

FINAL TECHNICAL MEMORANDUM

Phase I Data Evaluation for Field Sampling Activities at the World War I Incinerator, Northwest Camp Funston – Operable Unit 007, Fort Riley, Kansas

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and the Fort Riley Project Managers

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I. INTRODUCTION

This Technical Memorandum (Tech Memo) presents the Phase I data evaluation and proposed modifications to the Phase II approach for field sampling activities at the World War I (WWI) Incinerator, Northwest (NW) Camp Funston (CFI) – Operable Unit 007 (OU 007) (CFI Site). This Tech Memo will present the analytical result of the Phase I sampling effort and propose modifications to the Final Remedial Investigation/Feasibility Study Work Plan for the WWI Incinerator, NW Camp Funston (CFI) – Operable Unit 007 at Fort Riley, Kansas (WP) for Phase II field activities at the CFI Site.

II. DESCRIPTION OF THE PHASE I FIELD SAMPLING ACTIVITIES

The Phase I field sampling activities consisted of the following:

- Cleared brush and timber on the Kansas River floodplain to facilitate direct-push rig access to the CFI Site;
- Sampled twelve (12) locations (24 samples) for background soil;
- Sampled five (5) locations (5 samples) for surface soil from the drainage swale;
- Sampled three (3) locations (3 samples) for stream sediment;
- Sampled three (3) locations (3 samples) for surface water;
- Sampled seven (7) locations (29 samples) for soil; and
- Sampled five (5) locations (5 samples) for groundwater.

Background soil samples were analyzed for Target Analyte List (TAL) metals (23 elements) and polycyclic aromatic hydrocarbons (PAHs). All other matrices were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX), total petroleum hydrocarbons (TPH) – gasoline range organics (GRO), TPH – diesel range organics (DRO), TAL metals (23 elements), methyl mercury (MeHg), semi-volatile organic compounds (SVOCs) (phenols and PAH), and dioxins/furans. Table 1 summarizes the Phase I field activities that were performed at the CFI Site.

The following sections of this Tech Memo present the Phase I sampling results and proposed changes to the Phase II field approach.

III. PHASE I SAMLING RESULTS

Phase I sampling results were compared to the regulatory screening levels defined in the WP. Table 2 provides a matrix- and chemical-specific list of screening levels used for this Tech Memo.

Background Soil Sample Results

During the Phase I field activities a background soil study was performed, in which 24 samples were collected for analysis of TAL metals (23 elements) and PAHs from an off-site location with analogous soil type and depositional environment. Background soil sampling locations are illustrated on Figure 1. These background soil samples were collected at depths ranging from ground surface to approximately four feet (ft) below ground surface (bgs). The background data will be used to evaluate natural and anthropogenic distributions and occurrences at the site. Background data was not used in this Tech Memo for evaluating the Phase I data and are provided for informational purposes only. Table 3 provides the background soil sample results for detected analytes.

Drainage Swale Surface Soil Sample Results

During the Phase I field activities five (5) surface soil samples (SS01 through SS05) were collected from a drainage swale adjacent to the site. The approximate location of the surface soil samples are shown on Figure 2. Arsenic was detected above its regulatory screening criteria at all five sample locations. Thallium was also detected above its regulatory screening criteria in the furthest down gradient surface soil sample (SS-05). Tables 4 and 5 provide soil sample results for detected analytes. Sample detections which exceeded regulatory screening levels are depicted on Figure 4. The locations where these samples were collected were adjusted in the field based on the observed configuration of the topography at the site.

Stream Sediment Sample Results

Three (3) stream sediment samples (SD01 through SD03) were collected from Threemile Creek during the Phase I field activities. Approximate stream sediment sample locations are depicted on Figure 2. Arsenic was detected above its regulatory screening criteria at all three sample locations. Tables 6 and 7 provide stream sediment sample results for all detected analytes. Sample detections which exceeded regulatory screening levels are depicted on Figure 4.

Surface Water Sample Results

During the Phase I field activities three (3) surface water samples (SW01 through SW03) were collected from Threemile Creek. Figure 2 illustrates the approximate location of the surface water samples. One surface water sample (SW02) exceeded its regulatory screening criteria for dioxins/furans (2,3,7,8-tetrachlorodibenzo-p-dixin [2,3,7,8-TCDD]). Tables 8 and 9 provide surface water sample results for all detected analytes. Sample detections which exceeded regulatory screening levels are depicted on Figure 4.

Direct-Push Soil Sample Results

During the Phase I field activities seven (7) direct-push borings (DP01 through DP07) were advanced at the site and twenty-nine (29) soil samples were collected (see Figure 3). These soil samples were collected at depths ranging from ground surface to approximately 32 ft bgs. Arsenic was detected above its regulatory screening criteria at all 29 sample locations. Thallium was detected above its regulatory screening value at five sample locations (DP02/SB01, DP02/SB02, DP03/SB01, DP03/SB02, and DP04/SB02). Iron was detected above its regulatory screening value at three sample locations (DP02/SB01, DP02/SB02, and DP04/SB02). Dioxins/furans (2,3,7,8-TCDD) was detected above its regulatory screening value at two sample locations (DP02/SB01 and DP02/SB02). Benzo(a)pyrene was detected above its regulatory screening value at one sample location (DP03/SB01). Tables 4 and 5 provide soil sample data results for detected analytes. Sample detections which exceeded regulatory screening levels are depicted on Figure 5.

Direct-Push Groundwater Sample Results

Five (5) direct-push borings (DP08 through DP12) were advanced at the site and a single groundwater sample was collected from each boring during the Phase I field activities (see Figure 3). Cobalt and manganese exceeded their regulatory screening criteria at one sample location each (DP09 and DP12, respectively). Tables 10 and 11 provide groundwater sample data results for detected analytes. Sample detections which exceeded regulatory screening levels are depicted on Figure 6.

IV. PHASE I SAMPLE RESULTS SUMMARY

A summary of the Phase I sample results which exceeded their regulatory screening criteria are provided below:

Drainage Swale Surface Soil

- Arsenic exceeded its regulatory screening criteria in all five surface soil samples (SS01 through SS05) and
- Thallium exceeded its regulatory screening criteria in one surface soil sample (SS05).

Stream Sediment

- Arsenic exceeded its regulatory screening criteria in all three stream sediment samples (SD01 through SD03).

Surface Water

- Dioxins/furans (2,3,7,8-TCDD) exceeded its regulatory screening criteria in one surface water sample (SW02).

Direct-Push Soil

- Arsenic was detected above its regulatory screening criteria in all 29 direct-push samples collected;

- Thallium was detected above its regulatory screening value in five direct-push samples collected (DP02/SB01, DP02/SB02, DP03/SB01, DP03/SB02, and DP04/SB02);
- Iron was detected above its regulatory screening value in three direct-push samples collected (DP02/SB01, DP02/SB02, and DP04/SB02);
- Dioxins/furans (2,3,7,8-TCDD) was detected above its regulatory screening value in two direct-push samples collected (DP02/SB01 and DP02/SB02); and
- Benzo(a)pyrene was detected above its regulatory screening value in one direct-push sample collected (DP03/SB01).

Direct-Push Groundwater

- Cobalt exceeded its regulatory screening criteria in one direct-push sample collected (DP09) and
- Manganese exceeded its regulatory screening criteria in one direct-push sample collected (DP12).

V. PROPOSED CHANGES TO THE PHASE II FIELD APPROACH

The following changes to field activities are proposed for Phase II:

- Delete selected analytes for all matrices to be sampled;
- Eliminate the additional upgradient surface soil and surface water samples;
- Collect surface water samples concurrently with quarterly monitoring well sampling from the Phase I surface water sample locations (see Figure 7);
- Collect additional upgradient stream sediment samples from Threemile Creek for an upgradient comparison study (see Figure 8);
- Collect additional surface soil samples from the drainage swale (see Figure 9);
- Collect surface soil and subsurface soil samples from the upland terrace area (see Figure 10);
- Modify soil sampling depth intervals; and
- Adjust the location of the original proposed Phase II direct-push soil and groundwater borings (see Figure 11) to their newly proposed locations closer to the area where incinerator ash was disposed of (see Figure 12).

The original planned Phase II approach as detailed in the WP as well as the proposed changes to the Phase II field approach are summarized in Table 12. The installation and development of monitoring wells and the characterization of the hydrogeologic properties of the aquifer will be executed as discussed in the WP. The proposed changes to the Phase II field approach are discussed in greater detail in the sections below.

Modifying the Phase II Analytical Suite

Based upon the comparison of the Phase I analytical data against the applicable regulatory screening criteria as outlined in the WP, there were no detections which exceeded their applicable regulatory screening criteria in any of the matrices for BTEX, TPH-GRO, TPH-DRO, MeHg, or SVOCs (phenols). Due to the absence of exceedances for these analytical parameters it is proposed that they be removed from the analytical suite for all Phase II sampling.

Due to the exceedance of benzo(a)pyrene in soil, it is proposed that PAH analysis via United States Environmental Protection Agency (USEPA) Method 8270C SIM be performed. To achieve the lower detection limits for TAL metals (23 elements) as requested by the USEPA, it is proposed that TAL metals (23 elements) be analyzed using USEPA Method 6020 and 7470A/7471A. The analytical suite for field sampling activities that are proposed to be carried through to Phase II include:

- TAL metals (23 elements) (SW-846 6020 and 7470A/7471A);
- PAHs (SW-846 8270C SIM); and
- Dioxins/Furans (SW-846 8290).

The sampling requirements for the proposed Phase II sampling activities are provided in Tables 13 through 18.

Eliminating Additional Upgradient Surface Soil and Surface Water Samples

Results of the Phase I surface water samples indicate that there is no evidence that potential contaminants associated with the operation or use of the wastewater treatment plant or the former trap/skeet range are impacting the site. It is proposed that the collection of the three (3) additional upgradient surface soil and surface water samples detailed in the WP be removed from the Phase II field approach.

Surface Water Sampling

The USEPA has requested that quarterly surface water samples be collected concurrently with the quarterly monitoring well sampling. It is proposed that three (3) surface water samples be collected from the Phase I surface water sample locations during each quarterly groundwater monitoring event. Samples will be submitted for off-site analysis of TAL metals (23 elements), PAHs, and dioxins/furans. The proposed surface water sample locations are shown on Figure 7. The sampling requirements for the proposed surface water samples are provided on Table 15.

Additional Upgradient Stream Sediment Sampling

Arsenic was detected in Phase I stream sediment samples at levels exceeding screening criteria. Because arsenic is naturally occurring, an upgradient comparison study is appropriate for determining if the detections are naturally occurring or from impacts from the site. It is proposed that five (5) upgradient stream sediment samples in addition to the three (3) upgradient stream sediment samples detailed in the WP be collected as part of a stream sediment comparison study. The proposed upgradient stream sediment sample locations are shown on Figure 8. Samples will be submitted for off-site analysis of TAL

metals (23 elements) only. The sampling requirements for the proposed upgradient stream sediment samples are provided on Table 16.

Additional Surface Soil Sampling from Drainage Swale

Thallium was detected above screening criteria in the furthest down gradient surface soil sample (SS-05) collected from the drainage swale (see Figure 4). It is proposed that three (3) additional surface soil samples be collected, as shown on Figure 9. Two (2) samples will be collected side gradient and one (1) sample will be collected down gradient of SS-05. Samples will be submitted for off-site analysis of TAL metals (23 elements), PAHs, and dioxins/furans. The sampling requirements for the proposed surface soil samples are provided on Table 17.

Upland Terrace Soil Sampling

Upon the review of the available historical soil data, a data gap was identified on the upland terrace where soil removal activities were performed that affects this risk assessment. Due to the fact that exact locations of the confirmation composite samples collected are not known, an appropriate surface soil data set cannot be determined. To close this soil data gap, it is proposed that seven (7) additional direct-push borings be advanced on the upland terrace. Figure 10 presents the proposed upland terrace sample locations. These direct-push borings will be continuously sampled, using a 2-in. Macrocore[®] sampler, from ground surface to the bottom of the boring. Two (2) soil samples will be collected from each additional upland terrace location and the soil samples will be submitted for off-site analysis of TAL metals (23 elements), PAHs, and dioxins/furans. Upland terrace soil samples will be collected from 0 ft to 0.5 ft bgs and 3 ft to 4 ft bgs. The sampling requirements for the proposed upland terrace soil samples are provided on Table 18.

Modifying Soil Sampling Intervals

During Phase I direct-push soil sampling activities ash was not visible in several of the direct-push soil borings. Because three of the four soil sampling intervals discussed in the WP were based upon the presence of visible ash, a field modification to the WP was needed. The following sample intervals were used during the Phase I soil sampling at those locations when ash was not visible:

| Soil Sample Intervals Detailed in WP | Soil Sample Intervals as Modified in the Field |
|---|---|
| Surface Soil Zone (0 ft to 0.5 ft bgs) | 0 ft to 0.5 ft bgs |
| Ash Deposit Zone (ash) | 3 ft to 4 ft bgs |
| Soil 1 ft Below Ash Zone | 6 ft to 7.5 ft bgs |
| Soil 6 ft to 10 ft Below Ash Zone | Soil Immediately Above Water Table |

For consistency purposes, it is proposed that the Phase I field modified soil sample intervals be carried forward through the Phase II field activities at direct-push soil sampling locations where ash is not visibly present.

Adjusting the Locations of Direct-Push Soil and Groundwater Samples

The distribution of contaminants at the site during Phase I soil sampling activities indicates that the majority of the regulatory screening criteria exceedances are within the floodplain slope ash layer. The arsenic exceedances associated with samples collected from Threemile Creek and the Kansas River floodplain and appear to be naturally occurring. Therefore, it is proposed that the Phase II direct-push soil sample locations be adjusted to the northwest, toward the toe of the floodplain slope.

Based on the regulatory screening criteria exceedances in groundwater samples collected at the site during Phase I field activities it is proposed that three (3) groundwater sample locations (DP38, DP39, and DP40) be removed from Phase II field activities and one (1) groundwater sample location (DP37) be moved down gradient of DP12, where there was an exceedance of manganese.

Figure 10 shows the original planned Phase II direct-push soil and groundwater sample locations. The proposed adjusted Phase II direct-push soil and groundwater samples locations are show on Figure 12.

VI. PHASE II DATA EVALUATION

After completion of the Phase II field activities, there will be a 60 day period for the completion of sample analysis at the lab, to perform a preliminary validation of the data to ensure its usability, and an evaluation of the analytical data. Based upon an evaluation of all data collected during both the Phase I and II field efforts against the data quality objectives for the RI as defined in the WP, the project team will make a determination whether additional data collection might be required at the site. Additional data that might be required could include data to complete the human health or ecological risk assessment, or to better understand the nature and extent of contamination at the site. The need for and the number and location of monitoring wells will be determined following the evaluation of sampling results from Phase I and Phase II field activities.

VII. SUMMARY OF PROPOSED CHANGES TO THE PHASE II FIELD APPROACH

The following changes to field activities are proposed for Phase II:

- Delete analysis for BTEX, TPH-GRO, TPH-DRO, MeHg, and SVOCs (phenols) from all matrices to be sampled. Analyze only for TAL metals (23 elements), PAHs, and dioxins/furans.
- Eliminate the collection of the three (3) additional upgradient surface soil and surface water samples to the north of Huebner Road.
- Collect three (3) surface water samples from the Phase I surface water sample locations during each quarterly groundwater monitoring event (see Figure 7 and Table 15).
- Collect five (5) additional upgradient stream sediment samples from Threemile Creek for TAL metals (23 elements) analysis only (see Figure 8 and Table 16).
- Collect three (3) additional surface soil samples from the drainage swale for analysis of TAL metals (23 elements), PAHs, and dioxins/furans (see Figure 9 and Table 17).

- Collect additional surface soil and subsurface soil samples from seven (7) locations on the upland terrace area for analysis of TAL metals (23 elements), PAHs, and dioxins/furans (see Figure 10 and Table 18).
- Modify soil sampling depth intervals to conform to protocol used during the Phase I sampling.
- Adjust the location of the original proposed Phase II direct-push soil and groundwater borings (see Figure 11) to their newly proposed locations closer to the area where incinerator ash was disposed of (see Figure 12).

The proposed modifications to the Phase II approach for field sampling activities will provide the soil, groundwater, surface water, and stream sediment data required to successfully perform the risk assessment and complete the RI Report. Following regulatory approval of this Tech Memo, the proposed modifications to the Phase II approach discussed herein will supersede all equivalent portions of the WP.

VIII. REFERENCES

LBG-BMcD, November 15, 2013, *Final Remedial Investigation/Feasibility Study Work Plan for the WWI Incinerator, NW Camp Funston (CFI) – Operable Unit 007 at Fort Riley, Kansas (WP)*.

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Table 1
Phase I Field Activities Summary
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| Field Activity | Date(s) Activity Performed | Number of Sample Locations | Number of Samples to be Collected | Number of Sampling Events | Chemical Analyses (Methods) |
|---|----------------------------|--|-----------------------------------|---------------------------|---|
| Site Preparation | 12/16/2013 - 12/18/2013 | Clearing of timber and brush on the Kansas River floodplain to facilitate direct-push sampling and monitoring well installation. | | | |
| Background Soil Sampling | 01/09/2014 | 12 | 24 | 1 | TAL Metals (6010B and 7470A/7471A) and PAH (8270D SIM) |
| Surface Soil Sampling | 01/09/2014 | 5 | 5 | 1 | BTEX (8206B), SVOCs (8270D), TAL Metals (6010B and 7470A/7471A), MeHg (1630), TPH-GRO (8260B), TPH-DRO (8015M), and Dioxin/Furans (8290A) |
| Stream Sediment Sampling | 01/10/2014 | 3 | 3 | 1 | BTEX (8206B), SVOCs (8270D), TAL Metals (6010B and 7470A/7471A), MeHg (1630), TPH-GRO (8260B), TPH-DRO (8015M), and Dioxin/Furans (8290A) |
| Surface Water Sampling | 01/10/2014 | 3 | 3 | 1 | BTEX (8206B), SVOCs (8270D), TAL Metals (6010B and 7470A/7471A), MeHg (1630), TPH-GRO (8260B), TPH-DRO (8015M), and Dioxin/Furans (8290A) |
| Direct-Push Soil Sampling | 01/13/2014 - 01/14/2014 | 7 | 29 | 1 | BTEX (8206B), SVOCs (8270D), TAL Metals (6010B and 7470A/7471A), MeHg (1630), TPH-GRO (8260B), TPH-DRO (8015M), and Dioxin/Furans (8290A) |
| Direct-Push Groundwater Sampling | 01/15/2014 | 5 | 5 | 1 | BTEX (8206B), SVOCs (8270D), TAL Metals (6010B and 7470A/7471A), MeHg (1630), TPH-GRO (8260B), TPH-DRO (8015M), and Dioxin/Furans (8290A) |

Notes:

1. All sample locations will be surveyed using global positioning system (GPS). Exact number of sample locations will be provided to surveyor.
2. Sample numbers only represent primary samples. Duplicates will be collected at 10% and MS/MSD at 5% of primary samples.
3. The Field Team Leader will be given the authority to adjust sampling locations, as appropriate based on field screening and site conditions.

BTEX - benzene, toluene, ethylbenzene, and xylenes

DRO - diesel range organic

GRO - gasoline range organic

MeHg - methyl mercury

MS - matrix spike

MSD - matrix spike duplicate

PAH - polycyclic aromatic hydrocarbon

SIM - selective ion monitoring

SVOC - semivolatle organic compounds

TAL - target analyte list

TPH - total petroleum hydrocarbon

Table 2
Screening Levels Used and Sources
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| Soil ¹ | | | |
|--|-------|-----------------|---------------------|
| Detected Parameter | Units | Screening Level | Source ⁴ |
| Semivolatile Organic Compounds | | | |
| Acenaphthene | mg/kg | 3,500 | RSL |
| Acenaphthylene | mg/kg | NA | -- |
| Anthracene | mg/kg | 17,000 | RSL |
| Benzo(a)anthracene | mg/kg | 0.15 | RSL |
| Benzo(a)pyrene | mg/kg | 0.015 | RSL |
| Benzo(b)fluoranthene | mg/kg | 0.15 | RSL |
| Benzo(g,h,i)perylene | mg/kg | NA | -- |
| Benzo(k)fluoranthracene | mg/kg | 1.5 | RSL |
| Chrysene | mg/kg | 15 | RSL |
| Dibenzo(a,h)anthracene | mg/kg | 0.041 | RSL |
| Dibenzofuran | mg/kg | 72 | RSL |
| Dimethyl phthalate | mg/kg | NA | -- |
| Fluoranthene | mg/kg | 2,300 | RSL |
| Fluorene | mg/kg | 2,300 | RSL |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.15 | RSL |
| 1-Methylnaphthalene | mg/kg | 17 | RSL |
| 2-Methylnaphthalene | mg/kg | 230 | RSL |
| Naphthalene | mg/kg | 3.8 | RSL |
| Phenanthrene | mg/kg | NA | -- |
| Pyrene | mg/kg | 1,700 | RSL |
| Dioxins/Furans | | | |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | pg/g | 4.9 | RSL |
| Total Petroleum Hydrocarbons | | | |
| Diesel Range Organics | mg/kg | 2,000 | RSK |
| Gasoline Range Organics | mg/kg | 220 | RSK |
| Metals | | | |
| Aluminum | mg/kg | 77,000 | RSL |
| Arsenic | mg/kg | 0.67 | RSL |
| Barium | mg/kg | 15,000 | RSL |
| Beryllium | mg/kg | 160 | RSL |
| Cadmium | mg/kg | 70 | RSL |
| Calcium | mg/kg | NA | -- |
| Chromium ⁵ | mg/kg | 33.6 | RSK |
| Cobalt | mg/kg | 23 | RSL |
| Copper | mg/kg | 3,100 | RSL |
| Iron | mg/kg | 55,000 | RSL |
| Lead | mg/kg | 400 | RSL |
| Magnesium | mg/kg | NA | -- |
| Manganese | mg/kg | 1,800 | RSL |
| Mercury ⁶ | mg/kg | 9.4 | RSL |
| Methyl Mercury | mg/kg | 7.8 | RSL |
| Nickel | mg/kg | 1,500 | RSL |
| Potassium | mg/kg | NA | -- |
| Selenium | mg/kg | 390 | RSL |
| Silver | mg/kg | 390 | RSL |
| Sodium | mg/kg | NA | -- |
| Thallium ⁷ | mg/kg | 0.78 | RSL |
| Vanadium | mg/kg | 390 | RSL |
| Zinc | mg/kg | 23,000 | RSL |

| Stream Sediment ¹ | | | |
|--|-------|-----------------|---------------------|
| Detected Parameter | Units | Screening Level | Source ⁴ |
| Dioxins/Furans | | | |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | pg/g | 4.9 | RSL |
| Total Petroleum Hydrocarbons | | | |
| Diesel Range Organics | mg/kg | 2,000 | RSK |
| Metals | | | |
| Aluminum | mg/kg | 77,000 | RSL |
| Arsenic | mg/kg | 0.67 | RSL |
| Barium | mg/kg | 15,000 | RSL |
| Beryllium | mg/kg | 160 | RSL |
| Cadmium | mg/kg | 70 | RSL |
| Calcium | mg/kg | NA | -- |
| Chromium ⁵ | mg/kg | 33.6 | RSK |
| Cobalt | mg/kg | 23 | RSL |
| Copper | mg/kg | 3,100 | RSL |
| Iron | mg/kg | 55,000 | RSL |
| Lead | mg/kg | 400 | RSL |
| Magnesium | mg/kg | NA | -- |
| Manganese | mg/kg | 1,800 | RSL |
| Mercury ⁶ | mg/kg | 9.4 | RSL |
| Methyl Mercury | mg/kg | 7.8 | RSL |
| Nickel | mg/kg | 1,500 | RSL |
| Potassium | mg/kg | NA | -- |
| Sodium | mg/kg | NA | -- |
| Vanadium | mg/kg | 390 | RSL |
| Zinc | mg/kg | 23,000 | RSL |

| Surface Water ² | | | |
|--|-------|--------------------|---------------------|
| Detected Parameter | Units | Screening Level | Source ⁴ |
| Dioxins/Furans | | | |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | pg/L | 0.013 ⁸ | SWQ |
| Total Petroleum Hydrocarbons | | | |
| Diesel Range Organics | µg/L | NA | -- |
| Metals | | | |
| Aluminum, dissolved | µg/L | NA | -- |
| Barium, dissolved | µg/L | 1,000 | SWQ |
| Calcium, dissolved | µg/L | NA | -- |
| Copper, dissolved | µg/L | 1,300 | SWQ |
| Iron, dissolved | µg/L | NA | -- |
| Magnesium, dissolved | µg/L | NA | -- |
| Manganese, dissolved | µg/L | 50 | NRWQC |
| Methyl Mercury | µg/L | NA | -- |
| Nickel, dissolved | µg/L | 610 | SWQ |
| Potassium, dissolved | µg/L | NA | -- |
| Sodium, dissolved | µg/L | NA | -- |
| Vanadium, dissolved | µg/L | NA | -- |
| Zinc, dissolved | µg/L | 7,400 | SWQ |

| Groundwater ³ | | | |
|--|-------|-----------------|---------------------|
| Detected Parameter | Units | Screening Level | Source ⁴ |
| Volatile Organic Compounds | | | |
| Ethylbenzene | µg/L | 700 | MCL |
| Toluene | µg/L | 1,000 | MCL |
| Dioxins/Furans | | | |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | pg/L | 30 | MCL |
| Metals | | | |
| Aluminum, dissolved | µg/L | 20,000 | RSL |
| Barium, dissolved | µg/L | 2,000 | MCL |
| Calcium, dissolved | µg/L | NA | -- |
| Cobalt, dissolved | µg/L | 6 | RSL |
| Copper, dissolved | µg/L | 1,300 | MCL |
| Iron, dissolved | µg/L | 14,000 | RSL |
| Magnesium, dissolved | µg/L | NA | -- |
| Manganese, dissolved | µg/L | 430 | RSL |
| Methyl Mercury | µg/L | 2 | RSL |
| Nickel, dissolved | µg/L | 390 | RSL |
| Potassium, dissolved | µg/L | NA | -- |
| Sodium, dissolved | µg/L | NA | -- |
| Vanadium, dissolved | µg/L | 86 | RSL |
| Zinc, dissolved | µg/L | 6,000 | RSL |

Notes:

- ¹ Screening levels for soil and stream sediment samples are the USEPA RSL (residential and industrial soil) or KDHE RSK (residential and non-residential soil pathway).
- ² Screening levels for surface water samples are the KDHE Surface Water Quality Standards (public health domestic water supply) or USEPA National Recommended Water Quality Criteria, Human Health Criteria Table (human health for the consumption of water plus organism).
- ³ Screening levels for groundwater samples are the USEPA MCL, USEPA RSL (tapwater), or KDHE RSK (residential groundwater).
- ⁴ Sources are as follows:
 - RSL - United States Environmental Protection Agency, Regional Screening Level (RSL) Summary Table, May 2014. Access: <http://www.epa.gov/region9/superfund/prg/>
 - RSK - Kansas Department of Health and Environment, Risk-Based Standards for Kansas, RSK Manual - 5th Version, Revised Tables, October 2010. Access: http://www.kdheks.gov/remedial/download/RSK_Manual_14.pdf
 - MCL - United States Environmental Protection Agency, National Primary (and/or Secondary) Drinking Water Regulations, EPA 816-F-09-004, May 2009. Access: <http://water.epa.gov/drink/contaminants/upload/mcl-2.pdf>
 - NRWQC - National Recommended Water Quality Criteria, Human Health Criteria Table. Access: <http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm#content>
 - SWQ - Kansas Department of Health and Environment, Surface Water Quality Standards, January 2005. Access: http://www.kdheks.gov/water/download/kwqs_plus_supporting.pdf
- ⁵ Value represents KDHEs Total Chromium screening value.
- ⁶ Value represents Elemental Mercury.
- ⁷ Value represents Thallium (Soluble Salts).
- ⁸ Screening level represents the USEPA promulgated criterion for Kansas under the CFR, Title 40, part 131.36.
- KDHE = Kansas Department of Health and Environment RSK = Risk-Based Standards for Kansas
 MCL = Maximum Contaminant Level RSL = Regional Screening Level
 mg/kg = milligrams per kilogram SWQ = Kansas Department of Health and Environment
 NA = Not available Surface Water Quality Standards
 NRWQC = National Recommended Water Quality Criteria µg/L = micrograms per liter
 pg/g = picograms per gram USEPA = United States Environmental Protection Agency
 pg/L = picograms per liter

Table 3
Phase I Background Soil Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|----------------------------------|-------|------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | Sample Point: | BG01 | BG01 | BG02 | BG02 | BG02 | BG03 | BG03 | BG04 | BG04 | BG04 |
| | | Sample Designator: | SB01 | SB02 | SB01 | SB11 | SB02 | SB01 | SB02 | SB01 | SB02 | SB22 |
| | | Sample Interval: | 0 - 0.5 | 3 - 4 | 0 - 0.5 | 0 - 0.5 | 3 - 4 | 0 - 0.5 | 3 - 4 | 0 - 0.5 | 3 - 4 | 3 - 4 |
| | | Date Sampled: | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 |
| | | Notes: | | | | Duplicate | | | | | | Duplicate |
| Polycyclic Aromatic Hydrocarbons | Units | Screening Level ¹ | | | | | | | | | | |
| Acenaphthene | mg/kg | 3,500 | 0.0068 | 0.00081 U | 0.016 | 0.0047 | 0.00084 U | 0.0025 | 0.00079 U | 0.0028 | 0.00083 U | 0.00083 U |
| Acenaphthylene | mg/kg | NA | 0.016 | 0.0004 U | 0.033 | 0.024 | 0.00042 U | 0.0062 | 0.00039 U | 0.0071 | 0.00042 U | 0.00042 U |
| Anthracene | mg/kg | 17,000 | 0.023 | 0.0004 U | 0.041 | 0.03 | 0.00049 J | 0.0095 | 0.00039 U | 0.012 | 0.00059 J | 0.00042 U |
| Benzo(a)anthracene | mg/kg | 0.15 | 0.038 | 0.00081 U | 0.062 | 0.039 | 0.00089 J | 0.019 | 0.00079 U | 0.022 | 0.0012 J | 0.00083 U |
| Benzo(a)pyrene | mg/kg | 0.015 | 0.034 | 0.00081 U | 0.065 | 0.04 | 0.00088 J | 0.015 | 0.00079 U | 0.019 | 0.0011 J | 0.00083 U |
| Benzo(b)fluoranthene | mg/kg | 0.15 | 0.085 | 0.0014 J | 0.18 | 0.12 | 0.0025 | 0.052 | 0.0022 | 0.069 | 0.0039 | 0.001 J |
| Benzo(g,h,i)perylene | mg/kg | NA | 0.019 | 0.00081 U | 0.029 | 0.018 | 0.0012 J | 0.0074 | 0.00079 U | 0.009 | 0.0015 J | 0.00083 U |
| Benzo(k)fluoranthene | mg/kg | 1.5 | 0.026 | 0.00081 U | 0.061 | 0.035 | 0.00084 U | 0.014 | 0.00079 U | 0.015 | 0.00093 J | 0.00083 U |
| Chrysene | mg/kg | 15 | 0.077 | 0.0012 J | 0.14 | 0.091 | 0.0022 | 0.057 | 0.0014 J | 0.067 | 0.0039 | 0.001 J |
| Dibenzo(a,h)anthracene | mg/kg | 0.041 | 0.0072 | 0.00081 U | 0.012 | 0.0085 | 0.00084 U | 0.0038 | 0.00079 U | 0.0043 | 0.00083 U | 0.00083 U |
| Fluoranthene | mg/kg | 2,300 | 0.097 | 0.0016 J | 0.15 | 0.096 | 0.0023 | 0.061 | 0.0011 J | 0.08 | 0.0038 | 0.0011 J |
| Fluorene | mg/kg | 2,300 | 0.0072 | 0.00081 U | 0.011 | 0.0066 | 0.00084 U | 0.0058 | 0.00079 U | 0.0059 | 0.0022 | 0.00083 U |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.15 | 0.019 | 0.00081 U | 0.029 | 0.019 | 0.00096 J | 0.0072 | 0.00079 U | 0.0086 | 0.0012 J | 0.00083 U |
| 1-Methylnaphthalene | mg/kg | 17 | 0.13 | 0.00093 J | 0.24 | 0.24 | 0.0035 | 0.13 | 0.00079 U | 0.14 | 0.0035 | 0.0012 J |
| 2-Methylnaphthalene | mg/kg | 230 | 0.16 | 0.0012 J | 0.28 | 0.32 | 0.0038 | 0.15 | 0.00079 U | 0.16 | 0.0039 | 0.0013 J |
| Naphthalene | mg/kg | 3.8 | 0.075 | 0.002 J | 0.15 | 0.14 | 0.0021 | 0.079 | 0.00079 U | 0.085 | 0.003 | 0.00086 J |
| Phenanthrene | mg/kg | NA | 0.17 | 0.0022 | 0.0013 J | 0.21 | 0.0044 | 0.15 | 0.0017 J | 0.17 | 0.0058 | 0.0015 J |
| Pyrene | mg/kg | 1,700 | 0.087 | 0.0013 J | 0.13 | 0.095 | 0.0019 J | 0.043 | 0.00094 J | 0.054 | 0.0028 | 0.00083 U |
| Metals | Units | Screening Level ¹ | | | | | | | | | | |
| Aluminum | mg/kg | 77,000 | 9,600 | 15,000 | 9,700 | 9,100 | 23,000 | 9,200 | 15,000 | 9,100 | 20,000 | 21,000 |
| Arsenic | mg/kg | 0.67 | 11 | 6.4 | 9.9 | 9.9 | 7.5 | 4.3 J | 3.1 J | 4.5 J | 4.0 J | 3.5 J |
| Barium | mg/kg | 15,000 | 130 | 200 | 130 | 160 | 270 | 140 | 130 | 160 | 130 | 120 |
| Beryllium | mg/kg | 160 | 0.61 | 0.80 | 0.72 | 0.68 | 1.1 | 0.59 | 0.76 | 0.62 | 0.98 | 1.1 |
| Cadmium | mg/kg | 70 | 0.50 | 0.75 | 0.55 | 0.56 | 0.48 | 0.56 | 0.29 J | 0.66 | 0.34 J | 0.27 J |
| Calcium | mg/kg | NA | 14,000 | 4,300 | 14,000 | 13,000 | 6,800 | 7,100 | 4,500 | 9,800 | 5,900 | 6,400 |
| Chromium | mg/kg | 33.6 | 10 | 15 | 11 | 11 | 21 | 10 | 15 | 10 | 20 | 20 |
| Cobalt | mg/kg | 23 | 3.9 | 15 | 4.3 | 4.0 | 13 | 3.9 | 5.5 | 3.9 | 7.7 | 5.3 |
| Copper | mg/kg | 3,100 | 15 | 15 | 17 | 21 | 20 | 13 | 14 | 15 | 17 | 17 |
| Iron | mg/kg | 55,000 | 12,000 | 13,000 | 14,000 | 15,000 | 20,000 | 10,000 | 13,000 | 11,000 | 18,000 | 18,000 |
| Lead | mg/kg | 400 | 30 | 17 | 31 | 30 | 15 | 20 | 9.4 | 23 | 13 | 11 |
| Magnesium | mg/kg | NA | 2,100 | 3,500 | 2,300 | 2,100 | 5,600 | 2,200 | 3,200 | 2,300 | 4,800 | 4,900 |
| Manganese | mg/kg | 1,800 | 240 | 1,300 | 240 | 250 | 800 | 230 | 340 | 230 | 350 | 230 |
| Mercury | mg/kg | 9.4 | 0.048 J | 0.026 J | 0.053 | 0.029 J | 0.013 J | 0.044 J | 0.010 J | 0.055 | 0.013 J | 0.013 J |
| Nickel | mg/kg | 1,500 | 10 | 26 | 12 | 13 | 25 | 9.8 | 14 | 10 | 17 | 16 |
| Potassium | mg/kg | NA | 2,100 | 3,200 | 2,300 | 2,200 | 4,500 | 2,300 | 2,900 | 2,700 | 4,300 | 4,400 |
| Sodium | mg/kg | NA | 82 J | 86 J | 100 J | 81 J | 140 | 72 J | 96 J | 72 J | 110 J | 110 J |
| Vanadium | mg/kg | 390 | 19 | 26 | 18 | 17 | 32 | 17 | 19 | 16 | 25 | 23 |
| Zinc | mg/kg | 23,000 | 78 | 43 | 91 | 89 | 66 | 66 | 44 | 80 | 65 | 66 |

Table 3
Phase I Background Soil Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|----------------------------------|-------|------------------------------|-----------------|------------------|------------------|------------------|------------------|----------------|----------------|-----------------|------------------|------------------|
| | | Sample Point: | BG05 | BG05 | BG06 | BG06 | BG07 | BG07 | BG08 | BG08 | BG09 | BG09 |
| | | Sample Designator: | SB01 | SB02 | SB01 | SB02 | SB01 | SB02 | SB01 | SB02 | SB01 | SB02 |
| | | Sample Interval: | 0 - 0.5 | 3 - 4 | 0 - 0.5 | 3 - 4 | 0 - 0.5 | 3 - 4 | 0 - 0.5 | 3 - 4 | 0 - 0.5 | 3 - 4 |
| | | Date Sampled: | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 |
| | | Notes: | | | | | | | | | | |
| Polycyclic Aromatic Hydrocarbons | Units | Screening Level ¹ | | | | | | | | | | |
| Acenaphthene | mg/kg | 3,500 | 0.00083 U | 0.00082 U | 0.00082 U | 0.00081 U | 0.00085 U | 0.00084 U | 0.00095 U | 0.00083 U | 0.00079 U | 0.0008 U |
| Acenaphthylene | mg/kg | NA | 0.0015 J | 0.00041 U | 0.0014 J | 0.00041 U | 0.0014 J | 0.00042 U | 0.0078 | 0.00042 U | 0.001 J | 0.00078 J |
| Anthracene | mg/kg | 17,000 | 0.0022 | 0.00041 U | 0.002 J | 0.00041 U | 0.0022 | 0.00042 U | 0.0097 | 0.00042 U | 0.0015 J | 0.0007 J |
| Benzo(a)anthracene | mg/kg | 0.15 | 0.0058 | 0.00082 U | 0.0037 | 0.00081 U | 0.0028 | 0.00084 U | 0.011 | 0.00083 U | 0.0046 | 0.0027 |
| Benzo(a)pyrene | mg/kg | 0.015 | 0.0045 | 0.00082 U | 0.0031 | 0.00081 U | 0.0032 | 0.00084 U | 0.011 | 0.00083 U | 0.0047 | 0.0031 |
| Benzo(b)fluoranthene | mg/kg | 0.15 | 0.017 | 0.0027 | 0.014 | 0.0028 | 0.013 | 0.00084 U | 0.045 | 0.001 J | 0.0097 | 0.008 |
| Benzo(g,h,i)perylene | mg/kg | NA | 0.0045 | 0.00082 U | 0.0033 | 0.00081 U | 0.0032 | 0.00084 U | 0.0074 | 0.00083 U | 0.0041 | 0.003 |
| Benzo(k)fluoranthene | mg/kg | 1.5 | 0.0033 | 0.00082 U | 0.0031 | 0.00081 U | 0.0027 | 0.00084 U | 0.011 | 0.00083 U | 0.0034 | 0.0023 |
| Chrysene | mg/kg | 15 | 0.015 | 0.0011 J | 0.012 | 0.00087 J | 0.01 | 0.00042 U | 0.034 | 0.0013 J | 0.0078 | 0.0061 |
| Dibenzo(a,h)anthracene | mg/kg | 0.041 | 0.0013 J | 0.00082 U | 0.00097 J | 0.00081 U | 0.00095 J | 0.00084 U | 0.0026 | 0.00083 U | 0.00096 J | 0.00089 J |
| Fluoranthene | mg/kg | 2,300 | 0.015 | 0.00082 U | 0.012 | 0.00081 U | 0.0086 | 0.00084 U | 0.046 | 0.0016 J | 0.011 | 0.006 |
| Fluorene | mg/kg | 2,300 | 0.0027 | 0.00082 U | 0.0029 | 0.00081 U | 0.0075 | 0.00084 U | 0.007 | 0.0011 J | 0.00079 U | 0.0008 U |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.15 | 0.0036 | 0.00082 U | 0.003 | 0.00081 U | 0.0027 | 0.00084 U | 0.0067 | 0.00083 U | 0.0029 | 0.0026 |
| 1-Methylnaphthalene | mg/kg | 17 | 0.024 | 0.00082 U | 0.014 | 0.00081 U | 0.0052 | 0.00084 U | 0.012 | 0.00083 U | 0.0041 | 0.0041 |
| 2-Methylnaphthalene | mg/kg | 230 | 0.026 | 0.00082 U | 0.015 | 0.00081 U | 0.0064 | 0.00084 U | 0.017 | 0.00083 U | 0.0048 | 0.0047 |
| Naphthalene | mg/kg | 3.8 | 0.014 | 0.00082 U | 0.0096 | 0.00081 U | 0.0064 | 0.00084 U | 0.025 | 0.0012 J | 0.0034 | 0.0037 |
| Phenanthrene | mg/kg | NA | 0.033 | 0.00093 J | 0.021 | 0.001 J | 0.0097 | 0.00084 U | 0.051 | 0.0018 J | 0.0076 | 0.0066 |
| Pyrene | mg/kg | 1,700 | 0.013 | 0.00082 U | 0.0092 | 0.00081 U | 0.0075 | 0.00084 U | 0.027 | 0.0012 J | 0.008 | 0.0046 |
| Metals | Units | Screening Level ¹ | | | | | | | | | | |
| Aluminum | mg/kg | 77,000 | 12,000 | 18,000 | 12,000 | 17,000 | 11,000 | 23,000 | 12,000 | 23,000 | 11,000 | 17,000 |
| Arsenic | mg/kg | 0.67 | 4.1 J | 3.3 J | 3.6 J | 3.4 J | 2.8 J | 7.1 | 17 | 5.2 | 3.0 J | 5.2 |
| Barium | mg/kg | 15,000 | 140 | 310 | 140 | 210 | 140 | 250 | 170 | 260 | 130 | 180 |
| Beryllium | mg/kg | 160 | 0.61 | 0.97 | 0.62 | 0.86 | 0.57 | 1.1 | 0.64 | 1.1 | 0.49 | 0.75 |
| Cadmium | mg/kg | 70 | 0.41 | 0.20 J | 0.30 J | 0.38 | 0.47 | 0.42 | 1.7 | 0.36 | 0.56 | 0.32 J |
| Calcium | mg/kg | NA | 5,700 | 5,500 | 4,400 | 5,000 | 6,700 | 5,900 | 9,400 | 5,500 | 8,700 | 12,000 |
| Chromium | mg/kg | 33.6 | 13 | 19 | 13 | 25 | 12 | 21 | 13 | 22 | 11 | 16 |
| Cobalt | mg/kg | 23 | 4.5 | 5.3 | 5.1 | 6.1 | 4.5 | 7.1 | 4.8 | 6.1 | 4.4 | 5.4 |
| Copper | mg/kg | 3,100 | 12 | 18 | 11 | 16 | 12 | 21 | 18 | 20 | 10 | 13 |
| Iron | mg/kg | 55,000 | 11,000 | 17,000 | 11,000 | 15,000 | 11,000 | 21,000 | 14,000 | 19,000 | 11,000 | 15,000 |
| Lead | mg/kg | 400 | 14 | 12 | 11 | 9.7 | 13 | 16 | 31 | 15 | 13 | 11 |
| Magnesium | mg/kg | NA | 2,900 | 4,400 | 2,600 | 3,900 | 2,700 | 4,900 | 2,900 | 4,900 | 3,200 | 4,500 |
| Manganese | mg/kg | 1,800 | 240 | 200 | 300 | 400 | 240 | 430 | 300 | 260 | 230 | 300 |
| Mercury | mg/kg | 9.4 | 0.030 J | 0.013 J | 0.013 J | 0.044 U | 0.035 J | 0.024 J | 0.056 J | 0.028 J | 0.047 J | 0.014 J |
| Nickel | mg/kg | 1,500 | 11 | 15 | 11 | 19 | 10 | 19 | 12 | 16 | 10 | 13 |
| Potassium | mg/kg | NA | 2,900 | 4,100 | 2,700 | 3,800 | 2,800 | 4,200 | 2,900 | 4,200 | 2,500 | 3,500 |
| Sodium | mg/kg | NA | 80 J | 110 J | 59 J | 99 J | 57 J | 75 J | 68 J | 96 J | 88 J | 90 J |
| Vanadium | mg/kg | 390 | 21 | 22 | 21 | 22 | 17 | 35 | 22 | 33 | 21 | 29 |
| Zinc | mg/kg | 23,000 | 47 | 65 | 41 | 58 | 89 | 87 | 560 | 90 | 52 | 51 |

Table 3
Phase I Background Soil Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|----------------------------------|-------|------------------------------|-----------------|------------------|-----------------|----------------|------------------|------------------|------------------|
| | | Sample Point: | BG10 | BG10 | BG11 | BG11 | BG11 | BG12 | BG12 |
| | | Sample Designator: | SB01 | SB02 | SB01 | SB11 | SB02 | SB01 | SB02 |
| | | Sample Interval: | 0 - 0.5 | 3 - 4 | 0 - 0.5 | 0 - 0.5 | 3 - 4 | 0 - 0.5 | 3 - 4 |
| | | Date Sampled: | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 |
| | | Notes: | | | | Duplicate | | | |
| Polycyclic Aromatic Hydrocarbons | Units | Screening Level ¹ | | | | | | | |
| Acenaphthene | mg/kg | 3,500 | 0.00083 U | 0.00073 U | 0.00084 U | NS | 0.00071 U | 0.00084 U | 0.00072 U |
| Acenaphthylene | mg/kg | NA | 0.0015 J | 0.00039 J | 0.0014 J | NS | 0.00036 U | 0.00097 J | 0.00036 U |
| Anthracene | mg/kg | 17,000 | 0.0024 | 0.0004 J | 0.0015 J | NS | 0.00036 U | 0.0039 | 0.00036 U |
| Benzo(a)anthracene | mg/kg | 0.15 | 0.0041 | 0.0018 J | 0.0032 | NS | 0.00071 U | 0.003 | 0.00072 U |
| Benzo(a)pyrene | mg/kg | 0.015 | 0.0041 | 0.0022 | 0.0031 | NS | 0.00075 J | 0.0029 | 0.00076 J |
| Benzo(b)fluoranthene | mg/kg | 0.15 | 0.012 | 0.004 | 0.011 | NS | 0.0015 J | 0.011 | 0.0016 J |
| Benzo(g,h,i)perylene | mg/kg | NA | 0.0031 | 0.0011 J | 0.0032 | NS | 0.00071 U | 0.0018 J | 0.00077 J |
| Benzo(k)fluoranthene | mg/kg | 1.5 | 0.0041 | 0.0013 J | 0.0037 | NS | 0.00071 U | 0.0038 | 0.00072 U |
| Chrysene | mg/kg | 15 | 0.0088 | 0.0025 | 0.008 | NS | 0.00086 J | 0.0065 | 0.00096 J |
| Dibenzo(a,h)anthracene | mg/kg | 0.041 | 0.00083 U | 0.00073 U | 0.00084 U | NS | 0.00071 U | 0.00084 U | 0.00072 U |
| Fluoranthene | mg/kg | 2,300 | 0.011 | 0.0027 | 0.0082 | NS | 0.00071 U | 0.0068 | 0.00085 J |
| Fluorene | mg/kg | 2,300 | 0.00083 U | 0.00073 U | 0.00084 U | NS | 0.00071 U | 0.00084 U | 0.00072 U |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.15 | 0.0024 | 0.001 J | 0.0024 | NS | 0.00071 U | 0.0019 J | 0.00072 U |
| 1-Methylnaphthalene | mg/kg | 17 | 0.0037 | 0.00073 U | 0.0033 | NS | 0.00071 U | 0.0017 J | 0.00072 U |
| 2-Methylnaphthalene | mg/kg | 230 | 0.0044 | 0.00073 U | 0.0043 | NS | 0.00071 U | 0.0018 J | 0.00072 U |
| Naphthalene | mg/kg | 3.8 | 0.0058 | 0.00091 J | 0.0067 | NS | 0.00071 U | 0.004 | 0.00072 U |
| Phenanthrene | mg/kg | NA | 0.0086 | 0.0017 J | 0.0065 | NS | 0.00071 U | 0.0064 | 0.00079 J |
| Pyrene | mg/kg | 1,700 | 0.0074 | 0.0025 | 0.0071 | NS | 0.00085 J | 0.0057 | 0.00092 J |
| Metals | Units | Screening Level ¹ | | | | | | | |
| Aluminum | mg/kg | 77,000 | 15,000 | 8,600 | 14,000 | 14,000 | 8,100 | 14,000 | 9,500 |
| Arsenic | mg/kg | 0.67 | 4.1 J | 3.3 J | 4.4 J | 4.0 J | 2.6 J | 4.2 J | 3.8 J |
| Barium | mg/kg | 15,000 | 150 | 120 | 140 | 140 | 120 | 150 | 150 |
| Beryllium | mg/kg | 160 | 0.65 | 0.40 | 0.63 | 0.62 | 0.38 | 0.61 | 0.43 |
| Cadmium | mg/kg | 70 | 0.75 | 0.19 J | 0.73 | 0.81 | 0.17 J | 0.76 | 0.16 J |
| Calcium | mg/kg | NA | 7,900 | 10,000 | 8,100 | 8,600 | 6,700 | 11,000 | 8,300 |
| Chromium | mg/kg | 33.6 | 15 | 9.1 | 13 | 14 | 8.8 | 13 | 10 |
| Cobalt | mg/kg | 23 | 5.1 | 3.3 | 5.2 | 5.3 | 3.0 | 5.1 | 3.7 |
| Copper | mg/kg | 3,100 | 11 | 6.8 | 12 | 12 | 6.0 | 11 | 8.2 |
| Iron | mg/kg | 55,000 | 13,000 | 8,900 | 13,000 | 13,000 | 8,100 | 13,000 | 9,200 |
| Lead | mg/kg | 400 | 17 | 6.3 | 15 | 16 | 5.9 | 13 | 6.2 |
| Magnesium | mg/kg | NA | 3,800 | 2,600 | 3,600 | 3,700 | 2,600 | 4,000 | 2,800 |
| Manganese | mg/kg | 1,800 | 310 | 150 | 290 | 290 | 140 | 270 | 190 |
| Mercury | mg/kg | 9.4 | 0.033 J | 0.011 J | 0.041 J | 0.037 J | 0.010 J | 0.040 J | 0.012 J |
| Nickel | mg/kg | 1,500 | 12 | 7.6 | 12 | 12 | 6.9 | 12 | 8.4 |
| Potassium | mg/kg | NA | 3,200 | 2,000 | 3,000 | 3,000 | 1,900 | 3,300 | 2,100 |
| Sodium | mg/kg | NA | 77 J | 90 J | 74 J | 73 J | 110 | 82 J | 110 |
| Vanadium | mg/kg | 390 | 25 | 20 | 23 | 24 | 18 | 24 | 21 |
| Zinc | mg/kg | 23,000 | 63 | 27 | 56 | 60 | 25 | 55 | 27 |

Notes:

¹ For Source of screening levels, see Table 2.

Bold - compound was detected

Highlighted - concentration exceeds screening level

J - estimated value

mg/kg - milligrams per kilogram

NA - Not available

NS- Not Sampled

U - compound was not detected

Table 4
Phase I Soil Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|---------------------------------------|--------------------|------------------------------------|------------|-------------|-------------|------------|------------|------------|------------|------------|------------|-------------|------------|
| | Sample Point: | DP01 | DP01 | DP01 | DP01 | DP01 | DP01 | DP01 | DP02 | DP02 | DP02 | DP02 | DP03 |
| | Sample Designator: | SB01 | SB02 | SB22 | SB03 | SB04 | SB05 | SB01 | SB02 | SB03 | SB04 | SB01 | SB01 |
| | Sample Interval: | 0 - 0.5 | 3 - 4.5 | 3 - 4.5 | 6 - 7.5 | 18 - 20 | 30 - 32 | 0 - 0.5 | 3 - 6 | 7 - 8 | 16 - 17 | 0 - 0.5 | |
| | Date Sampled: | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/13/2014 | 01/13/2014 | 01/13/2014 | 01/13/2014 | 01/13/2014 | |
| | Notes: | | | Duplicate | | | | | | | | | |
| Semivolatile Organic Compounds | Units | Screening Level¹ | | | | | | | | | | | |
| Benzo(a)anthracene | mg/kg | 0.15 | 0.4 U | 0.37 U | 0.38 U | 0.38 U | 0.4 U | 0.41 U | 0.036 J | 0.4 U | 0.39 U | 0.38 U | 0.046 J |
| Benzo(a)pyrene | mg/kg | 0.015 | 0.4 U | 0.37 U | 0.38 U | 0.38 U | 0.4 U | 0.41 U | 0.4 U | 0.4 U | 0.39 U | 0.38 U | 0.03 J |
| Benzo(b)fluoranthene | mg/kg | 0.15 | 0.4 U | 0.37 U | 0.38 U | 0.38 U | 0.4 U | 0.41 U | 0.4 U | 0.4 U | 0.39 U | 0.38 U | 0.048 J |
| Benzo(g,h,i)perylene | mg/kg | NA | 0.026 J | 0.37 U | 0.38 U | 0.38 U | 0.4 U | 0.41 U | 0.4 U | 0.4 U | 0.39 U | 0.38 U | 0.035 J |
| Chrysene | mg/kg | 15 | 0.4 U | 0.37 U | 0.38 U | 0.38 U | 0.4 U | 0.41 U | 0.049 J | 0.4 U | 0.39 U | 0.38 U | 0.066 J |
| Dibenzofuran | mg/kg | 72 | 0.4 U | 0.37 U | 0.38 U | 0.38 U | 0.4 U | 0.41 U | 0.13 J | 0.064 J | 0.39 U | 0.38 U | 0.1 J |
| Dimethyl phthalate | mg/kg | NA | 0.15 J | 0.12 J | 0.25 J | 0.13 J | 0.29 J | 0.38 J | 0.4 U | 0.4 U | 0.39 U | 0.38 U | 0.071 J |
| Fluoranthene | mg/kg | 2,300 | 0.4 U | 0.37 U | 0.38 U | 0.38 U | 0.4 U | 0.41 U | 0.046 J | 0.4 U | 0.39 U | 0.38 U | 0.051 J |
| 2-Methylnaphthalene | mg/kg | 230 | 0.4 U | 0.37 U | 0.38 U | 0.38 U | 0.4 U | 0.41 U | 0.23 J | 0.06 J | 0.39 U | 0.38 U | 0.15 J |
| Naphthalene | mg/kg | 3.8 | 0.4 U | 0.37 U | 0.38 U | 0.38 U | 0.4 U | 0.41 U | 0.13 J | 0.4 U | 0.39 U | 0.38 U | 0.068 J |
| Phenanthrene | mg/kg | NA | 0.049 J | 0.37 U | 0.38 U | 0.38 U | 0.4 U | 0.41 U | 0.28 J | 0.16 J | 0.39 U | 0.38 U | 0.25 J |
| Pyrene | mg/kg | 1,700 | 0.035 J | 0.45 U | 0.45 U | 0.46 U | 0.48 U | 0.5 U | 0.038 J | 0.025 J | 0.47 U | 0.46 U | 0.053 J |
| Total Petroleum Hydrocarbons | Units | Screening Level¹ | | | | | | | | | | | |
| Diesel Range Organics | mg/kg | 2,000 | 39 | 1.6 J | 1.8 J | 0.84 J | 1.0 J | 0.93 J | 290 J | 290 J | 5.1 | 4.9 U | 130 |
| Gasoline Range Organics | mg/kg | 220 | 1.4 U | 1.5 U | 1.8 U | 1.3 U | 1.5 U | 1.6 U | 10 | 7.2 | 1.4 U | 1.3 U | 2.0 J |
| Metals | Units | Screening Level¹ | | | | | | | | | | | |
| Aluminum | mg/kg | 77,000 | 8,900 | 12,000 | 10,000 | 14,000 | 17,000 | 14,000 | 8,900 | 9,600 | 13,000 | 5,100 | 11,000 |
| Arsenic | mg/kg | 0.67 | 9.2 | 4.3 J | 4.2 J | 5.8 | 4.6 J | 4.2 J | 31 | 30 | 5.1 | 3.3 J | 35 |
| Barium | mg/kg | 15,000 | 150 | 130 | 140 | 170 | 140 | 160 | 170 | 210 | 160 | 85 | 1,300 |
| Beryllium | mg/kg | 160 | 0.73 | 0.62 | 0.54 | 0.74 | 0.91 | 0.77 | 2.3 | 1.9 | 0.82 | 0.32 | 2.7 |
| Cadmium | mg/kg | 70 | 1.3 | 0.13 J | 0.14 J | 0.19 J | 0.16 J | 0.21 J | 5.3 | 3.3 | 0.35 J | 0.077 J | 2.8 |
| Calcium | mg/kg | NA | 51,000 | 14,000 | 9,900 | 15,000 | 7,000 | 13,000 | 21,000 | 24,000 | 4,500 | 12,000 | 27,000 |
| Chromium | mg/kg | 33.6 | 11 | 12 | 12 | 14 | 17 | 18 | 16 | 20 | 14 | 6.3 | 14 |
| Cobalt | mg/kg | 23 | 5.2 | 6.4 | 5.2 | 8.1 | 7.8 | 7.6 | 16 | 14 | 6.2 | 2.8 | 13 |
| Copper | mg/kg | 3,100 | 65 | 8.2 | 8.0 | 11 | 13 | 12 | 87 | 120 | 12 | 4.5 | 65 |
| Iron | mg/kg | 55,000 | 14,000 | 12,000 | 10,000 | 13,000 | 16,000 | 14,000 | 56,000 | 55,000 | 14,000 | 6,800 | 35,000 |
| Lead | mg/kg | 400 | 26 | 11 | 9.6 | 13 | 12 | 11 | 370 | 340 | 11 | 4.3 | 350 |
| Magnesium | mg/kg | NA | 2,300 | 3,100 | 2,700 | 3,600 | 4,600 | 3,900 | 790 | 1,100 | 2,700 | 1,800 | 1,500 |
| Manganese | mg/kg | 1,800 | 290 | 360 | 280 | 480 | 480 | 540 | 440 | 330 | 330 | 73 | 290 |
| Mercury | mg/kg | 9.4 | 0.034 J | 0.045 U | 0.021 J | 0.013 J | 0.015 J | 0.014 J | 0.093 | 0.12 J | 0.015 J | 0.048 U | 0.12 |
| Methyl Mercury | mg/kg | 7.8 | 0.000120 | 0.000030 UR | 0.000029 UR | 0.000126 | 0.000033 U | 0.000032 U | 0.000029 J | 0.000014 J | 0.000011 J | 0.000035 UJ | 0.000172 |
| Nickel | mg/kg | 1,500 | 17 | 12 | 11 | 15 | 18 | 16 | 87 | 83 | 24 | 5.8 | 74 |
| Potassium | mg/kg | NA | 2,000 | 2,000 | 1,900 | 2,200 | 2,900 | 2,400 | 1,900 | 2,000 | 2,900 | 1,200 | 1,300 |
| Selenium | mg/kg | 390 | 4.8 U | 4.7 U | 4.3 U | 4.5 U | 5.2 U | 5.1 U | 2.4 J | 4.8 U | 4.9 U | 3.5 U | 4.8 U |
| Silver | mg/kg | 390 | 0.60 U | 0.58 U | 0.54 U | 0.56 U | 0.66 U | 0.64 U | 0.79 | 1.5 | 0.62 U | 0.43 U | 0.54 J |
| Sodium | mg/kg | NA | 140 | 57 J | 62 J | 65 J | 450 | 250 | 440 | 1,000 | 100 J | 140 | 620 |
| Thallium | mg/kg | 0.78 | 3.6 U | 3.5 U | 3.3 U | 3.4 U | 3.9 U | 3.9 U | 1.8 J | 1.6 J | 3.7 U | 2.6 U | 1.6 J |
| Vanadium | mg/kg | 390 | 18 | 23 | 20 | 25 | 24 | 23 | 20 | 22 | 23 | 17 | 30 |
| Zinc | mg/kg | 23,000 | 260 | 30 | 32 | 36 | 50 | 42 | 980 | 1,000 | 98 | 21 | 520 |

Table 4
Phase I Soil Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|---------------------------------------|--------------|------------------------------------|----------------|-------------------|---------------|-----------------|-----------------|-------------------|-------------------|----------------|-----------------|-------------------|-------------------|
| | | Sample Point: | DP03 | DP03 | DP03 | DP04 | DP04 | DP04 | DP04 | DP04 | DP05 | DP05 | DP05 |
| | | Sample Designator: | SB02 | SB03 | SB04 | SB01 | SB02 | SB03 | SB033 | SB04 | SB01 | SB02 | SB03 |
| | | Sample Interval: | 3 - 5 | 5.5 - 6.5 | 14 - 15.5 | 0 - 0.5 | 1 - 3 | 3 - 4 | 3 - 4 | 10 - 12 | 0 - 0.5 | 1.5 - 2.5 | 2.5 - 3.5 |
| | | Date Sampled: | 01/13/2014 | 01/13/2014 | 01/13/2014 | 01/13/2014 | 01/13/2014 | 01/13/2014 | 01/13/2014 | 01/13/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 |
| | | Notes: | | | | | | | | Duplicate | | | |
| Semivolatile Organic Compounds | Units | Screening Level¹ | | | | | | | | | | | |
| Benzo(a)anthracene | mg/kg | 0.15 | 0.38 U | 0.36 U | 0.4 U | 0.39 U | 0.37 U | 0.37 U | 0.37 U | 0.34 U | 0.39 U | 0.38 U | 0.36 U |
| Benzo(a)pyrene | mg/kg | 0.015 | 0.38 U | 0.36 U | 0.4 U | 0.39 U | 0.37 U | 0.37 U | 0.37 U | 0.34 U | 0.39 U | 0.38 U | 0.36 U |
| Benzo(b)fluoranthene | mg/kg | 0.15 | 0.38 U | 0.36 U | 0.4 U | 0.39 U | 0.37 U | 0.37 U | 0.37 U | 0.34 U | 0.39 U | 0.38 U | 0.36 U |
| Benzo(g,h,i)perylene | mg/kg | NA | 0.38 U | 0.36 U | 0.4 U | 0.39 U | 0.37 U | 0.37 U | 0.37 U | 0.34 U | 0.39 U | 0.38 U | 0.36 U |
| Chrysene | mg/kg | 15 | 0.38 U | 0.36 U | 0.4 U | 0.39 U | 0.37 U | 0.37 U | 0.37 U | 0.34 U | 0.39 U | 0.38 U | 0.36 U |
| Dibenzofuran | mg/kg | 72 | 0.025 J | 0.36 U | 0.4 U | 0.39 U | 0.044 J | 0.37 U | 0.37 U | 0.34 U | 0.39 U | 0.38 U | 0.36 U |
| Dimethyl phthalate | mg/kg | NA | 0.38 U | 0.36 U | 0.4 U | 0.39 U | 0.37 U | 0.37 U | 0.37 U | 0.025 J | 0.19 J | 0.49 | 0.45 |
| Fluoranthene | mg/kg | 2,300 | 0.38 U | 0.36 U | 0.4 U | 0.39 U | 0.37 U | 0.37 U | 0.37 U | 0.34 U | 0.39 U | 0.38 U | 0.36 U |
| 2-Methylnaphthalene | mg/kg | 230 | 0.023 J | 0.36 U | 0.4 U | 0.39 U | 0.054 J | 0.37 U | 0.37 U | 0.34 U | 0.39 U | 0.38 U | 0.36 U |
| Naphthalene | mg/kg | 3.8 | 0.38 U | 0.36 U | 0.4 U | 0.39 U | 0.37 U | 0.37 U | 0.37 U | 0.34 U | 0.39 U | 0.38 U | 0.36 U |
| Phenanthrene | mg/kg | NA | 0.063 J | 0.36 U | 0.4 U | 0.027 J | 0.1 J | 0.37 U | 0.37 U | 0.34 U | 0.39 U | 0.38 U | 0.36 U |
| Pyrene | mg/kg | 1,700 | 0.018 J | 0.44 U | 0.48 U | 0.48 U | 0.019 J | 0.44 U | 0.45 U | 0.41 U | 0.48 U | 0.46 U | 0.44 U |
| Total Petroleum Hydrocarbons | Units | Screening Level¹ | | | | | | | | | | | |
| Diesel Range Organics | mg/kg | 2,000 | 190 | 2.1 J | 1.6 J | 39 | 86 | 9.9 | 6.6 | 1.7 J | 6.2 | 5.7 | 7.4 |
| Gasoline Range Organics | mg/kg | 220 | 11 J | 1.4 U | 1.3 U | 5.4 | 11 | 1.4 U | 1.3 U | 1.5 U | 1.5 U | 1.6 U | 1.4 U |
| Metals | Units | Screening Level¹ | | | | | | | | | | | |
| Aluminum | mg/kg | 77,000 | 13,000 | 12,000 | 14,000 | 9,800 | 9,500 | 12,000 | 11,000 | 13,000 | 15,000 | 23,000 | 14,000 |
| Arsenic | mg/kg | 0.67 | 26 | 7.4 | 7.4 | 12 | 27 | 4.9 | 5.1 | 5.7 | 4.2 J | 8.1 | 4.6 |
| Barium | mg/kg | 15,000 | 1,900 | 300 | 380 | 570 | 300 | 170 | 140 | 200 | 170 | 230 | 140 |
| Beryllium | mg/kg | 160 | 3.0 | 0.89 | 0.74 | 1.3 | 1.7 | 0.70 | 0.72 | 0.72 | 0.81 | 1.2 | 0.78 |
| Cadmium | mg/kg | 70 | 3.9 | 0.87 | 0.48 | 1.6 | 1.8 | 0.38 | 0.40 | 0.24 J | 0.46 | 0.40 | 0.24 J |
| Calcium | mg/kg | NA | 21,000 | 9,200 | 69,000 | 10,000 | 9,500 | 8,500 | 7,800 | 26,000 | 14,000 | 7,800 | 5,400 |
| Chromium | mg/kg | 33.6 | 12 | 13 | 14 | 11 | 17 | 13 | 12 | 16 | 15 | 21 | 15 |
| Cobalt | mg/kg | 23 | 16 | 6.9 | 8.4 | 8.2 | 13 | 6.2 | 6.2 | 8.4 | 5.9 | 7.8 | 6.0 |
| Copper | mg/kg | 3,100 | 61 | 15 | 13 | 30 | 200 | 12 | 12 | 12 | 14 | 17 | 12 |
| Iron | mg/kg | 55,000 | 34,000 | 15,000 | 14,000 | 25,000 | 76,000 | 13,000 | 13,000 | 13,000 | 14,000 | 20,000 | 14,000 |
| Lead | mg/kg | 400 | 110 | 30 | 10 | 78 | 180 | 19 | 18 | 12 | 16 | 18 | 11 |
| Magnesium | mg/kg | NA | 1,200 | 2,700 | 5,600 | 1,800 | 1,600 | 2,900 | 2,800 | 3,800 | 3,900 | 4,700 | 3,300 |
| Manganese | mg/kg | 1,800 | 240 | 320 | 670 | 350 | 360 | 330 | 330 | 450 | 330 | 430 | 310 |
| Mercury | mg/kg | 9.4 | 0.028 J | 0.024 J | 0.049 U | 0.054 | 0.15 | 0.019 J | 0.016 J | 0.013 J | 0.037 J | 0.024 J | 0.014 J |
| Methyl Mercury | mg/kg | 7.8 | 0.000033 U | 0.000017 J | 0.000033 U | 0.000265 | 0.000225 | 0.000029 J | 0.000016 J | 0.000029 U | 0.000078 | 0.000028 J | 0.000030 J |
| Nickel | mg/kg | 1,500 | 60 | 20 | 26 | 35 | 66 | 17 | 17 | 17 | 15 | 20 | 14 |
| Potassium | mg/kg | NA | 1,200 | 2,500 | 2,800 | 2,100 | 1,900 | 2,700 | 2,600 | 2,500 | 3,300 | 3,900 | 2,900 |
| Selenium | mg/kg | 390 | 4.8 U | 4.4 U | 5.0 U | 4.8 U | 4.7 U | 4.6 U | 4.4 U | 4.4 U | 4.8 U | 5.0 U | 4.4 U |
| Silver | mg/kg | 390 | 0.56 J | 0.55 U | 0.63 U | 0.16 JU | 0.76 | 0.57 U | 0.55 U | 0.55 U | 0.59 U | 0.62 U | 0.56 U |
| Sodium | mg/kg | NA | 1,100 | 160 | 410 | 190 | 270 | 77 J | 82 J | 90 J | 76 J | 71 J | 76 J |
| Thallium | mg/kg | 0.78 | 1.4 J | 3.3 U | 3.8 U | 3.6 U | 2.0 J | 3.4 U | 3.3 U | 3.3 U | 3.6 U | 3.7 U | 3.3 U |
| Vanadium | mg/kg | 390 | 41 | 23 | 39 | 19 | 24 | 22 | 21 | 24 | 23 | 34 | 23 |
| Zinc | mg/kg | 23,000 | 880 | 170 | 49 | 340 | 500 | 71 | 71 | 44 | 59 | 70 | 44 |

Table 4
Phase I Soil Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|--------------------------------|-------|------------------------------|----------------|-----------------|----------------|----------------|-------------------|-----------------|-----------------|-------------------|----------------|----------------|
| | | Sample Point: | DP05 | DP06 | DP06 | DP06 | DP06 | DP07 | DP07 | DP07 | DP07 | DP07 |
| | | Sample Designator: | SB04 | SB01 | SB02 | SB03 | SB04 | SB01 | SB11 | SB02 | SB03 | SB04 |
| | | Sample Interval: | 10 - 12 | 0 - 0.5 | 3 - 4.5 | 6 - 7.5 | 16.5 - 18.5 | 0 - 0.5 | 0 - 0.5 | 3 - 4.5 | 6 - 7.5 | 18 - 20 |
| | | Date Sampled: | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 |
| | | Notes: | | | | | | | Duplicate | | | |
| Semivolatile Organic Compounds | Units | Screening Level ¹ | | | | | | | | | | |
| Benzo(a)anthracene | mg/kg | 0.15 | 0.39 U | 0.46 U | 0.38 U | 0.36 U | 0.43 U | 0.42 U | 0.46 U | 0.4 U | 0.35 U | 0.43 U |
| Benzo(a)pyrene | mg/kg | 0.015 | 0.39 U | 0.46 U | 0.38 U | 0.36 U | 0.43 U | 0.42 U | 0.46 U | 0.4 U | 0.35 U | 0.43 U |
| Benzo(b)fluoranthene | mg/kg | 0.15 | 0.39 U | 0.46 U | 0.38 U | 0.36 U | 0.43 U | 0.42 U | 0.46 U | 0.4 U | 0.35 U | 0.43 U |
| Benzo(g,h,i)perylene | mg/kg | NA | 0.39 U | 0.46 U | 0.38 U | 0.36 U | 0.43 U | 0.42 U | 0.46 U | 0.4 U | 0.35 U | 0.43 U |
| Chrysene | mg/kg | 15 | 0.39 U | 0.46 U | 0.38 U | 0.36 U | 0.43 U | 0.42 U | 0.46 U | 0.4 U | 0.35 U | 0.43 U |
| Dibenzofuran | mg/kg | 72 | 0.39 U | 0.46 U | 0.38 U | 0.36 U | 0.43 U | 0.42 U | 0.46 U | 0.4 U | 0.35 U | 0.43 U |
| Dimethyl phthalate | mg/kg | NA | 0.25 J | 0.21 J | 0.52 | 0.49 | 0.46 | 0.56 | 0.39 J | 0.23 J | 0.39 | 1.1 |
| Fluoranthene | mg/kg | 2,300 | 0.39 U | 0.46 U | 0.38 U | 0.36 U | 0.43 U | 0.42 U | 0.46 U | 0.4 U | 0.35 U | 0.43 U |
| 2-Methylnaphthalene | mg/kg | 230 | 0.39 U | 0.46 U | 0.38 U | 0.36 U | 0.43 U | 0.42 U | 0.46 U | 0.4 U | 0.35 U | 0.43 U |
| Naphthalene | mg/kg | 3.8 | 0.39 U | 0.46 U | 0.38 U | 0.36 U | 0.43 U | 0.42 U | 0.46 U | 0.4 U | 0.35 U | 0.43 U |
| Phenanthrene | mg/kg | NA | 0.39 U | 0.46 U | 0.38 U | 0.36 U | 0.43 U | 0.42 U | 0.46 U | 0.4 U | 0.35 U | 0.43 U |
| Pyrene | mg/kg | 1,700 | 0.48 U | 0.56 U | 0.46 U | 0.44 U | 0.52 U | 0.51 U | 0.56 U | 0.49 U | 0.42 U | 0.53 U |
| Total Petroleum Hydrocarbons | Units | Screening Level ¹ | | | | | | | | | | |
| Diesel Range Organics | mg/kg | 2,000 | 2.4 J | 3.6 J | 5.6 | 4.6 | 1.3 J | 4.6 J | 4.0 J | 4.5 J | 3.0 J | 1.5 J |
| Gasoline Range Organics | mg/kg | 220 | 1.5 U | 1.5 U | 2.2 U | 1.6 U | 1.7 U | 1.4 U | 1.5 U | 1.6 U | 1.5 U | 1.4 U |
| Metals | Units | Screening Level ¹ | | | | | | | | | | |
| Aluminum | mg/kg | 77,000 | 16,000 | 15,000 | 18,000 | 14,000 | 13,000 | 13,000 | 15,000 | 24,000 | 13,000 | 15,000 |
| Arsenic | mg/kg | 0.67 | 6.1 | 5.1 J | 6.1 | 3.9 J | 5.6 | 4.7 J | 4.6 J | 8.1 | 4.2 J | 7.4 |
| Barium | mg/kg | 15,000 | 170 | 170 | 180 | 140 | 180 | 140 | 170 | 220 | 150 | 200 |
| Beryllium | mg/kg | 160 | 0.84 | 0.83 | 0.93 | 0.78 | 0.73 | 0.73 | 0.82 | 1.2 | 0.76 | 0.81 |
| Cadmium | mg/kg | 70 | 0.12 J | 0.63 | 0.24 J | 0.23 J | 0.67 | 0.39 J | 0.60 | 0.27 J | 0.23 J | 0.64 |
| Calcium | mg/kg | NA | 14,000 | 16,000 J | 6,600 | 7,700 | 35,000 | 9,600 | 9,400 | 8,300 | 8,500 | 34,000 |
| Chromium | mg/kg | 33.6 | 17 | 15 | 17 | 14 | 15 | 14 | 15 | 22 | 14 | 16 |
| Cobalt | mg/kg | 23 | 5.7 | 6.5 | 6.7 | 6.5 | 6.1 | 5.9 | 6.2 | 7.9 | 6.3 | 6.9 |
| Copper | mg/kg | 3,100 | 13 | 14 | 13 | 12 | 15 | 12 | 13 | 17 | 12 | 16 |
| Iron | mg/kg | 55,000 | 15,000 | 15,000 | 16,000 | 13,000 | 13,000 | 13,000 | 15,000 | 20,000 | 13,000 | 15,000 |
| Lead | mg/kg | 400 | 12 | 15 | 13 | 11 | 10 | 13 | 17 | 16 | 11 | 11 |
| Magnesium | mg/kg | NA | 4,100 | 4,400 | 3,800 | 3,600 | 3,600 | 3,200 | 3,900 | 5,100 | 3,500 | 4,200 |
| Manganese | mg/kg | 1,800 | 360 | 390 | 360 | 360 | 380 | 290 | 330 | 480 | 330 | 320 |
| Mercury | mg/kg | 9.4 | 0.012 J | 0.033 J | 0.022 J | 0.014 J | 0.021 J | 0.034 J | 0.038 J | 0.027 J | 0.022 J | 0.022 J |
| Methyl Mercury | mg/kg | 7.8 | 0.000029 U | 0.000062 | 0.000031 U | 0.000030 U | 0.000022 J | 0.000051 | 0.000094 | 0.000024 J | 0.000030 U | 0.000038 U |
| Nickel | mg/kg | 1,500 | 15 | 16 | 16 | 15 | 17 | 13 | 15 | 20 | 15 | 19 |
| Potassium | mg/kg | NA | 2,700 | 3,300 | 3,000 | 2,700 | 3,000 | 2,700 | 3,300 | 3,500 | 2,700 | 3,200 |
| Selenium | mg/kg | 390 | 5.1 U | 5.7 U | 4.9 U | 4.8 U | 5.2 U | 5.3 U | 5.4 U | 4.8 U | 4.7 U | 5.1 U |
| Silver | mg/kg | 390 | 0.64 U | 0.72 U | 0.62 U | 0.60 U | 0.65 U | 0.67 U | 0.67 U | 0.59 U | 0.58 U | 0.63 U |
| Sodium | mg/kg | NA | 140 | 91 J | 60 J | 67 J | 210 | 70 J | 92 J | 71 J | 66 J | 170 |
| Thallium | mg/kg | 0.78 | 3.8 U | 4.3 U | 3.7 U | 3.6 U | 3.9 U | 4.0 U | 4.0 U | 3.6 U | 3.5 U | 3.8 U |
| Vanadium | mg/kg | 390 | 26 | 27 | 28 | 22 | 38 | 24 | 25 | 37 | 21 | 38 |
| Zinc | mg/kg | 23,000 | 48 | 63 | 50 | 44 | 53 | 46 | 59 | 59 | 43 | 57 |

Table 4
Phase I Soil Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|--------------------------------|-------|------------------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | | Sample Point: | SS01 | SS02 | SS03 | SS03 | SS04 | SS05 |
| | | Sample Designator: | SS01 | SS01 | SS01 | SS01 | SS01 | SS01 |
| | | Sample Interval: | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 |
| | | Date Sampled: | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 |
| | | Notes: | | | | Duplicate | | |
| Semivolatile Organic Compounds | Units | Screening Level ¹ | | | | | | |
| Benzo(a)anthracene | mg/kg | 0.15 | 0.42 U | 0.43 U | 0.4 U | 0.42 U | 0.46 U | 0.52 U |
| Benzo(a)pyrene | mg/kg | 0.015 | 0.42 U | 0.43 U | 0.4 U | 0.42 U | 0.46 U | 0.52 U |
| Benzo(b)fluoranthene | mg/kg | 0.15 | 0.42 U | 0.43 U | 0.4 U | 0.42 U | 0.46 U | 0.52 U |
| Benzo(g,h,i)perylene | mg/kg | NA | 0.42 U | 0.43 U | 0.4 U | 0.42 U | 0.46 U | 0.52 U |
| Chrysene | mg/kg | 15 | 0.42 U | 0.43 U | 0.4 U | 0.42 U | 0.46 U | 0.52 U |
| Dibenzofuran | mg/kg | 72 | 0.42 U | 0.43 U | 0.4 U | 0.42 U | 0.46 U | 0.52 U |
| Dimethyl phthalate | mg/kg | NA | 0.13 J | 0.076 J | 0.4 U | 0.052 J | 0.11 J | 0.14 J |
| Fluoranthene | mg/kg | 2,300 | 0.42 U | 0.43 U | 0.4 U | 0.42 U | 0.46 U | 0.52 U |
| 2-Methylnaphthalene | mg/kg | 230 | 0.42 U | 0.43 U | 0.4 U | 0.42 U | 0.46 U | 0.52 U |
| Naphthalene | mg/kg | 3.8 | 0.42 U | 0.43 U | 0.4 U | 0.42 U | 0.46 U | 0.52 U |
| Phenanthrene | mg/kg | NA | 0.42 U | 0.43 U | 0.4 U | 0.42 U | 0.46 U | 0.52 U |
| Pyrene | mg/kg | 1,700 | 0.51 U | 0.52 U | 0.48 U | 0.51 U | 0.55 U | 0.63 U |
| Total Petroleum Hydrocarbons | Units | Screening Level ¹ | | | | | | |
| Diesel Range Organics | mg/kg | 2,000 | 32 | 16 | 17 | 26 | 26 | 21 |
| Gasoline Range Organics | mg/kg | 220 | 2.2 U | 1.8 U | 1.6 U | 1.7 U | 1.7 U | 1.9 U |
| Metals | Units | Screening Level ¹ | | | | | | |
| Aluminum | mg/kg | 77,000 | 16,000 | 12,000 | 19,000 | 20,000 | 19,000 | 21,000 |
| Arsenic | mg/kg | 0.67 | 3.8 J | 3.7 J | 4.9 J | 4.8 J | 5.3 J | 6.4 J |
| Barium | mg/kg | 15,000 | 160 | 140 | 170 | 180 | 190 | 200 |
| Beryllium | mg/kg | 160 | 0.72 | 0.56 | 0.87 | 0.87 | 0.90 | 1.0 |
| Cadmium | mg/kg | 70 | 0.43 | 0.31 J | 0.42 | 0.45 | 0.59 | 0.79 |
| Calcium | mg/kg | NA | 13,000 J | 12,000 | 10,000 | 12,000 | 13,000 | 15,000 |
| Chromium | mg/kg | 33.6 | 16 | 13 | 18 | 18 | 18 | 20 |
| Cobalt | mg/kg | 23 | 6.4 | 5.6 | 6.9 | 6.9 | 7.6 | 8.3 |
| Copper | mg/kg | 3,100 | 14 | 11 | 15 | 15 | 17 | 19 |
| Iron | mg/kg | 55,000 | 14,000 | 11,000 | 16,000 | 16,000 | 17,000 | 19,000 |
| Lead | mg/kg | 400 | 16 | 12 | 16 | 17 | 20 | 22 |
| Magnesium | mg/kg | NA | 4,100 | 3,200 | 4,200 | 4,300 | 4,700 | 5,300 |
| Manganese | mg/kg | 1,800 | 360 | 330 | 370 | 370 | 410 | 390 |
| Mercury | mg/kg | 9.4 | 0.034 J | 0.026 J | 0.035 J | 0.042 J | 0.043 J | 0.057 J |
| Methyl Mercury | mg/kg | 7.8 | 0.000104 J | 0.000039 | 0.000111 | 0.000139 | 0.000112 | 0.000081 |
| Nickel | mg/kg | 1,500 | 15 | 12 | 16 | 16 | 17 | 19 |
| Potassium | mg/kg | NA | 3,300 | 2,600 | 3,300 | 3,500 | 3,700 | 4,200 |
| Selenium | mg/kg | 390 | 5.1 U | 5.1 U | 5.2 U | 5.1 U | 5.8 U | 6.6 U |
| Silver | mg/kg | 390 | 0.64 U | 0.64 U | 0.65 U | 0.64 U | 0.72 U | 0.83 U |
| Sodium | mg/kg | NA | 68 J | 59 J | 67 J | 68 J | 76 J | 82 J |
| Thallium | mg/kg | 0.78 | 3.9 U | 3.8 U | 3.9 U | 3.9 U | 4.3 U | 1.5 J |
| Vanadium | mg/kg | 390 | 25 | 22 | 29 | 29 | 30 | 32 |
| Zinc | mg/kg | 23,000 | 57 J | 45 | 60 | 59 | 74 | 80 |

Notes:

¹ For Source of screening levels, see Table 2.

Bold - compound was detected

Highlighted - concentration exceeds screening level

J - estimated value

mg/kg - milligrams per kilogram

NA - Not available

R - data was rejected during QA/QC review

U - compound was not detected

Table 5
Phase I Dioxins/Furans Soil Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | | | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|---|--------|------------------------------|-------|--------------------|----------------|----------------|----------------|---------------|----------------|----------------|----------------|----------------|----------------|---------------|
| | | | | Sample Point: | DP01 | DP01 | DP01 | DP01 | DP01 | DP01 | DP02 | DP02 | DP02 | DP03 |
| | | | | Sample Designator: | SB01 | SB02 | SB22 | SB03 | SB04 | SB05 | SB01 | SB02 | SB03 | SB04 |
| | | | | Sample Interval: | 0 - 0.5 | 3 - 4.5 | 3 - 4.5 | 6 - 7.5 | 18 - 20 | 30 - 32 | 0 - 0.5 | 3 - 6 | 7 - 8 | 16 - 17 |
| | | | | Date Sampled: | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/13/2014 | 01/13/2014 | 01/13/2014 | 01/13/2014 |
| | | | | Notes: | | | Duplicate | | | | | | | |
| Dioxins/Furans | TEQ | Screening Level ¹ | Units | | | | | | | | | | | |
| 1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) | 0.003 | NA | pg/g | 22 | 1.9 J | 4.0 J | 1.7 J | 0.34 JU | 2.1 J | 20 | 10 J | 0.82 J | 0.39 J | 18 |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) | 0.0003 | NA | pg/g | 280 | 12 U | 31 | 35 | 8.4 JU | 7.3 JU | 120 | 19 | 5.4 J | 1.0 J | 76 |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | 0.01 | NA | pg/g | 10 U | 0.99 JU | 2.3 JU | 1.7 JU | 0.19 JU | 1.1 JU | 50 | 42 | 0.68 J | 0.18 J | 30 |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.01 | NA | pg/g | 32 | 1.3 JU | 4.3 J | 4.5 J | 0.39 JU | 0.86 JU | 29 | 7.2 | 0.39 J | 5.9 U | 14 |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | 0.01 | NA | pg/g | 0.61 J | 0.13 JU | 0.14 JU | 5.9 U | 6.3 U | 0.15 JU | 4.6 J | 3.3 J | 6.4 U | 5.9 U | 1.8 J |
| 1,2,3,4,7,8-Heptachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 0.84 JU | 0.33 JU | 0.47 JU | 0.21 JU | 0.14 JU | 0.32 JU | 11 | 12 | 6.4 U | 5.9 U | 6.7 |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/g | 0.38 J | 5.7 U | 5.7 U | 5.9 U | 6.3 U | 6.4 U | 1.6 J | 1.2 J | 6.4 U | 5.9 U | 0.77 J |
| 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 0.58 JU | 0.084 JU | 0.19 JU | 0.11 JU | 0.11 JU | 0.12 JU | 14 | 14 | 6.4 U | 5.9 U | 5.1 J |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/g | 0.94 J | 5.7 U | 0.13 J | 0.35 J | 6.3 U | 6.4 U | 2.5 J | 1.2 J | 6.4 U | 5.9 U | 1.1 J |
| 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 0.079 JU | 5.7 U | 5.7 U | 0.051 JU | 6.3 U | 0.13 JU | 6.0 U | 1.5 J | 6.4 U | 5.9 U | 6.2 U |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/g | 1.1 J | 0.083 J | 0.19 J | 0.23 J | 0.17 J | 0.087 J | 4.5 J | 2.2 J | 6.4 U | 5.9 U | 1.2 J |
| 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | 0.03 | NA | pg/g | 0.25 J | 5.7 U | 5.7 U | 0.15 J | 6.3 U | 0.14 J | 12 | 14 | 6.4 U | 5.9 U | 2.3 J |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | 1 | NA | pg/g | 0.20 J | 5.7 U | 5.7 U | 5.9 U | 6.3 U | 6.4 U | 2.0 J | 1.5 J | 6.4 U | 5.9 U | 0.59 J |
| 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 0.42 J | 5.7 U | 0.13 J | 0.059 J | 6.3 U | 6.4 U | 12 | 8.3 | 6.4 U | 5.9 U | 3.5 J |
| 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | 0.3 | NA | pg/g | 0.28 J | 5.7 U | 5.7 U | 5.9 U | 6.3 U | 0.062 J | 17 | 16 | 6.4 U | 5.9 U | 3.1 J |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | 1 | NA | pg/g | 1.3 U | 1.1 U | 1.1 U | 1.2 U | 1.3 U | 1.3 U | 0.82 J | 0.76 J | 1.3 U | 1.2 U | 0.25 J |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | 0.1 | NA | pg/g | 0.28 J | 1.1 U | 1.1 U | 1.2 U | 1.3 U | 1.3 U | 12 | 13 | 1.3 U | 1.2 U | 1.9 |
| Total Heptachlorodibenzofuran (HpCDF) | -- | NA | pg/g | 22 | 1.7 JU | 4.1 JU | 5.9 U | 0.19 JU | 1.9 JU | 70 | 54 | 0.68 J | 0.18 J | 43 |
| Total Heptachlorodibenzo-p-dioxin (HpCDD) | -- | NA | pg/g | 74 | 2.9 JU | 8.7 | 7.7 | 1.1 JU | 1.7 JU | 50 | 13 | 0.80 J | 0.14 J | 29 |
| Total Hexachlorodibenzofuran (HxCDF) | -- | NA | pg/g | 9.1 | 0.79 JU | 1.7 JU | 4.2 JU | 0.25 JU | 1.2 JU | 110 | 100 | 6.4 U | 5.9 U | 40 |
| Total Hexachlorodibenzo-p-dioxin (HxCDD) | -- | NA | pg/g | 10 | 0.38 J | 1.5 J | 1.2 J | 0.95 J | 0.56 J | 28 | 16 | 6.4 U | 5.9 U | 13 |
| Total Pentachlorodibenzofuran (PeCDF) | -- | NA | pg/g | 3.5 J | 0.16 J | 0.29 J | 0.55 J | 6.3 U | 0.27 J | 150 | 160 | 6.4 U | 5.9 U | 35 |
| Total Pentachlorodibenzo-p-dioxin (PeCDD) | -- | NA | pg/g | 2.8 J | 5.7 U | 5.7 U | 5.9 U | 6.3 U | 6.4 U | 19 | 14 | 6.4 U | 5.9 U | 6.0 J |
| Total Tetrachlorodibenzofuran (TCDF) | -- | NA | pg/g | 3.7 | 0.20 J | 0.098 J | 0.27 J | 0.49 J | 0.38 J | 190 | 190 | 1.3 U | 1.2 U | 37 |
| Total Tetrachlorodibenzo-p-dioxin (TCDD) | -- | NA | pg/g | 6.7 | 1.1 U | 0.21 J | 1.2 U | 0.51 J | 0.40 J | 20 | 16 | 1.3 U | 1.2 U | 7.4 |
| Total 2,3,7,8-TCDD Equivalent | -- | 4.9 | pg/g | 1.0796 | 0.0140 | 0.1093 | 0.1290 | 0.0170 | 0.0378 | 14.9720 | 13.3807 | 0.01478 | 0.00327 | 4.4008 |

Notes:

- Background values are not available.
- TEQ values are calculated using only positive detections.
- ¹ For source of screening levels, see Table 2.
- Bold - compound was detected**
- Highlighted - concentration exceeds screening level
- J - estimated value
- NA - Not available
- pg/g - picograms per gram
- TEQ - Toxicity Equivalency Factor
- U - compound was not detected

Table 5
Phase I Dioxins/Furans Soil Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | | | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|---|--------|------------------------------|-------|--------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | | | Sample Point: | DP03 | DP03 | DP03 | DP04 | DP04 | DP04 | DP04 | DP04 | DP05 | DP05 |
| | | | | Sample Designator: | SB02 | SB03 | SB04 | SB01 | SB02 | SB03 | SB33 | SB04 | SB01 | SB02 |
| | | | | Sample Interval: | 3 - 5 | 5.5 - 6.5 | 14 - 15.5 | 0 - 0.5 | 1 - 3 | 3 - 4 | 3 - 4 | 10 - 12 | 0 - 0.5 | 1.5 - 2.5 |
| | | | | Date Sampled: | 01/13/2014 | 01/13/2014 | 01/13/2014 | 01/13/2014 | 01/13/2014 | 01/13/2014 | 01/13/2014 | 01/13/2014 | 01/14/2014 | 01/14/2014 |
| | | | | Notes: | | | | | | | Duplicate | | | |
| Dioxins/Furans | TEQ | Screening Level ¹ | Units | | | | | | | | | | | |
| 1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) | 0.003 | NA | pg/g | 2.0 J | 0.71 J | 2.9 J | 57 | 4.2 J | 1.7 J | 5.0 J | 1.0 J | 20 | 1.7 JU | 11 U |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) | 0.0003 | NA | pg/g | 3.5 J | 7.0 J | 3.6 J | 520 | 33 | 17 | 25 | 12 | 240 | 8.3 JU | 5.8 JU |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | 0.01 | NA | pg/g | 7.8 | 0.72 J | 0.25 J | 42 | 5.6 | 1.4 J | 1.9 J | 0.42 J | 15 | 0.32 JU | 0.18 JU |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.01 | NA | pg/g | 1.6 J | 0.77 J | 0.45 J | 79 | 5.1 J | 2.0 J | 3.0 J | 0.60 J | 38 | 0.59 JU | 0.68 JU |
| 1,2,3,4,7,8-Heptachlorodibenzofuran (HpCDF) | 0.01 | NA | pg/g | 5.8 U | 5.8 U | 6.2 U | 1.6 J | 5.5 U | 5.6 U | 5.6 U | 5.6 U | 0.53 J | 6.3 U | 5.6 U |
| 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 1.8 J | 0.41 J | 6.2 U | 3.6 J | 3.4 J | 0.43 J | 0.46 J | 5.6 U | 0.68 JU | 6.3 U | 5.6 U |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/g | 0.39 J | 5.8 U | 6.2 U | 1.3 J | 0.38 J | 5.6 U | 5.6 U | 5.6 U | 0.45 J | 6.3 U | 5.6 U |
| 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 1.9 J | 0.27 J | 6.2 U | 2.8 J | 2.0 J | 0.27 J | 0.23 J | 5.6 U | 0.69 JU | 6.3 U | 5.6 U |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/g | 0.33 J | 5.8 U | 6.2 U | 2.8 J | 0.48 J | 5.6 U | 5.6 U | 5.6 U | 1.1 J | 0.12 J | 5.6 U |
| 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 5.8 U | 5.8 U | 6.2 U | 6.0 U | 5.5 U | 5.6 U | 5.6 U | 5.6 U | 5.9 U | 0.10 JU | 5.6 U |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/g | 0.68 J | 5.8 U | 6.2 U | 3.0 J | 0.85 J | 0.19 J | 5.6 U | 5.6 U | 1.1 J | 0.21 J | 0.16 J |
| 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | 0.03 | NA | pg/g | 1.3 J | 5.8 U | 6.2 U | 0.93 J | 1.5 J | 5.6 U | 5.6 U | 5.6 U | 0.14 J | 6.3 U | 5.6 U |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | 1 | NA | pg/g | 0.78 J | 5.8 U | 6.2 U | 0.51 J | 0.48 J | 5.6 U | 5.6 U | 5.6 U | 0.25 J | 6.3 U | 5.6 U |
| 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 1.8 J | 5.8 U | 6.2 U | 1.7 J | 1.3 J | 0.23 J | 5.6 U | 5.6 U | 0.85 J | 6.3 U | 5.6 U |
| 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | 0.3 | NA | pg/g | 1.9 J | 5.8 U | 6.2 U | 1.2 J | 1.7 J | 5.6 U | 5.6 U | 5.6 U | 0.14 J | 0.063 J | 5.6 U |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | 1 | NA | pg/g | 0.44 J | 1.2 U | 1.2 U | 1.2 U | 0.22 J | 1.1 U | 1.1 U | 1.1 U | 1.2 U | 1.3 U | 1.1 U |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | 0.1 | NA | pg/g | 1.4 | 1.2 U | 1.2 U | 1.2 U | 1.7 | 1.1 U | 1.1 U | 1.1 U | 1.2 U | 1.3 U | 1.1 U |
| Total Heptachlorodibenzofuran (HpCDF) | -- | NA | pg/g | 9.3 | 1.0 J | 0.25 J | 76 | 7.7 | 2.1 J | 3.6 J | 0.42 J | 27 | 0.32 JU | 0.18 JU |
| Total Heptachlorodibenzo-p-dioxin (HpCDD) | -- | NA | pg/g | 3.1 J | 1.9 J | 1.4 J | 150 | 9.7 | 4.0 J | 6.0 | 1.6 J | 69 | 1.4 JU | 1.5 JU |
| Total Hexachlorodibenzofuran (HxCDF) | -- | NA | pg/g | 12 | 1.2 J | 6.2 U | 40 | 13 | 1.5 J | 1.6 J | 5.6 U | 12 | 0.10 JU | 5.6 U |
| Total Hexachlorodibenzo-p-dioxin (HxCDD) | -- | NA | pg/g | 4.3 J | 0.36 J | 0.74 J | 30 | 5.9 | 0.70 J | 0.44 J | 0.71 J | 12 | 1.1 J | 0.57 J |
| Total Pentachlorodibenzofuran (PeCDF) | -- | NA | pg/g | 19 | 5.8 U | 6.2 U | 13 | 18 | 0.42 J | 5.6 U | 5.6 U | 2.8 J | 0.15 J | 5.6 U |
| Total Pentachlorodibenzo-p-dioxin (PeCDD) | -- | NA | pg/g | 8.9 | 5.8 U | 6.2 U | 5.9 J | 4.1 J | 5.6 U | 5.6 U | 5.6 U | 2.4 J | 0.16 J | 5.6 U |
| Total Tetrachlorodibenzofuran (TCDF) | -- | NA | pg/g | 25 | 0.68 J | 1.2 U | 18 | 25 | 0.49 J | 1.1 U | 1.1 U | 1.6 | 0.99 J | 0.29 J |
| Total Tetrachlorodibenzo-p-dioxin (TCDD) | -- | NA | pg/g | 20 | 1.2 U | 1.2 U | 3.2 | 5.0 | 1.1 U | 1.1 U | 1.1 U | 0.61 J | 0.39 J | 0.28 J |
| Total 2,3,7,8-TCDD Equivalent | -- | 4.9 | pg/g | 2.76005 | 0.08713 | 0.01678 | 3.9709 | 2.3955 | 0.1562 | 0.1405 | 0.0168 | 1.3135 | 0.0519 | 0.016 |

Notes:

- Background values are not available.
- TEQ values are calculated using only positive detections.
- ¹ For source of screening levels, see Table 2.
- Bold - compound was detected**
- Highlighted - concentration exceeds screening level
- J - estimated value
- NA - Not available
- pg/g - picograms per gram
- TEQ - Toxicity Equivalency Factor
- U - compound was not detected

Table 5
Phase I Dioxins/Furans Soil Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | | | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|---|--------|------------------------------|-------|--------------------|---------------|----------------|---------------|----------------|----------------|---------------|----------------|----------------|----------------|------------|
| | | | | Sample Point: | DP05 | DP06 | DP06 | DP06 | DP06 | DP07 | DP07 | DP07 | DP07 | DP07 |
| | | | | Sample Designator: | SB04 | SB01 | SB02 | SB03 | SB04 | SB01 | SB11 | SB02 | SB03 | SB04 |
| | | | | Sample Interval: | 10 - 12 | 0 - 0.5 | 3 - 4.5 | 6 - 7.5 | 16.5 - 18.5 | 0 - 0.5 | 0 - 0.5 | 3 - 4.5 | 6 - 7.5 | 18 - 20 |
| | | | | Date Sampled: | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 | 01/14/2014 |
| | | | | Notes: | | | | | | | Duplicate | | | |
| Dioxins/Furans | TEQ | Screening Level ¹ | Units | | | | | | | | | | | |
| 1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) | 0.003 | NA | pg/g | 12 U | 7.7 J | 0.95 J | 3.2 JU | 1.7 JU | 3.8 JU | 3.1 JU | 0.28 J | 11 JU | 0.18 JU | |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) | 0.0003 | NA | pg/g | 6.6 JU | 110 | 12 U | 6.7 JU | 7.1 J | 64 U | 51 U | 57 | 5.4 JU | 2.2 JU | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | 0.01 | NA | pg/g | 0.16 JU | 8.2 U | 0.71 JU | 1.5 JU | 0.90 JU | 2.9 JU | 2.0 JU | 0.23 JU | 0.11 JU | 0.12 JU | |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.01 | NA | pg/g | 0.37 JU | 18 | 1.3 JU | 0.67 JU | 0.84 JU | 8.6 | 6.7 | 3.7 J | 0.43 JU | 0.38 JU | |
| 1,2,3,4,7,8-Heptachlorodibenzofuran (HpCDF) | 0.01 | NA | pg/g | 6.1 U | 6.9 U | 6.0 U | 5.8 U | 6.6 U | 0.22 J | 6.7 U | 6.2 U | 5.7 U | 0.066 JU | |
| 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 6.1 U | 0.55 JU | 6.0 U | 0.56 JU | 0.27 JU | 0.26 JU | 0.25 JU | 0.096 JU | 5.7 U | 0.079 JU | |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/g | 6.1 U | 0.20 J | 0.074 J | 5.8 U | 6.6 U | 6.5 U | 6.7 U | 6.2 U | 5.7 U | 6.6 U | |
| 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 6.1 U | 0.50 JU | 6.0 U | 0.12 JU | 0.18 JU | 0.19 JU | 6.7 U | 0.071 JU | 5.7 U | 0.066 JU | |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/g | 6.1 U | 0.53 J | 0.11 J | 5.8 U | 0.097 J | 0.32 J | 0.25 J | 0.15 J | 0.050 J | 6.6 U | |
| 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 6.1 U | 6.9 U | 0.16 JU | 5.8 U | 6.6 U | 6.5 U | 6.7 U | 0.075 JU | 5.7 U | 6.6 U | |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/g | 6.1 U | 0.65 J | 0.23 J | 0.15 J | 0.16 J | 0.35 J | 0.48 J | 0.19 J | 0.16 J | 0.088 J | |
| 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | 0.03 | NA | pg/g | 6.1 U | 6.9 U | 6.0 U | 5.8 U | 6.6 U | 6.5 U | 6.7 U | 6.2 U | 5.7 U | 6.6 U | |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | 1 | NA | pg/g | 6.1 U | 6.9 U | 6.0 U | 5.8 U | 6.6 U | 6.5 U | 6.7 U | 6.2 U | 5.7 U | 6.6 U | |
| 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 6.1 U | 0.47 J | 6.0 U | 5.8 U | 6.6 U | 6.5 U | 6.7 U | 6.2 U | 5.7 U | 6.6 U | |
| 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | 0.3 | NA | pg/g | 6.1 U | 6.9 U | 6.0 U | 5.8 U | 6.6 U | 0.061 J | 6.7 U | 6.2 U | 5.7 U | 6.6 U | |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | 1 | NA | pg/g | 1.2 U | 1.4 U | 1.2 U | 1.2 U | 1.3 U | 1.3 U | 1.3 U | 1.2 U | 1.1 U | 1.3 U | |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | 0.1 | NA | pg/g | 1.2 U | 1.4 U | 1.2 U | 1.2 U | 1.3 U | 1.3 U | 1.3 U | 1.2 U | 1.1 U | 1.3 U | |
| Total Heptachlorodibenzofuran (HpCDF) | -- | NA | pg/g | 0.16 JU | 13 | 0.87 JU | 1.8 JU | 1.4 JU | 6.2 JU | 4.4 JU | 0.31 JU | 0.11 JU | 0.19 JU | |
| Total Heptachlorodibenzo-p-dioxin (HpCDD) | -- | NA | pg/g | 1.2 JU | 35 | 2.7 JU | 1.5 JU | 1.9 JU | 19 | 13 | 5.9 JU | 1.0 JU | 0.91 JU | |
| Total Hexachlorodibenzofuran (HxCDF) | -- | NA | pg/g | 6.1 U | 8.0 | 0.42 JU | 0.91 JU | 0.58 JU | 3.4 JU | 2.1 JU | 0.24 JU | 5.7 U | 0.15 JU | |
| Total Hexachlorodibenzo-p-dioxin (HxCDD) | -- | NA | pg/g | 0.38 J | 7.3 | 1.4 J | 0.65 J | 0.83 J | 4.0 J | 3.6 J | 1.2 J | 0.68 J | 0.79 J | |
| Total Pentachlorodibenzofuran (PeCDF) | -- | NA | pg/g | 0.076 J | 1.6 J | 6.0 U | 0.12 J | 6.6 U | 1.2 J | 1.0 J | 6.2 U | 5.7 U | 6.6 U | |
| Total Pentachlorodibenzo-p-dioxin (PeCDD) | -- | NA | pg/g | 0.17 J | 1.4 J | 6.0 U | 0.13 J | 0.34 J | 0.88 J | 0.43 J | 0.32 J | 5.7 U | 0.39 JU | |
| Total Tetrachlorodibenzofuran (TCDF) | -- | NA | pg/g | 0.30 J | 1.1 J | 0.56 J | 0.43 J | 0.27 J | 1.0 J | 1.0 J | 0.64 J | 0.55 J | 0.30 J | |
| Total Tetrachlorodibenzo-p-dioxin (TCDD) | -- | NA | pg/g | 0.44 J | 0.31 J | 0.28 J | 0.41 J | 0.60 J | 0.34 J | 0.40 J | 0.45 J | 0.42 J | 0.78 J | |
| Total 2,3,7,8-TCDD Equivalent | -- | 4.9 | pg/g | 0 | 0.4211 | 0.04425 | 0.015 | 0.02783 | 0.1735 | 0.14 | 0.08894 | 0.021 | 0.0088 | |

Notes:

- Background values are not available.
- TEQ values are calculated using only positive detections.
- ¹ For source of screening levels, see Table 2.
- Bold - compound was detected**
- Highlighted - concentration exceeds screening level
- J - estimated value
- NA - Not available
- pg/g - picograms per gram
- TEQ - Toxicity Equivalency Factor
- U - compound was not detected

Table 5
Phase I Dioxins/Furans Soil Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | | | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|---|--------|------------------------------|-------|--------------------|---------------|---------------|---------------|---------------|---------------|------------|
| | | | | Sample Point: | SS01 | SS02 | SS03 | SS03 | SS04 | SS05 |
| | | | | Sample Designator: | SS01 | SS01 | SS01 | SS11 | SS01 | SS01 |
| | | | | Sample Interval: | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 | 0 - 0.5 |
| | | | | Date Sampled: | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 | 01/09/2014 |
| | | | | Notes: | | | | Duplicate | | |
| Dioxins/Furans | TEQ | Screening Level ¹ | Units | | | | | | | |
| 1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) | 0.003 | NA | pg/g | 14 | 5.6 J | 4.7 J | 6.4 J | 16 | 5.8 J | |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) | 0.0003 | NA | pg/g | 160 | 61 | 63 | 58 | 68 | 82 | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | 0.01 | NA | pg/g | 8.6 | 3.3 JU | 2.9 JU | 3.2 JU | 6.2 J | 3.8 JU | |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.01 | NA | pg/g | 23 | 8.8 | 9.4 | 8.3 | 11 | 12 | |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | 0.01 | NA | pg/g | 0.38 JU | 0.41 JU | 0.22 JU | 0.44 JU | 2.0 JU | 0.18 JU | |
| 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 0.55 JU | 0.41 JU | 0.38 JU | 0.50 JU | 1.8 JU | 0.56 JU | |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/g | 0.29 J | 0.19 J | 0.16 J | 0.28 J | 0.21 J | 0.31 J | |
| 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 0.53 J | 0.27 J | 0.20 J | 0.35 J | 1.6 J | 0.42 J | |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/g | 0.92 J | 0.47 J | 0.46 J | 0.58 J | 0.57 J | 0.73 J | |
| 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 6.7 U | 7.1 U | 6.7 U | 0.36 J | 0.25 J | 8.0 U | |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/g | 0.85 J | 0.53 J | 0.59 J | 0.66 J | 0.75 J | 0.70 J | |
| 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | 0.03 | NA | pg/g | 6.7 U | 7.1 U | 6.7 U | 6.7 U | 0.25 J | 8.0 U | |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | 1 | NA | pg/g | 6.7 U | 7.1 U | 6.7 U | 0.18 J | 0.23 J | 0.30 J | |
| 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 0.37 JU | 0.40 JU | 0.24 JU | 0.36 JU | 0.66 JU | 0.46 JU | |
| 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | 0.3 | NA | pg/g | 6.7 U | 7.1 U | 6.7 U | 6.7 U | 0.40 J | 0.24 J | |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | 1 | NA | pg/g | 1.3 U | 1.4 U | 1.3 U | 1.3 U | 1.5 U | 1.6 U | |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | 0.1 | NA | pg/g | 1.3 U | 1.4 U | 1.3 U | 1.3 U | 1.5 U | 1.6 U | |
| Total Heptachlorodibenzofuran (HpCDF) | -- | NA | pg/g | 18 | 6.2 JU | 5.7 JU | 5.9 JU | 13 | 7.7 J | |
| Total Heptachlorodibenzo-p-dioxin (HpCDD) | -- | NA | pg/g | 46 | 18 | 20 | 17 | 22 | 26 | |
| Total Hexachlorodibenzofuran (HxCDF) | -- | NA | pg/g | 9.1 | 2.1 JU | 3.3 JU | 4.2 JU | 12 | 5.1 J | |
| Total Hexachlorodibenzo-p-dioxin (HxCDD) | -- | NA | pg/g | 8.0 | 3.3 J | 4.7 J | 4.4 J | 5.1 J | 7.0 J | |
| Total Pentachlorodibenzofuran (PeCDF) | -- | NA | pg/g | 2.5 J | 7.1 U | 1.2 J | 0.81 J | 2.8 J | 1.9 J | |
| Total Pentachlorodibenzo-p-dioxin (PeCDD) | -- | NA | pg/g | 1.9 J | 7.1 U | 0.62 J | 0.66 J | 1.4 J | 2.8 J | |
| Total Tetrachlorodibenzofuran (TCDF) | -- | NA | pg/g | 1.4 | 1.4 U | 0.66 J | 0.65 J | 0.40 J | 1.3 J | |
| Total Tetrachlorodibenzo-p-dioxin (TCDD) | -- | NA | pg/g | 0.56 J | 0.12 J | 0.31 J | 0.46 J | 0.25 J | 1.2 J | |
| Total 2,3,7,8-TCDD Equivalent | -- | 4.9 | pg/g | 0.665 | 0.2691 | 0.268 | 0.5226 | 0.9359 | 0.75 | |

Notes:

- Background values are not available.
- TEQ values are calculated using only positive detections.
- ¹ For source of screening levels, see Table 2.
- Bold - compound was detected**
- Highlighted - concentration exceeds screening level
- J - estimated value
- NA - Not available
- pg/g - picograms per gram
- TEQ - Toxicity Equivalency Factor
- U - compound was not detected

Table 6
Phase I Stream Sediment Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | Group Names: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|------------------------------|-------|-------------------------------|------------|------------|------------|------------|
| | | Sample Point: | SD01 | SD02 | SD02 | SD03 |
| | | Sample Designator: | SD01 | SD01 | SD11 | SD01 |
| | | Date Sampled: | 01/10/2014 | 01/10/2014 | 01/10/2014 | 01/10/2014 |
| | | Notes: | | | Duplicate | |
| Total Petroleum Hydrocarbons | Units | Screening Levels ¹ | | | | |
| Diesel Range Organics | mg/kg | 2,000 | 5.4 | 2.4 J | 2.3 J | 3.4 J |
| Metals | Units | Screening Levels ¹ | | | | |
| Aluminum | mg/kg | 77,000 | 8,000 | 3,200 J | 1,100 J | 3,800 |
| Arsenic | mg/kg | 0.67 | 2.7 J | 2.2 J | 2.6 U | 7.3 |
| Barium | mg/kg | 15,000 | 140 | 180 J | 14 J | 280 |
| Beryllium | mg/kg | 160 | 0.36 | 0.080 J | 0.068 J | 0.12 J |
| Cadmium | mg/kg | 70 | 0.59 J | 0.59 J | 0.027 J | 1.1 |
| Calcium | mg/kg | NA | 130,000 | 150,000 J | 2,400 J | 240,000 |
| Chromium | mg/kg | 33.6 | 8.1 | 4.4 J | 1.3 J | 6.6 |
| Cobalt | mg/kg | 23 | 4.7 | 4.6 J | 0.64 J | 7.3 |
| Copper | mg/kg | 3,100 | 6.6 | 3.9 J | 1.2 J | 4.7 |
| Iron | mg/kg | 55,000 | 10,000 | 4,300 J | 1,200 J | 9,700 |
| Lead | mg/kg | 400 | 8.0 | 5.1 J | 1.4 J | 7.1 |
| Magnesium | mg/kg | NA | 3,000 | 2,000 J | 400 J | 5,200 |
| Manganese | mg/kg | 1,800 | 470 | 920 J | 32 J | 990 |
| Mercury | mg/kg | 9.4 | 0.013 J | 0.0087 J | 0.010 J | 0.050 U |
| Methyl Mercury | mg/kg | 7.8 | 0.000014 J | 0.000019 J | 0.000019 J | 0.000038 |
| Nickel | mg/kg | 1,500 | 7.6 | 14 J | 1.4 J | 9.1 |
| Potassium | mg/kg | NA | 1,600 | 680 J | 250 J | 830 |
| Sodium | mg/kg | NA | 150 | 110 | 71 | 200 |
| Vanadium | mg/kg | 390 | 12 | 4.9 J | 2.1 J | 14 |
| Zinc | mg/kg | 23,000 | 29 | 14 J | 4.4 J | 37 |

Notes:

¹ For Source of screening levels, see Table 2.

Bold - compound was detected

Highlighted - concentration exceeds screening level

J - estimated value

mg/kg - milligrams per kilogram

NA - Not available

U - compound was not detected

Table 7
Phase I Dioxins/Furans Stream Sediment Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | | | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|---|--------|------------------------------|-------|--------------------|----------------|---------------|---------------|------------|
| | | | | Sample Point: | SD01 | SD02 | SD02 | SD03 |
| | | | | Sample Designator: | SD01 | SD01 | SD11 | SD01 |
| | | | | Date Sampled: | 01/10/2014 | 01/10/2014 | 01/10/2014 | 01/10/2014 |
| | | | | Notes: | | | Duplicate | |
| Dioxins/Furans | TEQ | Screening Level ¹ | Units | | | | | |
| 1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) | 0.003 | NA | pg/g | 1.5 JU | 0.36 JU | 0.49 JU | 0.99 JU | |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) | 0.0003 | NA | pg/g | 19 U | 3.7 JU | 3.1 JU | 17 U | |
| 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | 0.01 | NA | pg/g | 0.98 JU | 0.20 JU | 0.21 JU | 0.48 JU | |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.01 | NA | pg/g | 2.3 J | 0.34 J | 0.52 J | 2.0 J | |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | 0.01 | NA | pg/g | 6.2 U | 5.9 U | 5.8 U | 6.1 U | |
| 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 6.2 U | 5.9 U | 5.8 U | 6.1 U | |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/g | 6.2 U | 5.9 U | 5.8 U | 6.1 U | |
| 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 6.2 U | 5.9 U | 5.8 U | 6.1 U | |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/g | 6.2 U | 5.9 U | 5.8 U | 0.12 J | |
| 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 6.2 U | 5.9 U | 5.8 U | 6.1 U | |
| 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/g | 0.25 J | 5.9 U | 5.8 U | 6.1 U | |
| 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | 0.03 | NA | pg/g | 6.2 U | 5.9 U | 5.8 U | 6.1 U | |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | 1 | NA | pg/g | 6.2 U | 5.9 U | 5.8 U | 6.1 U | |
| 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/g | 6.2 U | 5.9 U | 5.8 U | 6.1 U | |
| 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | 0.3 | NA | pg/g | 6.2 U | 5.9 U | 5.8 U | 6.1 U | |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | 1 | NA | pg/g | 1.2 U | 1.2 U | 1.2 U | 1.2 U | |
| 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | 0.1 | NA | pg/g | 1.2 U | 1.2 U | 1.2 U | 1.2 U | |
| Total Heptachlorodibenzofuran (HpCDF) | -- | NA | pg/g | 1.6 JU | 0.20 JU | 0.21 JU | 1.4 JU | |
| Total Heptachlorodibenzo-p-dioxin (HpCDD) | -- | NA | pg/g | 4.4 JU | 0.68 JU | 0.99 JU | 4.6 JU | |
| Total Hexachlorodibenzofuran (HxCDF) | -- | NA | pg/g | 6.2 U | 5.9 U | 5.8 U | 0.60 JU | |
| Total Hexachlorodibenzo-p-dioxin (HxCDD) | -- | NA | pg/g | 0.74 J | 0.065 J | 5.8 U | 0.45 J | |
| Total Pentachlorodibenzofuran (PeCDF) | -- | NA | pg/g | 6.2 U | 5.9 U | 5.8 U | 6.1 U | |
| Total Pentachlorodibenzo-p-dioxin (PeCDD) | -- | NA | pg/g | 6.2 U | 5.9 U | 5.8 U | 6.1 U | |
| Total Tetrachlorodibenzofuran (TCDF) | -- | NA | pg/g | 1.2 U | 1.2 U | 1.2 U | 1.2 U | |
| Total Tetrachlorodibenzo-p-dioxin (TCDD) | -- | NA | pg/g | 0.55 J | 1.2 U | 1.2 U | 0.11 J | |
| Total 2,3,7,8-TCDD Equivalent | -- | 4.9 | pg/g | 0.048 | 0.0034 | 0.0052 | 0.032 | |

Notes:

Background values are not available.

TEQ values are calculated using only positive detections.

¹ For source of screening levels, see Table 2.

Bold - compound was detected

Highlighted - concentration exceeds screening level

J - estimated value

NA - Not available

pg/g - picograms per gram

TEQ - Toxicity Equivalency Factor

U - compound was not detected

Table 8
Phase I Surface Water Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|-------------------------------------|--------------|------------------------------------|-------------------|-----------------|-------------------|-------------------|
| | | Sample Point: | SW01 | SW02 | SW02 | SW03 |
| | | Sample Designator: | SW01 | SW01 | SW11 | SW11 |
| | | Date Sampled: | 01/10/2014 | 01/10/2014 | 01/10/2014 | 01/10/2014 |
| | | Notes: | | | Duplicate | |
| Total Petroleum Hydrocarbons | Units | Screening Level¹ | | | | |
| Diesel Range Organics | ug/L | NA | 240 U | 72 J | 240 U | 240 U |
| Metals | Units | Screening Level¹ | | | | |
| Aluminum, Dissolved | ug/L | NA | 200 U | 200 U | 48 J | 200 U |
| Barium, Dissolved | ug/L | 1,000 | 150 | 160 | 150 | 150 |
| Calcium, Dissolved | ug/L | NA | 95,000 | 100,000 | 94,000 | 93,000 |
| Copper, Dissolved | ug/L | 1,300 | 2.5 J | 2.4 J | 3.2 J | 3.1 J |
| Magnesium, Dissolved | ug/L | NA | 21,000 | 22,000 | 21,000 | 21,000 |
| Manganese, Dissolved | ug/L | 50 | 10 | 9.4 J | 10 | 9.4 J |
| Methyl Mercury | ug/L | NA | 0.000041 J | 0.000054 | 0.000050 J | 0.000094 J |
| Nickel, Dissolved | ug/L | 610 | 2.6 J | 3.5 J | 2.4 J | 10 U |
| Potassium, Dissolved | ug/L | NA | 6,200 | 6,700 | 6,300 | 6,200 |
| Sodium, Dissolved | ug/L | NA | 49,000 | 53,000 | 50,000 | 50,000 |
| Vanadium, Dissolved | ug/L | NA | 2.6 J | 2.9 J | 2.9 J | 2.7 J |
| Zinc, Dissolved | ug/L | 7,400 | 10 J | 9.8 J | 9.9 J | 8.1 J |

Notes:

¹ For Source of screening levels, see Table 2.

Bold - compound was detected

Highlighted - concentration exceeds screening level

J - estimated value

NA - Not available

U - compound was not detected

ug/L - micrograms per liter

Table 9
Phase I Dioxins/Furans Surface Water Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | | | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|---|--------|------------------------------|-------|--------------------|---------------|------------|------------|------------|
| | | | | Sample Point: | SW01 | SW02 | SW02 | SW03 |
| | | | | Sample Designator: | SW01 | SW01 | SW11 | SW01 |
| | | | | Date Sampled: | 01/10/2014 | 01/10/2014 | 01/10/2014 | 01/10/2014 |
| | | | | Notes: | - | - | Duplicate | - |
| Dioxins/Furans | TEQ | Screening Level ¹ | Units | | | | | |
| 1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) | 0.003 | NA | pg/L | 100 U | 100 U | 100 U | 100 U | |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) | 0.0003 | NA | pg/L | 2.3 JU | 4.0 JU | 1.9 JU | 1.3 JU | |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.01 | NA | pg/L | 52 U | 1.8 JU | 0.85 JU | 0.60 JU | |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | 0.01 | NA | pg/L | 52 U | 52 U | 50 U | 51 U | |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/L | 52 U | 0.31 J | 50 U | 51 U | |
| 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/L | 52 U | 0.73 JU | 50 U | 51 U | |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/L | 52 U | 0.61 J | 50 U | 51 U | |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | 1 | NA | pg/L | 52 U | 52 U | 50 U | 51 U | |
| 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/L | 52 U | 0.62 JU | 50 U | 51 U | |
| Total Heptachlorodibenzofuran (HpCDF) | -- | NA | pg/L | 0.95 JU | 0.87 JU | 0.54 JU | 0.28 JU | |
| Total Heptachlorodibenzo-p-dioxin (HpCDD) | -- | NA | pg/L | 0.85 JU | 3.0 JU | 1.8 JU | 1.6 JU | |
| Total Hexachlorodibenzo-p-dioxin (HxCDD) | -- | NA | pg/L | 52 U | 1.3 JU | 50 U | 51 U | |
| Total Pentachlorodibenzo-p-dioxin (PeCDD) | -- | NA | pg/L | 52 U | 52 U | 50 U | 51 U | |
| Total 2,3,7,8-TCDD Equivalent | - | 0.013 | pg/L | 0 | 0.092 | 0 | 0 | |

Notes:

Background values are not available.

TEQ values are calculated using only positive detections.

¹ For source of screening levels, see Table 2.

Bold - compound was detected

Highlighted - concentration exceeds screening level

J - estimated value

NA - Not available

pg/L - picograms per liter

TEQ - Toxicity Equivalency Factor

U - compound was not detected

Table 10
Phase I Groundwater Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|-----------------------------------|--------------|------------------------------------|----------------|-----------------|----------------|-------------------|----------------|----------------|
| | | Sample Point: | DP08 | DP09 | DP10 | DP11 | DP12 | DP12 |
| | | Sample Designator: | GW01 | GW01 | GW01 | GW01 | GW01 | DP12/GW11 |
| | | Sample Date: | 01/15/2014 | 01/15/2014 | 01/15/2014 | 01/15/2014 | 01/15/2014 | 01/15/2014 |
| | | Notes: | | | | | | Duplicate |
| Volatile Organic Compounds | Units | Screening Level¹ | | | | | | |
| Ethylbenzene | ug/L | 700 | 0.39 J | 0.21 J | 0.34 J | 0.19 J | 1.0 U | 1.0 U |
| Toluene | ug/L | 1,000 | 0.52 J | 0.31 J | 0.52 J | 0.34 J | 0.22 J | 0.28 J |
| Metals | Units | Screening Level¹ | | | | | | |
| Aluminum, Dissolved | ug/L | 20,000 | 62 J | 200 U | 200 U | 200 U | 56 J | 200 U |
| Barium, Dissolved | ug/L | 2,000 | 200 | 140 | 160 | 95 | 160 | 170 |
| Calcium, Dissolved | ug/L | NA | 190,000 | 160,000 | 210,000 | 150,000 | 170,000 | 160,000 |
| Cobalt, Dissolved | ug/L | 6 | 10 U | 18 | 10 U | 3.1 J | 10 U | 10 U |
| Copper, Dissolved | ug/L | 1,300 | 15 U | 15 U | 15 U | 15 U | 2.2 J | 15 U |
| Magnesium, Dissolved | ug/L | NA | 38,000 | 33,000 | 43,000 | 30,000 | 35,000 | 33,000 |
| Manganese, Dissolved | ug/L | 430 | 64 | 230 | 86 | 230 | 430 | 490 |
| Methyl Mercury | ug/L | 2 | 0.00153 | 0.000127 | 0.00016 | 0.000079 J | 0.000098 U | 0.0001 U |
| Nickel, Dissolved | ug/L | 390 | 4.2 J | 6.7 J | 9.0 J | 6.2 J | 12 | 13 |
| Potassium, Dissolved | ug/L | NA | 2,700 | 2,700 | 2,900 | 2,600 | 3,400 | 3,200 |
| Sodium, Dissolved | ug/L | NA | 58,000 | 52,000 | 59,000 | 46,000 | 44,000 | 42,000 |
| Vanadium, Dissolved | ug/L | 86 | 2.6 J | 2.8 J | 4.6 J | 2.9 J | 8.7 J | 5.4 J |
| Zinc, Dissolved | ug/L | 6,000 | 20 U | 20 U | 63 | 3.1 J | 62 | 49 |

Notes:

¹ For Source of screening levels, see Table 2.

Bold - compound was detected

Highlighted - concentration exceeds screening level

J - estimated value

NA - Not available

U - compound was not detected

ug/L - micrograms per liter

Table 11
Phase I Dioxins/Furans Groundwater Samples, Detected Analytes
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| | | | | Group Name: | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 | CFI OU 007 |
|---|--------|------------------------------|-------|--------------------|---------------|------------|---------------|------------|------------|------------|
| | | | | Sample Point: | DP08 | DP09 | DP10 | DP11 | DP12 | DP12 |
| | | | | Sample Designator: | GW01 | GW01 | GW01 | GW01 | GW01 | GW11 |
| | | | | Date Sampled: | 01/15/2014 | 01/15/2014 | 01/15/2014 | 01/15/2014 | 01/15/2014 | 01/15/2014 |
| | | | | Notes: | - | - | - | - | - | Duplicate |
| Dioxins/Furans | TEQ | Screening Level ¹ | Units | | | | | | | |
| 1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) | 0.003 | NA | pg/L | 12 J | 1.3 JU | 99 U | 0.62 JU | 0.73 JU | 96 U | |
| 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) | 0.0003 | NA | pg/L | 180 | 1.4 JU | 99 U | 1.3 JU | 1.1 JU | 0.98 JU | |
| 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.01 | NA | pg/L | 11 J | 48 U | 49 U | 48 U | 48 U | 0.28 JU | |
| 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | 0.01 | NA | pg/L | 1.4 J | 48 U | 49 U | 48 U | 48 U | 48 U | |
| 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/L | 48 U | 48 U | 49 U | 0.64 J | 48 U | 48 U | |
| 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/L | 48 U | 0.41 J | 49 U | 48 U | 48 U | 48 U | |
| 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.1 | NA | pg/L | 48 U | 48 U | 49 U | 0.66 J | 48 U | 48 U | |
| 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | 1 | NA | pg/L | 48 U | 48 U | 49 U | 0.57 J | 48 U | 48 U | |
| 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.1 | NA | pg/L | 48 U | 48 U | 49 U | 0.69 J | 48 U | 48 U | |
| Total Heptachlorodibenzofuran (HpCDF) | -- | NA | pg/L | 13 J | 3.6 JU | 1.5 JU | 1.2 JU | 1.7 JU | 0.83 JU | |
| Total Heptachlorodibenzo-p-dioxin (HpCDD) | -- | NA | pg/L | 21 J | 0.75 JU | 0.67 JU | 0.68 JU | 0.59 JU | 1.2 JU | |
| Total Hexachlorodibenzo-p-dioxin (HxCDD) | -- | NA | pg/L | 48 U | 48 U | 49 U | 1.3 J | 48 U | 48 U | |
| Total Pentachlorodibenzo-p-dioxin (PeCDD) | -- | NA | pg/L | 48 U | 48 U | 49 U | 0.57 J | 48 U | 48 U | |
| Total 2,3,7,8-TCDD Equivalent | -- | 30 | pg/L | 0.214 | 0.041 | 0 | 0.769 | 0 | 0 | |

Notes:

Background values are not available.

TEQ values are calculated using only positive detections.

¹ For source of screening levels, see Table 2.

Bold - compound was detected

Highlighted - concentration exceeds screening level

J - estimated value

NA - Not available

pg/L - picograms per liter

TEQ - Toxicity Equivalency Factor

U - compound was not detected

Table 12
Phase II Planned and Proposed Field Activities Summary
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| Phase II Planned Field Activities | | | | | Phase II Proposed Field Activities | | | | |
|--|--|-----------------------------------|---------------------------|---|--|--|-----------------------------------|---------------------------|--|
| Field Activity | Number of Sample Locations | Number of Samples to be Collected | Number of Sampling Events | Analytical Parameters | Field Activity | Number of Sample Locations | Number of Samples to be Collected | Number of Sampling Events | Analytical Parameters |
| Surface Soil Sampling | 3 | 3 | 1 | BTEX (8206B), SVOCs (8270D), TAL Metals (6010B and 7470A/7471A), MeHg (1630), TPH-GRO (8260B), TPH-DRO (8015M), and Dioxin/Furans (8290A) | Surface Soil Sampling | 3 | 3 | 1 | TAL Metals (6020 and 7470A/7471A), PAH (8270C SIM), and Dioxins/Furans (8290A) |
| Stream Sediment Sampling | 3 | 3 | 1 | BTEX (8206B), SVOCs (8270D), TAL Metals (6010B and 7470A/7471A), MeHg (1630), TPH-GRO (8260B), TPH-DRO (8015M), and Dioxin/Furans (8290A) | Stream Sediment Sampling | 8 | 8 | 1 | TAL Metals (6020 and 7470A/7471A) |
| Surface Water Sampling | 3 | 3 | 1 | BTEX (8206B), SVOCs (8270D), TAL Metals (6010B and 7470A/7471A), MeHg (1630), TPH-GRO (8260B), TPH-DRO (8015M), and Dioxin/Furans (8290A) | Surface Water Sampling | 3 | 3 | 4 | TAL Metals (6020 and 7470A/7471A), PAH (8270C SIM), and Dioxins/Furans (8290A) |
| Upland Terrace Soil Sampling | NA | NA | NA | NA | Upland Terrace Soil Sampling | 7 | 14 | 1 | TAL Metals (6020 and 7470A/7471A), PAH (8270C SIM), and Dioxins/Furans (8290A) |
| Direct-Push Soil Sampling | 12 | 48 | 1 | BTEX (8206B), SVOCs (8270D), TAL Metals (6010B and 7470A/7471A), MeHg (1630), TPH-GRO (8260B), TPH-DRO (8015M), and Dioxin/Furans (8290A) | Direct-Push Soil Sampling | 12 | 48 | 1 | TAL Metals (6020 and 7470A/7471A), PAH (8270C SIM), and Dioxins/Furans (8290A) |
| Direct-Push Groundwater Sampling | 16 | 16 | 1 | BTEX (8206B), SVOCs (8270D), TAL Metals (6010B and 7470A/7471A), MeHg (1630), TPH-GRO (8260B), TPH-DRO (8015M), and Dioxin/Furans (8290A) | Direct-Push Groundwater Sampling | 13 | 13 | 1 | TAL Metals (6020 and 7470A/7471A), PAH (8270C SIM), and Dioxins/Furans (8290A) |
| Monitoring Well Installation and Development | Drilling, installation, and development of four overburden monitoring wells using hollow stem auger technology. The need for and the number and location of monitoring wells will be determined following evaluation of the sampling results from Phase I and Phase II field activities. | | | | Monitoring Well Installation and Development | Drilling, installation, and development of four overburden monitoring wells using hollow stem auger technology. The need for and the number and location of monitoring wells will be determined following evaluation of the sampling results from Phase I and Phase II field activities. | | | |
| Groundwater Sampling (Monitoring Wells) | 4 | 4 | 4 | BTEX (8206B), SVOCs (8270D), TAL Metals (6010B and 7470A/7471A), MeHg (1630), TPH-GRO (8260B), TPH-DRO (8015M), and Dioxin/Furans (8290A) | Groundwater Sampling (Monitoring Wells) | 4 | 4 | 4 | TAL Metals (6020 and 7470A/7471A), PAH (8270C SIM), and Dioxins/Furans (8290A) |
| Aquifer Testing | Pneumatic slug testing of all four newly installed monitoring wells to determine hydraulic conductivity, transmissivity, and storativity of the underlying aquifer. | | | | Aquifer Testing | Pneumatic slug testing of all four newly installed monitoring wells to determine hydraulic conductivity, transmissivity, and storativity of the underlying aquifer. | | | |

Notes:

- All sample locations will be surveyed using global positioning system (GPS). Exact number of sample locations will be provided to surveyor.
- Number of sample locations may be increased in order to fully delineate nature and extent of contamination. Determination will be made upon evaluation of Phase II data.
- Sample numbers only represent primary samples. Duplicates will be collected at 10% and MS/MSD at 5% of primary samples.
- The Field Team Leader will be given the authority to adjust sampling locations, as appropriate based on field screening and site conditions.

BTEX - benzene, toluene, ethylbenzene, and xylenes
DRO - diesel range organics
GRO - gasoline range organics

MeHg - methyl mercury
MS - matrix spike
MSD - matrix spike duplicate

PAH - polycyclic aromatic hydrocarbon
SIM - Selective Ion Monitoring
SVOC - semivolatile organic compounds

TAL - target analyte list
TPH - total petroleum hydrocarbon

Table 13
Revised Phase II Direct-Push Soil and Groundwater Sampling Requirements
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| Group Name | Sample Point | Sample Designator | Sample Interval ¹ (bgs) | Matrix | Analytical Parameters | | | QC Requirements | | |
|------------|--------------|-------------------|---------------------------------------|--------|-------------------------|------------------|-------------------------------|-----------------------|-------------|----------------------|
| | | | | | TAL Metals ² | PAH ³ | Dioxins / Furans ⁴ | Field Duplicate (10%) | MS/MSD (5%) | Rinsate ⁵ |
| CFI OU 007 | DP13 | SB01 | 0 - 0.5' | Soil | X | X | X | SB22 | | |
| | | SB02 | ASH | Soil | X | X | X | | | |
| | | SB03 | SBA 1' | Soil | X | X | X | | | |
| | | SB04 | SBA 6 -10' | Soil | X | X | X | | | |
| | DP14 | SB01 | 0 - 0.5' | Soil | X | X | X | | SB01X | |
| | | SB02 | ASH | Soil | X | X | X | | | |
| | | SB03 | SBA 1' | Soil | X | X | X | | | |
| | | SB04 | SBA 6 -10' | Soil | X | X | X | | | |
| | DP15 | SB01 | 0 - 0.5' | Soil | X | X | X | | | |
| | | SB02 | ASH | Soil | X | X | X | | | |
| | | SB03 | SBA 1' | Soil | X | X | X | | | |
| | | SB04 | SBA 6 -10' | Soil | X | X | X | | | |
| | DP16 | SB01 | 0 - 0.5' | Soil | X | X | X | SB11 | | ERB01 |
| | | SB02 | ASH | Soil | X | X | X | | | |
| | | SB03 | SBA 1' | Soil | X | X | X | | | |
| | | SB04 | SBA 6 -10' | Soil | X | X | X | | | |
| | DP17 | SB01 | 0 - 0.5' | Soil | X | X | X | | | |
| | | SB02 | ASH | Soil | X | X | X | | | |
| | | SB03 | SBA 1' | Soil | X | X | X | | | |
| | | SB04 | SBA 6 -10' | Soil | X | X | X | | | |
| DP18 | SB01 | 0 - 0.5' | Soil | X | X | X | | SB03X | | |
| | SB02 | ASH | Soil | X | X | X | | | | |
| | SB03 | SBA 1' | Soil | X | X | X | | | | |
| | SB04 | SBA 6 -10' | Soil | X | X | X | | | | |
| DP19 | SB01 | 0 - 0.5' | Soil | X | X | X | | | | |
| | SB02 | ASH | Soil | X | X | X | | | | |
| | SB03 | SBA 1' | Soil | X | X | X | | | | |
| | SB04 | SBA 6 -10' | Soil | X | X | X | | | | |
| DP20 | SB01 | 0 - 0.5' | Soil | X | X | X | SB33 | | | |
| | SB02 | ASH | Soil | X | X | X | | | | |
| | SB03 | SBA 1' | Soil | X | X | X | | | | |
| | SB04 | SBA 6 -10' | Soil | X | X | X | | | | |

Table 13
Revised Phase II Direct-Push Soil and Groundwater Sampling Requirements
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| Group Name | Sample Point | Sample Designator | Sample Interval ¹ (bgs) | Matrix | Analytical Parameters | | | QC Requirements | | |
|------------|--------------|-------------------|---------------------------------------|-------------|-------------------------|------------------|-------------------------------|-----------------------|-------------|----------------------|
| | | | | | TAL Metals ² | PAH ³ | Dioxins / Furans ⁴ | Field Duplicate (10%) | MS/MSD (5%) | Rinsate ⁵ |
| CFI OU 007 | DP21 | SB01 | 0 - 0.5' | Soil | X | X | X | | | |
| | | SB02 | ASH | Soil | X | X | X | | | |
| | | SB03 | SBA 1' | Soil | X | X | X | | | |
| | | SB04 | SBA 6 -10' | Soil | X | X | X | | | |
| | DP22 | SB01 | 0 - 0.5' | Soil | X | X | X | SB11 | | |
| | | SB02 | ASH | Soil | X | X | X | | | |
| | | SB03 | SBA 1' | Soil | X | X | X | | | |
| | | SB04 | SBA 6 -10' | Soil | X | X | X | | | |
| | DP23 | SB01 | 0 - 0.5' | Soil | X | X | X | | SB02X | |
| | | SB02 | ASH | Soil | X | X | X | | | |
| | | SB03 | SBA 1' | Soil | X | X | X | | | |
| | | SB04 | SBA 6 -10' | Soil | X | X | X | | | |
| | DP24 | SB01 | 0 - 0.5' | Soil | X | X | X | | | |
| | | SB02 | ASH | Soil | X | X | X | | | |
| | | SB03 | SBA 1' | Soil | X | X | X | | | |
| | | SB04 | SBA 6 -10' | Soil | X | X | X | SB44 | | |
| | DP25 | GW01 | NA | Groundwater | X | X | X | GW11 | | |
| | DP26 | GW01 | NA | Groundwater | X | X | X | | GW01X | |
| | DP27 | GW01 | NA | Groundwater | X | X | X | | | ERB01 |
| | DP28 | GW01 | NA | Groundwater | X | X | X | | | |
| DP29 | GW01 | NA | Groundwater | X | X | X | | | | |
| DP30 | GW01 | NA | Groundwater | X | X | X | | | | |
| DP31 | GW01 | NA | Groundwater | X | X | X | | | | |
| DP32 | GW01 | NA | Groundwater | X | X | X | | | | |
| DP33 | GW01 | NA | Groundwater | X | X | X | | | | |
| DP34 | GW01 | NA | Groundwater | X | X | X | | | | |
| DP35 | GW01 | NA | Groundwater | X | X | X | | | | |
| DP36 | GW01 | NA | Groundwater | X | X | X | GW11 | | | |
| DP37 | GW01 | NA | Groundwater | X | X | X | | | | |

Table 13
Revised Phase II Direct-Push Soil and Groundwater Sampling Requirements
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| Group Name | Sample Point | Sample Designator | Sample Interval ¹ (bgs) | Matrix | Analytical Parameters | | | QC Requirements | | |
|------------|--------------|-------------------|---------------------------------------|--------|-------------------------|------------------|----------------------------------|--------------------------|----------------|----------------------|
| | | | | | TAL Metals ² | PAH ³ | Dioxins / Furans ⁴ | Field Duplicate (10%) | MS/MSD (5%) | Rinsate ⁵ |

Notes:

1. If ash is not present sample interval will be amended to: 0 - 0.5 ft bgs, 3 - 4 ft bgs, 6 - 7 ft bgs, and soil immediately above water table.

2. TAL metals samples will be analyzed using analytical method SW-846 6020 and 7470A/7471A.

3. PAH samples will be analyzed using analytical method SW-846 8270C SIM.

4. Dioxins/Furans will be analyzed using analytical method SW-846 8290.

5. Equipment rinsates will be collected, one from each sampling matrix tool.

bgs - below ground surface

CFI - WWI Incinerator, NW Camp Funston

DP - direct-push

ERB - equipment rinsate blank

GW- groundwater

MS - matrix spike

MSD - matrix spike duplicate

NA - not applicable

OU - operational unit

QC - quality control

SB - soil boring

SBA - soil below ash

SIM - Selective Ion Monitoring

TAL - target analytical list

Table 14
Revised Phase II Monitoring Well Sampling Requirements
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| Group Name | Sample Point | Sample Designator | Sample Interval (bgs) | Matrix | Analytical Parameters | | Water Quality Parameters | | | | | | | | | | QC Requirements | | | | | |
|---|--------------|-------------------|-----------------------|-------------|-------------------------|------------------|-------------------------------|------------------|-------------------------|--------------------------------|---------|---------|---------|----------------------|---------------------------|----|-----------------|----|-----|-----------------------|-------------|---------|
| | | | | | TAL Metals ¹ | PAH ² | Dioxins / Furans ³ | TOC ⁴ | Alkalinity ⁵ | Laboratory Measured Parameters | | | | | Field Measured Parameters | | | | | Field Duplicate (10%) | MS/MSD (5%) | Rinsate |
| | | | | | | | | | | Chloride | Nitrate | Nitrite | Sulfate | Sulfide ⁷ | Temp | pH | Cond | DO | ORP | | | |
| Baseline Event (Round 1) | | | | | | | | | | | | | | | | | | | | | | |
| CFI OU 007 | CFI-MWXX-XX* | GW01 | NA | Groundwater | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | ERB01 |
| | CFI-MWXX-XX* | GW01 | NA | Groundwater | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | GW0X | |
| | CFI-MWXX-XX* | GW01 | NA | Groundwater | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | |
| | CFI-MWXX-XX* | GW01 | NA | Groundwater | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | GW11 | | |
| Second Quarterly Event (Round 2) | | | | | | | | | | | | | | | | | | | | | | |
| CFI OU 007 | CFI-MWXX-XX* | GW02 | NA | Groundwater | X | X | X | NA | NA | NA | NA | NA | NA | NA | X | X | X | X | X | | | ERB02 |
| | CFI-MWXX-XX* | GW02 | NA | Groundwater | X | X | X | NA | NA | NA | NA | NA | NA | NA | X | X | X | X | X | | GW02X | |
| | CFI-MWXX-XX* | GW02 | NA | Groundwater | X | X | X | NA | NA | NA | NA | NA | NA | NA | X | X | X | X | X | | | |
| | CFI-MWXX-XX* | GW02 | NA | Groundwater | X | X | X | NA | NA | NA | NA | NA | NA | NA | X | X | X | X | X | GW22 | | |
| Third Quarterly Event (Round 3) | | | | | | | | | | | | | | | | | | | | | | |
| CFI OU 007 | CFI-MWXX-XX* | GW03 | NA | Groundwater | X | X | X | NA | NA | NA | NA | NA | NA | NA | X | X | X | X | X | | | ERB03 |
| | CFI-MWXX-XX* | GW03 | NA | Groundwater | X | X | X | NA | NA | NA | NA | NA | NA | NA | X | X | X | X | X | | GW03X | |
| | CFI-MWXX-XX* | GW03 | NA | Groundwater | X | X | X | NA | NA | NA | NA | NA | NA | NA | X | X | X | X | X | | | |
| | CFI-MWXX-XX* | GW03 | NA | Groundwater | X | X | X | NA | NA | NA | NA | NA | NA | NA | X | X | X | X | X | GW33 | | |
| Fourth Quarterly Event (Round 4) | | | | | | | | | | | | | | | | | | | | | | |
| CFI OU 007 | CFI-MWXX-XX* | GW04 | NA | Groundwater | X | X | X | NA | NA | NA | NA | NA | NA | NA | X | X | X | X | X | | | ERB04 |
| | CFI-MWXX-XX* | GW04 | NA | Groundwater | X | X | X | NA | NA | NA | NA | NA | NA | NA | X | X | X | X | X | | GW04X | |
| | CFI-MWXX-XX* | GW04 | NA | Groundwater | X | X | X | NA | NA | NA | NA | NA | NA | NA | X | X | X | X | X | | | |
| | CFI-MWXX-XX* | GW04 | NA | Groundwater | X | X | X | NA | NA | NA | NA | NA | NA | NA | X | X | X | X | X | GW44 | | |

Notes:

* The need for and the number and location of monitoring wells will be determined by the BMcD PM and USACE-CENWK PM. The number on monitoring wells in this table represents generic monitoring well numbers.

- TAL metals samples will be analyzed using analytical method SW-846 6020 and 7470A/7471A.
- PAH samples will be analyzed using analytical method SW-846 8270C SIM.
- Dioxins/Furans samples will be analyzed using analytical method SW-846 8290.
- TOC samples will be analyzed using analytical method SW-846 9060.
- Alkalinity sample will be analyzed using analytical method SM 2320B.
- Anions (chloride, nitrate, nitrite, and sulfate) will be analyzed using analytical method EPA 300.0.
- Sulfide will be analyzed using analytical method EPA 9034.

bgs - below ground surface
 CFI - WWI Incinerator, NW Camp Funston
 Cond - specific conductivity
 DO - dissolved oxygen
 ERB - equipment rinsate blank
 NA - not applicable

MS - matrix spike
 MSD - matrix spike duplicate
 MW - monitoring well
 ORP - oxidation reduction potential
 OU - operational unit
 PAH - polycyclic aromatic hydrocarbon

QC - quality control
 SIM - selective ion monitoring
 TAL - target analyte list
 Temp - temperature
 TOC - total organic carbon

Table 15
Revised Phase II Surface Water Sampling Requirements
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| Group Name | Sample Point* | Sample Designator | Sample Interval (bgs) | Matrix | Analytical Parameters | | | QC Requirements | |
|---|---------------|-------------------|-----------------------|---------------|-------------------------|------------------|-------------------------------|-----------------------|-------------|
| | | | | | TAL Metals ¹ | PAH ² | Dioxins / Furans ³ | Field Duplicate (10%) | MS/MSD (5%) |
| First Quarterly Event (Round 1) | | | | | | | | | |
| CFI OU 007 | SW01 | SW02 | NA | Surface Water | X | X | X | SW22 | SW02X |
| | SW02 | SW02 | NA | Surface Water | X | X | X | | |
| | SW03 | SW02 | NA | Surface Water | X | X | X | | |
| Second Quarterly Event (Round 2) | | | | | | | | | |
| CFI OU 007 | SW01 | SW03 | NA | Surface Water | X | X | X | SW33 | SW03X |
| | SW02 | SW03 | NA | Surface Water | X | X | X | | |
| | SW03 | SW03 | NA | Surface Water | X | X | X | | |
| Third Quarterly Event (Round 3) | | | | | | | | | |
| CFI OU 007 | SW01 | SW04 | NA | Surface Water | X | X | X | SW44 | SW04X |
| | SW02 | SW04 | NA | Surface Water | X | X | X | | |
| | SW03 | SW04 | NA | Surface Water | X | X | X | | |
| Fourth Quarterly Event (Round 4) | | | | | | | | | |
| CFI OU 007 | SW01 | SW05 | NA | Surface Water | X | X | X | SW55 | SW05X |
| | SW02 | SW05 | NA | Surface Water | X | X | X | | |
| | SW03 | SW05 | NA | Surface Water | X | X | X | | |

Notes:

* Samples will be collected concurrently with the quarterly monitoring well sampling.

1. TAL metals samples will be analyzed using analytical method SW-846 6020 and 7470A/7471A.
2. PAH samples will be analyzed using analytical method SW-846 8270C SIM.
3. Dioxins/Furans samples will be analyzed using analytical method SW-846 8290.

bgs - below ground surface

CFI - WWI Incinerator, NW Camp Funston

ERB - equipment rinsate blank

MS - matrix spike

MSD - matrix spike duplicate

OU - operational unit

QC - quality control

SD - sediment

TAL - target analyte list

Table 16
Revised Phase II Stream Sediment Background Sampling Requirements
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| Group Name | Sample Point | Sample Designator | Sample Interval (bgs) | Matrix | Analytical Parameters | QC Requirements | | |
|------------|--------------|-------------------|-----------------------|-----------------|-------------------------|-----------------------|-------------|---------|
| | | | | | TAL Metals ¹ | Field Duplicate (10%) | MS/MSD (5%) | Rinsate |
| CFI OU 007 | SD04 | SD01 | NA | Stream Sediment | X | SD11 | | ERB01 |
| | SD05 | SD01 | NA | Stream Sediment | X | | | |
| | SD06 | SD01 | NA | Stream Sediment | X | | | |
| | SD07 | SD01 | NA | Stream Sediment | X | | | |
| | SD08 | SD01 | NA | Stream Sediment | X | | | |
| | SD09 | SD01 | NA | Stream Sediment | X | | | |
| | SD10 | SD01 | NA | Stream Sediment | X | | | |
| | SD11 | SD01 | NA | Stream Sediment | X | | | |
| | | | | | | SD01X | | |

Notes:

1. TAL metals samples will be analyzed using analytical method SW-846 6020 and 7470A/7471A.

bgs - below ground surface

CFI - WWI Incinerator, NW Camp Funston

ERB - equipment rinsate blank

MS - matrix spike

MSD - matrix spike duplicate

OU - operational unit

QC - quality control

SD - sediment

TAL - target analyte list

Table 17
Revised Phase II Surface Soil Sampling Requirements
WWI Incinerator, NW Camp Funston (CFI) Site
Fort Riley, Kansas

| Group Name | Sample Point | Sample Designator | Sample Interval (bgs) | Matrix | Analytical Parameters | | | QC Requirements | | |
|------------|--------------|-------------------|-----------------------|--------------|-------------------------|------------------|-------------------------------|-----------------------|-------------|----------------------|
| | | | | | TAL Metals ¹ | PAH ² | Dioxins / Furans ³ | Field Duplicate (10%) | MS/MSD (5%) | Rinsate ⁴ |
| CFI OU 007 | SS06 | SS01 | 0 - 0.5' | Surface Soil | X | X | X | SS01 | | ERB01 |
| | SS07 | SS01 | 0 - 0.5' | Surface Soil | X | X | X | | | |
| | SS08 | SS01 | 0 - 0.5' | Surface Soil | X | X | X | SS01X | | |

Notes:

1. TAL metals samples will be analyzed using analytical method SW-846 6020 and 7470A/7471A.
2. PAH samples will be analyzed using analytical method SW-846 8270C SIM.
3. Dioxins/Furans samples will be analyzed using analytical method SW-846 8290.
4. Equipment rinsates will be collected, one from each sampling matrix tool.

bgs - below ground surface

CFI - WWI Incinerator, NW Camp Funston

DP - direct-push

ERB - equipment rinsate blank

GW- groundwater

MS - matrix spike

MSD - matrix spike duplicate

NA - not applicable

OU - operational unit

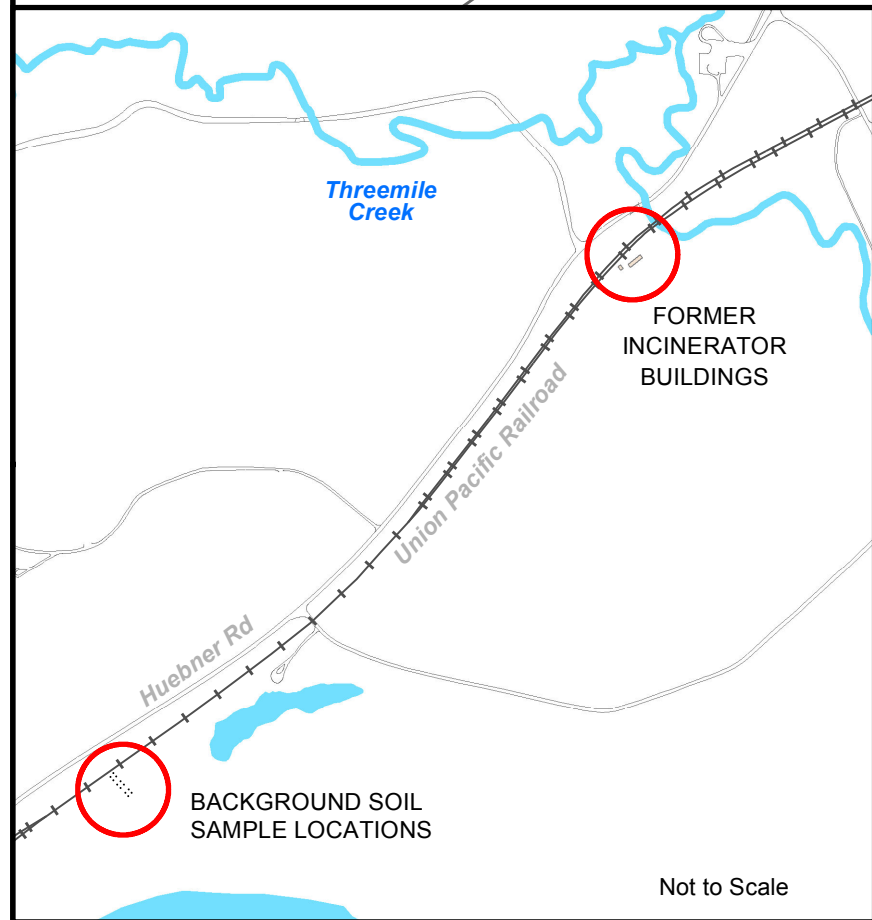
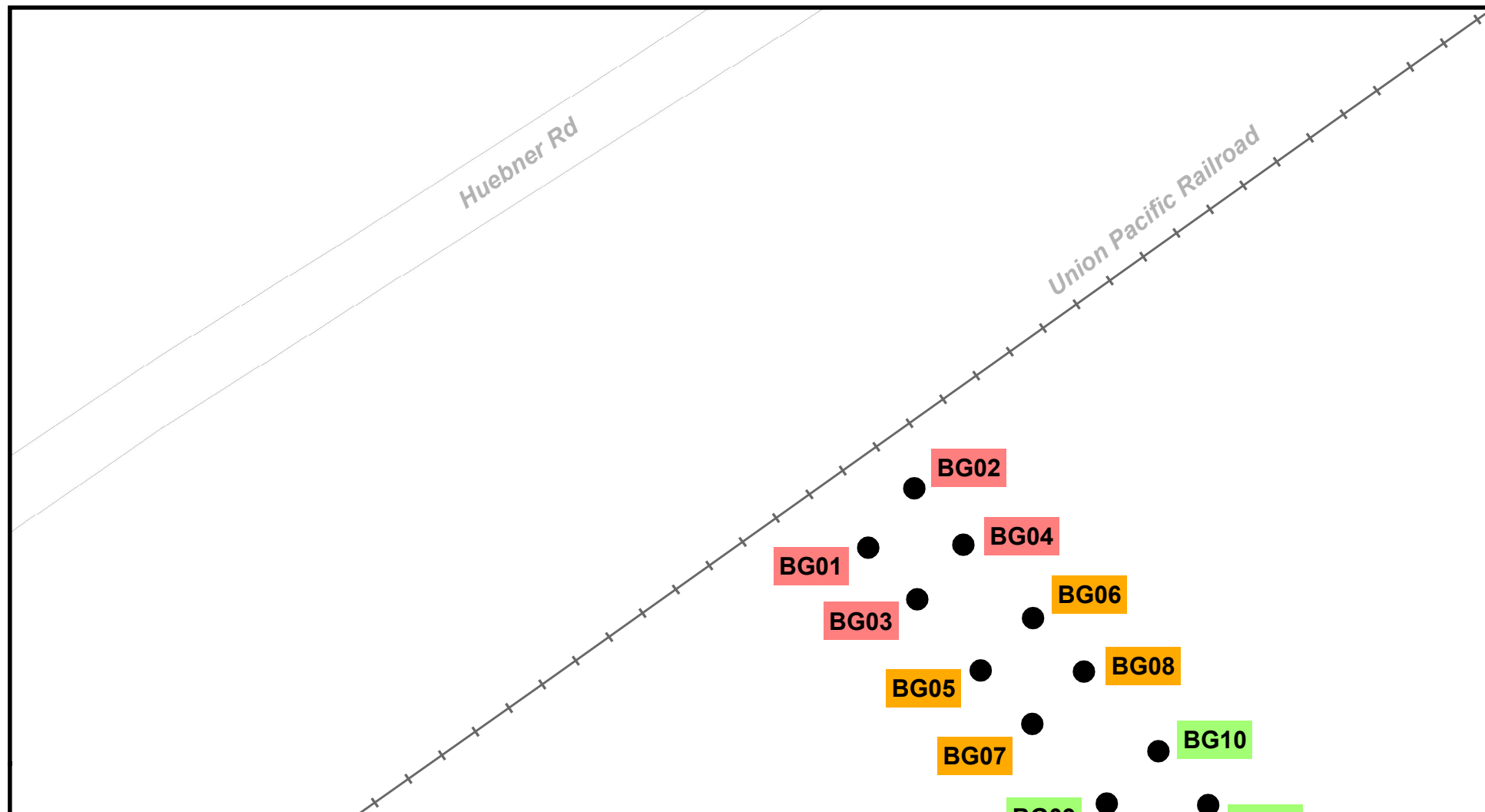
QC - quality control

SS - surface soil

SBA - soil below ash

SIM - Selective Ion Monitoring

TAL - target analytical list



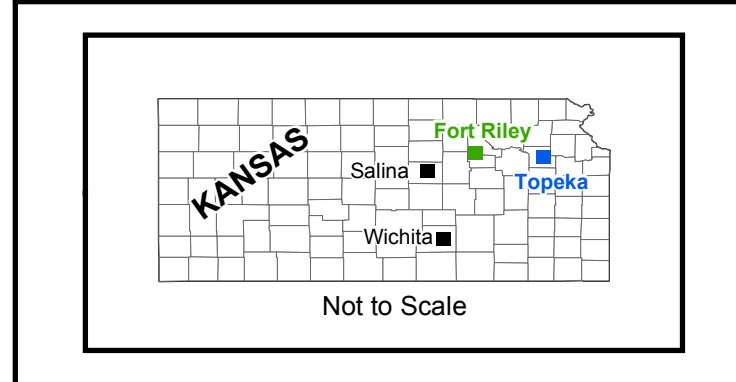
LEGEND

- BACKGROUND SOIL SAMPLE LOCATION
- BACKGROUND SAMPLES REPRESENTING UPLAND TERRACE
- BACKGROUND SAMPLES REPRESENTING FLOODPLAIN SLOPE
- BACKGROUND SAMPLES REPRESENTING KANSAS RIVER FLOODPLAIN
- +—+— RAILROAD
- FORMER FOUNDATIONS

NOTES

1. SAMPLE LOCATIONS HAVE NOT BEEN SURVEYED. SAMPLE LOCATIONS ARE APPROXIMATE.

0 60
SCALE IN FEET



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Figure 1
PHASE I BACKGROUND SOIL
SAMPLE LOCATION MAP
CFI SITE
FORT RILEY, KANSAS

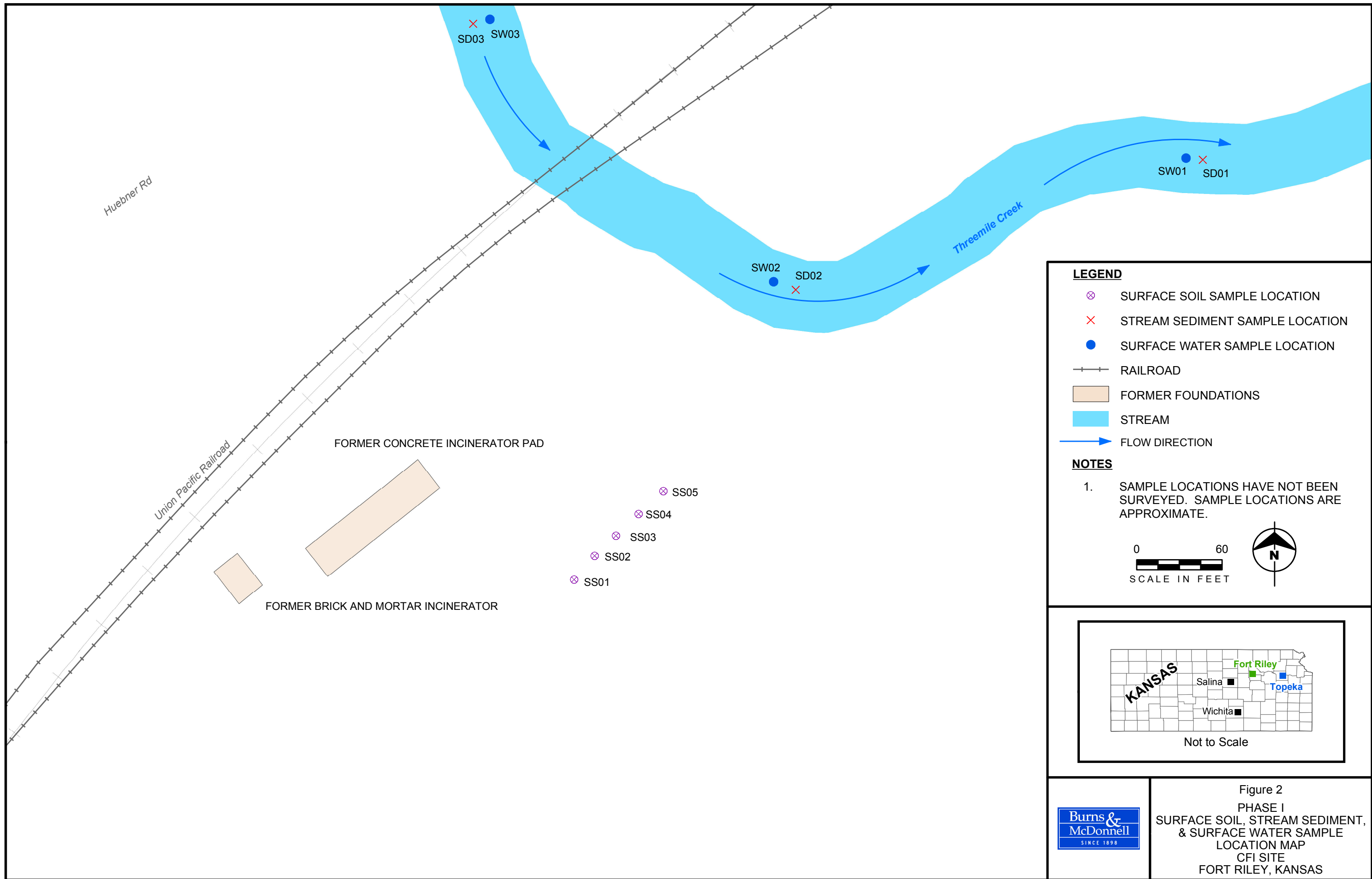
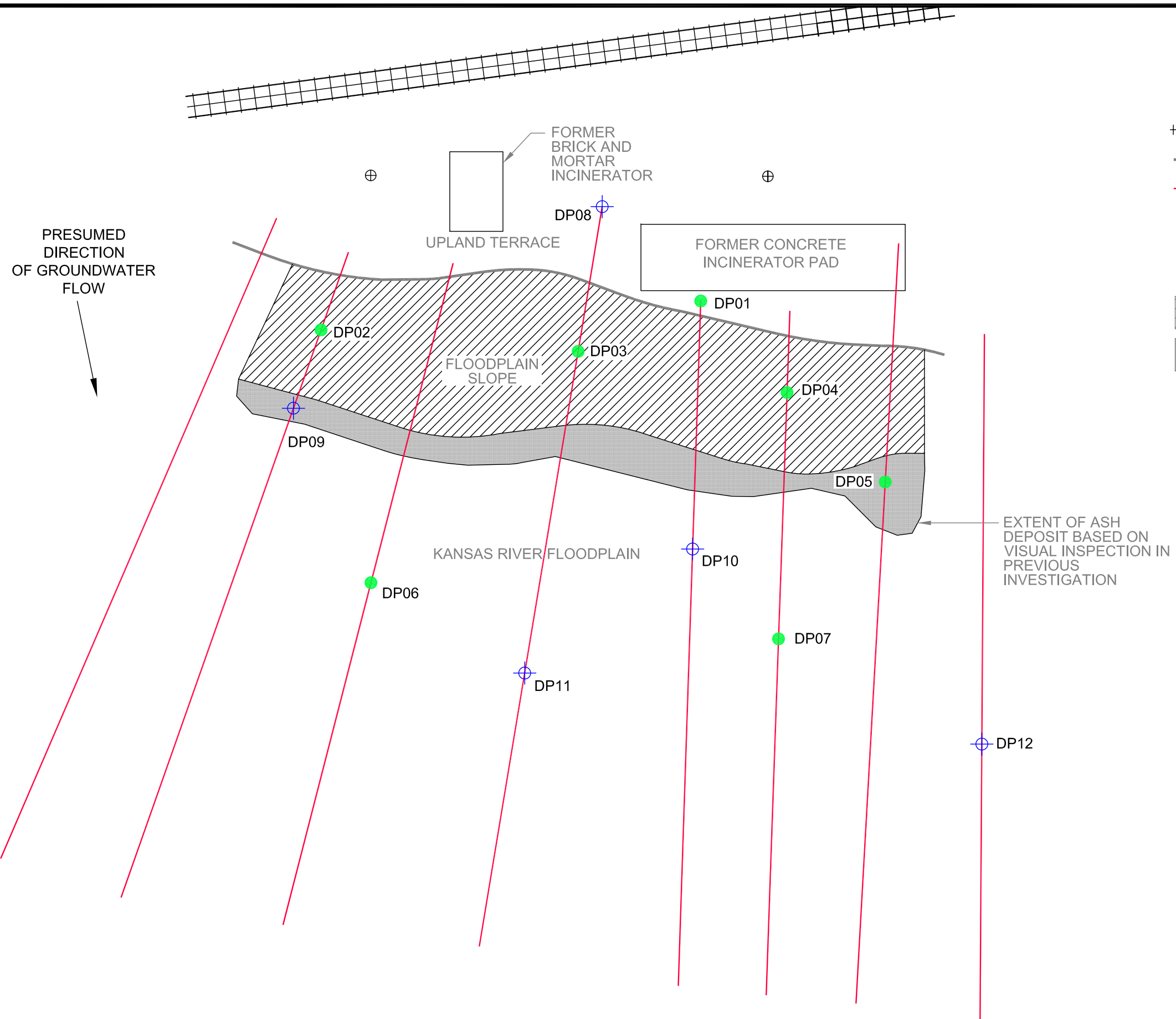


Figure 2
 PHASE I
 SURFACE SOIL, STREAM SEDIMENT,
 & SURFACE WATER SAMPLE
 LOCATION MAP
 CFI SITE
 FORT RILEY, KANSAS



LEGEND

- ⊕ POWER POLE
- ++++ RAILROAD SIDING
- APPROXIMATE TOP OF SLOPE
- SAMPLE TRANSECT LINES
- PHASE I SOIL SAMPLE LOCATION
- ⊕ PHASE I GROUNDWATER SAMPLE LOCATION
- ▨ ASH DEPOSITS COVERED BY FLOODPLAIN SLOPE SOILS
- ASH DEPOSITS COVERED BY FLOODPLAIN SOILS

NOTE:

1. Sample locations have not been surveyed. Sample locations are approximate.

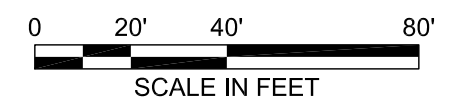
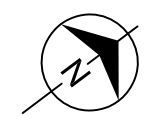
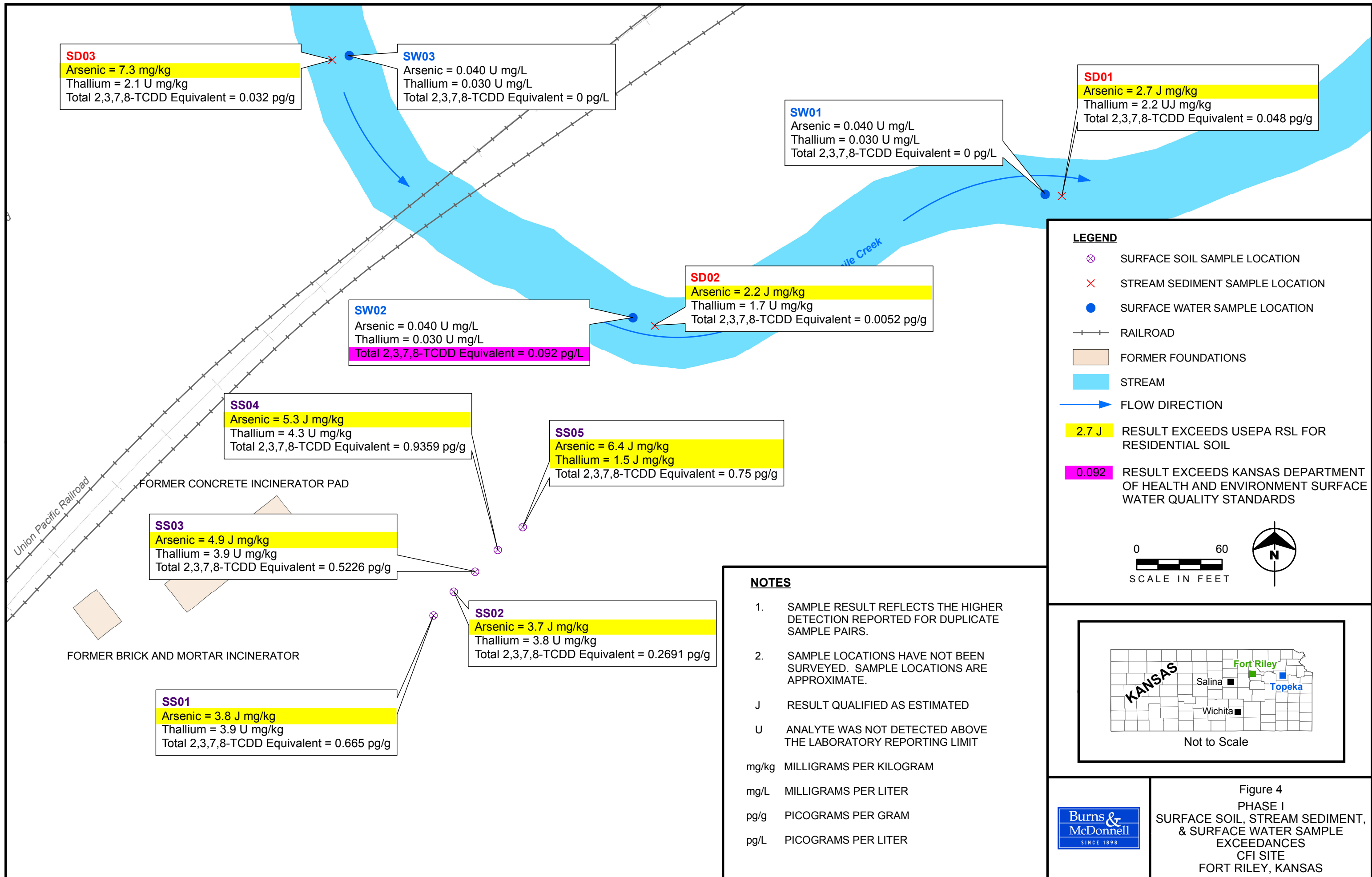


Figure 3
 PHASE I DIRECT-PUSH SOIL
 AND GROUNDWATER
 SAMPLE LOCATION MAP
 CFI SITE
 FORT RILEY, KANSAS



| DP03 (0-0.5') | DP03 (3-5') | DP03 (5.5-6.5') | DP03 (14-15.5') |
|-----------------------------|----------------------------|----------------------------|----------------------------|
| BENZO(a)PYRENE 0.030J mg/kg | BENZO(a)PYRENE 0.38U mg/kg | BENZO(a)PYRENE 0.36U mg/kg | BENZO(a)PYRENE 0.4U mg/kg |
| ARSENIC 35 mg/kg | ARSENIC 26 mg/kg | ARSENIC 7.4 mg/kg | ARSENIC 7.4 mg/kg |
| IRON 35,000 mg/kg | IRON 34,000 mg/kg | IRON 15,000 mg/kg | IRON 14,000 mg/kg |
| THALLIUM 1.6J mg/kg | THALLIUM 1.4J mg/kg | THALLIUM 3.3U mg/kg | THALLIUM 3.8U mg/kg |
| 2,3,7,8,-TCDD 4.4008 pg/g | 2,3,7,8,-TCDD 2.76005 pg/g | 2,3,7,8,-TCDD 0.08713 pg/g | 2,3,7,8,-TCDD 0.01678 pg/g |

| DP01 (0-0.5') | DP01 (3-4.5') | DP01 (6-7.5') | DP01 (18-20') | DP01 (30-32') |
|---------------------------|----------------------------|----------------------------|---------------------------|----------------------------|
| BENZO(a)PYRENE 0.4U mg/kg | BENZO(a)PYRENE 0.37U mg/kg | BENZO(a)PYRENE 0.38U mg/kg | BENZO(a)PYRENE 0.4U mg/kg | BENZO(a)PYRENE 0.41U mg/kg |
| ARSENIC 9.2 mg/kg | ARSENIC 4.3J mg/kg | ARSENIC 5.8 mg/kg | ARSENIC 4.6J mg/kg | ARSENIC 4.2J mg/kg |
| IRON 14,000 mg/kg | IRON 12,000 mg/kg | IRON 13,000 mg/kg | IRON 16,000 mg/kg | IRON 14,000 mg/kg |
| THALLIUM 3.6U mg/kg | THALLIUM 3.3U mg/kg | THALLIUM 3.4U mg/kg | THALLIUM 3.9U mg/kg | THALLIUM 3.9U mg/kg |
| 2,3,7,8,-TCDD 1.0796 pg/g | 2,3,7,8,-TCDD 0.1093 pg/g | 2,3,7,8,-TCDD 0.129 pg/g | 2,3,7,8,-TCDD 0.017 pg/g | 2,3,7,8,-TCDD 0.0378 pg/g |

| DP02 (0-0.5') |
|---------------------------|
| BENZO(a)PYRENE 0.4U mg/kg |
| ARSENIC 31 mg/kg |
| IRON 56,000 mg/kg |
| THALLIUM 1.8J mg/kg |
| 2,3,7,8,-TCDD 14.972 pg/g |

| DP02 (3-6') |
|----------------------------|
| BENZO(a)PYRENE 0.4U mg/kg |
| ARSENIC 30 mg/kg |
| IRON 55,000 mg/kg |
| THALLIUM 1.6J mg/kg |
| 2,3,7,8,-TCDD 13.3807 pg/g |

| DP02 (7-8') |
|----------------------------|
| ARSENIC 5.1 mg/kg |
| IRON 14,000 mg/kg |
| THALLIUM 3.7U mg/kg |
| 2,3,7,8,-TCDD 0.01478 pg/g |

| DP02 (16-17') |
|----------------------------|
| BENZO(a)PYRENE 0.38U mg/kg |
| ARSENIC 3.3J mg/kg |
| IRON 6,800 mg/kg |
| THALLIUM 2.6U mg/kg |
| 2,3,7,8,-TCDD 0.00327 pg/g |

| DP06 (0-0.5') |
|----------------------------|
| BENZO(a)PYRENE 0.46U mg/kg |
| ARSENIC 5.1J mg/kg |
| IRON 15,000 mg/kg |
| THALLIUM 4.3U mg/kg |
| 2,3,7,8,-TCDD 0.4211 pg/g |

| DP06 (6-7.5') |
|----------------------------|
| BENZO(a)PYRENE 0.36U mg/kg |
| ARSENIC 3.9J mg/kg |
| IRON 13,000 mg/kg |
| THALLIUM 3.6U mg/kg |
| 2,3,7,8,-TCDD 0.015 pg/g |

| DP07 (0-0.5') |
|----------------------------|
| BENZO(a)PYRENE 0.42U mg/kg |
| ARSENIC 4.7J mg/kg |
| IRON 15,000 mg/kg |
| THALLIUM 4.0U mg/kg |
| 2,3,7,8,-TCDD 0.1735 pg/g |

| DP07 (6-7.5') |
|----------------------------|
| BENZO(a)PYRENE 0.35U mg/kg |
| ARSENIC 4.2J mg/kg |
| IRON 13,000 mg/kg |
| THALLIUM 3.5U mg/kg |
| 2,3,7,8,-TCDD 0.021 pg/g |

| DP06 (3-4.5') |
|----------------------------|
| BENZO(a)PYRENE 0.38U mg/kg |
| ARSENIC 6.1 mg/kg |
| IRON 16,000 mg/kg |
| THALLIUM 3.7U mg/kg |
| 2,3,7,8,-TCDD 0.04425 pg/g |

| DP06 (16.5-18.5') |
|----------------------------|
| BENZO(a)PYRENE 0.43U mg/kg |
| ARSENIC 5.6 mg/kg |
| IRON 13,000 mg/kg |
| THALLIUM 3.9U mg/kg |
| 2,3,7,8,-TCDD 0.02783 pg/g |

| DP07 (3-4.5') |
|----------------------------|
| BENZO(a)PYRENE 0.4U mg/kg |
| ARSENIC 8.1 mg/kg |
| IRON 20,000 mg/kg |
| THALLIUM 3.6U mg/kg |
| 2,3,7,8,-TCDD 0.08894 pg/g |

| DP07 (18-20') |
|----------------------------|
| BENZO(a)PYRENE 0.43U mg/kg |
| ARSENIC 7.4 mg/kg |
| IRON 15,000 mg/kg |
| THALLIUM 3.8U mg/kg |
| 2,3,7,8,-TCDD 0.0088 pg/g |

| DP05 (0-0.5') |
|----------------------------|
| BENZO(a)PYRENE 0.39U mg/kg |
| ARSENIC 4.2J mg/kg |
| IRON 14,000 mg/kg |
| THALLIUM 3.6U mg/kg |
| 2,3,7,8,-TCDD 1.3135 pg/g |

| DP05 (2.5-3.5') |
|----------------------------|
| BENZO(a)PYRENE 0.36U mg/kg |
| ARSENIC 4.6 mg/kg |
| IRON 14,000 mg/kg |
| THALLIUM 3.3U mg/kg |
| 2,3,7,8,-TCDD 0.016 pg/g |

| DP05 (1.5-2.5') |
|----------------------------|
| BENZO(a)PYRENE 0.38U mg/kg |
| ARSENIC 8.1 mg/kg |
| IRON 20,000 mg/kg |
| THALLIUM 3.7U mg/kg |
| 2,3,7,8,-TCDD 0.0519 pg/g |

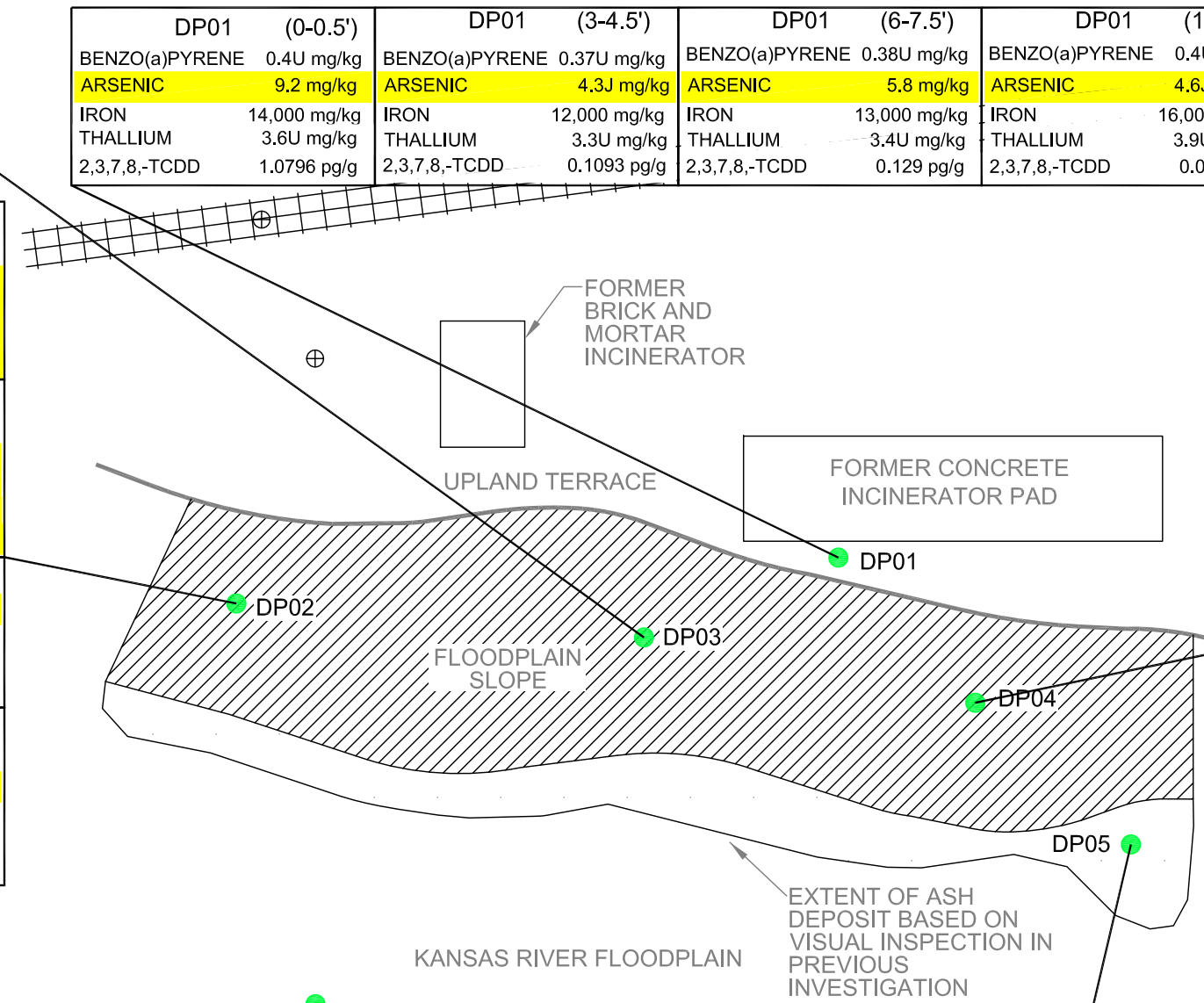
| DP05 (10-12') |
|----------------------------|
| BENZO(a)PYRENE 0.39U mg/kg |
| ARSENIC 6.1 mg/kg |
| IRON 15,000 mg/kg |
| THALLIUM 3.8U mg/kg |
| 2,3,7,8,-TCDD 0 pg/g |

LEGEND

- ⊕ POWER POLE
- +++++ RAILROAD SIDING
- APPROXIMATE TOP OF SLOPE
- PHASE 1 SOIL SAMPLE LOCATION
- ASH DEPOSITS COVERED BY FLOODPLAIN SLOPE SOILS
- ASH DEPOSITS COVERED BY FLOODPLAIN SOILS
- 5.6 RESULTS EXCEED USEPA RSL FOR RESEDENTIAL SOIL
- U ANALYTE WAS NOT DETECTED ABOVE THE LABORATORY REPORTING LIMIT
- J RESULTS QUALIFIED AS ESTIMATED
- mg/kg MILLIGRAMS PER KILOGRAM
- pg/g PICOGRAMS PER GRAM

Notes:

1. Sample results reflect the higher detection reported for duplicate sample pairs.
2. 2,3,7,8,-TCDD is representative of total 2,3,7,8,-TCDD Equivalent
3. Sample locations have not been surveyed. Sample locations are approximate.



| DP04 (0-0.5') | DP04 (3-4') |
|----------------------------|----------------------------|
| BENZO(a)PYRENE 0.39U mg/kg | BENZO(a)PYRENE 0.37U mg/kg |
| ARSENIC 12 mg/kg | ARSENIC 5.1 mg/kg |
| IRON 25,000 mg/kg | IRON 13,000 mg/kg |
| THALLIUM 3.6U mg/kg | THALLIUM 3.3U mg/kg |
| 2,3,7,8,-TCDD 3.9709 pg/g | 2,3,7,8,-TCDD 0.1562 pg/g |

| DP04 (1-3') | DP04 (10-12') |
|----------------------------|----------------------------|
| BENZO(a)PYRENE 0.37U mg/kg | BENZO(a)PYRENE 0.34U mg/kg |
| ARSENIC 27 mg/kg | ARSENIC 5.7J mg/kg |
| IRON 76,000 mg/kg | IRON 13,000 mg/kg |
| THALLIUM 2.0J mg/kg | THALLIUM 3.3U mg/kg |
| 2,3,7,8,-TCDD 2.3955 pg/g | 2,3,7,8,-TCDD 0.0168 pg/g |

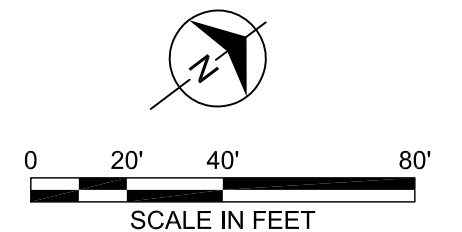


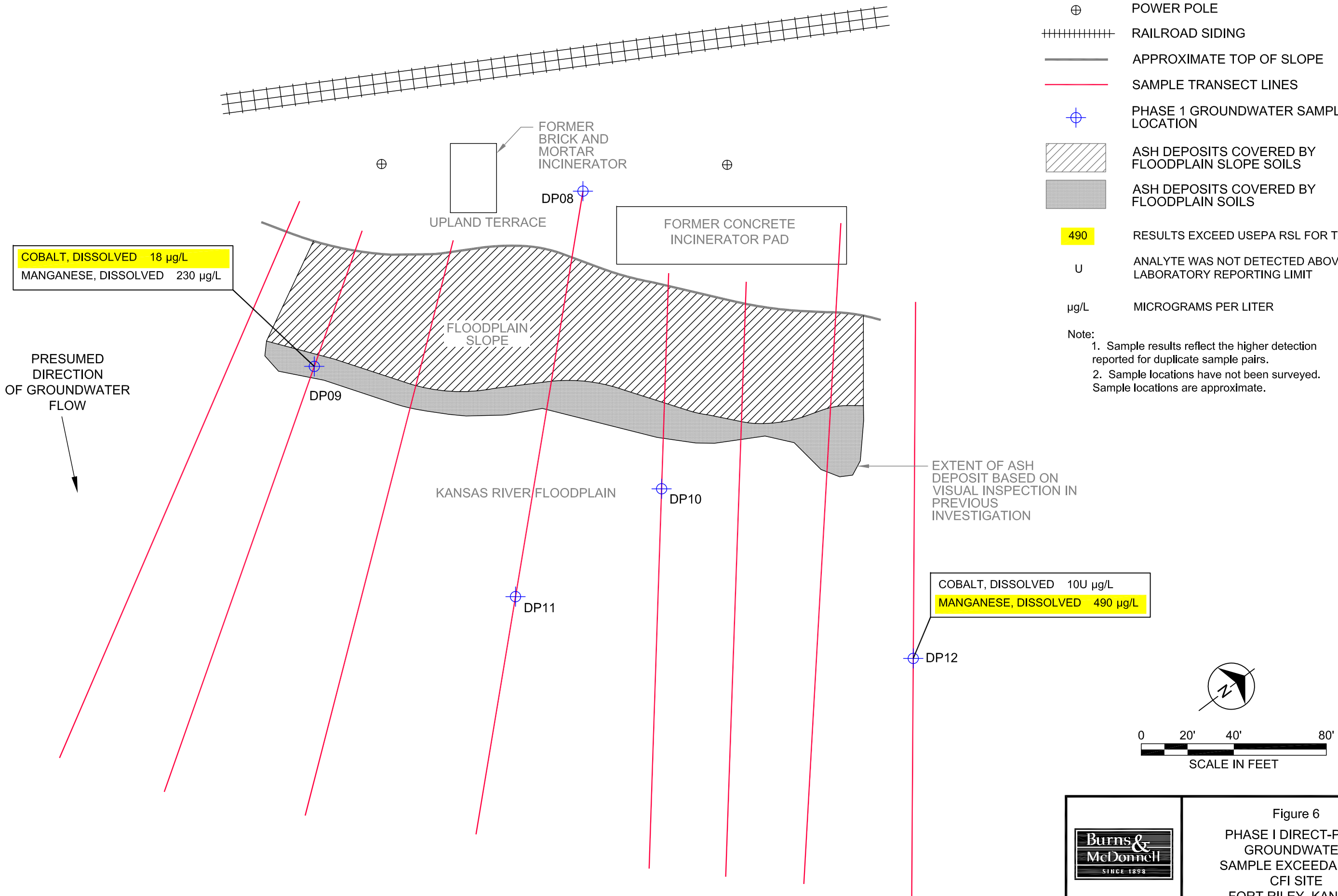


Figure 5
PHASE I DIRECT-PUSH SOIL
SAMPLE EXCEEDANCES
CFI SITE
FORT RILEY, KANSAS

LEGEND

- ⊕ POWER POLE
- ++++ RAILROAD SIDING
- APPROXIMATE TOP OF SLOPE
- SAMPLE TRANSECT LINES
- ⊕ PHASE 1 GROUNDWATER SAMPLE LOCATION
-  ASH DEPOSITS COVERED BY FLOODPLAIN SLOPE SOILS
-  ASH DEPOSITS COVERED BY FLOODPLAIN SOILS
- 490** RESULTS EXCEED USEPA RSL FOR TAPWATER
- U ANALYTE WAS NOT DETECTED ABOVE THE LABORATORY REPORTING LIMIT
- μg/L MICROGRAMS PER LITER

Note:
 1. Sample results reflect the higher detection reported for duplicate sample pairs.
 2. Sample locations have not been surveyed. Sample locations are approximate.



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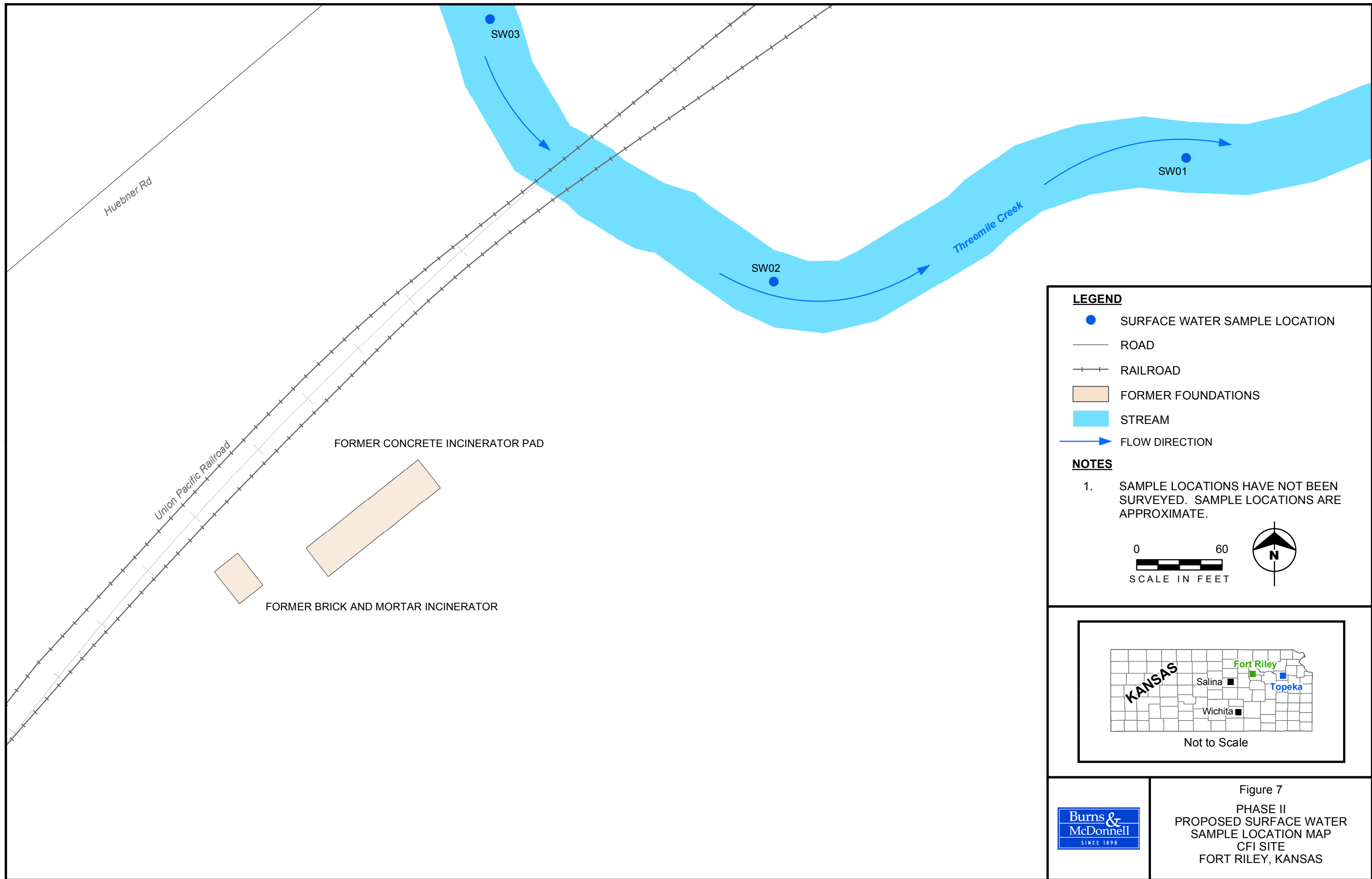
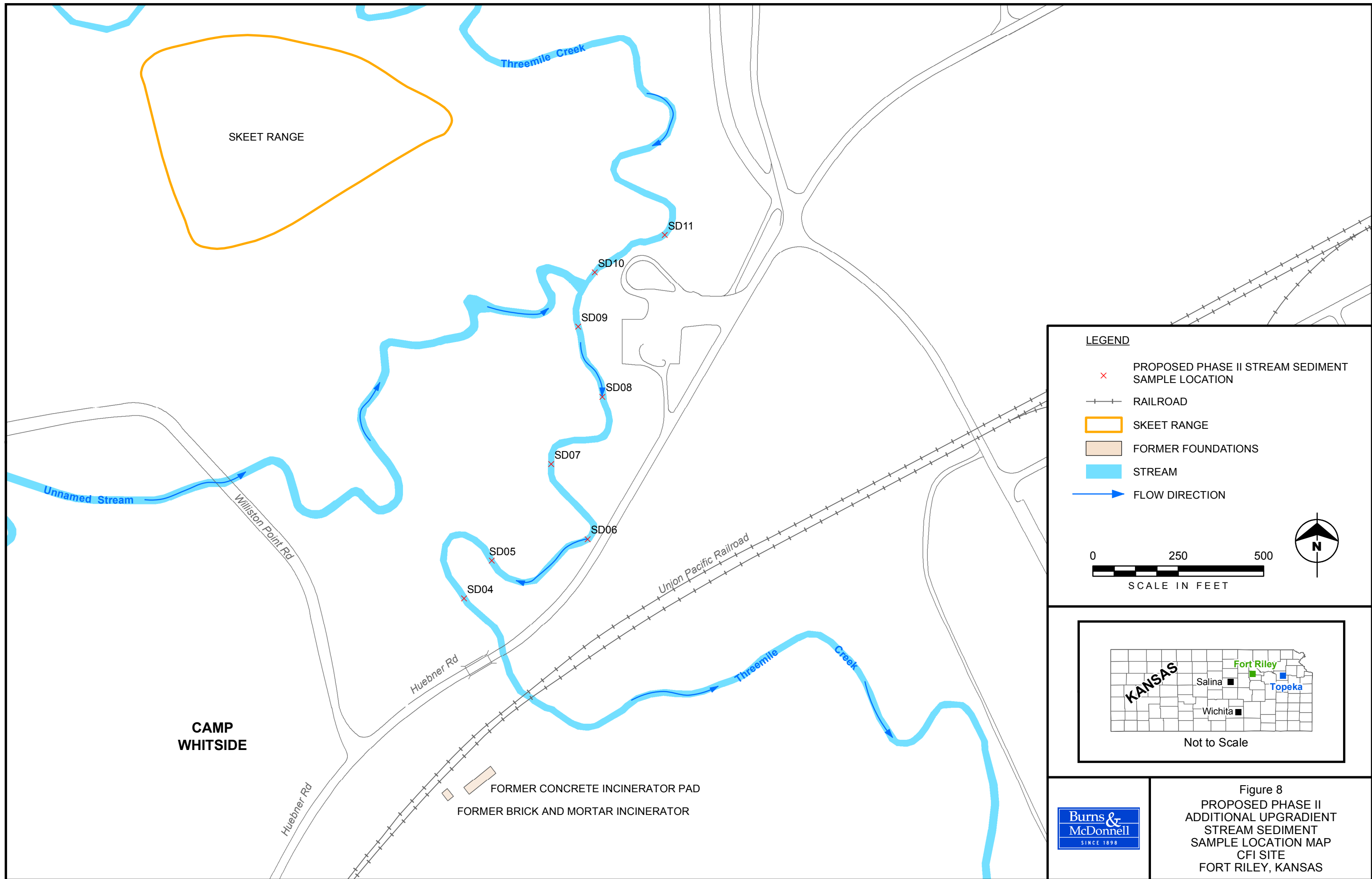
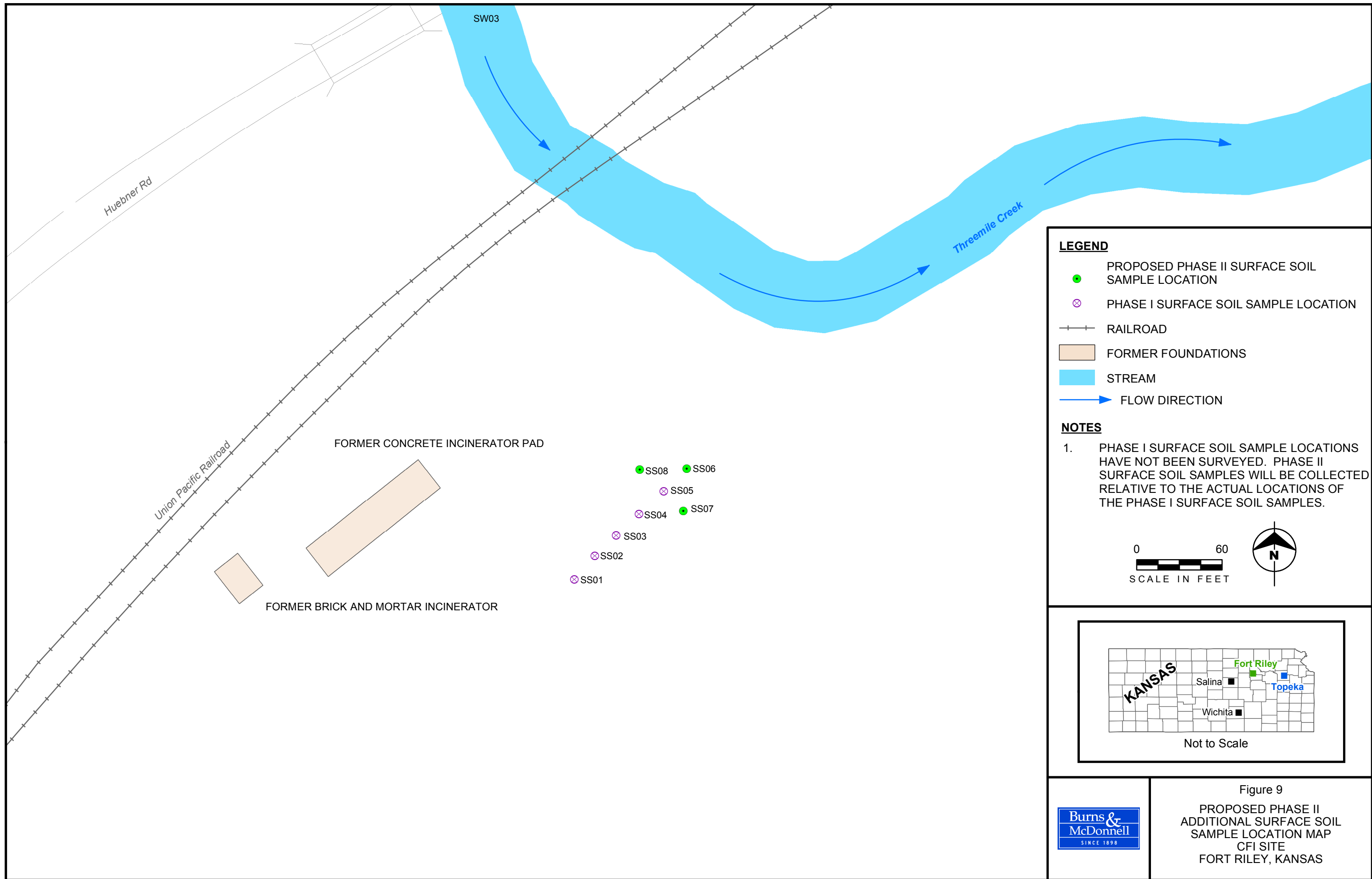




Figure 6
 PHASE I DIRECT-PUSH
 GROUNDWATER
 SAMPLE EXCEEDANCES
 CFI SITE
 FORT RILEY, KANSAS




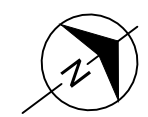
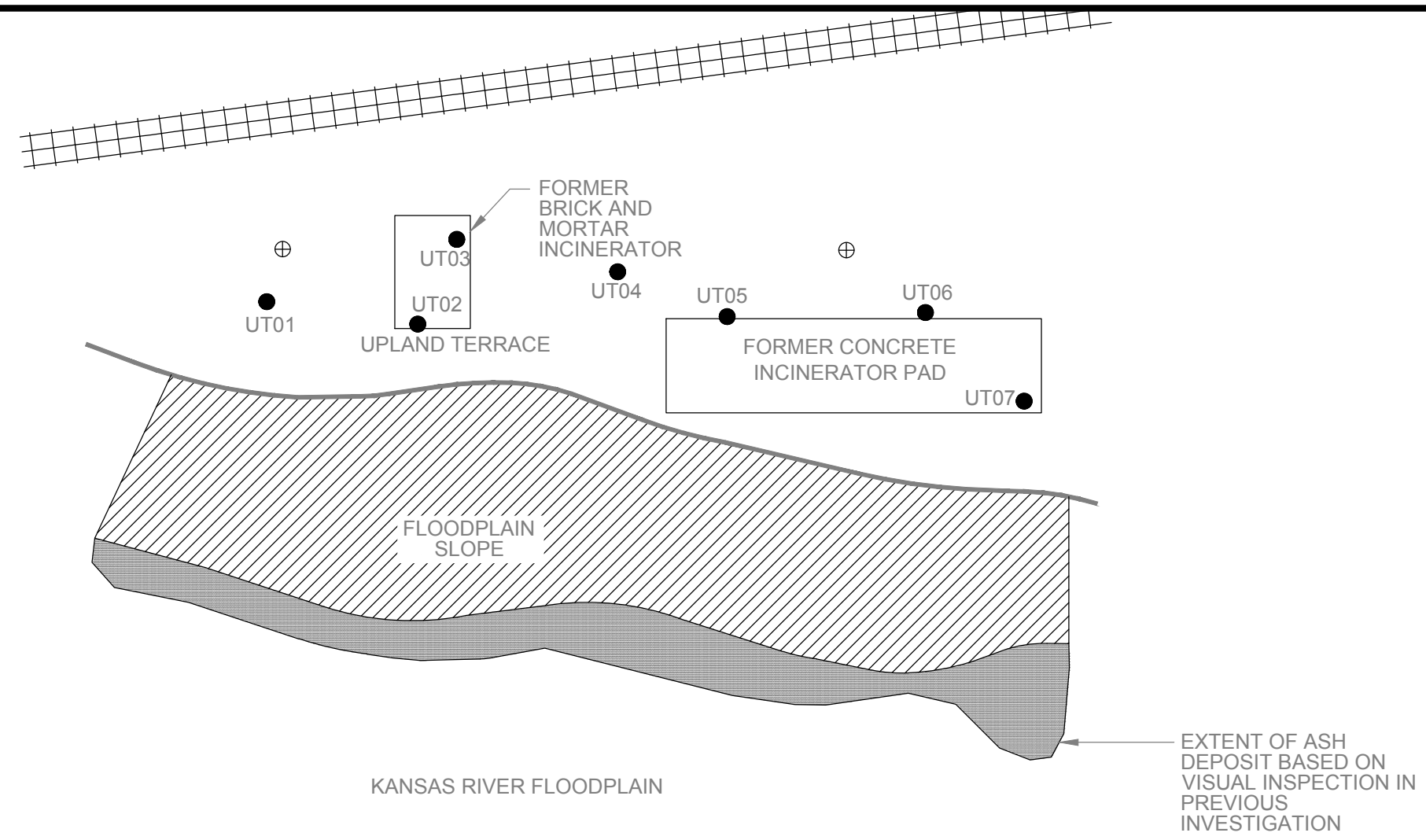





LEGEND

- ⊕ POWER POLE
- +++++ RAILROAD SIDING
- APPROXIMATE TOP OF SLOPE
- PROPOSED PHASE II UPLAND TERRACE SOIL SAMPLE LOCATION
-  ASH DEPOSITS COVERED BY FLOODPLAIN SLOPE SOILS
-  ASH DEPOSITS COVERED BY FLOODPLAIN SOILS

PRESUMED DIRECTION OF GROUNDWATER FLOW

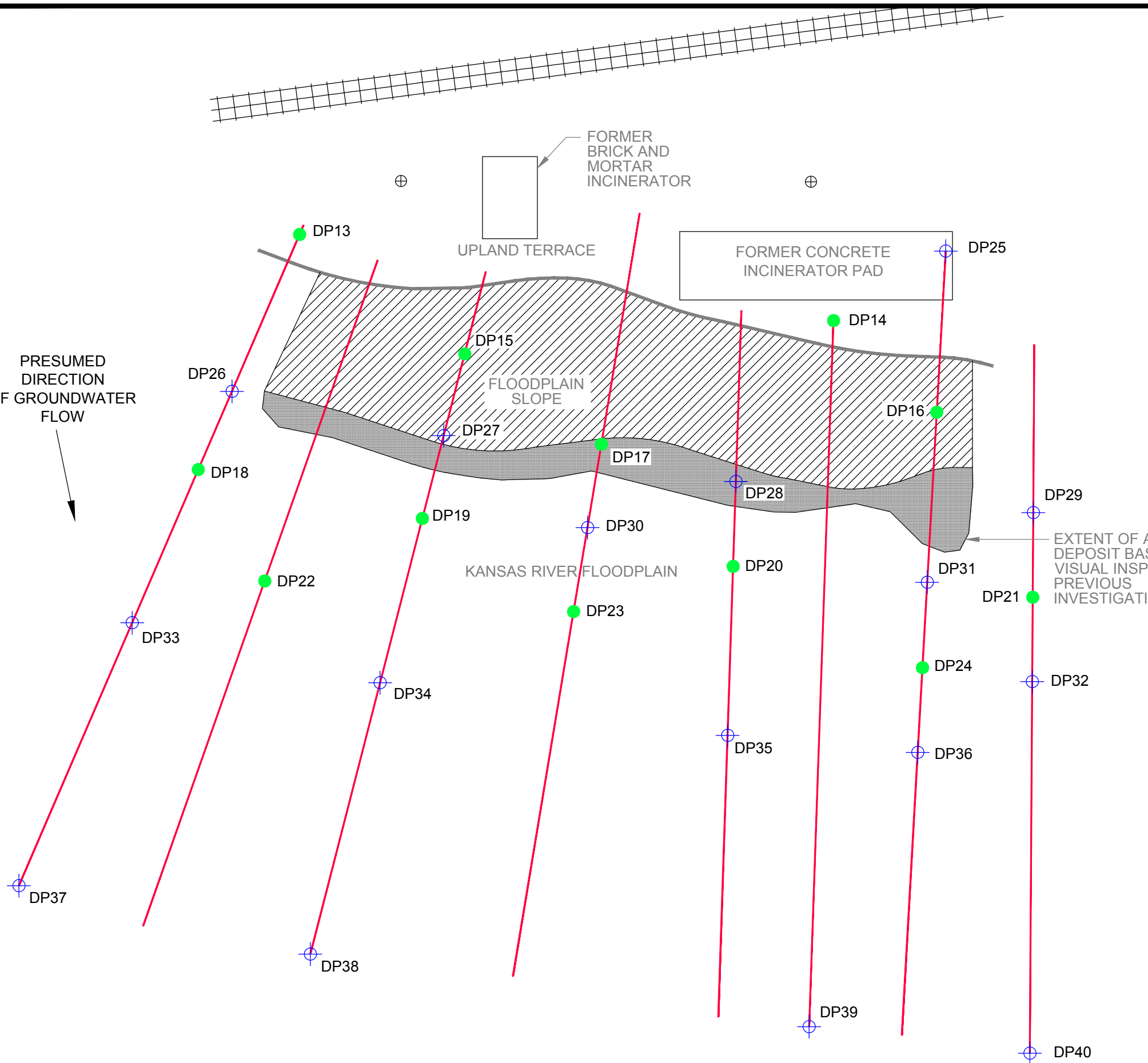



| | |
|---|---|
|  | <p>Figure 10 PROPOSED PHASE II UPLAND TERRACE SOIL SAMPLE LOCATION MAP CFI SITE FORT RILEY, KANSAS</p> |
|---|---|

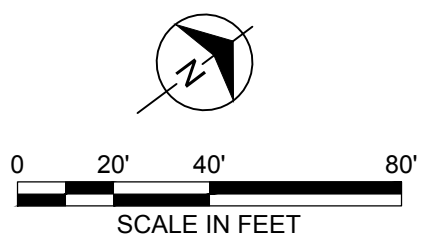
LEGEND

- ⊕ POWER POLE
- ++++ RAILROAD SIDING
- APPROXIMATE TOP OF SLOPE
- ORIGINAL PROPOSED PHASE II SOIL SAMPLING LOCATION
- ⊕ ORIGINAL PROPOSED PHASE II GROUNDWATER SAMPLING LOCATION
- ▨ ASH DEPOSITS COVERED BY FLOODPLAIN SLOPE SOILS
- ASH DEPOSITS COVERED BY FLOODPLAIN SOILS


PRESUMED DIRECTION OF GROUNDWATER FLOW



EXTENT OF ASH DEPOSIT BASED ON VISUAL INSPECTION IN PREVIOUS INVESTIGATION



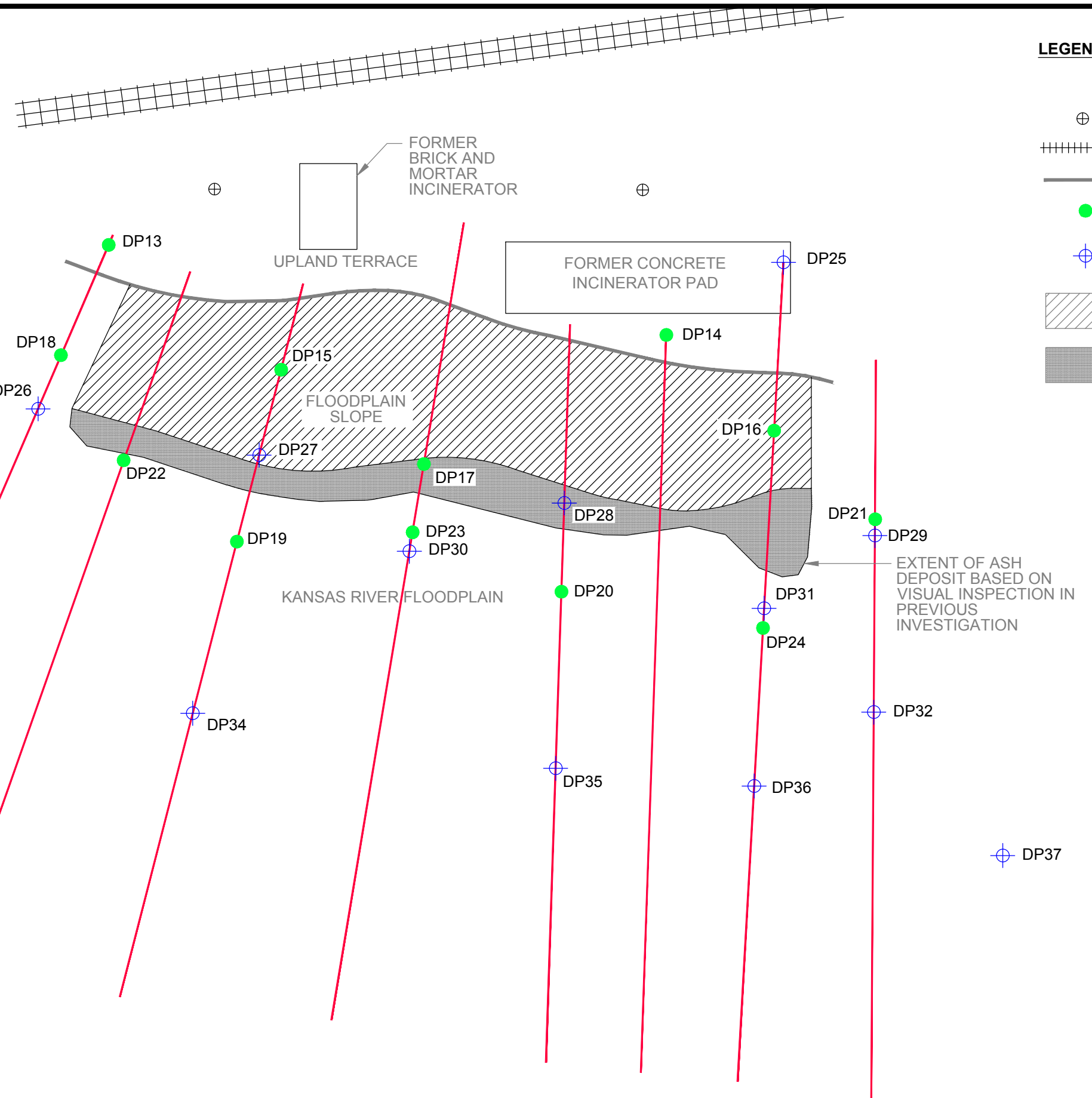
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| | |
|---|---|
|  | <p>Figure 11 ORIGINAL PHASE II DIRECT-PUSH SOIL AND GROUNDWATER SAMPLE LOCATION MAP CFI SITE FORT RILEY, KANSAS</p> |
|---|---|

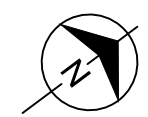
LEGEND

- ⊕ POWER POLE
- ++++ RAILROAD SIDING
- APPROXIMATE TOP OF SLOPE
- PROPOSED PHASE II SOIL SAMPLING LOCATION
- ⊕ PROPOSED PHASE II GROUNDWATER SAMPLING LOCATION
- ▨ ASH DEPOSITS COVERED BY FLOODPLAIN SLOPE SOILS
- ASH DEPOSITS COVERED BY FLOODPLAIN SOILS


PRESUMED DIRECTION OF GROUNDWATER FLOW



EXTENT OF ASH DEPOSIT BASED ON VISUAL INSPECTION IN PREVIOUS INVESTIGATION



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| | |
|---|--|
|  | <p>Figure 12 PROPOSED PHASE II DIRECT-PUSH SOIL AND GROUNDWATER SAMPLE LOCATION MAP CFI SITE FORT RILEY, KANSAS</p> |
|---|--|