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31 January 2014
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Hazardous Waste Program, Superfund Section
Missouri Department of Natural Resources
1738 East Elm Street
Jefferson City, Missouri 65101

Attention: Dennis Stinson, Superfund Section Chief

Subject: Supplemental Site Investigation Report
Former Leeds Assembly Plant – Northern Parcel
South of 6817 Stadium Drive
Kansas City, Missouri

Dear Mr. Stinson:

On behalf of the Revitalizing Auto Communities Environmental Response (RACER) Trust, Haley & Aldrich, Inc. is pleased to submit this Supplemental Site Investigation Report documenting results for groundwater and soil vapor sampling activities conducted at the subject site per the *Scope of Work Addendum for Supplemental Site Investigation Activities*, prepared by Haley & Aldrich, dated 27 September 2013.

The purpose for this report is to document supplemental site investigation activities conducted, field observations, and sampling results, and to present a preliminary conceptual site model to assist the Missouri Department of Natural Resources (MDNR) in evaluating future steps for the Former Leeds Assembly Plant – Northern Parcel Site.

We await your review of this report and subsequent meeting to discuss these results and next steps. Please feel free to contact Mr. Bruce Wilkinson at 913-693-1908 or bwilkinson@haleyaldrich.com with questions about the technical aspects of the report or request for additional information, or Mr. Robert Hare at 419-277-0815 or rhare@racertrust.org to arrange a meeting.

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Missouri Department of Natural Resources
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Sincerely yours,
HALEY & ALDRICH, INC.



Bruce A. Wilkinson
Project Manager



Richard W. Volpi, PG
Senior Hydrogeologist

Enclosure: Supplemental Site Investigation Report, 31 January 2014

Cc: MDNR; Attn: Robert Hinkson
MDNR; Attn: Wane Roberts
RACER Trust; Attn: Robert Hare

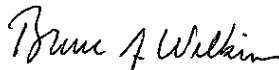
**SUPPLEMENTAL SITE INVESTIGATION REPORT
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
RACER TRUST
KANSAS CITY, MISSOURI**

by

**Haley & Aldrich, Inc.
Lenexa, Kansas**

for

**RACER Trust
Detroit, Michigan**



**Bruce A. Wilkinson
Haley & Aldrich, Inc.
Project Manager**

DATE: 31 January 2014



**Richard W. Volpi
Haley & Aldrich, Inc.
Missouri Registered Geologist
RG2008027340**

DATE: 31 January 2014



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ACRONYMS AND ABBREVIATIONS

APH	air-phase petroleum hydrocarbon
bgs	below ground surface
CSM	Conceptual Site Model
DCE	dichloroethene
DUSR	data usability summary report
GPR	ground penetrating radar
IPA	isopropyl alcohol
MCL	Maximum Contaminant Level
MDNR	Missouri Department of Natural Resources
$\mu\text{g/L}$	micrograms per liter
$\mu\text{g/m}^3$	micrograms per cubic meter
mL/min	milliliters per minute
NELAP	National Environmental Laboratory Accreditation Program
PCB	polychlorinated biphenyls
PM	Project Manager
PSA	PSA Environmental
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
RACER	Revitalizing Auto Communities Environmental Response
RBSL	Risk-Based Screening Level
RSL	Regional Screening Level
SOP	standard operating procedure
SOW	scope of work
SVOC	semi-volatile organic compound
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

1. INTRODUCTION

This *Supplemental Site Investigation Report* provides a summary of investigation activities completed at the Former Leeds Assembly Plant – Northern Parcel (the Site; Figures 1 and 2) between 23 October through 8 November 2013 as proposed in the *Scope of Work (SOW) Addendum for Supplemental Site Investigation Activities (SOW Addendum)*, prepared by Haley & Aldrich, Inc. (Haley & Aldrich), dated 27 September 2013 (Haley & Aldrich, 2013). The intent of this investigation effort was to supplement the prior site characterization results as reported in the *Site Investigation Data Report (Data Report)*, dated 21 June 2012 (Haley & Aldrich, 2012) such that a preliminary conceptual site model (CSM) could be prepared to assist the Missouri Department of Natural Resources (MDNR) in evaluating future steps for the Site. This work was conducted on behalf of the Revitalizing Auto Communities Environmental Response (RACER) Trust and under direction from the MDNR to attain the following objectives:

1. Further assess the source and extent of volatile organic compounds (VOCs) in shallow and deep groundwater and in soil vapor;
2. Evaluate the mineral spirit-like odor detected at two locations during test pit excavation activities;
3. Refine the understanding of groundwater flow across the Site; and
4. Gather sufficient data to develop a preliminary CSM.

This *Supplemental Site Investigation Report* summarizes results and observations obtained during completion of the following investigation activities:

- Geoprobe® investigation to evaluate the previously detected VOCs in deep groundwater and to further assess if VOCs in deep groundwater are present up-gradient and/or down-gradient of the Drum Discovery Area (shown on Figure 2).
- Geoprobe® investigation to further assess the presence of VOCs in shallow groundwater on-site.
- Geoprobe® investigation to evaluate the mineral spirit-like odor detected at two locations (TP-16 and TP-18) during prior test pit excavation activities and whether VOCs may be present in soil vapor in the shallow vadose zone near the Drum Discovery Area.
- Groundwater monitoring for comparison against prior groundwater sampling results and to obtain baseline natural attenuation data.
- In-situ permeability tests (slug tests) to estimate the permeability of the aquifer(s) identified beneath the Site.
- Horizontal and vertical survey for completed groundwater and soil vapor sampling locations.
- Observation of the vertical slope west of the site for potential seepage of site groundwater to nearby surface water in the drainage ditch and Blue River.

1.1 Site Description

The Site is located in the southern portion of the property located at 6817 Stadium Drive, in Kansas City, Jackson County, Missouri, as shown on Figure 1 and Figure 2. The northern portion of the property at 6817 Stadium Drive is leased and operated by the Leeds Industrial Park and was the location of the Former GM Leeds Assembly Plant (Former GM Plant). The southern portion of the property is owned by RACER Trust and is further divided into the Northern Parcel (the Site) and the Southern Parcel.

The approximate 18-acre Northern Parcel (Figure 2) is bordered to the north by the Leeds Industrial Park (the Former GM Plant, not owned by RACER), to the east by the Kansas City Southern Railroad, to the south by the Former Leeds Assembly Plant - Southern Parcel (owned by RACER), and to the west by Missouri Pacific Railroad. A portion of the Site's southwest corner is bordered by the Blue River.

Based on groundwater elevation data collected from monitoring wells installed at the Site, groundwater flow direction in the shallow water table zone (~15 to 20 feet below ground surface [bgs]) is to the west-southwest in the western portion of the property and to the south-southeast in the eastern portion of the property (Figure 3). Groundwater flow direction in the deep zone atop bedrock (~60 feet bgs) is to the west-southwest toward the Blue River (Figure 4).

Additional information on historic Site use and aspects of site geology and hydrogeology can be referenced in the *Data Report* (Haley & Aldrich, 2012).

2. SUPPLEMENTAL SITE INVESTIGATION ACTIVITIES

This section summarizes activities conducted as part of the Supplemental Site Investigation activities.

2.1 Sampling and Utility Locates

A Site reconnaissance survey was conducted on 23 October 2013 by Haley & Aldrich and the MDNR Project Manager (PM), Mr. Wane Roberts. At this time, the proposed groundwater and soil vapor sampling locations were marked and a ground penetrating radar (GPR) survey was conducted to identify potential utilities or other buried debris that may interfere with Geoprobe® drilling activities. During the reconnaissance survey, some sampling locations were modified in the field based on review of site conditions (e.g., overhead utility lines, results of the GPR survey) and preferences identified on-site by Mr. Roberts. Following the survey, Haley & Aldrich coordinated with the Leeds facility management for temporary relocation of vehicles and equipment that had the potential to interfere with planned sampling locations.

In addition, Missouri One-Call was notified prior to the supplemental site investigation field event to conduct a location survey for public utilities at the Site. No buried public utilities were identified in the general locations of the proposed sampling locations.

2.2 Groundwater Monitoring

2.2.1 Geoprobe® Grab Groundwater Sampling

A track-mounted Geoprobe® unit, operated by PSA Environmental (PSA), was used to obtain grab groundwater samples at identified locations within the bounds of the Northern Parcel from 28 October to 30 October 2013. Haley & Aldrich personnel and the MDNR PM, Mr. Roberts, were present during groundwater sampling activities. The intent for collecting the grab groundwater samples was to confirm previously detected concentrations in deep groundwater and to further assess the presence and extent of VOCs in both shallow and deep groundwater.

Four Geoprobe® locations were advanced to monitor groundwater in the deep zone (i.e., atop bedrock at approximately 60 feet bgs). These locations are identified on Figure 5 as GP-6D, GP-7D, GP-10D, and GP-11D. Two Geoprobe® locations (Figure 5: GP-12A and GP-13A) had been planned to monitor groundwater in the shallow zone (i.e., water table at approximately 22 feet bgs). However, at the time of sampling, groundwater was not present in the subsurface at the proposed depths. Therefore, a field decision was made in conjunction with Mr. Roberts to advance the Geoprobe® to deeper sampling depths at each location with final sampling depths of 35 feet bgs at GP-12A and 40 feet bgs at GP-13A.

Geoprobe® advancement and groundwater sampling was conducted per the standard operating procedure (SOP) provided by PSA (see Attachment A of the *SOW Addendum*). Grab groundwater samples were collected at depth for each location using a Geoprobe® SP-16 sampler advanced within the Geoprobe® direct push rods (per the SOP), a peristaltic pump, and

poly sample tubing. Appendix A includes Sample Data Reports prepared by PSA documenting groundwater sampling information for each location. Also included in Appendix A is the Monitoring Well Plugging Registration Record submitted to MDNR verifying that the Geoprobe® borings installed for groundwater sample collection were appropriately abandoned.

One field duplicate, one equipment blank, and one trip blank were also collected to assess sample collection techniques and environmental conditions during grab groundwater sample collection and transport. Data quality verification for the supplemental site investigation activities was outlined in the Data Quality and Evaluation section of the *SOW Addendum* (Haley & Aldrich, 2013). Groundwater samples were analyzed by TestAmerica Laboratories, Inc. of Nashville, Tennessee (TestAmerica; National Environmental Laboratory Accreditation Program [NELAP] Certification No. E87358) for VOC analysis by U.S. Environmental Protection Agency (USEPA) Method 8260B.

Table I provides a summary of analytical results for the grab groundwater samples collected using the Geoprobe® method. Figure 5 summarizes the locations and corresponding analytical results for each location that had constituents detected at concentrations exceeding the reporting limit and the preliminary risk-based screening level (RBSL; if applicable) as identified in Table I of the *Revised Site Investigation Workplan, Revision No. 2* (the *Workplan*), prepared by Haley & Aldrich, dated 15 September 2011 (Haley & Aldrich, 2011). For groundwater, the RBSLs equate to the maximum contaminant levels (MCLs) for the constituents that have established MCLs. For ease of reference, Table I of the *Workplan* has been provided as Appendix B of this report. Complete copies of the TestAmerica laboratory analytical reports, including the quality assurance/quality control (QA/QC) data have been provided in Appendix C (laboratory reports provided on compact disc for hardcopy submittals of this document).

Per the *Quality Assurance Project Plan (QAPP)*; Appendix A of the *Workplan*), data validation was conducted by Haley & Aldrich staff for the grab groundwater samples collected from 28 October to 30 October 2013. Data usability summary reports (DUSRs) documenting the data validation results are provided as Appendix D. Results presented in each laboratory report were found to be compliant with the data quality objectives for the project. Based on the information reviewed, the usability of the data is 100 percent and may be used as reported with the noted qualifications. Groundwater sample results and data evaluation are further discussed in Section 3.2.1.

2.2.2 Groundwater Elevation Measurements

Groundwater elevation measurements were collected to evaluate the groundwater flow direction across the Site. On 1 November 2013, groundwater levels were measured in each of the existing Site monitoring wells with depth to water reported as depth below the top of casing measurement location. Groundwater elevation data is summarized in Table II.

Water level data were converted to groundwater elevations using surveyed reference elevations; shallow (~15 to 20 feet bgs) and deep (atop bedrock, ~60 feet bgs) groundwater contours

were generated to evaluate groundwater flow direction, as shown on Figures 3 and 4, respectively.

2.2.3 Groundwater Monitoring Well Sampling

Groundwater samples were collected from eight shallow and four deep monitoring wells between 4 November and 7 November 2013 for comparison against prior groundwater sampling results and to obtain baseline natural attenuation data. One shallow well, MW-04A, did not have sufficient water to collect a sample during this field event. Another shallow well, MW-03A, had limited water in the well screen and the small volume of water collected was only sufficient to allow for VOC analysis. This was the first time that sufficient water had been identified at this location for collecting a sample. Precipitation since these wells were installed in 2011 has been below normal, possibly contributing to the insufficient/limited water at these locations.

Groundwater samples were collected by low-flow methodology using a submersible variable rate pump. Two field duplicates, one field blank, one equipment blank, and four trip blanks were also collected to assess sample collection techniques and environmental conditions during groundwater monitoring well sample collection and transport (refer to the Data Quality and Evaluation section of the *SOW Addendum*). Groundwater samples were analyzed by TestAmerica for VOCs, semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), metals, ethylene glycol, and natural attenuation parameters as proposed in the *SOW Addendum*.

Due to the short hold time for hexavalent chromium samples (must be received and analyzed by laboratory within 24-hours of sample collection), seven primary samples (MW-01A, MW-01B, MW-02A, MW-03B, MW-06, MW-08, and MW-09) and one field duplicate sample (MW-03B field duplicate) were collected by bailer and submitted to the laboratory for hexavalent chromium analysis only. For these locations, the bailer sampling was conducted after the monitoring well was sampled by low-flow sampling methods for the remaining analytes. Because both low-flow and bailer sampling methods were identified as acceptable in the *QAPP* and the *SOW Addendum*, the decision to sample for hexavalent chromium by bailer rather than low-flow does not constitute a deviation from the sampling plan.

Monitoring well groundwater analytical results for VOCs, SVOCs, PCBs, metals, and ethylene glycol are summarized in Table III and natural attenuation parameters are summarized in Table IV. Figure 5 shows the analytical results for each location that had VOC constituents detected above their respective reporting limits and the MCLs, if applicable. Figure 6 shows the analytical results for each location that had SVOCs and/or ethylene glycol detected above their respective reporting limits and the MCLs, if applicable. Figure 7 summarizes the results for each location that had metals detected at concentrations exceeding the MCLs. Copies of field-completed low flow groundwater sampling records are provided in Appendix E. Complete copies of the TestAmerica laboratory analytical reports, including the QA/QC data have been provided in Appendix C (laboratory reports provided on compact disc for hardcopy submittals of this document).

Per the *QAPP* (Haley & Aldrich, 2011), data validation was conducted by Haley & Aldrich staff for the groundwater samples collected from 4 November to 7 November 2013. DUSRs documenting the data validation results are provided as Appendix D. Results presented in each laboratory report were found to be compliant with the data quality objectives for the project. Based on the information reviewed, the usability of the data is 100 percent and may be used as reported with the noted qualifications. Groundwater sample results and data evaluation are further discussed in Section 3.2.1.

2.3 Geoprobe® Grab Soil Vapor Sampling

A track-mounted Geoprobe® unit, operated by PSA, was used to obtain grab soil vapor samples in the vicinity of the Drum Discovery Area (Figure 2) and other select locations where buried drum and debris were identified during test pit activities in April 2012. Soil vapor samples were collected from 29 October to 31 October 2013. Haley & Aldrich personnel and the MDNR PM, Mr. Roberts, were present during soil vapor sampling activities. The intent for collecting the grab soil vapor samples was to conduct a screening-level evaluation for potential presence of VOCs in the vadose zone in these areas and to better define the mineral spirit-like odor that was detected at two locations during test pit excavation activities.

Soil vapor samples were collected at ten locations on-site as shown on Figure 8 (SV-1 through SV-10). Two separate Geoprobe® boreholes were advanced at each location with soil vapor samples collected at approximately five feet bgs from one borehole and at approximately ten feet bgs from the other borehole. When air was being purged from the tubing at the initial borehole advanced at SV-8 to 10 feet bgs, water was being pulled into the tubing from the subsurface. The conditions were reviewed with Mr. Roberts in the field and a decision was made to re-drill the borehole a few feet away from the initially advanced location and re-attempt sampling. Similar to conditions at the initial SV-8 borehole to 10 feet bgs, water was being pulled into the tubing from the subsurface during purge of the sample tubing. A decision was made in conjunction with Mr. Roberts to not re-drill a third borehole at this location; therefore, no sample was collected for the 10 feet bgs depth at SV-8.

Geoprobe® advancement and soil vapor sampling was conducted per the SOP provided by PSA (see Attachment A of the *SOW Addendum*). Grab soil vapor samples were collected at depth for each location using the Post Run Tubing assembly (per the SOP) through Teflon® tubing and into 6L Summa® canisters equipped with a flow regulator that restricted air flow to <200 milliliters per minute (mL/min). During the soil vapor sampling event, liquid isopropyl alcohol (IPA) was used to evaluate the sample train for potential leaks and short-circuiting. At the time of sampling at each location, IPA was soaked into a towel and placed around the Geoprobe® assembly at ground surface. Further discussion regarding potential leaks identified by analytical testing is provided in Section 3.2.2. Appendix A includes Sample Data Reports prepared by PSA documenting soil vapor sampling information for each location. Copies of field-completed soil vapor sampling records are provided in Appendix E.

Two field duplicates and one equipment blank were also collected to assess sample collection techniques and environmental conditions during soil vapor sample collection and transport (refer to the Data

Quality and Evaluation section of the *SOW Addendum*). Soil vapor samples were analyzed by Eurofins Air Toxics, Inc. (Air Toxics) of Folsom, California for VOCs by USEPA Method TO-15. Two of the ten soil vapor sampling locations (SV-2 and SV-5) also had both the 5- and 10-foot samples analyzed for air-phase petroleum hydrocarbons (APHs) using the Modified TO-15 APH method. Two deviations from the *SOW Addendum* included selecting SV-2 instead of SV-3 for the additional analysis and use of the Modified TO-15 APH method instead of the Massachusetts Department of Environmental Protection (MADEP) APH Method. However, these adjustments to the sampling plan were made at the direct request of the MDNR PM.

Table V provides a summary of analytical results for the grab soil vapor samples collected using the Geoprobe® method. Figures 8 and 9 summarize the locations and corresponding analytical results for VOCs and APHs, respectively. Per correspondence with the MDNR PM, the soil vapor sampling results were screened against the most current revision of the USEPA Regional Screening Levels (RSLs) for Industrial Air (USEPA, November 2013). Table VI provides the list of compounds detected in soil vapor and the associated Industrial Air Screening Levels that were used for each compound. Complete copies of the Air Toxics laboratory analytical reports, including the QA/QC data have been provided in Appendix F (laboratory reports provided on compact disc for hardcopy submittals of this document).

Per the *QAPP* (Haley & Aldrich, 2011), data validation was conducted by Haley & Aldrich staff for the soil vapor samples collected from 29 October to 31 October 2013. DUSRs documenting the data validation results are provided as Appendix D. Results presented in each laboratory report were found to be compliant with the data quality objectives for the project. Based on the laboratory report information reviewed, the usability of the data is 100 percent and may be used as reported with the noted qualifications. As noted in Section 3.2.2, additional qualification is noted for sample locations/depths where IPA concentrations imply that short-circuiting may have occurred in the sample train during sample collection. Soil vapor sample results and data evaluation are further discussed in Section 3.2.2.

2.4 Slug Testing

Slug tests were conducted at one shallow and one deep existing monitoring well on-site to conduct a preliminary evaluation of hydraulic conductivity of the aquifer(s) identified beneath the Site. Field notes from the slug testing are provided in Appendix G and the evaluation of aquifer hydraulic conductivity is further discussed in Section 3.1.

2.5 Survey

Following the supplemental site investigation efforts, a survey was conducted to obtain horizontal locations and ground surface elevations for each Geoprobe® grab groundwater and soil vapor sampling location. Updated boundary and topographic survey maps prepared by Lovelace & Associates are provided in Appendix H.

2.6 Investigation-Derived Waste

Investigation-derived waste generated during the supplemental investigation activities included water generated from sampling, slug testing, and decontamination activities. No solid wastes were generated during borehole advancement. The liquid wastes were collected and containerized in two 55-gallon drums.

Groundwater analytical results were used to obtain approval from the Kansas Department of Health and Environment and the Johnson County Landfill for disposal at the Johnson County Landfill located in Shawnee Mission, Kansas.

Disposable materials generated during field activities (i.e., bailers, disposable bladders, gloves, paper towels, etc.) were collected and disposed of by the contractor as municipal solid waste.

2.7 Seeps Survey

A visual survey was conducted at the site on 24 April 2013 to evaluate whether seeps are present at the western edge of site along the drainage ditch. This survey was scheduled with Haley & Aldrich and MDNR personnel following a period of precipitation such that if seeps were occurring they would be observed at the face of the steep slope along the western edge of the property leading down to the drainage ditch. Based on the conditions at the time of the survey, it does not appear that seeps are occurring from the Site groundwater to the drainage ditch. A photograph log of the conditions observed during the survey is provided as Appendix I.

2.8 Blue River Watershed Review

As noted in Section 1.1, a portion of the Site's southwest corner is bordered by the Blue River. Since groundwater at the site appears to flow in a southwesterly direction, water use of the Blue River was evaluated to determine if it may be a potential pathway for human and environmental exposure.

A Blue River Watershed Inventory and Assessment (the *Assessment*), prepared by the Kansas City Regional Fisheries, confirms that there are no public surface water withdrawals in the Blue River basin. In addition, the *Assessment* states that water quality in the lower half of the Blue River (which would be the portion of the river adjacent to the Site) is significantly impacted by large sewage treatment plants and industries such that it often cannot support fish and many other aquatic organisms. A copy of pertinent sections of the *Assessment* is provided as Appendix J.

3. RESULTS AND OBSERVATIONS

3.1 Groundwater Flow

Depths to groundwater were converted to elevations using surveyed reference elevations from each monitoring well; groundwater elevation data is provided in Table II. Groundwater elevations were contoured to determine the horizontal groundwater flow direction in the shallow (~15 to 20 feet bgs) and deep (atop bedrock, ~60 feet bgs) water table zones. Based on this analysis, groundwater flow direction in the shallow zone appears to be to the west-southwest in the western portion of the Site and to the south-southeast in the eastern portion of the Site as shown on Figure 3. Both flow patterns are toward the Blue River and follow a former apparent meander loop channel across the Site (see Figure 4 of the *Workplan*; Haley & Aldrich, 2011). This observation appears consistent with prior investigation data collected at the Site. Groundwater flow direction in the deep zone also appears to be to the west-southwest toward the Blue River as shown on Figure 4.

Based on the preliminary evaluation of hydraulic conductivity estimates obtained from the MW-3B and MW-7 slug tests and the range of observed hydraulic gradients¹, the following seepage velocities were calculated for the November 2013 time period assuming an effective porosity of 0.2:

- Shallow zone - 0.6 ft/year to 1.7 ft/year;
- Deep zone - 2 ft/year.

Groundwater elevations in paired monitoring wells MW-2A/B, MW-3A/B, and MW-4A/B indicate that the vertical hydraulic gradient was primarily downward across much of the Site during November 2013, at gradients ranging from 0.0054 ft/ft to 0.093 ft/ft, while an upward gradient of 0.1 ft/ft was observed at the MW-1A/B cluster located along the northeast corner of the Site.

3.2 Analytical Results

3.2.1 Groundwater

Analytical results from Geoprobe® grab groundwater sampling (Table I) and groundwater samples collected at existing monitoring wells (Table III) were compared to the preliminary RBSLs identified in Table I of the *Workplan* (see Appendix B). Figures 5 and 6 summarize the results for VOC and 'Other' constituents, respectively, that were detected above their respective reporting limit (i.e., in addition to the concentrations exceeding the preliminary RBSLs). Figure 7 summarizes detected metal concentrations that exceed the preliminary RBSLs. Where applicable, the data boxes on the figures include constituent concentrations from both the initial site investigation completed in 2012 as well as from the supplemental investigation activities completed in 2013.

¹ Shallow zone groundwater hydraulic gradients ranged from 0.0057 ft/ft to 0.016 ft/ft– see Figure 3, and was 0.013 ft/ft in the deep zone – see Figure 4).

Figure 5 shows that the only VOCs that have been detected above screening levels are cis-1,2-dichloroethene ([cis-1,2-DCE]); MW-03B) and vinyl chloride (MW-03B, MW-04B, GP-7D, GP-11D, and GP-12A). These samples, with the exception of GP-12A, were collected in the deeper zone atop bedrock at approximately 60 feet bgs. As discussed in Section 2.2.1, GP-12A had originally been planned to monitor groundwater in the shallow zone at approximately 22 feet bgs. However, groundwater was not present at the proposed sampling depth at the time of drilling and the borehole was advanced to a depth of 35 feet bgs at this location. Neither cis-1,2-DCE nor vinyl chloride have been detected in shallow screened wells at the Site with the exception of vinyl chloride detected at MW-05 (Figure 5) during the November 2013 sampling. This was a low concentration with an estimated value below the laboratory reporting limit and is hydraulically upgradient/crossgradient from historical fill operations at the Site. The source of the elevated cis-1,2-DCE and vinyl chloride concentrations in the deeper groundwater zone and the one detection of vinyl chloride in MW-05 is unknown. It should be noted that groundwater samples have not been collected to date at the shallow groundwater monitoring well MW-04A because there has not been sufficient water in the well screen to collect a sample during the field events. As shown on Figure 5, several additional VOC constituents were detected in groundwater samples collected from test pits in 2012. However, these concentrations are low and below their respective RBSLs (where applicable). It is likely that these low level concentrations are associated with buried debris identified at each of these locations.

Figure 6 shows that the only other constituent detected above the screening level in groundwater was bis(2-ethylhexyl)phthalate in MW-04B during the 2013 sampling event. This constituent has been detected in two other wells (MW-03B and MW-08) but at low concentrations that are less than the screening level. The source of the bis(2-ethylhexyl)phthalate concentrations is not known. Other SVOC constituents that have been detected at low levels from test pit sampling are likely associated with buried debris identified at those locations. Concentrations of ethylene glycol in shallow groundwater are hydraulically upgradient or crossgradient from the fill area and not likely associated with historic fill operations. No PCBs have been detected above their respective reporting limits for any groundwater samples collected at the site to date.

As shown on Figure 7, six metals were detected in one or more samples exceeding the preliminary RBSLs, including antimony, arsenic, barium, cadmium, chromium, and lead. These results are for groundwater collected from installed shallow and deep groundwater monitoring wells (2012 and 2013) and from water samples collected from within test pit excavations (2012). In general, the constituent concentrations detected are relatively consistent between the 2012 and 2013 site investigation results. Arsenic, cadmium, and lead were detected more frequently than the other metals. It should be noted that the metals samples were total metals and may reflect residual turbidity in the samples. Arsenic concentrations in groundwater appear to be within the background range identified as 34 to 490 micrograms per liter ($\mu\text{g/L}$) in Southern Iowa and Western Missouri (information identified in Table 8 from the document titled *Environmental Health Criteria for Arsenic and Arsenic Compounds*, World Health Organization, 2001). The remaining metals may be from naturally occurring (background) sources or may be components of paint used in the automobile industry, which is

supported by the higher frequency of antimony, barium, cadmium, and lead concentrations in groundwater from test pits that had visible evidence of paint/paint sludge during test pit excavation activities in 2012. In addition, the groundwater samples from test pits were collected from the open pits reflecting higher turbidity than would be anticipated from a monitoring well.

Baseline natural attenuation data was obtained from samples collected at the existing monitoring wells during the November 2013 sampling event. Natural attenuation results are summarized in Table IV. The presence of ethene in the samples from MW-03B and MW-04B is an indicator of reductive dechlorination as ethene is the terminal reductive product of vinyl chloride; as noted above, vinyl chloride was detected above screening levels at both of these wells. The presence of carbon dioxide is another marker of microbial activity in groundwater. Concentrations of total and dissolved organic carbon indicate the presence of a carbon donor in limited availability to support the dechlorination process. Overall, it appears that the environmental conditions in groundwater are conducive to reductive dechlorination.

3.2.2 Soil Vapor

Analytical results from Geoprobe® grab soil vapor sampling (Table V) were compared to the RSLs for Industrial Air (USEPA, November 2013) as a screening-level effort to evaluate the potential presence of VOCs in the vadose zone at the historic fill area and to better define the mineral spirit-like odor that was previously detected at two test pit locations. . Table VI summarizes the Industrial Air Screening Levels that were used for each constituent detected in soil vapor (where a corresponding RSL was provided in the USEPA November 2013 table of RSLs). Figure 8 summarizes detected VOC concentrations that exceed the selected Industrial Air Screening Level and Figure 9 summarize the detected results for APHs.

Figure 8 shows that there were multiple VOC constituents detected above the selected Industrial Air Screening Level in both the 5- and 10-foot soil vapor samples. Several of the compounds detected in soil vapor can be grouped together based on their carbon ranges (e.g., C5-C6, C8-C10) and/or their bonding structure (e.g., aliphatic or aromatic). The following summarizes how several of the detected concentrations may be grouped and the potential source of the constituents identified.

- Several constituents identified as aromatic hydrocarbons in the C8 to C10 range were detected above their respective screening level including benzene, ethylbenzene, xylenes, 1,2,4-trimethylbenzene, isopropylbenzene, and n-propylbenzene. One or more of these constituents were detected at eight of the ten soil vapor sampling locations with benzene being detected with the highest frequency. These constituents are often associated with petroleum products such as crude oil, gasoline and diesel but are also commonly used in paint thinner, sealants, and solvents (for paints, coatings, and resins). It is likely that these constituents are present in the fill area of the site as a result of the buried debris and paint residues identified during test pit excavation activities in 2012. This is further supported as several of these compounds were

detected in soil (Haley & Aldrich, 2012) and groundwater samples collected from the test pits (Figure 5).

- Cyclohexane and hexane are aliphatics that may be detected in the C5-C6 or C6-C8 carbon range and may be associated with products such as paint thinners, degreasers, and solvents (for paints and coatings). One or both of these constituents were detected above their screening level at six out of the ten soil vapor sampling locations. Based on the distinctive odors that cyclohexane and hexane give off, the potential exists that the 'mineral-spirit like' odor that was observed during test pit excavation activities may have been due to the presence of these compounds in the subsurface. Cyclohexane had also been detected in surface and subsurface soil samples collected during test pit excavations in 2012 (Haley & Aldrich, 2012).
- Vinyl chloride and/or cis-1,2-DCE were detected above the screening levels at two soil vapor sampling locations. Vinyl chloride is used in the manufacture of numerous products in the automotive industry (e.g., upholstery, auto parts) and the potential exists that material deposited in the fill area from operations at the Former GM Plant may have contained products with vinyl chloride. Cis-1,2-DCE may be present if it was used as a solvent in plant operations; biological degradation of cis-1,2-DCE may be another source of vinyl chloride in the subsurface. As discussed in Section 3.2.1, these constituents have not been detected in shallow groundwater in the fill area of the Site. Therefore, these concentrations are not considered to be associated with vapor off-gassing from groundwater.
- As discussed in Section 2.3, liquid IPA was used to evaluate the soil vapor sampling train for potential leaks and short-circuiting to ground surface. As shown on Figure 8, IPA was detected at elevated concentrations (above the screening level) at a total of six individual borehole locations (SV-3 at 5 and 10 ft, SV-4 at 5 ft, SV-7 at 5 ft, SV-8 at 5 ft, and SV-9 at 10 ft) which likely represents short-circuiting occurring at these locations. No other constituents were detected above the screening levels at three of these locations and only a few constituents were detected above screening levels at the remaining three locations. This may be the result of higher dilutions required during analysis due to the high IPA detections, resulting in reporting limits for other constituents that were above their respective screening levels. VOC results for these six sampling locations/depths may not be considered as useful for the screening-level evaluation; however, analytical results for the remaining locations/depths does not appear to be affected by potential short-circuiting and should be considered valid for the screening-level evaluation of soil vapor.
- One detection of 1,4-dichlorobenzene above the screening level was identified at SV-6 at 10 feet. This constituent is often used in moth balls and disinfectants; in particular, it is often associated with its use in urinal cakes. This compound was also detected in the groundwater sample collected from TP-7 in 2012 (Figure 5). This may correlate with what appears to be an old sewer line immediately west of the TP-7 and SV-6 sampling locations as identified by the geophysical survey conducted at the site in 2000.
- Detections of 1,3-butadiene above the screening level were identified at three out of the ten soil vapor sampling locations. The source of the 1,3-butadiene concentrations is not known. However, it is commonly used in polymers for the production of automobile tires, which may have been included in the debris found at the fill area.

As discussed in Section 2.3, soil vapor samples collected from two locations (SV-2 and SV-5) at both the 5- and 10-foot depths at each location, were also analyzed for APHs. Results are documented in Table V and on Figure 9. Concentrations of the APH groups (i.e., C5-C6 aliphatics, C8-C10 aromatics, etc.) are cumulative and would include the sum of VOC concentrations detected as well as other non-VOC constituents that may be present in the specified carbon ranges identified by the Modified TO-15 APH Method. As shown in Table V, aromatic APHs were not detected at either SV-2 or SV-5 at concentrations that exceeded the reporting limit for the C8-C10 or C10-C12 carbon ranges. This generally matches with the limited detections of aromatic constituents in the VOC analyte list. Detected concentrations in the various carbon range aliphatic groups correspond with the range of concentrations of constituents such as cyclohexane, hexane, and n-heptane in the SV-2 and SV-5 VOC results. As discussed above, cyclohexane and hexane (and n-heptane) are aliphatics that may be associated with products such as paint thinners, degreasers, and solvents (for paints and coatings). Additionally, based on the distinctive odors that cyclohexane and hexane give off, the potential exists that the 'mineral-spirit like' odor that was observed during test pit excavation activities may have been due to the presence of these compounds in the subsurface.

3.3 Preliminary Conceptual Site Model

Information gathered about historic fill operations, test pit excavations, well boring logs, water elevation data, and groundwater concentration data have been used to prepare a preliminary CSM for the Northern Parcel Site. Figure 10 provides a graphic representation of the preliminary CSM along with a diagram outlining the source and release mechanism, receiving mediums, exposure medium, and exposure route identified for the Site.

As depicted in the CSM, it appears that the VOC constituents exceeding the preliminary RBSLs for groundwater are restricted to the deeper water bearing zone beneath the site. There is no evidence of these VOC concentrations in the shallow groundwater within the Site bounds that may be contributing to the concentrations identified in the deeper zone. Additionally, because the VOC concentrations are identified in hydraulically upgradient monitoring wells, it does not appear that the Site is the source of these constituents in groundwater.

As discussed in Sections 2.7, no seeps were identified along the western edge of the property leading down to the drainage ditch. Additionally, while the Blue River may be a receiving water from shallow groundwater beneath the site, there is no indication that constituents are present in the shallow groundwater that would degrade the river. As identified in the water use review (Section 2.8), there are no public surface water withdrawals in the Blue River basin and the Blue River is significantly impacted by sewage treatment and other industries along the waterway.

At this time, the source and release mechanism for VOCs identified in deep groundwater are unknown and appear to be coming from an upgradient source. The receiving mediums of the VOCs are interpreted as surface and subsurface soil (primary medium), groundwater (secondary medium), and soil gas (tertiary medium). Future use of the Site is anticipated to remain industrial, with deed restrictions implemented to restrict construction activities, maintenance of the Site cover, and

prevention of potable use of groundwater beneath the Site. Based on these assumptions, there are no identified exposure mediums or exposure routes for the Site.

4. POSSIBLE PATHS FORWARD

Data collected at the site does not indicate that constituents from the buried debris (other than possibly metals) are impacting shallow or deep groundwater. For this reason, further investigation to locate buried debris and/or characterize the soil or groundwater across the Site does not appear warranted.

Groundwater analytical results indicate cis-1,2-DCE and vinyl chloride concentrations in the deep groundwater zone (~ 60 feet bgs) exceeded the preliminary RBSLs for the Site. Evaluation of the data collected to date implies that the source of these concentrations in deep groundwater is likely hydraulically upgradient from the site and that these concentrations are likely not associated with the Site-related contamination (i.e., buried debris in the upper 20 +/- feet).

The data collected from the initial site investigation (early-2012) and the supplemental site investigation activities (late-2013) indicates that the location of the buried debris is consistent with past observations and our conceptual understanding of the filling sequence at the property. There is a good understanding of where the higher concentrations of drum remnants/carcasses are located and the resulting impacts of the buried debris. In addition, there does not appear to be an imminent threat to human health or the environment associated with the on-Site buried debris. Therefore, we believe there are a number of options available for the path forward. In keeping with the obligations and limitations in the Settlement Agreement, we offer the following for MDNR consideration as they review the data.

- Deed Restriction and Groundwater Monitoring:
 - Place a deed restriction on the property that stipulates the Site cover (i.e., pavement or gravel) remain intact and be maintained, and precludes future development (continue with current use) unless soils are appropriately managed, and surface is returned to impermeable conditions.
 - Assumes that maintenance of the contact barrier and controlled contact with subsurface soils would eliminate risks.
 - No debris excavation at this time. This would free up funding for additional investigation or monitoring.
 - Four quarters of groundwater monitoring to confirm groundwater conditions.
 - Based on groundwater sampling results, determine if additional groundwater investigation is warranted.
- Limited Debris Excavation and Disposal, Deed Restriction, and Groundwater Monitoring:
 - Use the allocated funds to excavate debris from the areas of numerous drum remnants/carcasses. Given the amount of available funds, it is anticipated that the amount of excavation and disposal would be limited.
 - Re-pave the excavated areas.
 - Deed restriction and groundwater monitoring as defined above.

REFERENCES

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2. Haley & Aldrich, 2012. *Site Investigation Data Report*, Former Leeds Assembly Plant – Northern Parcel, Kansas City, Missouri. Prepared for RACER Trust. 21 June 2012.
3. Haley & Aldrich, 2013. *Scope of Work Addendum for Supplemental Site Investigation Activities*, Former Leeds Assembly Plant – Northern Parcel, Kansas City, Missouri. Prepared for RACER Trust. 27 September 2013.

TABLES

TABLE I
GEOPROBE GROUNDWATER ANALYTICAL DATA
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

Location Name		GP-6D	GP-7D	GP-10D	GP-11D	GP-12A	GP-13A	GP-13A
Sample Date		10/28/2013	10/28/2013	10/28/2013	10/28/2013	10/29/2013	10/30/2013	10/30/2013
Depth (below ground surface)		57 (ft)	59.5 (ft)	56.5 (ft)	57.2 (ft)	35 (ft)	40 (ft)	40 (ft)
Sample Type	MCL	N	N	N	N	N	N	FD
Volatile Organic Compounds (ug/L)								
1,1,1-Trichloroethane	200	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
1,1,2,2-Tetrachloroethane	-	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
1,1,2-Trichloroethane	5	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
1,1-Dichloroethane	-	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
1,1-Dichloroethene	7	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
1,2,4-Trichlorobenzene	70	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
1,2-Dibromo-3-chloropropane (DBCP)	0.2	ND (10) J	ND (10) J	ND (10) J	ND (10)	ND (10) J	ND (10)	ND (10)
1,2-Dibromoethane (Ethylene Dibromide)	0.05	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
1,2-Dichlorobenzene	600	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
1,2-Dichloroethane	5	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
1,2-Dichloropropane	5	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
1,3-Dichlorobenzene	-	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
1,4-Dichlorobenzene	75	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
2-Butanone (Methyl Ethyl Ketone)	-	ND (50) J	ND (50) J	ND (50) J	ND (50)	ND (50) J	ND (50)	ND (50)
2-Hexanone	-	ND (5) J	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5)	ND (5)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	-	ND (5) J	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5)	ND (5)
Acetone	-	ND (5) J	ND (5) J	ND (5) J	ND (5)	72.8 J	22	23.8
Benzene	5	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Bromodichloromethane	80	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Bromoform	80	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Bromomethane (Methyl Bromide)	-	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Carbon disulfide	-	ND (1) J	1 J	ND (1) J	ND (1)	1 J	1 J	1 J
Carbon tetrachloride	5	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Chlorobenzene	100	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Chlorobromomethane	-	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Chloroethane	-	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Chloroform (Trichloromethane)	80	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Chloromethane (Methyl Chloride)	-	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
cis-1,2-Dichloroethene	70	ND (1) J	1.09 J	ND (1) J	7.04	2.21 J	ND (1)	ND (1)
cis-1,3-Dichloropropene	-	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Cyclohexane	-	ND (5) J	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5)	ND (5)
Dibromochloromethane	80	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Dichlorodifluoromethane (CFC-12)	-	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Ethylbenzene	700	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Isopropylbenzene	-	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Methyl acetate	-	ND (10) J	ND (10) J	ND (10) J	ND (10)	ND (10) J	ND (10)	ND (10)
Methyl cyclohexane	-	ND (5) J	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5)	ND (5)
Methyl Tert Butyl Ether	-	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Methylene chloride	-	ND (5) J	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5)	ND (5)
n-Propylbenzene	-	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Styrene	100	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Tetrachloroethene	5	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Tetrahydrofuran	-	ND (5) J	ND (5) J	ND (5) J	ND (5)	ND (5) J	ND (5)	ND (5)
Toluene	1000	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
trans-1,2-Dichloroethene	100	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
trans-1,3-Dichloropropene	-	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Trichloroethene	5	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Trichlorofluoromethane (CFC-11)	-	1 R	1 R	1 R	1 R	ND (1) J	1 R	1 R
Trifluorotrichloroethane (Freon 113)	-	ND (1) J	ND (1) J	ND (1) J	ND (1)	ND (1) J	ND (1)	ND (1)
Vinyl chloride	2	0.528 J	31.7 J ^[A]	ND (1) J	301 ^[A]	11.9 J ^[A]	ND (1)	ND (1)
Xylene (total)	10000	ND (2) J	ND (2) J	ND (2) J	ND (2)	ND (2) J	ND (2)	ND (2)

Notes and Abbreviations:

1. Results were compared to the following criteria:
[A]: Indicates result is greater than the MCL.

2. Results in **bold** were detected.

3. Qualifiers:
J - Concentration is an approximate value.
ND (1) - Not detected above reporting limit of 1 ug/L.
R - Data rejected by qualifier, original result ND.
4. Data has been validated by Haley & Aldrich.

5. Sample Types: N - Normal sample, FD - Field duplicate
- ft - feet

MCL - Maximum Contaminant Level

ug/L - micrograms per liter

TABLE II
GROUNDWATER ELEVATION DATA
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

Well Identifier	Geological Unit	Date of Measurement	TOC Elevation	Depth to Water (feet below TOC)	Static Water Level Elevation
MW-01A	Shallow	11/1/2013	763.66	13.95	749.71
MW-02A	Shallow	11/1/2013	762.13	13.37	748.76
MW-03A	Shallow	11/1/2013	761.12	19.39	741.73
MW-04A	Shallow	11/1/2013	761.48	19.87	741.61
MW-05	Shallow	11/1/2013	762.83	15.54	747.29
MW-06	Shallow	11/1/2013	760.76	9.78	750.98
MW-07	Shallow	11/1/2013	762.35	10.76	751.59
MW-08	Shallow	11/1/2013	762.09	15.17	746.92
MW-09	Shallow	11/1/2013	761.97	16.76	745.21
MW-01B	Deep	11/1/2013	763.52	10.96	752.56
MW-02B	Deep	11/1/2013	762.04	13.45	748.59
MW-03B	Deep	11/1/2013	761.21	19.61	741.6
MW-04B	Deep	11/1/2013	761.41	22.09	739.32

Notes and Abbreviations:

TOC - Top of casing

TABLE III
MONITORING WELL GROUNDWATER ANALYTICAL DATA
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

Location Name		MW-01A	MW-01A	MW-01B	MW-01B	MW-02A	MW-02A	MW-02B	MW-02B	MW-03A	MW-03B	MW-03B	MW-03B
Sample Date		3/1/2012	11/5/2013	3/1/2012	11/5/2013	3/2/2012	11/5/2013	3/2/2012	11/5/2013	11/7/2013	3/5/2012	3/5/2012	11/7/2013
Screened Interval (bgs)		10 - 20 (ft)	10 - 20 (ft)	50 - 60 (ft)	50 - 60 (ft)	10 - 20 (ft)	10 - 20 (ft)	48.5 - 58.5 (ft)	48.5 - 58.5 (ft)	10 - 20 (ft)	46.5 - 56.5 (ft)	46.5 - 56.5 (ft)	46.5 - 56.5 (ft)
Sample Type	MCL	N	N	N	N	N	N	N	N	N	N	FD	N
Inorganic Compounds (ug/L)													
Antimony	6	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	-	ND (2)	ND (2)	ND (2)
Arsenic	10	4.96	2.49	29.7 ^[A]	28.8 ^[A]	5.32	9.17	126 ^[A]	117 ^[A]	-	80.7 ^[A]	83.8 ^[A]	110 ^[A]
Barium	2000	288	155	389	388	390	414	480	588	-	531	569	647
Beryllium	4	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	-	ND (2)	ND (2)	ND (2)
Cadmium	5	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	-	ND (1)	ND (1)	ND (1)
Chromium	100	2.41	0.519 J	1.52 J	3.35	3.23	2.24	1.42 J	2.01	-	1.53 J	4.13 J	6.53
Chromium VI (Hexavalent)	-	111	8 J	13.1	35	ND (10) J	14	41.6	9 J	-	ND (100) J	107 J	90 J
Cobalt	-	3.19	1.06 J	ND (2)	1.13 J	15.2	11.2	ND (2)	0.878 J	-	1.58 J	2.48 J	3.01
Copper	1300	4.11 J	0.834 J	ND (5)	3.18	ND (5)	0.535 J	ND (5)	1.52 J	-	ND (5)	3.68 J	5.05
Cyanide	200	4.24 J	ND (10)	7.9	ND (10)	ND (5)	6.49 J	2.91 J	4.15 J	-	ND (5)	ND (5)	ND (10) J
Iron	-	-	207	-	12100	-	2680	-	23200	-	-	-	22900
Lead	15	3.42	ND (2)	ND (2)	1.91 J	1.17 J	ND (2)	ND (2)	0.896 J	-	1.18 J	3.49 J	3.68
Manganese	-	1570	1950	1850	2060	16400	16200	3770	8670	-	6240	6460	4650
Mercury	2	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	-	ND (0.2)	ND (0.2)	ND (0.2)
Nickel	-	8.28	5.52	ND (5)	3.02	24.5	19.5	ND (5)	2.64	-	ND (5)	4.19 J	6.95
Selenium	50	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	-	ND (2)	ND (2)	ND (2)
Silver	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	-	ND (2)	ND (2)	ND (2) J
Thallium	2	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	-	ND (2)	ND (2)	ND (2)
Vanadium	-	6.74	2.51	2.12 J	3.8	7.49	0.9 J	2.22 J	1.85 J	-	2.6 J	6.99 J	7.82
Zinc	-	ND (50)	ND (25)	ND (50)	11.4 J	ND (50)	10.5 J	ND (50)	10.5 J	-	ND (50)	ND (50)	19.7 J
Other (ug/L)													
Ethylene glycol	-	6040 J	ND (10000)	ND (10000)	ND (10000)	6170 J	ND (10000)	ND (10000)	ND (10000)	-	ND (10000)	ND (10000)	ND (10000)
Flash Point Closed Cup (Deg F)	-	-	-	-	-	-	-	> 200	-	-	-	-	ND
pH (lab) (pH units)	-	-	-	-	-	-	-	6.9 J	-	-	-	-	7.51
Temperature (Deg C)	-	-	-	-	-	-	-	-	-	-	-	-	21.1
PCBs (ug/L)													
Aroclor-1016 (PCB-1016)	-	ND (0.472)	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.476)	ND (0.391)	ND (0.476)	ND (0.391)	-	ND (0.472)	ND (0.472)	ND (0.391)
Aroclor-1221 (PCB-1221)	-	ND (0.472)	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.476)	ND (0.391)	ND (0.476)	ND (0.391)	-	ND (0.472)	ND (0.472)	ND (0.391)
Aroclor-1232 (PCB-1232)	-	ND (0.472)	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.476)	ND (0.391)	ND (0.476)	ND (0.391)	-	ND (0.472)	ND (0.472)	ND (0.391)
Aroclor-1242 (PCB-1242)	-	ND (0.472)	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.476)	ND (0.391)	ND (0.476)	ND (0.391)	-	ND (0.472)	ND (0.472)	ND (0.391)
Aroclor-1248 (PCB-1248)	-	ND (0.472)	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.476)	ND (0.391)	ND (0.476)	ND (0.391)	-	ND (0.472)	ND (0.472)	ND (0.391)
Aroclor-1254 (PCB-1254)	-	ND (0.472)	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.476)	ND (0.391)	ND (0.476)	ND (0.391)	-	ND (0.472)	ND (0.472)	ND (0.391)
Aroclor-1260 (PCB-1260)	-	ND (0.472)	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.476)	ND (0.391)	ND (0.476)	ND (0.391)	-	ND (0.472)	ND (0.472)	ND (0.391)
Semi-Volatile Organic Compounds (ug/L)													
2,2'-oxybis(1-Chloropropane)	-	-	ND (9.43)	-	ND (9.43)	-	ND (9.43)	-	ND (9.43)	-	-	-	ND (9.35)
2,2'-oxybis(2-Chloropropane)	-	ND (9.43)	-	ND (9.52)	-	ND (9.52)	-	ND (9.43)	-	-	ND (9.43)	ND (9.43)	-
2,4,5-Trichlorophenol	-	ND (23.6)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.6)	ND (23.6)	-	ND (23.6)	ND (23.6)	ND (23.4)
2,4,6-Trichlorophenol	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
2,4-Dichlorophenol	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
2,4-Dimethylphenol	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
2,4-Dinitrophenol	-	ND (23.6)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.6)	ND (23.6)	-	ND (23.6)	ND (23.6)	ND (23.4)
2,4-Dinitrotoluene	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
2,6-Dinitrotoluene	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
2-Chloronaphthalene	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
2-Chlorophenol	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
2-Methylnaphthalene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
2-Methylphenol	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
2-Nitroaniline	-	ND (23.6)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.6)	ND (23.6)	-	ND (23.6)	ND (23.6)	ND (23.4)
2-Nitrophenol	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
3&4-Methylphenol	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
3,3'-Dichlorobenzidine	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
3-Nitroaniline	-	ND (23.6)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.6)	ND (23.6)	-	ND (23.6)	ND (23.6)	ND (23.4)
4,6-Dinitro-2-methylphenol	-	ND (23.6)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.6)	ND (23.6)	-	ND (23.6)	ND (23.6)	ND (23.4)
4-Bromophenyl phenyl ether	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
4-Chloro-3-methylphenol	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)

TABLE III
MONITORING WELL GROUNDWATER ANALYTICAL DATA
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

Location Name		MW-01A	MW-01A	MW-01B	MW-01B	MW-02A	MW-02A	MW-02B	MW-02B	MW-03A	MW-03B	MW-03B	MW-03B
Sample Date		3/1/2012	11/5/2013	3/1/2012	11/5/2013	3/2/2012	11/5/2013	3/2/2012	11/5/2013	11/7/2013	3/5/2012	3/5/2012	11/7/2013
Screened Interval (bgs)		10 - 20 (ft)	10 - 20 (ft)	50 - 60 (ft)	50 - 60 (ft)	10 - 20 (ft)	10 - 20 (ft)	48.5 - 58.5 (ft)	48.5 - 58.5 (ft)	10 - 20 (ft)	46.5 - 56.5 (ft)	46.5 - 56.5 (ft)	46.5 - 56.5 (ft)
Sample Type	MCL	N	N	N	N	N	N	N	N	N	N	FD	N
4-Chloroaniline	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
4-Chlorophenyl phenyl ether	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
4-Nitroaniline	-	ND (23.6)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.6)	ND (23.6)	-	ND (23.6)	ND (23.6)	ND (23.4)
4-Nitrophenol	-	ND (23.6)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.6)	ND (23.6)	-	ND (23.6)	ND (23.6)	ND (23.4)
Acenaphthene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Acenaphthylene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Acetophenone	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Anthracene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Atrazine	3	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Benzaldehyde	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Benzo(a)anthracene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Benzo(a)pyrene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Benzo(b)fluoranthene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Benzo(g,h,i)perylene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Benzo(k)fluoranthene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Biphenyl	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
bis(2-Chloroethoxy)methane	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
bis(2-Chloroethyl)ether	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
bis(2-Ethylhexyl)phthalate	6	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	5.44 J	ND (9.35)
Butyl benzylphthalate	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Caprolactam	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Carbazole	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Chrysene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Dibenz(a,h)anthracene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Dibenzofuran	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Diethyl phthalate	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Dimethyl phthalate	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Di-n-butylphthalate	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Di-n-octyl phthalate	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Fluoranthene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Fluorene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Hexachlorobenzene	1	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Hexachlorobutadiene	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Hexachlorocyclopentadiene	50	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Hexachloroethane	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Indeno(1,2,3-cd)pyrene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Isophorone	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Naphthalene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Nitrobenzene	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
N-Nitrosodi-n-propylamine	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
N-Nitrosodiphenylamine	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Pentachlorophenol	1	ND (23.6)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.8)	ND (23.6)	ND (23.6)	ND (23.6)	-	ND (23.6)	ND (23.6)	ND (23.4)
Phenanthrene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Phenol	-	ND (9.43)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.52)	ND (9.43)	ND (9.43)	ND (9.43)	-	ND (9.43)	ND (9.43)	ND (9.35)
Pyrene	-	ND (1.89)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.9)	ND (1.89)	ND (1.89)	ND (1.89)	-	ND (1.89)	ND (1.89)	ND (1.87)
Volatile Organic Compounds (ug/L)													
1,1,1-Trichloroethane	200	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2,2-Tetrachloroethane	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2-Trichloroethane	5	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,1-Dichloroethane	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,1-Dichloroethene	7	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,2,4-Trichlorobenzene	70	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dibromo-3-chloropropane (DBCP)	0.2	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
1,2-Dibromoethane (Ethylene Dibromide)	0.05	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichlorobenzene	600	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloroethane	5	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloropropane	5	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,3-Dichlorobenzene	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)

TABLE III
MONITORING WELL GROUNDWATER ANALYTICAL DATA
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

Location Name		MW-01A	MW-01A	MW-01B	MW-01B	MW-02A	MW-02A	MW-02B	MW-02B	MW-03A	MW-03B	MW-03B	MW-03B
Sample Date		3/1/2012	11/5/2013	3/1/2012	11/5/2013	3/2/2012	11/5/2013	3/2/2012	11/5/2013	11/7/2013	3/5/2012	3/5/2012	11/7/2013
Screened Interval (bgs)		10 - 20 (ft)	10 - 20 (ft)	50 - 60 (ft)	50 - 60 (ft)	10 - 20 (ft)	10 - 20 (ft)	48.5 - 58.5 (ft)	48.5 - 58.5 (ft)	10 - 20 (ft)	46.5 - 56.5 (ft)	46.5 - 56.5 (ft)	46.5 - 56.5 (ft)
Sample Type		MCL	N	N	N	N	N	N	N	N	N	FD	N
1,4-Dichlorobenzene	75	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
2-Butanone (Methyl Ethyl Ketone)	-	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
2-Hexanone	-	ND (10)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (5)	ND (10)	ND (10)	ND (5)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	-	ND (10)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (5)	ND (10)	ND (10)	ND (5)
Acetone	-	ND (50)	ND (5)	ND (50)	ND (5)	ND (50)	ND (5)	ND (50)	ND (5)	ND (5)	ND (50)	ND (50)	ND (5)
Benzene	5	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Bromodichloromethane	80	-	ND (1)	-	ND (1)	-	ND (1)	-	ND (1)	ND (1)	-	-	ND (1)
Bromoform	80	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Bromomethane (Methyl Bromide)	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Carbon disulfide	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Carbon tetrachloride	5	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Chlorobenzene	100	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Chlorobromomethane	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Chloroethane	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Chloroform (Trichloromethane)	80	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Chloromethane (Methyl Chloride)	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
cis-1,2-Dichloroethene	70	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	83.5 ^[A]	69.4	38.1
cis-1,3-Dichloropropene	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Cyclohexane	-	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Dibromochloromethane	80	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Dichlorodifluoromethane (CFC-12)	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Ethylbenzene	700	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Isopropylbenzene	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Methyl acetate	-	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Methyl cyclohexane	-	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Methyl Tert Butyl Ether	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Methylene chloride	-	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
n-Propylbenzene	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Styrene	100	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Tetrachloroethene	5	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Tetrahydrofuran	-	ND (20)	ND (5)	ND (20)	ND (5)	ND (20)	ND (5)	ND (20)	ND (5)	ND (5)	ND (20)	ND (20)	ND (5)
Toluene	1000	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
trans-1,2-Dichloroethene	100	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	2.66	2.66	1.32
trans-1,3-Dichloropropene	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Trichloroethene	5	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorofluoromethane (CFC-11)	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Trifluorotrichloroethane (Freon 113)	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl chloride	2	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	1610 ^[A]	1540 ^[A]	798 ^[A]
Xylene (total)	10000	ND (3)	ND (2)	ND (3)	ND (2)	ND (3)	ND (2)	ND (3)	ND (2)	ND (2)	ND (3)	ND (3)	ND (2)

Notes and Abbreviations:

- Results were compared to the following criteria:
[A]: Indicates result is greater than the MCL.
- Results in **bold** were detected.
- Qualifiers:
J - Concentration is an approximate value.
ND (1) - Not detected above reporting limit of 1 ug/L.
- Data has been validated by Haley & Aldrich.
- Sample Types: N - Normal sample, FD - Field duplicate

ft - feet
MCL - Maximum Contaminant Level
ug/L - micrograms per liter
bgs - below ground surface

TABLE III
MONITORING WELL GROUNDWATER ANALYTICAL DATA
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

Location Name		MW-03B	MW-04B	MW-04B	MW-04B	MW-05	MW-05	MW-06	MW-06	MW-06	MW-07	MW-07	MW-08
Sample Date		11/7/2013	3/5/2012	11/6/2013	11/6/2013	3/1/2012	11/7/2013	3/1/2012	3/2/2012	11/4/2013	3/1/2012	11/4/2013	3/2/2012
Screened Interval (bgs)		46.5 - 56.5 (ft)	47 - 57 (ft)	47 - 57 (ft)	47 - 57 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)
Sample Type	MCL	FD	N	N	FD	N	N	N	FD	N	N	N	N
Inorganic Compounds (ug/L)													
Antimony	6	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Arsenic	10	110 ^[A]	174 ^[A]	200 ^[A]	192 ^[A]	4.61	5.86	8.92	8.44	16.9 ^[A]	4.77	9.17	5.22
Barium	2000	672	405	433	421	294	346	172	167	167	158	236	468
Beryllium	4	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	1.04 J
Cadmium	5	ND (1)	ND (1)	ND (1)	ND (1)	0.74 J	0.737 J	0.6 J	0.59 J	ND (1)	5.38 ^[A]	ND (1)	1.04
Chromium	100	4.71	2.1	ND (2)	ND (2)	3.86	0.726 J	1.12 J	ND (2)	ND (2)	ND (2)	ND (2)	4.93
Chromium VI (Hexavalent)	-	7 J	80 J	8 J	5 J	6.9 J	ND (10) J	52 J	ND (50)	13	ND (10)	ND (10)	5.4 J
Cobalt	-	2.92	1.14 J	0.652 J	0.775 J	4.56	5.82	5.99	5.63	4.08	7.86	4.8	3.12
Copper	1300	5.27	ND (5)	ND (2)	1.4 J	ND (5)	1.4 J	ND (5)	ND (5)	0.934 J	5.55	ND (2)	9.53
Cyanide	200	6.18 J	3.92 J	ND (10)	ND (10)	5.75	ND (10) J	ND (5)	2.72 J	5.88 J	2.62 J	ND (10)	ND (5)
Iron	-	23000	-	19200	19000	-	648	-	-	2210	-	3520	-
Lead	15	4.61	1.38 J	0.367 J	0.55 J	ND (2)	5.01	ND (2)	ND (2)	0.265 J	ND (2)	ND (2)	7.15
Manganese	-	4400	2870	2780	2830	11000	12700	8130	8580	9690	10800	13000	4340
Mercury	2	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Nickel	-	6.79	ND (5)	0.953 J	1.72 J	59.2	48.9	6.26	5.15	4.61	15.8	10.4	26.4
Selenium	50	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Silver	-	ND (2) J	ND (2)	ND (2)	ND (2)	ND (2)	ND (2) J	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Thallium	2	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Vanadium	-	7.41	3.32 J	0.236 J	0.89 J	3.64 J	2.11	5.14	4.8	ND (2)	4.08	ND (2)	12.9
Zinc	-	20 J	ND (50)	ND (25)	ND (25)	ND (50)	10.6 J	ND (50)	ND (50)	ND (25)	ND (50)	ND (25)	ND (50)
Other (ug/L)													
Ethylene glycol	-	ND (10000)	ND (10000)	ND (10000)	ND (10000)	ND (10000)	ND (10000)	ND (10000)	ND (10000)	ND (10000)	ND (10000)	ND (10000)	ND (10000)
Flash Point Closed Cup (Deg F)	-	-	-	-	-	-	-	-	-	-	> 200	-	-
pH (lab) (pH units)	-	-	-	-	-	-	-	-	-	-	6.7 J	-	-
Temperature (Deg C)	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs (ug/L)													
Aroclor-1016 (PCB-1016)	-	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.472)	ND (0.476)	ND (0.403)	ND (0.472)	ND (0.403)	ND (0.476)
Aroclor-1221 (PCB-1221)	-	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.472)	ND (0.476)	ND (0.403)	ND (0.472)	ND (0.403)	ND (0.476)
Aroclor-1232 (PCB-1232)	-	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.472)	ND (0.476)	ND (0.403)	ND (0.472)	ND (0.403)	ND (0.476)
Aroclor-1242 (PCB-1242)	-	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.472)	ND (0.476)	ND (0.403)	ND (0.472)	ND (0.403)	ND (0.476)
Aroclor-1248 (PCB-1248)	-	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.472)	ND (0.476)	ND (0.403)	ND (0.472)	ND (0.403)	ND (0.476)
Aroclor-1254 (PCB-1254)	-	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.472)	ND (0.476)	ND (0.403)	ND (0.472)	ND (0.403)	ND (0.476)
Aroclor-1260 (PCB-1260)	-	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.391)	ND (0.472)	ND (0.391)	ND (0.472)	ND (0.476)	ND (0.403)	ND (0.472)	ND (0.403)	ND (0.476)
Semi-Volatile Organic Compounds (ug/L)													
2,2'-oxybis(1-Chloropropane)	-	ND (9.35)	-	ND (9.43)	ND (9.43)	-	ND (9.35)	-	-	ND (9.35)	-	ND (9.35)	-
2,2'-oxybis(2-Chloropropane)	-	-	ND (9.43)	-	-	ND (9.43)	-	ND (9.52)	ND (9.52)	-	ND (9.52)	-	ND (9.52)
2,4,5-Trichlorophenol	-	ND (23.4)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.4)	ND (23.8)	ND (23.8)	ND (23.4)	ND (23.8)	ND (23.4)	ND (23.8)
2,4,6-Trichlorophenol	-	ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
2,4-Dichlorophenol	-	ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
2,4-Dimethylphenol	-	ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
2,4-Dinitrophenol	-	ND (23.4)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.4)	ND (23.8)	ND (23.8)	ND (23.4)	ND (23.8)	ND (23.4)	ND (23.8)
2,4-Dinitrotoluene	-	ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
2,6-Dinitrotoluene	-	ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
2-Chloronaphthalene	-	ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
2-Chlorophenol	-	ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
2-Methylnaphthalene	-	ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
2-Methylphenol	-	ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
2-Nitroaniline	-	ND (23.4)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.4)	ND (23.8)	ND (23.8)	ND (23.4)	ND (23.8)	ND (23.4)	ND (23.8)
2-Nitrophenol	-	ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
3&4-Methylphenol	-	ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
3,3'-Dichlorobenzidine	-	ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
3-Nitroaniline	-	ND (23.4)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.4)	ND (23.8)	ND (23.8)	ND (23.4)	ND (23.8)	ND (23.4)	ND (23.8)
4,6-Dinitro-2-methylphenol	-	ND (23.4)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.4)	ND (23.8)	ND (23.8)	ND (23.4)	ND (23.8)	ND (23.4)	ND (23.8)
4-Bromophenyl phenyl ether	-	ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
4-Chloro-3-methylphenol	-	ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)

TABLE III
MONITORING WELL GROUNDWATER ANALYTICAL DATA
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

Location Name Sample Date Screened Interval (bgs) Sample Type		MCL	MW-03B 11/7/2013 46.5 - 56.5 (ft) FD	MW-04B 3/5/2012 47 - 57 (ft) N	MW-04B 11/6/2013 47 - 57 (ft) N	MW-04B 11/6/2013 47 - 57 (ft) FD	MW-05 3/1/2012 10 - 20 (ft) N	MW-05 11/7/2013 10 - 20 (ft) N	MW-06 3/1/2012 10 - 20 (ft) N	MW-06 3/2/2012 10 - 20 (ft) FD	MW-06 11/4/2013 10 - 20 (ft) N	MW-07 3/1/2012 10 - 20 (ft) N	MW-07 11/4/2013 10 - 20 (ft) N	MW-08 3/2/2012 10 - 20 (ft) N
4-Chloroaniline	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
4-Chlorophenyl phenyl ether	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
4-Nitroaniline	-		ND (23.4)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.4)	ND (23.8)	ND (23.8)	ND (23.4)	ND (23.8)	ND (23.4)	ND (23.8)
4-Nitrophenol	-		ND (23.4)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.4)	ND (23.8)	ND (23.8)	ND (23.4)	ND (23.8)	ND (23.4)	ND (23.8)
Acenaphthene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Acenaphthylene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Acetophenone	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Anthracene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Atrazine	3		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Benzaldehyde	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Benzo(a)anthracene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Benzo(a)pyrene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Benzo(b)fluoranthene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Benzo(g,h,i)perylene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Benzo(k)fluoranthene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Biphenyl	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
bis(2-Chloroethoxy)methane	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
bis(2-Chloroethyl)ether	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
bis(2-Ethylhexyl)phthalate	6		ND (9.35)	ND (9.43)	ND (9.43)	14.1 ^[A]	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Butyl benzylphthalate	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Caprolactam	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Carbazole	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Chrysene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Dibenz(a,h)anthracene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Dibenzofuran	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Diethyl phthalate	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Dimethyl phthalate	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Di-n-butylphthalate	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Di-n-octyl phthalate	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Fluoranthene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Fluorene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Hexachlorobenzene	1		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Hexachlorobutadiene	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Hexachlorocyclopentadiene	50		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Hexachloroethane	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Indeno(1,2,3-cd)pyrene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Isophorone	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Naphthalene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Nitrobenzene	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
N-Nitrosodi-n-propylamine	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
N-Nitrosodiphenylamine	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Pentachlorophenol	1		ND (23.4)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.6)	ND (23.4)	ND (23.8)	ND (23.8)	ND (23.4)	ND (23.8)	ND (23.4)	ND (23.8)
Phenanthrene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Phenol	-		ND (9.35)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.43)	ND (9.35)	ND (9.52)	ND (9.52)	ND (9.35)	ND (9.52)	ND (9.35)	ND (9.52)
Pyrene	-		ND (1.87)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.89)	ND (1.87)	ND (1.9)	ND (1.9)	ND (1.87)	ND (1.9)	ND (1.87)	ND (1.9)
Volatile Organic Compounds (ug/L)														
1,1,1-Trichloroethane	200		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2,2-Tetrachloroethane	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2-Trichloroethane	5		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,1-Dichloroethane	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,1-Dichloroethene	7		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,2,4-Trichlorobenzene	70		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dibromo-3-chloropropane (DBCP)	0.2		ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
1,2-Dibromoethane (Ethylene Dibromide)	0.05		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichlorobenzene	600		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloroethane	5		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,2-Dichloropropane	5		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,3-Dichlorobenzene	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)

TABLE III
MONITORING WELL GROUNDWATER ANALYTICAL DATA
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

Location Name Sample Date Screened Interval (bgs) Sample Type		MCL	MW-03B 11/7/2013 46.5 - 56.5 (ft) FD	MW-04B 3/5/2012 47 - 57 (ft) N	MW-04B 11/6/2013 47 - 57 (ft) N	MW-04B 11/6/2013 47 - 57 (ft) FD	MW-05 3/1/2012 10 - 20 (ft) N	MW-05 11/7/2013 10 - 20 (ft) N	MW-06 3/1/2012 10 - 20 (ft) N	MW-06 3/2/2012 10 - 20 (ft) FD	MW-06 11/4/2013 10 - 20 (ft) N	MW-07 3/1/2012 10 - 20 (ft) N	MW-07 11/4/2013 10 - 20 (ft) N	MW-08 3/2/2012 10 - 20 (ft) N
1,4-Dichlorobenzene	75		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
2-Butanone (Methyl Ethyl Ketone)	-		ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)
2-Hexanone	-		ND (5)	ND (10)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (10)	ND (5)	ND (10)	ND (5)	ND (10)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	-		ND (5)	ND (10)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (10)	ND (5)	ND (10)	ND (5)	ND (10)
Acetone	-		ND (5)	ND (50)	ND (5)	ND (5)	ND (50)	ND (5)	ND (50)	ND (50)	ND (5)	ND (50)	ND (5)	ND (50)
Benzene	5		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Bromodichloromethane	80		ND (1)	-	ND (1)	ND (1)	-	ND (1)	-	-	ND (1)	-	ND (1)	-
Bromoform	80		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Bromomethane (Methyl Bromide)	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Carbon disulfide	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Carbon tetrachloride	5		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Chlorobenzene	100		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Chlorobromomethane	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Chloroethane	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Chloroform (Trichloromethane)	80		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Chloromethane (Methyl Chloride)	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
cis-1,2-Dichloroethene	70		33.7	12.9	0.942 J	0.804 J	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
cis-1,3-Dichloropropene	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Cyclohexane	-		ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Dibromochloromethane	80		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Dichlorodifluoromethane (CFC-12)	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Ethylbenzene	700		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Isopropylbenzene	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Methyl acetate	-		ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Methyl cyclohexane	-		ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Methyl Tert Butyl Ether	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Methylene chloride	-		ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
n-Propylbenzene	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Styrene	100		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Tetrachloroethene	5		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Tetrahydrofuran	-		ND (5)	ND (20)	ND (5)	ND (5)	ND (20)	ND (5)	ND (20)	ND (20)	ND (5)	ND (20)	ND (5)	ND (20)
Toluene	1000		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
trans-1,2-Dichloroethene	100		1.34	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
trans-1,3-Dichloropropene	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Trichloroethene	5		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Trichlorofluoromethane (CFC-11)	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Trifluorotrichloroethane (Freon 113)	-		ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl chloride	2		847 ^[A]	38.8 ^[A]	18.5 ^[A]	14.1 ^[A]	ND (1)	0.294 J	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Xylene (total)	10000		ND (2)	ND (3)	ND (2)	ND (2)	ND (3)	ND (2)	ND (3)	ND (3)	ND (2)	ND (3)	ND (2)	ND (3)

Notes and Abbreviations:

- Results were compared to the following criteria:
[A]: Indicates result is greater than the MCL.
- Results in **bold** were detected.
- Qualifiers:
J - Concentration is an approximate value.
ND (1) - Not detected above reporting limit of 1 ug/L.
- Data has been validated by Haley & Aldrich.
- Sample Types: N - Normal sample, FD - Field duplicate

ft - feet
MCL - Maximum Contaminant Level
ug/L - micrograms per liter
bgs - below ground surface

TABLE III
MONITORING WELL GROUNDWATER ANALYTICAL DATA
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

Location Name		MW-08	MW-09	MW-09
Sample Date		11/6/2013	3/2/2012	11/6/2013
Screened Interval (bgs)		10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)
Sample Type	MCL	N	N	N
Inorganic Compounds (ug/L)				
Antimony	6	ND (2)	ND (2)	ND (2)
Arsenic	10	2.18	10.5 ^[A]	3.04
Barium	2000	368	998	85.3
Beryllium	4	ND (2)	3.56	ND (2)
Cadmium	5	0.67 J	8.47 ^[A]	ND (1)
Chromium	100	ND (2)	12	ND (2)
Chromium VI (Hexavalent)	-	ND (10)	1510	ND (10)
Cobalt	-	1.78 J	21.8	7.93
Copper	1300	0.556 J	28.4	ND (2)
Cyanide	200	ND (10)	4.47 J	ND (10)
Iron	-	170	-	838
Lead	15	ND (2)	53.6 ^[A]	ND (2)
Manganese	-	6980	13500	10500
Mercury	2	ND (0.2)	ND (0.2)	ND (0.2)
Nickel	-	25.1	42.2	20.1
Selenium	50	ND (2)	ND (2)	ND (2)
Silver	-	ND (2)	ND (2)	ND (2)
Thallium	2	ND (2)	ND (2)	ND (2)
Vanadium	-	3.04	31.7	0.386 J
Zinc	-	ND (25)	82.3	ND (25)
Other (ug/L)				
Ethylene glycol	-	ND (10000)	ND (10000)	ND (10000)
Flash Point Closed Cup (Deg F)	-	-	-	-
pH (lab) (pH units)	-	-	-	-
Temperature (Deg C)	-	-	-	-
PCBs (ug/L)				
Aroclor-1016 (PCB-1016)	-	ND (0.391)	ND (0.476)	ND (0.391)
Aroclor-1221 (PCB-1221)	-	ND (0.391)	ND (0.476)	ND (0.391)
Aroclor-1232 (PCB-1232)	-	ND (0.391)	ND (0.476)	ND (0.391)
Aroclor-1242 (PCB-1242)	-	ND (0.391)	ND (0.476)	ND (0.391)
Aroclor-1248 (PCB-1248)	-	ND (0.391)	ND (0.476)	ND (0.391)
Aroclor-1254 (PCB-1254)	-	ND (0.391)	ND (0.476)	ND (0.391)
Aroclor-1260 (PCB-1260)	-	ND (0.391)	ND (0.476)	ND (0.391)
Semi-Volatile Organic Compounds (ug/L)				
2,2'-oxybis(1-Chloropropane)	-	ND (9.43)	-	ND (9.43)
2,2'-oxybis(2-Chloropropane)	-	-	ND (9.52)	-
2,4,5-Trichlorophenol	-	ND (23.6)	ND (23.8)	ND (23.6)
2,4,6-Trichlorophenol	-	ND (9.43)	ND (9.52)	ND (9.43)
2,4-Dichlorophenol	-	ND (9.43)	ND (9.52)	ND (9.43)
2,4-Dimethylphenol	-	ND (9.43)	ND (9.52)	ND (9.43)
2,4-Dinitrophenol	-	ND (23.6)	ND (23.8)	ND (23.6)
2,4-Dinitrotoluene	-	ND (9.43)	ND (9.52)	ND (9.43)
2,6-Dinitrotoluene	-	ND (9.43)	ND (9.52)	ND (9.43)
2-Chloronaphthalene	-	ND (9.43)	ND (9.52)	ND (9.43)
2-Chlorophenol	-	ND (9.43)	ND (9.52)	ND (9.43)
2-Methylnaphthalene	-	ND (1.89)	ND (1.9)	ND (1.89)
2-Methylphenol	-	ND (9.43)	ND (9.52)	ND (9.43)
2-Nitroaniline	-	ND (23.6)	ND (23.8)	ND (23.6)
2-Nitrophenol	-	ND (9.43)	ND (9.52)	ND (9.43)
3&4-Methylphenol	-	ND (9.43)	ND (9.52)	ND (9.43)
3,3'-Dichlorobenzidine	-	ND (9.43)	ND (9.52)	ND (9.43)
3-Nitroaniline	-	ND (23.6)	ND (23.8)	ND (23.6)
4,6-Dinitro-2-methylphenol	-	ND (23.6)	ND (23.8)	ND (23.6)
4-Bromophenyl phenyl ether	-	ND (9.43)	ND (9.52)	ND (9.43)
4-Chloro-3-methylphenol	-	ND (9.43)	ND (9.52)	ND (9.43)

TABLE III
MONITORING WELL GROUNDWATER ANALYTICAL DATA
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

	Location Name	MW-08	MW-09	MW-09
	Sample Date	11/6/2013	3/2/2012	11/6/2013
	Screened Interval (bgs)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)
	Sample Type	MCL	N	N
4-Chloroaniline	-	ND (9.43)	ND (9.52)	ND (9.43)
4-Chlorophenyl phenyl ether	-	ND (9.43)	ND (9.52)	ND (9.43)
4-Nitroaniline	-	ND (23.6)	ND (23.8)	ND (23.6)
4-Nitrophenol	-	ND (23.6)	ND (23.8)	ND (23.6)
Acenaphthene	-	ND (1.89)	ND (1.9)	ND (1.89)
Acenaphthylene	-	ND (1.89)	ND (1.9)	ND (1.89)
Acetophenone	-	ND (9.43)	ND (9.52)	ND (9.43)
Anthracene	-	ND (1.89)	ND (1.9)	ND (1.89)
Atrazine	3	ND (9.43)	ND (9.52)	ND (9.43)
Benzaldehyde	-	ND (9.43)	ND (9.52)	ND (9.43)
Benzo(a)anthracene	-	ND (1.89)	ND (1.9)	ND (1.89)
Benzo(a)pyrene	-	ND (1.89)	ND (1.9)	ND (1.89)
Benzo(b)fluoranthene	-	ND (1.89)	ND (1.9)	ND (1.89)
Benzo(g,h,i)perylene	-	ND (1.89)	ND (1.9)	ND (1.89)
Benzo(k)fluoranthene	-	ND (1.89)	ND (1.9)	ND (1.89)
Biphenyl	-	ND (9.43)	ND (9.52)	ND (9.43)
bis(2-Chloroethoxy)methane	-	ND (9.43)	ND (9.52)	ND (9.43)
bis(2-Chloroethyl)ether	-	ND (9.43)	ND (9.52)	ND (9.43)
bis(2-Ethylhexyl)phthalate	6	3.96 J	ND (9.52)	ND (9.43)
Butyl benzylphthalate	-	ND (9.43)	ND (9.52)	ND (9.43)
Caprolactam	-	6.38 J	ND (9.52)	ND (9.43)
Carbazole	-	ND (9.43)	ND (9.52)	ND (9.43)
Chrysene	-	ND (1.89)	ND (1.9)	ND (1.89)
Dibenz(a,h)anthracene	-	ND (1.89)	ND (1.9)	ND (1.89)
Dibenzofuran	-	ND (9.43)	ND (9.52)	ND (9.43)
Diethyl phthalate	-	ND (9.43)	ND (9.52)	ND (9.43)
Dimethyl phthalate	-	ND (9.43)	ND (9.52)	ND (9.43)
Di-n-butylphthalate	-	ND (9.43)	ND (9.52)	ND (9.43)
Di-n-octyl phthalate	-	ND (9.43)	ND (9.52)	ND (9.43)
Fluoranthene	-	ND (1.89)	ND (1.9)	ND (1.89)
Fluorene	-	ND (1.89)	ND (1.9)	ND (1.89)
Hexachlorobenzene	1	ND (9.43)	ND (9.52)	ND (9.43)
Hexachlorobutadiene	-	ND (9.43)	ND (9.52)	ND (9.43)
Hexachlorocyclopentadiene	50	ND (9.43)	ND (9.52)	ND (9.43)
Hexachloroethane	-	ND (9.43)	ND (9.52)	ND (9.43)
Indeno(1,2,3-cd)pyrene	-	ND (1.89)	ND (1.9)	ND (1.89)
Isophorone	-	ND (9.43)	ND (9.52)	ND (9.43)
Naphthalene	-	ND (1.89)	ND (1.9)	ND (1.89)
Nitrobenzene	-	ND (9.43)	ND (9.52)	ND (9.43)
N-Nitrosodi-n-propylamine	-	ND (9.43)	ND (9.52)	ND (9.43)
N-Nitrosodiphenylamine	-	ND (9.43)	ND (9.52)	ND (9.43)
Pentachlorophenol	1	ND (23.6)	ND (23.8)	ND (23.6)
Phenanthrene	-	ND (1.89)	ND (1.9)	ND (1.89)
Phenol	-	ND (9.43)	ND (9.52)	ND (9.43)
Pyrene	-	ND (1.89)	ND (1.9)	ND (1.89)
Volatile Organic Compounds (ug/L)				
1,1,1-Trichloroethane	200	ND (1)	ND (1)	ND (1)
1,1,2,2-Tetrachloroethane	-	ND (1)	ND (1)	ND (1)
1,1,2-Trichloroethane	5	ND (1)	ND (1)	ND (1)
1,1-Dichloroethane	-	ND (1)	ND (1)	ND (1)
1,1-Dichloroethene	7	ND (1)	ND (1)	ND (1)
1,2,4-Trichlorobenzene	70	ND (1)	ND (1)	ND (1)
1,2-Dibromo-3-chloropropane (DBCP)	0.2	ND (10)	ND (10)	ND (10)
1,2-Dibromoethane (Ethylene Dibromide)	0.05	ND (1)	ND (1)	ND (1)
1,2-Dichlorobenzene	600	ND (1)	ND (1)	ND (1)
1,2-Dichloroethane	5	ND (1)	ND (1)	ND (1)
1,2-Dichloropropane	5	ND (1)	ND (1)	ND (1)
1,3-Dichlorobenzene	-	ND (1)	ND (1)	ND (1)

TABLE III
MONITORING WELL GROUNDWATER ANALYTICAL DATA
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

Location Name Sample Date Screened Interval (bgs) Sample Type		MCL	MW-08 11/6/2013 10 - 20 (ft) N	MW-09 3/2/2012 10 - 20 (ft) N	MW-09 11/6/2013 10 - 20 (ft) N
1,4-Dichlorobenzene		75	ND (1)	ND (1)	ND (1)
2-Butanone (Methyl Ethyl Ketone)		-	ND (50)	ND (50)	ND (50)
2-Hexanone		-	ND (5)	ND (10)	ND (5)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)		-	ND (5)	ND (10)	ND (5)
Acetone		-	ND (5)	ND (50)	ND (5)
Benzene		5	ND (1)	ND (1)	ND (1)
Bromodichloromethane		80	ND (1)	-	ND (1)
Bromoform		80	ND (1)	ND (1)	ND (1)
Bromomethane (Methyl Bromide)		-	ND (1)	ND (1)	ND (1)
Carbon disulfide		-	ND (1)	ND (1)	ND (1)
Carbon tetrachloride		5	ND (1)	ND (1)	ND (1)
Chlorobenzene		100	ND (1)	ND (1)	ND (1)
Chlorobromomethane		-	ND (1)	ND (1)	ND (1)
Chloroethane		-	ND (1)	ND (1)	ND (1)
Chloroform (Trichloromethane)		80	ND (1)	ND (1)	ND (1)
Chloromethane (Methyl Chloride)		-	ND (1)	ND (1)	ND (1)
cis-1,2-Dichloroethene		70	ND (1)	ND (1)	ND (1)
cis-1,3-Dichloropropene		-	ND (1)	ND (1)	ND (1)
Cyclohexane		-	ND (5)	ND (5)	ND (5)
Dibromochloromethane		80	ND (1)	ND (1)	ND (1)
Dichlorodifluoromethane (CFC-12)		-	ND (1)	ND (1)	ND (1)
Ethylbenzene		700	ND (1)	ND (1)	ND (1)
Isopropylbenzene		-	ND (1)	ND (1)	ND (1)
Methyl acetate		-	ND (10)	ND (10)	ND (10)
Methyl cyclohexane		-	ND (5)	ND (5)	ND (5)
Methyl Tert Butyl Ether		-	ND (1)	ND (1)	ND (1)
Methylene chloride		-	ND (5)	ND (5)	ND (5)
n-Propylbenzene		-	ND (1)	ND (1)	ND (1)
Styrene		100	ND (1)	ND (1)	ND (1)
Tetrachloroethene		5	ND (1)	ND (1)	ND (1)
Tetrahydrofuran		-	ND (5)	ND (20)	ND (5)
Toluene		1000	ND (1)	ND (1)	ND (1)
trans-1,2-Dichloroethene		100	ND (1)	ND (1)	ND (1)
trans-1,3-Dichloropropene		-	ND (1)	ND (1)	ND (1)
Trichloroethene		5	ND (1)	ND (1)	ND (1)
Trichlorofluoromethane (CFC-11)		-	ND (1)	ND (1)	ND (1)
Trifluorotrichloroethane (Freon 113)		-	ND (1)	ND (1)	ND (1)
Vinyl chloride		2	ND (1)	ND (1)	ND (1)
Xylene (total)		10000	ND (2)	ND (3)	ND (2)

Notes and Abbreviations:

- Results were compared to the following criteria:
[A]: Indicates result is greater than the MCL.
- Results in **bold** were detected.
- Qualifiers:
J - Concentration is an approximate value.
ND (1) - Not detected above reporting limit of 1 ug/L.
- Data has been validated by Haley & Aldrich.
- Sample Types: N - Normal sample, FD - Field duplicate

ft - feet
MCL - Maximum Contaminant Level
ug/L - micrograms per liter
bgs - below ground surface

TABLE IV
MONITORING WELL NATURAL ATTENUATION PARAMETERS
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

	Location Name	MW-01A	MW-01B	MW-02A	MW-02B	MW-03B	MW-03B	MW-04B	MW-04B	MW-05	MW-06	MW-07	MW-08	MW-09
	Sample Date	11/5/2013	11/5/2013	11/5/2013	11/5/2013	11/7/2013	11/7/2013	11/6/2013	11/6/2013	11/7/2013	11/4/2013	11/4/2013	11/6/2013	11/6/2013
	Screened Interval (bgs)	10 - 20 (ft)	50 - 60 (ft)	10 - 20 (ft)	48.5 - 58.5 (ft)	46.5 - 56.5 (ft)	46.5 - 56.5 (ft)	47 - 57 (ft)	47 - 57 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)	10 - 20 (ft)
	Sample Type	N	N	N	N	N	FD	N	FD	N	N	N	N	N
Natural Attenuation (ug/L)														
Chloride		48400	15000	15900	15600	223000	249000	19500	17800	14100	42400	124000	62100	38600
Carbon Dioxide, Free		29500	18100 J	108000	77500 J	35600	40400	25900	31800	49400	46800	81800	101000	117000
Dissolved Organic Carbon (DOC)		1630	1780	4460	2500	2220	2760	2260	2270	4990	2250	4360	2940	2650
Ethane	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Ethene	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	391 J	624 J	4.11 J	7.28	ND (5)	ND (5)	ND (5)	ND (5)	3.29 J
Methane		7.3	3980	117	1920	552 J	902 J	585	720	120	412	806	10.5	5.29
Nitrate (as N)		536	ND (100)	ND (100)	ND (100)	94.4 J	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)
Nitrite (as N)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)
Sulfate		63700	ND (1000)	21500	22500	18600	17600	ND (1000)	ND (1000)	15800	31200	15200	30200	133000
Sulfide	ND (5000)	ND (5000)	ND (5000)	ND (5000)	ND (5000)	ND (5000)	ND (5000)	ND (5000)	ND (5000)	ND (5000)	ND (5000)	ND (5000)	ND (5000)	ND (5000)
Total Organic Carbon (TOC)		1500	1820	3730	2710	2030	2010	2440	2460	3760	1690	3600	2360	2230

Notes and Abbreviations:

- 1. Results in **bold** were detected.
- 2. Qualifiers:
 - J - Concentration is an approximate value.
 - ND (5) - Not detected above reporting limit of 5 ug/L.
- 3. Data has been validated by Haley & Aldrich.
- 4. Sample Types: N - Normal sample, FD - Field duplicate

ft - feet
ug/L - micrograms per liter
bgs - below ground surface

TABLE V
GEOPROBE SOIL VAPOR ANALYTICAL DATA
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

	Location Name Sample Date Depth (below ground surface) Sample Type	Industrial Air Screening Levels	SV-01 10/29/2013 5 (ft) N	SV-01 10/29/2013 10 (ft) N	SV-02 10/29/2013 5 (ft) N	SV-02 10/29/2013 10 (ft) N	SV-03 10/30/2013 5 (ft) N	SV-03 10/30/2013 10 (ft) N	SV-03 10/30/2013 10 (ft) FD	SV-04 10/31/2013 5 (ft) N	SV-04 10/31/2013 10 (ft) N	SV-05 10/30/2013 5 (ft) N	SV-05 10/30/2013 10 (ft) N	SV-06 10/30/2013 5 (ft) N	SV-06 10/30/2013 10 (ft) N
Volatile Organic Compounds (ug/m3)															
1,1,1-Trichloroethane	2200		ND (43)	ND (87)	ND (360)	ND (8.8)	ND (44)	ND (27)	ND (29)	ND (220)	ND (84)	ND (45)	ND (42)	ND (4.5)	ND (4.3)
1,1,2,2-Tetrachloroethane	-		ND (54)	ND (110)	ND (450)	ND (11)	ND (55)	ND (34)	ND (36)	ND (270)	ND (110)	ND (56)	ND (52)	ND (5.6)	ND (5.4)
1,1,2-Trichloroethane	0.088		ND (43)	ND (87)	ND (360)	ND (8.8)	ND (44)	ND (27)	ND (29)	ND (220)	ND (84)	ND (45)	ND (42)	ND (4.5)	ND (4.3)
1,1-Dichloroethane	7.7		ND (32)	ND (64)	ND (260)	ND (6.6)	ND (32)	ND (20)	ND (21)	ND (160)	ND (63)	ND (33)	ND (31)	ND (3.3)	ND (3.2)
1,1-Dichloroethene	88		ND (31)	ND (63)	ND (260)	ND (6.4)	ND (32)	ND (20)	ND (21)	ND (160)	ND (61)	ND (32)	ND (30)	ND (3.2)	ND (3.1)
1,2,4-Trichlorobenzene	-		ND (230)	ND (470)	ND (1900)	ND (48) J	ND (240)	ND (150)	ND (160) J	ND (1200)	ND (460)	ND (240) J	ND (230) J	ND (24) J	ND (23)
1,2,4-Trimethylbenzene	3.1		ND (38)	200 ^[A]	ND (320)	ND (8)	ND (39)	ND (24)	ND (26)	ND (190)	ND (76)	ND (40)	ND (38)	ND (4)	ND (3.9)
1,2-Dibromoethane (Ethylene Dibromide)	-		ND (60)	ND (120)	ND (500)	ND (12)	ND (61)	ND (38)	ND (40)	ND (300)	ND (120)	ND (63)	ND (59)	ND (6.3)	ND (6.1)
1,2-Dichlorobenzene	-		ND (47)	ND (96)	ND (390)	ND (9.7)	ND (48)	ND (30)	ND (32)	ND (240)	ND (93)	ND (49)	ND (46)	ND (4.9)	ND (4.7)
1,2-Dichloroethane	-		ND (32)	ND (64)	ND (260)	ND (6.6)	ND (32)	ND (20)	ND (21)	ND (160)	ND (63)	ND (33)	ND (31)	ND (3.3)	ND (3.2)
1,2-Dichloropropane	-		ND (36)	ND (73)	ND (300)	ND (7.5)	ND (37)	ND (23)	ND (24)	ND (180)	ND (72)	ND (38)	ND (35)	ND (3.8)	ND (3.6)
1,2-Dichlorotetrafluoroethane (CFC 114)	-		ND (55)	ND (110)	ND (460)	ND (11)	ND (56)	ND (35)	ND (37)	ND (280)	ND (110)	ND (57)	ND (53)	ND (5.7)	ND (5.5)
1,3,5-Trimethylbenzene	-		ND (38)	87	ND (320)	ND (8)	ND (39)	ND (24)	ND (26)	ND (190)	ND (76)	ND (40)	ND (38)	ND (4)	ND (3.9)
1,3-Butadiene	0.41		ND (17)	ND (35)	ND (140)	6.8 ^[A]	ND (18)	ND (11)	ND (12)	ND (87)	ND (34)	ND (18)	ND (17)	ND (1.8)	ND (1.7)
1,3-Dichlorobenzene	-		ND (47)	ND (96)	ND (390)	ND (9.7)	ND (48)	ND (30)	ND (32)	ND (240)	ND (93)	ND (49)	ND (46)	ND (4.9)	5.7
1,4-Dichlorobenzene	1.1		ND (47)	ND (96)	ND (390)	ND (9.7)	ND (48)	ND (30)	ND (32)	ND (240)	ND (93)	ND (49)	ND (46)	ND (4.9)	16 ^[A]
1,4-Dioxane	-		ND (110)	ND (230)	ND (940)	ND (23)	ND (120)	ND (72)	ND (76)	ND (570)	ND (220)	ND (120)	ND (110)	ND (12)	ND (11)
2,2,4-Trimethylpentane	-		ND (37)	ND (74)	ND (300)	ND (7.6)	ND (37)	ND (23)	ND (24)	ND (180)	ND (72)	ND (38)	ND (36)	ND (3.8)	ND (3.7)
2-Butanone (Methyl Ethyl Ketone)	2200		ND (92)	ND (190)	ND (770)	23	ND (94)	ND (59)	ND (62)	ND (460)	ND (180)	ND (97)	ND (90)	ND (9.7)	12
2-Hexanone	-		ND (130)	ND (260)	ND (1100)	ND (26)	ND (130)	ND (82)	ND (86)	ND (650)	ND (250)	ND (130)	ND (120)	ND (13)	ND (13)
4-Ethyl toluene	-		ND (38)	140	ND (320)	ND (8)	ND (39)	ND (24)	ND (26)	ND (190)	ND (76)	ND (40)	ND (38)	ND (4)	ND (3.9)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	1300		ND (32)	ND (65)	ND (270)	ND (6.6)	ND (33)	ND (20)	ND (22)	ND (160)	ND (63)	ND (34)	ND (31)	ND (3.4)	ND (3.2)
Acetone	14000		ND (74)	ND (380)	ND (620)	150	2400	1800	1900	6400	ND (370)	ND (190)	ND (180)	45	69
Allyl chloride	-		ND (98)	ND (200)	ND (820)	ND (20)	ND (100)	ND (63)	ND (66)	ND (490)	ND (190)	ND (100)	ND (96)	ND (10)	ND (9.9)
Benzene	1.6		120 J ^[A]	ND (51)	370 ^[A]	9.8 ^[A]	ND (26)	ND (16)	ND (17)	ND (130)	57 ^[A]	120 ^[A]	ND (24)	ND (2.6)	12 ^[A]
Benzyl Chloride	-		ND (41)	ND (82)	ND (340)	ND (8.4) J	ND (41)	ND (26)	ND (27) J	ND (200)	ND (80)	ND (42) J	ND (40) J	ND (4.2) J	ND (4.1)
Bromodichloromethane	-		ND (52)	ND (110)	ND (440)	ND (11)	ND (54)	ND (34)	ND (35)	ND (260)	ND (100)	ND (55)	ND (51)	ND (5.5)	ND (5.3)
Bromoform	-		ND (81)	ND (160)	ND (680)	ND (17)	ND (83)	ND (52)	ND (54)	ND (410)	ND (160)	ND (85)	ND (79)	ND (8.5)	ND (8.2)
Bromomethane (Methyl Bromide)	-		ND (30)	ND (620)	ND (250)	ND (63)	ND (310)	ND (190)	ND (200)	ND (150)	ND (600)	ND (320)	ND (300)	ND (32)	ND (31)
Carbon disulfide	310		ND (24)	ND (200)	ND (200)	ND (20)	ND (100)	ND (62)	ND (65)	ND (120)	ND (190)	ND (100)	ND (95)	ND (10)	ND (9.8)
Carbon tetrachloride	-		ND (49)	ND (100)	ND (410)	ND (10)	ND (50)	ND (31)	ND (33)	ND (250)	ND (98)	ND (52)	ND (48)	ND (5.2)	ND (5)
Chlorobenzene	-		ND (36)	ND (73)	ND (300)	ND (7.4)	ND (37)	ND (23)	ND (24)	ND (180)	ND (71)	ND (38)	ND (35)	ND (3.8)	ND (3.6)
Chloroethane	-		ND (83)	ND (170)	ND (690)	ND (17)	ND (84)	ND (53)	ND (55)	ND (420)	ND (160)	ND (86)	ND (81)	ND (8.6)	ND (8.3)
Chloroform (Trichloromethane)	-		ND (38)	ND (78)	ND (320)	ND (7.9)	ND (39)	ND (24)	ND (26)	ND (190)	ND (76)	ND (40)	ND (37)	ND (4)	ND (3.8)
Chloromethane (Methyl Chloride)	-		ND (65)	ND (330)	ND (540)	ND (33)	ND (160)	ND (100)	ND (110)	ND (330)	ND (320)	ND (170)	ND (160)	ND (17)	ND (16)
cis-1,2-Dichloroethene	26		74 J ^[A]	ND (63)	ND (260)	ND (6.4)	ND (32)	ND (20)	ND (21)	ND (160)	ND (61)	ND (32)	ND (30)	ND (3.2)	ND (3.1)
cis-1,3-Dichloropropene	-		ND (36)	ND (72)	ND (300)	ND (7.4)	ND (36)	ND (23)	ND (24)	ND (180)	ND (70)	ND (37)	ND (35)	ND (3.7)	ND (3.6)
Cyclohexane	2600		14000 J ^[A]	12000 ^[A]	9500 ^[A]	530	ND (28)	ND (17)	ND (18)	6400 ^[A]	6800 ^[A]	1500	510	ND (2.8)	ND (2.7)
Dibromochloromethane	-		ND (67)	ND (140)	ND (560)	ND (14)	ND (68)	ND (42)	ND (45)	ND (340)	ND (130)	ND (70)	ND (65)	ND (7)	ND (6.7)
Dichlorodifluoromethane (CFC-12)	-		ND (39)	ND (79)	ND (320)	ND (8)	ND (40)	ND (25)	ND (26)	ND (200)	ND (77)	ND (40)	ND (38)	ND (4)	ND (3.9)
Ethanol	-		ND (59)	ND (120)	ND (490)	ND (12)	ND (60)	ND (38)	ND (40)	ND (300)	ND (120)	ND (62)	ND (58)	26	ND (6)
Ethylbenzene	4.9		ND (34)	ND (69)	ND (280)	ND (7)	ND (35)	ND (22)	ND (23)	ND (170)	ND (67)	ND (36)	ND (33)	ND (3.6)	3.8
Hexachlorobutadiene	-		ND (330)	ND (680)	ND (2800)	ND (69) J	ND (340)	ND (210)	ND (220) J	ND (1700)	ND (660)	ND (350) J	ND (330) J	ND (35) J	ND (34)
Hexane	310		4500 J ^[A]	2700 ^[A]	1300 ^[A]	47	ND (28)	ND (18)	ND (18)	520 ^[A]	1000 ^[A]	2000 ^[A]	700 ^[A]	ND (2.9)	1200 J ^[A]
Isopropyl Alcohol	3100		ND (77)	ND (160)	ND (640)	27	25000 J ^[A]	23000 J ^[A]	23000 J ^[A]	62000 ^[A]	1200	ND (81)	ND (75)	180	21
Isopropylbenzene	180		78 J	220 ^[A]	ND (320)	ND (8)	ND (39)	ND (24)	ND (26)	630 ^[A]	ND (76)	ND (40)	ND (38)	ND (4)	ND (3.9)
m,p-Xylenes	44		ND (34)	ND (69)	ND (280)	7	ND (35)	ND (22)	ND (23)	ND (170)	ND (67)	48 ^[A]	ND (33)	ND (3.6)	12
Methyl Tert Butyl Ether	-		ND (28)	ND (57)	ND (240)	ND (5.8)	ND (29)	ND (18)	ND (19)	ND (140)	ND (56)	ND (30)	ND (28)	ND (3)	ND (2.8)
Methylene chloride	-		ND (27)	ND (550)	ND (230)	ND (56)	ND (280)	ND (170)	ND (180)	ND (140)	ND (540)	ND (280)	ND (260)	ND (28)	ND (27)
N-Heptane	-		1700 J	800	410	16	ND (33)	ND (20)	ND (22)	340	330	1200	270	ND (3.4)	680
n-Propylbenzene	440		ND (38)	100	ND (320)	ND (8)	ND (39)	ND (24)	ND (26)	ND (190)	ND (76)	ND (40)	ND (38)	ND (4)	ND (3.9)
o-Xylene	44		ND (34)	ND (69)	ND (280)	ND (7)	ND (35)	ND (22)	ND (23)	ND (170)	ND (67)	ND (36)	ND (33)	ND (3.6)	4.8
Styrene	-		ND (33)	ND (68)	ND (280)	ND (6.9)	ND (34)	ND (21)	ND (22)	ND (170)	ND (66)	ND (35)	ND (32)	ND (3.5)	ND (3.4)
Tetrachloroethene	18		ND (53)	ND (110)	ND (440)	ND (11)	ND (54)	ND (34)	ND (36)	ND (270)	ND (100)	ND (56)	ND (52)	ND (5.6)	ND (5.4)
Tetrahydrofuran	-		ND (23)	ND (47)	ND (190)	ND (4.8)	ND (24)	ND (15)	ND (15)	ND (120)	ND (46)	ND (24)	ND (22)	ND (2.4)	ND (2.3)
Toluene	2200		95 J	71	ND (250)	9.2	ND (30)	ND (19)	ND (20)	ND (150)	64	58	ND (29)	ND (3.1)	13
trans-1,2-Dichloroethene	26		ND (31)	ND (63)	ND (260)	ND (6.4)	ND (32)	ND (20)	ND (21)	ND (160)	ND (61)	ND (32)	ND (30)	ND (3.2)	ND (3.1)
trans-1,3-Dichloropropene	-		ND (36)	ND (72)	ND (300)	ND (7.4)	ND (36)	ND (23)	ND (24)	ND (180)	ND (70)	ND (37)	ND (35)	ND (3.7)	ND (3.6)

TABLE V
GEOPROBE SOIL VAPOR ANALYTICAL DATA
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

	Location Name		SV-01	SV-01	SV-02	SV-02	SV-03	SV-03	SV-03	SV-04	SV-04	SV-05	SV-05	SV-06	SV-06
	Sample Date	Industrial	10/29/2013	10/29/2013	10/29/2013	10/29/2013	10/30/2013	10/30/2013	10/30/2013	10/31/2013	10/31/2013	10/30/2013	10/30/2013	10/30/2013	10/30/2013
	Depth (below ground surface)	Air Screening	5 (ft)	10 (ft)	5 (ft)	10 (ft)	5 (ft)	10 (ft)	10 (ft)	5 (ft)	10 (ft)	5 (ft)	10 (ft)	5 (ft)	10 (ft)
	Sample Type	Levels	N	N	N	N	N	N	FD	N	N	N	N	N	N
Trichloroethene		0.88	ND (42)	ND (85)	ND (350)	ND (8.7)	ND (43)	ND (27)	ND (28)	ND (210)	ND (83)	ND (44)	ND (41)	ND (4.4)	ND (4.2)
Trichlorofluoromethane (CFC-11)		-	ND (44)	ND (89)	ND (370)	ND (9.1)	ND (45)	ND (28)	ND (29)	ND (220)	ND (87)	ND (46)	ND (43)	ND (4.6)	ND (4.4)
Trifluorotrichloroethane (Freon 113)		-	ND (60)	ND (120)	ND (500)	ND (12)	ND (61)	ND (38)	ND (40)	ND (300)	ND (120)	ND (63)	ND (59)	ND (6.3)	ND (6)
Vinyl chloride		2.8	410 J ^[A]	89 ^[A]	ND (170)	ND (4.1)	ND (20)	ND (13)	ND (13)	ND (100)	ND (40)	130 ^[A]	90 ^[A]	ND (2.1)	ND (2)
Air Phase Hydrocarbons (ug/m3)															
C5-C6 Aliphatics		-	-	-	30000	4500	-	-	-	-	-	23000	14000	-	-
C6-C8 Aliphatic		-	-	-	490000	33000	-	-	-	-	-	100000	54000	-	-
>C8-C10 Aliphatic		-	-	-	480000	32000	-	-	-	-	-	250000	170000	-	-
>C8-C10 Aromatic		-	-	-	ND (3200)	ND (160)	-	-	-	-	-	ND (810)	ND (750)	-	-
>C10-C12 Aliphatic		-	-	-	140000	8600	-	-	-	-	-	130000	120000	-	-
>C10-C12 Aromatic		-	-	-	ND (3600)	ND (180)	-	-	-	-	-	ND (900)	ND (840)	-	-

Notes and Abbreviations:

1. Results were compared to the following criteria:
[A]: Indicates result is greater than the selected Industrial Air Screening Levels based on USEPA RSLs for Industrial Air (Nov.2013)
2. Results in **bold** were detected.
3. Qualifiers:
J - Concentration is an approximate value.
ND (1) - Not detected above reporting limit of 1 ug/m3.
4. Data has been validated by Haley & Aldrich.
5. Sample Types: N - Normal sample, FD - Field duplicate

RSLs - Regional Screening Levels
ft - feet
ug/m3 - micrograms per meter cubed

TABLE V
GEOPROBE SOIL VAPOR ANALYTICAL DATA
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

	Location Name	SV-07	SV-07	SV-08	SV-09	SV-09	SV-09	SV-10	SV-10
	Sample Date	10/31/2013	10/31/2013	10/31/2013	10/31/2013	10/31/2013	10/31/2013	10/29/2013	10/29/2013
	Depth (below ground surface)	5 (ft)	10 (ft)	5 (ft)	5 (ft)	5 (ft)	10 (ft)	5 (ft)	10 (ft)
	Sample Type	N	N	N	N	FD	N	N	N
Volatile Organic Compounds (ug/m3)									
1,1,1-Trichloroethane	2200	ND (45)	ND (4.2)	ND (220)	ND (210)	ND (190)	ND (84)	ND (4.1)	ND (4.4)
1,1,2,2-Tetrachloroethane	-	ND (57)	ND (5.3)	ND (280)	ND (260)	ND (240)	ND (100)	ND (5.2)	ND (5.5)
1,1,2-Trichloroethane	0.088	ND (45)	ND (4.2)	ND (220)	ND (210)	ND (190)	ND (84)	ND (4.1)	ND (4.4)
1,1-Dichloroethane	7.7	ND (34)	ND (3.1)	ND (160)	ND (150)	ND (140)	ND (62)	ND (3.1)	ND (3.2)
1,1-Dichloroethene	88	ND (33)	ND (3)	ND (160)	ND (150)	ND (140)	ND (61)	ND (3)	ND (3.2)
1,2,4-Trichlorobenzene	-	ND (250)	ND (23)	ND (1200)	ND (1100)	ND (1000)	ND (460)	ND (22)	ND (24)
1,2,4-Trimethylbenzene	3.1	ND (41)	27 ^[A]	ND (200)	320 ^[A]	320 ^[A]	ND (76)	36 ^[A]	ND (3.9)
1,2-Dibromoethane (Ethylene Dibromide)	-	ND (64)	ND (5.9)	ND (310)	ND (290)	ND (260)	ND (120)	ND (5.8)	ND (6.1)
1,2-Dichlorobenzene	-	ND (50)	ND (4.6)	ND (240)	ND (230)	ND (210)	ND (92)	ND (4.6)	ND (4.8)
1,2-Dichloroethane	-	ND (34)	ND (3.1)	ND (160)	ND (150)	ND (140)	ND (62)	ND (3.1)	ND (3.2)
1,2-Dichloropropane	-	ND (38)	ND (3.6)	ND (190)	ND (180)	ND (160)	ND (71)	ND (3.5)	ND (3.7)
1,2-Dichlorotetrafluoroethane (CFC 114)	-	ND (58)	ND (5.4)	ND (280)	ND (270)	ND (240)	ND (110)	ND (5.3)	ND (5.6)
1,3,5-Trimethylbenzene	-	ND (41)	9.4	ND (200)	ND (190)	ND (170)	ND (76)	17	ND (3.9)
1,3-Butadiene	0.41	ND (18)	10 ^[A]	ND (89)	ND (85)	ND (76)	ND (34)	5.4 ^[A]	11 ^[A]
1,3-Dichlorobenzene	-	ND (50)	ND (4.6)	ND (240)	ND (230)	ND (210)	ND (92)	ND (4.6)	ND (4.8)
1,4-Dichlorobenzene	1.1	ND (50)	ND (4.6)	ND (240)	ND (230)	ND (210)	ND (92)	ND (4.6)	ND (4.8)
1,4-Dioxane	-	ND (120)	ND (11)	ND (580)	ND (550)	ND (500)	ND (220)	ND (11)	ND (12)
2,2,4-Trimethylpentane	-	ND (39)	ND (3.6)	ND (190)	ND (180)	ND (160)	ND (72)	28	ND (3.7)
2-Butanone (Methyl Ethyl Ketone)	2200	ND (98)	50	ND (470)	ND (450)	ND (410)	ND (180)	23	53
2-Hexanone	-	ND (140)	ND (13)	ND (660)	ND (630)	ND (560)	ND (250)	ND (12)	ND (13)
4-Ethyl toluene	-	ND (41)	18	ND (200)	ND (190)	ND (170)	ND (76)	29	ND (3.9)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	1300	ND (34)	6.3	ND (160)	ND (160)	ND (140)	ND (63)	ND (3.1)	ND (3.3)
Acetone	14000	8500	600	8600	ND (360)	ND (330)	2600	340	500
Allyl chloride	-	ND (100)	ND (9.6)	ND (500)	ND (480)	ND (430)	ND (190)	ND (9.5)	ND (10)
Benzene	1.6	ND (26)	13 ^[A]	ND (130)	280 ^[A]	250 ^[A]	ND (49)	10 ^[A]	7.3 ^[A]
Benzyl Chloride	-	ND (43)	ND (4)	ND (210)	ND (200)	ND (180)	ND (80)	ND (3.9)	ND (4.1)
Bromodichloromethane	-	ND (56)	ND (5.2)	ND (270)	ND (260)	ND (230)	ND (100)	ND (5.1)	ND (5.4)
Bromoform	-	ND (86)	ND (8)	ND (420)	ND (400)	ND (360)	ND (160)	ND (7.8)	ND (8.3)
Bromomethane (Methyl Bromide)	-	ND (32)	ND (30)	ND (160)	ND (150)	ND (130)	ND (600)	ND (30)	ND (31)
Carbon disulfide	310	ND (26)	31	ND (120)	ND (120)	ND (110)	ND (190)	ND (9.5)	ND (10)
Carbon tetrachloride	-	ND (52)	ND (4.8)	ND (250)	ND (240)	ND (220)	ND (97)	ND (4.8)	ND (5)
Chlorobenzene	-	ND (38)	ND (3.5)	ND (180)	ND (180)	ND (160)	ND (71)	ND (3.5)	ND (3.7)
Chloroethane	-	ND (88)	ND (8.1)	ND (420)	ND (400)	ND (360)	ND (160)	ND (8)	ND (8.4)
Chloroform (Trichloromethane)	-	ND (40)	ND (3.8)	ND (200)	ND (190)	ND (170)	ND (75)	ND (3.7)	ND (3.9)
Chloromethane (Methyl Chloride)	-	ND (68)	ND (16)	ND (330)	ND (320)	ND (280)	ND (320)	ND (16)	ND (16)
cis-1,2-Dichloroethene	26	ND (33)	ND (3)	ND (160)	ND (150)	ND (140)	ND (61)	ND (3)	ND (3.2)
cis-1,3-Dichloropropene	-	ND (38)	ND (3.5)	ND (180)	ND (170)	ND (160)	ND (70)	ND (3.4)	ND (3.6)
Cyclohexane	2600	61	22	ND (140)	7300 ^[A]	7600 ^[A]	260	5.3	ND (2.8)
Dibromochloromethane	-	ND (71)	ND (6.6)	ND (340)	ND (320)	ND (290)	ND (130)	ND (6.5)	ND (6.8)
Dichlorodifluoromethane (CFC-12)	-	ND (41)	ND (3.8)	ND (200)	ND (190)	ND (170)	ND (76)	ND (3.8)	ND (4)
Ethanol	-	ND (62)	23	ND (300)	ND (290)	ND (260)	ND (120)	14	ND (6)
Ethylbenzene	4.9	120 ^[A]	12 ^[A]	ND (170)	870 ^[A]	910 ^[A]	ND (67)	22 ^[A]	ND (3.5)
Hexachlorobutadiene	-	ND (350)	ND (33)	ND (1700)	ND (1600)	ND (1500)	ND (660)	ND (32)	ND (34)
Hexane	310	ND (29)	30	ND (140)	810 ^[A]	880 ^[A]	ND (54)	8.2	12
Isopropyl Alcohol	3100	80000 J ^[A]	180	100000 J ^[A]	ND (380)	ND (340)	39000 J ^[A]	810 J	ND (7.9)
Isopropylbenzene	180	610 ^[A]	30	ND (200)	39000 ^[A]	40000 ^[A]	190 ^[A]	ND (3.7)	ND (3.9)
m,p-Xylenes	44	ND (36)	16	ND (170)	400 ^[A]	440 ^[A]	ND (67)	40	ND (3.5)
Methyl Tert Butyl Ether	-	ND (30)	ND (2.8)	ND (140)	ND (140)	ND (120)	ND (56)	ND (2.7)	ND (2.9)
Methylene chloride	-	ND (29)	ND (27)	ND (140)	ND (130)	ND (120)	ND (540)	ND (26)	ND (28)
N-Heptane	-	ND (34)	40	ND (160)	1600	1700	ND (63)	9.9	7.7
n-Propylbenzene	440	2200 ^[A]	45	ND (200)	86000 ^[A]	87000 ^[A]	200	5.7	ND (3.9)
o-Xylene	44	ND (36)	4.4	ND (170)	490 ^[A]	480 ^[A]	ND (67)	35	ND (3.5)
Styrene	-	ND (35)	ND (3.3)	ND (170)	ND (160)	ND (150)	ND (66)	ND (3.2)	ND (3.4)
Tetrachloroethene	18	ND (56)	ND (5.2)	ND (270)	ND (260)	ND (230)	ND (100)	ND (5.2)	ND (5.4)
Tetrahydrofuran	-	ND (24)	ND (2.3)	ND (120)	ND (110)	ND (100)	ND (45)	ND (2.2)	ND (2.4)
Toluene	2200	ND (31)	11	ND (150)	180	190	ND (58)	13	6.8
trans-1,2-Dichloroethene	26	ND (33)	ND (3)	ND (160)	ND (150)	ND (140)	ND (61)	ND (3)	ND (3.2)
trans-1,3-Dichloropropene	-	ND (38)	ND (3.5)	ND (180)	ND (170)	ND (160)	ND (70)	ND (3.4)	ND (3.6)

TABLE V
GEOPROBE SOIL VAPOR ANALYTICAL DATA
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

Location Name Sample Date Depth (below ground surface) Sample Type	Industrial Air Screening Levels	SV-07	SV-07	SV-08	SV-09	SV-09	SV-09	SV-10	SV-10
		10/31/2013	10/31/2013	10/31/2013	10/31/2013	10/31/2013	10/31/2013	10/29/2013	10/29/2013
		5 (ft)	10 (ft)	5 (ft)	5 (ft)	5 (ft)	10 (ft)	5 (ft)	10 (ft)
		N	N	N	N	FD	N	N	N
Trichloroethene	0.88	ND (45)	ND (4.1)	ND (220)	ND (200)	ND (180)	ND (83)	ND (4.1)	ND (4.3)
Trichlorofluoromethane (CFC-11)	-	ND (47)	ND (4.3)	ND (230)	ND (210)	ND (190)	ND (86)	ND (4.3)	ND (4.5)
Trifluorotrichloroethane (Freon 113)	-	ND (64)	ND (5.9)	ND (310)	ND (290)	ND (260)	ND (120)	ND (5.8)	ND (6.1)
Vinyl chloride	2.8	ND (21)	ND (2)	ND (100)	170 ^[A]	190 ^[A]	ND (39)	ND (1.9)	ND (2)
Air Phase Hydrocarbons (ug/m3)									
C5-C6 Aliphatics	-	-	-	-	-	-	-	-	-
C6-C8 Aliphatic	-	-	-	-	-	-	-	-	-
>C8-C10 Aliphatic	-	-	-	-	-	-	-	-	-
>C8-C10 Aromatic	-	-	-	-	-	-	-	-	-
>C10-C12 Aliphatic	-	-	-	-	-	-	-	-	-
>C10-C12 Aromatic	-	-	-	-	-	-	-	-	-

Notes and Abbreviations:

1. Results were compared to the following criteria:
[A]: Indicates result is greater than the selected Industrial Air Screening Levels for Industrial Air (Nov.2013)
2. Results in **bold** were detected.
3. Qualifiers:
J - Concentration is an approximate value.
ND (1) - Not detected above reporting limit of 1 ug/m3.
4. Data has been validated by Haley & Aldrich.
5. Sample Types: N - Normal sample, FD - Field duplicate

RSLs - Regional Screening Levels
ft - feet
ug/m3 - micrograms per meter cubed

TABLE VI
INDUSTRIAL AIR SCREENING LEVELS
RACER TRUST
FORMER LEEDS ASSEMBLY PLANT – NORTHERN PARCEL
KANSAS CITY, MISSOURI

Regional Screening Levels (RSLs) in $\mu\text{g}/\text{m}^3$ Industrial Air – USEPA, November 2013 ^A			Industrial Air Screening Levels Selected for the Site	
CONSTITUENT ^B	Cancer Target Risk (TR)	Noncancer Hazard Index (HI)	Where available/applicable, selected based on the lower of the Cancer TR or the Noncancer HI	
Acetone	NA	14,000	14,000	
Benzene	1.6	13	1.6	
1,3-Butadiene	0.41	0.88	0.41	
2-Butanone (MEK)	NA	2,200	2,200	
Carbon Disulfide	NA	310	310	
Cyclohexane	NA	2,600	2,600	
1,3-Dichlorobenzene	NA	NA	NA	
1,4-Dichlorobenzene	1.1	350	1.1	
cis-1,2-Dichloroethylene ^C	NA	26	26	
Ethanol	NA	NA	NA	
Ethylbenzene	4.9	440	4.9	
Hexane	NA	310	310	
n-Heptane	NA	NA	NA	
Isopropyl Alcohol	NA	3,100	3,100	
Isopropyl Benzene	NA	180	180	
4-Methyl-2-pentanone (MIBK)	NA	1,300	1,300	
n-Propylbenzene	NA	440	440	
Toluene	NA	2,200	2,200	
1,2,4-Trimethylbenzene	NA	3.1	3.1	
1,3,5-Trimethylbenzene	NA	NA	NA	
2,2,4-Trimethylpentane	NA	NA	NA	
4-Ethyltoluene	NA	NA	NA	
Vinyl Chloride	2.8	44	2.8	
Xylene-m,p	NA	44	44	
Xylene-o	NA	44	44	

A - Source: Based on RSLs for Industrial Air (USEPA, November 2013) using the 'new' tables that provide RSLs based on a Cancer Target Risk (TR) of 1×10^{-6} and a Noncancer Hazard Index (HI) of 0.1.

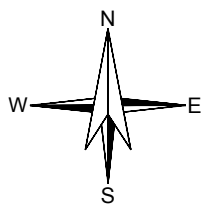
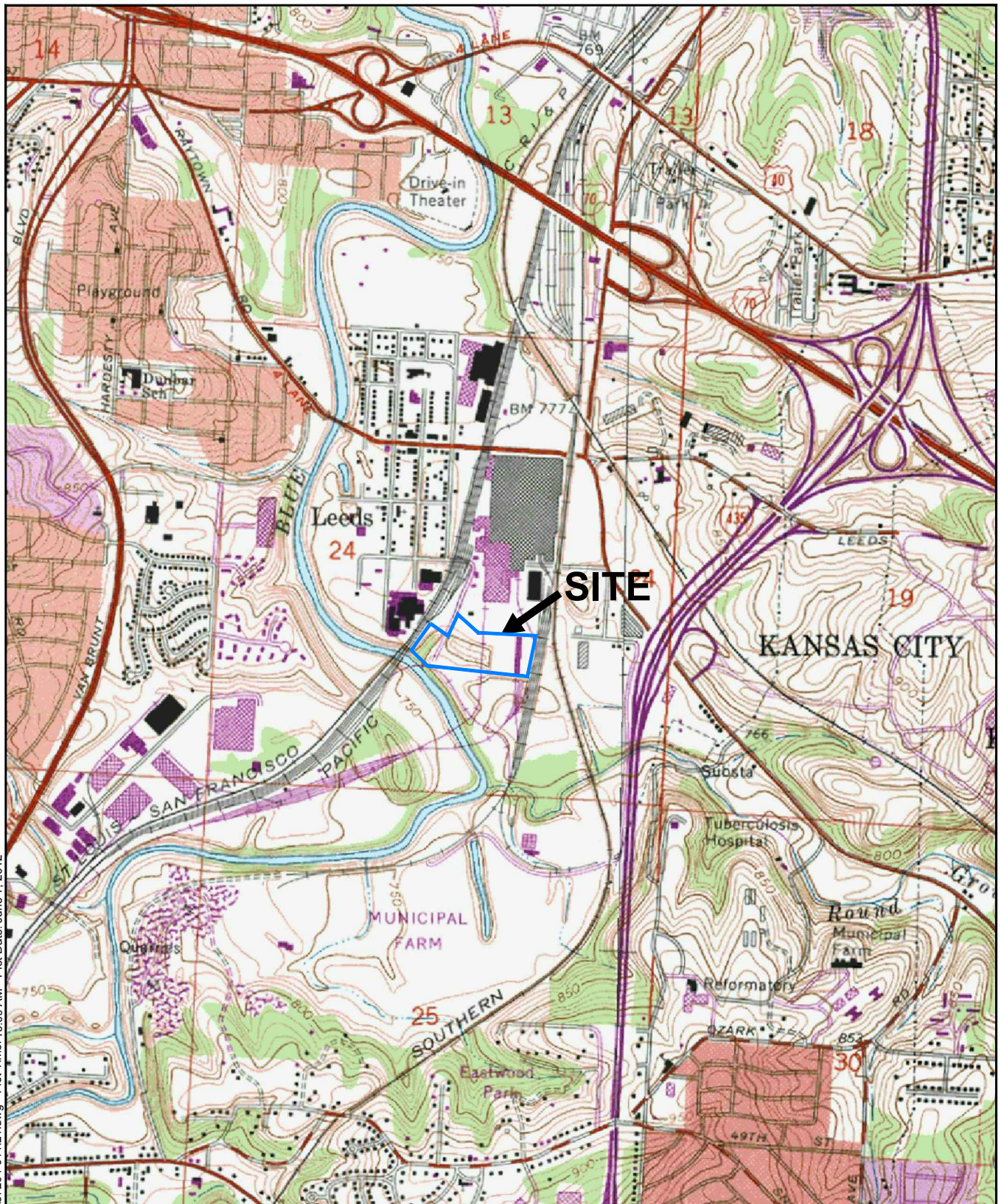
B – Industrial Air Screening Levels identified for the constituents detected above their respective reporting limit during soil vapor sampling.

C - Inhalation toxicity values are lacking for cis-1, 2-DCE. Given this lack of inhalation toxicity values, MDHSS recommends using screening levels for trans-1,2-DCE as a surrogate for the air screening levels for industrial worker exposure

NA = not available/not applicable

FIGURES

File Name: G:\37294\01\CAD\Drawings\37294-011.dwg Plot Date: June 7, 2012 Plot Time: 10:09 AM



SITE COORDINATES: 39°3'9"N 94°30'19"W



U.S.G.S. QUADRANGLE: KANSAS CITY, MO

HALEY & ALDRICH

REVITALIZING AUTO COMMUNITIES ENVIRONMENTAL
RESPONSE TRUST
FORMER LEEDS ASSEMBLY PLANT-NORTHERN PARCEL
SOUTH OF 6817 STADIUM DRIVE
KANSAS CITY, MISSOURI

PROJECT LOCUS

SCALE: 1:24000
JANUARY 2014

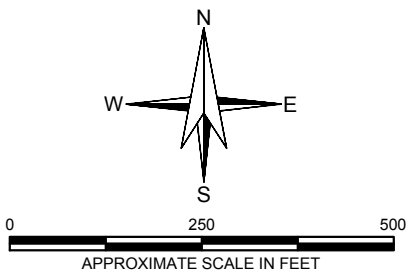
FIGURE 1

File Name: G:\37294\01\CAD\Drawings\37294-011_22_r1.dwg Plot Date: January 28, 2014 Attached Images: AERIAL; AERIAL; Site Plan (2) Layout: 5:49 PM



LEGEND	
---	PROPERTY LINE
+++++	RAIL ROAD TRACKS
+++++	FORMER RAIL ROAD TRACKS
----	RIVER / SWALE
-x-	FENCE

- NOTES**
1. PROPERTY BOUNDARIES AND SITE FEATURES DEVELOPED FROM TOPOGRAPHIC SURVEY PROVIDED BY LOVELACE & ASSOCIATES PROJECT NUMBER 1130, DATED 11-14-2011.
 2. DRUM DISCOVERY AREA DIGITIZED FROM MAPS PROVIDED BY THE CLIENT.



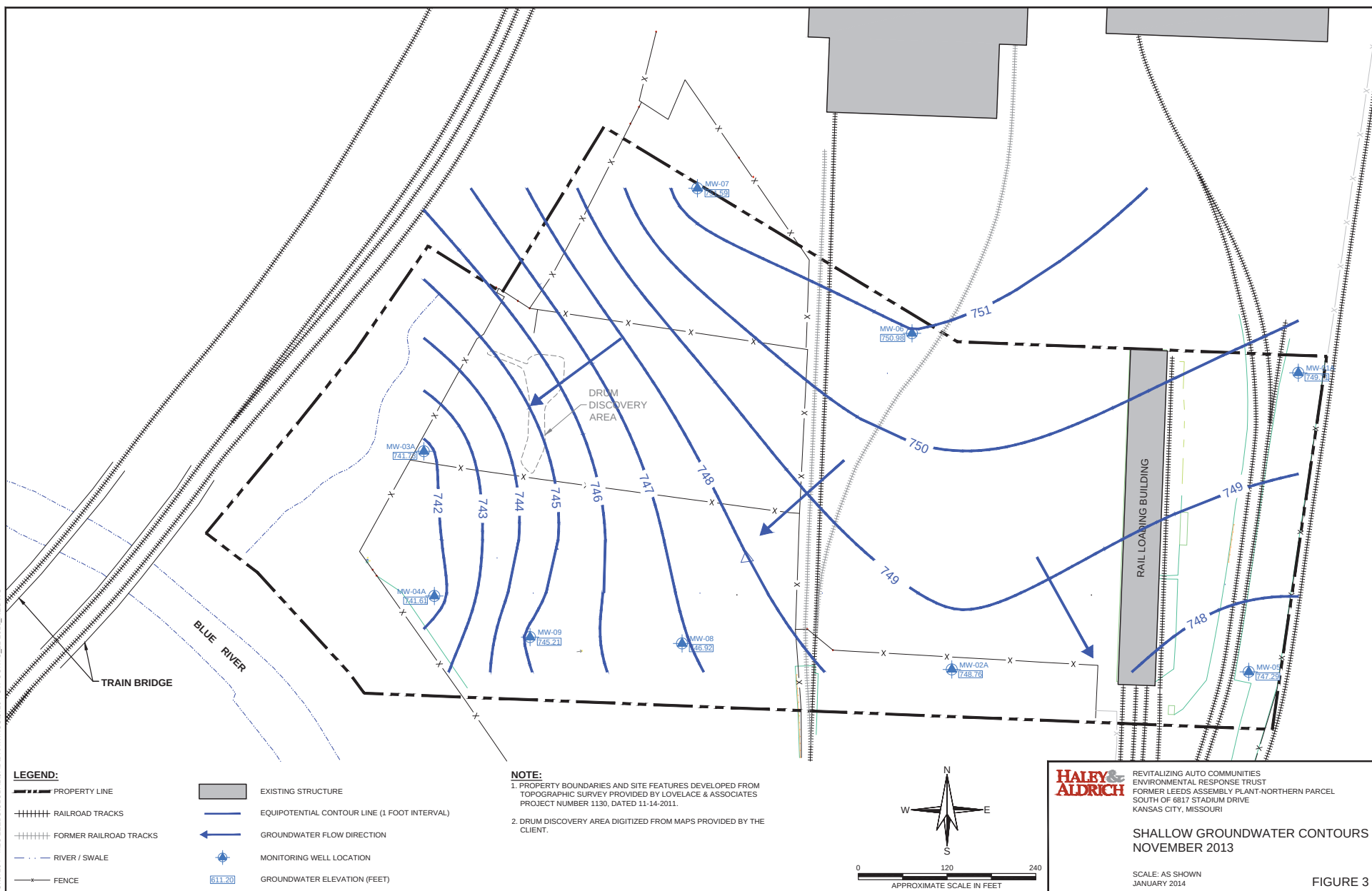
HALEY & ALDRICH REVITALIZING AUTO COMMUNITIES ENVIRONMENTAL RESPONSE TRUST
FORMER LEEDS ASSEMBLY PLANT-NORTHERN PARCEL
SOUTH OF 6817 STADIUM DRIVE
KANSAS CITY, MISSOURI

SITE PLAN

SCALE: AS SHOWN
JANUARY 2014

FIGURE 2

611.20
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6137294 - MLC LEEDS GLOBAL CAD DRAWINGS 57294-GW-CONT'S_11-2013_PLDWG

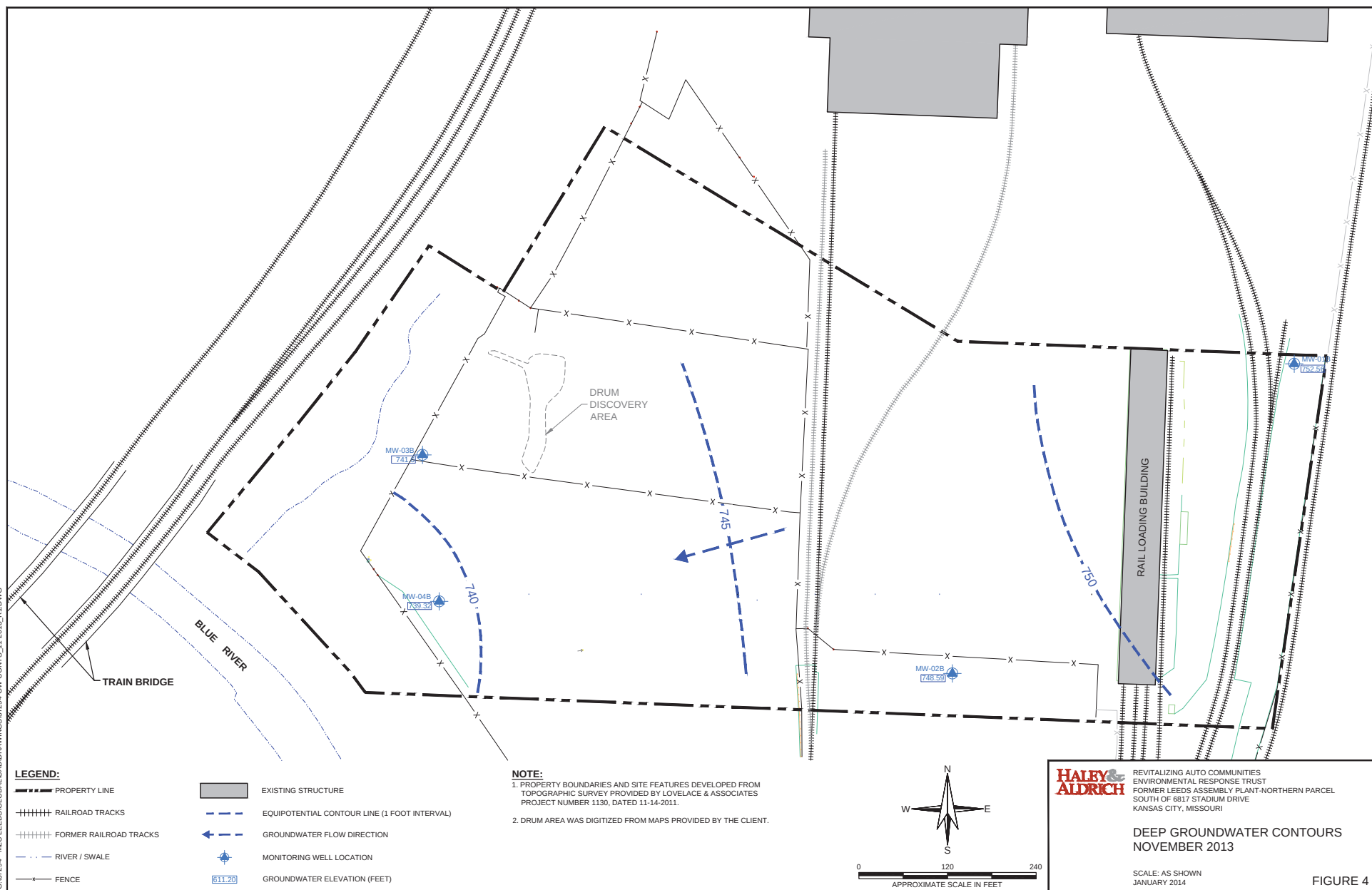
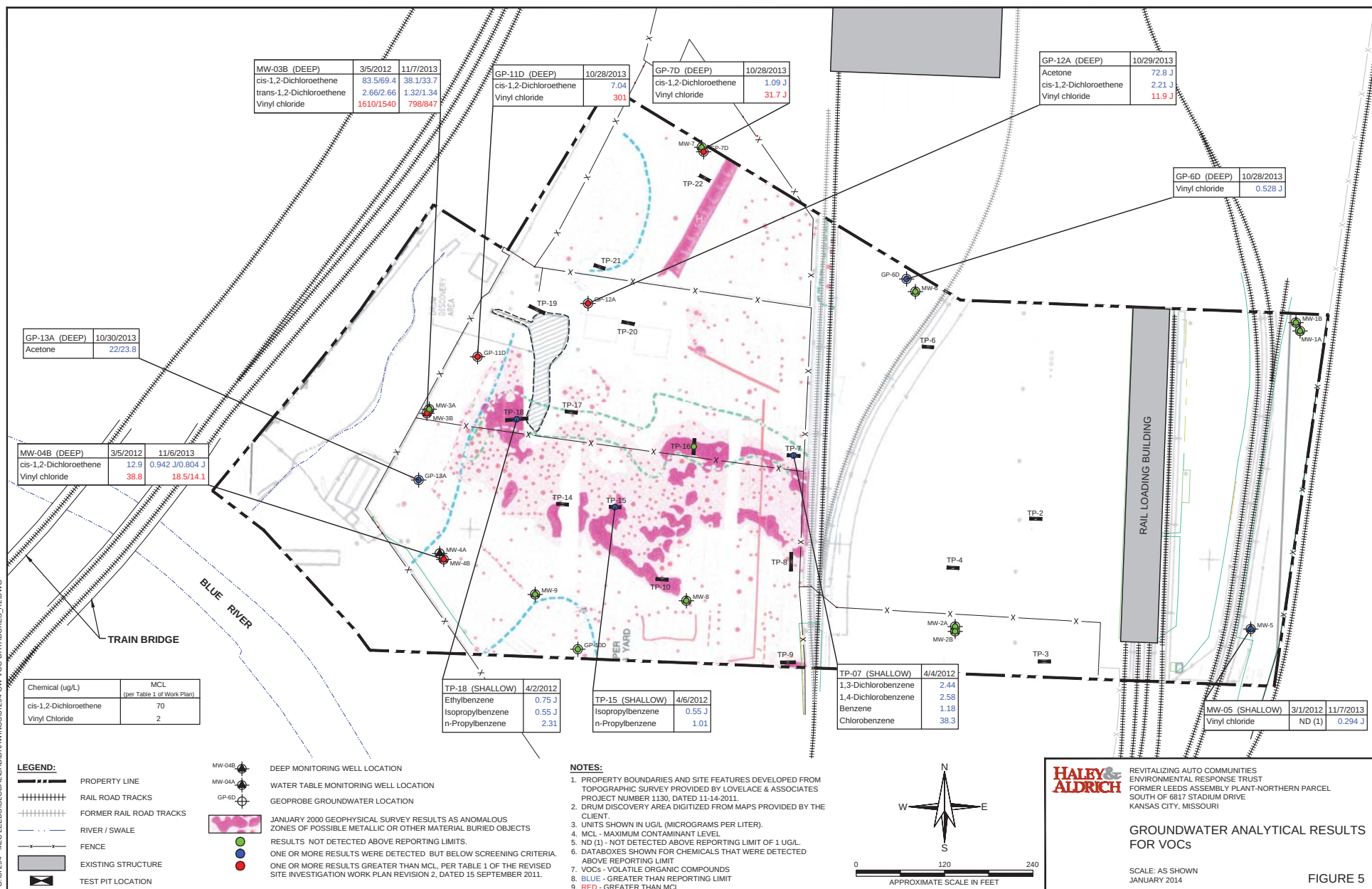
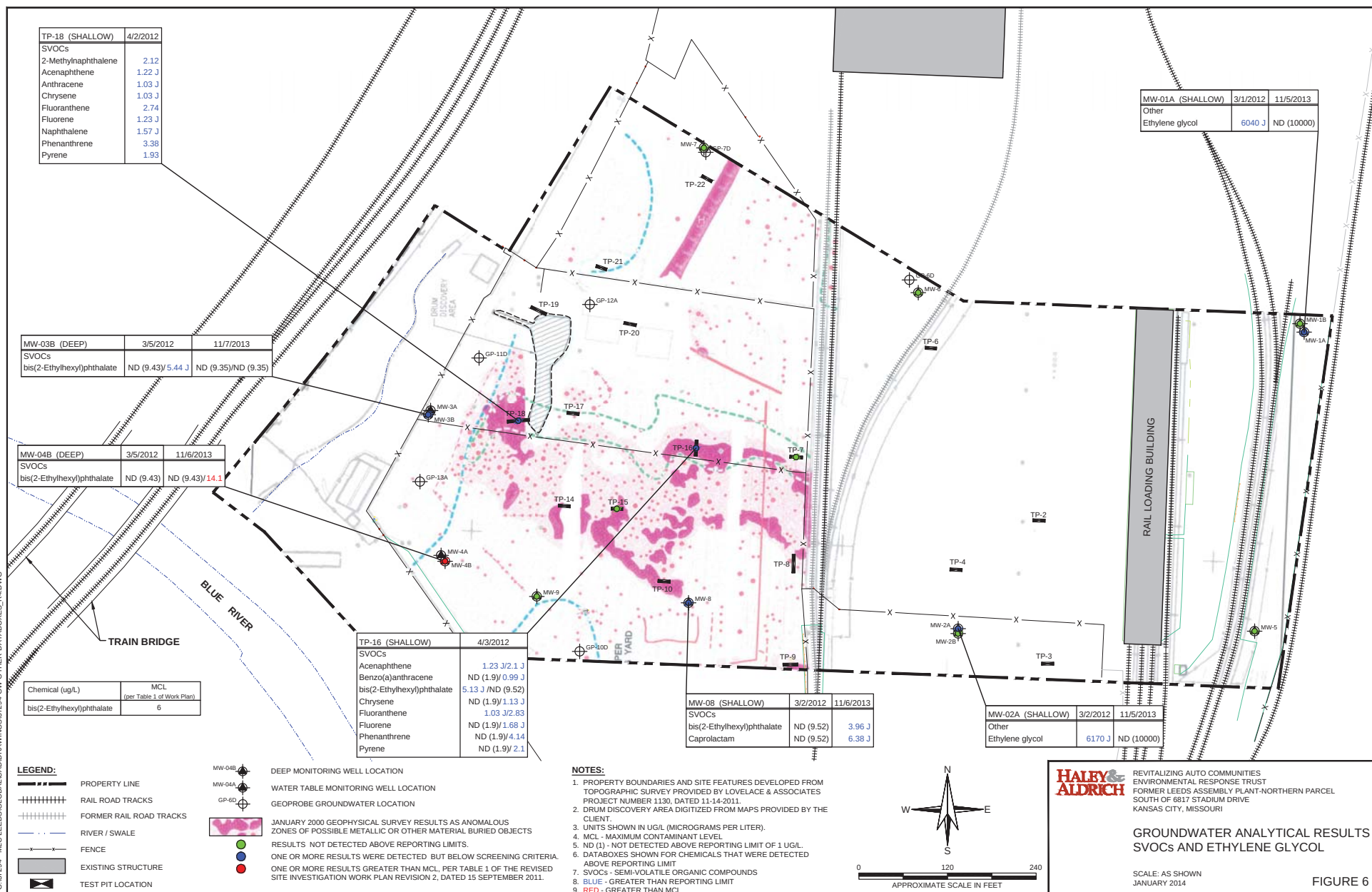
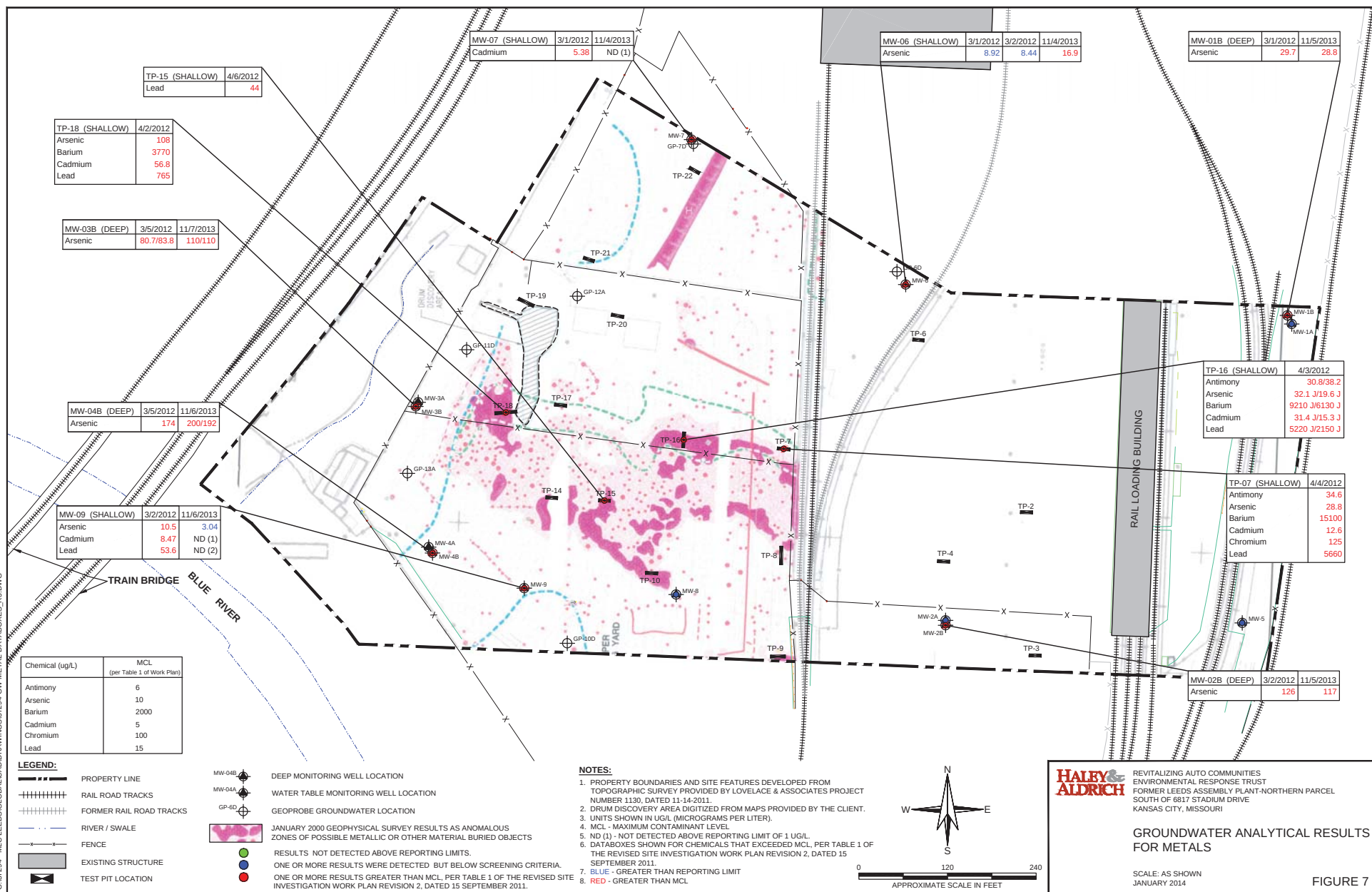


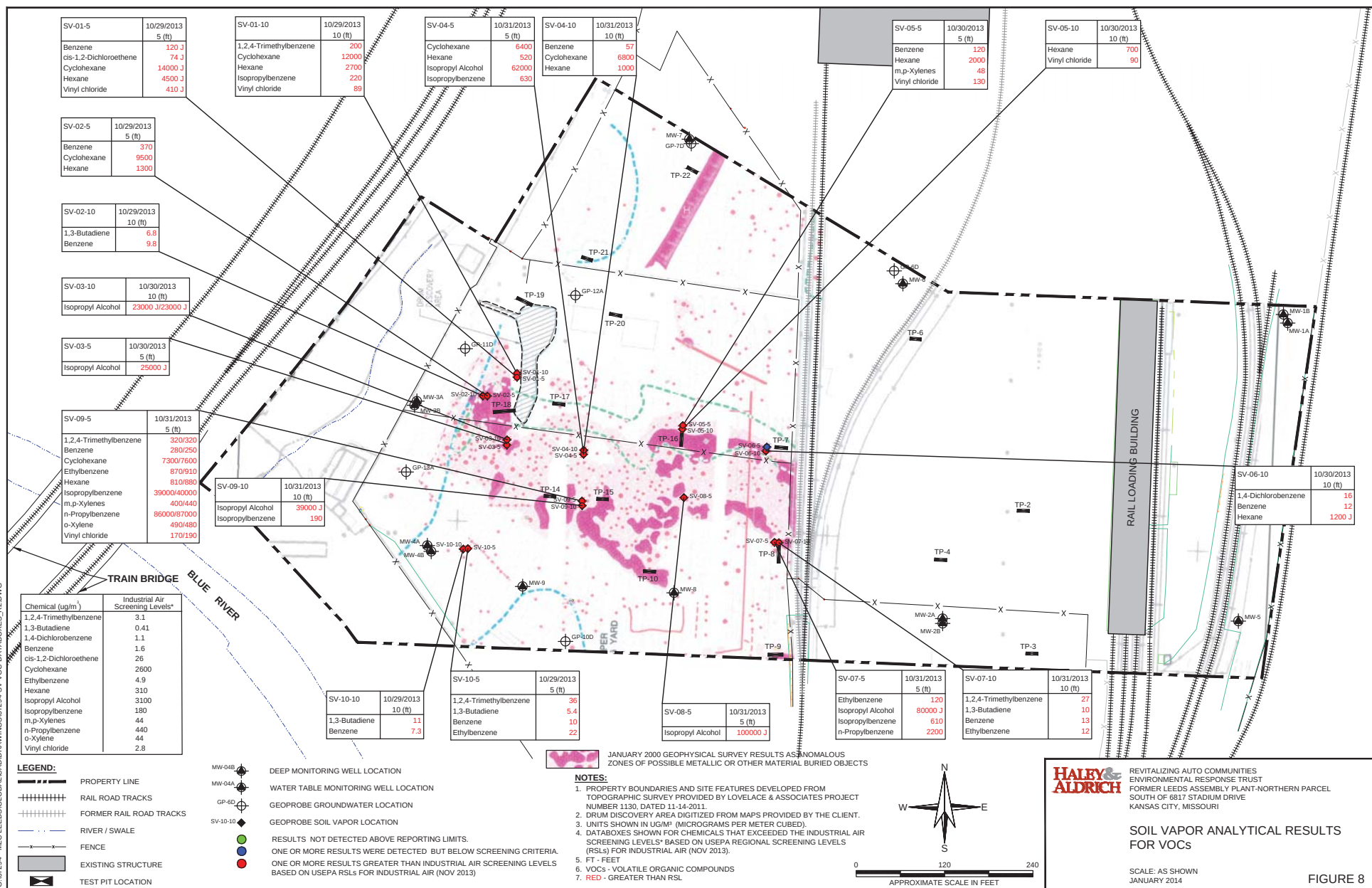
FIGURE 4

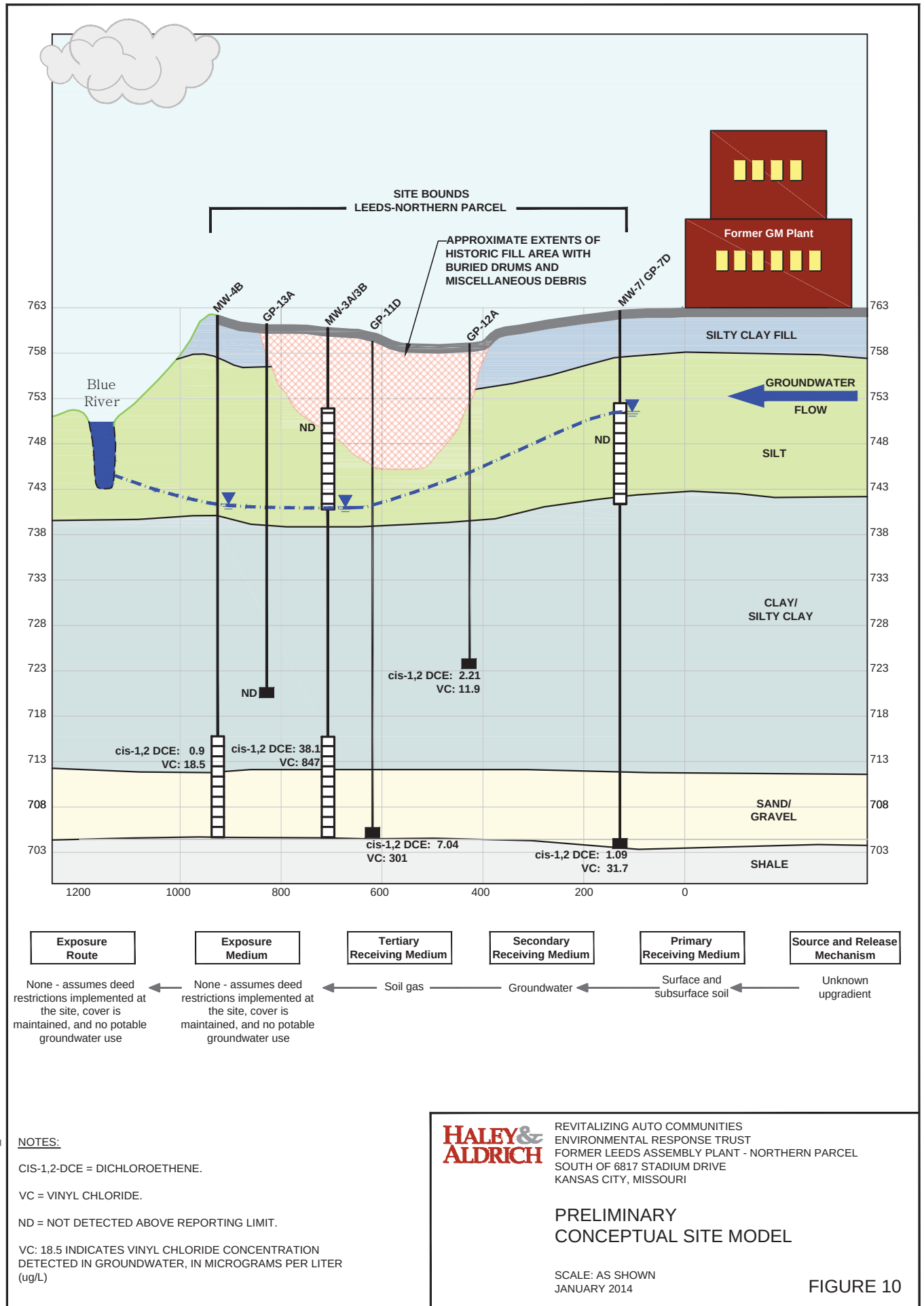




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APPENDIX A

PSA Environmental Documentation

- Sample Data Reports
- Monitoring Well Plugging Registration Record

Client: Haley & Aldrich, Inc.

Sample Data / Piezometer

Sampler: Aaron B., Robert T.

Site Rep.: John Knightly

Sheet

Site Name: Former Leeds Assembly Plant Site

Page 1 of 4

Location: Kansas City, MO

6620 Track Unit

Date: 10/28/2013

#	Location	Sample	Depth of	H2O	Surface	Succ.	Exp.	Comments	Time	
	I.D	Type	Sample/Installation	Level	Cover	Y/N		On-Site: 8:00	Start	Finish
1								Wait on Client	8:00	8:15
2								Health & Safety Meeting	8:15	8:45
3								Setup	8:45	9:00
4	GP-7D	WS	59.5'	--	AS	Y	1-EP,66.0'-PY	D/AB	9:00	11:30
5	GP-6D	WS	57.0'	--	CO	Y	1-EP,60.0'-PY	D/AB	11:35	12:40
6								Lunch	12:55	1:25
7								Wait on Client	1:25	1:45
8								Find Next Location	1:45	1:55
9	GP-10D	WS	56.5'	--	AS	Y	1-EP,60.0'-PY	D/AB	2:00	2:55
10	GP-11D	WS	57.2'	--	AS	Y	1-EP	D/AB	3:00	4:10
11	GP-12A	WS	25.0'	--	AS	N	1-EP	No water / Pull out	4:15	4:35
12	GP-12A	WS	35.0'	--	AS	Y	1-EP	Wait for Water / Leave In Over Night	4:35	5:45
13								Off-site		5:45
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SS=Soil Sample

LBPL=Large-Bore PVC Liner

CO=Concrete

SP=Sump Point

AB=Abandon

DSM=Disc.Macro Soil Sample

PL=PVC Liner

AS=Asphalt

S=5' Screen

L=Liter

DS=Discrete Soil Sample

CB=Catch Basket

DT=Dirt

R=5' Riser

V=Voa

WS=Water Sample

PY=Poly Tubing

GR=Gravel

H=H-Plug Cap

D=Decon

SV=Soil Vapor

EX=Extractor

GS=Grass

PZ=Piezometer

EP=Expendable Point

RF=Refusal

BR=Brick

ST=Shelby Tube

PSA Environmental

1625 Southeast Decker Street

Lee's Summit, MO 64081

1-816-525-7483

GPS: North

West

Client: Haley & Aldrich, Inc.

Sample Data / Piezometer

Sampler: Aaron B., Robert T.

Site Rep.: John Knightly

Sheet

Site Name: Former Leeds Assembly Plant, Inc.

Page 2 of 4

Location: Kansas City, MO

6620 Track Unit

Date: 10/29/2013

#	Location	Sample	Depth of	H2O	Surface	Succ.	Exp.	Comments	Time	
	I.D	Type	Sample/Installation	Level	Cover	Y/N		On-Site: 9:00	Start	Finish
1							Setup / Health & Safety Meeting		9:00	9:30
2	GP-12A	WS	35.0'	--	AS	Y	40.0'-PY	D/AB	9:30	10:15
3								Equipment Blank	10:15	10:30
4	GP-13A	WS	40.0'	--	AS	Y	1-EP	Leave overnight	10:30	11:30
5								Lunch	11:45	12:45
								Wait On Client	12:45	1:05
6	SV-10	SV	10.0'	NA	AS	Y	1-EP,13.0'-TT	D/AB	1:10	3:10
7	SV-10	SV	5.0'	NA	AS	Y	1-EP,8.0'-TT	D/AB	2:00	3:00
8	SV-2	SV	10.0'	NA	AS	Y	1-EP,13.0'-TT	D/AB	3:20	4:05
9	SV-2	SV	5.0'	NA	AS	Y	1-EP,8.0'-TT	D/AB	3:40	4:25
10	SV-1	SV	10.0'	NA	AS	Y	1-EP,13.0'-TT	D/AB	4:40	5:30
11	SV-1	SV	5.0'	NA	AS	Y	1-EP,8.0'-TT	D/AB	4:50	5:40
12								Load Up	5:40	5:55
13								Off-Site		6:00
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PSA Environmental

1625 Southeast Decker Street

Lee's Summit, MO 64081

1-816-525-7483

GPS: North

West

Client: Haley & Aldrich, Inc.

Sample Data / Piezometer

Sampler: Aaron B.

Site Rep.: John Knightly

Sheet

Site Name: Former Leeds Assembly Plant, Inc.

Page 3 of 4

Location: Kansas City, MO

6620 Track Unit

Date: 10/30/2013

#	Location	Sample	Depth of	H2O	Surface	Succ.	Exp.	Comments	Time	
	I.D	Type	Sample/Installation	Level	Cover	Y/N		On-Site: 8:50	Start	Finish
1							Setup / Health & Safety Meeting		8:50	9:00
2	SV-5	SV	10.0'	NA	AS	Y	1-EP,13.0'-TT	D/AB	9:15	10:38
3	SV-5	SV	5.0'	NA	AS	Y	1-EP,8.0'-TT	D/AB	9:30	10:30
4	SV-6	SV	10.0'	NA	AS	Y	1-EP,13.0'-TT	D/AB	10:45	12:10
5	SV-6	SV	5.0'	NA	AS	Y	1-EP,8.0'-TT	D/AB	10:55	12:05
								Rain Delay	12:10	12:45
6	GP-13A	WS	40.0'	-	AS	Y	45.0'-PY		12:45	1:00
7	GP-13A	AB	40.0'	NA	AS	Y		Pull/AB	1:10	1:20
8	SV-3	SV	10.0'	NA	AS	Y	2-EP,13.0'-TT	D/AB	2:00	3:10
9	SV-3	SV	5.0'	NA	AS	Y	1-EP,8.0'-TT	D/AB	2:25	3:15
10								Rain Delay	3:45	4:25
11								Off-site		4:25
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PSA Environmental

1625 Southeast Decker Street

Lee's Summit, MO 64081

1-816-525-7483

GPS: North

West

Client: Haley & Aldrich, Inc.

Sample Data / Piezometer

Sampler: Aaron B.

Site Rep.: John Knightly

Sheet

Site Name: Former Leeds Assembly Plant, Inc.

Page 4 of 4

Location: Kansas City, MO

6620 Track Unit

Date: 10/31/2013

#	Location	Sample	Depth of	H2O	Surface	Succ.	Exp.	Comments	Time	
	I.D	Type	Sample/Installation	Level	Cover	Y/N		On-Site: 9:00	Start	Finish
1							Setup / Health & Safety Meeting		9:00	9:15
2	SV-9	SV	10.0'	NA	AS	Y	1-EP,13.0'-TT	D/AB	9:15	11:00
3	SV-9	SV	5.0'	NA	AS	Y	1-EP, 8.0'-TT	D/AB	9:30	11:05
4	SV-4	SV	10.0'	NA	AS	Y	1-EP,13.0'-TT	D/AB	11:10	12:35
5	SV-4	SV	5.0'	NA	AS	Y	1-EP, 8.0'-TT	D/AB	11:15	12:30
	SV-8	SV	10.0'	NA	AS	N	1-EP	Pulled Water/AB	12:45	12:50
6	SV-8	SV	10.0'	NA	AS	N	1-EP	Pulled Water/AB	12:50	1:00
7	SV-8	SV	5.0'	NA	AS	Y	1-EP, 8.0'-TT	D/AB	1:15	2:30
8	SV-7	SV	10.0'	NA	AS	Y	1-EP,13.0'-TT	D/AB	2:50	4:30
9	SV-7	SV	5.0'	NA	AS	Y	1-EP, 8.0'-TT	D/AB	3:20	4:20
10							Load Up Tooling & Rig		4:25	4:40
11							Patch Holes		4:40	5:00
12							Dump D Water		5:00	5:15
13							Off-site			5:30
14										
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RF=Refusal

BR=Brick

ST=Shelby Tube

PSA Environmental

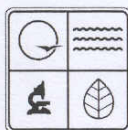
1625 Southeast Decker Street

Lee's Summit, MO 64081

1-816-525-7483

GPS: North

West



MISSOURI DEPARTMENT OF NATURAL
RESOURCES
GEOLOGICAL SURVEY PROGRAM
**MONITORING WELL PLUGGING
REGISTRATION RECORD**

OFFICE USE ONLY

REF NO. **481223**

C.R. NO.

DATE RECEIVED

CHECK NO.

TRANSMITTAL NO.

STATE WELL NUMBER

APPROVED BY

DATE APPROVED

ENTERED

Ph1

Ph2

Ph3

ROUTE

INFORMATION SUPPLIED BY WELL OR PUMP INSTALLATION CONTRACTOR

OWNER NAME <i>Revitalizing Arvo Communities Environment</i>		TELEPHONE NUMBER		VARIANCE NUMBER (IF APPLICABLE)	
OWNER ADDRESS <i>401 S. Old Woodward Ave. Suite #370</i>		CITY <i>Birmingham</i>	STATE <i>MI</i>	ZIP CODE <i>48009</i>	
ADDRESS OF WELL SITE <i>6817 Stadium Drive</i>		CITY <i>Kansas City</i>	STATE <i>MO</i>	ZIP CODE <i>64129</i>	
SITE NAME <i>Former Leeds Assembly Plant</i>		WELL NUMBER <i>-</i>		DATE	
LOCATION OF WELL LAT. <i>39° 03' 05.54"</i> LONG. <i>94° 30' 24.72"</i>		DRILL AREA COUNTY <i>Jackson</i>		SMALLEST ____ 1/4 ____ 1/4 ____ 1/4 LARGEST ____ 1/4 ____ 1/4 ____ 1/4 Sec. Township North Range ☐ East ☐ West	

PLUGGING INFORMATION

ORIGINAL DRILLER (IF KNOWN) <i>PSA Environmental</i>	DATE ORIGINALLY DRILLED <i>10-28-13</i>	STATIC WATER LEVEL <i>?</i>	DRILLER NOTES
---	--	--------------------------------	---------------

☐ MONITORING WELL		☐ SOIL BORING(S)		Boring Diameter: <i>1.5"</i> IN.	
DEPTH OF WELL ____ FT.	LENGTH OF RISER ____ FT.	QUANTITY	DEPTH	TYPE OF FILL MATERIAL ☐ Gravel ☐ Sand <i>N/A</i> ☐ Other	
SCREEN/RISER DIAMETER ____ IN.	WELL SCREEN AND RISER REMOVED? ☐ Yes ☐ No	<i>1</i>	<i>25'</i>	AMOUNT OF FILL USED <i>N/A</i> ☐ TONS ☐ CUBIC YARDS	
		<i>2</i>	<i>35'</i>		
		<i>1</i>	<i>40'</i>		
		<i>3</i>	<i>57'</i>		
PUMP AND SAMPLING EQUIPMENT REMOVED? ☐ Yes ☐ N/A ☐ No	CASING REMOVED? ☐ Yes ☐ N/A ☐ No	<i>1</i>	<i>59'</i>	DEPTH TO TOP OF FILL <i>N/A</i> FT.	
		TOTAL <i>8</i> BORING(S)	TOTAL <i>345</i> FT.		

GROUT INSTALLATION METHOD ☒ Gravity ☐ Tremie ☐ Excavation	GROUT MATERIAL USED Neat Cement Bentonite ☐ Hi-Early ☐ Slurry ☒ Granular ☐ Pellets ☐ Type 1 ☐ Chips ☐ Other	HOW MANY GALLONS OF WATER MIXED PER BAG OF CEMENT OR BENTONITE? <i>2 1/2</i> Gals. ☐ Hydrated to Saturation	TOTAL NUMBER OF BAGS OF GROUT USED <i>15</i> POUNDS OF GROUT PER BAG <i>50 lbs.</i>
DATE 1" WELL PLUGGED <i>-</i>	DATE LAST WELL PLUGGED <i>10-31-2013</i>	FINISHED SURFACE MATERIAL ☐ Soil ☒ Concrete ☒ Asphalt ☐ Other	SURFACE MATERIAL LENGTH <i>N/A</i> FT. IN.

REMARKS	REASON FOR ABANDONMENT <i>Grout Water Samples Taken For Analysis</i>
---------	---

I hereby certify that the monitoring well herein described was plugged in accordance with the Department of Natural Resources requirements for the plugging of wells.

SIGNATURE (PRIMARY CONTRACTOR) <i>John Knighzly</i>	SIGNATURE (CONTRACTOR) <i>Baron Butler</i>	PERMIT NUMBER <i>#004447m</i>	DATE <i>11/8/2013</i>
PERMIT NUMBER <i>#001993 m</i>	DATE <i>11/13/13</i>	SIGNATURE (APPRENTICE)	PERMIT NUMBER DATE

MO-780-2161 (1-12)

REMIT TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, DIVISION OF GEOLOGY AND LAND SURVEY
WELLHEAD PROTECTION SECTION, PO BOX 250, ROLLA, MO 65402 573-368-2165

ENCLOSE \$50 FEE WITH REGISTRATION RECORD WITHIN 60 DAYS AFTER WELL PLUGGING OR WITHIN 180 DAYS AFTER THE PLUGGING OF TEMPORARY WELLS

APPENDIX B

Risk-Based Screening Levels: Table 1 of *Workplan*

TABLE I

PRELIMINARY RISK-BASED SCREENING LEVELS FOR POTENTIAL CONSTITUENTS OF CONCERN
RACER TRUST - FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

Potential Constituent of Concern		CAS No.	Preliminary Risk-Based Screening Levels ^a	
			Industrial Soil (mg/kg)	MCL (µg/L)
Volatile Organic Compounds (VOC)				
	Acetone	67-64-1	6.30E+05	-
	Benzene	71-43-2	5.40E+00	5.00E+00
	Bromochloromethane	74-97-5	6.80E+02	-
	Bromodichloromethane	75-27-4	1.40E+00	8.00E+01
	Bromoform	75-25-2	2.20E+02	8.00E+01
	Bromomethane	74-83-9	3.20E+01	-
	2-Butanone	78-93-3	-	-
	Carbon disulfide	75-15-0	3.70E+03	-
	Carbon tetrachloride	56-23-5	3.00E+00	5.00E+00
	Chlorobenzene	108-90-7	1.40E+03	1.00E+02
	Chloroethane	75-00-3	-	-
	Chloroform	67-66-3	1.50E+00	8.00E+01
	Chloromethane	74-87-3	5.00E+02	-
	Cyclohexane	110-82-7	2.90E+04	-
	Dibromochloromethane	124-48-1	3.30E+00	8.00E+01
	1,2-Dibromo-3-chloropropane	96-12-8	6.90E-02	2.00E-01
	1,2-Dibromoethane	106-93-4	1.70E-01	5.00E-02
	1,2-Dichlorobenzene	95-50-1	9.80E+03	6.00E+02
	1,3-Dichlorobenzene	541-73-1	-	-
	1,4-Dichlorobenzene	106-46-7	1.20E+01	7.50E+01
	Dichlorodifluoromethane	75-71-8	4.00E+02	-
	1,1-Dichloroethane	75-34-3	1.70E+01	-
	1,2-Dichloroethane	107-06-2	2.20E+00	5.00E+00
	1,1-Dichloroethene	75-35-4	1.10E+03	7.00E+00
	cis-1,2-Dichloroethene	156-59-2	2.00E+03	7.00E+01
	trans-1,2-Dichloroethene	156-60-5	6.90E+02	1.00E+02
	1,2-Dichloropropane	78-87-5	4.70E+00	5.00E+00
	cis-1,3-Dichloropropene	10061-01-5	-	-
	trans-1,3-Dichloropropene	10061-02-6	-	-
	Ethylbenzene	100-41-4	2.70E+01	7.00E+02
	2-Hexanone	561-78-6	1.40E+03	-
	Isopropylbenzene	98-82-8	-	-
	Methyl acetate	79-20-9	1.00E+06	-
	Methylene chloride	75-09-02	5.30E+01	5.00E+00
	Methylcyclohexane	108-87-2	-	-
	4-Methyl-2-pentanone	108-10-1	5.30E+04	-
	Methyl tert-butyl ether	1634-04-4	2.20E+02	-
	Propyl benzene,n-	103-65-1	2.10E+04	-
	Styrene	100-42-5	3.60E+04	1.00E+02
	1,1,2,2-Tetrachloroethane	79-34-5	2.80E+00	-
	Tetrachloroethene	127-18-4	2.60E+00	5.00E+00
	Tetrahydrofuran	109-99-9	-	-
	Toluene	108-88-3	4.50E+04	1.00E+03
	1,2,4-Trichlorobenzene	120-82-1	9.90E+01	7.00E+01

TABLE I

PRELIMINARY RISK-BASED SCREENING LEVELS FOR POTENTIAL CONSTITUENTS OF CONCERN
RACER TRUST - FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

Potential Constituent of Concern	CAS No.	Preliminary Risk-Based Screening Levels ^a	
		Industrial Soil (mg/kg)	MCL (µg/L)
1,1,1-Trichloroethane	71-55-6	3.80E+04	2.00E+02
1,1,2-Trichloroethane	79-00-5	5.30E+00	5.00E+00
Trichloroethene	79-01-6	1.40E+01	5.00E+00
Trichlorofluoromethane	75-69-4	3.40E+03	-
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	-	-
Vinyl Chloride	75-01-4	1.70E+00	2.00E+00
Xylenes (total)	1330-20-7	2.70E+03	1.00E+04
Semi-Volatile Organic Compounds (SVOC)			
Acenaphthene	83-32-9	-	-
Acenaphthylene	208-96-8	-	-
Acetophenone	98-86-2	1.00E+05	-
Anthracene	120-12-7	-	-
Atrazine	1912-24-9	7.50E+00	3.00E+00
Benzaldehyde	100-52-7	1.00E+05	-
Benzo(a)anthracene	56-55-3	-	-
Benzo(b)fluoranthene	205-99-2	-	-
Benzo(k)fluoranthene	207-08-9	-	-
Benzo(g,h,i)perylene	191-24-2	-	-
Benzo(a)pyrene	50-32-8	-	-
1,1-Biphenyl	92-52-4	2.10E+02	-
4-Bromophenylphenyl ether	101-55-3	-	-
Butyl benzyl phthalate	85-68-7	9.10E+02	-
di-n-Butyl phthalate	87-74-2	-	-
Caprolactam	105-60-2	3.10E+05	-
Carbazole	86-74-8	-	-
4-Chloroaniline	106-47-8	8.60E+00	-
bis(2-Chloroethoxy)methane	111-91-1	1.80E+03	-
bis(2-Chloroethyl)ether	111-44-4	1.00E+00	-
bis(2-Chloroisopropyl)ether	108-60-1	-	-
4-Chloro-3-methylphenol	59-50-7	-	-
2-Chloronaphthalene	91-58-7	8.20E+04	-
2-Chlorophenol	95-57-8	5.10E+03	-
4-Chlorophenyl phenyl ether	7005-72-3	-	-
Chrysene	218-01-9	-	-
Dibenz(a,h)anthracene	53-70-3	-	-
Dibenzofuran	132-64-9	-	-
3,3-Dichlorobenzidine	91-94-1	3.80E+00	-
2,4-Dichlorophenol	120-83-2	1.80E+03	-
Diethylphthalate	84-66-2	4.90E+05	-
2,4-Dimethylphenol	105-67-9	1.20E+04	-
Dimethylphthalate	121-11-3	-	-
4,6-Dinitro-2-methylphenol	534-52-1	-	-
2,4-Dinitrophenol	51-28-5	1.20E+03	-
2,4-Dinitrotoluene	121-14-2	5.50E+00	-

TABLE I

PRELIMINARY RISK-BASED SCREENING LEVELS FOR POTENTIAL CONSTITUENTS OF CONCERN
RACER TRUST - FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

Potential Constituent of Concern	CAS No.	Preliminary Risk-Based Screening Levels ^a	
		Industrial Soil (mg/kg)	MCL (µg/L)
2,6-Dinitrotoluene	606-20-2	6.20E+02	-
bis(2-Ethylhexyl)phthalate	117-81-7	1.20E+02	6.00E+00
Fluoranthene	206-44-0	-	-
Fluorene	86-73-7	-	-
Hexachlorobenzene	118-74-1	1.10E+00	1.00E+00
Hexachlorobutadiene	87-68-3	2.20E+01	-
Hexachlorocyclopentadiene	77-47-4	3.70E+03	5.00E+01
Hexachloroethane	67-72-1	1.02E+02	-
Indeno(1,2,3-cd)pyrene	193-39-5	-	-
Isophorone	78-59-1	1.80E+03	-
2-Methylnaphthalene	91-57-6	-	-
2-Methylphenol	95-48-7	-	-
3/4-Methylphenol	106-44-5	-	-
Naphthalene	91-20-3	-	-
2-Nitroaniline	88-74-4	6.00E+03	-
3-Nitroaniline	99-09-2	-	-
4-Nitroaniline	100-01-6	8.60E+01	-
Nitrobenzene	98-95-3	2.40E+01	-
2-Nitrophenol	88-75-5	-	-
4-Nitrophenol	100-02-7	-	-
N-Nitroso-di-n-propylamine	621-64-7	2.50E-01	-
N-Nitrosodiphenylamine (diphenylamine)	86-30-6	3.50E+02	-
di-n-Octyl phthalate	117-84-0	-	-
Pentachlorophenol	87-86-5	2.70E+00	1.00E+00
Phenanthrene	85-01-8	-	-
Phenol	108-95-2	1.80E+05	-
Pyrene	129-00-0	-	-
2,4,5-Trichlorophenol	95-95-4	6.20E+04	-
2,4,6-Trichlorophenol	88-06-2	1.60E+02	-
Polychlorinated Biphenyls (PCBs)			
Aroclor 1016	12674-11-2	2.10E+01	-
Aroclor 1221	11104-28-2	5.40E-01	-
Aroclor 1232	11141-16-5	5.40E-01	-
Aroclor 1242	53469-21-9	7.40E-01	-
Aroclor 1248	12672-29-6	7.40E-01	-
Aroclor 1254	11097-69-1	7.40E-01	-
Aroclor 1260	11096-82-5	7.40E-01	-
Glycols			
Ethylene glycol	107-21-1	1.20E+06	-
Metals			
Antimony	7440-36-0	4.10E+02	6.00E+00
Arsenic	7440-38-2	1.60E+00	1.00E+01

TABLE I
PRELIMINARY RISK-BASED SCREENING LEVELS FOR POTENTIAL CONSTITUENTS OF CONCERN
RACER TRUST - FORMER LEEDS ASSEMBLY PLANT - NORTHERN PARCEL
KANSAS CITY, MISSOURI

Potential Constituent of Concern	CAS No.	Preliminary Risk-Based Screening Levels ^a	
		Industrial Soil (mg/kg)	MCL (µg/L)
Barium	7440-39-3	1.90E+05	2.00E+03
Beryllium ^b	7440-41-7	2.00E+03	4.00E+00
Cadmium	7440-43-9	8.00E+02	5.00E+00
Chromium ^b	7440-47-3	-	1.00E+02
Hexavalent Chromium ^b	18540-29-9	5.60E+00	-
Cobalt	7440-48-4	3.00E+02	-
Copper	7440-50-8	4.10E+04	1.30E+03
Cyanide (total) ^b	57-12-5	2.00E+04	2.00E+02
Lead	7439-92-1	8.00E+02	1.50E+01
Manganese	7439-96-5	2.30E+04	-
Mercury	7439-97-6	4.30E+01	2.00E+00
Nickel	7440-02-0	2.00E+04	-
Selenium	7782-49-2	5.10E+03	5.00E+01
Silver	7740-22-4	5.10E+03	-
Thallium	7440-28-0	1.00E+01	2.00E+00
Vanadium	7440-62-2	5.20E+03	-
Zinc	7440-66-6	3.10E+05	-

- Risk Screening Level (RSL) not provided for this parameter and exposure route. For screening purposes during investigation activities, the laboratory method detection and reporting limits will be used to evaluate the data.

^a As discussed in the Revised Workplan, Section 4.1, it is proposed that EPA's RSLs for Chemical Contaminants at Superfund Sites (EPA, 2011) be used as a preliminary screening tool. Future land use at the site is expected to remain industrial; therefore, the industrial RSLs for soil will be used. Maximum contaminant levels (MCLs) will be used as conservative screening levels for groundwater.

^b These metals required for initial sampling of all newly installed monitoring wells and for soil samples. Results may be reviewed and need to further analyze for these parameters can be adjusted, in conjunction with RACER and MDNR.

APPENDIX C

TestAmerica Laboratory Analytical Reports

(provided in separate file for e-copy submittal)

APPENDIX D

Data Usability Summary Reports

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490392351

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Organic Data Review (EPA 540-R-08-01) and/or
USEPA National Functional Guidelines for Low Concentration Organic Data Review (EPA 540-R-00-006)

and method protocol criteria where applicable as prescribed by "Test Methods for Evaluating Solid Waste", SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID
GP-6D-GW-001
GP-7D-GW-001
GP-10D-GW-001
GP-11D-GW-001
GP-12A-GW-001
GP-13A-GW-001
GP-13A-GW-002
EB-102913
TRIP BLANK-103013

Project Samples were analyzed according to the following analytical methods

	Parameter	Analytical Method	Holding Time Criteria
1.	VOCs	EPA 8260B/624	14 days

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed

- Holding Times
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Field Duplicate Sample Analysis
- Sample Data Reporting Format
- Data Qualifiers
- Summary

Preservation and Holding Times

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group, with the following exception(s):

During the analysis of VOCs (EPA Method 8260B) preservation and/or technical holding times were exceeded for project samples shown below. Sample results should be qualified according to the actions specified in the following table:

Lab ID	Sample ID	Matrix	Action
490-39235-3	GP-10D-GW-001	WG	See Action #1 Below
490-39235-5	GP-12A-GW-001	WG	See Action #1 Below
490-39235-1	GP-6D-GW-001	WG	See Action #1 Below
490-39235-2	GP-7D-GW-001	WG	See Action #1 Below

Action #1

Samples received with headspace; positive results are qualified "J", estimated and non-detected analytes as "UJ", estimated reporting limit.

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490392351

Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is less than or equal to 10 times (10X) the amount in any blank for metals and the common organic laboratory contaminants (methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters), or 5 times (5X) the amount for other target compounds. Target compounds were not detected in associated blank samples (trip, equipment, method) prepared and analyzed concurrently with the project samples, with the following exception(s):

Blank	Target Analyte(s)	Concn.	Affected Sample(s)	Flag sample results with a "U" if < to this value
EB-102913	Carbon disulfide	0.418 ug/L	All Project Samples	2.09 ug/L

System Monitoring Compound Recoveries

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. No qualification of the data is recommended.

Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria, with the following exception(s):

LCS ID / Project Sample MS	Type	Target Analyte(s)	%R Criteria	%R	%RPD	Affected Sample(s)
LCS	LCS	Trichlorofluoromethane (Freon 11)	65 - 124	63.83	3	GP-6D-GW-001 GP-7D-GW-001 GP-10D-GW-001 GP-11D-GW-001 GP-13A-GW-001 EB-102913 TRIP BLANK-103013

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490392351

Action:

If the LCS %R is greater than the upper acceptance limit, associated target analyte positive results are qualified "J" and non-detects should not be qualified. If the LCS %R is less than the lower acceptance limit associated target analyte positive results are qualified "J" and non-detects are qualified "R". If the MS/MSD is from a project sample and the %R greater than the upper acceptance limit, associated target analyte positive results are qualified "J" and non-detects should not be qualified. If the MS/MSD %R is >10%, but less than the lower acceptance limit, associated analyte positive results are qualified "J" and non-detects are qualified "UJ". If the MS/MSD %R is less than 10% associated target analyte positive results are qualified "J" and non-detects are qualified "R". MS/MSD qualifiers are only applied to affected samples of the same matrix. If the MS/MSD is a LAB sample do not qualify project samples.

Field Duplicate Sample Analysis

The overall variability attributable to the sampling procedure, sample matrix, and laboratory procedures, was evaluated by assessing the relative percent difference (RPD) data from field duplicate samples. All calculated RPD values were within matrix specific data quality objectives. No qualification of the data is recommended.

Sample Data Reporting Format

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

Data Qualifiers

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

Summary

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490394371 and 490394372

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Inorganic Data Review (EPA 540-R-04-004)
- USEPA National Functional Guidelines for Organic Data Review (EPA 540-R-08-01) and/or
USEPA National Functional Guidelines for Low Concentration Organic Data Review (EPA 540-R-00-006)

and method protocol criteria where applicable as prescribed by "Test Methods for Evaluating Solid Waste", SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID
MW-06-GW-001
MW-06-GW-001
MW-07-GW-001
TRIP BLANK-110413

Project Samples were analyzed according to the following analytical methods

	Parameter	Analytical Method	Holding Time Criteria
1.	Dissolved Gases in Water	RSK 175M	7 days
2.	Carbon Dioxide	SM4500-CO2-C	ASAP (24 hr)
3.	ICP/MS Metals	EPA 6020/200.8	180 days
4.	Chromium VI (Hexavalent Chromium)	EPA 7196A/7199	24 hours
5.	Mercury	EPA 7470A	28 days
6.	Glycols	EPA 8015B	14 days
7.	PCBs	EPA 8082/608	7 days ext/40 days analysis
8.	Cyanide, Total	EPA 9012B	14 days
9.	Sulfide, Total	EPA 376.2	7 days
10.	Chloride and Sulfate	SW9056A	28 Days
11.	Organic Carbon, Total (TOC)	EPA 9060	28 days
12.	VOCs	EPA 8260B/624	14 days
13.	SVOCs (BNAs)	EPA 8270C	14 days ext/40 days analysis

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed

- Holding Times
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Internal Standard Recoveries
- Target Compound Identification
- Sample Data Reporting Format
- Data Qualifiers
- Summary

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490394371 and 490394372

Preservation and Holding Times

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

GC/MS Instrument Performance Check

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

Initial Calibration Procedures

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

Continuing Calibration Procedures

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is less than or equal to 10 times (10X) the amount in any blank for metals and the common organic laboratory contaminants (methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters), or 5 times (5X) the amount for other target compounds. Target compounds were not detected in associated blank samples (trip, equipment, method) prepared and analyzed concurrently with the project samples, with the following exception(s):

Blank	Target Analyte(s)	Concn.	Affected Sample(s)	Flag sample results with a "U" if < to this value
TRIP BLANK-110413	Methylene chloride	0.469 ug/L	All Project Samples	4.69 ug/L
	Trichloroethene	0.366 ug/L		1.83 ug/L

Blank	Target Analyte(s)	Concn.	Affected Sample(s)	Flag sample results with a "U" if < to this value
Method Blank	Chromium, Total	0.001173 mg/L	MW-06-GW-001	0.01173 mg/L
490-121808	Vanadium, Total	0.001153 mg/L	MW-07-GW-001	0.01153 mg/L

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490394371 and 490394372

System Monitoring Compound Recoveries

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. No qualification of the data is recommended.

Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria. No qualification of the data is recommended.

Internal Standard Recoveries

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and – 50% of the corresponding CCV standard. No qualification of the data is recommended.

Target Compound Identification

GC/MS qualitative analysis for organic parameters was performed to remove mis-identifications of the target compounds. The relative retention times (RRT) of all reported target compounds were within +/- 0.06 RRT units of the associated calibration standard RRT, and all ions present in the reference standard spectrum at a relative intensity greater than 10 percent were also present in the sample spectrum. No qualification of the data is recommended.

Sample Data Reporting Format

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

Data Qualifiers

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

Summary

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490395361 and 490395362

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Inorganic Data Review (EPA 540-R-04-004)
- USEPA National Functional Guidelines for Organic Data Review (EPA 540-R-08-01) and/or
USEPA National Functional Guidelines for Low Concentration Organic Data Review (EPA 540-R-00-006)

and method protocol criteria where applicable as prescribed by "Test Methods for Evaluating Solid Waste", SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID
MW-01A-GW-001
MW-01A-GW-001
MW-01B-GW-001
MW-01B-GW-001
MW-02A-GW-001
MW-02A-GW-001
MW-02B-GW-001
TRIP BLANK-110513

Project Samples were analyzed according to the following analytical methods

	Parameter	Analytical Method	Holding Time Criteria
1.	Dissolved Gases in Water	RSK 175M	7 days
2.	Carbon Dioxide	SM4500-CO2-C	ASAP (15 min)
3.	ICP/MS Metals	EPA 6020/200.8	180 days
4.	Chromium VI (Hexavalent Chromium)	EPA 7196A/7199	24 hours
5.	Mercury	EPA 7470A	28 days
6.	Glycols	EPA 8015B	14 days
7.	PCBs	EPA 8082/608	7 days ext/40 days analysis
8.	Cyanide, Total	EPA 9012B	14 days
9.	Sulfide, Total	EPA 376.2	7 days
10.	Chloride and Sulfate	SW9056A	28 Days
11.	Organic Carbon, Total (TOC)	EPA 9060	28 days
12.	VOCs	EPA 8260B/624	14 days
13.	SVOCs (BNAs)	EPA 8270C/625	7 days ext/40 days analysis

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed

- Holding Times
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Internal Standard Recoveries
- Target Compound Identification
- Sample Data Reporting Format
- Data Qualifiers
- Summary

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490395361 and 490395362

Preservation and Holding Times

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group, with the following exception(s):

During the analysis of Metals (EPA Methods 6010B/6020/7470A/7471A) preservation and/or technical holding times were exceeded for project samples shown below. Sample results should be qualified according to the actions specified in the following table:

Lab ID	Sample ID	Matrix	Action
490-39536-3	MW-01B-GW-001	AQ	See Action Below

Action:

Cr(VI): Positive results are qualified "J", estimated and non-detected analytes as "UJ", estimated detection limit.

GC/MS Instrument Performance Check

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

Initial Calibration Procedures

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

Continuing Calibration Procedures

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is less than or equal to 10 times (10X) the amount in any blank for metals and the common organic laboratory contaminants (methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters), or 5 times (5X) the amount for other target compounds. Target compounds were not detected in associated blank samples (trip, equipment, method) prepared and analyzed concurrently with the project samples, with the following exception(s):

Blank	Target Analyte(s)	Concn.	Affected Sample(s)	Flag sample results with a "U" if < to this value
TRIP BLANK-110513	Methylene chloride	0.503	All Project Samples	5.03

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490395361 and 490395362

System Monitoring Compound Recoveries

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. No qualification of the data is recommended.

Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria. No qualification of the data is recommended.

Internal Standard Recoveries

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and – 50% of the corresponding CCV standard. No qualification of the data is recommended.

Target Compound Identification

GC/MS qualitative analysis for organic parameters was performed to remove mis-identifications of the target compounds. The relative retention times (RRT) of all reported target compounds were within +/- 0.06 RRT units of the associated calibration standard RRT, and all ions present in the reference standard spectrum at a relative intensity greater than 10 percent were also present in the sample spectrum. No qualification of the data is recommended.

Sample Data Reporting Format

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

Data Qualifiers

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

Summary

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490396861 and 490396862

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Inorganic Data Review (EPA 540-R-04-004)
- USEPA National Functional Guidelines for Organic Data Review (EPA 540-R-08-01) and/or
USEPA National Functional Guidelines for Low Concentration Organic Data Review (EPA 540-R-00-006)

and method protocol criteria where applicable as prescribed by "Test Methods for Evaluating Solid Waste", SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID
MW-04B-GW-001
MW-04B-GW-002
MW-08-GW-001
MW-08-GW-001
MW-09-GW-001
MW-09-GW-001
TRIP BLANK-110613

Project Samples were analyzed according to the following analytical methods

	Parameter	Analytical Method	Holding Time Criteria
1.	Dissolved Gases in Water	RSK 175M	7 days
2.	Carbon dioxide	SM4500-CO2-C	ASAP (15 min)
3.	ICP/MS Metals	EPA 6020/200.8	180 days
4.	Chromium VI (Hexavalent Chromium)	EPA 7196A/7199	24 hours
5.	Mercury	EPA 7470A	28 days
6.	Glycols	EPA 8015B	14 days
7.	PCBs	EPA 8082/608	7 days ext/40 days analysis
8.	Cyanide, Total	EPA 9012B	14 days
9.	Sulfide, Total	EPA 376.2	7 days
10.	Chloride and Sulfate	SW9056A	28 Days
11.	Organic Carbon, Total (TOC)	EPA 9060	28 days
12.	VOCs	EPA 8260B/624	14 days
13.	SVOCs (BNAs)	EPA 8270C/625	7 days ext/40 days analysis

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed

- Holding Times
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Internal Standard Recoveries
- Field Duplicate Sample Analysis
- Target Compound Identification
- Sample Data Reporting Format
- Data Qualifiers
- Summary

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490396861 and 490396862

Preservation and Holding Times

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

GC/MS Instrument Performance Check

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

Initial Calibration Procedures

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

Continuing Calibration Procedures

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is less than or equal to 10 times (10X) the amount in any blank for metals and the common organic laboratory contaminants (methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters), or 5 times (5X) the amount for other target compounds. Target compounds were not detected in associated blank samples (trip, equipment, method) prepared and analyzed concurrently with the project samples, with the following exception(s):

Blank	Target Analyte(s)	Concn.	Affected Sample(s)	Flag sample results with a "U" if < to this value
TRIP BLANK-110613	Methylene chloride	0.478 ug/L	All Project Samples	4.78 ug/L
Method Blank	Chloroform	0.263 ug/L	All Project Samples	1.32 ug/L

Blank	Target Analyte(s)	Concn.	Affected Sample(s)	Flag sample results with a "U" if < to this value
Method Blank 490-120922	Chromium, Total	0.00054 mg/L	MW-04B-GW-001 MW-04B-GW-002 MW-08-GW-001 MW-09-GW-001	0.0054 mg/L

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490396861 and 490396862

System Monitoring Compound Recoveries

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. No qualification of the data is recommended.

Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria, with the following exception(s):

LCS ID / Project Sample MS	Type	Target Analyte(s)	%R	Affected Sample(s)	Positive Results	Non Detect (ND)
LCS 120261	LCS	Nitrogen, Nitrite (NO ₂)	127	MW-04B-GW-001 MW-04B-GW-002 MW-08-GW-001 MW-09-GW-001	J	

Internal Standard Recoveries

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and – 50% of the corresponding CCV standard. No qualification of the data is recommended.

Field Duplicate Sample Analysis

The overall variability attributable to the sampling procedure, sample matrix, and laboratory procedures, was evaluated by assessing the relative percent difference (RPD) data from field duplicate samples. All calculated RPD values were within matrix specific data quality objectives. No qualification the data is recommended.

Target Compound Identification

GC/MS qualitative analysis for organic parameters was performed to remove mis-identifications of the target compounds. The relative retention times (RRT) of all reported target compounds were within +/- 0.06 RRT units of the associated calibration standard RRT, and all ions present in the reference standard spectrum at a relative intensity greater than 10 percent were also present in the sample spectrum. No qualification of the data is recommended.

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490396861 and 490396862

Sample Data Reporting Format

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

Data Qualifiers

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

Summary

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

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Date: 12/2/2013

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490398371 and 490398372

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Inorganic Data Review (EPA 540-R-04-004)
- USEPA National Functional Guidelines for Organic Data Review (EPA 540-R-08-01) and/or
USEPA National Functional Guidelines for Low Concentration Organic Data Review (EPA 540-R-00-006)

and method protocol criteria where applicable as prescribed by "Test Methods for Evaluating Solid Waste", SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID
EQUIPMENT BLANK-110713
MW-03B-GW-001
MW-03B-GW-001
MW-03B-GW-002
MW-03B-GW-002
MW-05-GW-001
FIELD BLANK-110713
FIELD BLANK-110713
EQUIPMENT BLANK-110713
MW-03A-GW-001
TRIP BLANK-110713

Project Samples were analyzed according to the following analytical methods

	Parameter	Analytical Method	Holding Time Criteria
1.	Dissolved Gases in Water	RSK 175M	7 days
2.	Carbon dioxide	SM4500-CO2-C	ASAP (15 min)
3.	ICP/MS Metals	EPA 6020/200.8	180 days
4.	Chromium VI (Hexavalent Chromium)	EPA 7196A/7199	24 hours
5.	Mercury	EPA 7470A	28 days
6.	Glycols	EPA 8015B	14 days
7.	PCBs	EPA 8082/608	7 days ext/40 days analysis
8.	Cyanide, Total	EPA 9012B	14 days
9.	Sulfide, Total	EPA 376.2	7 days
10.	Chloride and Sulfate	SW9056A	28 Days
11.	Organic Carbon, Total (TOC)	EPA 9060	28 days
12.	Ignitability (Flashpoint)	EPA 1010	14 days
13.	pH	EPA 150.1	ASAP (24 hours)
14.	VOCs	EPA 8260B/624	14 days
15.	SVOCs (BNAs)	EPA 8270C/625	7 days ext/40 days analysis

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed

- Holding Times
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Internal Standard Recoveries
- Field Duplicate Sample Analysis
- Target Compound Identification
- Sample Data Reporting Format
- Data Qualifiers
- Summary

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490398371 and 490398372

Preservation and Holding Times

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

GC/MS Instrument Performance Check

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

Initial Calibration Procedures

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

Continuing Calibration Procedures

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is less than or equal to 10 times (10X) the amount in any blank for metals and the common organic laboratory contaminants (methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters), or 5 times (5X) the amount for other target compounds. Target compounds were not detected in associated blank samples (trip, equipment, method) prepared and analyzed concurrently with the project samples, with the following exception(s):

Blank	Target Analyte(s)	Concn.	Affected Sample(s)	Flag sample results with a "U" if < to this value
FIELD BLANK-110713	bis(2-Ethylhexyl)phthalate	37.3 ug/L	All Project Samples	373 ug/L

System Monitoring Compound Recoveries

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. No qualification of the data is recommended.

Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria, with the following exception(s):

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490398371 and 490398372

LCS ID / Project Sample MS	Type	Target Analyte(s)	%R Criteria	%R	%RPD	Affected Sample(s)
490-121926/2-A	LCS	Benzaldehyde	34 - 120	150		MW-03B-GW-001 MW-03B-GW-002 MW-05-GW-001 FIELD BLANK-110713 EQUIPMENT BLANK-

Action:

If the LCS %R is greater than the upper acceptance limit, associated target analyte positive results are qualified "J" and non-detects should not be qualified. If the LCS %R is less than the lower acceptance limit associated target analyte positive results are qualified "J" and non-detects are qualified "R". If the MS/MSD is from a project sample and the %R greater than the upper acceptance limit, associated target analyte positive results are qualified "J" and non-detects should not be qualified. If the MS/MSD %R is >10%, but less than the lower acceptance limit, associated analyte positive results are qualified "J" and non-detects are qualified "UJ". If the MS/MSD %R is less than 10% associated target analyte positive results are qualified "J" and non-detects are qualified "R". MS/MSD qualifiers are only applied to affected samples of the same matrix. If the MS/MSD is a LAB sample do not qualify project samples.

LCS ID / Project Sample MS	Type	Target Analyte(s)	%R	Affected Sample(s)	Positive Results	Non Detect (ND)
MW-03B-GW-001	MS	Silver, Total	63	All Project Samples	J	UJ
	MS	Chromium, hex	30		J	UJ
	MS	Cyanide, Total	58		J	UJ

Internal Standard Recoveries

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and – 50% of the corresponding CCV standard. No qualification of the data is recommended.

Field Duplicate Sample Analysis

The overall variability attributable to the sampling procedure, sample matrix, and laboratory procedures, was evaluated by assessing the relative percent difference (RPD) data from field duplicate samples. All calculated RPD values were within matrix specific data quality objectives, with the exception of results qualified "J" as shown in the table(s) below:

Target Analyte(s)	Original Sample ID.	FD Sample ID.	%RPD	Flag Original and FD sample results with:
	MW-03B-GW-001	MW-03B-GW-002		
Ethene	0.391 mg/L	0.624 mg/L	46%	J
Methane	0.552 mg/L	0.902 mg/L	48%	J

Action:

If the sample matrix is solid and the %RPD is greater than 50%, the original sample results are qualified "J". If the sample matrix is water or air and the %RPD is greater than 35%, the original sample results are qualified "J".

Data Usability Summary Report (DUSR)
Former Leeds Assembly Plant
Analytical Laboratory: TestAmerica, Inc. - Nashville, TN
Sample Delivery Group # 490398371 and 490398372

Target Compound Identification

GC/MS qualitative analysis for organic parameters was performed to remove mis-identifications of the target compounds. The relative retention times (RRT) of all reported target compounds were within +/- 0.06 RRT units of the associated calibration standard RRT, and all ions present in the reference standard spectrum at a relative intensity greater than 10 percent were also present in the sample spectrum. No qualification of the data is recommended.

Sample Data Reporting Format

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

Data Qualifiers

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

Summary

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

Data Usability Summary Report (DUSR)
Leeds North Parcel
Analytical Laboratory: Eurofins Air Toxics, Inc. - Folsom, CA
Sample Delivery Group # 1311079a and 1311079b

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- Compendium Method TO-15, Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (EPA/625/R-96/010b).

and method protocol criteria where applicable as prescribed by "Test Methods for Evaluating Solid Waste", SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID	Sample ID
SV-1-5-001	SV-7-5-001
SV-1-10-001	SV-7-10-001
SV-2-5-001	SV-8-5-001
SV-2-10-001	SV-9-5-001
SV-3-5-001	SV-9-5-002
SV-3-10-001	SV-9-10-001
SV-3-10-002	SV-10-5-001
SV-4-5-001	SV-10-10-001
SV-4-10-001	EQ (EQUIPMENT BLANK)
SV-5-5-001	
SV-5-10-001	
SV-6-5-001	
SV-6-10-001	

Project Samples were analyzed according to the following analytical methods

	Parameter	Analytical Method	Holding Time Criteria
1.	VOCs	EPA TO-15	30 days
2.	Aliphatic and Aromatic Hydrocarbons	MODIFIED EPA TO-15	30 days

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed

- Holding Times
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Field Duplicate Sample Analysis
- Sample Data Reporting Format
- Data Qualifiers
- Summary

Preservation and Holding Times

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

Continuing Calibration Procedures

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols, with the following exception(s):

Data Usability Summary Report (DUSR)
Leeds North Parcel
Analytical Laboratory: Eurofins Air Toxics, Inc. - Folsom, CA
Sample Delivery Group # 1311079a and 1311079b

During the analysis of VOCs (SW846 8260B), the continuing calibration verification (CCV) standards for the following target compound(s) exhibited a percent drift (%D) greater than the acceptance criteria of 25% and/or a RRF less than 0.05:

Inst.	Date / Time	Target Analyte(s)	%R	Remark	Affected Sample(s)	Corrective Action
	11/18/13 09:44	alpha-Chlorotoluene	133	High bias	SV-2-10-001	See Action #1 Below
		1,2,4-Trichlorobenzene	138	High bias	SV-3-10-002	See Action #1 Below
		Hexachlorobutadiene	133	High bias	SV-5-5-001 SV-5-10-001 SV-6-5-001	See Action #1 Below

Action #1

Positive results are qualified "J", estimated and non-detected analytes as "UJ", estimated detection limit.

Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is less than or equal to 10 times (10X) the amount in any blank for metals and the common organic laboratory contaminants (methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters), or 5 times (5X) the amount for other target compounds. Target analytes were not detected in associated blank samples (trip, equipment, method) prepared and analyzed concurrently with the project samples. No qualification of the data is recommended.

System Monitoring Compound Recoveries

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria, with the following exception(s):

Surrogate Percent Recovery Criteria				
Surrogate		Aqueous Matrix (%)	Solid Matrix (%)	Vapor Matrix (%)
1,2-Dichloroethane-d4	S01	low high	low high	70 - 130
Toluene-d8	S02	low high	low high	70 - 130
4-Bromofluorobenzene	S03	low high	low high	70 - 130
	S04	low high	low high	low high

Project Sample ID	Matrix	S01	S02	S03	S04	Positive Results	Non Detect (ND)
		%R	%R	%R	%R		
SV-1-5-001	Vapor	146	141	97		J	

Affected Analytes

All VOC target analytes in identified project sample(s).

Data Usability Summary Report (DUSR)
Leeds North Parcel
Analytical Laboratory: Eurofins Air Toxics, Inc. - Folsom, CA
Sample Delivery Group # 1311079a and 1311079b

Action: If the surrogate percent recovery is greater than the upper acceptance limit, associated target analyte positive results are qualified "J" and non-detects should not be qualified. If the surrogate percent recovery is less than the lower acceptance limit associated target analyte positive results are qualified "J" and non-detects are qualified "UJ". If the surrogate percent recovery is less than 10% associated target analyte positive results are qualified "J" and non-detects are qualified "R".

Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria, with the following exception(s):

LCS ID / Project Sample MS	Type	Target Analyte(s)	%R Criteria	%R	%RPD	Affected Sample(s)
1310079A-25C 11/18/2013 10:22	LCS LCS	1,2,4-Trichlorobenzene Hexachlorobutadiene	70 - 130 70 - 130	136 136		SV-1-5-001 SV-1-10-001 SV-2-10-001 SV-3-5-001 SV-3-10-001 SV-3-10-002 SV-4-5-001 SV-4-10-001 SV-5-5-001 SV-5-10-001 SV-6-5-001 SV-6-10-001 SV-7-5-001 SV-7-10-001 SV-9-10-001 SV-10-5-001 EQ (EQUIPMENT BLANK)
1310079A-25E 11/19/2013 18:22	LCS	Bromodichloromethane	70 - 130	132		SV-2-5-001 SV-8-5-001 SV-9-5-001 SV-9-5-002 SV-10-10-001

Data Usability Summary Report (DUSR)
Leeds North Parcel
Analytical Laboratory: Eurofins Air Toxics, Inc. - Folsom, CA
Sample Delivery Group # 1311079a and 1311079b

Action:

If the LCS %R is greater than the upper acceptance limit, associated target analyte positive results are qualified "J" and non-detects should not be qualified. If the LCS %R is less than the lower acceptance limit associated target analyte positive results are qualified "J" and non-detects are qualified "R". If the MS/MSD is from a project sample and the %R greater than the upper acceptance limit, associated target analyte positive results are qualified "J" and non-detects should not be qualified. If the MS/MSD %R is >10%, but less than the lower acceptance limit, associated analyte positive results are qualified "J" and non-detects are qualified "UJ". If the MS/MSD %R is less than 10% associated target analyte positive results are qualified "J" and non-detects are qualified "R". MS/MSD qualifiers are only applied to affected samples of the same matrix. If the MS/MSD is a LAB sample do not qualify project samples.

Field Duplicate Sample Analysis

The overall variability attributable to the sampling procedure, sample matrix, and laboratory procedures, was evaluated by assessing the relative percent difference (RPD) data from field duplicate samples. All calculated RPD values were within matrix specific data quality objectives. No qualification of the data is recommended.

Sample Data Reporting Format

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

Data Qualifiers

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

Summary

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

C:\Users\mgn\Desktop\37294-MLC Leeds\1311079\1311079-DV.xlsm]Final Report

Date: 12/4/2013

APPENDIX E

Low-Flow Groundwater and Soil Vapor Sampling Field Records

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 1 of 1

PROJECT	Former Leeds Assembly Plant - Northern Parcel	H&A FILE NO.	37294
LOCATION	S. of 6817 Stadium Drive, KCMO	PROJECT MGR.	M. Gravis
CLIENT	RACER Trust	FIELD REP	J. Knightly
CONTRACTOR		DATE	11/5/13

GROUNDWATER SAMPLING INFORMATION

Well ID	NW-01A												
Depth Of Well (ft.) per Log	19.86												
Reference Mark	N. Side casting												
Depth to Water from Reference Mark (ft.)	13.95												
Time	11/11/13 1117												
Depth to Product (ft.)	ND												
Field Measured Depth Of Well (ft.)	19.86												
Inside Diameter (in.)	2"												
Standing Water Depth (ft.)	5.91												
Volume Of Water In Well (gallons/liters)	0.94 gal												
Purging Device	Proactive SS w/encap												
Volume of Bailer/Pump Capacity													
Cleaning Procedure	Hiconewash, Tap flush, Dist. Rinse												
Bails Removed/ Volume Removed	3 gal												
Time Purging Started	0756												
Time Purging Stopped	0841												
Instrument Used to Monitor Field Parameters	YSI 556 (w/Flow Cell), Hanna Turbidity meter												
Sampling Device	Same												
Cleaning Procedure	Same												
Color	Gen. Cln.												
Odor	None												
TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												
		0907											
	Hex chrome	1702											
PARAMETERS	Time	0756	0801	0806	0811	0816	0821	0826	0831	0836	0841		
	Temp, C	16.52	17.76	18.45	18.19	18.39	18.28	18.25	18.14	18.36	18.41		
	Conductivity (umhos/cm)	0.531	0.519	0.512	0.516	0.523	0.525	0.528	0.528	0.528	0.530		
	Dissolved Oxygen (mg/L)	1.07	0.67	0.49	0.36	0.30	0.26	0.24	0.23	0.24	0.23		
	pH	6.28	6.25	6.23	6.25	6.28	6.29	6.30	6.30	6.31	6.32		
	ORP	45.1	30.4	39.1	34.0	37.1	39.5	40.7	39.9	41.3	42.1		
	Drawdown Ft	0.44	0.76	1.39	1.76	2.13	2.46	2.63	2.75	2.92	3.15		
	Volume purged/Gals												
	Turbidity (NTU)	16.5	10.7	3.54	1.66	1.55	1.31	1.26	1.55	1.51	1.56		
	Remarks: (ie: field filtrations, persons communicated with at site, etc.)	Spot check flow - from 81 ml/min											

ms/cm

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 1 of 2

PROJECT	Former Leeds Assembly Plant - Northern Parcel	H&A FILE NO.	37294
LOCATION	S. of 6817 Stadium Drive, Kenosha	PROJECT MGR.	M. Gravis
CLIENT	RACER Trust	FIELD REP	J. Knightly
CONTRACTOR		DATE	11/5/13

GROUNDWATER SAMPLING INFORMATION

Well ID	NW-01B												
Depth Of Well (ft.) per Log	58.05												
Reference Mark	N. Side casing												
Depth to Water from Reference Mark (ft.)	11/1/13 10.96												
Time	11/1/13 1302												
Depth to Product (ft.)	ND												
Field Measured Depth Of Well (ft.)	58.05												
Inside Diameter (in.)	2"												
Standing Water Depth (ft.)	47.09												
Volume Of Water In Well (gallons/liters)	7.53												
Purging Device	Proactive SS w/enclosure												
Volume of Bailor/Pump Capacity													
Cleaning Procedure	Alconex wash, Tap rinse, Dist. Rinse												
Bails Removed/ Volume Removed	6 gals												
Time Purging Started	1000												
Time Purging Stopped	1120												
Instrument Used to Monitor Field Parameters	YSI 556 (w/Fluor-cell), Hanna Turbidity meter												
Sampling Device	Same												
Cleaning Procedure	Same												
Color	Gen. Cln.												
Odor	None												
TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												
		1145											
	Hex chrome	1706											
PARAMETERS	Time	1000	1005	1010	1015	1020	1025	1030	1035	1040	1045	1050	1055
	Temp, C	15.86	15.78	15.70	15.78	15.85	15.81	15.70	15.86	15.92	16.21	16.09	16.02
	Conductivity (umhos/cm)	0.553	0.557	0.556	0.558	0.563	0.572	0.575	0.578	0.583	0.585	0.586	0.587
	Dissolved Oxygen (mg/L)	2.10	0.51	0.45	0.91	0.46	0.33	0.25	0.21	0.18	0.15	0.14	0.14
	pH	7.00	6.96	6.95	6.95	6.96	6.97	6.67	6.97	6.97	6.97	6.97	6.97
	ORP	5.8	-26.1	-35.1	-40.8	-53.9	-86.4	-10.2	-99.3	-95.5	-86.3	-99.2	-102.2
	Drawdown Ft	0.26	0.27	0.31	0.35	0.36	0.35	0.35	0.35	0.37	0.42	0.43	0.42
	Volume purged/Gals												
	Turbidity (NTU)	245	36.1	31.0	35.8	56.5	77.7	107	285	328	320	268	175

Remarks: (ie: field filtrations, persons communicated with at site, etc.)

Spot check flour from 170ml/min to 290 ml/min.

ms/cm

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 2 of 2

PROJECT Former Leeds Assembly plant - Northern Area H&A FILE NO. 37294
LOCATION S. of 6817 Stadium Drive, KCMD PROJECT MGR. M. Grubis
CLIENT RACER Trust FIELD REP J. Kugathay
CONTRACTOR _____ DATE 11/5/13

GROUNDWATER SAMPLING INFORMATION

Well ID	MW-013												
Depth Of Well (ft.) per Log	See Pg. 1												
Reference Mark													
Depth to Water from Reference Mark (ft.)													
Time													
Depth to Product (ft.)													
Field Measured Depth Of Well (ft.)													
Inside Diameter (in.)													
Standing Water Depth (ft.)													
Volume Of Water In Well (gallons/liters)													
Purging Device													
Volume of Bailer/Pump Capacity													
Cleaning Procedure													
Bails Removed/ Volume Removed													
Time Purging Started													
Time Purging Stopped													
Instrument Used to Monitor Field Parameters													
Sampling Device													
Cleaning Procedure													
Color													
Odor													
TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												
PARAMETERS	Time	1100	1105	1110	1115	1120							
	Temp, C	15.92	15.86	15.79	15.72	15.66							
	Conductivity (umhos/cm)	0.587	0.587	0.587	0.587	0.587							
	Dissolved Oxygen (mg/L)	0.13	0.14	0.14	0.14	0.14							
	pH	6.97	6.97	6.97	6.97	6.97							
	ORP	-103.1	-107.3	-111.4	-114.2	-116.9							
	Drawdown Ft	0.43	0.43	0.43	0.43	0.43							
	Volume purged/Gals												
	Turbidity (NTU)	92.0	75.3	40.1	39.7	58.1							

Remarks: (ie: field filtrations, persons communicated with at site, etc.)

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 1 of 2

PROJECT	Former Lead Assembly Plant - Northern Parcel	H&A FILE NO.	37294
LOCATION	S. of 6817 Stadium Drive, Keno	PROJECT MGR.	M. Gravis
CLIENT	RACER Trust	FIELD REP	J. Knightly
CONTRACTOR		DATE	11/5/13

GROUNDWATER SAMPLING INFORMATION

Well ID	MW-02A												
Depth Of Well (ft.) per Log	2012												
Reference Mark	N. side casing												
Depth to Water from Reference Mark (ft.)	13.37												
Time	11/11/13 1325												
Depth to Product (ft.)	ND												
Field Measured Depth Of Well (ft.)	2012												
Inside Diameter (in.)	2"												
Standing Water Depth (ft.)	6.75												
Volume Of Water In Well (gallons/liters)	1.08												
Purging Device	Proactive SS w/encaps.												
Volume of Bailer/Pump Capacity													
Cleaning Procedure	Aiconex wash, tap rinse, Dist. Rinse												
Bails Removed/ Volume Removed	4 galls												
Time Purging Started	1302												
Time Purging Stopped	1407												
Instrument Used to Monitor Field Parameters	YSI 556 (w/Fluor-cell), Hanna Turbidity meter												
Sampling Device	Same												
Cleaning Procedure	Same												
Color	Gen. Cln.												
Odor	None												
TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												
		1422											
	flex chrome	1647											
PARAMETERS	Time	1302	1307	1312	1317	1322	1327	1332	1342	1347	1352	1357	1402
	Temp. C	19.26	19.65	19.45	20.17	20.40	20.50	20.46	20.38	20.36	20.34	20.37	20.35
	Conductivity (umhos/cm)	1.020	1.020	1.023	1.026	1.032	1.041	1.042	1.048	1.052	1.054	1.053	1.058
	Dissolved Oxygen (mg/L)	2.06	0.89	0.57	0.47	0.36	0.30	0.28	0.20	0.19	0.19	0.20	0.20
	pH	6.55	6.54	6.54	6.54	6.53	6.52	6.50	6.49	6.49	6.49	6.49	6.48
	ORP	-43.2	-52.9	-57.7	-53.5	-46.5	-41.6	-33.4	-22.7	-21.6	-21.2	-20.5	-20.4
	Drawdown Ft	0.01	0.02	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05
	Volume purged/Gals												
	Turbidity (NTU)	986	808	526	330	121	53.5	32.8	12.9	10.6	8.12	7.11	6.91

Remarks: (ie: field filtrations, persons communicated with at site, etc.)

Spot check flow - from 125ml/min to 300ml/min

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 2 of 2

PROJECT Former Leeds Assembly plant - Northern Area
LOCATION S. of 6817 Stadium Drive, KCMD
CLIENT RACER Trust
CONTRACTOR

H&A FILE NO. 37294
PROJECT MGR. M. Grubis
FIELD REP J. Kutyniuk
DATE 11/5/13

GROUNDWATER SAMPLING INFORMATION

Well ID	MW-024												
Depth Of Well (ft.) per Log	See Pg. 1												
Reference Mark													
Depth to Water from Reference Mark (ft.)													
Time													
Depth to Product (ft.)													
Field Measured Depth Of Well (ft.)													
Inside Diameter (in.)													
Standing Water Depth (ft.)													
Volume Of Water In Well (gallons/liters)													
Purging Device													
Volume of Bailer/Pump Capacity													
Cleaning Procedure													
Bails Removed/ Volume Removed													
Time Purging Started													
Time Purging Stopped													
Instrument Used to Monitor Field Parameters													
Sampling Device													
Cleaning Procedure													
Color													
Odor													
TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												
PARAMETERS	Time	1407											
	Temp. C	20.38											
	Conductivity (umhos/cm)	1.060											
	Dissolved Oxygen (mg/L)	0.20											
	pH	6.48											
	ORP	-20.4											
	Drawdown Ft	0.05											
	Volume purged/Gals												
	Turbidity (NTU)	6.78											
Remarks: (ie: field filtrations, persons communicated with at site, etc.)													

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 1 of 2

PROJECT	<u>Former Leeds Assembly Plant - Northern Parcel</u>	H&A FILE NO.	<u>37294</u>
LOCATION	<u>S. OF 6817 Stadium Drive, KCMO</u>	PROJECT MGR.	<u>M. Gravis</u>
CLIENT	<u>RACER Trust</u>	FIELD REP	<u>J. Knightly</u>
CONTRACTOR		DATE	<u>11/5/13</u>

GROUNDWATER SAMPLING INFORMATION

Well ID	<u>MW-02B</u>
Depth Of Well (ft.) per Log	<u>58.31</u>
Reference Mark	<u>N. Side casing</u>
Depth to Water from Reference Mark (ft.)	<u>13.45</u>
Time	<u>11/11/13 1329</u>
Depth to Product (ft.)	<u>ND</u>
Field Measured Depth Of Well (ft.)	<u>58.31</u>
Inside Diameter (in.)	<u>2"</u>
Standing Water Depth (ft.)	<u>44.86</u>
Volume Of Water In Well (gallons/liters)	<u>7.18</u>
Purging Device	<u>Proactive SS monitor</u>
Volume of Bailer/Pump Capacity	
Cleaning Procedure	<u>Alcon flush, tap reuse, Dist. Rinse</u>
Balls Removed/ Volume Removed	<u>3 gal</u>
Time Purging Started	<u>1502</u>
Time Purging Stopped	<u>1602</u>
Instrument Used to Monitor Field Parameters	<u>YSI 556 (w/ Flow cell), Hanna Turbidity meter</u>
Sampling Device	<u>Same</u>
Cleaning Procedure	<u>Same</u>
Color	<u>Gen. Cln.</u>
Odor	<u>None</u>

TIME SAMPLES TAKEN	VOA	
	ABN	
	Metals	
		<u>1615</u>
	<u>Hex chrome</u>	<u>1615</u>

PARAMETERS	Time	<u>1502</u>	<u>1507</u>	<u>1512</u>	<u>1517</u>	<u>1522</u>	<u>1527</u>	<u>1532</u>	<u>1537</u>	<u>1542</u>	<u>1547</u>	<u>1552</u>	<u>1557</u>
	Temp, C	<u>17.82</u>	<u>17.96</u>	<u>17.69</u>	<u>17.84</u>	<u>18.08</u>	<u>17.69</u>	<u>18.09</u>	<u>17.72</u>	<u>17.28</u>	<u>17.67</u>	<u>17.70</u>	<u>16.94</u>
	Conductivity (umhos/cm)	<u>0.752</u>	<u>0.762</u>	<u>0.780</u>	<u>0.787</u>	<u>0.800</u>	<u>0.879</u>	<u>0.937</u>	<u>0.960</u>	<u>0.968</u>	<u>0.973</u>	<u>0.977</u>	<u>0.980</u>
	Dissolved Oxygen (mg/L)	<u>1.16</u>	<u>0.49</u>	<u>0.30</u>	<u>0.27</u>	<u>0.15</u>	<u>0.13</u>	<u>0.12</u>	<u>0.11</u>	<u>0.12</u>	<u>0.11</u>	<u>0.11</u>	<u>0.11</u>
	pH	<u>7.02</u>	<u>6.98</u>	<u>6.98</u>	<u>6.98</u>	<u>6.95</u>	<u>6.81</u>	<u>6.70</u>	<u>6.69</u>	<u>6.68</u>	<u>6.67</u>	<u>6.68</u>	<u>6.67</u>
	ORP	<u>51.3</u>	<u>17.2</u>	<u>-22.8</u>	<u>-90.8</u>	<u>-102.8</u>	<u>-121.7</u>	<u>-101.4</u>	<u>-106.6</u>	<u>-113.3</u>	<u>-106.3</u>	<u>-102.9</u>	<u>-107.5</u>
	Drawdown Ft	<u>0.15</u>	<u>0.20</u>	<u>0.24</u>	<u>0.30</u>	<u>0.25</u>	<u>0.26</u>	<u>0.26</u>	<u>0.26</u>	<u>0.27</u>	<u>0.27</u>	<u>0.27</u>	<u>0.27</u>
	Volume purged/Gals												
	Turbidity (NTU)	<u>71.6</u>	<u>151</u>	<u>211</u>	<u>210</u>	<u>244</u>	<u>258</u>	<u>140</u>	<u>93.5</u>	<u>71.6</u>	<u>63.7</u>	<u>58.2</u>	<u>56.2</u>

Remarks: (ie: field filtrations, persons communicated with at site, etc.)

Spot check flow - from 200 ml/min to 250 ml/min

mS/cm

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 2 of 2

PROJECT	<u>Former Leeds Assembly plant - Northern Area</u>	H&A FILE NO.	<u>37294</u>
LOCATION	<u>S. of 6817 Stadium Drive, KCMD</u>	PROJECT MGR.	<u>M. Griggs</u>
CLIENT	<u>RACER Trust</u>	FIELD REP	<u>J. K. Gentry</u>
CONTRACTOR		DATE	<u>11/5/13</u>

GROUNDWATER SAMPLING INFORMATION

Well ID	<u>MW-02B</u>												
Depth Of Well (ft.) per Log	<u>See Pg. 1</u>												
Reference Mark													
Depth to Water from Reference Mark (ft.)													
Time													
Depth to Product (ft.)													
Field Measured Depth Of Well (ft.)													
Inside Diameter (in.)													
Standing Water Depth (ft.)													
Volume Of Water In Well (gallons/liters)													
Purging Device													
Volume of Bailor/Pump Capacity													
Cleaning Procedure													
Bails Removed/ Volume Removed													
Time Purging Started													
Time Purging Stopped													
Instrument Used to Monitor Field Parameters													
Sampling Device													
Cleaning Procedure													
Color													
Odor													
TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												
PARAMETERS	Time	<u>1602</u>											
	Temp. C	<u>16.84</u>											
	Conductivity (umhos/cm)	<u>0.980</u>											
	Dissolved Oxygen (mg/L)	<u>0.10</u>											
	pH	<u>4.67</u>											
	ORP	<u>-107.9</u>											
	Drawdown Ft	<u>0.27</u>											
	Volume purged/Gals												
	Turbidity (NTU)	<u>55.3</u>	<u>55.3</u>										

Remarks: (ie: field filtrations, persons communicated with at site, etc.)

ms/cm

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 1 of 1

PROJECT	Former Leeds Assembly Plant - North Parcel	H&A FILE NO.	37294
LOCATION	S. of 6817 Stadium Drive, KCMO	PROJECT MGR.	M. Gruis
CLIENT	RACER Trust	FIELD REP	J. Knightly
CONTRACTOR		DATE	11/7/13

GROUNDWATER SAMPLING INFORMATION

Well ID	MW-03A										
Depth Of Well (ft.) per Log	20.12										
Reference Mark	N. Side of casing										
Depth to Water from Reference Mark (ft.)	19.39										
Time	11/11/13 1404										
Depth to Product (ft.)	ND										
Field Measured Depth Of Well (ft.)	~~19.3~~ 20.12										
Inside Diameter (in.)											
Standing Water Depth (ft.)											
Volume Of Water In Well (gallons/liters)											
Purging Device											
Volume of Bailer/Pump Capacity											
Cleaning Procedure											
Bails Removed/ Volume Removed											
Time Purging Started											
Time Purging Stopped											
Instrument Used to Monitor Field Parameters											
Sampling Device											
Cleaning Procedure											
Color											
Odor											
TIME SAMPLES TAKEN	VOA										
	ABN										
	Metals										
	0935										
	1 Full 40ml vial w/ HCl, another partial - NO purge										
PARAMETERS	Time										
	Temp, C										
	Conductivity (umhos/cm)										
	Dissolved Oxygen (mg/L)										
	pH										
	ORP										
	Drawdown Ft										
	Volume purged/Gals										
	Turbidity (NTU)										
Remarks: (ie: field filtrations, persons communicated with at site, etc.)											

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 1 of 2

PROJECT	Former Leeds Assembly Plant - Northern Parcel	H&A FILE NO.	37294
LOCATION	S. of 6817 Stadium Drive, Kenosha	PROJECT MGR.	M. Gravis
CLIENT	RACER Trust	FIELD REP	J. Knightly
CONTRACTOR		DATE	11/7/13

GROUNDWATER SAMPLING INFORMATION

Well ID	MW-03B
Depth Of Well (ft.) per Log	54.49
Reference Mark	N. Side casting
Depth to Water from Reference Mark (ft.)	19.61
Time	11/11/13 1358
Depth to Product (ft.)	ND
Field Measured Depth Of Well (ft.)	54.49
Inside Diameter (in.)	2"
Standing Water Depth (ft.)	34.88
Volume Of Water In Well (gallons/liters)	5.58
Purging Device	Proactive SS monitor
Volume of Bailer/Pump Capacity	
Cleaning Procedure	Alconex wash, tap rinse, Dist. Rinse
Bails Removed/ Volume Removed	10.5 gals.
Time Purging Started	1116
Time Purging Stopped	1251
Instrument Used to Monitor Field Parameters	YSI 556 (w/ Flow-cell), Hanna Turbidity meter
Sampling Device	Same
Cleaning Procedure	Same
Color	Gen. Cln.
Odor	None

TIME SAMPLES TAKEN	VOA		
	ABN		
	Metals		
		1319	Also w/ slush of Duplicate
	Hex chrome	1404	w/ bath, no purge

PARAMETERS	Time	1116	1121	1126	1131	1136	1141	1146	1151	1156	1201	1206	1211
	Temp. C	15.87	15.96	16.50	16.69	16.56	16.91	16.91	17.16	17.67	17.34	17.37	17.51
	Conductivity (umhos/cm)	1.253	1.263	1.284	1.301	1.305	1.301	1.306	1.318	1.336	1.344	1.345	1.345
	Dissolved Oxygen (mg/L)	5.41	1.51	0.70	0.49	0.38	0.30	0.28	0.21	0.16	0.13	0.12	0.11
	pH	6.93	6.91	6.87	6.86	6.85	6.85	6.85	6.86	6.94	6.97	6.97	6.98
	ORP	53.7	44.7	38.1	0.0	-42.1	-46.8	-59.5	-74.7	-101.7	-105.1	-110.8	-120.8
	Drawdown Ft	0.21	0.31	-	-	0.21	-	0.29	0.38	-	0.65	0.36	0.39
	Volume purged/Gals												
	Turbidity (NTU)	156	120	95.9	88.6	83.1	90.4	104	256	570	619	519	452

Remarks: (ie: field filtrations, persons communicated with at site, etc.)

Spot check flow from 200ml/min to 485ml/min
Field & Equip blanks coll before MW-03B using Hy-Vee Premium Distilled water

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 2 of 2

PROJECT	Former Leeds Assembly plant - Northern Area	H&A FILE NO.	37294
LOCATION	S. of 6817 Stadium Drive, KCMD	PROJECT MGR.	M. Grubis
CLIENT	RACER Trust	FIELD REP	J. K. B. B. B.
CONTRACTOR		DATE	11/7/13

GROUNDWATER SAMPLING INFORMATION

Well ID	MW-03B												
Depth Of Well (ft.) per Log	See Pg. 1												
Reference Mark													
Depth to Water from Reference Mark (ft.)													
Time													
Depth to Product (ft.)													
Field Measured Depth Of Well (ft.)													
Inside Diameter (in.)													
Standing Water Depth (ft.)													
Volume Of Water In Well (gallons/liters)													
Purging Device													
Volume of Bailor/Pump Capacity													
Cleaning Procedure													
Bails Removed/ Volume Removed													
Time Purging Started													
Time Purging Stopped													
Instrument Used to Monitor Field Parameters													
Sampling Device													
Cleaning Procedure													
Color													
Odor													
TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												
PARAMETERS	Time	1216	1221	1226	1231	1236	1241	1246	1251				
	Temp, C	17.78	18.01	17.90	17.66	17.64	17.83	17.87	17.84				
	Conductivity (umhos/cm)	1.347	1.347	1.348	1.347	1.348	1.347	1.347	1.348				
	Dissolved Oxygen (mg/L)	0.09	0.10	0.09	0.09	0.07	0.07	0.07	0.07				
	pH	6.99	6.99	7.00	7.00	7.01	7.01	7.01	7.01				
	ORP	-108.4	-111.8	-115.3	-115.4	-109.1	-106.1	-102.2	-101.3				
	Drawdown Ft	0.41	0.40	0.39	0.60	0.65	0.96	0.44	0.46				
	Volume purged/Gals												
	Turbidity (NTU)	376	305	232	134	79.7	37.4	35.8	35.5				
	Remarks: (ie: field filtrations, persons communicated with at site, etc.)												

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 1 of 1

PROJECT	Former Leeds Assembly Plant - North Parcel	H&A FILE NO.	37294
LOCATION	S. of 6617 Station Drive, KCAD	PROJECT MGR.	M. Gruts
CLIENT	RACER Trust	FIELD REP	J. Knightly
CONTRACTOR		DATE	11/11/13

GROUNDWATER SAMPLING INFORMATION

Well ID	mw-04A												
Depth Of Well (ft.) per Log	20.15												
Reference Mark	N. side casing												
Depth to Water from Reference Mark (ft.)	19.87												
Time	11/11/13 1347												
Depth to Product (ft.)	NB												
Field Measured Depth Of Well (ft.)	20.15												
Inside Diameter (in.)													
Standing Water Depth (ft.)													
Volume Of Water In Well (gallons/liters)													
Purging Device													
Volume of Bailer/Pump Capacity													
Cleaning Procedure													
Balls Removed/ Volume Removed													
Time Purging Started													
Time Purging Stopped													
Instrument Used to Monitor Field Parameters													
Sampling Device													
Cleaning Procedure													
Color													
Odor													
TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												
PARAMETERS	Time												
	Temp, C												
	Conductivity (umhos/cm)												
	Dissolved Oxygen (mg/L)												
	pH												
	ORP												
	Drawdown Ft												
	Volume purged/Gals												
	Turbidity (NTU)												
Remarks: (ie: field filtrations, persons communicated with at site, etc.)													

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 1 of 1

PROJECT	Former Leeds Assembly Plant - Northern Parcel	H&A FILE NO.	37294
LOCATION	S. OF 6817 Stadium Drive, Kenosha	PROJECT MGR.	M. Gravis
CLIENT	RACER Trust	FIELD REP	J. Knightly
CONTRACTOR		DATE	11/6/13

GROUNDWATER SAMPLING INFORMATION

Well ID	MW-04B												
Depth Of Well (ft.) per Log	57.23												
Reference Mark	N. Side casting												
Depth to Water from Reference Mark (ft.)	22.09												
Time	11/1/13												
Depth to Product (ft.)	ND 1350												
Field Measured Depth Of Well (ft.)	57.23												
Inside Diameter (in.)	2"												
Standing Water Depth (ft.)	35.14												
Volume Of Water In Well (gallons/liters)	5.62 gal												
Purging Device	Proactive SS monsoon												
Volume of Bailer/Pump Capacity													
Cleaning Procedure	Airline wash, Tap reuse, Dist. Rinse												
Bails Removed/ Volume Removed	4.5 gal												
Time Purging Started	1425												
Time Purging Stopped	1520												
Instrument Used to Monitor Field Parameters	YSI 556 (w/ Flow-cell), Hanna Turbidity meter												
Sampling Device	Same												
Cleaning Procedure	Same												
Color	Gen. Cln.												
Odor	None												
TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												
		1542 (Dup. Sample, too)											
	Hex chrome	1542											
PARAMETERS	Time	1425	1430	1435	1440	1445	1450	1455	1500	1505	1510	1515	1520
	Temp. C	13.82	13.68	15.30	14.62	16.16	14.97	16.89	16.61	16.46	16.38	16.58	16.32
	Conductivity (umhos/cm)	0.572	0.569	0.572	0.583	0.606	0.611	0.611	0.614	0.614	0.614	0.614	0.617
	Dissolved Oxygen (mg/L)	3.62	2.89	2.12	2.15	0.22	0.19	0.12	0.11	0.10	0.09	0.09	0.09
	pH	6.95	6.91	6.90	6.89	6.92	6.93	6.94	6.96	6.95	6.95	6.95	6.95
	ORP	69.2	60.5	45.1	12.6	-66.2	-96.2	-108.7	-115.0	-122.5	-120.4	-119.6	-116.4
	Drawdown Ft	0.11	0.17	0.22	0.35	0.25	0.18	0.37	0.41	0.44	0.47	0.49	0.52
	Volume purged/Gals												
	Turbidity (NTU)	36.9	27.5	28.8	27.1	23.8	22.9	20.2	15.8	13.6	15.2	16.1	15.9
	Remarks: (ie: field filtrations, persons communicated with at site, etc.)	Spot check flow from 225 ml/min to 400 ml/min											

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 1 of 1

PROJECT	Former Leeds Assembly Plant - Northern Parcel	H&A FILE NO.	37294
LOCATION	S. of 6817 Stadium Drive, Kenosha	PROJECT MGR.	M. Gravis
CLIENT	RACER Trust	FIELD REP	J. Knightly
CONTRACTOR		DATE	11/17/13

GROUNDWATER SAMPLING INFORMATION

Well ID	MW-05
Depth Of Well (ft.) per Log	20.09
Reference Mark	N. Side casing
Depth to Water from Reference Mark (ft.)	15.54
Time	11/17/13 1310
Depth to Product (ft.)	ND
Field Measured Depth Of Well (ft.)	20.09
Inside Diameter (in.)	2"
Standing Water Depth (ft.)	4.55
Volume Of Water In Well (gallons/liters)	0.73
Purging Device	Proactive SS monitor
Volume of Bailer/Pump Capacity	
Cleaning Procedure	Alconex wash, tap rinse, Dist. Rinse
Bails Removed/ Volume Removed	3 gals
Time Purging Started	1521
Time Purging Stopped	1611
Instrument Used to Monitor Field Parameters	YSI 556 (w/ Flow-cell), Hanna Turbidity meter
Sampling Device	Same
Cleaning Procedure	Same
Color	Gen. Cln.
Odor	None

TIME SAMPLES TAKEN	VOA	
	ABN	
	Metals	
		1617
	Heavy Metals	1617

PARAMETERS	Time	1521	1526	1531	1536	1541	1546	1551	1556	1601	1606	1611	
	Temp. C	17.32	17.20	17.82	17.95	18.86	18.84	18.73	18.70	18.65	18.68	18.64	
	Conductivity (umhos/cm)	0.560	0.618	0.680	0.774	0.803	0.824	0.834	0.839	0.841	0.846	0.847	
	Dissolved Oxygen (mg/L)	5.2	2.68	1.47	0.65	0.34	0.24	0.19	0.16	0.13	0.13	0.13	
	pH	6.68	6.60	6.61	6.62	6.63	6.63	6.63	6.63	6.64	6.63	6.63	
	ORP	10.8	18.1	25.1	24.4	25.0	25.3	24.5	23.6	22.0	22.8	21.7	
	Drawdown Ft	0.10	0.13	0.14	0.25	0.25	0.27	0.30	0.31	0.32	0.32	0.32	
	Volume purged/Gals												
	Turbidity (NTU)												

Remarks: (ie: field filtrations, persons communicated with at site, etc.)

Spot check flow - 300ml/min to 350ml/min

uS/cm

LOW-FLOW GROUNDWATER SAMPLING RECORD

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PROJECT	Former Leeds Assembly Plant - Northern Parcel	H&A FILE NO.	37294
LOCATION	S. OF 6817 Stadium Drive, Kenosha	PROJECT MGR.	M. Gruis
CLIENT	RACER Trust	FIELD REP	J. Knightly
CONTRACTOR		DATE	11/4/13

GROUNDWATER SAMPLING INFORMATION

Well ID	MUW-06												
Depth Of Well (ft.) per Log	20.13												
Reference Mark	N. Side casting												
Depth to Water from Reference Mark (ft.)	9.78 (11/1/13)												
Time	11/1/13, 1111												
Depth to Product (ft.)	ND												
Field Measured Depth Of Well (ft.)	20.13												
Inside Diameter (in.)	2"												
Standing Water Depth (ft.)	10.35												
Volume Of Water In Well (gallons/liters)	1.65 gal												
Purging Device	Proactive SS Mensor												
Volume of Bailer/Pump Capacity													
Cleaning Procedure	Hicon wash, Tap reuse, Dist. Rinse												
Bails Removed/ Volume Removed	10 gals												
Time Purging Started	1119												
Time Purging Stopped	1310												
Instrument Used to Monitor Field Parameters	YSI 556 (w/ Fluor cell), Hanna Turbidity meter												
Sampling Device	Same												
Cleaning Procedure	Same												
Color	Gen. Cln.												
Odor	None												
TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												
		1325											
	Heavy Metals	1557											
PARAMETERS	Time	1119	1126	1133	1135	1140	1145	1150	1155	1200	1205	1210	1215
	Temp. C	20.18	19.93	19.92	20.40	20.86	20.44	20.80	20.37	20.20	20.13	20.09	19.94
	Conductivity (umhos/cm)	0.873	0.854	0.853	0.855	0.851	0.838	0.820	0.804	0.792	0.776	0.763	0.758
	Dissolved Oxygen (mg/L)	6.26	2.12	1.28	1.09	0.79	0.62	0.45	0.40	0.34	0.30	0.27	0.25
	pH	6.46	6.47	6.46	6.46	6.46	6.45	6.44	6.43	6.43	6.42	6.41	6.41
	ORP	-1.9	-32.9	-40.6	-44.8	-47.8	-50.6	-50.0	-46.1	-44.7	-37.9	-32.6	-28.3
	Drawdown Ft	0.05	0.12	0.15	0.17	0.29	0.34	0.29	0.31	-	0.36	0.4	0.34
	Volume purged/Gals												
	Turbidity (NTU)	71000	4.60	4.6	71000	71000	506	332	257	117	52.0	37.0	27.6
	Remarks: (ie: field filtrations, persons communicated with at site, etc.)	bailer - no purge											

mS/cm

LOW-FLOW GROUNDWATER SAMPLING RECORD

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PROJECT Former Leeds Assembly plant - Northern Area
LOCATION S. of 6817 Stadium Drive, KCMD
CLIENT RACER Trust
CONTRACTOR

H&A FILE NO. 37224
PROJECT MGR. M. Grubis
FIELD REP J. Kubitly
DATE 11/4/13

GROUNDWATER SAMPLING INFORMATION

Well ID	MW-06												
Depth Of Well (ft.) per Log	See Pg. 1												
Reference Mark													
Depth to Water from Reference Mark (ft.)													
Time													
Depth to Product (ft.)													
Field Measured Depth Of Well (ft.)													
Inside Diameter (in.)													
Standing Water Depth (ft.)													
Volume Of Water In Well (gallons/liters)													
Purging Device													
Volume of Bailer/Pump Capacity													
Cleaning Procedure													
Balls Removed/ Volume Removed													
Time Purging Started													
Time Purging Stopped													
Instrument Used to Monitor Field Parameters													
Sampling Device													
Cleaning Procedure													
Color													
Odor													
TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												
PARAMETERS	Time	1220	1225	1230	1235	1240	1245	1250	1255	1300	1305	1310	
	Temp, C	19.82	19.75	20.08	20.10	20.11	19.99	20.03	19.97	19.98	19.96	19.96	
	Conductivity (umhos/cm)	0.748	0.742	0.745	0.754	0.756	0.747	0.748	0.752	0.745	0.745	0.746	
	Dissolved Oxygen (mg/L)	0.22	0.19	0.19	0.17	0.19	0.16	0.16	0.14	0.15	0.15	0.15	
	pH	6.40	6.39	6.40	6.40	6.40	6.39	6.40	6.40	6.39	6.39	6.39	
	ORP	-20.2	-18.5	-12.2	-12.9	-11.1	-11.8	-8.2	-11.0	-9.1	-8.8	-8.7	
	Drawdown Ft	0.24	0.25	0.28	0.33	0.39	0.37	0.41	0.40	0.41	0.40	0.41	
	Volume purged/Gals												
	Turbidity (NTU)	17.4	12.4	8.36	6.97	6.36	4.26	3.79	4.19	4.29	4.37	4.31	

Remarks: (ie: field filtrations, persons communicated with at site, etc.)

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 1 of 2

PROJECT	Former Leede Assembly Plant - Northern Parcel	H&A FILE NO.	37294
LOCATION	S. of 6817 Stadium Drive, Reno	PROJECT MGR.	M. Gruffs
CLIENT	RACER Trust	FIELD REP	J. Knighly
CONTRACTOR		DATE	11/14/13

GROUNDWATER SAMPLING INFORMATION

Well ID	MW-07
Depth Of Well (ft.) per Log	19.96
Reference Mark	N. Side casing
Depth to Water from Reference Mark (ft.)	10.76 (11/11/13)
Time	11/11/13 1412
Depth to Product (ft.)	ND
Field Measured Depth Of Well (ft.)	19.96
Inside Diameter (in.)	2"
Standing Water Depth (ft.)	9.20
Volume Of Water In Well (gallons/liters)	1.47
Purging Device	Proactive SS w/oscill
Volume of Bailer/Pump Capacity	
Cleaning Procedure	Alcon wash, tap reuse, Dist. Rinse
Bails Removed/ Volume Removed	~4.75 gals
Time Purging Started	1414
Time Purging Stopped	1515
Instrument Used to Monitor Field Parameters	YSI 556 (w/ Flow-cell), Hanna Turbidity meter
Sampling Device	Same
Cleaning Procedure	Same
Color	Gen. Cln.
Odor	None

TIME SAMPLES TAKEN	VOA	
	ABN	
	Metals	
		1528
	Heavy Metals	1528

PARAMETERS	Time	1414	1419	1424	1430	1435	1440	1445	1450	1455	1500	1505	1510
	Temp, C	19.81	20.76	21.38	21.42	21.66	21.49	21.28	21.17	21.39	21.22	21.10	21.14
	Conductivity (umhos/cm)	1,194	1,199	1,209	1,212	1,233	1,245	1,239	1,233	1,232	1,234	1,230	1,230
	Dissolved Oxygen (mg/L)	9.02	2.24	1.28	1.14	0.80	0.72	0.70	0.68	0.49	0.50	0.48	0.48
	pH	6.40	6.37	6.36	6.35	6.34	6.34	6.34	6.34	6.34	6.34	6.34	6.34
	ORP	19.1	11.4	5.6	6.7	2.3	-1.8	-2.5	-2.5	-0.7	-3.0	-3.2	-3.1
	Drawdown Ft	0.24	0.47	0.29	1.01	1.28	1.36	1.37	1.42	1.52	1.49	1.48	1.47
	Volume purged/Gals												
	Turbidity (NTU)	40.1	34.5	23.4	10.3	3.35	2.22	1.90	1.59	0.98	0.92	0.98	0.97

Remarks: (ie: field filtrations, persons communicated with at site, etc.)

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 2 of 2

PROJECT	<u>Former Leeds Assembly plant - Northern Area 1</u>	H&A FILE NO.	<u>37294</u>
LOCATION	<u>S. of 6817 Stadium Drive, KCMD</u>	PROJECT MGR.	<u>M. Grues</u>
CLIENT	<u>RACER Trust</u>	FIELD REP	<u>J. Kutzguth</u>
CONTRACTOR		DATE	

GROUNDWATER SAMPLING INFORMATION

Well ID	<u>MW-07</u>												
Depth Of Well (ft.) per Log	<u>See Pg 1</u>												
Reference Mark													
Depth to Water from Reference Mark (ft.)													
Time													
Depth to Product (ft.)													
Field Measured Depth Of Well (ft.)													
Inside Diameter (in.)													
Standing Water Depth (ft.)													
Volume Of Water In Well (gallons/liters)													
Purging Device													
Volume of Bailer/Pump Capacity													
Cleaning Procedure													
Bails Removed/ Volume Removed													
Time Purging Started													
Time Purging Stopped													
Instrument Used to Monitor Field Parameters													
Sampling Device													
Cleaning Procedure													
Color													
Odor													
TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												
PARAMETERS	Time	<u>1515</u>											
	Temp. C	<u>21.19</u>											
	Conductivity (umhos/cm)	<u>1.229</u>											
	Dissolved Oxygen (mg/L)	<u>0.48</u>											
	pH	<u>6.34</u>											
	ORP	<u>-3.1</u>											
	Drawdown Ft	<u>1.47</u>											
	Volume purged/Gals												
	Turbidity (NTU)	<u>0.98</u>											

Remarks: (ie: field filtrations, persons communicated with at site, etc.)

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 1 of 2

PROJECT	Former Leeds Assembly Plant - Northern Parcel	H&A FILE NO.	37294
LOCATION	S. of 6817 Stadium Drive, Reno	PROJECT MGR.	M. Gravis
CLIENT	RACER Trust	FIELD REP	J. Knightly
CONTRACTOR		DATE	11/6/13

GROUNDWATER SAMPLING INFORMATION

Well ID	WW-08
Depth Of Well (ft.) per Log	19.73
Reference Mark	N. Side casing
Depth to Water from Reference Mark (ft.)	15.17 ~~1336~~
Time	11/11/13, 1336
Depth to Product (ft.)	ND
Field Measured Depth Of Well (ft.)	19.73
Inside Diameter (in.)	2"
Standing Water Depth (ft.)	4.26
Volume Of Water In Well (gallons/liters)	0.68
Purging Device	Proactive SS menscon
Volume of Bailer/Pump Capacity	
Cleaning Procedure	Acid wash, tap reuse, Dist. Rinse
Bails Removed/ Volume Removed	2.25 gal
Time Purging Started	0941
Time Purging Stopped	1046
Instrument Used to Monitor Field Parameters	YSI 556 (w/ Flow-cell), Hanna Turbidity meter
Sampling Device	Same
Cleaning Procedure	Same
Color	Gen. Cln.
Odor	None

TIME SAMPLES TAKEN	VOA		
	ABN		
	Metals		
		1108	
	Heavy Metals	1631	w/ bailer, no purge

PARAMETERS	Time	0941	0946	0951	0956	1001	1006	1011	1016	1021	1026	1031	1036
	Temp. C	13.92	15.04	15.28	16.21	16.43	16.25	16.45	15.95	16.24	16.39	15.93	17.89
	Conductivity (umhos/cm)	0.975	0.961	0.950	0.932	0.928	0.926	0.920	0.924	0.918	0.918	0.918	0.917
	Dissolved Oxygen (mg/L)	2.35	1.26	0.76	0.60	0.51	0.40	0.36	0.42	0.30	0.26	0.26	0.25
	pH	5.71	5.97	6.06	6.10	6.11	6.12	6.13	6.12	6.14	6.14	6.13	6.15
	ORP	864	715	70.1	65.6	64.7	64.8	65.1	65.0	65.8	66.1	66.3	65.6
	Drawdown Ft	0.29	0.25	0.26	0.31	0.32	0.22	0.24	0.25	0.22	0.23	0.24	0.24
	Volume purged/Gals												
	Turbidity (NTU)	319	363	151	59.1	36.1	17.4	10.9	8.85	6.08	5.48	4.51	5.15

Remarks: (ie: field filtrations, persons communicated with at site, etc.)

Spot check flow from 106 ml/min to 300 ml/min



LOW-FLOW GROUNDWATER SAMPLING RECORD

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PROJECT Former Leeds Assembly plant - Northern Area 1 H&A FILE NO. 37294
LOCATION S. of 6817 Stadium Drive, KCMD PROJECT MGR. M. Grubis
CLIENT RACER Trust FIELD REP J. Kutyniuk
CONTRACTOR _____ DATE 11/6/13

GROUNDWATER SAMPLING INFORMATION

Well ID	MW-08												
Depth Of Well (ft.) per Log	See Pg. 1												
Reference Mark													
Depth to Water from Reference Mark (ft.)													
Time													
Depth to Product (ft.)													
Field Measured Depth Of Well (ft.)													
Inside Diameter (in.)													
Standing Water Depth (ft.)													
Volume Of Water In Well (gallons/liters)													
Purging Device													
Volume of Bailor/Pump Capacity													
Cleaning Procedure													
Bails Removed/ Volume Removed													
Time Purging Started													
Time Purging Stopped													
Instrument Used to Monitor Field Parameters													
Sampling Device													
Cleaning Procedure													
Color													
Odor													
TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												
PARAMETERS	Time	1041	1046										
	Temp. C	16.99	17.00										
	Conductivity (umhos/cm)	0.929	0.919										
	Dissolved Oxygen (mg/L)	0.24	0.25										
	pH	6.14	6.14										
	ORP	65.4	65.7										
	Drawdown Ft	0.23	0.24										
	Volume purged/Gals												
	Turbidity (NTU)	5.18	5.16										

Remarks: (ie: field filtrations, persons communicated with at site, etc.)

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 1 of 2

PROJECT	Former Leeds Assembly Plant - Northern Parcel	H&A FILE NO.	37294
LOCATION	S. of 6817 Stadium Drive, Keno	PROJECT MGR.	M. Gravis
CLIENT	RACER Trust	FIELD REP	J. Knightly
CONTRACTOR		DATE	11/6/13

GROUNDWATER SAMPLING INFORMATION

Well ID	MW-09												
Depth Of Well (ft.) per Log	19.96												
Reference Mark	N. Side casing												
Depth to Water from Reference Mark (ft.)	16.76												
Time	11/1/13 1342												
Depth to Product (ft.)	ND												
Field Measured Depth Of Well (ft.)	19.96												
Inside Diameter (in.)	2"												
Standing Water Depth (ft.)	3.20												
Volume Of Water In Well (gallons/liters)	0.51												
Purging Device	Proactive SS monsoon												
Volume of Bailer/Pump Capacity													
Cleaning Procedure	Aircon wash, tap reuse, Dist. Rinse												
Bails Removed/ Volume Removed	3.5 gals												
Time Purging Started	1208												
Time Purging Stopped	1313												
Instrument Used to Monitor Field Parameters	YSI 556 (w/ Flow-cell), Hanna Turbidity meter												
Sampling Device	Same												
Cleaning Procedure	Same												
Color	Gen. Cln.												
Odor	None												
TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												
		1326											
	Heavy Metals	1624											
PARAMETERS	Time	1208	1213	1218	1223	1228	1233	1238	1243	1248	1253	1258	1303
	Temp, C	14.23	18.10	16.40	12.53	13.09	14.82	17.75	17.22	16.99	16.77	17.28	17.16
	Conductivity (umhos/cm)	0.984	0.987	0.990	1.023	0.981	0.967	0.980	0.980	0.978	0.976	0.978	0.979
	Dissolved Oxygen (mg/L)	2.93	0.53	0.34	0.37	0.26	0.25	0.20	0.17	0.17	0.14	0.15	0.15
	pH	6.26	6.23	6.22	6.20	6.20	6.18	6.21	6.20	6.20	6.19	6.20	6.21
	ORP	70.8	61.8	57.5	59.9	59.7	57.8	53.4	52.9	53.1	53.7	53.3	53.3
	Drawdown Ft	0.27	0.58	0.34	0.31	0.26	0.37	0.50	0.51	0.50	0.50	0.51	0.52
	Volume purged/Gals												
	Turbidity (NTU)	156	60.4	40.4	27.6	15.3	8.26	4.18	2.81	2.00	1.50	1.42	1.33
	Remarks: (ie: field filtrations, persons communicated with at site, etc.)	Spot check flow - from 198ml/min to 275ml/min.											

LOW-FLOW GROUNDWATER SAMPLING RECORD

Page 2 of 2

PROJECT	<u>Former Leeds Assembly plant - Northern Area 1</u>	H&A FILE NO.	<u>37294</u>
LOCATION	<u>S. of 6817 Stadium Drive, KCMD</u>	PROJECT MGR.	<u>M. Gravis</u>
CLIENT	<u>RACER Trust</u>	FIELD REP	<u>J. Kutzky</u>
CONTRACTOR		DATE	<u>11/6/13</u>

GROUNDWATER SAMPLING INFORMATION

Well ID	<u>MW-09</u>												
Depth Of Well (ft.) per Log	<u>See Pg. 1</u>												
Reference Mark													
Depth to Water from Reference Mark (ft.)													
Time													
Depth to Product (ft.)													
Field Measured Depth Of Well (ft.)													
Inside Diameter (in.)													
Standing Water Depth (ft.)													
Volume Of Water In Well (gallons/liters)													
Purging Device													
Volume of Bailor/Pump Capacity													
Cleaning Procedure													
Bails Removed/ Volume Removed													
Time Purging Started													
Time Purging Stopped													
Instrument Used to Monitor Field Parameters													
Sampling Device													
Cleaning Procedure													
Color													
Odor													
TIME SAMPLES TAKEN	VOA												
	ABN												
	Metals												
PARAMETERS	Time	<u>1308</u>	<u>1313</u>										
	Temp, C	<u>17.09</u>	<u>17.14</u>										
	Conductivity (umhos/cm)	<u>0.978</u>	<u>0.977</u>										
	Dissolved Oxygen (mg/L)	<u>0.15</u>	<u>0.15</u>										
	pH	<u>6.20</u>	<u>6.20</u>										
	ORP	<u>53.8</u>	<u>55.2</u>										
	Drawdown Ft	<u>0.52</u>	<u>0.52</u>										
	Volume purged/Gals												
	Turbidity (NTU)	<u>1.26</u>	<u>1.27</u>										

Remarks: (ie: field filtrations, persons communicated with at site, etc.)



1 of

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/29/13

Sampling Data:

Well ID:	<u>54-1</u>	Probe Depth:	<u>5</u>	ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>1703</u>	Top Of Screen:	<u>4'9"</u>	ft	Purge Vacuum:	<u>80 mmHg</u> inches H2O
Finish Time:	<u>1738</u>	Bottom Of Screen:	<u>5</u>	ft	Purge Time:	<u>0.25</u> min

Can 14013
Reg 4079!

[illegible]

Soil Gas SUMMA Canister Sampling Form

1 of

PROJECT	Leeds - Northern Parcel
LOCATION	South of 6817 Stadium Drive, Kansas City, MO
CLIENT	RACER Trust
CONTRACTOR	PSA Environmental

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/29/13

Sampling Data:

Well ID:	<u>SV-1</u>	Probe Depth:	<u>10</u>	ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>1647</u>	Top Of Screen:	<u>9'9"</u>	ft	Purge Vacuum:	<u>50-0</u> inches H2O
Finish Time:	<u>1721</u>	Bottom Of Screen:	<u>10'</u>	ft	Purge Time:	<u>0.75</u> min

Can 12082
Reg FC 00413

[illegible]

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/29/13

Well ID:	<u>SU-2</u>	Probe Depth:	<u>5</u> ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>1554</u>	Top Of Screen:	<u>4'9"</u> ft	Purge Vacuum:	<u>80-0</u> inches H2O
Finish Time:	<u>1616</u>	Bottom Of Screen:	<u>5</u> ft	Purge Time:	<u>0.25</u> min

Can ~~+3666~~ 13661
reg FC00642

Purge vol 7.25 L

Soil Gas SUMMA Canister Sampling Form

1 of 2

PROJECT	Leeds - Northern Parcel
LOCATION	South of 6817 Stadium Drive, Kansas City, MO
CLIENT	RACER Trust
CONTRACTOR	PSA Environmental

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/29/13

Sampling Data:

Well ID:	<u>SV-2</u>	Probe Depth:	<u>10'</u>	ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>1539</u>	Top Of Screen:	<u>9'9"</u>	ft	Purge Vacuum:	<u>50-40</u> inches H2O
Finish Time:	<u>1607</u>	Bottom Of Screen:	<u>10'</u>	ft	Purge Time:	<u>1.0</u> min

Can 34445
Reg FC00542

[illegible]



1 of

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/30/13

Well ID:	<u>SV-3</u>	Probe Depth:	<u>5</u>	ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>1442</u>	Top Of Screen:	<u>4' 9"</u>	ft	Purge Vacuum:	<u>20-80</u> inches H2O
Finish Time:	<u>1511</u>	Bottom Of Screen:	<u>5</u>	ft	Purge Time:	<u>3.5</u> min

Can 640015
Reg FC 00770

[illegible]

Soil Gas SUMMA Canister Sampling Form

1 of

PROJECT	Leeds - Northern Parcel
LOCATION	South of 6817 Stadium Drive, Kansas City, MO
CLIENT	RACER Trust
CONTRACTOR	PSA Environmental

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/30/13

Sampling Data:

Well ID:	<u>SV-3</u>	Probe Depth:	<u>10</u>	ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>1422</u>	Top Of Screen:	<u>9'9"</u>	ft	Purge Vacuum:	<u>20</u> inches H2O
Finish Time:	<u>1458</u>	Bottom Of Screen:	<u>10</u>	ft	Purge Time:	<u>2.5</u> min

Can 34436
Reg FC00647

[illegible]



1 of 4

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/31/13

Sampling Data:

Well ID:	<u>SV-4</u>	Probe Depth:	<u>5</u>	ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>1127</u>	Top Of Screen:	<u>4' 9"</u>	ft	Purge Vacuum:	<u>20</u> inches H2O
Finish Time:	<u>1203</u>	Bottom Of Screen:	<u>5</u>	ft	Purge Time:	<u>2.75</u> min

can 914
Reg Fc 00261

[illegible]

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/31/13

Well ID:	<u>SV-4</u>	Probe Depth:	<u>10</u>	ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>1113</u>	Top Of Screen:	<u>9'9"</u>	ft	Purge Vacuum:	<u>20</u> inches H ₂ O
Finish Time:	<u>1144</u>	Bottom Of Screen:	<u>10</u>	ft	Purge Time:	<u>40 sec.</u> min

C9n9413
Reg FC00261

Purge vol. 7.75L

Soil Gas SUMMA Canister Sampling Form

1 of 1

PROJECT Leeds - Northern Parcel
LOCATION South of 6817 Stadium Drive, Kansas City, MO
CLIENT RACER Trust
CONTRACTOR PSA Environmental

H&A FILE NO. 37294-018
PROJECT MGR. B. Wilkinson/M. Gruis
FIELD REP John Knightly
DATE 10/30/13

Sampling Data:

Well ID: SV-5 Probe Depth: 5 ft Purging Device: Geoprobe V/V System
Start time: 0949 Top Of Screen: 4'9" ft Purge Vacuum: 20 inches H2O
Finish Time: 1022 Bottom Of Screen: 5 ft Purge Time: 28sec min

Can 14037
Reg FC00525

Sample Location	Start Time	Initial Vacuum (inHg)	Interim Time	Interim Vacuum (inHg)	Final Time	Final Vacuum (inHg)	Comments
SV-5-5-001		-29.0					
	0949	-30.0	0	-30.0	-	-	
	0950	-29.5	1	-29.5	-	-	
	0952	-27.5	3	-27.5	-	-	
	0954	-25.5	5	-25.5	-	-	
	0957	-22.5	8	-22.5	-	-	
	0958	-21.0	9	-21.0	-	-	
	1002	-17.5	13	-17.5	-	-	
	1007	-13.0	18	-13.0	-	-	
	1010	-10.5	21	-10.5	-	-	
	1012	-10.0	23	-10.0	-	-	
	1016	-7.5	27	-7.5	-	-	
	1019	-6.0	30	-6.0	-	-	
	1022	-5.0	33	-5.0	1022	-5.0	
							Purge vol. 7.25 L

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/30/13

Well ID:	<u>SV-5</u>	Probe Depth:	<u>10</u> ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>0932</u>	Top Of Screen:	<u>9'9"</u> ft	Purge Vacuum:	<u>20</u> inches H2O
Finish Time:	<u>1006</u>	Bottom Of Screen:	<u>10</u> ft	Purge Time:	<u>35 sec.</u> min

Purge vol - 7.25L



1 of 1

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/30/13

Sampling Data:

Well ID:	<u>SV-6</u>	Probe Depth:	<u>5</u> ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>1:21</u>	Top Of Screen:	<u>4' 9"</u> ft	Purge Vacuum:	<u>80</u> inches H ₂ O
Finish Time:	<u>1:52</u>	Bottom Of Screen:	<u>5</u> ft	Purge Time:	<u>2.0 min</u> min

Can 35150
Reg FC00224

Sample Location	Start Time	Initial Vacuum (inHg)	Interim Time	Interim Vacuum (inHg)	Final Time	Final Vacuum (inHg)	Comments
SV-6-5-001		-21.0					
	1121	-28.0	0	-28.0	-	-	
	1123	-26.0	2	-26.0	-	-	
	1126	-23.0	5	-23.0	-	-	
	1129	-20.5	8	-20.5	-	-	
	1131	-19.0	10	-19.0	-	-	
	1136	-14.0	15	-14.0	-	-	
	1139	-12.0	18	-12.0	-	-	
	1141	-10.0	20	-10.0	-	-	
	1145	-8.0	24	-8.0	-	-	
	1148	-6.5	27	-6.5	-	-	
	1149	-6.0	28	-6.0	-	-	
	1152	-5.0	31	-5.0	1152	-5.0	
							Purge vol. - 7.25L
							6.75L

Soil Gas SUMMA Canister Sampling Form

1 of

PROJECT	Leeds - Northern Parcel
LOCATION	South of 6817 Stadium Drive, Kansas City, MO
CLIENT	RACER Trust
CONTRACTOR	PSA Environmental

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/30/13

Sampling Data:

Well ID:	<u>SV-6</u>	Probe Depth:	<u>10</u>	ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>1102</u>	Top Of Screen:	<u>9'9"</u>	ft	Purge Vacuum:	<u>20</u> inches H2O
Finish Time:	<u>1131</u>	Bottom Of Screen:	<u>10'</u>	ft	Purge Time:	<u>22 sec</u> min

Can 03790
Reg FC00392

[illegible]

Soil Gas SUMMA Canister Sampling Form

1 of 1

PROJECT	Leeds - Northern Parcel
LOCATION	South of 6817 Stadium Drive, Kansas City, MO
CLIENT	RACER Trust
CONTRACTOR	PSA Environmental

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/31/13

Sampling Data:

Well ID:	<u>5U-7</u>	Probe Depth:	<u>5</u>	ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>1543</u>	Top Of Screen:	<u>4'9"</u>	ft	Purge Vacuum:	<u>50</u> inches H2O
Finish Time:	<u>1613</u>	Bottom Of Screen:	<u>5</u>	ft	Purge Time:	<u>2.75</u> min

Can 25273
Reg FCOO 451

[illegible]

Purge vol - 6.75L

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/31/13

Well ID:	<u>547</u>	Probe Depth:	<u>10</u>	ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>1522</u>	Top Of Screen:	<u>9'9"</u>	ft	Purge Vacuum:	<u>80</u> inches H2O
Finish Time:	<u>1607</u>	Bottom Of Screen:	<u>10</u>	ft	Purge Time:	<u>7</u> min

Can 9575
Reg FC00293

Purge vol - 3.25 L



1 of 1

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/3/13

Sampling Data:

Well ID:	<u>SV-8</u>	Probe Depth:	<u>5</u> ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>1336</u>	Top Of Screen:	<u>4' 9"</u> ft	Purge Vacuum:	<u>20</u> inches H2O
Finish Time:	<u>1407</u>	Bottom Of Screen:	<u>5</u> ft	Purge Time:	<u>45</u> min

Can 9417
Reg FC 00206

[illegible]



1 of

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/31/13

Well ID:	<u>SV-8</u>	Probe Depth:	<u> </u>	ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u> </u>	Top Of Screen:	<u> </u>	ft	Purge Vacuum:	<u> </u> inches H2O
Finish Time:	<u> </u>	Bottom Of Screen:	<u> </u>	ft	Purge Time:	<u> </u> min

~~Can 9578
Reg FC00293~~

[illegible]

Soil Gas SUMMA Canister Sampling Form

1 of 1

PROJECT Leeds - Northern Parcel
 LOCATION South of 6817 Stadium Drive, Kansas City, MO
 CLIENT RACER Trust
 CONTRACTOR PSA Environmental

H&A FILE NO. 37294-018
 PROJECT MGR. B. Wilkinson/M. Gruis
 FIELD REP John Knightly
 DATE 10/31/13

Sampling Data:

Well ID: SU-9 Probe Depth: 5 ft Purging Device: Geoprobe V/V System
 Start time: 1000 Top Of Screen: 4' 9" ft Purge Vacuum: 20-40 inches H2O
 Finish Time: 1042 Bottom Of Screen: 5 ft Purge Time: 33 SPC min

Can 31433
 Reg 0000006498

Sample Location	Start Time	Initial Vacuum (inHg)	Interim Time	Interim Vacuum (inHg)	Final Time	Final Vacuum (inHg)	Comments
<u>SU-9-5-001</u>		<u>-26.5</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
	<u>10.00</u>	<u>-26.5</u>	<u>0</u>	<u>-26.5</u>	<u>-</u>	<u>-</u>	
	<u>1005</u>	<u>-25.5</u>	<u>5</u>	<u>-25.5</u>	<u>-</u>	<u>-</u>	<u>Rough Gauge</u>
	<u>1007</u>	<u>-24</u>	<u>7</u>	<u>-24</u>	<u>-</u>	<u>-</u>	
	<u>1011</u>	<u>-21</u>	<u>11</u>	<u>-21</u>	<u>-</u>	<u>-</u>	
	<u>1015</u>	<u>-19</u>	<u>15</u>	<u>-19</u>	<u>-</u>	<u>-</u>	
	<u>1016</u>	<u>-17</u>	<u>16</u>	<u>-17</u>	<u>-</u>	<u>-</u>	
	<u>1019</u>	<u>-15</u>	<u>19</u>	<u>-15</u>	<u>-</u>	<u>-</u>	
	<u>1021</u>	<u>-14</u>	<u>21</u>	<u>-14</u>	<u>-</u>	<u>-</u>	
	<u>1024</u>	<u>-12.5</u>	<u>24</u>	<u>-12.5</u>	<u>-</u>	<u>-</u>	
	<u>1026</u>	<u>-11.5</u>	<u>26</u>	<u>-11.5</u>	<u>-</u>	<u>-</u>	
	<u>1029</u>	<u>-10.5</u>	<u>29</u>	<u>-10.5</u>	<u>-</u>	<u>-</u>	
	<u>1033</u>	<u>-8.5</u>	<u>33</u>	<u>-8.5</u>	<u>-</u>	<u>-</u>	
	<u>1036</u>	<u>-7.5</u>	<u>36</u>	<u>-7.5</u>	<u>-</u>	<u>-</u>	
	<u>1040</u>	<u>-6.5</u>	<u>40</u>	<u>-6.5</u>	<u>-</u>	<u>-</u>	
	<u>1042</u>	<u>-6.0</u>	<u>42</u>	<u>-6.0</u>	<u>10.42</u>	<u>-6.0</u>	<u>End - rain moving in</u>
							<u>Purge Vol - 7.75 L</u>

Soil Gas SUMMA Canister Sampling Form

1 of 1

PROJECT: Leeds - Northern Parcel
 LOCATION: South of 6817 Stadium Drive, Kansas City, MO
 CLIENT: RACER Trust
 CONTRACTOR: PSA Environmental

H&A FILE NO.: 37294-018
 PROJECT MGR.: B. Wilkinson/M. Gruis
 FIELD REP: John Knightly
 DATE: 10/31/13

Sampling Data:

Well ID: SV-9 Probe Depth: 5 ft Purging Device: Geoprobe V/V System
 Start time: 1000 Top Of Screen: 4' 9" ft Purge Vacuum: 20-40 inches H2O
 Finish Time: 1042 Bottom Of Screen: 5 ft Purge Time: 33 SEC min

can 12683
 Reg FL00220

Sample Location	Start Time	Initial Vacuum (inHg)	Interim Time	Interim Vacuum (inHg)	Final Time	Final Vacuum (inHg)	Comments
SV-9-S-002		-26.5					
	1000	-30.0	0	-30.0			
	1005	-26	5	-26			Rough gauge
	1008	-22.5	8	-22.5			
	1011	-18.5	11	-18.5			
	1015	-15	15	-15			
	1017	-13	17	-13			
	1019	-10.5	19	-10.5			
	1022	-9	22	-9			
	1024	-7.5	24	-7.5			
	1027	-6.5	27	-6.5			
	1029	-5.5	29	-5.5			
	1033	-4.0	33	-4.0			
	1036	-2.5	36	-2.5			
	1040	-1.5	40	-1.5			
	1042	-1.5	42	-1.5	1042	-1.5	
							Purge vol. - 7.75L
							7.75

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/31/13

Well ID:	<u>SV-9</u>	Probe Depth:	<u>10</u>	ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>0946</u>	Top Of Screen:	<u>9'9"</u>	ft	Purge Vacuum:	<u>~60</u> inches H2O
Finish Time:	<u>1020</u>	Bottom Of Screen:	<u>10</u>	ft	Purge Time:	<u>2 min 55 sec</u> min

Can 926
Reg TC00840

Purge vol. = 7.25 L



1 of 1

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/29/13

Well ID:	<u>SV-10</u>	Probe Depth:	<u>5'</u>	ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>1410</u>	Top Of Screen:	<u>4'9"</u>	ft	Purge Vacuum:	<u>80-0</u> inches H2O
Finish Time:	<u>1453</u>	Bottom Of Screen:	<u>5'</u>	ft	Purge Time:	<u>2</u> min

Can 5735
Reg FC 00491

[illegible]

* Can # - written

**HALEY &
ALDRICH****Soil Gas SUMMA Canister Sampling Form**

1 of 1

PROJECT Leeds - Northern Parcel
 LOCATION South of 6817 Stadium Drive, Kansas City, MO
 CLIENT RACER Trust
 CONTRACTOR PSA Environmental

H&A FILE NO. 37294-018
 PROJECT MGR. B. Wilkinson/M. Gruis
 FIELD REP John Knightly
 DATE 10/29/13

Sampling Data:

Well ID: SV-10 Probe Depth: 10' ft Purging Device: Geoprobe V/V System
 Start time: 1344 Top Of Screen: 9'9" ft Purge Vacuum: 60-80 inches H2O
 Finish Time: 1420 Bottom Of Screen: 10' ft Purge Time: 2 min 56 sec min

Can* - 24491
 Reg. - FC00138

Sample Location	Start Time	Initial Vacuum (inHg)	Interim Time	Interim Vacuum (inHg)	Final Time	Final Vacuum (inHg)	Comments
SV-10-10-001	1339	-22					
	1344	-30	0	-30	-	-	
	1350	-24.5	6 min	-24.5	-	-	
	1357	-17.5	13 min	-17.5	-	-	
	1403	-13.0	19 min	-13.0	-	-	
	1411	-8.0	27 min	-8.0	-	-	
	1418	-6.0	34 min	-6.0	-	-	
	1420	-5.0	36 min	-5.0	1420	-5.0	
							Purge vol - 3 L



1 of

H&A FILE NO.	37294-018
PROJECT MGR.	B. Wilkinson/M. Gruis
FIELD REP	John Knightly
DATE	10/30/03

Sampling Data:

Well ID:	<u>EQ. BLANK</u>	Probe Depth:	<u>—</u>	ft	Purging Device:	<u>Geoprobe V/V System</u>
Start time:	<u>1346</u>	Top Of Screen:	<u>—</u>	ft	Purge Vacuum:	<u>—</u> inches H2O
Finish Time:	<u>1347</u>	Bottom Of Screen:	<u>—</u>	ft	Purge Time:	<u>—</u> min

Can R-14
Reg 40796

[illegible]

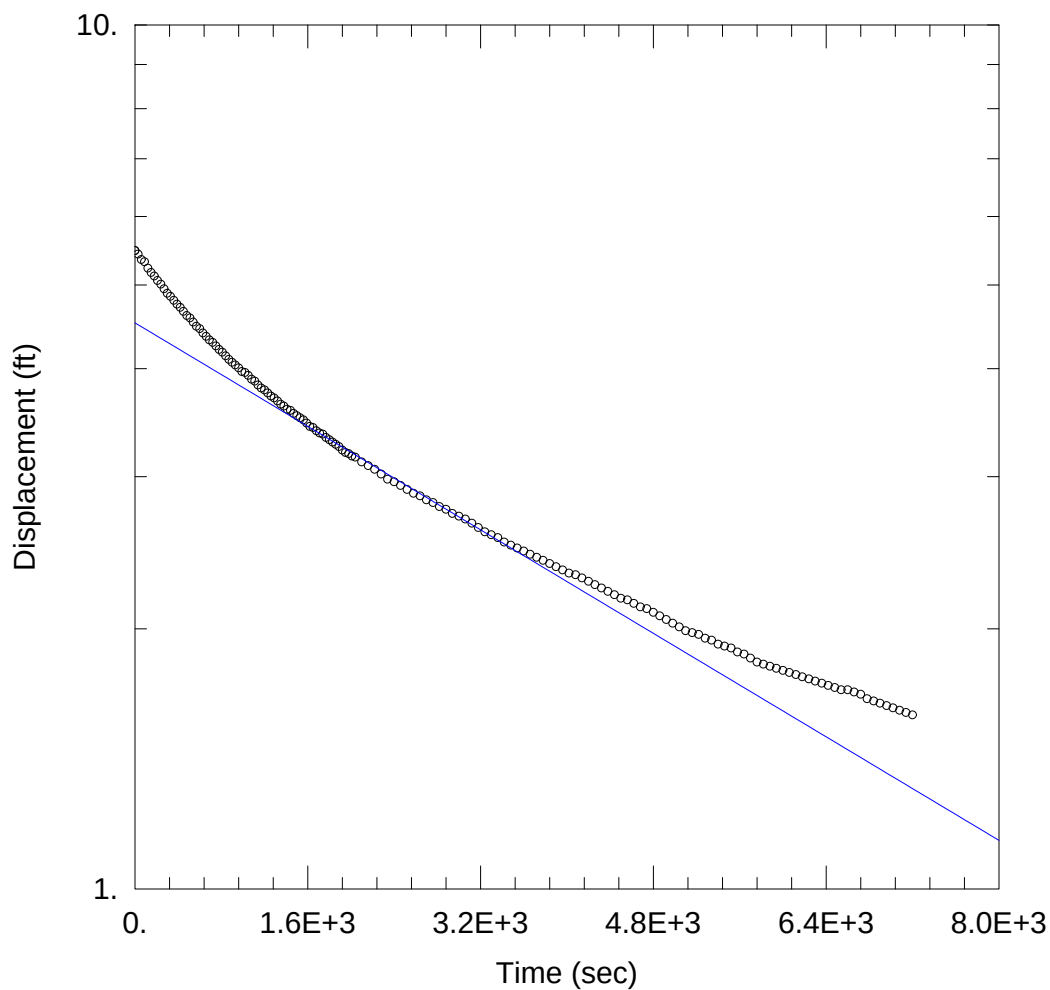
APPENDIX F

Eurofins Air Toxics LTD Laboratory Analytical Reports

(provided in separate file for e-copy submittal)

APPENDIX G

Slug Test Documentation



WELL TEST ANALYSIS

PROJECT INFORMATION

Company: Haley & Aldrich
 Test Well: MW-7
 Test Date: 1/13/14

AQUIFER DATA

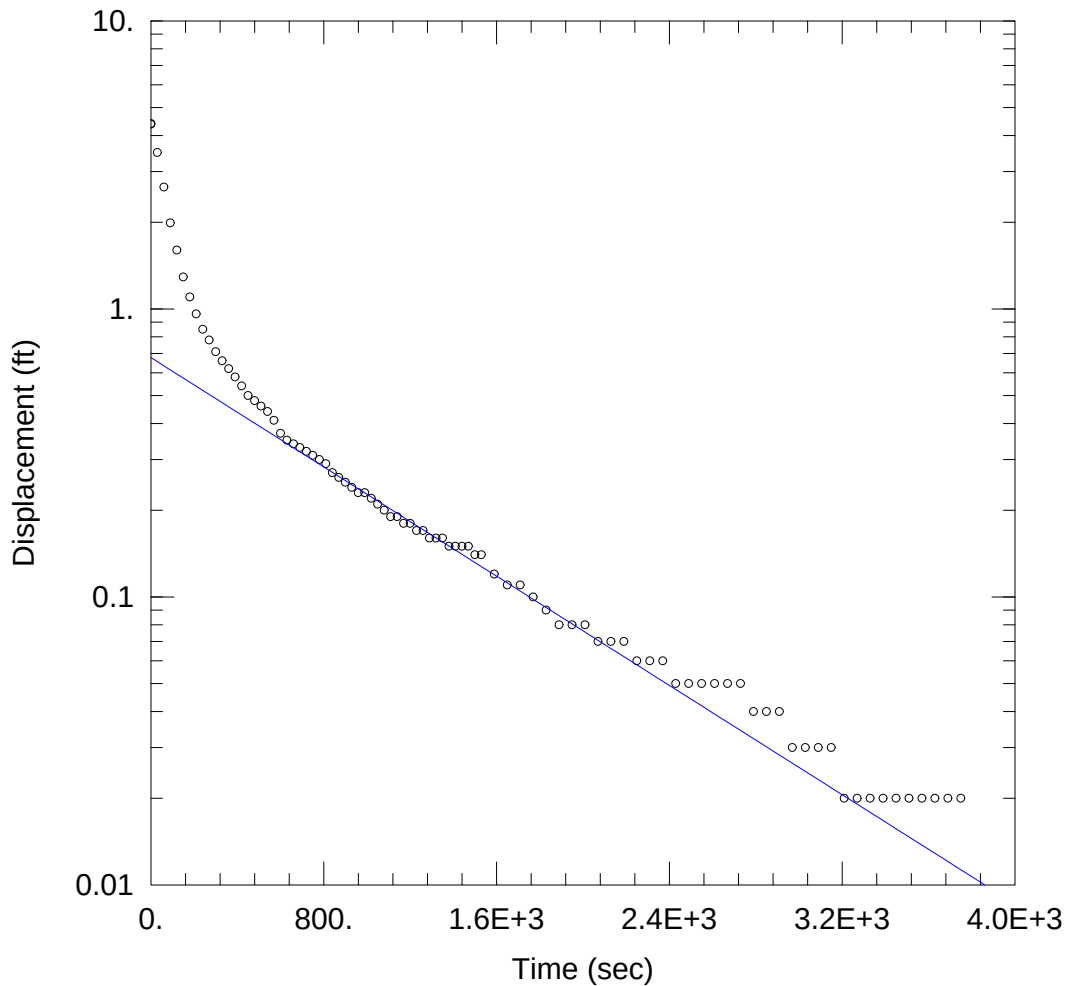
Saturated Thickness: 7.99 ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-7)

Initial Displacement: 5.48 ft Static Water Column Height: 7.99 ft
 Total Well Penetration Depth: 12.5 ft Screen Length: 12.5 ft
 Casing Radius: 0.083 ft Well Radius: 0.3 ft
 Gravel Pack Porosity: 0.2

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 $K = 2.119E-5$ cm/sec $y_0 = 4.52$ ft



WELL TEST ANALYSIS

PROJECT INFORMATION

Company: Haley & Aldrich
 Test Well: MW-3B
 Test Date: 1/13/14

AQUIFER DATA

Saturated Thickness: 32.89 ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-3B)

Initial Displacement: 4.4 ft Static Water Column Height: 32.89 ft
 Total Well Penetration Depth: 32.89 ft Screen Length: 12.5 ft
 Casing Radius: 0.083 ft Well Radius: 0.3 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 $K = 3.155E-5$ cm/sec $y_0 = 0.6771$ ft

APPENDIX H

Boundary and Topographic Survey Update



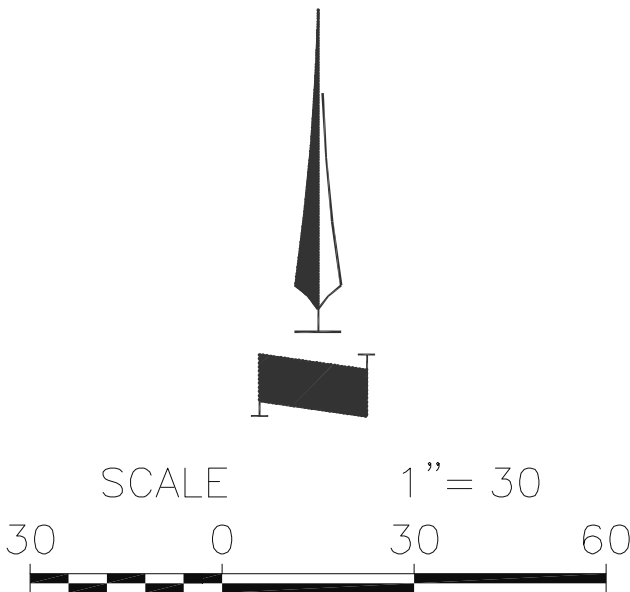
MONITOR WELL TABLE GROUND COORDINATES		
DESCRIPTION	NORTHING	EASTING
MW-1B	1050516.16	2787922.78
MW-1A	1050504.65	2787928.49
MW-2A	1050103.33	2787459.96
MW-2B	1050096.81	2787460.01
MW-5	1050099.95	2787861.48
MW-6	1050558.07	2787405.97
GP6D	1050575.31	2787394.07

TEST PIT TABLE GROUND COORDINATES			
DESCRIPTION	SIDE OF PIT	NORTHING	EASTING
TP-2	EAST	1050249.50	2787577.69
	WEST	1050249.98	2787561.26
TP-3	EAST	1050055.85	2787589.35
	WEST	1050055.95	2787573.04
TP-4	EAST	1050182.68	2787465.40
	WEST	1050183.60	2787448.98
TP-6	EAST	1050482.45	2787430.72
	WEST	1050483.51	2787415.58

MONITOR WELL TABLE GRID COORDINATES					
DESCRIPTION	NORTHING	EASTING	RIM	CASING	LATITUDE
MW-1B	1050414.36	2787652.63	763.80	763.52	39°03'05.4"
MW-1A	1050402.86	2787658.34	764.11	763.66	39°03'05.3"
MW-2A	1050001.58	2787189.85	762.40	762.13	39°03'01.3"
MW-2B	1049995.05	2787189.90	762.31	762.04	39°03'01.3"
MW-5	1049998.20	2787591.34	763.14	762.83	39°03'01.3"
MW-6	1050456.27	2787135.87	761.06	760.76	39°03'05.8"
GP6D	1050473.50	2787123.97	761.23		39°03'06.0"

TEST PIT TABLE GRID COORDINATES					
DESCRIPTION	SIDE OF PIT	NORTHING	EASTING	ELEVATION	LATITUDE
TP-2	EAST	1050147.73	2787307.57	760.44	39°03'02.8"
	WEST	1050148.21	2787291.14	760.53	39°03'02.8"
TP-3	EAST	1049954.10	2787319.23	761.07	39°03'00.9"
	WEST	1049954.20	2787302.93	760.95	39°03'00.9"
TP-4	EAST	1050080.92	2787195.29	761.35	39°03'02.1"
	WEST	1050081.84	2787178.88	761.49	39°03'02.1"
TP-6	EAST	1050380.66	2787160.62	760.26	39°03'05.1"
	WEST	1050381.72	2787145.48	760.46	39°03'05.1"

LEGEND	
POWER POLE	⊕
LIGHT POLES	⊗ PP
ANCHOR	⊙ LP
WATER VALVE	⊕ WV
BENCHMARK	⊕ BV
CONTROL POINT	⊕ CP
GATE POST	⊕ GP
MANHOLE (SAN., STORM, TEL.)	⊕ MH
FENCE	— X —
OVERHEAD POWER LINE	— OHP —
MONITOR WELL	⊕ MW
TEST PIT	⊕ TP



PROPERTY BOUNDARY/TOPOGRAPHIC SURVEY
LEEDS INDUSTRIAL PARK
KANSAS CITY, JACKSON COUNTY, MISSOURI

HALEY & ALDRICH, INC.
8735 ROSEHILL ROAD, SUITE 340
LENEXA, KANSAS 66215

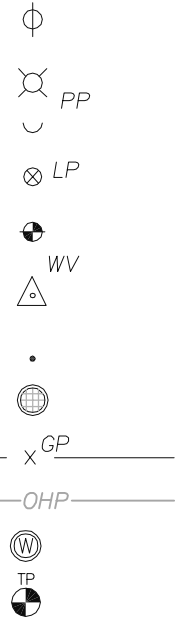
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Drawn By: JWSIR
Checked By: JBL
Date: 11-14-2011
Scale: 1"=30'
File Name: 11300TOPO.DWG

LOVELACE & ASSOCIATES
Land Surveying - Land Planning
929 SE 3rd Street Lee's Summit, Missouri 64063
Phone: (816) 347-9997 Fax: (816) 347-9979

TOPOGRAPHIC

LEGEND

- POWER POLE
LIGHT POLES
ANCHOR
WATER VALVE
BENCHMARK
CONTROL POINT
GATE POST
MANHOLE (SAN., STORM, TEL.)
FENCE
OVERHEAD POWER LINE
MONITOR WELL
TEST PIT



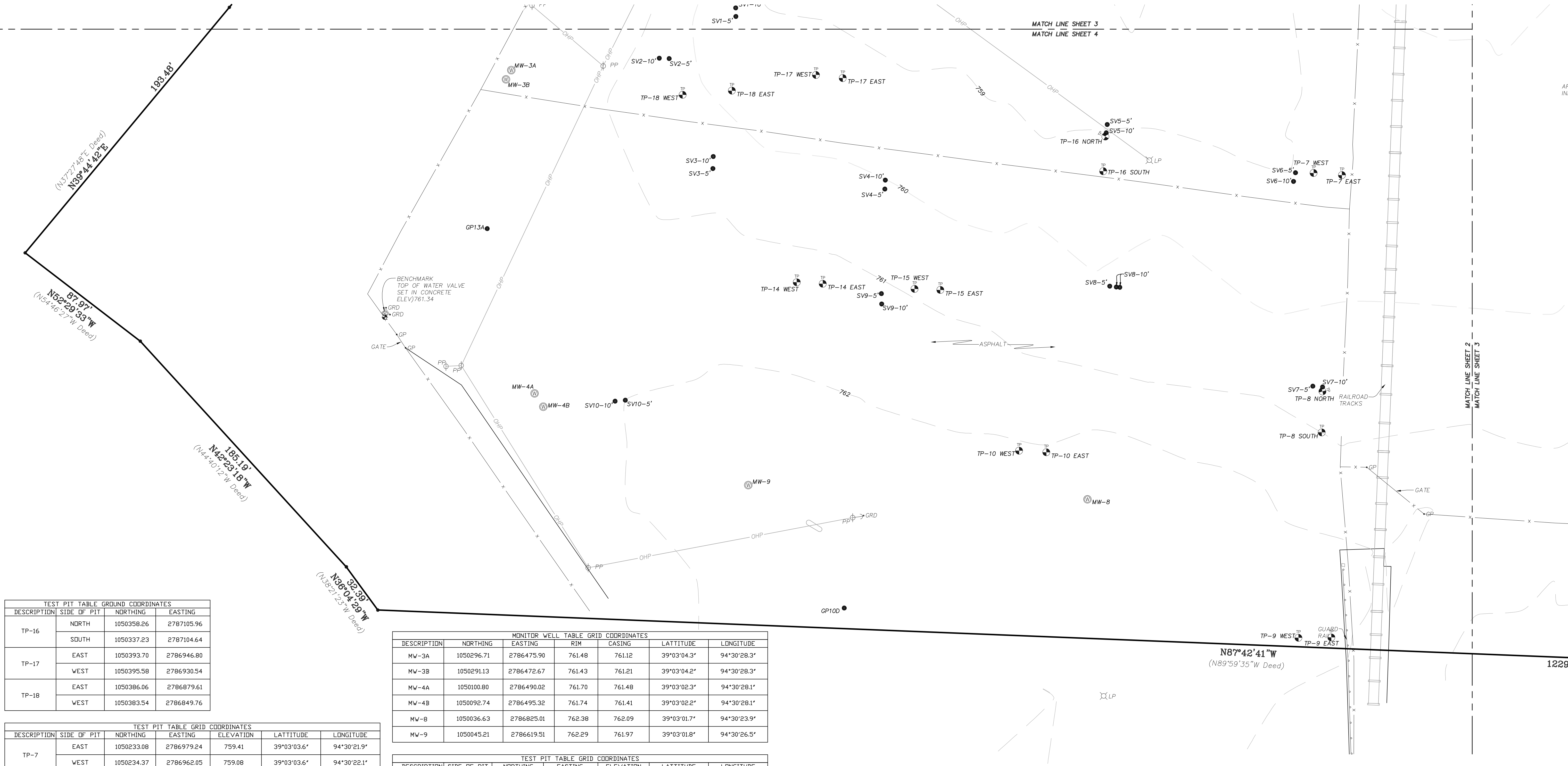
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1" = 30'

DESCRIPTION	MONITOR WELL TABLE GRID COORDINATES				LATITUDE	LONGITUDE
	NORTHING	EASTING	RIM	CASING		
GP13A	1050200.65	2786461.34	761.69		39°03'03.3"	94°30'28.5"
GP10D	1049970.71	2786677.62	762.54		39°03'01.0"	94°30'25.7"
SV2-5'	1050303.72	2786571.53	760.55		39°03'04.3"	94°30'27.1"
SV2-10'	1050303.97	2786565.58	760.70		39°03'04.3"	94°30'27.2"
SV3-5'	1050237.10	2786598.05	760.67		39°03'03.7"	94°30'26.8"
SV3-10'	1050244.38	2786598.27	760.57		39°03'03.7"	94°30'26.7"
SV4-5'	1050224.65	2786702.25	759.98		39°03'03.5"	94°30'25.4"
SV4-10'	1050230.06	2786702.53	759.88		39°03'03.6"	94°30'25.4"
SV5-5'	1050263.77	2786837.00	759.07		39°03'03.9"	94°30'23.7"
SV5-10'	1050258.71	2786836.41	760.06		39°03'03.9"	94°30'23.7"
SV6-5'	1050234.54	2786951.09	759.09		39°03'03.6"	94°30'22.3"

DESCRIPTION	MONITOR WELL TABLE GRID COORDINATES				LATITUDE	LONGITUDE
	NORTHING	EASTING	RIM	CASING		
SV6-10'	1050229.27	2786949.85	759.22		39°03'03.6"	94°30'22.3"
SV7-5'	1050105.15	2786961.55	760.7523		39°03'24.4"	94°30'22.1"
SV7-10'	1050104.65	2786967.46	760.78		39°03'24.4"	94°30'22.1"
SV8-5'	1050165.81	2786838.52	760.16		39°03'03.0"	94°30'23.7"
SV8-10'	1050165.25	2786842.50	760.10		39°03'03.0"	94°30'23.7"
SV8-10'	1050165.12	2786844.65	760.09		39°03'03.0"	94°30'23.6"
SV9-5'	1050161.26	2786700.18	761.30		39°03'02.9"	94°30'25.5"
SV9-10'	1050154.98	2786700.33	761.28		39°03'02.9"	94°30'25.5"
SV10-5'	1050096.65	2786545.02	762.07		39°03'02.3"	94°30'27.4"
SV10-10'	1050096.07	2786538.82	762.16		39°03'02.3"	94°30'27.5"

MONITOR WELL DESCRIPTION	TABLE GROUND COORDINATES	
	NORTHING	EASTING
GP13A	1050302.42	2786731.38
GP10D	1050072.46	2786947.68
SV2-5'	1050405.51	2786841.58
SV2-10'	1050405.76	2786835.63
SV3-5'	1050338.88	2786868.11
SV3-10'	1050346.16	2786868.33
SV4-5'	1050326.43	2786972.31
SV4-10'	1050331.84	2786972.60
SV5-5'	1050365.55	2787107.08
SV5-10'	1050360.49	2787106.48
SV6-5'	1050336.31	2787221.18

MONITOR WELL DESCRIPTION	TABLE GROUND COORDINATES	
	NORTHING	EASTING
SV6-10'	1050331.05	2787219.94
SV7-5'	1050206.91	2787231.64
SV7-10'	1050206.42	2787237.55
SV8-5'	1050267.58	2787108.60
SV8-10'	1050267.03	2787112.58
SV8-10'	1050266.89	2787114.73
SV9-5'	1050263.04	2786970.24
SV9-10'	1050256.75	2786970.39
SV10-5'	1050198.41	2786815.07
SV10-10'	1050197.84	2786808.87



TEST PIT TABLE GROUND COORDINATES		
DESCRIPTION	SIDE OF PIT	COORDINATES
TP-16	NORTH	1050358.26 2787105.96
	SOUTH	1050337.23 2787104.64
TP-17	EAST	1050393.70 2786946.80
	WEST	1050395.58 2786930.54
TP-18	EAST	1050386.06 2786879.61
	WEST	1050383.54 2786849.76

TEST PIT TABLE GRID COORDINATES					
DESCRIPTION	SIDE OF PIT	NORTHING	EASTING	ELEVATION	COORDINATES
TP-7	EAST	1050233.08	2786979.24	759.41	39°03'03.6" 94°30'21.9"
	WEST	1050234.37	2786962.05	759.08	39°03'03.6" 94°30'22.1"
TP-8	NORTH	1050102.01	2786967.41	760.75	39°03'02.3" 94°30'22.1"
	SOUTH	1050077.18	2786966.98	761.06	39°03'02.1" 94°30'22.1"
TP-9	EAST	1049952.90	2786972.79	762.27	39°03'00.9" 94°30'22.0"
	WEST	1049952.68	2786952.84	762.07	39°03'00.8" 94°30'22.3"
TP-10	EAST	1050065.11	2786800.09	761.90	39°03'02.0" 94°30'24.2"
	WEST	1050066.08	2786783.59	761.96	39°03'02.0" 94°30'24.4"
TP-14	EAST	1050167.26	2786664.63	761.34	39°03'03.0" 94°30'25.9"
	WEST	1050168.16	2786648.86	761.33	39°03'03.0" 94°30'26.1"

MONITOR WELL TABLE GRID COORDINATES					
DESCRIPTION	NORTHING	EASTING	RIM	CASING	COORDINATES
MW-3A	1050296.71	2786475.90	761.48	761.12	39°03'04.3" 94°30'28.3"
MW-3B	1050291.13	2786472.67	761.43	761.21	39°03'04.2" 94°30'28.3"
MW-4A	1050100.80	2786490.02	761.70	761.48	39°03'02.3" 94°30'28.1"
MW-4B	1050092.74	2786495.32	761.74	761.41	39°03'02.2" 94°30'28.1"
MW-8	1050036.63	2786825.01	762.38	762.09	39°03'01.7" 94°30'23.9"
MW-9	1050045.21	2786619.51	762.29	761.97	39°03'01.8" 94°30'26.5"

TEST PIT TABLE GRID COORDINATES					
DESCRIPTION	SIDE OF PIT	NORTHING	EASTING	ELEVATION	COORDINATES
TP-15	EAST	1050163.50	2786735.86	760.65	39°03'02.9" 94°30'25.0"
	WEST	1050164.11	2786720.25	759.39	39°03'02.9" 94°30'25.2"
TP-16	NORTH	1050256.48	2786835.89	759.09	39°03'03.9" 94°30'23.7"
	SOUTH	1050235.45	2786834.57	761.49	39°03'03.6" 94°30'23.8"
TP-17	EAST	1050291.92	2786676.75	759.05	39°03'04.2" 94°30'25.8"
	WEST	1050293.80	2786660.49	759.18	39°03'04.2" 94°30'26.0"
TP-18	EAST	1050284.28	2786609.56	759.39	39°03'04.1" 94°30'26.6"
	WEST	1050281.75	2786579.71	760.29	39°03'04.1" 94°30'27.0"

MONITOR WELL TABLE GROUND COORDINATES		
DESCRIPTION	NORTHING	EASTING
MW-3A	1050398.49	2786745.94
MW-3B	1050392.91	2786742.70
MW-4A	1050202.56	2786760.06
MW-4B	1050194.50	2786765.35
MW-8	1050138.39	2787095.08
MW-9	1050146.97	2786889.56

TEST PIT TABLE GROUND COORDINATES			
DESCRIPTION	SIDE OF PIT	NORTHING	EASTING
TP-7	EAST	1050334.86	2787249.32
	WEST	1050336.15	2787232.13
TP-8	NORTH	1050203.78	2787237.49
	SOUTH	1050178.94	2787237.06
TP-9	EAST	1050054.65	2787242.88
	WEST	1050054.43	2787222.93

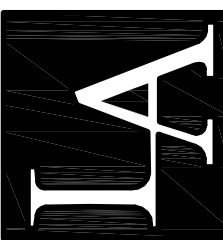
TEST PIT TABLE GROUND COORDINATES			
DESCRIPTION	SIDE OF PIT	NORTHING	EASTING
TP-10	EAST	1050166.87	2787070.15
	WEST	1050167.84	2787053.66
TP-14	EAST	1050269.03	2786934.69
	WEST	1050269.93	2786918.91
TP-15	EAST	1050265.27	2787005.92
	WEST	1050265.88	2786990.31

PROPERTY BOUNDARY/TOPOGRAPHIC SURVEY
LEEDS INDUSTRIAL PARK
KANSAS CITY, JACKSON COUNTY, MISSOURI

PREPARED FOR:
Haley & Aldrich, Inc.
8735 Rosehill Road, Suite 340
Lenexa, Kansas 66215

Project No: 11300
Drawn By: JWSIR
Checked By: JBL
Date: 11-14-2011
Scale: 1"=30'
File Name: 11300TOPO.DWG

LOVELACE & ASSOCIATES
Land Surveying - Land Planning
929 SE 3rd Street Lee's Summit, Missouri 64063
Phone: (816) 347-9997 Fax: (816) 347-9979



TOPOGRAPHIC

APPENDIX I
Seep Survey Photos

APPENDIX I – SEEPS SURVEY PHOTOGRAPHIC LOG



Photograph 1.

Looking northeast at slope located west of the Drum Discovery Area. No observed seepage.



Photograph 2.

Looking southeast at exposed slope located west of MW-3A and MW-3B. No observed seepage.

APPENDIX I – SEEPS SURVEY PHOTOGRAPHIC LOG



Photograph 3.

Close-up view of slope described in Photograph 2.



Photograph 4.

Looking northeast along drainage ditch from general area of Photograph 2.

APPENDIX J

Pertinent Sections of the Blue River Watershed Inventory and Assessment

BLUE RIVER

WATERSHED

INVENTORY AND ASSESSMENT

PREPARED BY:
GREGORY D. PITCHFORD
ROBERT D. PULLIAM
KEVIN P. SULLIVAN

and

PHILIP J. JEFFRIES
Kansas City Fisheries Regional Supervisor

For additional information contact:

Kansas City Regional Fisheries staff

3424 NW Duncan Road, Blue Springs, Missouri 64015

EXECUTIVE SUMMARY

The Blue River is a fifth order stream which flows 41 miles in a northeasterly direction through the Kansas City metropolitan area and enters the Missouri River at river mile 357. Brush, Indian, Tomahawk, Wolf, and Coffee creeks are major fourth order streams in the basin. Average stream gradients range from 4 feet/mile for the Blue River to 68 feet/mile for Round Grove Creek. Average annual precipitation in the basin is 36 inches while average annual runoff is about seven inches. Average annual discharge of the Blue River at stream mile 22 is 157 cfs. Blue River flows tend to be flashy and the stream frequently floods.

An estimated 2.6 miles of the Blue River have been lost due to channelization. A project is currently underway to channelize a 12-mile reach of the stream from Interstate Highway 435 upstream to 59th Street. An estimated 1.6 more miles of stream will be lost. Brush and Indian creeks have also experienced extensive channel alterations.

Blue River water quality is relatively good upstream from the confluence with Indian Creek. A large sewage treatment plant on Indian Creek chronically degrades water quality in the lower half of the Blue River. As the river flows downstream through the industrialized district, water quality deteriorates further. Fish kills associated with depressed dissolved oxygen levels and chemical spills are common. During low flows, the lower three miles of the Blue River is so grossly polluted by another large sewage treatment plant and industries that it sometimes cannot support fish and many other aquatic organisms. The disrupted hydrograph which is typical of urban streams also has adverse effects on aquatic fauna.

Thirty-eight species of fish have been sampled from the Blue River and its tributaries. No angling surveys have been conducted on basin streams, however, fishing pressure is probably moderate. Channel catfish and carp are two of the more important sport fishes, but the Blue River also offers fishing opportunities for largemouth bass and green sunfish, especially in the reach

upstream from the confluence with Indian Creek. Statewide fishing regulations apply to the Blue River and its tributaries in both Missouri and Kansas.

The upper Blue River is a unique resource in the metropolitan area. Fortunately, most of the 18-mile reach from 63rd Street upstream to the Missouri/Kansas state line is in public ownership. Major efforts should be directed toward improving the riparian corridor in this linear parkway. Protecting stream habitat and fauna will require cooperation with numerous local, state, and federal agencies as well as increased public awareness and advocacy.

Blue River watershed streams and corridors are valuable resources for a variety of recreational uses such as fishing, hiking, and nature interpretation. Fortunately, there is a large amount of public park land along the Blue River and, to a lesser degree, along some of its major tributary streams. There is a need to publicize recreational opportunities and improve access to these natural areas. There is also a need to increase public awareness and appreciation for these resources to promote advocacy for watershed streams.

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Corps of Engineers Jurisdiction	Channel Gradients
WATER QUALITY AND USE	HYDROLOGY
Beneficial Use Attainment	Precipitation
Chemical Quality, Contamination and Fish Kills	USGS Gaging Stations
Water Use	Permanent/Intermittent Streams
Point Source Pollution	Stream Flow
Nonpoint Source Pollution	Dams and Hydropower Influences
ANGLER GUIDE	LITERATURE CITED
RELATED INFORMATION	GLOSSARY
BIOTIC COMMUNITY	HABITAT CONDITIONS

Fish Community Data	Channel Alterations
Threatened and Endangered Species	Unique Habitats
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Figure ge. Geology of the Blue River watershed.

Figure nd. Blue River watershed and its location within the Natural Divisions of Missouri.

Figure lu. Land use and cover for the Blue River watershed.

Figure lo. Location of the Blue River watershed.

Figure pa. Public areas in the Blue River watershed, in Missouri and Kansas.

Figure fs. Fish sample sites in the Blue River watershed in Missouri and Kansas.

Figure hb. Habitat sampling sites in the Blue River watershed in Missouri.

Figure ps. Point source pollution locations in the Blue River watershed, in Missouri.

LIST OF TABLES

Table 1. Orders and lengths of major streams located within the Blue River Basin

Table 2. Watershed areas of major streams located within the Blue River basin.

Table 3. Permanent and intermittent flow in major streams in the Blue River basin.

Table 4. Stream use classifications for the Blue River basin (MDNR 1984).

Table 5. Fishes sampled from the Blue River by MDC, 1966-1998.

Table 6. Fishes sampled from Blue River basin streams by Kansas Department of Wildlife and Parks (KDWP), 1978.

LOCATION

The Blue River basin (Figure 10) is a sub-basin of the Missouri River basin. The Missouri portion of the watershed (40%) is in western Jackson County and the northwestern corner of Cass County (U.S. Army Corps of Engineers [USACOE]1974). Nearly all of the Kansas portion of the watershed is in eastern Johnson County.

The Blue River originates at the confluence of Wolf and Coffee creeks which is three miles south of Stanley, Kansas. The river flows 41 miles northeast and enters the Missouri River at river mile 357. Other major tributaries of the Blue River include Camp Branch, Mill Creek, Negro Creek, Indian Creek, Brush Creek, and Round Grove Creek.

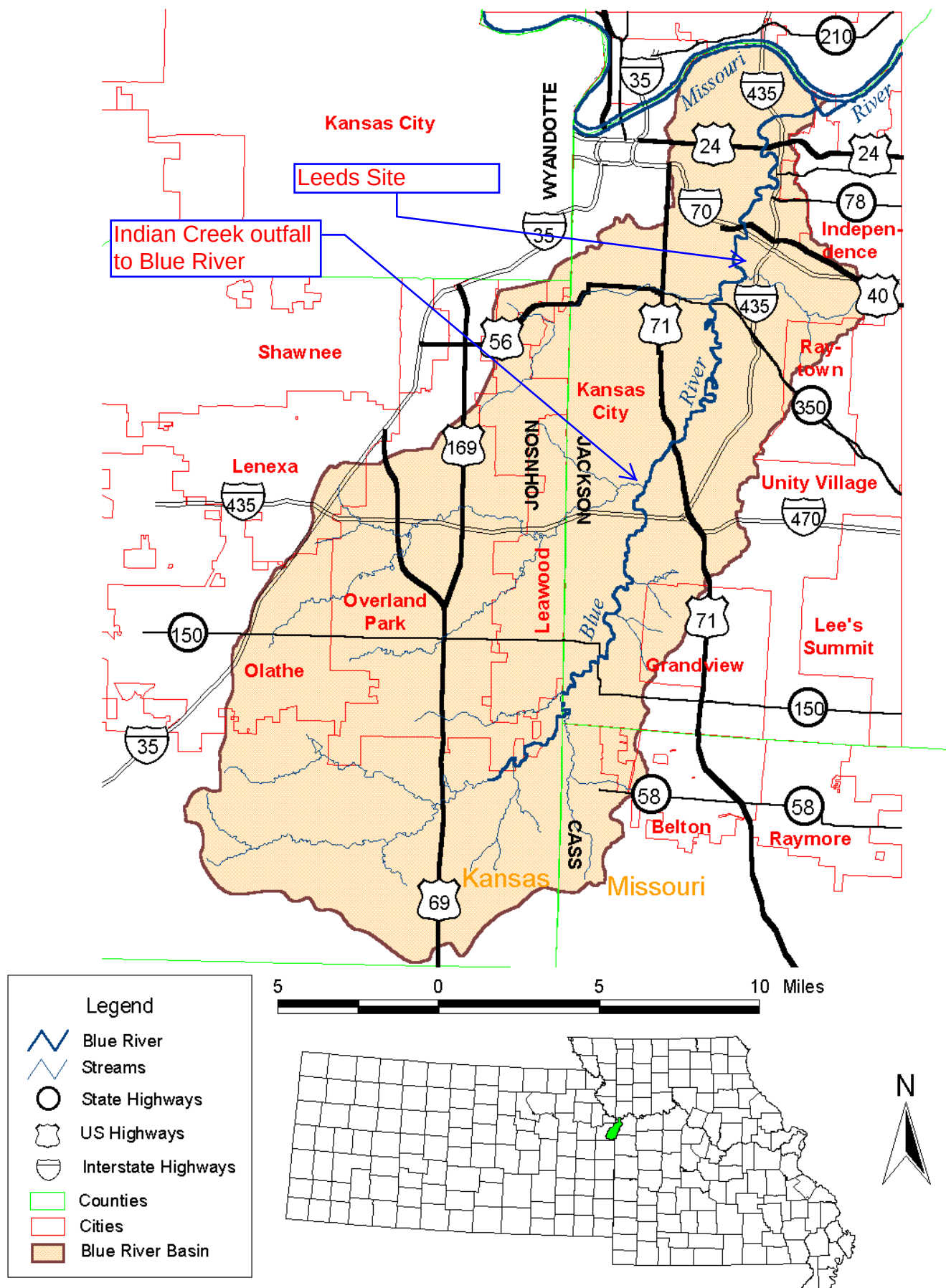


Figure 10. General location of the Blue River watershed in Missouri and Kansas

LAND USE

Recent Land Use

In 1974, approximately 63 percent of the Blue River watershed was urbanized (USACOE 1974, Figure 1u). At that time most of the upper watershed was rural while the middle and lower portions had undergone extensive residential, commercial, and industrial development. The Missouri portion of the watershed is estimated to be 90 percent urban (Kansas City, MO and suburbs) and 10 percent agricultural (MDNR 1984). Since 1974, urban development has expanded into the upper watershed and will continue to do so. Residential and commercial development in Johnson County, Kansas is expanding rapidly. The long range population forecast estimates that the population of Johnson County will increase from 270,269 in 1980 to 400,474 (48% increase) by the year 2000 (Mid-America Regional Council [MARC] 1988). Jackson County, Missouri will increase from 629,266 in 1980 to an estimated 650,663 (3% increase) by 2000.

Cropland acreage has been declining in the Blue River watershed 3-county region which includes all of Jackson and Cass counties in Missouri and Johnson County, Kansas (USACOE 1974). Agriculture is changing from intensive cropping to greater use of land for pasture and livestock grazing. Approximately 14 percent (130,000 acres) of the agricultural land is forest. The forested areas within the Blue River watershed are found primarily along the slopes and bottom lands of the streams, particularly along Mill, Wolf, and Coffee creeks.

The U.S. Fish and Wildlife Service (USFWS 1986) calculated the land use for the Blue River and its major tributaries. The following is a summary of that report:

Blue River: In the late 1970s, the surrounding land use in the upper and middle portions of the Blue River was 40% grassland, 35% cultivated, 15% housing, and 10% industrial. This land is rapidly being converted to residential areas. The lower reach is largely industrial.

Brush Creek: This stream flows through almost 100% suburban housing from 79th and Lamar to the state line. The lower portion flows through the Brush Creek Parkway in Kansas City, Missouri. Land use along this stretch is a mixture of park, residential, and commercial land.

Indian Creek: The surrounding land is composed of approximately 50% urban development, 24% cultivated farm land, 14% grassland, 8% timber, and 4% industrial land.

Tomahawk Creek: In 1977 the land use in this watershed was approximately 50% pasture, 33% timber, 13% urban development, and 5% cultivated land. Since then, a great deal of residential and commercial development has taken place.

Negro Creek: Housing developments make up 60% of the surrounding land. The remainder is 30% pasture and 10% timber.

Wolf Creek: In 1977, approximately 70% of the ground cover was grass. The remaining land was made up of 20% cultivated and 10% timber with scattered small cultivated plots.

Coffee Creek: The majority of the land is pasture or has been subdivided into private and commercial housing developments.

Soil Conservation Projects

The Blue River watershed has no completed, ongoing or planned soil conservation projects. This category includes both Public Law 566 (PL-566) watershed projects and Special Area Land Treatment (SALT) projects (MDNR 1986 and Don Baker, Natural Resources Conservation Service [NRCS], personal communication).

Public Areas

Parks along portions of Brush, Indian, Tomahawk, Coffee, and Wolf creeks, and especially the Blue River provide important habitat for fish and wildlife and many opportunities for outdoor recreation (Figure pa). At least one bank of the Blue River is in public ownership for approximately 15.2 of the 17.6 miles from the Missouri/Kansas state line downstream to 63rd Street. Both banks of this stream reach are publicly owned for a distance of 11.9 miles. These public lands are owned by Jackson County Parks and Recreation (JCPR) and Kansas City Parks, Recreation and Boulevards (KCPRB).

Corps of Engineers 404 Jurisdiction

The entire Blue River watershed is under the jurisdiction of the Kansas City District USACOE. Even though some minor in-stream activities are permitted under Nationwide Permit, applicants should always contact the USACOE office to inquire about proposed projects. Applications for and information about 404 permits should be directed to the Kansas City Office: Regulatory Branch, Kansas City District Corps of Engineers, 700 Federal Building, 601 East 12th Street, Kansas City, Missouri 64106. General regulatory information can also be found at the USACOE Regulatory Program web site.

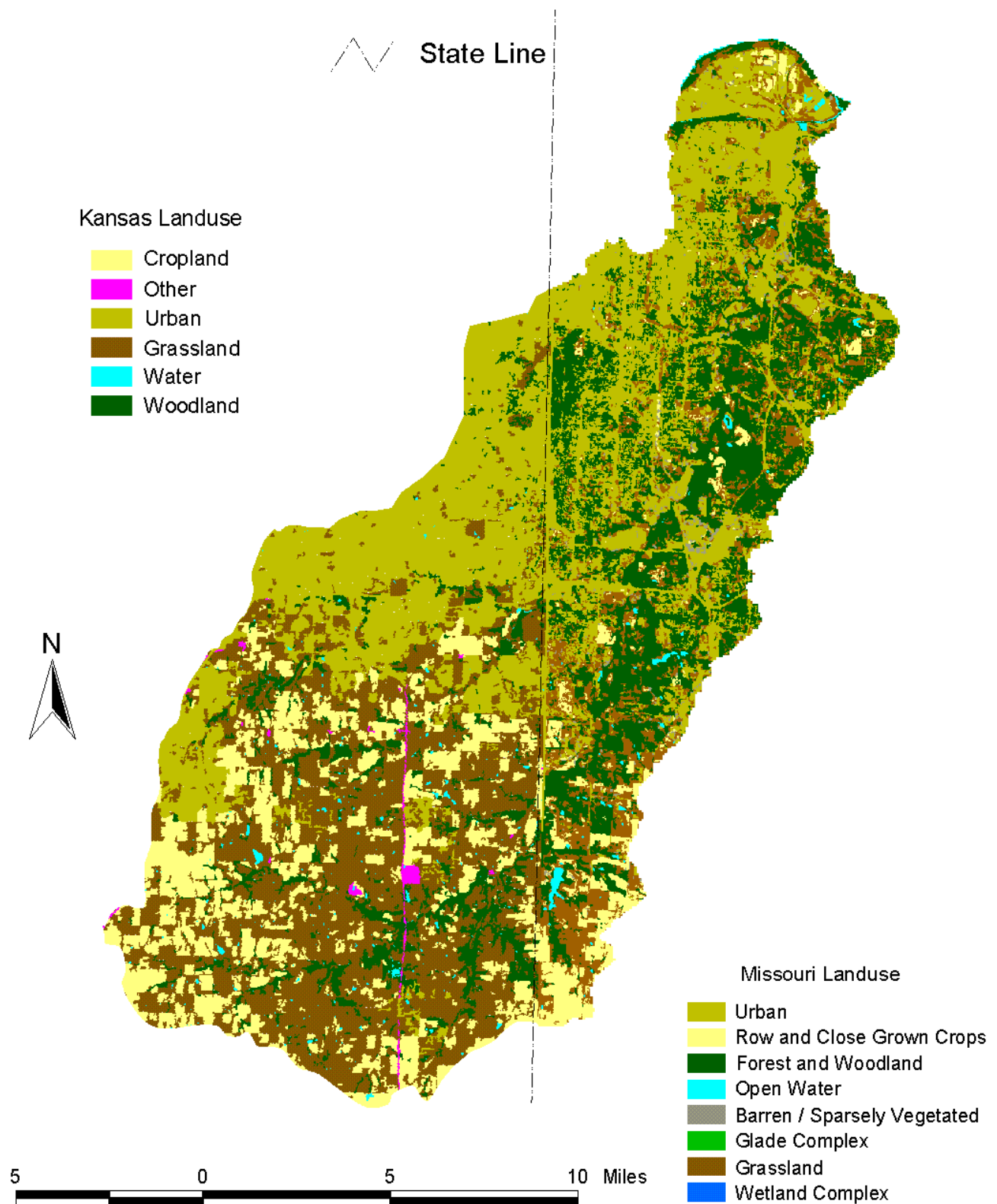
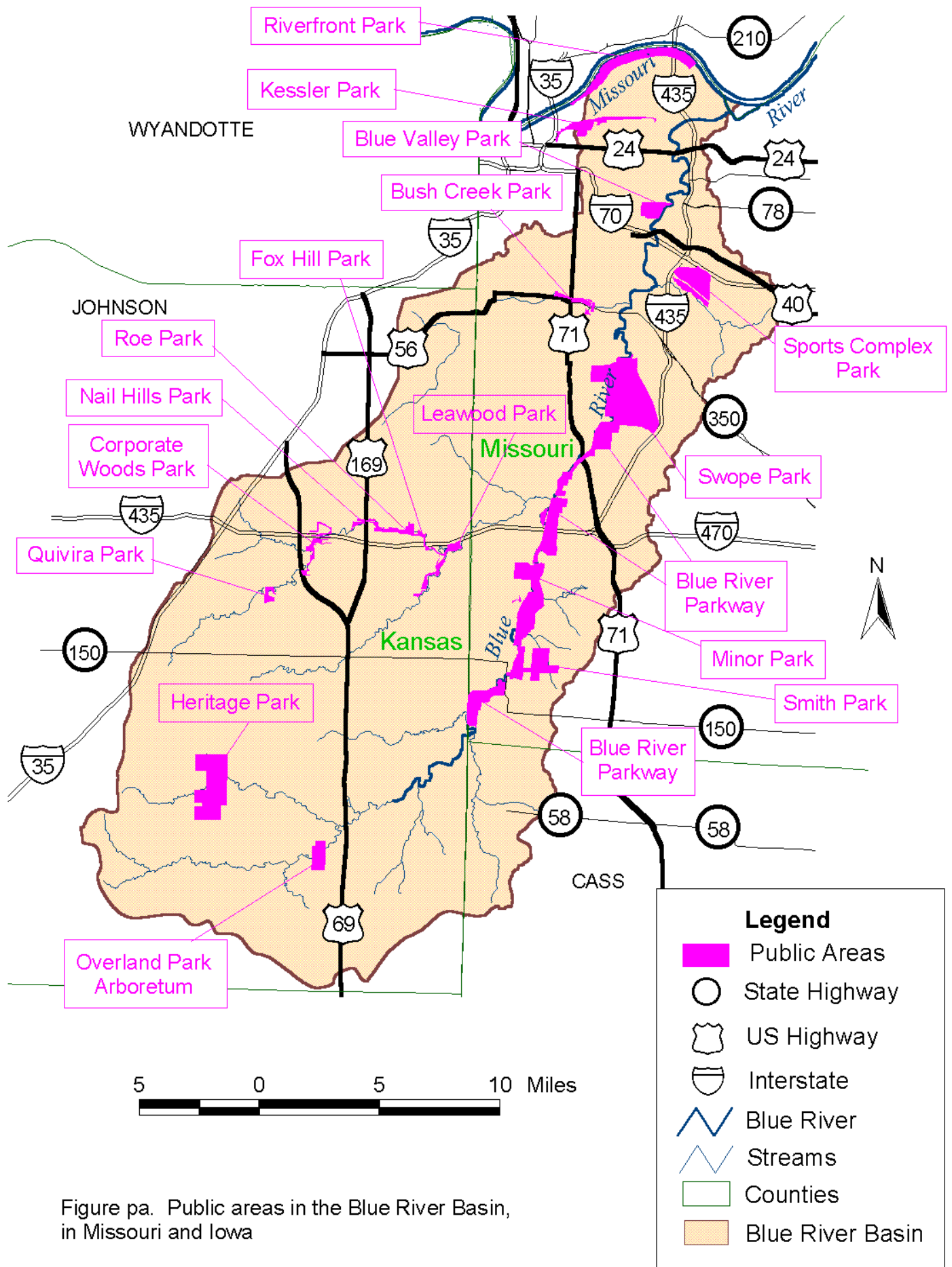


Figure 1u. Land use in the Blue River Basin, in Missouri and Kansas



WATER QUALITY AND USE

Beneficial Use Attainment

Due to degraded water quality, especially downstream from the mouth of Indian Creek, beneficial use attainment described in Table 4 will probably always be partial (MDNR 1984). At best, recreational activities in the lower reaches of the Blue River and Indian Creek should be restricted to limited body contact. Water quality in the Blue River upstream from the confluence with Indian Creek is suitable for water contact recreational activities. Water quality in lower Indian Creek is degraded due to effluent from sewage treatment along Indian Creek. The diversity and abundance of aquatic life below Indian Creek is depressed due to high runoff of solids, high BOD concentrations, and toxic materials. The disturbed hydrograph within the urban watershed also disrupts the biotic communities in basin streams.

Chemical Quality, Contamination and Fish Kills

The Blue River has a history of contaminant spills and fish kills. Unfortunately, the causes of most kills have remained unknown because of the difficulty in tracing pollution events in the urban watershed. During low flow periods, the lower three miles of the Blue River become grossly polluted and can become devoid of fish. Overall water quality in the Blue River and tributaries upstream from the confluence with Indian Creek is in satisfactory condition. These streams should be able to support diverse aquatic communities. The Blue River itself provides sport fishing opportunities for several warmwater species including largemouth bass, channel catfish, carp, crappie, bluegill, and green sunfish. Since 1985 there has been a fish consumption advisory on the Blue River due to elevated chlordane levels. In their advisory, the Missouri Department of Health (MDOH) recommends that if anglers eat fatty fish (carp, catfish, buffalo, drum, suckers and paddlefish) from anywhere in Missouri outside of the Ozark region, that they limit their consumption to no more than one meal per week. Pregnant or nursing mothers and young children may be at higher risk and should consume even less than one meal per week of contaminated fish. Carp and channel catfish fillets have also had levels of dieldrin exceeding the U.S. Food and Drug Administration (USFDA) action level (McGrath 1988).

Water Use

There are no public surface withdrawals in the Blue River basin (MDNR 1984).

Point Source Pollution

The Blue River is subject to severe point and non-point source pollution (MDNR 1984, Figure ps). In 1967, the Clean Water Commission determined that all discharges except uncontaminated cooling water would be removed from the basin. This protected stream status will not be achieved as long as sewage treatment effluent continues to enter the Blue River from Indian Creek. Heavy organic loading depresses dissolved oxygen levels, elevates ammonia and solids levels, and poses a barrier to fish movement.

Heavy industry along the lower Blue River produces runoff that contains some priority pollutants. Priority pollutants are contaminants in need of control due to significant impacts when discharged. There are also significant amounts of priority pollutants in the runoff contributing to the flow of Brush Creek. During wet weather, the Blue River significantly increases some priority pollutants in the Missouri River, but these do not exceed water quality standards.

MDNR (1984) considers other point source discharges in the basin to be insignificant. However, there are some large landfills in the basin. The leachate from these sources could have adverse impacts on aquatic life.

Non-Point Source Pollution (MDNR 1984)

In the Kansas portion of the Blue River basin, there are some agricultural sources of non-point source pollution which have occasionally depressed dissolved oxygen levels, increased turbidity, and elevated fecal coliform levels above whole-body-contact recreation criteria. In the urbanized areas of the watershed, nutrient and BOD concentrations in runoff cause more problems than sediment.

A study of combined sewer overflows (CSO's) indicated that even small wet-weather events cause solids from non-point sources and CSO's to overshadow point sources. The contribution of pollution by sewage treatment plants is insignificant compared to non-point sources during large storm events.

Persistent chemicals such as chlordane and dieldrin have been used throughout the watershed. Residues of these chemicals have been detected above the FDA action levels in fish from the Blue River.

Table 4. Stream use classifications for the Blue River basin (MDNR 1984).

Site	Beneficial Uses
*Blue River: below Guinotte Dam	Industrial
*Blue River: Guinotte Dam to 59 th St.	Aquatic life, wildlife watering, boating, industrial withdrawal
*Blue River: 59 th St. to Bannister Rd.	Aquatic life, wildlife watering, boating, whole-body-contact recreation
**Blue River: Bannister Rd. to Kansas state line	Aquatic life, livestock and wildlife watering, boating, whole-body-contact recreation
**Indian Creek: Mouth to Kansas state line	Aquatic life, wildlife watering, whole-body-contact recreation

*Class P: Permanently flowing stream.

**Class C: May cease flow during prolonged dry weather, but maintains permanent pools.

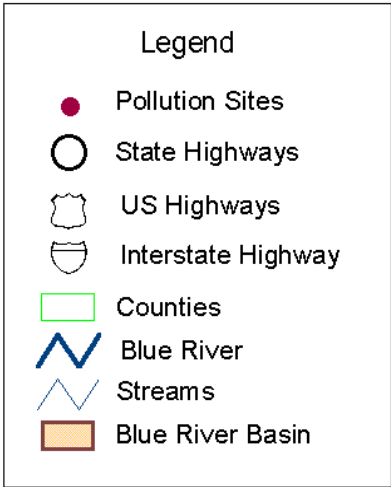
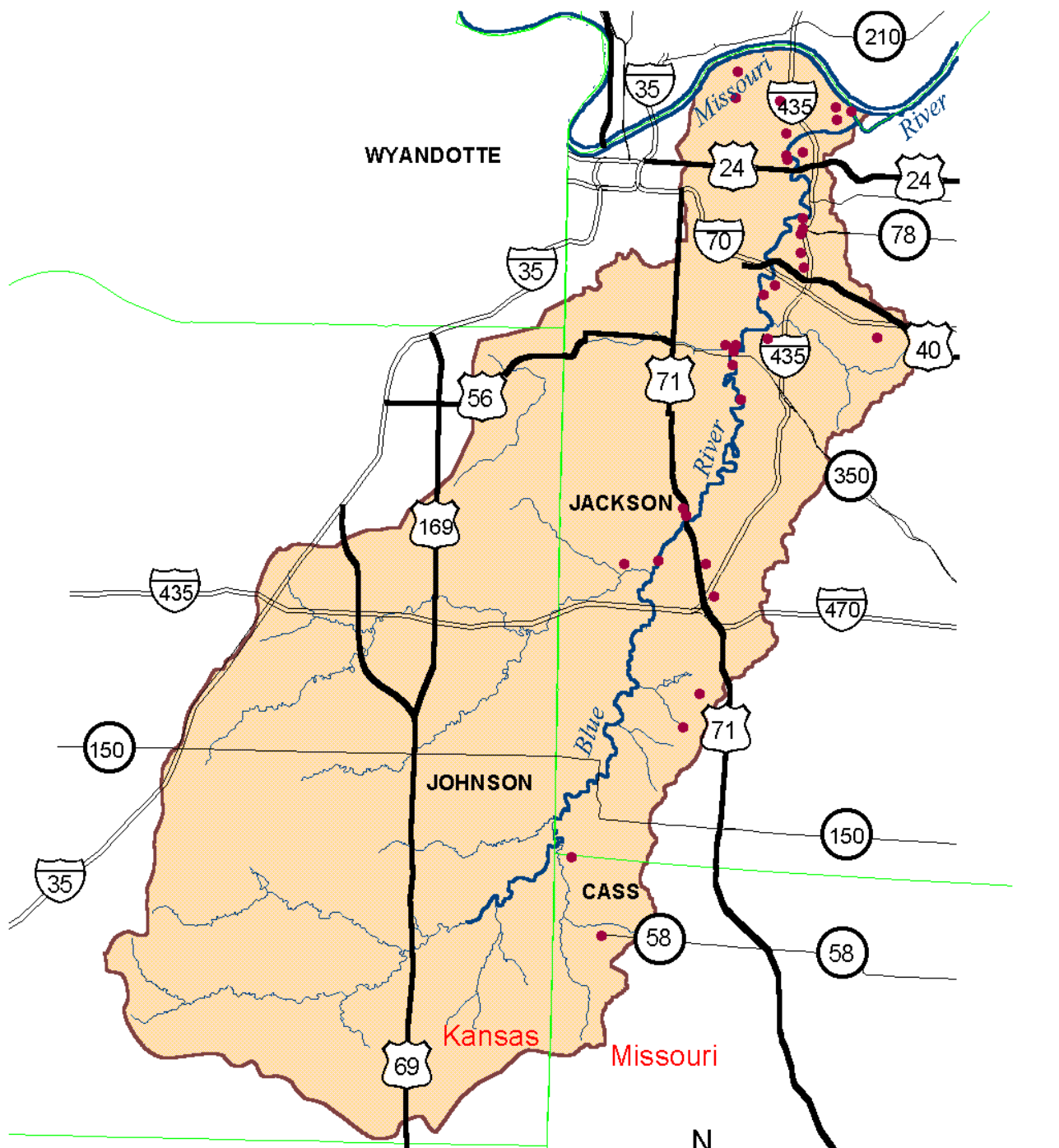


Figure ps. Point source pollution locations in the Blue River Basin, in Missouri.

BIOTIC COMMUNITIES

Fish Community Data

Fish community information has been collected from several stream locations in the Blue River basin (Figure fs). Fishes sampled by MDC from 1966-1998 are listed in Table 5. Fishes sampled by Kansas Wildlife and Parks in 1978 are listed in Table 6.

According to Pflieger (1975), 67 species (including big river species) of fish have distributions that include the Blue River basin. Thirty-eight species have been sampled within the basin. Severe water pollution and fish habitat destruction have reduced the use of the lower Blue River by Missouri River fishes. Sampling trips during 1978 and 1980 using boat electrofishing equipment yielded few fish in this reach of the river.

The Blue River supports quality size channel catfish and carp. It also supports populations of largemouth bass, bluegill and green sunfish, with good numbers of intermediate sized fish. The latter three species are probably more important for catch-and-release fishing especially for anglers who wade fish. If fishing pressure increases substantially, restrictive harvest regulations would probably be needed to provide sustained quality angling.

Threatened and Endangered Species

Pallid sturgeon (*Scaphirhynchus albus*), lake sturgeon (*Acipenser fulvescens*), and flathead chub (*Hybopsis gracilis*) are endangered species in Missouri (MDC 1991). Although they are found predominately in the Missouri and Mississippi rivers, they can also migrate into lower reaches of tributary streams. Due to the poor water quality conditions in the lower reach of the Blue River, it is doubtful these species would be found above the mouth.

The bald eagle (*Haliaeetus leucocephalus*) and the peregrine falcon (*Falco peregrinus*) are federally endangered species found within the Blue River basin (MDC 1991).

Fish Stocking

KDWP stocked 24 adult spotted bass (*Micropterus punctulatus*) in two reaches of Indian Creek in 1985 (USFWS 1986; John Reinke - KDWP, personal communication). To date, the results of these stockings have not been evaluated.

No other known fish stockings by public agencies have taken place in basin streams. Due to its proximity to an urban area, illegal stocking of exotic fish by local aquarium owners probably occurs throughout the basin. Basin streams also receive fish in overflow waters from impoundments.

Fishing

No angler creel information is available for the Blue River or any of its tributaries. Fishing pressure is probably moderate. Most anglers probably fish for catfish and carp using live and prepared baits. Although most fishing occurs upstream from 63rd Street, all reaches of the river are fished. Health advisories related to chlordane contaminated fish have probably reduced angling and harvest of fish in recent years.

Commercial Harvest

No commercial harvest of fish takes place within the Blue River basin.

Other Management Efforts

Currently investigations are underway to find areas where the stream corridor can be improved upstream from 63rd Street. A good stream corridor and retention basins in the watershed will be the most effective methods of protecting the biological integrity of the Blue River.

Present Regulations on Streams Within the Basin

The Blue River and its tributaries fall under statewide fishing regulations of Missouri and Kansas. No special management units exist at this time. If fishing increases substantially, restrictive harvest regulations may be needed to protect some sport fish populations.

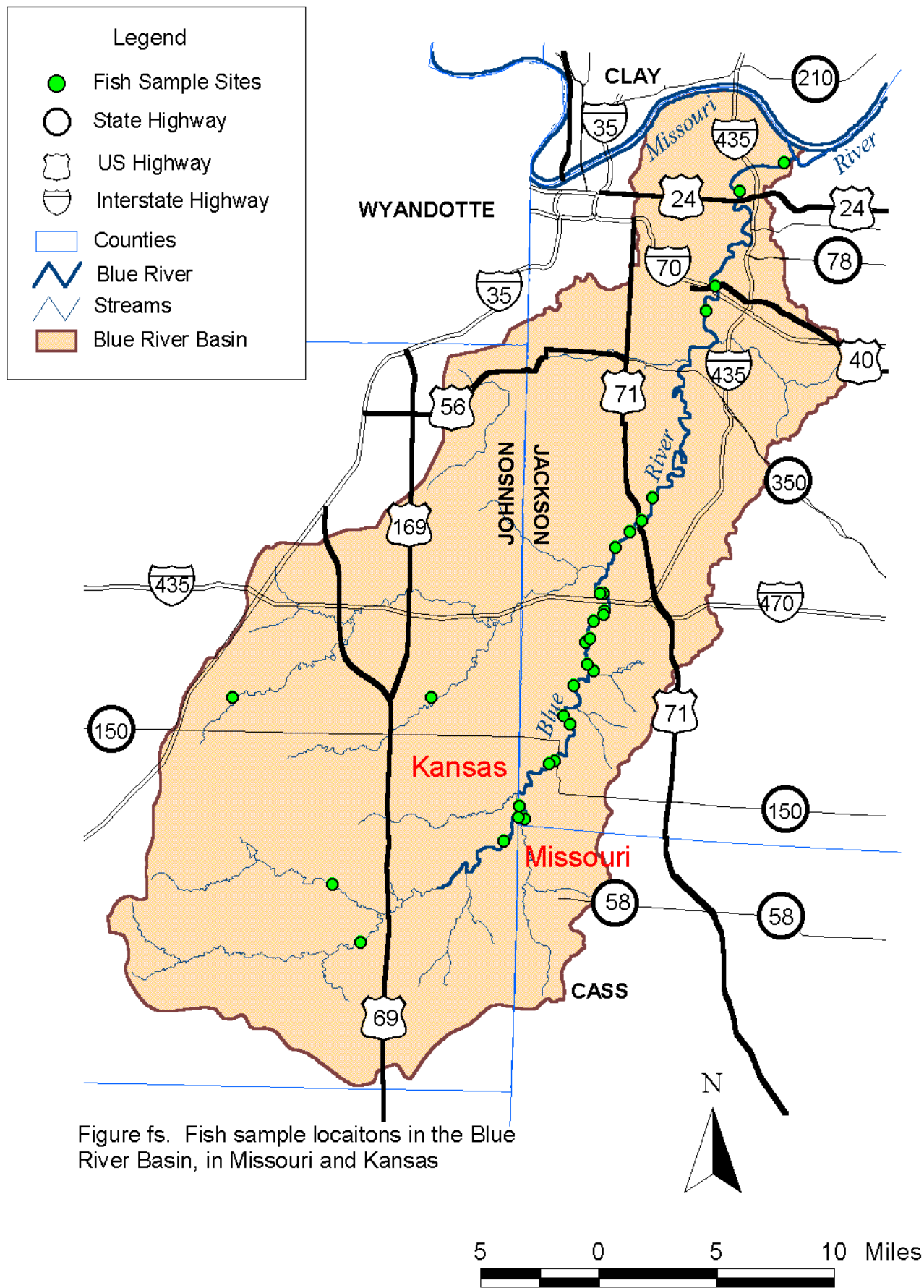
Table 5. Fishes sampled from the Blue River by MDC, 1966-1998.

Species	1966	1978-1980	1986-1998
Shortnose gar (<i>Lepisosteus platostomus</i>)		x	
Gizzard shad (<i>Dorosoma cepedianum</i>)		x	x
Common carp (<i>Cyprinus carpio</i>)	x	x	x
River carpsucker (<i>Carpiodes carpio</i>)	x	x	x
Quillback (<i>Carpiodes cyprinus</i>)			x
White sucker (<i>Catostomus commersoni</i>)	x	x	x
Freshwater drum (<i>Aplodinotus grunniens</i>)			x
Bigmouth buffalo (<i>Ictiobus cyprinellus</i>)			x
Smallmouth buffalo (<i>Ictiobus bubalus</i>)			x
Largemouth bass (<i>Micropterus salmoides</i>)	x	x	x
White crappie (<i>Pomoxis annularis</i>)	x	x	x

Black crappie (<i>Pomoxis nigromaculatus</i>)			X
Bluegill (<i>Lepomis macrochirus</i>)	X	X	X
Longear sunfish (<i>Lepomis megalotis</i>)			X
Green sunfish (<i>Lepomis cyanellus</i>)	X	X	X
Orangespotted sunfish (<i>Lepomis humilis</i>)	X	X	X
Hybrid sunfish (<i>varies x varies</i>)			X
Channel catfish (<i>Ictalurus punctatus</i>)	X	X	X
Flathead catfish (<i>Pylodictis olivaris</i>)		X	X
Black bullhead (<i>Ameiurus melas</i>)		X	X
Yellow bullhead (<i>Ameiurus natalis</i>)		X	X
Grass carp (<i>Ctenopharyngodon idella</i>)			X
Bighead carp (<i>Hypophthalmichthys nobilis</i>)			X
Goldfish (<i>Carassium auratus</i>)		X	X
Central stoneroller (<i>Campostoma anomalum</i>)	X	X	X
Creek chub (<i>Semotilus atromaculatus</i>)	X	X	
Red shiner (<i>Cyprinella lutrensis</i>)	X	X	X
Redfin shiner (<i>Lythrurus umbratilis</i>)	X	X	X
Golden shiner (<i>Notemigonus crysoleucas</i>)	X	X	X
Emerald shiner (<i>Notropis atherinoides</i>)		X	X
Sand shiner (<i>Notropis stramineus</i>)	X	X	X
Suckermouth minnow (<i>Phenacobius mirabilis</i>)	X	X	X
Bluntnose minnow (<i>Pimephales notatus</i>)	X	X	X
Fathead minnow (<i>Pimephales promelas</i>)	X		
Slender madtom (<i>Noturus exilis</i>)	X	X	X
Johnny darter (<i>Etheostoma nigrum</i>)		X	X
Orangethroat darter (<i>Etheostoma spectabile</i>)	X		X
Logperch (<i>Percina caprodes</i>)	X		X

Table 6. Fishes sampled from Blue River basin streams by Kansas Department of Wildlife and Parks (KDWP), 1978.

Species	Blue River	Wolf Creek	Coffee Creek	Indian Creek	Tomahawk Creek
Central stoneroller (<i>Campostoma anomalum</i>)	x		x		x
Red shiner (<i>Cyprinella lutrensis</i>)	x	x	x		x
Redfin shiner (<i>Lythrurus umbratilis</i>)	x	x			
Golden shiner (<i>Notemigonus crysoleucas</i>)	x	x	x		x
Sand shiner (<i>Notropis stramineus</i>)	x				
Bluntnose minnow (<i>Pimephales notatus</i>)	x	x	x		
Fathead minnow (<i>Pimephales promelas</i>)			x		x
Creek chub (<i>Semotilus atromaculatus</i>)	x		x		x
White sucker (<i>Catostomus commersoni</i>)		x			
Black bullhead (<i>Ameiurus melas</i>)	x	x	x		x
Yellow bullhead (<i>Ameiurus natalis</i>)			x		
Channel catfish (<i>Ictalurus punctatus</i>)	x		x		x
Slender madtom (<i>Noturus exilis</i>)	x	x	x		x
Green sunfish (<i>Lepomis cyanellus</i>)	x	x	x	x	x
Orangespotted sunfish (<i>Lepomis humilis</i>)		x			x
Bluegill (<i>Lepomis macrochirus</i>)		x	x		x
Largemouth bass (<i>Micropterus salmoides</i>)	x	x	x		x
Orangethroat darter (<i>Etheostoma spectabile</i>)	x		x		
Logperch (<i>Percina caprodes</i>)	x	x			



GEOLOGY

Physiographic Region

The Blue River watershed is located in the Central Lowland region (Figure nd) of Missouri. Subdivisions of the Central Lowland are the unglaciated Osage Plains and the glaciated Dissected Till Plains. Most of the Blue River watershed is in the Western glaciated Plains which is a subsection of the Dissected Till Plains (Missouri Department of Natural Resources [MDNR] 1986). Land surface elevations in the drainage vary from 1135 feet (m.s.l.) in the headwaters to 700 feet (m.s.l.) at the mouth (USACOE 1974).

Geology

The watershed is primarily loess and glacial till overlying deposits of limestone, shale and cyclical deposits of siltstone, sandstone, shale, limestone, clay and coal of Pennsylvanian age. Because of the geology and soil types (Figure ge) in the area, there are no notable springs. Most water movement in the watershed is through the surface stream network. Baseflow during dry periods is very low in the upper Blue River, but is sustained in Indian Creek by treated wastewater effluent.

Soil Types

The primary soil types along the Blue River are Kennebec silt loam, Colo silty clay loam and Bremer silt loam. Erodibility of these soils is moderate, while permeability and runoff are moderately slow. Soil types farther away from the stream include Menfro silt loam, Knox silt loam, and several soil types underlying urban land complexes. These soils contribute to very rapid runoff especially in heavily developed areas (U.S. Department of Agriculture Natural Resources Conservation Service [USDANRCS] 1984).

Stream Order

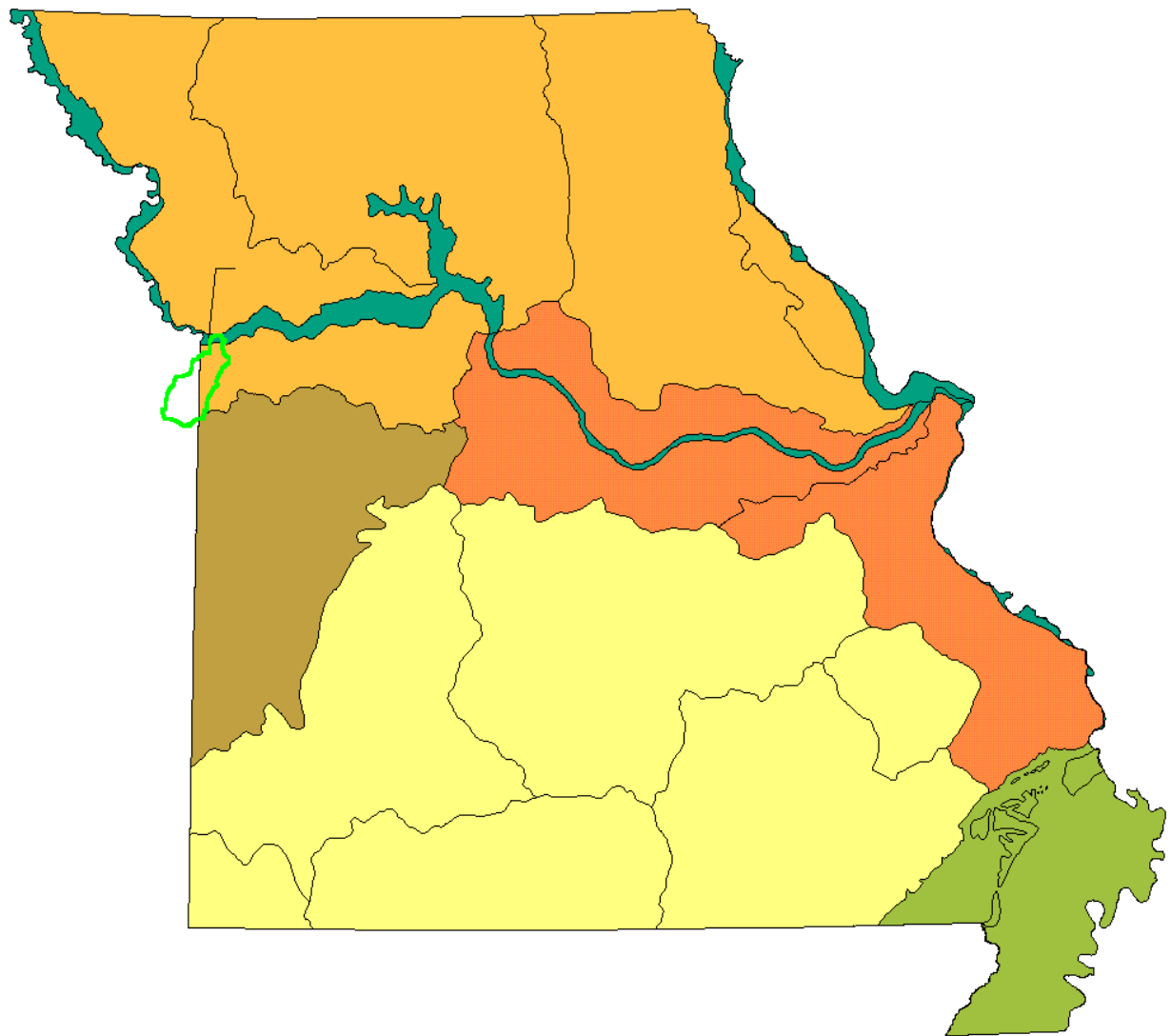
The Blue River is a fifth order stream which originates at the confluence of Wolf Creek (fifth order) and Coffee Creek (fourth order). The orders and lengths of major watershed streams are listed in Table 1. This information was determined using U.S. Geological Survey (USGS) 7.5 minute topographic maps.

Watershed Area

The watershed of the Blue River is 270 square miles (USACOE 1974). The largest sub-basin is the Indian Creek watershed which is 50 square miles. Watershed areas of basin streams fourth order and larger are listed in Table 2. These were calculated using USGS 7.5 minute topographic maps.

Channel Gradient

Average gradients range from 4 feet/mile for the Blue River to 68 feet/mile for Round Grove Creek. Stream gradient information was calculated using USGS 7.5 minute topographic maps.



40 0 40 80 Miles



Missouri Natural Divisions

- Big Rivers
- Glaciated Plains
- Mississippi Lowlands
- Osage Plains
- Ozark
- Ozark Border

Blue River Basin

Figure nd. Natural Divisions of the Blue River Basin in Missouri

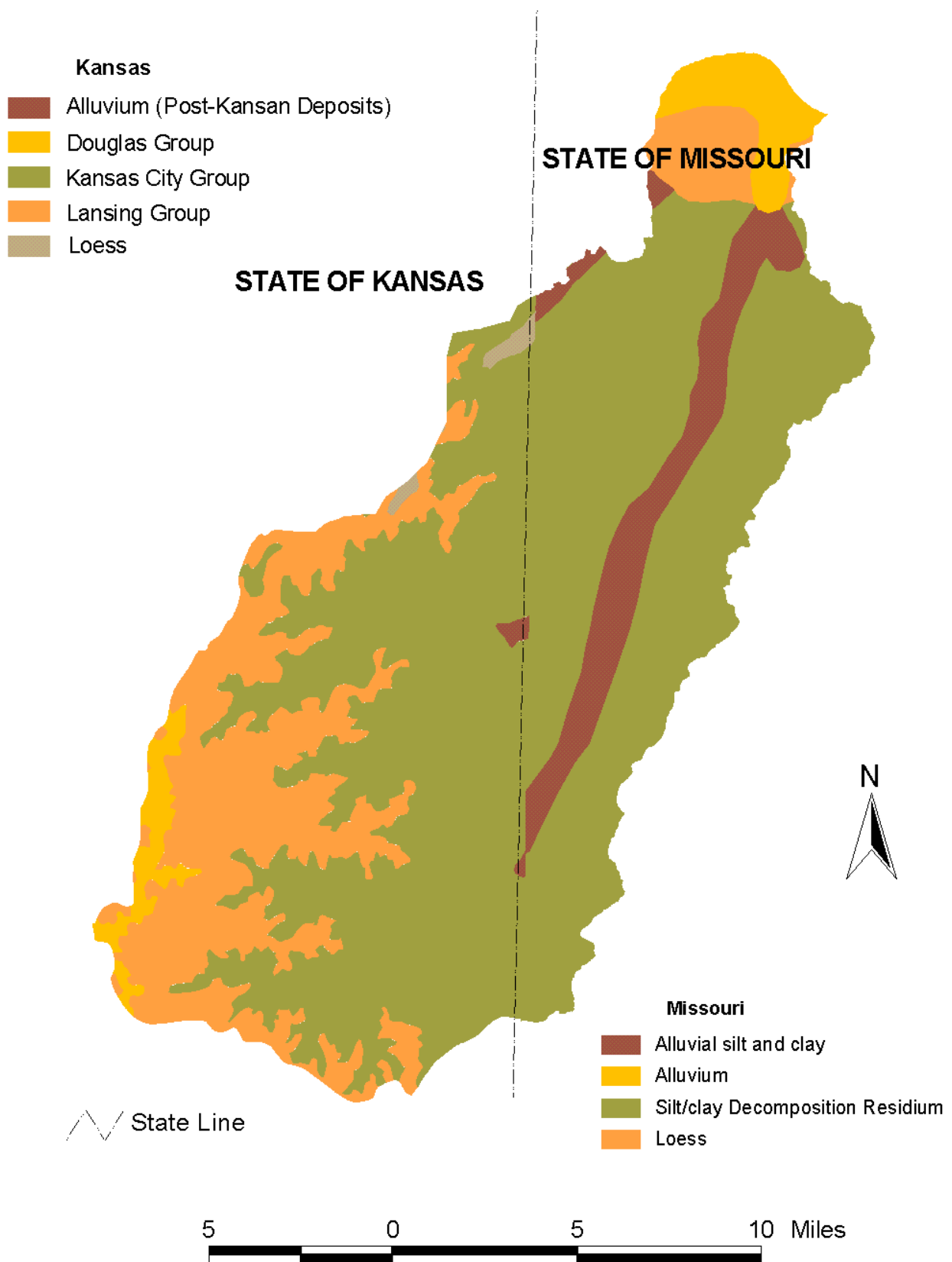


Figure ge. Geological divisions in the Blue River Basin, in Missouri and Kansas

Table 1. Orders and lengths of major streams located within the Blue River Basin.

Name	Order	Length (Miles)
Blue River	5	40.7
Wolf Creek	5	11.3
Indian Creek	4	23.5
Tomahawk Creek	4	11.8
Brush Creek	4	10.6
Coffee Creek	4	10.2
Camp Branch	4	7.1
Unnamed (KS)	4	4.9
Mill Creek	3	6.8
Negro Creek	3	6.7
Dyke Branch	3	4.8
Round Grove	3	4.3

Table 2. Watershed areas of major streams located within the Blue River basin.

Stream	Order	Watershed Area (Mi²)
Blue River	5	270
Wolf Creek	5	29
Indian Creek	4	50
Brush Creek	4	30
Tomahawk Creek	4	23
Coffee Creek	4	16
Camp Branch	4	12
Unnamed (KS)	4	5

HYDROLOGY

Precipitation

Average annual precipitation for the region which encompasses the Blue River basin is 36 inches (MDNR 1986). Precipitation is greatest during spring and summer especially during the months of May and June. Average annual runoff is about seven inches.

USGS Gaging Stations

The basin has three gaging stations located along Brush Creek and two located along the mainstem of the Blue River. The gaging station most often used to report river conditions is on the downstream side of the Bannister Road bridge at stream mile 23.2 (Reed et al. 1992). This is 0.4 mile downstream from the confluence with Indian Creek. The recording period has been May 1939 to the present.

Permanent/Intermittent Streams

Permanent and intermittent flow in streams fourth order and larger are listed in Table 3. These were calculated using USGS 7.5 minute topographic maps and the Mapwork computer program.

Stream Flow

The average annual discharge at the Bannister Road gaging station (06893500) is 164 cfs (Hauck et al. 1999). The drainage area at this location is 188 square miles which is about 70% of the total basin. The highest annual mean discharge was 437 cfs in 1993. The lowest was 12.8 cfs in 1956.

Due to the configuration of the Blue River basin, dense soils, and urbanization, flooding can occur at anytime of the year. However, flooding occurs most during the spring and early summer (USACOE 1974). Flooding problems are aggravated by the large number of bridges spanning the river which restricts flow. From 1928-1973, the Blue River flooded 23 times (USACOE 1974).

The Blue River is defined as a Phase I navigable stream by the USACOE. This means the stream was "historically navigable". It is listed as having up to four miles of navigable water (MDNR 1986).

Dam and Hydropower Influences

With the recent removal of the Guinotte Dam (river mile 4.1), there are no remaining dams on the Blue River. A large grade control structure will be installed at the upper end of the channel modification project at 59th Street to prevent headcutting upstream. This structure is being designed to allow the migration of fish during normal river flow (Joe Lilley - USACOE, personal communication).

There are several dams located within the Brush Creek modification project which form large permanent pools. There is a waterfall approximately 5-10 feet high on Indian Creek at the Watt's Mill historic site. Other obstructions (e.g. concrete encased pipes) cross basin streams and can inhibit fish migration during low flow periods.

Table 3. Permanent and intermittent flow in major streams in the Blue River basin.

Stream	Miles of Permanent Flow	Miles of Intermittent Flow
Blue River	40.7	0.0
Indian Creek	18.6	4.9
Wolf Creek	9.3	2.0
Coffee Creek	8.3	1.9
Brush Creek	6.4	4.2
Tomahawk Creek	4.8	7.0
Camp Branch	4.2	2.9
Unnamed (KS)	3.5	1.4