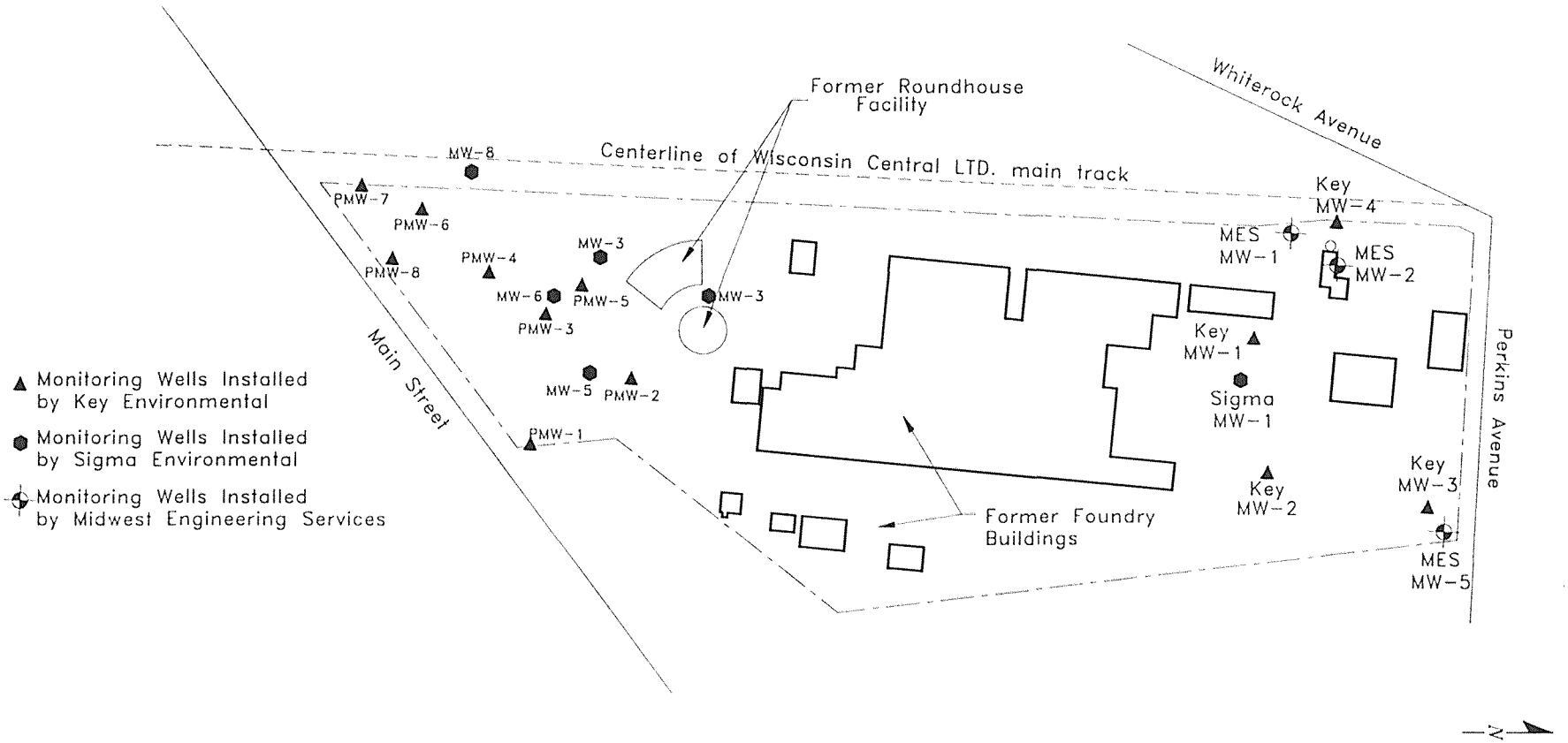


Figure 3. Time vs Concentration for TCE in Wells South of Perkins Ave.



ATTACHMENT 1

McGlenn Properties Site Map Showing Areas of Investigation (from MES Limited Phase II Environmental Site Assessment Perkins Street Property, August 2, 1996)



midwest engineering services, inc.

McGlenn Properties
Waukesha, Wisconsin

Site Layout and
Approximate Well Locations

Scale: 1" = 250'

Project Number: 7-51083

Date: 7/26/96

Drawn By: DAT

FIGURE 1

ATTACHMENT 2

August 6, 1992 Letter from Wisconsin Central, Ltd. To WDNR Transmitting Groundwater Data from Sigma MW-1 Collected in May 1992

OFFICE:
One O'Hare Centre
6250 North River Road
Rosemont, IL 60018
Tel. (708) 318-4600

MAILING ADDRESS:
P.O. Box 5062
Rosemont, IL 60017-5062

Mr. James Morgan
State of Wisconsin
Department of Natural Resources
2300 N. Dr. Martin Luther King Dr.
P.O. Box 12436
Milwaukee, Wi 53212

August 6, 1992

RE: General Castings Site Waukesha, Wisconsin

Dear Mr. Morgan;

Pursuant to our phone conversation on August 4, 1992 regarding the General Castings Site, enclosed please find the Laboratory Report for ground water from Monitoring Well #1 (MW 1). The ground water sample contained the following levels of Volatile Organic Compounds (VOC):

COMPOUND	UNITS (ppb)	NR 140 E.S.	NR 140 P.A.L.
1,1-Dichloroethane	2	850	85
1,1-Dichloroethene	1	Not on list	Not on list
cis-1,2-Dichloroethene	7	Not on list	Not on list
Tetrachloroethene	1	Not on list	Not on list
Toluene	9	343	68.6
1,1,1-Trichloroethane	8	200	40
Trichloroethane	54	Not on list	Not on list

After you have had a chance to review this information please call me with any questions or concerns.

Sincerely,

Geoffrey C. Nokes
Environmental Manager
(708) 318-4648

cc: Margaret Graefe WDNR ERP
Robert Ward
Janet Gilbert

SWANSON ENVIRONMENTAL INC.
3150 North Brookfield Road
Brookfield, Wisconsin 53045
telephone (414) 783-6111
FAX (414) 783-5752

WDNR Certification #268181760

ANALYTICAL REPORT

REPORT NUMBER: B9436

Wisconsin Central, LTD.
P.O. Box 5062
Rosemont, IL 60017

Attn: Mr. Geoff Nokes

DATE: June 2, 1992
PURCHASE ORDER:
SEI NO: WL1316
DATE COLLECTED: 05/27/92
DATE RECEIVED: 05/27/92

Matrix: Groundwater
Source: Waukesha, WI

Units: ug/l (ppb)

Parameter	SEI ID / Sample ID	1316-1 / MW-1
EPA Method SW846-8021		
Benzene		<1
Bromobenzene		<1
Bromochloromethane		<1
Bromodichloromethane		<1
Bromform		<1
Bromomethane		<1
n-Butylbenzene		<1
sec-Butylbenzene		<1
tert-Butylbenzene		<1
Carbon tetrachloride		<1
Chlorobenzene		<1
Chlorodibromomethane		<1
Chloroethane		<1
Chloroform		<1
Chloromethane		<1
2-Chlorotoluene		<1
4-Chlorotoluene		<1
1,2-Dibromo-3-chloropropane		<2
1,2-Dibromoethane		<2
Dibromomethane		<1

ORIGINAL

SWANSON ENVIRONMENTAL INC.

3150 North Brookfield Road
Brookfield, Wisconsin 53045
telephone (414) 783-6111
FAX (414) 783-5752

WDNR Certification #268181760

ANALYTICAL REPORT

REPORT NUMBER: B9436

Wisconsin Central, LTD.
P.O. Box 5062
Rosemont, IL 60017

Attn: Mr. Geoff Nokes

DATE: June 2, 1992
PURCHASE ORDER:
SEI NO: WL1316
DATE COLLECTED: 05/27/92
DATE RECEIVED: 05/27/92

Matrix: Groundwater
Source: Waukesha, WI

Units: ug/l (ppb)

Parameter	SEI ID / Sample ID	1316-1 / MW-1
EPA Method SW846-8021		
1,2-Dichlorobenzene		<1
1,3-Dichlorobenzene		<1
1,4-Dichlorobenzene		<1
Dichlorodifluoromethane		<1
1,1-Dichloroethane		2
1,2-Dichloroethane		<1
1,1-Dichloroethene		1
cis-1,2-Dichloroethene		7
trans-1,2-Dichloroethene		<1
1,2-Dichloropropane		<1
1,3-Dichloropropane		<1
2,2-Dichloropropane		<1
1,1-Dichloropropene		<1
cis-1,3-Dichloropropene		<1
trans-1,3-Dichloropropene		<1
Ethylbenzene		<1
Hexachlorobutadiene		<1
Isopropylbenzene		<1
p-Isopropyltoluene		<1
Methylene chloride		<1
Naphthalene		<1

ORIGINAL

SWANSON ENVIRONMENTAL INC.
3150 North Brookfield Road
Brookfield, Wisconsin 53045
telephone (414) 783-6111
FAX (414) 783-5752

WDNR Certification #268181760

ANALYTICAL REPORT

REPORT NUMBER: B9436

Wisconsin Central, LTD.
P.O. Box 5062
Rosemont, IL 60017

Attn: Mr. Geoff Nokes

DATE: June 2, 1992
PURCHASE ORDER:
SEI NO: WL1316
DATE COLLECTED: 05/27/92
DATE RECEIVED: 05/27/92

Matrix: Groundwater
Source: Waukesha, WI

Units: ug/l (ppb)

Parameter	SEI ID / Sample ID	1316-1 / MW-1
EPA Method SW846-8021		
n-Propylbenzene		<1
Styrene		<1
1,1,1,2-Tetrachloroethane		<1
1,1,2,2-Tetrachloroethane		<1
Tetrachloroethene		1
Toluene		9
1,2,3-Trichlorobenzene		<1
1,2,4-Trichlorobenzene		<1
1,1,1-Trichloroethane		8
1,1,2-Trichloroethane		<1
Trichloroethene		54
Trichlorofluoromethane		<1
1,2,3-Trichloropropane		<1
1,2,4-Trimethylbenzene		<1
1,3,5-Trimethylbenzene		<1
Vinyl chloride		<1
o-Xylenes		<1
m & p Xylenes		<1

Rosemary L. Dineen
Laboratory Director

ORIGINAL

ATTACHMENT 3
Partial 1994 Key Environmental Data Package Presented in MES January 29, 1997 Report

From Appendix - MES Report January 29, 1997

- No chain-of-custody included.
- Starts on Page 2. Sample that has 330 ug/l detection can't be identified w/out Page 1 or chain-of-custody.

KEY - TEWS AREA

CLIENT: Key Environmental

Test	Result	Limit	Units	Analyzed	Extracted	BY	Method
8021 - Water							8021
Tetrachloroethene	BQL	5.0	ug/l	10/03/94		GJH	
Toluene	BQL	4.0	ug/l	10/03/94		GJH	
1,2,3-Trichlorobenzene	BQL	5.0	ug/l	10/03/94		GJH	
1,2,4-Trichlorobenzene	BQL	5.0	ug/l	10/03/94		GJH	
1,1,1-Trichloroethane	88	5.0	ug/l	10/03/94		GJH	
1,1,2-Trichloroethane	BQL	4.0	ug/l	10/03/94		GJH	
Trichloroethene	330	4.0	ug/l	10/03/94		GJH	
Trichlorofluoromethane	BQL	5.0	ug/l	10/03/94		GJH	
1,2,4-Trimethylbenzene	BQL	4.0	ug/l	10/03/94		GJH	
1,3,5-Trimethylbenzene	BQL	8.0	ug/l	10/03/94		GJH	
Vinyl Chloride	BQL	8.0	ug/l	10/03/94		GJH	
o-Xylene	BQL	6.0	ug/l	10/03/94		GJH	
m/p-Xylene	BQL	7.0	ug/l	10/03/94		GJH	

Sample ID: MW-3 Lab ID: 9409243-02A Collected: 09/21/94

8021 - Water							8021
Benzene	BQL	3.0	ug/l	10/03/94		GJH	
Bromobenzene	BQL	3.0	ug/l	10/03/94		GJH	
Bromochloromethane	BQL	3.0	ug/l	10/03/94		GJH	
Bromodichloromethane	BQL	4.0	ug/l	10/03/94		GJH	
Bromoform	BQL	4.0	ug/l	10/03/94		GJH	
Bromomethane	BQL	4.0	ug/l	10/03/94		GJH	
n-Butylbenzene	BQL	7.0	ug/l	10/03/94		GJH	
sec-Butylbenzene	BQL	5.0	ug/l	10/03/94		GJH	
tert-Butylbenzene	BQL	4.0	ug/l	10/03/94		GJH	
Carbon tetrachloride	BQL	11	ug/l	10/03/94		GJH	
Chlorobenzene	BQL	3.0	ug/l	10/03/94		GJH	
Chloroethane	BQL	8.0	ug/l	10/03/94		GJH	
Chloroform	BQL	3.0	ug/l	10/03/94		GJH	
Chloromethane	BQL	6.0	ug/l	10/03/94		GJH	
2-Chlorotoluene	BQL	5.0	ug/l	10/03/94		GJH	
4-Chlorotoluene	BQL	6.0	ug/l	10/03/94		GJH	
1,2-Dibromo-3-chloropropa	BQL	11	ug/l	10/03/94		GJH	
Dibromochloromethane	BQL	3.0	ug/l	10/03/94		GJH	
1,2-Dibromoethane	BQL	6.0	ug/l	10/03/94		GJH	
Dibromomethane	BQL	3.0	ug/l	10/03/94		GJH	
1,2-Dichlorobenzene	BQL	7.0	ug/l	10/03/94		GJH	
1,3-Dichlorobenzene	BQL	6.0	ug/l	10/03/94		GJH	
1,4-Dichlorobenzene	BQL	6.0	ug/l	10/03/94		GJH	
Dichlorodifluoromethane	BQL	6.0	ug/l	10/03/94		GJH	
1,1-Dichloroethane	BQL	6.0	ug/l	10/03/94		GJH	
1,2-Dichloroethane	BQL	4.0	ug/l	10/03/94		GJH	
1,1-Dichloroethene	BQL	6.0	ug/l	10/03/94		GJH	
cis-1,2-Dichloroethene	BQL	8.0	ug/l	10/03/94		GJH	
trans-1,2-Dichloroethene	BQL	5.0	ug/l	10/03/94		GJH	
1,2-Dichloropropane	BQL	3.0	ug/l	10/03/94		GJH	
1,3-Dichloropropane	BQL	5.0	ug/l	10/03/94		GJH	

BQL - Below Quantification Limit NP - Not Present P - Present

CLIENT: Key Environmental

Test	Result	Limit	Units	Analyzed	Extracted	BY	Method
8021 - Water							8021
2,2-Dichloropropane	BQL	8.0	ug/l	10/03/94		GJH	
1,1-Dichloropropene	BQL	11	ug/l	10/03/94		GJH	
cis-1,3-Dichloropropene	BQL	4.0	ug/l	10/03/94		GJH	
trans-1,3-Dichloropropene	BQL	4.0	ug/l	10/03/94		GJH	
Ethylbenzene	BQL	4.0	ug/l	10/03/94		GJH	
Hexachlorobutadiene	BQL	7.0	ug/l	10/03/94		GJH	
Isopropylbenzene	BQL	3.0	ug/l	10/03/94		GJH	
p-Isopropyltoluene	BQL	9.0	ug/l	10/03/94		GJH	
Methylene Chloride	* 15	4.0	ug/l	10/03/94		GJH	
Methyl-tert-butylether	BQL	4.0	ug/l	10/03/94		GJH	
Naphthalene	BQL	7.0	ug/l	10/03/94		GJH	
n-Propylbenzene	BQL	4.0	ug/l	10/03/94		GJH	
Styrene	BQL	6.0	ug/l	10/03/94		GJH	
1,1,1,2-Tetrachloroethane	BQL	4.0	ug/l	10/03/94		GJH	
1,1,2,2-Tetrachloroethane	BQL	5.0	ug/l	10/03/94		GJH	
Tetrachloroethene	BQL	5.0	ug/l	10/03/94		GJH	
Toluene	BQL	4.0	ug/l	10/03/94		GJH	
1,2,3-Trichlorobenzene	BQL	5.0	ug/l	10/03/94		GJH	
1,2,4-Trichlorobenzene	BQL	5.0	ug/l	10/03/94		GJH	
1,1,1-Trichloroethane	100	5.0	ug/l	10/03/94		GJH	
1,1,2-Trichloroethane	BQL	4.0	ug/l	10/03/94		GJH	
Trichloroethene	230	4.0	ug/l	10/03/94		GJH	
Trichlorofluoromethane	BQL	5.0	ug/l	10/03/94		GJH	
1,2,4-Trimethylbenzene	BQL	4.0	ug/l	10/03/94		GJH	
1,3,5-Trimethylbenzene	BQL	8.0	ug/l	10/03/94		GJH	
Vinyl Chloride	BQL	8.0	ug/l	10/03/94		GJH	
o-Xylene	BQL	6.0	ug/l	10/03/94		GJH	
m/p-Xylene	BQL	7.0	ug/l	10/03/94		GJH	

Sample ID: MW-1 Lab ID: 9409243-03A Collected: 09/22/94

8021 - Water							8021
Benzene	BQL	0.30	ug/l	09/29/94		GJH	
Bromobenzene	BQL	0.30	ug/l	09/29/94		GJH	
Bromochloromethane	BQL	0.30	ug/l	09/29/94		GJH	
Bromodichloromethane	BQL	0.40	ug/l	09/29/94		GJH	
Bromoform	BQL	0.40	ug/l	09/29/94		GJH	
Bromomethane	BQL	0.40	ug/l	09/29/94		GJH	
n-Butylbenzene	2.0	0.70	ug/l	09/29/94		GJH	
sec-Butylbenzene	BQL	0.50	ug/l	09/29/94		GJH	
tert-Butylbenzene	BQL	0.40	ug/l	09/29/94		GJH	
Carbon tetrachloride	BQL	1.1	ug/l	09/29/94		GJH	
Chlorobenzene	BQL	0.30	ug/l	09/29/94		GJH	
Chloroethane	BQL	0.80	ug/l	09/29/94		GJH	
Chloroform	BQL	0.30	ug/l	09/29/94		GJH	
Chloromethane	BQL	0.60	ug/l	09/29/94		GJH	
2-Chlorotoluene	BQL	0.50	ug/l	09/29/94		GJH	
4-Chlorotoluene	BQL	0.60	ug/l	09/29/94		GJH	

BQL - Below Quantification Limit NP - Not Present P - Present

CLIENT: Key Environmental

Test	Result	Limit	Units	Analyzed	Extracted	BY	Method
8021 - Water							8021
1,2-Dibromo-3-chloropropa	BQL	1.1	ug/l	09/29/94		GJH	
Dibromochloromethane	BQL	0.30	ug/l	09/29/94		GJH	
1,2-Dibromoethane	BQL	0.60	ug/l	09/29/94		GJH	
Dibromomethane	BQL	0.30	ug/l	09/29/94		GJH	
1,2-Dichlorobenzene	BQL	0.70	ug/l	09/29/94		GJH	
1,3-Dichlorobenzene	BQL	0.60	ug/l	09/29/94		GJH	
1,4-Dichlorobenzene	BQL	0.60	ug/l	09/29/94		GJH	
Dichlorodifluoromethane	BQL	0.60	ug/l	09/29/94		GJH	
1,1-Dichloroethane	BQL	0.60	ug/l	09/29/94		GJH	
1,2-Dichloroethane	BQL	0.40	ug/l	09/29/94		GJH	
1,1-Dichloroethene	BQL	0.60	ug/l	09/29/94		GJH	
cis-1,2-Dichloroethene	BQL	0.80	ug/l	09/29/94		GJH	
trans-1,2-Dichloroethene	BQL	0.50	ug/l	09/29/94		GJH	
1,2-Dichloropropane	BQL	0.30	ug/l	09/29/94		GJH	
1,3-Dichloropropane	BQL	0.50	ug/l	09/29/94		GJH	
2,2-Dichloropropane	BQL	0.80	ug/l	09/29/94		GJH	
1,1-Dichloropropene	BQL	1.1	ug/l	09/29/94		GJH	
cis-1,3-Dichloropropene	BQL	0.40	ug/l	09/29/94		GJH	
trans-1,3-Dichloropropene	BQL	0.40	ug/l	09/29/94		GJH	
Ethylbenzene	BQL	0.40	ug/l	09/29/94		GJH	
Hexachlorobutadiene	BQL	0.70	ug/l	09/29/94		GJH	
Isopropylbenzene	BQL	0.30	ug/l	09/29/94		GJH	
p-Isopropyltoluene	BQL	0.90	ug/l	09/29/94		GJH	
Methylene Chloride	* 2.0	0.40	ug/l	09/29/94		GJH	
Methyl-tert-butylether	BQL	0.40	ug/l	09/29/94		GJH	
Naphthalene	BQL	0.70	ug/l	09/29/94		GJH	
n-Propylbenzene	BQL	0.40	ug/l	09/29/94		GJH	
Styrene	BQL	0.60	ug/l	09/29/94		GJH	
1,1,1,2-Tetrachloroethane	BQL	0.40	ug/l	09/29/94		GJH	
1,1,2,2-Tetrachloroethane	BQL	0.50	ug/l	09/29/94		GJH	
Tetrachloroethene	BQL	0.50	ug/l	09/29/94		GJH	
Toluene	BQL	0.40	ug/l	09/29/94		GJH	
1,2,3-Trichlorobenzene	BQL	0.50	ug/l	09/29/94		GJH	
1,2,4-Trichlorobenzene	BQL	0.50	ug/l	09/29/94		GJH	
1,1,1-Trichloroethane	BQL	0.50	ug/l	09/29/94		GJH	
1,1,2-Trichloroethane	BQL	0.40	ug/l	09/29/94		GJH	
Trichloroethene	BQL	0.40	ug/l	09/29/94		GJH	
Trichlorofluoromethane	BQL	0.50	ug/l	09/29/94		GJH	
1,2,4-Trimethylbenzene	8.6	0.40	ug/l	09/29/94		GJH	
1,3,5-Trimethylbenzene	4.8	0.80	ug/l	09/29/94		GJH	
Vinyl Chloride	BQL	0.80	ug/l	09/29/94		GJH	
o-Xylene	BQL	0.60	ug/l	09/29/94		GJH	
m/p-Xylene	BQL	0.70	ug/l	09/29/94		GJH	

Sample ID: MW-2 Lab ID: 9409243-04A Collected: 09/22/94

8021 - Water							8021
Benzene	BQL	1.5	ug/l	09/30/94		GJH	

BQL - Below Quantification Limit NP - Not Present P - Present

CLIENT:Key Environmental

Test	Result	Limit	Units	Analyzed	Extracted	BY	Method
8021 - Water							8021
Bromobenzene	BQL	1.5	ug/l	09/30/94		GJH	
Bromochloromethane	BQL	1.5	ug/l	09/30/94		GJH	
Bromodichloromethane	BQL	2.0	ug/l	09/30/94		GJH	
Bromoform	BQL	2.0	ug/l	09/30/94		GJH	
Bromomethane	BQL	2.0	ug/l	09/30/94		GJH	
n-Butylbenzene	BQL	3.5	ug/l	09/30/94		GJH	
sec-Butylbenzene	BQL	2.5	ug/l	09/30/94		GJH	
tert-Butylbenzene	BQL	2.0	ug/l	09/30/94		GJH	
Carbon tetrachloride	BQL	5.5	ug/l	09/30/94		GJH	
Chlorobenzene	BQL	1.5	ug/l	09/30/94		GJH	
Chloroethane	BQL	4.0	ug/l	09/30/94		GJH	
Chloroform	BQL	1.5	ug/l	09/30/94		GJH	
Chloromethane	BQL	3.0	ug/l	09/30/94		GJH	
2-Chlorotoluene	BQL	2.5	ug/l	09/30/94		GJH	
4-Chlorotoluene	BQL	3.0	ug/l	09/30/94		GJH	
1,2-Dibromo-3-chloropropa	BQL	5.5	ug/l	09/30/94		GJH	
Dibromochloromethane	BQL	1.5	ug/l	09/30/94		GJH	
1,2-Dibromoethane	BQL	3.0	ug/l	09/30/94		GJH	
Dibromomethane	BQL	1.5	ug/l	09/30/94		GJH	
1,2-Dichlorobenzene	BQL	3.5	ug/l	09/30/94		GJH	
1,3-Dichlorobenzene	BQL	3.0	ug/l	09/30/94		GJH	
1,4-Dichlorobenzene	BQL	3.0	ug/l	09/30/94		GJH	
Dichlorodifluoromethane	BQL	3.0	ug/l	09/30/94		GJH	
1,1-Dichloroethane	8.7	3.0	ug/l	09/30/94		GJH	
1,2-Dichloroethane	BQL	2.0	ug/l	09/30/94		GJH	
1,1-Dichloroethene	BQL	3.0	ug/l	09/30/94		GJH	
cis-1,2-Dichloroethene	8.5	4.0	ug/l	09/30/94		GJH	
trans-1,2-Dichloroethene	BQL	2.5	ug/l	09/30/94		GJH	
1,2-Dichloropropane	BQL	1.5	ug/l	09/30/94		GJH	
1,3-Dichloropropane	BQL	2.5	ug/l	09/30/94		GJH	
2,2-Dichloropropane	BQL	4.0	ug/l	09/30/94		GJH	
1,1-Dichloropropene	BQL	5.5	ug/l	09/30/94		GJH	
cis-1,3-Dichloropropene	BQL	2.0	ug/l	09/30/94		GJH	
trans-1,3-Dichloropropene	BQL	2.0	ug/l	09/30/94		GJH	
Ethylbenzene	BQL	2.0	ug/l	09/30/94		GJH	
Hexachlorobutadiene	BQL	3.5	ug/l	09/30/94		GJH	
Isopropylbenzene	BQL	1.5	ug/l	09/30/94		GJH	
p-Isopropyltoluene	BQL	4.5	ug/l	09/30/94		GJH	
Methylene Chloride	* 49	2.0	ug/l	09/30/94		GJH	
Methyl-tert-butylether	BQL	2.0	ug/l	09/30/94		GJH	
Naphthalene	8.2	3.5	ug/l	09/30/94		GJH	
n-Propylbenzene	BQL	2.0	ug/l	09/30/94		GJH	
Styrene	BQL	3.0	ug/l	09/30/94		GJH	
1,1,1,2-Tetrachloroethane	BQL	2.0	ug/l	09/30/94		GJH	
1,1,2,2-Tetrachloroethane	BQL	2.5	ug/l	09/30/94		GJH	
Tetrachloroethene	BQL	2.5	ug/l	09/30/94		GJH	
Toluene	BQL	2.0	ug/l	09/30/94		GJH	
1,2,3-Trichlorobenzene	BQL	2.5	ug/l	09/30/94		GJH	
1,2,4-Trichlorobenzene	BQL	2.5	ug/l	09/30/94		GJH	
1,1,1-Trichloroethane	36	2.5	ug/l	09/30/94		GJH	

BQL - Below Quantification Limit NP - Not Present P - Present

CLIENT: **Key Environmental**

Test	Result	Limit	Units	Analyzed	Extracted	BY	Method
8021 - Water							8021
1,1,2-Trichloroethane	BQL	2.0	ug/l	09/30/94		GJH	
Trichloroethene	130	2.0	ug/l	09/30/94		GJH	
Trichlorofluoromethane	BQL	2.5	ug/l	09/30/94		GJH	
1,2,4-Trimethylbenzene	BQL	2.0	ug/l	09/30/94		GJH	
1,3,5-Trimethylbenzene	BQL	4.0	ug/l	09/30/94		GJH	
Vinyl Chloride	BQL	4.0	ug/l	09/30/94		GJH	
o-Xylene	BQL	3.0	ug/l	09/30/94		GJH	
m/p-Xylene	BQL	3.5	ug/l	09/30/94		GJH	

Sample ID: MW-4 Lab ID: 9409243-05A Collected: 09/22/94

8021 - Water							8021
Benzene	BQL	3.0	ug/l	09/29/94		GJH	
Bromobenzene	BQL	3.0	ug/l	09/29/94		GJH	
Bromochloromethane	BQL	3.0	ug/l	09/29/94		GJH	
Bromodichloromethane	BQL	4.0	ug/l	09/29/94		GJH	
Bromoform	BQL	4.0	ug/l	09/29/94		GJH	
Bromomethane	BQL	4.0	ug/l	09/29/94		GJH	
n-Butylbenzene	BQL	7.0	ug/l	09/29/94		GJH	
sec-Butylbenzene	29	5.0	ug/l	09/29/94		GJH	
tert-Butylbenzene	BQL	4.0	ug/l	09/29/94		GJH	
Carbon tetrachloride	BQL	11	ug/l	09/29/94		GJH	
Chlorobenzene	BQL	3.0	ug/l	09/29/94		GJH	
Chloroethane	BQL	8.0	ug/l	09/29/94		GJH	
Chloroform	BQL	3.0	ug/l	09/29/94		GJH	
Chloromethane	BQL	6.0	ug/l	09/29/94		GJH	
2-Chlorotoluene	BQL	5.0	ug/l	09/29/94		GJH	
4-Chlorotoluene	BQL	6.0	ug/l	09/29/94		GJH	
1,2-Dibromo-3-chloropropa	BQL	11	ug/l	09/29/94		GJH	
Dibromochloromethane	BQL	3.0	ug/l	09/29/94		GJH	
1,2-Dibromoethane	BQL	6.0	ug/l	09/29/94		GJH	
Dibromomethane	BQL	3.0	ug/l	09/29/94		GJH	
1,2-Dichlorobenzene	BQL	7.0	ug/l	09/29/94		GJH	
1,3-Dichlorobenzene	BQL	6.0	ug/l	09/29/94		GJH	
1,4-Dichlorobenzene	BQL	6.0	ug/l	09/29/94		GJH	
Dichlorodifluoromethane	BQL	6.0	ug/l	09/29/94		GJH	
1,1-Dichloroethane	BQL	6.0	ug/l	09/29/94		GJH	
1,2-Dichloroethane	BQL	4.0	ug/l	09/29/94		GJH	
1,1-Dichloroethene	BQL	6.0	ug/l	09/29/94		GJH	
cis-1,2-Dichloroethene	BQL	8.0	ug/l	09/29/94		GJH	
trans-1,2-Dichloroethene	BQL	5.0	ug/l	09/29/94		GJH	
1,2-Dichloropropane	BQL	3.0	ug/l	09/29/94		GJH	
1,3-Dichloropropane	BQL	5.0	ug/l	09/29/94		GJH	
2,2-Dichloropropane	BQL	8.0	ug/l	09/29/94		GJH	
1,1-Dichloropropene	BQL	11	ug/l	09/29/94		GJH	
cis-1,3-Dichloropropene	BQL	4.0	ug/l	09/29/94		GJH	
trans-1,3-Dichloropropene	BQL	4.0	ug/l	09/29/94		GJH	
Ethylbenzene	16	4.0	ug/l	09/29/94		GJH	

BQL - Below Quantification Limit NP - Not Present P - Present

CLIENT:Key Environmental

Test	Result	Limit	Units	Analyzed	Extracted	BY	Method
8021 - Water							8021
Hexachlorobutadiene	BQL	7.0	ug/l	09/29/94		GJH	
Isopropylbenzene	BQL	3.0	ug/l	09/29/94		GJH	
p-Isopropyltoluene	20	9.0	ug/l	09/29/94		GJH	
Methylene Chloride	* 35	4.0	ug/l	09/29/94		GJH	
Methyl-tert-butylether	BQL	4.0	ug/l	09/29/94		GJH	
Naphthalene	50	7.0	ug/l	09/29/94		GJH	
n-Propylbenzene	9.7	4.0	ug/l	09/29/94		GJH	
Styrene	BQL	6.0	ug/l	09/29/94		GJH	
1,1,1,2-Tetrachloroethane	BQL	4.0	ug/l	09/29/94		GJH	
1,1,2,2-Tetrachloroethane	BQL	5.0	ug/l	09/29/94		GJH	
Tetrachloroethene	BQL	5.0	ug/l	09/29/94		GJH	
Toluene	BQL	4.0	ug/l	09/29/94		GJH	
1,2,3-Trichlorobenzene	BQL	5.0	ug/l	09/29/94		GJH	
1,2,4-Trichlorobenzene	BQL	5.0	ug/l	09/29/94		GJH	
1,1,1-Trichloroethane	BQL	5.0	ug/l	09/29/94		GJH	
1,1,2-Trichloroethane	BQL	4.0	ug/l	09/29/94		GJH	
Trichloroethene	BQL	4.0	ug/l	09/29/94		GJH	
Trichlorofluoromethane	BQL	5.0	ug/l	09/29/94		GJH	
1,2,4-Trimethylbenzene	40	4.0	ug/l	09/29/94		GJH	
1,3,5-Trimethylbenzene	23	8.0	ug/l	09/29/94		GJH	
Vinyl Chloride	BQL	8.0	ug/l	09/29/94		GJH	
o-Xylene	BQL	6.0	ug/l	09/29/94		GJH	
m/p-Xylene	BQL	7.0	ug/l	09/29/94		GJH	

Sample ID: BLANK Lab ID: 9409243-06A Collected: 09/22/94

8021 - Water							8021
Benzene	BQL	0.30	ug/l	09/30/94		GJH	
Bromobenzene	BQL	0.30	ug/l	09/30/94		GJH	
Bromochloromethane	BQL	0.30	ug/l	09/30/94		GJH	
Bromodichloromethane	BQL	0.40	ug/l	09/30/94		GJH	
Bromoform	BQL	0.40	ug/l	09/30/94		GJH	
Bromomethane	BQL	0.40	ug/l	09/30/94		GJH	
n-Butylbenzene	BQL	0.70	ug/l	09/30/94		GJH	
sec-Butylbenzene	BQL	0.50	ug/l	09/30/94		GJH	
tert-Butylbenzene	BQL	0.40	ug/l	09/30/94		GJH	
Carbon tetrachloride	BQL	1.1	ug/l	09/30/94		GJH	
Chlorobenzene	BQL	0.30	ug/l	09/30/94		GJH	
Chloroethane	BQL	0.80	ug/l	09/30/94		GJH	
Chloroform	BQL	0.30	ug/l	09/30/94		GJH	
Chloromethane	BQL	0.60	ug/l	09/30/94		GJH	
2-Chlorotoluene	BQL	0.50	ug/l	09/30/94		GJH	
4-Chlorotoluene	BQL	0.60	ug/l	09/30/94		GJH	
1,2-Dibromo-3-chloropropa	BQL	1.1	ug/l	09/30/94		GJH	
Dibromochloromethane	BQL	0.30	ug/l	09/30/94		GJH	
1,2-Dibromoethane	BQL	0.60	ug/l	09/30/94		GJH	
Dibromomethane	BQL	0.30	ug/l	09/30/94		GJH	
1,2-Dichlorobenzene	BQL	0.70	ug/l	09/30/94		GJH	

BQL - Below Quantification Limit NP - Not Present P - Present

ATTACHMENT 4
April 16, 1996 Memo from Frank Schultz to WDNR Southeast Region

From: MILWA::SCHULFC "FRANK SCHULTZ (414) 229-0865" 16-APR-1996 16:57:28.18
To: DNRSE::MCCUTG
CC: SCHULFC, GRAEFM, SCHMIJA, KROHNC, EBERSW, DNRSE::KAZMIR
Subj: Status of General Castings/Waukesha Remediation

The following actions have been taken by the S&HW Program at the General Castings property in Waukesha. (Also, please note that our file is titled Wisconsin Central Ltd. Railroad because of their past ownership. The current owner is James McGlenn of West Milwaukee.)

In about the early 90's Jim Morgan of our Hazardous Section assisted in the removal of many drums of waste materials left behind by General Castings when they ceased operations. I believe that Wisconsin Central Ltd. assumed the the responsibility for the proper removal and disposal of these wastes.

Our Environmental Response Program (Margaret Graefe) became involved on this project when Mr. McGlenn initiated discussions about possible uses and remedial options for this site, prior to his purchase of it. After McGlenn purchased the property he began to segregate the remediation issues on the site. This allowed him to address PECFA reimbursement eligible areas of the property first, to try to establish a more favorable cash flow pattern for the total remediation. Some of the seperate remediation projects turned out to be LUST cleanups that Chip Krohn has been managing. This is an on-going effort with some LUST projects completed and others waiting to be started.

Part of the proposed remediation of this property involved bringing in a large thermal treatment unit to clean contaminated soils. This unit did not perform as well as expected and allowed particulates and dust to be carried into residential areas adjacent to the property. The thermal treatment unit has been removed. However, some large piles of contaminated soils remain stockpiled on-site with no commitment to a date for treatment or disposal. Contaminated soil from these piles is often carried into the neighborhood around General Castings. The covers that they've used to try to control this fugative dust have required repeated maintenance, with releases and complaints when they've broken down.

A further complication on this site is that there is a lawsuit between McGlenn and Sigma Environmental, the first consultants who worked on this project. We have heard, but cannot prove, that Sigma's earlier work indicated that chlorinated solvents were found on this property. It's alledged that these results were removed from the report that was sent to the Department. The cost of cleaning up chlorinated solvents would be significantly higher than the petroleum products that they're currently addressing.

ATTACHMENT 5
Partial Data Package from March 21, 1995 Key Environmental Report

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

ANALYTICAL REPORT

Mr. Michael Matter
KEY ENVIRONMENTAL
W62 N244 Washington Ave.
Cedarburg, WI 53012

08/26/1994
Job No: 94.04024
Sample No: 106144
~~Account~~ No: 45150
Page 2

JOB DESCRIPTION: Jim McGlenn Samples
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: B-1 Jim McGlenn
Recv'd Temp Not Taken

Date Taken: 08/05/1994 Date Received: 08/08/1994

Parameter		Results	Units	Method	Detection Limit	Date Analyzed
Solids, Total		84.0	%	E-160.3	n/a	08/15/1994
DRO Extraction		08/09/94		WDNR		08/15/1994
GRO - Nonaqueous	H	2,300	mg/kg	WDNR	5.0	08/15/1994
DRO - NONAQUEOUS		920	mg/kg	WDNR	5.0	08/25/1994

Brian D. DeJong, Organic Operation Manager
Certification No. 128053530

OCEAN GROUP

St Wisc
Department of Natural Resources

CHAIN OF CUSTODY RECORD
LUST Program
Form 4400-151 Rev. 4-93

Printed on Recycled Paper

Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis. Adm. Code. Personally identifiable information will be used for no other purpose.

94.04024

Sample Collector(s)	Title/Work Station/Company	Telephone Number (include area code)
Michael Matter	Key Environmental Services Inc	(414) 375-4750
Property Owner	**Property Address**	**Telephone Number (include area code)**
Jim McGlenn		

I hereby certify that I received, properly handled, and disposed of these samples as noted below:

Relinquished By (Signature)	Date/Time	Received By (Signature)
Michael Matter	8-8-94 1:37 pm	Jerry Schmitz
Relinquished By (Signature)	**Date/Time**	**Received By (Signature)**
Jerry Schmitz	8-8-94 1645	
Relinquished By (Signature)	**Date/Time**	**Received for Laboratory By (Signature)**
		K. Kurtz 8/9/94

Field ID Number [1]	Date Collected	Time Collected	Sample Type [2]	Sample Device [3]	Preserv. Type	Field Screening	Description	Analysis Type
B-1	8/5/94	am	soil	geo probe	meth	370	4-6	PRO GRO
								do
S-1	8/5/94	am	GW	Baler	HCl	—	—	VOC

Sample Condition on Receipt by Laboratory
LABORATORY USE ONLY

Temperature of temperature blank: _____

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.

Lab ID Number	No./Type of Containers	Cracked /Broken	Improperly Sealed	Good Condition	Other Comments
	3				

[1] Sample description must clearly correlate the sample ID to the sampling location shown on a map.

[2] Specify groundwater, surface water, soil, leachate, sludge, etc.

[3] Type of sampling device; split spoon, hand auger, metal spatula, soil syringe, etc.

DEPARTMENT USE/OPTIONAL FOR SOIL SAMPLERS

Disposition of unused portion of sample

Laboratory should: ☐ Dispose ☐ Retain for ____ days ☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered? ☐ Yes ☐ No (Check one)

Accepted? ☐ Yes ☐ No (Check one)

ATTACHMENT 6
December 18, 1996 WDNR Closure Letter to McGlenn Partnership

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Gloria L. McCutcheon, District Director

Southeast District Annex
4041 N. Richards Street, Box 12436
Milwaukee, WI 53212-0436
TELEPHONE 414-229-0800
FAX 414-229-0810

268255130

December 18, 1996

James Mc Glenn
Mc Glenn Partnership
4500 Mitchell Street
West Milwaukee, WI 53214

Dear Mr. Mc Glenn,

RE: Key Environmental report:

"Tank Removal/Soil remediation/Site Closure Report"
Former Wisconsin Central LTD Diesel AST Site
608 East Main Street
Waukesha, WI 53186

Based on the investigative and remedial documentation provided to the Department, it appears that the petroleum contamination at the above-named site has been remediated in compliance with the requirements of chs. NR 700 to 724, Wis. Adm. Code. Therefore, the Department considers the case "closed," having determined that no further action is necessary at the site at this time. The petroleum contamination case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code, if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health or the environment.

This letter refers specifically to the petroleum contamination at the former Wisconsin Central AST site and does not pertain to solvent contamination that has been detected in groundwater on the combined property now owned by James Mc Glenn. The solvent contamination will be dealt with as a separate case; the DNR contact for the solvent contamination will be DNR Hydrogeologist Margaret Graefe.

Enclosed please find an executed PECFA form 4 for a completed remedial action at the Wisconsin Central AST site. Thank you for your cooperation in the remediation of petroleum impacts on the Wisconsin Central property. Remediation consisted of the excavation, and disposal/thermal treatment of 5,575 tons of petroleum contaminated soil, and the pumping and treatment of 38,000 gallons of water from the excavation.

Sincerely,

Charles J. Krohn
Hydrogeologist

Wisconsin Department of Industry, Labor and Human Relations

DNR 4-B

Remedial Action and Operation/Maintenance and Environmental Monitoring Review

Safety and Buildings Division
Bureau of Petroleum Inspection
PO Box 7969
Madison, WI 53707
(608) 267-3753
(608) 266-2424

Personal information you provide may be used for secondary purposes [Privacy Act, s. 15.04(1)(m)].

SEE INSTRUCTIONS ON THE BACK OF THIS PAGE

Send one copy of this completed form with the completed claim to the address shown in the upper right corner.

A. DILHR PECFA CLAIM NUMBER: 6 3 1 8 6 - 5 1 4 2 - 1 0 Plume B

Section 101.143 (3) (c) 4, Wis. Stats., requires that a claimant obtain written approval from the Department of Natural Resources (DNR) when requesting reimbursement for activities in response to a discharge from a commercial petroleum product storage system or home oil tank. The DNR approval must indicate that remedial action activities and operation/maintenance and environmental monitoring is adequate to meet requirements of s. 144.76, Wis. Stats. This approval is only for meeting the requirements of s. 101.143 (3), Wis. Stats.

DNR USE ONLY
Any DNR LUST Trust Expenditures on this site? ☐ YES ☐ NO If yes, please provide details on an attached sheet.

B. Claimant's Name McGlenn Partnership / James McGlenn	**F.** Remedial Action Site Name (if business) Diesel AST
C. Street Address 4500 W. Mitchell Street	**G.** Remedial Action Site Address 608 E. Main Street
D. City, State, Zip Code West Milwaukee, WI 53214	**H.** City, State, Zip Code Waukesha, WI 53186
E. Claimant's Telephone Number (414) 647-2380	**I.** Telephone Number of Site None

J. Claimant is:
☒ Owner ☐ Operator ☐ Other (specify):

K. Approval Requested For:
☐ Underground Petroleum Product Storage System ☐ Home Heating Oil Tank System ☒ Aboveground Petroleum Product Tank
☐ Farm Petroleum Product Tank Under 1,100 Gallons ☐ VTAE / Public School Heating Oil Tank System

L. Total Dollar Expense Being Claimed (same amount as on Form 1): $ Estimated Amt $20,000.00

This completed form must be submitted to the DNR for approval of the following activities in accordance with s. 101.143 (3) (c) 4, Wis. Stats.: Completed Remedial Action, Remedial Action and/or Operation/Maintenance and Environmental Monitoring.

DNR USE ONLY (indicate whether Completed Remedial Action, Remedial Action or Operation/Maintenance and Environmental Monitoring)

☐ **Completed Remedial Action** (phase 1 & phase 2)

Progress Payment For: check appropriate box

☐ Remedial Action (phase 2)

☐ Operation/Maintenance and Environmental Monitoring (annual claim for remedial action activities) (phase 3)

The DNR received a request for approval of the above identified activities for the site listed on this form on the following date: _____

The DNR response for purposes of s. 101.143 (3), Wis. Stats., is attached.

Remedial action activities funded under 42 USC 6991 (LUST Funding) are not eligible for reimbursement under PECFA. See s. 101.143 (3) (A) 2., Wis. Stats.

DNR Reviewer's Signature _____ Date Signed Dec 17 1996

DNR Reviewer's Title Hydrogeologist

SBDP- 8069 (R. 03/95) Copy Distribution: white - DILHR/S&B; green - claimant/agent; pink - DNR; yellow - consulting firm

INSTRUCTIONS

Purpose of Form 4-B: This form is to document that the Department of Natural Resources approved of the activities provided within this claim for reimbursement by PECFA.

1. For A enter the eleven digit PECFA claim number. Please use this number when you correspond with the department regarding this claim

2. For B enter the claimant's name

3. For C enter the claimant's personal street address

4. For D enter the claimant's city, state and zip code

5. For E enter the claimant's telephone number

6. For F enter the remedial action site's name

7. For G enter the remedial action site's street address (Geographic number address only, PO Box # not accepted)

8. For H enter the remedial action site's city, state and zip code

9. For I enter the remedial action site's telephone number

10. For J check appropriate box identifying whether the claimant is the owner, operator or other-specify

11. For K check the box identifying the tank type for which this claim form is being submitted

12. For L enter the total dollar amount being submitted for reimbursement on this claim. The amount must match the amount entered on Form 1

DNR USE ONLY

13. Check appropriate box to identify completed phase(s) of project

14. Enter date of request for approval of activities at site

15. Sign and date form, and provide Position Title

ATTACHMENT 7
September 15, 1997 MES Letter to WDNR Summarizing Agreed Upon Scope of Additional Site Investigation Work

midwest engineering services, inc.

geotechnical • environmental • materials engineers

205 Wilmont Drive
Waukesha, WI 53186
414-521-2125
FAX 414-521-2471

September 15, 1997

Ms. Margaret Graefe
Wisconsin Department of Natural Resources
4041 N. Richards Street
P.O. Box 12436
Milwaukee, WI 53212

Re: Solvent Contamination
Perkins Avenue Property
Waukesha, Wisconsin
~~DNR FID - 268456650~~
MES No. 7-51083-3

Dear Ms. Graefe,

The purpose of this letter is to briefly summarize our recent meeting, and to outline the additional work planned for the subject site.

On August 18, 1997, Ms. Graefe, Mr. Jim Schmidt, and Ms. Lakshmi Sridharan of the Department of Natural Resources met with Mr. Jim McGlenn, the property owner, and Mr. Jim Becco of Midwest Engineering Services to discuss project details, and to determine the DNR's requirements for granting closure or issuing a letter of "non-culpability".

Mr. Becco summarized data presented in previous reports, which indicate the presence of solvent related compounds within the groundwater at the adjacent Navistar site, at concentrations several orders in magnitude higher than those on the McGlenn property. It was also indicated that the same solvents are known to be used in large quantities at Navistar. On the basis of the supporting information, indicating the contamination at the McGlenn property is likely attributable to migration from Navistar, it was requested that the DNR grant closure and/or issue a "non-culpability" letter.

The DNR responded that the lack of analytical data within near surface soils on the McGlenn property, and the lack of recent groundwater data would preclude the issuance of either at that time. However, it was decided that Ms. Graefe would review the prior reports and contact Mr. Becco in order to agree upon a scope for supplementing testing. Mr. McGlenn then stated his concern that previous reports and correspondence were provided to the DNR more than a year ago, and the Department's responses have not been conducted in a timely manner. Mr.

McGlenn noted that sale of this property is pending, and the slow responses have resulted in sizable interest costs. He insisted upon more prompt action in the future, and received assurances that such would occur.

Following the meeting, on September 4, 1997, Ms. Graefe and Mr. Becco (on behalf of Mr. McGlenn) agreed that the additional activities would include the following:

1.) Measure groundwater levels and estimate flow direction within on-site wells.

2.) Monitoring wells MES MW-5, Key MW-2, Key MW-3, and Sigma MW-1 will be sampled and analyzed for the presence of VOCs.

3.) Soil samples will be obtained between depths of about 3 and 6 feet at four (4) boring locations, and analyzed for the presence of VOCs. The approximate locations are shown on the attached Figure 1.

Based upon discussions within the August 18th meeting, and subsequent telephone conversations, it is understood that if the results of the planned additional activities further support data and conclusions presented within the previous MES reports, the DNR will issue closure status or a letter of "non-culpability", indicating that Mr. McGlenn or future owners will not be held responsible for the existing solvent related contamination.

It is anticipated that the planned field activities will be conducted within the next week or so. If you have any questions, please contact me.

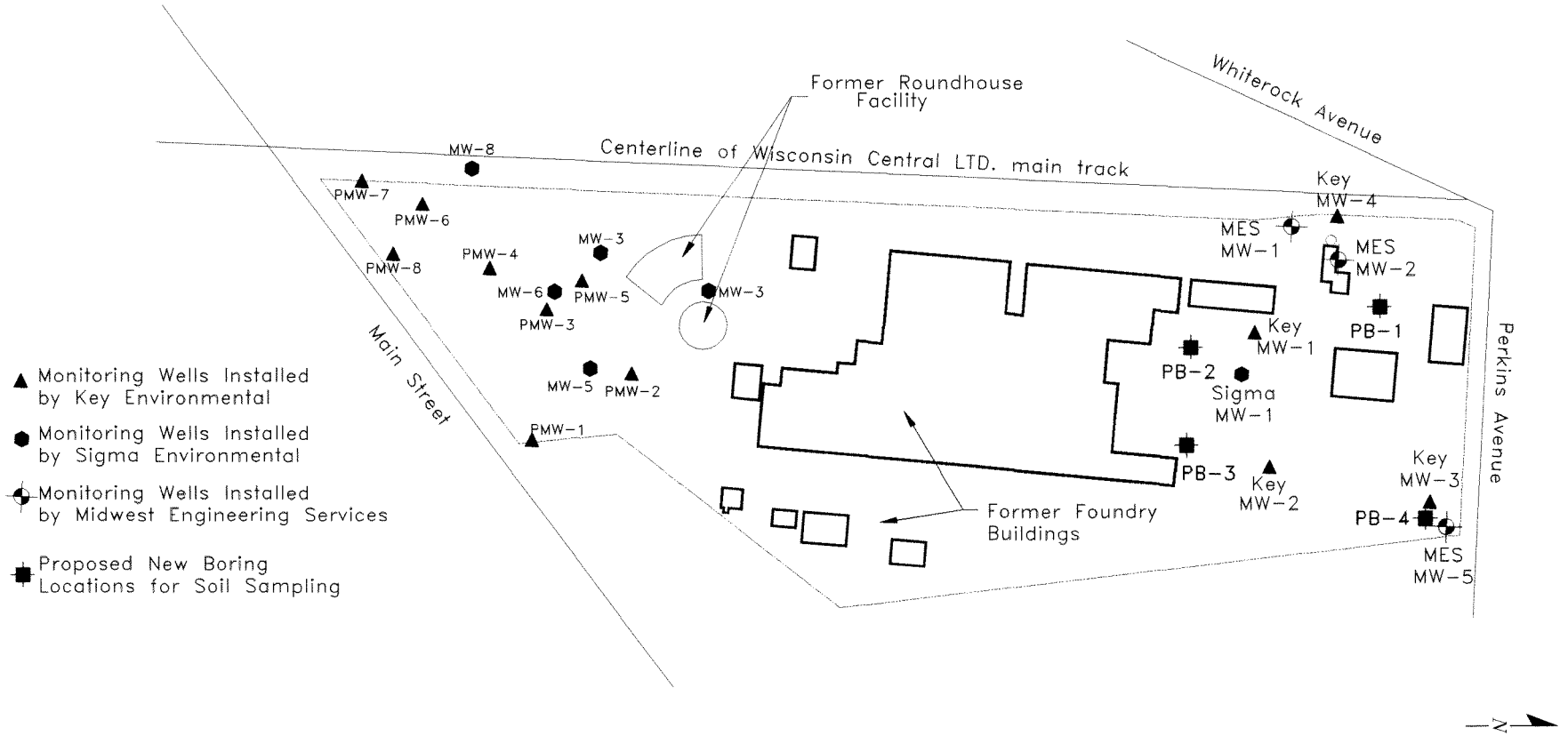
Respectfully submitted,

MIDWEST ENGINEERING SERVICES, INC.

James M. Becco, P.E.
Branch Manager

cc: Mr. Jim McGlenn

51083lt3.doc



midwest engineering services, inc.	McGlenn Properties Waukesha, Wisconsin	Scale: 1" = 250'
		Project Number: 7-51083
	Site Layout and Approximate Well Locations	Date: 9/15/97
		Drawn By: DAT

G:\env95\7-51083\drawings\borings1.dwg

FIGURE 1

ATTACHMENT 8
Former Tews Property Soil Data 1994

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

ANALYTICAL REPORT

Mr. Ken Wein
KEY ENVIRONMENTAL
W62 N244 Washington Ave.
Cedarburg, WI 53012

08/31/1994
Job No: 94.04189
Sample No: 106708
Account No: 45150

JOB DESCRIPTION: TBA Samples
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: B3 TBA Samples
Recv'd 4.0 C

Date Taken: 08/12/1994 Date Received: 08/15/1994

Parameter	Results	Units	Method	Detection Limit	Date Analyzed
1,1-Dichloropropene	<0.10	mg/kg	S-8021	0.10	08/26/1994
cis-1,3-Dichloropropene	<0.10	mg/kg	S-8021	0.10	08/26/1994
trans-1,3-Dichloropropene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Ethylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Hexachlorobutadiene	<0.20	mg/kg	S-8021	0.20	08/26/1994
Isopropylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
p-Isopropyltoluene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Methylene Chloride	<0.50	mg/kg	S-8021	0.50	08/26/1994
Naphthalene	<0.10	mg/kg	S-8021	0.10	08/26/1994
n-Propylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Styrene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,1,1,2-Tetrachloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,1,2,2-Tetrachloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
Tetrachloroethene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Toluene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2,3-Trichlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2,4-Trichlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,1,1-Trichloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,1,2-Trichloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
Trichloroethene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Trichlorofluoromethane	<0.40	mg/kg	S-8021	0.40	08/26/1994
1,2,3-Trichloropropane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2,4-Trimethylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,3,5-Trimethylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Vinyl Chloride	<0.30	mg/kg	S-8021	0.30	08/26/1994
Xylenes, Total	<0.30	mg/kg	S-8021	0.30	08/26/1994
Methyl-t-butyl ether	<0.10	mg/kg	S-8021	0.10	08/26/1994

Brian D. DeJong, Organic Operation Manager
Certification No. 128053530

OCEAN GROUP

State of Wisconsin
Department of Natural Resources

NET

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151 Rev. 4-93

Printed on Recycled Paper

Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis. Adm. Code. Personally identifiable information will be used for no other purpose.

9H.04189

Sample Collector(s)	Title/Work Station/Company	Telephone Number (include area code)
Stephen C McGoldrick	Key Environmental Services, Inc.	414-375-4750
Property Owner	**Property Address**	**Telephone Number (include area code)**
TRANS	1261 Whiterock Ave Waukesha	

I hereby certify that I received, properly handled, and disposed of these samples as noted below:

Relinquished By (Signature)	Date/Time	Received By (Signature)
Stephen McGoldrick	8/15/94 7:15AM	[signature]
[signature]	8/15/94 2:00 PM	[signature]
[signature]	8-16-94 1610	Received for Laboratory By (Signature)

Sample Condition on Receipt by Laboratory
LABORATORY USE ONLY

Temperature of temperature blank: 4°C

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.

Field ID Number[1]	Date Collected	Time Collected	Sample Type[2]	Sample Device[3]	Preserv. Type	Field Screening	Description	Analysis Type	Lab ID Number	No./Type of Containers	Cracked /Broken	Improperly Sealed	Good Condition	Other Comments
B3	8-12-94	PM	soil	split spoon	-	<1	2-6 ft	VOC		1				

[1] Sample description must clearly correlate the sample ID to the sampling location shown on a map.
[2] Specify groundwater, surface water, soil, leachate, sludge, etc.
[3] Type of sampling device; split spoon, hand auger, metal spatula, soil syringe, etc.

DEPARTMENT USE/OPTIONAL FOR SOIL SAMPLERS

Disposition of unused portion of sample

Laboratory should: ☐ Dispose ☐ Retain for ____ days ☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered? ☐ Yes ☐ No (Check one)

Accepted? ☐ Yes ☐ No (Check one)

Accepted By:

Ken

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

ANALYTICAL REPORT 408009

Josh Babiasz
KEY ENVIRONMENTAL
W62 N244 Washington Ave.
Cedarburg, WI 53012

09/07/1994
Job No: 94.04380
Sample No: 107440
Account No: 45150
Page 1

JOB DESCRIPTION: ~~TBA Distributors~~ Tews
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: B-4 ~~TBA Distributors~~ Tews
Recv'd 4.0C

Date Taken: 08/17/1994 Date Received: 08/22/1994

Parameter	Results	Units	Method	Detection Limit	Date Analyzed
Solids, Total	91.9	%	E-160.3	n/a	09/06/1994
VOC NONAQUEOUS - EPA 8021					
Benzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Bromobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Bromochloromethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
Bromodichloromethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
Bromoform	<0.20	mg/kg	S-8021	0.20	08/26/1994
Bromomethane	<0.40	mg/kg	S-8021	0.40	08/26/1994
n-Butylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
sec-Butylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
tert-Butylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Carbon Tetrachloride	<0.10	mg/kg	S-8021	0.10	08/26/1994
Chlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Chlorodibromethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
Chloroethane	<0.40	mg/kg	S-8021	0.40	08/26/1994
Chloroform	<0.10	mg/kg	S-8021	0.10	08/26/1994
Chloromethane	<0.40	mg/kg	S-8021	0.40	08/26/1994
2-Chlorotoluene	<0.10	mg/kg	S-8021	0.10	08/26/1994
4-Chlorotoluene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2-Dibromo-3-Chloropropane	<0.20	mg/kg	S-8021	0.20	08/26/1994
1,2-Dibromoethane (EDB)	<0.10	mg/kg	S-8021	0.10	08/26/1994
Dibromomethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2-Dichlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,3-Dichlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,4-Dichlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Dichlorodifluoromethane	<0.30	mg/kg	S-8021	0.30	08/26/1994
1,1-Dichloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2-Dichloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,1-Dichloroethene	<0.20	mg/kg	S-8021	0.20	08/26/1994
cis-1,2-Dichloroethene	<0.10	mg/kg	S-8021	0.10	08/26/1994
trans-1,2-Dichloroethene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2-Dichloropropane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,3-Dichloropropane	<0.10	mg/kg	S-8021	0.10	08/26/1994
2,2-Dichloropropane	<0.10	mg/kg	S-8021	0.10	08/26/1994

Brian D. DeJong/KRW
Brian D. DeJong, Organic Operation Manager
Certification No. 128053530

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

ANALYTICAL REPORT

Josh Babiasz
KEY ENVIRONMENTAL
W62 N244 Washington Ave.
Cedarburg, WI 53012

09/07/1994
Job No: 94.04380
Sample No: 107440
Account No: 45150

JOB DESCRIPTION: TBA Distributors
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: B-4 TBA Distributors
Recv'd 4.0C

Date Taken: 08/17/1994 Date Received: 08/22/1994

Parameter	Results	Units	Method	Detection Limit	Date Analyzed
1,1-Dichloropropene	<0.10	mg/kg	S-8021	0.10	08/26/1994
cis-1,3-Dichloropropene	<0.10	mg/kg	S-8021	0.10	08/26/1994
trans-1,3-Dichloropropene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Ethylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Hexachlorobutadiene	<0.20	mg/kg	S-8021	0.20	08/26/1994
Isopropylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
p-Isopropyltoluene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Methylene Chloride	<0.50	mg/kg	S-8021	0.50	08/26/1994
Naphthalene	<0.10	mg/kg	S-8021	0.10	08/26/1994
n-Propylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Styrene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,1,1,2-Tetrachloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,1,2,2-Tetrachloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
Tetrachloroethene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Toluene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2,3-Trichlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2,4-Trichlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,1,1-Trichloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,1,2-Trichloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
Trichloroethene	0.49	mg/kg	S-8021	0.10	08/26/1994
Trichlorofluoromethane	<0.40	mg/kg	S-8021	0.40	08/26/1994
1,2,3-Trichloropropane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2,4-Trimethylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,3,5-Trimethylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Vinyl Chloride	<0.30	mg/kg	S-8021	0.30	08/26/1994
Xylenes, Total	<0.30	mg/kg	S-8021	0.30	08/26/1994
Methyl-t-butyl ether	<0.10	mg/kg	S-8021	0.10	08/26/1994

Brian D. DeJong/KRW
Brian D. DeJong, Organic Operation Manager
Certification No. 128053530

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NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

ANALYTICAL REPORT

Josh Babiasz
KEY ENVIRONMENTAL
W62 N244 Washington Ave.
Cedarburg, WI 53012

09/07/1994
Job No: 94.04380
Sample No: 107441
Account No: 45150
Page 3

JOB DESCRIPTION: ~~TBA Distributors~~ Teus
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: B-5 ~~TBA Distributors~~ Teus
Recv'd 4.0C

Date Taken: 08/17/1994 Date Received: 08/22/1994

Parameter	Results	Units	Method	Detection Limit	Date Analyzed
Solids, Total	84.5	%	E-160.3	n/a	09/06/1994
VOC NONAQUEOUS - EPA 8021					
Benzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Bromobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Bromochloromethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
Bromodichloromethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
Bromoform	<0.20	mg/kg	S-8021	0.20	08/26/1994
Bromomethane	<0.40	mg/kg	S-8021	0.40	08/26/1994
n-Butylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
sec-Butylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
tert-Butylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Carbon Tetrachloride	<0.10	mg/kg	S-8021	0.10	08/26/1994
Chlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Chlorodibromethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
Chloroethane	<0.40	mg/kg	S-8021	0.40	08/26/1994
Chloroform	<0.10	mg/kg	S-8021	0.10	08/26/1994
Chloromethane	<0.40	mg/kg	S-8021	0.40	08/26/1994
2-Chlorotoluene	<0.10	mg/kg	S-8021	0.10	08/26/1994
4-Chlorotoluene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2-Dibromo-3-Chloropropane	<0.20	mg/kg	S-8021	0.20	08/26/1994
1,2-Dibromoethane (EDB)	<0.10	mg/kg	S-8021	0.10	08/26/1994
Dibromomethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2-Dichlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,3-Dichlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,4-Dichlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Dichlorodifluoromethane	<0.30	mg/kg	S-8021	0.30	08/26/1994
1,1-Dichloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2-Dichloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,1-Dichloroethene	<0.20	mg/kg	S-8021	0.20	08/26/1994
cis-1,2-Dichloroethene	<0.10	mg/kg	S-8021	0.10	08/26/1994
trans-1,2-Dichloroethene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2-Dichloropropane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,3-Dichloropropane	<0.10	mg/kg	S-8021	0.10	08/26/1994
2,2-Dichloropropane	<0.10	mg/kg	S-8021	0.10	08/26/1994

Brian D. DeJong/KRW
Brian D. DeJong, Organic Operation Manager
Certification No. 128053530

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

ANALYTICAL REPORT

Josh Babiasz
KEY ENVIRONMENTAL
W62 N244 Washington Ave.
Cedarburg, WI 53012

09/07/1994
Job No: 94.04380
Sample No: 107441
Account No: 45150

JOB DESCRIPTION: TBA Distributors
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: B-5 TBA Distributors
Recv'd 4.0C

Date Taken: 08/17/1994 Date Received: 08/22/1994

Parameter	Results	Units	Method	Detection Limit	Date Analyzed
1,1-Dichloropropene	<0.10	mg/kg	S-8021	0.10	08/26/1994
cis-1,3-Dichloropropene	<0.10	mg/kg	S-8021	0.10	08/26/1994
trans-1,3-Dichloropropene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Ethylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Hexachlorobutadiene	<0.20	mg/kg	S-8021	0.20	08/26/1994
Isopropylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
p-Isopropyltoluene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Methylene Chloride	0.60	mg/kg	S-8021	0.50	08/26/1994
Naphthalene	<0.10	mg/kg	S-8021	0.10	08/26/1994
n-Propylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Styrene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,1,1,2-Tetrachloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,1,2,2-Tetrachloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
Tetrachloroethene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Toluene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2,3-Trichlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2,4-Trichlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,1,1-Trichloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,1,2-Trichloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
Trichloroethene	0.34	mg/kg	S-8021	0.10	08/26/1994
Trichlorofluoromethane	<0.40	mg/kg	S-8021	0.40	08/26/1994
1,2,3-Trichloropropane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2,4-Trimethylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,3,5-Trimethylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Vinyl Chloride	<0.30	mg/kg	S-8021	0.30	08/26/1994
Xylenes, Total	<0.30	mg/kg	S-8021	0.30	08/26/1994
Methyl-t-butyl ether	<0.10	mg/kg	S-8021	0.10	08/26/1994

Brian D. DeJong

Brian D. DeJong, Organic Operation Manager
Certification No. 128053530

OCEAN GROUP

State of Wisconsin
Department of Natural Resources

NET

CHAIN OF CUSTODY RECORD
LUST PROGRAM
Form 4400-151 Rev. 4-93

Printed on Recycled Paper

Note: Use of this form is voluntary but is requested by the Department pursuant to ch. NR 149, NR 500-540, NR 158 and NR 419, Wis. Adm. Code. Personally identifiable information will be used for no other purpose.

Sample Collector(s)	Title/Work Station/Company	Telephone Number (include area code)
Josh Babiasz	Key Environmental	
Property Owner	**Property Address**	**Telephone Number (include area code)**
~~Tom Dobberfuhl~~ (McGlen Partnership)	1261 Whiterock Ave Waukesha	

I hereby certify that I received, properly handled, and disposed of these samples as noted below:

Relinquished By (Signature)	Date/Time	Received By (Signature)
Josh Babiasz	8/22/94 1:59P	
Relinquished By (Signature)	Date/Time	Received By (Signature)
Relinquished By (Signature)	Date/Time	Received for Laboratory By (Signature)

Sample Condition on Receipt by Laboratory
LABORATORY USE ONLY
Temperature of temperature blank: 4°C

If samples were received on ice and there was ice remaining, you may report the temperature as "received on ice". If all of the ice was melted, the temperature of the melt may be substituted for a temperature blank.

Field ID Number[1]	Date Collected	Time Collected	Sample Type[2]	Sample Device[3]	Preserv. Type	Field Screening	Description	Analysis Type	Lab ID Number	No./Type of Containers	Cracked /Broken	Improperly Sealed	Good Condition	Other Comments
B-4	8/17/94	Am	Soil	Split Spoon		<1	10'-12' Vacant Property	VOCs		1				
B-5	8/17/94	Am	Soil	Split Spoon		<1	5'-8' Vacant property	VOCs		1				

[1] Sample description must clearly correlate the sample ID to the sampling location shown on a map.
[2] Specify groundwater, surface water, soil, leachate, sludge, etc.
[3] Type of sampling device; split spoon, hand auger, metal spatula, soil syringe, etc.

DEPARTMENT USE/OPTIONAL FOR SOIL SAMPLERS

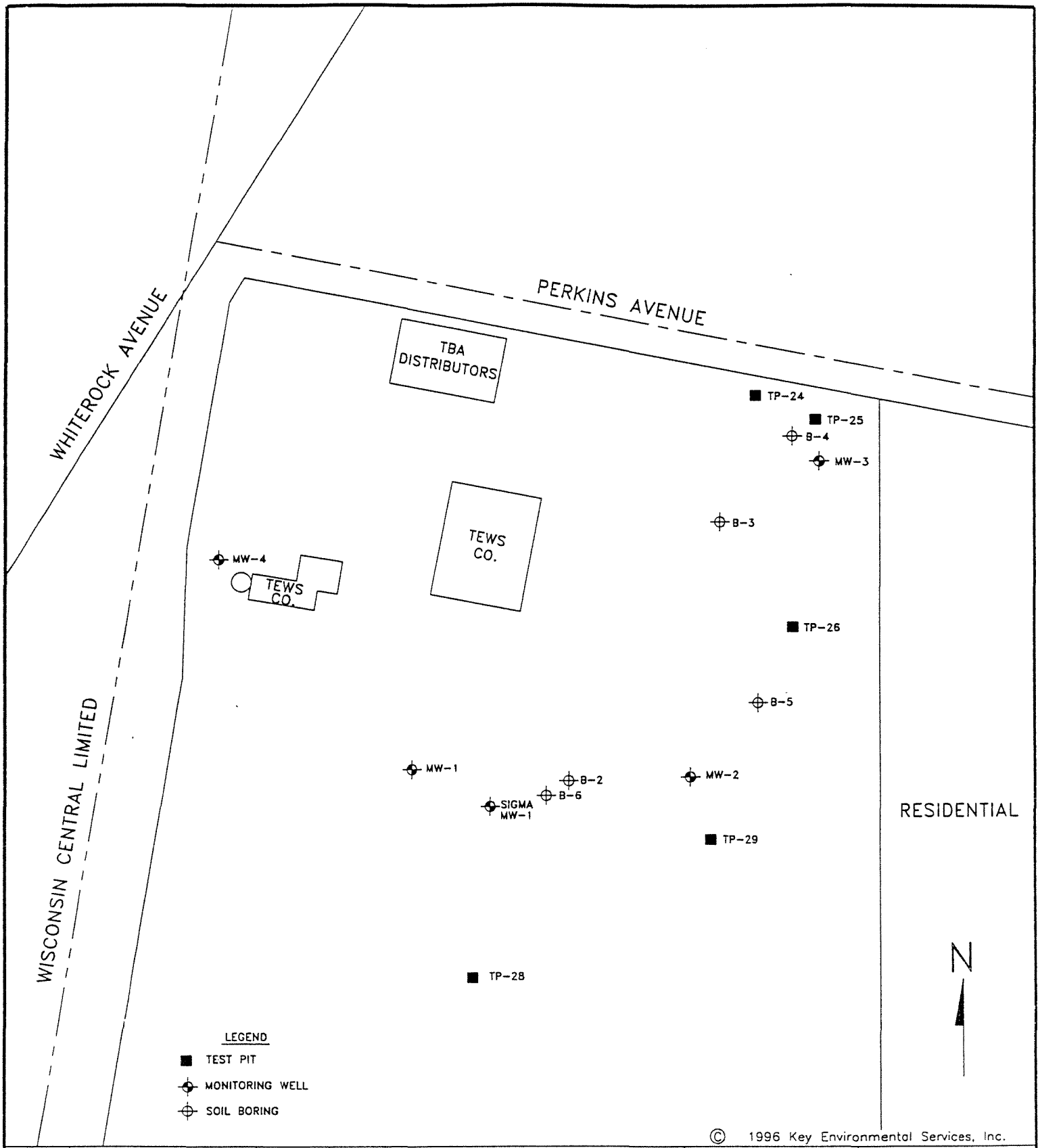
Disposition of unused portion of sample

Laboratory should: ☐ Dispose ☐ Retain for ____ days ☐ Return ☐ Other

DEPARTMENT USE ONLY

Split samples: Offered? ☐ Yes ☐ No (Check one)

Accepted? ☐ Yes ☐ No (Check one)



DATE	REVISIONS	INI.

0 50 100

SCALE: 1"=100'

FIGURE 2
LOCATIONS OF TEST PITS, BORINGS & MONITORING WELLS

MCGLENN PARTNERSHIP
CHLORINATED SOLVENTS
PERKINS AVENUE
WAUKESHA, WISCONSIN

DRN. BY:	A.L.R.	DATE:	01/30/96
DSN. BY:	M.P.M.	FILE NO.:	0502007
CHK. BY:	M.P.M.	DWG. NO.:	05020072
REV. BY:	G.A.K.	SHEET NO.:	2

Key ENVIRONMENTAL SERVICES, INC.
W62 N244 Washington Ave. · Cedarburg, WI 53012 · (414) 375-4750
6218 Washington Ave. · Racine, WI 53406 · (414) 886-4439

NATIONAL ENVIRONMENTAL TESTING, INC.

Watertown Division
602 Commerce Drive
P.O. Box 288
Watertown, WI 53094
Tel: (414) 261-1660
Fax: (414) 261-8120

ANALYTICAL REPORT

Mr. Ken Wein
KEY ENVIRONMENTAL
W62 N244 Washington Ave.
Cedarburg, WI 53012

08/31/1994
Job No: 94.04189
Sample No: 106708
Account No: 45150
Page 1

JOB DESCRIPTION: Tews ~~TBA Samples~~
PROJECT DESCRIPTION: Soil Analysis
SAMPLE DESCRIPTION: B3 ~~TBA Samples~~ Tews
Recv'd 4.0 C

Date Taken: 08/12/1994 Date Received: 08/15/1994

Parameter	Results	Units	Method	Detection Limit	Date Analyzed
Solids, Total	91.2	%	E-160.3	n/a	08/29/1994
VOC NONAQUEOUS - EPA 8021					
Benzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Bromobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Bromochloromethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
Bromodichloromethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
Bromoform	<0.20	mg/kg	S-8021	0.20	08/26/1994
Bromomethane	<0.40	mg/kg	S-8021	0.40	08/26/1994
n-Butylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
sec-Butylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
tert-Butylbenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Carbon Tetrachloride	<0.10	mg/kg	S-8021	0.10	08/26/1994
Chlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Chlorodibromethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
Chloroethane	<0.40	mg/kg	S-8021	0.40	08/26/1994
Chloroform	<0.10	mg/kg	S-8021	0.10	08/26/1994
Chloromethane	<0.40	mg/kg	S-8021	0.40	08/26/1994
2-Chlorotoluene	<0.10	mg/kg	S-8021	0.10	08/26/1994
4-Chlorotoluene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2-Dibromo-3-Chloropropane	<0.20	mg/kg	S-8021	0.20	08/26/1994
1,2-Dibromoethane (EDB)	<0.10	mg/kg	S-8021	0.10	08/26/1994
Dibromomethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2-Dichlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,3-Dichlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,4-Dichlorobenzene	<0.10	mg/kg	S-8021	0.10	08/26/1994
Dichlorodifluoromethane	<0.30	mg/kg	S-8021	0.30	08/26/1994
1,1-Dichloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2-Dichloroethane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,1-Dichloroethene	<0.20	mg/kg	S-8021	0.20	08/26/1994
cis-1,2-Dichloroethene	<0.10	mg/kg	S-8021	0.10	08/26/1994
trans-1,2-Dichloroethene	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,2-Dichloropropane	<0.10	mg/kg	S-8021	0.10	08/26/1994
1,3-Dichloropropane	<0.10	mg/kg	S-8021	0.10	08/26/1994
2,2-Dichloropropane	<0.10	mg/kg	S-8021	0.10	08/26/1994

Brian D. DeJong, Organic Operation Manager
Certification No. 128053530

OCEAN GROUP

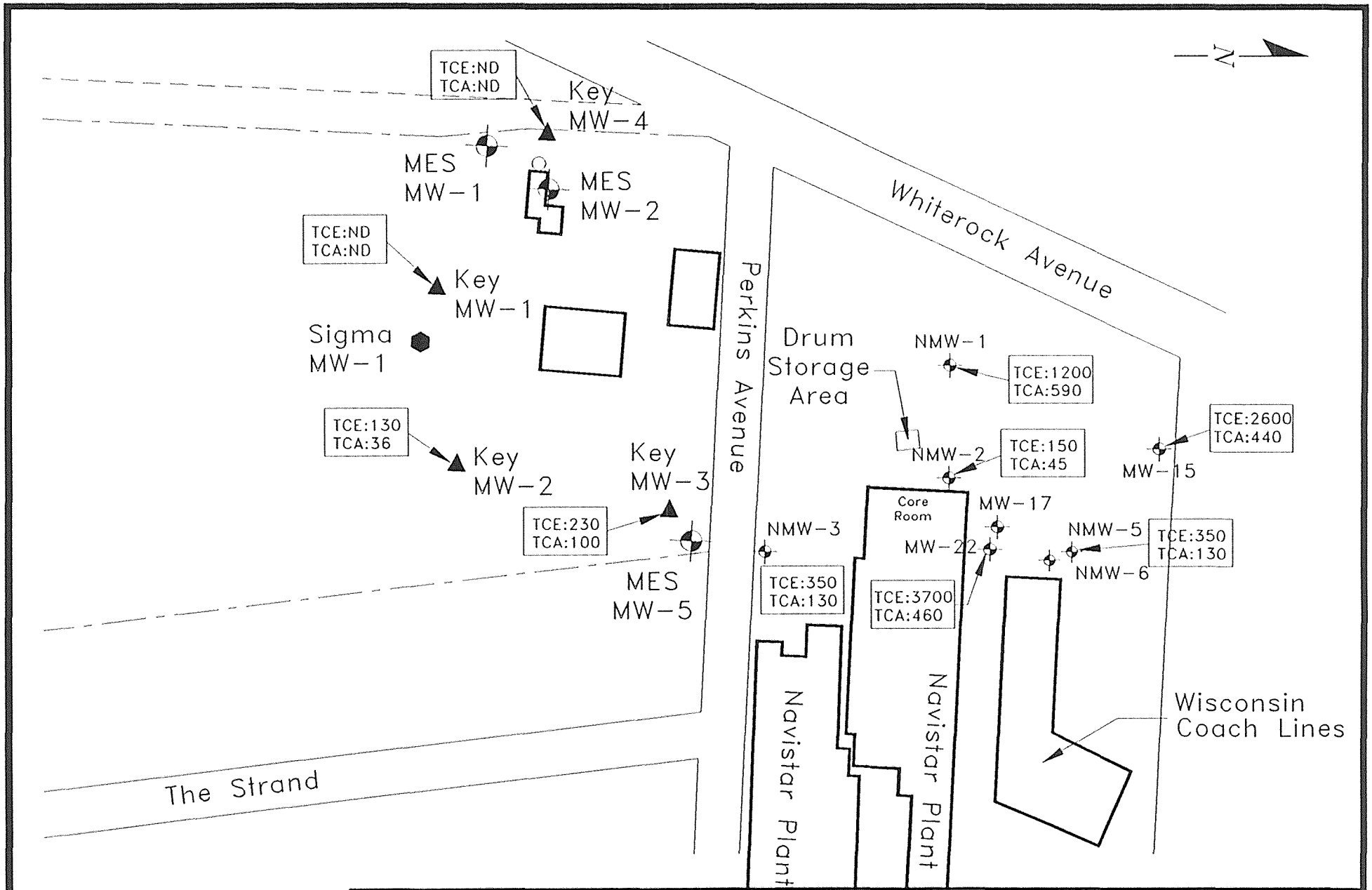
Navistar Sampling Results from 3/31/98 collection
sent to McGlenn 2/11/99 by AMT

Key Report Jan 30, 1996 Summary of Subsurface
Exploration Activities to Date VOCs McGlenn
Partnership Property

Samples Collected 8-12-94

Abandoned
Key MW-3, Key MW-2 MES MW-5
MES MW-1 to be abandoned

ATTACHMENT 9
MES Computer Generated Isoconcentration Contour Maps and Reinterpretation



midwest engineering services, inc.

McGlenn Property
Waukesha, Wisconsin

TCE and TCA Groundwater
Concentrations (ppb) in 1994

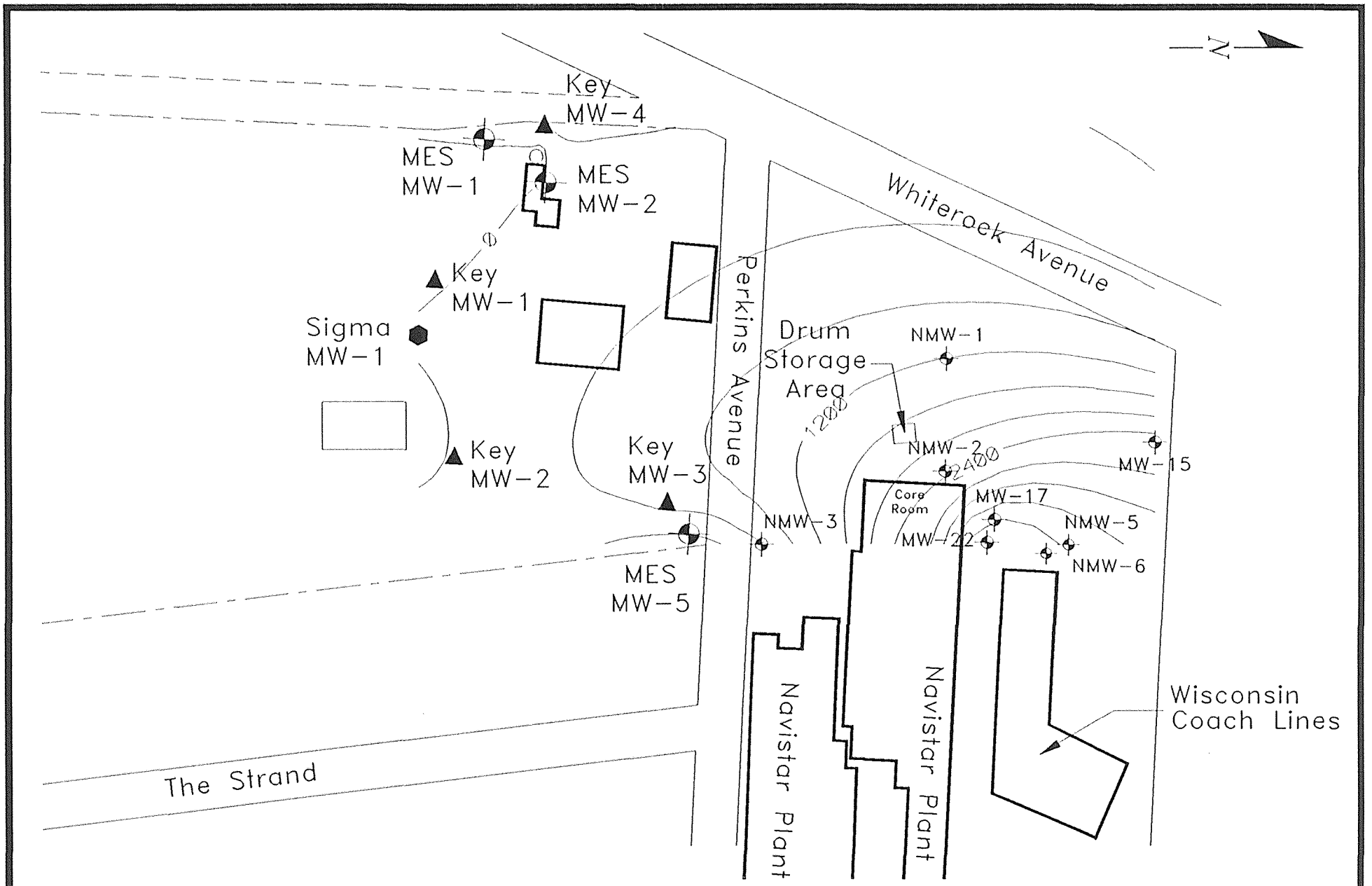
Scale: 1" = 150'

Project Number: 7-51083

Date: 1/28/97

Drawn By: DAT

FIGURE 5



Concentrations in ppb

midwest engineering services, inc.

McGlenn Property
Waukesha, Wisconsin

TCE Groundwater Isoconcentration Diagram

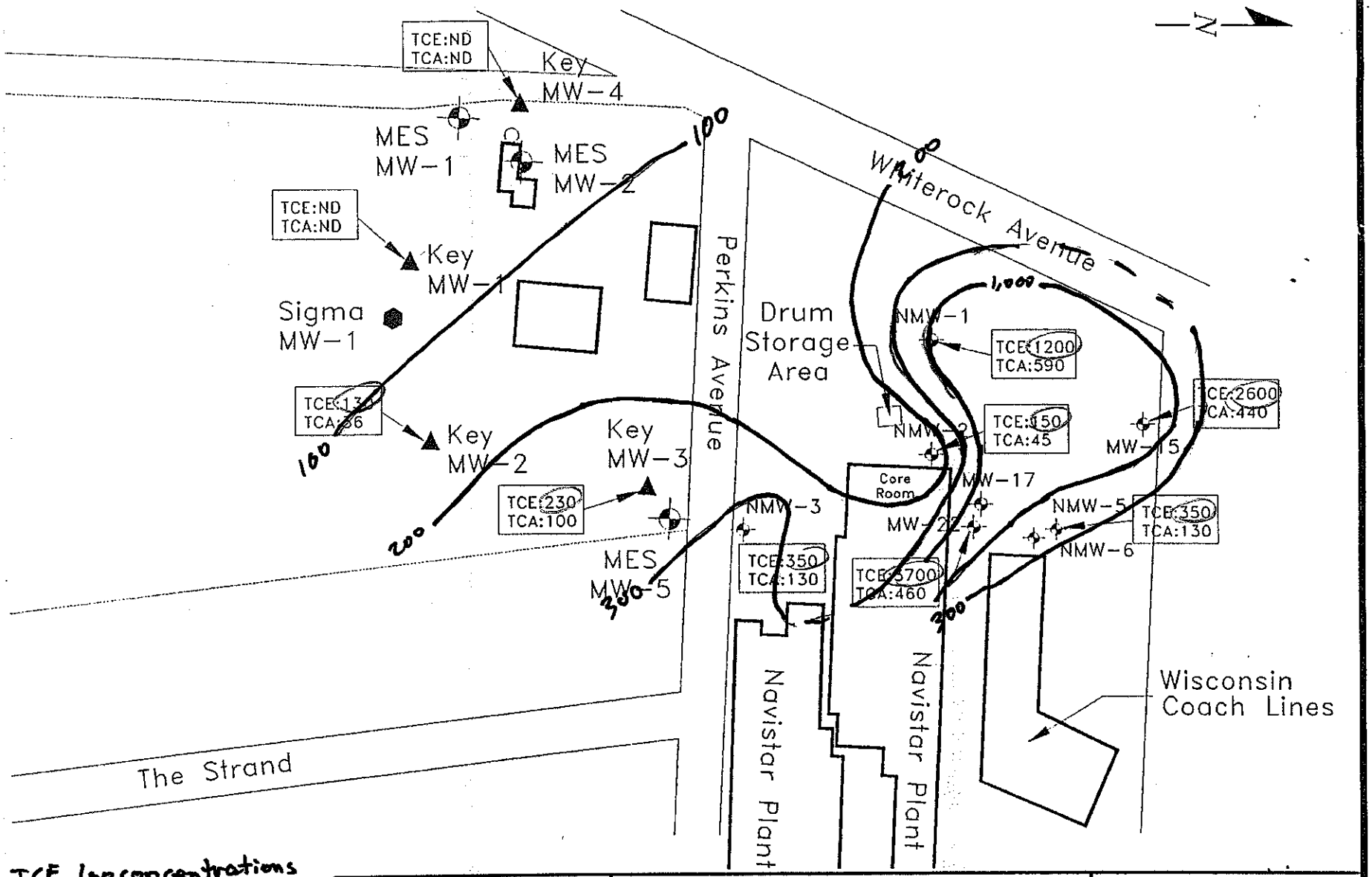
Scale: 1" = 150'

Project Number: 7-51083

Date: 1/28/97

Drawn By: DAT

FIGURE 6



TCE Isoconcentrations
Redrawn - KPRG

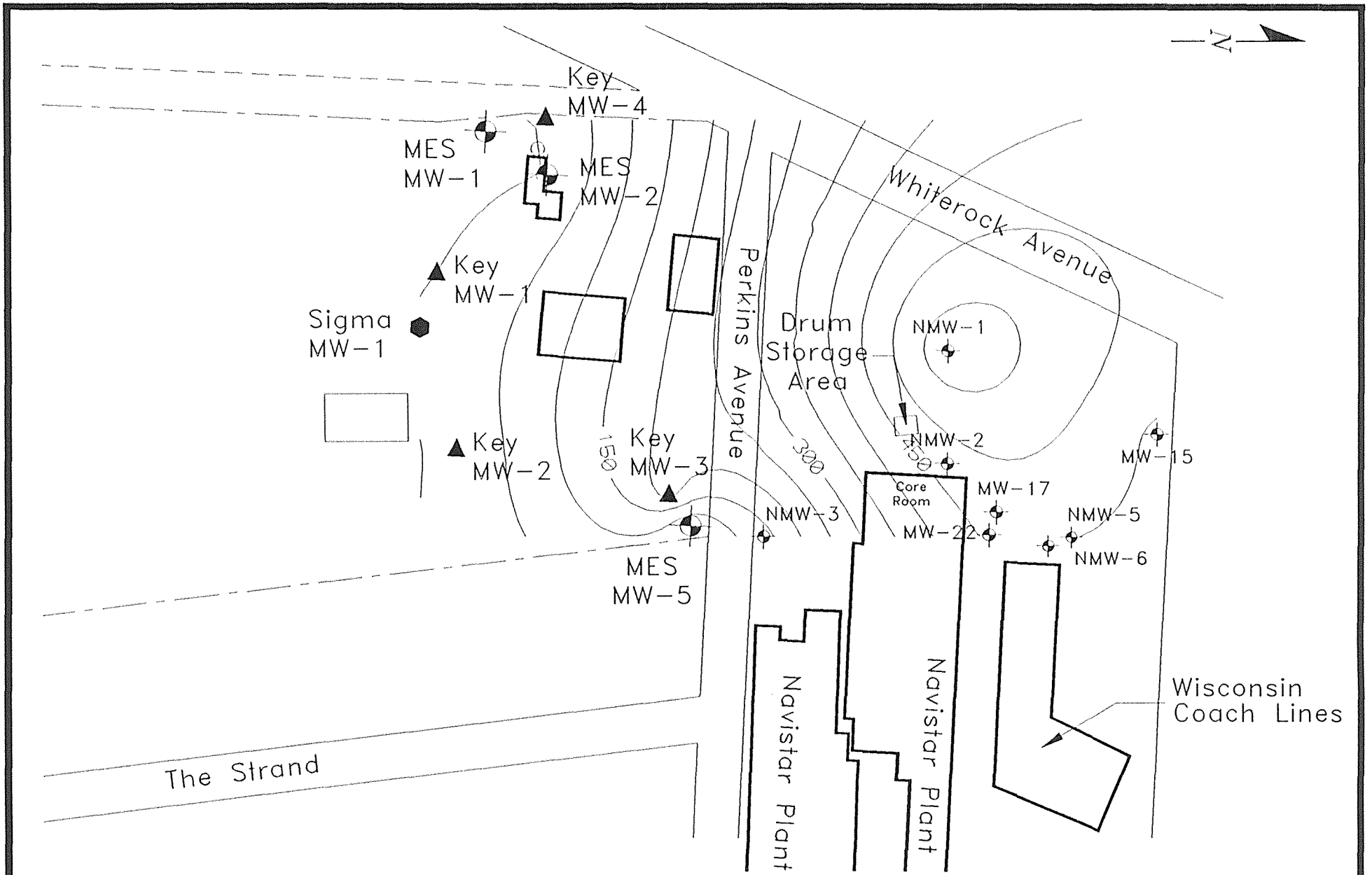
midwest engineering services, inc.

McGlenn Property
Waukesha, Wisconsin

TCE and TCA Groundwater
Concentrations (ppb) in 1994

Scale: 1" = 150'
Project Number: 7-51083
Date: 1/28/97
Drawn By: dat

FIGURE 5



Concentrations in ppb

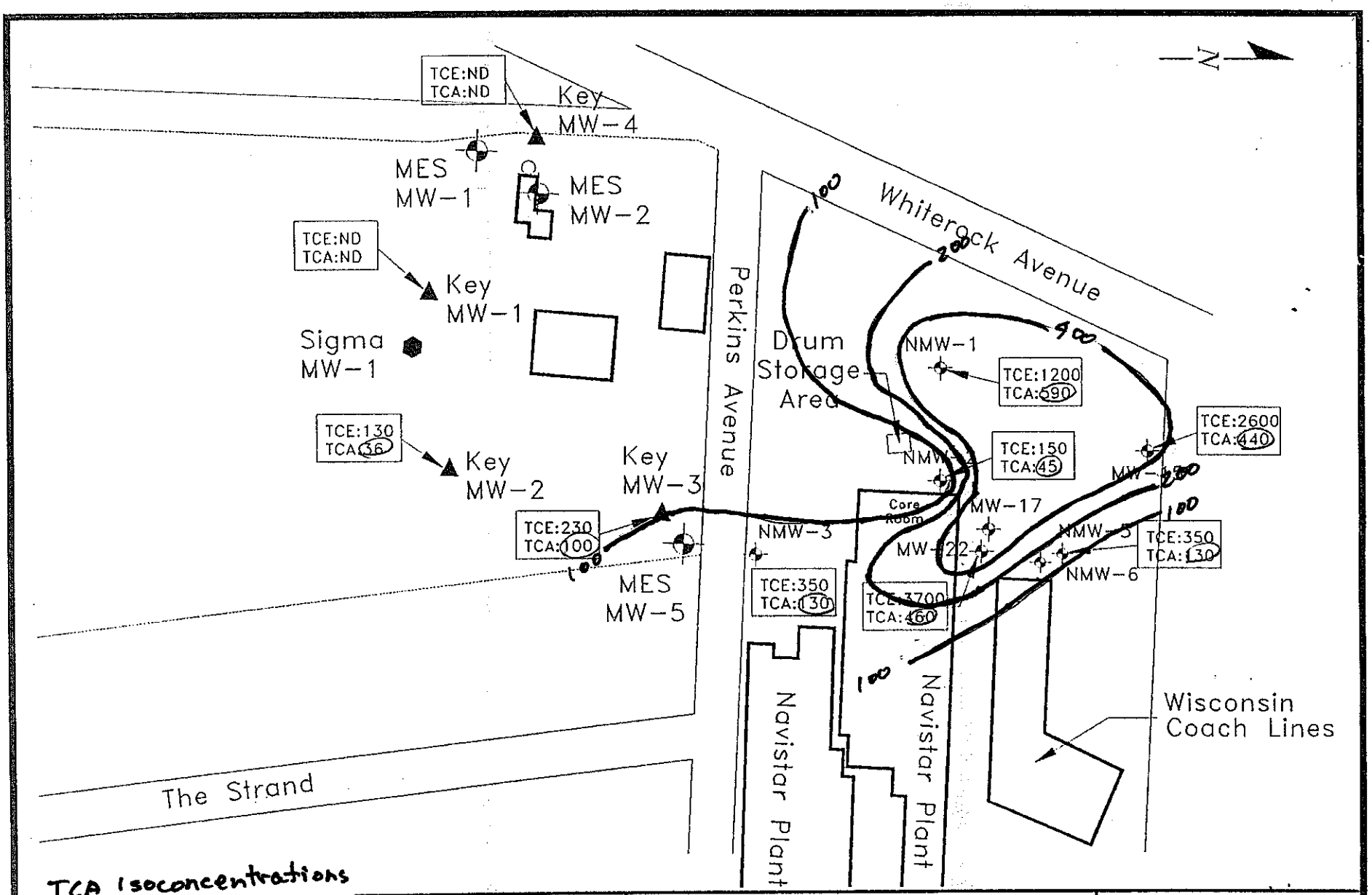
midwest engineering services, inc.

McGlenn Property
Waukesha, Wisconsin

TCA Groundwater Isoconcentration Diagram

Scale: 1" = 150'
Project Number: 7-51083
Date: 1/28/97
Drawn By: DAT

FIGURE 7



TCA Isoconcentrations
Redrawn - KPRG

midwest engineering services, inc.	McGlenn Property Waukesha, Wisconsin	Scale: 1" = 150'
		Project Number: 7-51083
	TCE and TCA Groundwater Concentrations (ppb) in 1994	Date: 1/28/97
		Drawn By: dat

FIGURE 5

ATTACHMENT 10
List of Cited Literature References

Cited Literature References

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