

ALAMEDA COUNTY **HEALTH CARE SERVICES** AGENCY

DEPARTMENT OF ENVIRONMENTAL HEALTH

Suite 200

1131 Harbor Bay Parkway Alameda, CA 94502-6577

Ms. Regina Colbert James River Corporation 2101 Williams Street San Leandro, CA 94577

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## ALAMEDA COUNTY **HEALTH CARE SERVICES**AGENCY



ALEX BRISCOE, Agency Director

ENVIRONMENTAL HEALTH SERVICES ENVIRONMENTAL PROTECTION 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577 (510) 567-6700 FAX (510) 337-9335

June 24, 2013

Mr. Todd Wiederhold Printpack, Inc. 2800 Overlook Parkway

2800 Overlook Parkway Atlanta, GA 30339 Ms. Regina Colbert James River Corporation 2101 Williams Street San Leandro, CA 94577 Ms. Carey Andre 2101 Williams Associates LLC 2228 Livingston Street Oakland, CA 94606 (sent via electronic mail to: carey@jonesdevelopers.com)

Subject:

Request for Vicinity Hydrologic Analysis and Vapor Intrusion Work Plan; SLIC Case RO0002468 and Geotracker Global ID T06019771096, James River Corporation, 2101 Williams Street, San

Leandro, CA 94577

Dear Mr. Wiederhold and Mesdames Colbert and Andre:

Alameda County Environmental Health (ACEH) staff has reviewed the case file including the *February 2013 Quarterly Groundwater Monitoring, Former James River Corporation* report, dated April 1, 2013, and the *Soil and Groundwater Investigation*, dated April 2, 2013. Thank you for submitting the reports as well as other recent site documents. The results of the recent investigations greatly assist in understanding chlorinated solvent contamination in soil and groundwater beneath the site. However, significant data gaps still exist with respect to the chlorinated solvent plume at and in the vicinity of the site. Therefore, at this juncture, ACEH requests that you address the following technical comments and send us the reports described below.

#### **TECHNICAL COMMENTS**

1. Chlorinated Solvent Source – During the recent field investigation two Geoprobe bores and four Cone Penetration Test (CPT) bores were installed at the site to collect limited soil and groundwater samples from the Shallow A and Deep A Groundwater Zones. The Geoprobe bores (AG-B1 and AG-B2) were principally installed to further investigate the detection of up to 160 milligrams per kilogram (mg/kg) of PCE in multiple confirmation soil samples collected at an approximate depth of 13 feet below surface grade (bgs) at the bottom of the "Former Ink Room Excavation". As noted in ACEH's letter dated January 27, 2012, older soil analytical data collected appears to be close to the depth of the groundwater zone designated as Shallow A Zone (documented in the recent onsite investigation to be at 16 to 18 feet bgs), and that the proximity might be of importance in understanding contaminant concentrations at the site. The recent collection and analysis of two soil samples at an approximate depth of 13 to 14.75 feet did not detect chlorinated organic compounds above standard analytical laboratory reporting limits, while relatively low concentrations of some of the chemicals of concern (2.5 micrograms per liter [μg/l] tetrachloroethene (PCE), 7.6 μg/l cis-1,2-dichloroethene (DCE), and 14 to 16 μg/l vinyl chloride (VC) were detected in grab groundwater samples collected at depths of 15 to 20 feet bgs.

This recent soil and groundwater analytical data may indicate that the "Former Ink Room Excavation" area is not a source of chlorinated VOC contamination, and that the contamination may be derived from offsite upgradient sources including the Watkins Terminal, Regional Water Quality Control Board (RWQCB) Case No. 01S0426 and 1964 Williams Street, RWQCB Case No. 01S0272.

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- 2. Contaminant Distribution in Groundwater A review of the data in the case files indicates inconsistencies in the contaminant distribution in groundwater beneath and in the vicinity of the site. Specifically, our review indicates that:
  - The distribution of contaminants in the three groundwater-bearing zones (Shallow A, Deep A, and B Zones)
    previously delineated in the vicinity of the site appear to be inconsistent between the subject site and
    nearby sites that have also been affected by PCE and associated degradation products.
  - The PCE, TCE, and cis-1,2 DCE plumes beneath the site, presented in Figures 2C to 2E of the *Soil and Groundwater Investigation*, has been mapped to indicate increasing concentrations towards the north rather than towards the east where higher PCE concentrations have been demonstrated in groundwater at nearby sites.
  - The Shallow A Zone appears to contain significantly higher concentrations than the Deep A Zone at the
    adjacent upgradient site (Watkins Terminal). This appears to be the direct opposite of the concentration
    distribution in groundwater beneath the subject site.
  - The March 2, 1998 directive letter from ACEH references soil bores GS-1, GS-3, GS-4, and GS-5 that were installed upgradient of wells W-5, W-6, W-7, and W-3. Apparently the groundwater samples from the "GS" bore series yielded lower concentrations than samples collected from the wells.

These inconsistencies might be attributed to multiple sources in the area, both on- and off-site to the north and east, or can suggest an on-site source of chlorinated solvents. In their letter dated August 16, 2012, the RWQCB indicated they intended to rescind the RWQCB Board Clean-Up Order associated the Watkins Terminal Site because recent investigations at that site indicated that chlorinated solvent contamination found beneath that site originated upgradient of the Watkins Terminal site.

However, ACEH requests submittal of a vicinity hydrogeologic analysis in a focused Site Conceptual Model (SCM) that addresses the inconsistencies in contaminant distribution in groundwater, and a Data Gap Work Plan described in Item 5 below, to collect requisite data to fill identified data gaps, as necessary.

- 3. Vapor Intrusion to Indoor Air Assessment Regardless of the source of the PCE (and related chemical compounds), a chlorinated solvent plume appears to underlie the site and site building, and the extent of vapor intrusion risk this represents to the facility is not known. Our review of the case file indicates that data gaps exist with respect to the current understanding of vapor intrusion potential to indoor air including the depth of contaminants and their concentrations beneath the building, and knowledge of the style of construction of the site building (i.e., foundation type, slab penetrations, extent of subgrade structures such as the former (?) deep vault [see Technical Comment 4], and etc.). Therefore, ACEH requests that a scope of work be prepared and presented in the Data Gap Work Plan described in Technical Comment 5 below, to collect data necessary to assess whether vapor intrusion to indoor air presents a health hazard to site occupants. Please ensure that your vapor intrusion work plan strategy is consistent with the field sampling protocols described in the Department of Toxic Substances Control's Final Vapor Intrusion Guidance (October 2011). Consistent with the quidance, ACEH requires installation of permanent vapor wells to assess temporal and seasonal variations in soil gas concentrations. Installation of sub-slab vapor points is also beneficial; however, ACEH does not recommend the collection of indoor air samples due to potential complications in data interpretation as a result of possible interference from VOCs associated with the interior of the building including standard cleaning products. The location of the proposed vapor points should incorporate plume concentration trends presented in Figures 2C to 2E of the Soil and Groundwater Investigation as well as data generated in the preceding Technical Comment.
- 4. Status of Separate Phase Hydraulic Fluid The Soil and Groundwater Investigation indicates that closure was received for the hydraulic fluid release beneath the floor of a deep vault inside the southeastern portion of the larger site building. ACEH has reviewed the case file and did not locate documents that support this statement, and therefore requests documentation on the closure be provided. If documents are not available, please prepare a scope of work to investigate the hydraulic fluid release in the Data Gap Work Plan described in Technical Comment 5 below. The status of missing well TC-1 should also be addressed.
- 5. Data Gap Investigation and Focused Site Conceptual Model Please prepare Data Gap Investigation Work Plan to address the technical comments listed above. Please support the scope of work in the Data Gap

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Investigation Work Plan with a focused SCM and Data Quality Objectives (DQOs) that relate the data collection to the objective so that ACEH can verify the appropriateness of the proposed sample locations.

In order to expedite review, ACEH requests the SCM be presented in a tabular format that highlights the major SCM elements and associated data gaps, which need to be addressed to progress the site to case closure. Please see Attachment A Site Conceptual Model Requisite Elements. Please sequence activities in the proposed Data Gap Investigation scope of work to enable efficient data collection in the fewest mobilizations possible.

- 6. Continued Quarterly Groundwater Monitoring and Sampling Two groundwater monitoring events of existing site wells have been conducted recently (August 2012 and February 2013). These are the first sampling events conducted at the site in over a decade (depending on the well, since June 2001, November 1995, or May 1995). In general, the recent analytical data indicate that chlorinated solvents PCE and daughter products, including TCE, (cis-1,2-DCE), and vinyl chloride (VC), have undergone concentration reductions, in some cases by an order of magnitude, or remain in a similar concentration range in site wells. Please continue to monitor groundwater on a quarterly basis in order to build a data set representative of current groundwater concentrations and establish chemical concentration trends over an entire hydrologic cycle. ACEH understands that well TC-2 was not available for resampling in the February 2012 event due to a surface obstruction; however, requests sufficient effort be expended to reincorporate the well into future events due to the elevated initial resampling concentration of PCE, TCE, cis-1,2-DCE, and VC in August 2012.
- 7. GeoTracker Compliance A review of the State Water Resources Control Board's (SWRCB) GeoTracker website indicates the site has not been claimed. Because this is a state requirement, ACEH requests that the site be claimed in GeoTracker by the date identified below. This is an outstanding request from the previous directive letter.

Pursuant to California Code of Regulations, Title 23, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1, beginning September 1, 2001, all analytical data, including monitoring well samples, submitted in a report to a regulatory agency as part of the UST or LUST program, must be transmitted electronically to the SWRCB GeoTracker system via the internet. Also, beginning January 1, 2002, all permanent monitoring points utilized to collect groundwater samples (i.e. monitoring wells) and submitted in a report to a regulatory agency, must be surveyed (top of casing) to mean sea level and latitude and longitude to sub-meter accuracy using NAD 83. A California licensed surveyor may be required to perform this work. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs, including SLIC programs. Additionally, pursuant to California Code of Regulations, Title 23, Division 3, Chapter 30, Articles 1 and 2, Sections 3893, 3894, and 3895, beginning July 1, 2005, the successful submittal of electronic information (i.e. report in PDF format) shall replace the requirement for the submittal of a paper copy. Please claim your site and upload all future submittals to GeoTracker and ACEH's ftp server by the date specified below. Electronic reporting is described below on the attachments.

Additional information regarding the SWRCB's GeoTracker website may be obtained online at <a href="http://www.waterboards.ca.gov/water-issues/programs/ust/electronic submittal/">http://www.waterboards.ca.gov/water-issues/programs/ust/electronic submittal/</a> and <a href="http://www.swrcb.ca.gov/ust/electronic submittal/report rqmts.shtml">http://www.swrcb.ca.gov/ust/electronic submittal/report rqmts.shtml</a>) or by contacting the GeoTracker Help Desk at <a href="mailto:geotracker@waterboards.ca.gov">geotracker@waterboards.ca.gov</a> or (866) 480-1028.

#### TECHNICAL REPORT REQUEST

Please upload technical reports to the ACEH ftp site (Attention: Mark Detterman), and to the State Water Resources Control Board's Geotracker website, in accordance with the specified file naming convention below, according to the following schedule:

- July 12, 2013 Claim Site in Geotracker and Notify ACEH
- July 19, 2013 Upload Documents to ACEH ftp and Geotracker Websites and Notify ACEH; Including Hydraulic Fluid Release Closure Documentation

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- August 30, 2013 Data Gap Work Plan and Focused Site Conceptual Model File to be named: RO2468\_WP\_R\_yyyy-mm-dd
- September 20, 2013 Quarterly Groundwater Monitoring Report File to be named: RO2468 GWM\_R\_yyyy-mm-dd
- December 13, 2013 Quarterly Groundwater Monitoring Report File to be named: RO2468 GWM R yyyy-mm-dd

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Online case files are available for review at the following website: <a href="http://www.acgov.org/aceh/index.htm">http://www.acgov.org/aceh/index.htm</a>. If your email address is not listed on the first page of this letter, or in the list of cc's listed below, ACEH is requesting your email address to help expedite communications and to help lower overall costs.

Should you have any questions, please contact me at (510) 567--6876 or send me an electronic mail message at mark.detterman@acgov.org.

Sincerely,

Enclosures:

Digitally signed by Mark Detterman

DN: cn=Mark Detterman, o, ou,

email=mark.detterman@acgov.org, c=US

Date: 2013.06.24 11:24:31 -07'00'

Mark E. Detterman, P.G., C.E.G. Senior Hazardous Materials Specialist

Attachment 1 – Responsible Party (ies) Legal Requirements / Obligations

Electronic Report Upload (ftp) Instructions

Attachment A - Site Conceptual Model Requisite Elements

cc: Cherie D'Andrea McCaulou, San Francisco Bay Region, State Water Resources Control Board, 1515 Clay Street, Suite 1400, Oakland, CA 94612; (sent via electronic mail to <a href="mailto:cmccaulou@waterboards.ca.gov">cmccaulou@waterboards.ca.gov</a>)

Donna Drogos, ACEH (sent via electronic mail to <a href="mailto:donna.drogos@acgov.org">donna.drogos@acgov.org</a>)

Dilan Roe (sent via electronic mail to <a href="mailto:dilan.roe@acgov.org">donna.drogos@acgov.org</a>)

Mark Detterman, ACEH (sent via electronic mail to <a href="mailto:mark.detterman@acgov.org">mark.detterman@acgov.org</a>)

Electronic File, Geotracker

## **ATTACHMENT 1**

Responsible Party(ies) Legal Requirements/Obligations & ACEH Electronic Report Upload (ftp) Instructions

#### Attachment 1

#### Responsible Party(ies) Legal Requirements/Obligations

#### REPORT/DATA REQUESTS

These reports/data are being requested pursuant to Division 7 of the California Water Code (Water Quality), Chapter 6.7 of Division 20 of the California Health and Safety Code (Underground Storage of Hazardous Substances), and Chapter 16 of Division 3 of Title 23 of the California Code of Regulations (Underground Storage Tank Regulations).

#### **ELECTRONIC SUBMITTAL OF REPORTS**

ACEH's Environmental Cleanup Oversight Programs (Local Oversight Program [LOP] for unauthorized releases from petroleum Underground Storage Tanks [USTs], and Site Cleanup Program [SCP] for unauthorized releases of non-petroleum hazardous substances) require submission of reports in electronic format pursuant to Chapter 3 of Division 7, Sections 13195 and 13197.5 of the California Water Code, and Chapter 30, Articles 1 and 2, Sections 3890 to 3895 of Division 3 of Title 23 of the California Code of Regulations (23 CCR). Instructions for submission of electronic documents to the ACEH FTP site are provided on the attached "Electronic Report Upload Instructions."

Submission of reports to the ACEH FTP site is in addition to requirements for electronic submittal of information (ESI) to the State Water Resources Control Board's (SWRCB) Geotracker website. In April 2001, the SWRCB adopted 23 CCR, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1 (Electronic Submission of Laboratory Data for UST Reports). Article 12 required electronic submittal of analytical laboratory data submitted in a report to a regulatory agency (effective September 1, 2001), and surveyed locations (latitude, longitude and elevation) of groundwater monitoring wells (effective January 1, 2002) in Electronic Deliverable Format (EDF) to Geotracker. Article 12 was subsequently repealed in 2004 and replaced with Article 30 (Electronic Submittal of Information) which expanded the ESI requirements to include electronic submittal of any report or data required by a regulatory agency from a cleanup site. The expanded ESI submittal requirements for petroleum UST sites subject to the requirements of 23 CCR, Division, 3, Chapter 16, Article 11, became effective December 16, 2004. All other electronic submittals required pursuant to Chapter 30 became effective January 1, 2005. Please visit the SWRCB website for more information on these requirements. (http://www.waterboards.ca.gov/water\_issues/programs/ust/electronic\_submittal/)

#### PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

#### PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 7835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

#### UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, late reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

#### AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

# Alameda County Environmental Cleanup Oversight Programs (LOP and SCP)

REVISION DATE: July 25, 2012

ISSUE DATE: July 5, 2005

PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010

**SECTION:** Miscellaneous Administrative Topics & Procedures

SUBJECT: Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (petroleum UST and SCP) require submission of all reports in electronic form to the county's FTP site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

#### **REQUIREMENTS**

- Please do not submit reports as attachments to electronic mail.
- Entire report including cover letter must be submitted to the ftp site as a single Portable Document Format (PDF) with no password protection.
- It is preferable that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- Signature pages and perjury statements must be included and have either original or electronic signature.
- <u>Do not</u> password protect the document. Once indexed and inserted into the correct electronic case file, the
  document will be secured in compliance with the County's current security standards and a password.
   <u>Documents with password protection will not be accepted.</u>
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

RO#\_Report Name\_Year-Month-Date (e.g., RO#5555\_WorkPlan\_2005-06-14)

#### **Submission Instructions**

- 1) Obtain User Name and Password
  - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
    - i) Send an e-mail to <a href="mailto:loptoxic@acgov.org">.loptoxic@acgov.org</a>
  - b) In the subject line of your request, be sure to include "ftp PASSWORD REQUEST" and in the body of your request, include the Contact Information, Site Addresses, and the Case Numbers (RO# available in Geotracker) you will be posting for.
- 2) Upload Files to the ftp Site
  - a) Using Internet Explorer (IE4+), go to ://alcoftp1.acgov.org
    - (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
  - b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
  - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
  - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
  - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
  - a) Send email to .loptoxic@acgov.org notify us that you have placed a report on our ftp site.
  - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
  - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
  - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

## **ATTACHMENT A**

**Site Conceptual Model Requisite Elements** 

#### **ATTACHMENT A**

### Site Conceptual Model

The site conceptual model (SCM) is an essential decision-making and communication tool for all interested parties during the site characterization, remediation planning and implementation, and closure process. A SCM is a set of working hypotheses pertaining to all aspects of the contaminant release, including site geology, hydrogeology, release history, residual and dissolved contamination, attenuation mechanisms, pathways to nearby receptors, and likely magnitude of potential impacts to receptors.

The SCM is initially used to characterize the site and identify data gaps. As the investigation proceeds and the data gaps are filled, the working hypotheses are modified, and the overall SCM is refined and strengthened until it is said to be "validated". At this point, the focus of the SCM shifts from site characterization towards remedial technology evaluation and selection, and later remedy optimization, and forms the foundation for developing the most cost-effective corrective action plan to protect existing and potential receptors.

For ease of review, Alameda County Environmental Health (ACEH) requests utilization of tabular formats to (1) highlight the major SCM elements and their associated data gaps which need to be addressed to progress the site to case closure (see Table 1 of attached example), and (2) highlight the identified data gaps and proposed investigation activities (see Table 2 of the attached example). ACEH requests that the tables presenting the SCM elements, data gaps, and proposed investigation activities be updated as appropriate at each stage of the project and submitted with work plans, feasibility studies, corrective action plans, and requests for closures to support proposed work, conclusions, and/or recommendations.

The SCM should incorporate, but is not limited to, the topics listed below. Please support the SCM with the use of large-scaled maps and graphics, tables, and conceptual diagrams to illustrate key points. Please include an extended site map(s) utilizing an aerial photographic base map with sufficient resolution to show the facility, delineation of streets and property boundaries within the adjacent neighborhood, downgradient irrigation wells, and proposed locations of transects, monitoring wells, and soil vapor probes.

- a. Regional and local (on-site and off-site) geology and hydrogeology. Include a discussion of the surface geology (e.g., soil types, soil parameters, outcrops, faulting), subsurface geology (e.g., stratigraphy, continuity, and connectivity), and hydrogeology (e.g., water-bearing zones, hydrologic parameters, impermeable strata). Please include a structural contour map (top of unit) and isopach map for the aquitard that is presumed to separate your release from the deeper aquifer(s), cross sections, soil boring and monitoring well logs and locations, and copies of regional geologic maps.
- b. Analysis of the hydraulic flow system in the vicinity of the site. Include rose diagrams for depicting groundwater gradients. The rose diagram shall be plotted on groundwater elevation contour maps and updated in all future reports submitted for your site. Please address changes due to seasonal precipitation and groundwater pumping, and evaluate the potential interconnection between shallow and deep aquifers. Please include an analysis of vertical hydraulic gradients, and effects of pumping rates on hydraulic head from nearby water supply wells, if appropriate. Include hydraulic head in the different water bearing zones and hydrographs of all monitoring wells.
- c. Release history, including potential source(s) of releases, potential contaminants of concern (COC) associated with each potential release, confirmed source locations, confirmed release locations, and existing delineation of release areas. Address primary leak source(s) (e.g., a tank, sump, pipeline, etc.) and secondary sources (e.g., high-

#### ATTACHMENT A

#### Site Conceptual Model (continued)

concentration contaminants in low-permeability lithologic soil units that sustain groundwater or vapor plumes). Include local and regional plan view maps that illustrate the location of sources (former facilities, piping, tanks, etc.).

- d. Plume (soil gas and groundwater) development and dynamics including aging of source(s), phase distribution (NAPL, dissolved, vapor, residual), diving plumes, attenuation mechanisms, migration routes, preferential pathways (geologic and anthropogenic), magnitude of chemicals of concern and spatial and temporal changes in concentrations, and contaminant fate and transport. Please include three-dimensional plume maps for groundwater and two-dimensional soil vapor plume plan view maps to provide an accurate depiction of the contaminant distribution of each COC.
- e. Summary tables of chemical concentrations in different media (i.e., soil, groundwater, and soil vapor). Please include applicable environmental screening levels on all tables. Include graphs of contaminant concentrations versus time.
- f. Current and historic facility structures (e.g., buildings, drain systems, sewer systems, underground utilities, etc.) and physical features including topographical features (e.g., hills, gradients, surface vegetation, or pavement) and surface water features (e.g. routes of drainage ditches, links to water bodies). Please include current and historic site maps.
- g. Current and historic site operations/processes (e.g., parts cleaning, chemical storage areas, manufacturing, etc.).
- h. Other contaminant release sites in the vicinity of the site. Hydrogeologic and contaminant data from those sites may prove helpful in testing certain hypotheses for the SCM. Include a summary of work and technical findings from nearby release sites, including the two adjacent closed LUFT sites, (i.e., Montgomery Ward site and the Quest Laboratory site).
- i. Land uses and exposure scenarios on the facility and adjacent properties. Include beneficial resources (e.g., groundwater classification, wetlands, natural resources, etc.), resource use locations (e.g., water supply wells, surface water intakes), subpopulation types and locations (e.g., schools, hospitals, day care centers, etc.), exposure scenarios (e.g. residential, industrial, recreational, farming), and exposure pathways, and potential threat to sensitive receptors. Include an analysis of the contaminant volatilization from the subsurface to indoor/outdoor air exposure route (i.e., vapor pathway). Please include copies of Sanborn maps and aerial photographs, as appropriate.
- Identification and listing of specific data gaps that require further investigation during subsequent phases of work. Proposed activities to investigate and fill data gaps identified.