Addendum No. 2 to Master Field Sampling Plan for Chemical Data Gap Investigation Phase 3 Soil Chemical Sampling at Area IV Santa Susana Field Laboratory Ventura County, California

Subarea 5B

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Contract DE-AM09-05SR22404 CDM Smith Task Order DE-AT30-08CC60021/ET17

"I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete."

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Introduction

This document supports implementation of the soil sampling program described in the *Master Field Sampling Plan for Chemical Data Gap Investigation, Phase 3 Soil Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California* (Master FSP, CDM Smith 2012a). The Master FSP addresses soil sampling within Area IV of the Santa Susana Field Laboratory (SSFL) as required under the *Administrative Order on Consent for Remedial Action* (Docket Number HSA-CO 10/11-037) (AOC) signed by the California Department of Toxic Substances Control (DTSC) and the Department of Energy (DOE). The Master FSP includes field Standard Operating Procedures (SOPs) describing the details of sampling activities and sample management. For all samples collected at locations within Subarea 5B, the Master FSP and the SOPs dictate the procedures pertaining to:

- locating and verifying sampling points
- surface soil sampling techniques
- subsurface soil sampling techniques using a direct push technology (DPT) rig and a hand auger and slide hammer for those locations not accessible by the DPT rig
- sampling of trenches and test pits
- sample handling and shipping
- analytical, quality control, and data review
- instrument calibration and maintenance

The AOC between DTSC and DOE was signed on December 6, 2010. The AOC is a legally binding order that describes the characterization of Area IV and Northern Buffer Zone soils/sediments and further defines DOE's obligations in relation to radiologic and chemical cleanup of soils within these areas. It stipulates that during Phase 1 of the chemical investigation activities, DOE was to analyze a soil sample for chemical constituents at locations where EPA collected a sample for radiological analysis. Phase 1 Co-located sampling with EPA in Subarea 5B was completed in April 2011. Phase 2, which was random co-located sampling with EPA in the Northern Buffer Zone was also completed in April 2011

Phase 3 of the AOC is the data gap investigation, which includes an assessment of data adequacy using the data collected under the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) program, the results of co-located soil samples collected during Phase 1 of the AOC, and multiple lines of evidence as described in the Work Plan for Chemical Data Gap Investigation, Phase 3 Soil Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California (CDM 2010b) (Phase 3 Work Plan). The purpose of the data gap investigation is to identify



additional soil chemical data needed to support the Soil Remedial Action Implementation Plan for Area IV. The sampling that will be performed under this FSP Addendum is based on the results of the data gap investigation.

The Phase 3 sampling within Subarea 5B is governed by the Phase 3 Work Plan and its elements including the Master FSP, Phase 3 Quality Assurance Project Plan (CDM Smith 2012c) (QAPP), Worker Health and Safety Plan (CDM Smith 2012d), and the Phase 3 SOPs (attachments to the Master FSP and QAPP). These documents are incorporated into this FSP Addendum by reference.

Purpose of FSP Addendum

This FSP Addendum addresses Phase 3 sampling in Subarea 5B. Figure 1 of the Subarea 5B FSP Addendum illustrates the location of Subarea 5B within Area IV of SSFL. The rationale for sample location and chemical analytes is provided in the document Subarea 5B Phase 3 Data Gap Analysis Technical Memorandum, Santa Susana Field Laboratory, Ventura County, California (MWH 2012¹) (Subarea 5B Data Gap TM). The Subarea 5B Data Gap TM is included as an attachment to this FSP Addendum. It illustrates the proposed sample locations and includes a table providing the sampling rationale for each location. Figure 1 of the Subarea 5B Data Gap TM (MWH 2012) provides soil sample locations in the northern portion of Subarea 5B that were identified through the data gap investigation; Figure 2 shows the soil sample locations in the southern portion of Subarea 5B. Table 1 of the Subarea 5B Data Gap TM provides the sampling rationale.

For Subarea 5B, surface, subsurface, and trench/test pit soil samples will be collected. For surface soil samples, only the top 6-inches of soil (surface soil) will be collected. The majority of sample locations will involve collection of subsurface samples. A direct push technology (DPT) rig will be used to sample subsurface soil at all locations except those inaccessible due to terrain constraints. Areas inaccessible to the DPT rig will be sampled using a hand auger and slide hammer as described in the SOPs.

CDM Smith will be responsible for all aspects of the field sampling program under Phase 3 of the AOC. This includes locating in the field the sample locations selected during the data gap investigation and that were initially generated and displayed electronically using Geographic Information System (GIS) coordinates. The GIS coordinates are downloaded into a Geographic Position System (GPS) unit for physically locating the samples in the field. Standard Operating Procedure (SOP) 1 provides the process for verifying that the sample locations initially identified by GIS review reflect the targeted feature described in Table 1 and are consistent with the GPS coordinates generated in the field. If necessary the sample location will be adjusted in the field so the targeted feature is sampled. Adjusted and all final sample

¹ MWH prepared this Technical Memorandum under contract with The Boeing Company, which is under direct contract with DOE. Through this contractual relationship and under the regulatory oversight of DTSC, MWH has represented DOE in conducting the Chemical Data Gap Analysis and in the preparation of this Technical Memorandum.



location coordinates will be provided back to the GIS managers so that the GIS database can be updated.

CDM Smith will be responsible for the physical collection of all samples per the procedures and controls specified in the Master Field Sampling Plan. CDM Smith personnel will be responsible for the sample container preparation, sample handling and documentation, sample shipment, laboratory coordination, chemical analyses of the samples, and chemical data review. Soil samples collected by CDM Smith will be analyzed for chemical analytes identified in Table 1 of the *Subarea 5B Data Gap TM* (MWH 2012). Analytical methods and quality control criteria to be used are stipulated in Table 8-3 (Quality Control Objectives for Analytical Methods) of the QAPP (CDM Smith 2012c) and Table 6-1 (Analytical Methods, Containers, Preservatives, and Holding Times) of the Master FSP (CDM Smith 2012a).

Table 1 of the *Subarea 5B Data Gap TM* also identifies proposed target depths for sample collection. Samples will also be collected from depth intervals (until refusal) that exhibit evidence of staining, odor, debris, or photoionization detector (PID) readings above background.

This FSP Addendum only addresses the collection of surface soil and subsurface soil to the bedrock interface. The sampling of soil gas or other media will be addressed in a future sampling plan.

Sample Analytes

Table 1 of the *Subarea 5B Data Gap TM* (MWH 2012) provides the chemical analyses (analytes) for each sample proposed for collection under this FSP Addendum and the respective rationale for sample location and chemical analyses. The chemical analyses by location were identified through the data gap investigation process.

Field Locating Soil Sample Locations

CDM Smith will be responsible for determining the precise position of soil sample locations in the field in accordance with SSFL SOP 1. At the same time, each sample location will also be cleared for buried utilities, and assessing the presence of cultural and biological resources for their protection.

Surface Soil Sampling

Surface soil samples will be collected at each location as proposed in Table 1. Surface soil samples will be collected in accordance with SSFL SOP 2. A slide hammer with stainless steel sleeve will be used to collect the soil sample to be analyzed for semi-volatile organic compounds and polychlorinated biphenyls. Volatile organic compounds and total petroleum hydrocarbon samples will be collected using Encore samplers. Soil for all other sample analytes will be place in one or more glass jars.



Subsurface Soil Sampling

Subsurface soil samples will be primarily collected through the use of a DPT rig. SSFL SOP 4 describes the DPT sampling procedures. Sampling will be conducted through use of 5-foot long acetate sleeves placed within the DPT sampling tool. All cores will be screened using a PID instrument for volatiles and via a Micro R gamma detection instrument and a dual phosphor alpha/beta detection instrument (SOPs 6 and 7, respectively). Soil samples will be collected at the depths specified in Table 1 of the *Subarea 5B Data Gap TM* (MWH 2012) and/or at locations where instrument readings, soil staining, or evidence of debris is observed.

To determine depth of contamination at locations where prior data indicates contamination at the surface but depth has not been defined, the core will be divided into one-foot long samples and prepared for shipment to the laboratory. The laboratory will be requested to analyze the shallowest interval first (e.g., 1 to 2 foot interval) and provide results in an expedited turnaround time. If chemicals are detected above the interim screening levels, the lab will be instructed to analyze the next interval (e.g., 2 to 3 foot interval) and provide results under expedited analytical turnaround time. This process may be repeated depending on results. To address holding time concerns, the lab may be instructed to extract each interval and hold the extract until the prior interval results are available. Table 1 identifies the locations where the depth analysis process is proposed.

There are proposed sampling locations that the DPT rig will not be able to access. At those locations, subsurface samples will be collected using a hand auger to access the sample depth and a slide hammer sampler with stainless steel sleeve to collect the actual sample. SSFL SOP 3 describes the hand auger sampling procedure.

The soil logging of all samples, surface and subsurface, will be conducted following SOP 9.

Trenching and Test Pit Sampling

The investigation of Subarea 5B will include the characterization of debris and fill areas through backhoe trenching. Figures 1 and 2 of the *Subarea 5B Data Gap TM* identify the trench locations. The primary purpose of the trenches will be to visually characterize fill material and to sample subsurface soil within the trench.

Prior to any trenching, geophysical surveys of the trenching locations will be conducted to identify potential buried debris and to assist in targeting trench locations. The geophysical surveys will include ground penetrating radar, electromagnetic surveys, and soil density surveys. Procedures for the geophysical surveys are described in SSFL SOP 14. The firm selected to perform the surveys will prepare a detailed plan of their procedures for DTSC review prior to conducting the surveys.



Where sampling can be performed safely, soil samples will be collected from the side wall of the trench/pit to 5 feet below ground surface (bgs) using an impact sampler with extended rod. Soil samples deeper than 5 feet below ground surface (or when samples cannot be collected safely at 5 feet bgs) will be collected directly from the backhoe bucket using the impact sampler. SSFL SOP 5 describes the test pit sampling procedure.

Sampling of Locations with Sustained Instrument Readings, Odor, or Staining

For any locations where PID instrument readings remain above measured background readings, there is an odor, or the soil appears to be stained with hydrocarbons, samples will be collected at the sample depth interval and analyzed for VOCs, 1,4-dioxane, and total petroleum hydrocarbons-gasoline range organics (TPH-GRO) using Encore samplers, in addition to the target analytes specified in Table 1 of the *Subarea 5B Data Gap TM*. Any sustained instrument readings above background (PID, Micro R gamma detection and dual phosphor alpha/beta detection instruments) will be immediately reported to DOE by the CDM Smith Field Team Leader and DOE will contact Boeing with this information in accordance with the Worker Health and Safety Plan requirements. The monitoring instruments will be operated per SSFL SOPs 6 (volatile organics) and 7 (radiation).

Decontamination of Sampling Equipment

Equipment that comes in contact with sample material will be decontaminated per SSFL SOP 12. Investigation derived waste will be handled per SSFL SOP 13.

Sample Handling, Recording, and Shipment

SSFL SOPs 10 and 11 describe the sample custody, handling, information recording, preservation, and shipping procedures. Photographic documentation of sampling activities will be performed per SOP 15.

Instrument Calibration and Maintenance

All instruments used to screen samples for volatile organics and radioactivity will be calibrated and maintained per SSFL SOP 16.

Laboratory Sample Preparation (Homogenization)

Soil samples intended for chemical analyses of non-volatile and non-semivolatile constituents (e.g. metals, PCBs, and dioxins) will be homogenized by the analytical laboratory in the laboratory in accordance with SOP 17.



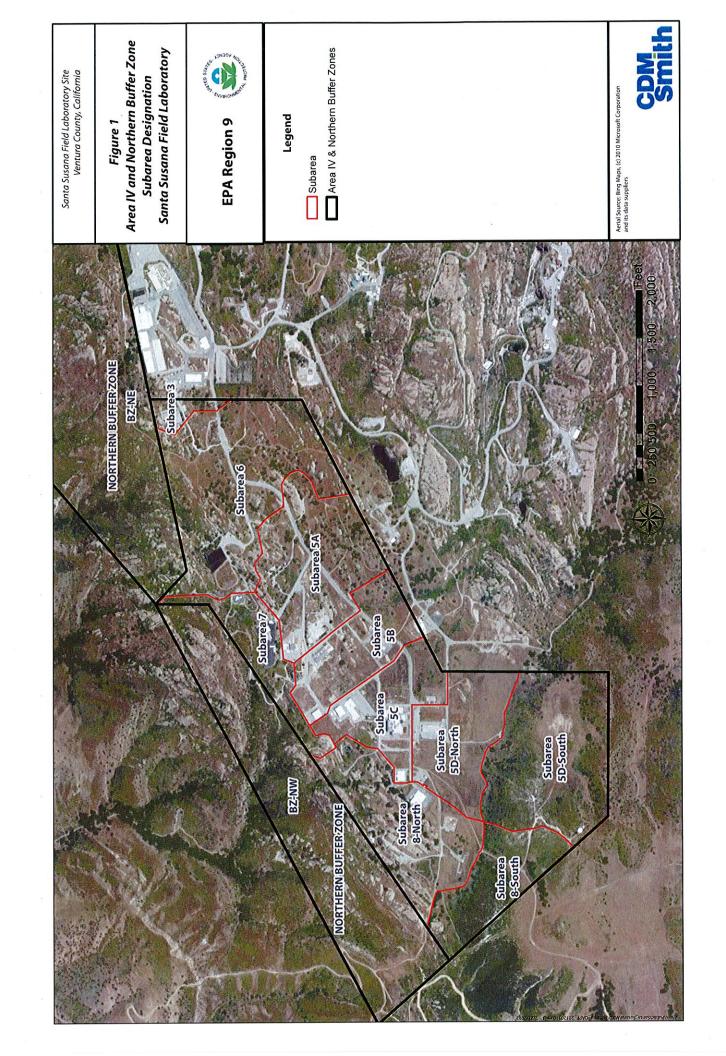
Schedule

Soil sampling activities under this FSP Addendum will mostly likely start the week of June 11, 2012, following DTSC approval of the 5B Subarea FSP Addendum, with the locating and staking of proposed sample locations. Utility clearance of the sample locations will occur the week of June 18. Surface soil sampling will start the week of June 25, followed by shallow soil borings to be drilled by hand auger. Subsurface sampling by DPT rig is expected to start mid-July 2012. It is anticipated that 40 surface samples, 32 shallow hand auger samples, and 32 DPT boring samples will be collected each week. As a budget saving measure, geophysical surveys, test pits, and trenching for Subareas 5C, 5B, and 5A will be performed at one time. Therefore test pits and trenching will not occur until after completion of the Subarea 5A addendum, anticipated for August 2012. A geophysical survey plan for conducting the surveys will be provided to DTSC in the August timeframe. Each trench/test pit will take one day to dig, describe, sample, and backfill.

References

- CDM Smith. 2012a. Master Field Sampling Plan for Chemical Data Gap Investigation, Phase 3 Soil Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California. April.
- CDM Smith. 2012b. Work Plan for Chemical Data Gap Investigation, Phase 3 Soil Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California. April.
- CDM Smith. 2012c. Quality Assurance Project Plan for Chemical Data Gap Investigation, Phase 3 Soil Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California. April.
- CDM Smith. 2012d. Worker Health and Safety Plan for Chemical Data Gap Investigation,
 Phase 3 Soil Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura
 County, California. April.
- MWH 2012. Subarea 5B Phase 3 Data Gap Analysis Technical Memorandum Santa Susana Field Laboratory, Ventura County, California. May.





Attachment 1
Subarea 5B Phase 3 Data Gap Analysis
Technical Memorandum, Santa Susana
Field Laboratory, Ventura County,
(MWH 2012)

SUBAREA 5B PHASE 3 DATA GAP ANALYSIS TECHNICAL MEMORANDUM SANTA SUSANA FIELD LABORATORY VENTURA COUNTY, CALIFORNIA

Prepared For:

THE UNITED STATES DEPARTMENT OF ENERGY

Prepared By:

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June 2012

"I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete."

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ACRONYMS AND ABBREVIATIONS

AOC Administrative Order on Consent

bgs below ground surface
DOE Department of Energy
DQO Data Quality Objective

DTSC Department of Toxic Substances Control

EEL Environmental Effects Laboratory
EPA Environmental Protection Agency
GIS Graphical Information System

HMSA Hazardous Material Storage Area

HSA Historical Site Assessment
ISL Interim Screening Level
MFSP Master Field Sampling Plan
NDMA n-Nitrosodimethylamine
NBZ Northern Buffer Zone

PAH polyaromatic hydrocarbon

PCB polycyclic biphenyls SSFL Santa Susana Field Laboratory

TIC santa Susana Field Laboratory
tentatively identified compound

TM Technical Memorandum
VOC Volatile Organic Compound



1.0 INTRODUCTION

This technical memorandum (TM) has been prepared to describe the chemical data gap analysis performed by MWH Americas, Inc. (MWH) for the U.S. Department of Energy (DOE) for Subarea 5B within Area IV and the Northern Buffer Zone (NBZ) at the Santa Susana Field Laboratory (SSFL). The chemical data gap analysis was performed in compliance with the Administrative Order on Consent (AOC) for Remedial Action (AOC; Docket No. HSA-CO 10/11 - 037), and serves as the basis for the Phase 3 data gap investigation in Subarea 5B being performed by DOE in Area IV and implemented by CDM Smith, a contractor to DOE. This Data Gap TM is included as an appendix to the Master Field Sampling Plan (MFSP) Addendum for Subarea 5B prepared by CDM Smith for review and approval by the California Environmental Protection Agency Department of Toxic Substances Control (DTSC).

The focus of this Data Gap TM is Subarea 5B. Information is provided to describe the overall background and approach for the chemical data gap analysis and investigation, followed by a description of specific application of the data gap analysis approach or unique circumstances within Subarea 5B.

2.0 DATA GAP ANALYSIS PROCESS

The AOC requires a chemical data gap investigation to identify locations within Area IV, the NBZ, or contiguous areas where additional chemical investigation is necessary. Per the AOC (Section 2.5.3.2):

"In determining the scope, DOE and DTSC shall evaluate the results from the Phase 1 Co-Located sampling effort, the results from the Phase 2 Co-Located sampling effort¹, the results of the U.S. EPA's radiological survey and characterization efforts, the data and information presented in the previous RFI reports and RFI work plans, and any available historical Site data. This scoping effort shall be used to determine the locations at the Site where insufficient chemical data exists and additional chemical investigation is necessary."

This Data Gap TM describes the data evaluation process that has been used to identify chemical data gaps. Data gaps exist where more information is needed for DTSC and DOE to make remedial planning decisions, (i.e., whether soil contamination exists, and if so, to what extent). The data gap analysis approach was developed using the U.S. Environmental Protection Agency's (EPA's) seven-step Data Quality Objective (DQO) process that presents a systematic approach to identify chemical sampling needs, address existing data gaps, and obtain environmental data and information required for future remedial planning. The Phase 3 chemical

¹ According to the AOC, the Phase 2 random sampling is to be conducted with EPA. EPA has recently completed random sampling within the NBZ. The data gap analysis will use the results from Phase 2 sampling within the NBZ to assess additional sampling for that area.



data gap investigation DQOs are the framework for the analysis described in this TM and are presented in Section 4.0 of the MFSP (CDM Smith, 2012b).

The Phase 3 data gap analysis described in this TM will be an iterative process. At this time in the data gap analysis process, data are compared with the interim screening levels (ISLs) developed for evaluation of available data (see Master Phase 3 Work Plan Table 2-1, CDM Smith 2012a). The ISLs were developed jointly by DTSC and DOE, and reflect the 2005 background soil concentrations for metals and dioxins, and analytical reporting limits for chemicals not having a background value. In the future, background values will be updated based on the ongoing DTSC soil chemical background study and evaluation of the precision and accuracy requirements for reporting limits. Ultimately, all available previous data, including EPA radionuclide data, will be evaluated based on the final soil cleanup values (Look-up Table values) per the AOC. Therefore, a final data gap analysis will be required incorporating data collected as described in this TM and the Master Phase 3 Work Plan (CDM Smith, 2012a), prior chemical data, and EPA radionuclide results.

The data gap analysis described in this TM is based on available results from EPA's radiological investigation activities (e.g., gamma surveys, geophysical surveys, aerial photograph interpretations), prior RFI results, the Phase 1 co-located sample results, and historical information on activities within Area IV. Since recent radiological data have not been completely published by EPA, this data gap analysis used available EPA summaries of these results for planning purposes.

The data gap analysis identifies where additional information is needed for remedial planning by:

- Comparing existing soil sampling results to ISL criteria to identify additional sample locations needed to define the extent of contamination (based on criteria exceedance) and/or gradients in chemical concentrations away from a potential source;
- Evaluating migration pathways to ensure that samples are collected where contamination may have migrated via natural or anthropogenic processes; and
- Evaluating historical documents and site survey information to identify potential release areas that may not have been adequately characterized.

Each of these evaluation steps are described below.

2.1 COMPARISON OF PREVIOUS SAMPLING DATA TO SCREENING CRITERIA

To determine future chemical sampling needs (to be implemented under the Master Phase 3 Work Plan and MFSP), validated soil chemistry results are compared with ISL criteria. The



ISLs reflect either existing 2005 soil background concentrations for metals and dioxins² or analytical reporting limits for chemicals that do not have 2005 background concentrations. Table 2-1 in the Master Phase 3 Work Plan (CDM, 2012a) lists the ISL values currently being used for the data gap analysis.

This data comparison is conducted to answer several questions:

- Are the data adequate to define the extent of soil contamination (i.e., What is the areal extent? How deep does contamination go?)
- Where are additional data needed to address areal and depth extent?
- What types of chemical data are needed at each location?

The soil chemical results within the analytical database are "filterable," meaning each individual soil chemical result can be selectively evaluated or results can be collectively reviewed for each prior sample point. The analytical database incorporates data files for soil chemical data collected under the RFI and co-located sampling programs. A geographic information system (GIS) is used to spatially display the sampling results. To display the data, the sampling results are compared with the ISL values for all chemicals analyzed at each sample location using a computer algorithm. The algorithm calculates the ratio of the soil concentration to the ISL value. The GIS is then used to display the maximum comparison value (i.e., 'ratio') at a sampling location, so that the highest result relative to the ISL is displayed. The GIS uses a color-coded system to display the soil concentration relative to the ISL value. For example, soil concentrations that are at or below the ISL value are displayed as a blue symbol. Locations where the soil concentration exceeds the ISL are displayed as yellow, orange, magenta, or red, depending on the degree of exceedance of the ISL value. Maps displaying the sampling results as color-coded symbols are included in this Data Gap TM (Figures 1, 2, and 3) to help display this evaluation step in the context of proposed sampling locations.

The data gap evaluation includes review of sampling results for combined chemicals, individual chemical groups (e.g. volatile organic compounds [VOCs], polyaromatic hydrocarbons [PAHs], polycyclic biphenyls [PCBs], etc.), and individual chemicals (e.g., barium, perchlorate). Sampling results in the database are 'filtered' to determine which chemicals are above ISLs, their depth of occurrence, and which chemicals are co-located. This allows for effective evaluation and selection of step-out sample locations and analytical suites for assessing the extent and/or distribution of chemicals that exceed their respective ISLs. In some cases where detected chemical concentrations may only slightly exceed ISL values, Phase 3 step-out sampling is not proposed in this Data Gap TM, but will be subject to an additional data gap review once the final

² DTSC is in the process of completing a new soil background study that includes additional chemicals not analyzed in the 2005 study. When the new background values are available they will replace and add to the existing background values and will be used for subsequent data gap analyses.



AOC look-up table values are made available. Similarly, sampling to address elevated reporting limits in historical data is not proposed in all areas of Subarea 5B in this Data Gap TM. In areas where other data gaps have been identified, sampling for elevated reporting limits is also proposed as needed. In other areas, data gap evaluation for elevated reporting limits in historical data will be addressed after final Lookup Table values are established and in the context of recent sampling results.

The GIS display of the ISL-compared sampling results is used to evaluate potential sampling locations. In areas where detected concentrations exceed ISLs, previous sampling data are evaluated to determine if the lateral or vertical extent of the exceedance is limited by other sampling results below ISLs or other features at the site (e.g., bedrock). If not, then additional sampling is proposed in that area. Conversely, in some areas existing sampling results are adequate to support remedial planning or cleanup decisions. A review of the distribution of results along with other lines of evidence (described below) is used to identify where additional sampling is needed.

Some locations with significant exceedances of ISL values have been identified by DOE and DTSC as soil "clearly contaminated areas." These are areas most likely requiring remediation based on the existing elevated sampling results, and are displayed in GIS and on maps in this TM with pink shading. The data gap analysis for these areas considers whether sufficient information is available to determine the lateral and vertical extent of contamination. In many cases, more data are needed to determine a volume of soil to be removed for use in remedial planning, and additional sampling is proposed in these areas.

2.2 EVALUATION OF MIGRATION PATHWAYS

Migration pathways are the means by which chemicals can move in the environment, including surface water transport, downward movement to subsurface soil, or air/wind dispersion. Migration pathways are evaluated to answer several questions:

- Where could potentially contaminated soil migrate via surface water flow?
- Where could contaminants migrate in subsurface soils? Could groundwater be affected by the soil contamination?
- Were chemicals potentially released into the air, dispersed by wind and deposited in surrounding areas at concentrations exceeding ISLs?

The topographic and surface water flow data in the GIS is used to identify surface water pathways from potential contamination sources. Prior data for those pathways will be evaluated as to adequacy for addressing contaminant migration. If additional data are needed to define the



extent of chemicals moved by surface water, downward migration in the subsurface, or to assess air dispersion, sampling locations are proposed for the migration pathways.

This data gap analysis identifies previous soil sampling locations or features where there may be outstanding groundwater investigation program data needs. At these features, the data gap analysis is evaluating the adequacy of existing soil sampling results to assess potential migration of contaminants to groundwater, and proposing additional soil sampling to the top of bedrock if gaps are identified.

2.3 HISTORIC AND SITE SURVEY INFORMATION REVIEWS

The data gap analysis also addresses potential sources of contamination not covered by prior sampling events. Historical survey and site operational information for Area IV is represented in GIS and viewed in context of previous sampling results. Historical and site survey information will be used to answer two questions:

- Are there any potential chemical use/release features that have not been sampled?
- If a potential chemical use area has already been sampled (but not for all chemicals potentially used), are additional samples/analyses needed to complete characterization?

A checklist has been developed that is reviewed along with the chemical data to ensure that features not covered by RFI or Phase 1 co-located sampling are addressed. The checklist includes the results of the historical site assessment (HSA) conducted by Sapere (2005), recent site operational and aerial photographic information compiled for the RFI, and the recent HSA completed by EPA (HGL, 2012). The "lines of evidence" reviewed as part of the checklist are published in the Master Phase 3 Work Plan Table 2-2, and provided herein (Table 4) for how they were applied in Subarea 5B.

Site information includes various site features or survey information that is displayed in GIS using a common coordinate system (similar to latitude and longitude). Tanks, buildings, leach fields, geophysical survey results, historical aerial photos, storage areas, debris/disposal areas, identified chemical use areas, and surface water flow paths are examples of site information/features used to identify potential data gaps and proposed sampling locations. Site information is shown as layers in GIS that can be displayed individually or combined with sampling results. The site information features, compiled from historical documents, aerial photo review, and site surveys are evaluated using existing data to assess the completeness of characterization. If gaps are identified (e.g., a storage area not previously sampled), sampling is proposed with the analytical suites developed based on surrounding site operational uses and existing sample result exceedances.



In addition to site historical use or survey information, soil borings and trench logs are reviewed to identify relevant soil conditions (e.g., debris, staining, bedrock depth) since unique soil characteristics may also guide proposed sampling intervals. For example, sampling may be proposed both within and below stained horizons, or in another case, both within fill materials and below fill materials in underlying native soils. In both of these cases, sampling is needed below a potential contamination zone to identify how far contamination has migrated downward.

Data gaps associated with some historical operational use features are not addressed in this Data Gap TM but will be included in future documents. Historical operational use features not addressed in this plan include the Area IV sewer system, the natural gas pipelines within Area IV, and features within existing Area IV buildings. Data gaps associated with the sewer system and natural gas pipelines are being evaluated for these systems as a whole, and will be addressed in a separate Data Gap TM. Where applicable, sampling is proposed in this TM where sewer pipelines leave former or existing buildings since these are considered site-specific sampling features. Data gaps associated with existing buildings are being evaluated as part of this process, but sampling requirements within or below existing buildings will be detailed in forthcoming demolition plans since that work will proceed under a different schedule and process.

2.4 DATA GAP ANALYSIS PROCESS SUMMARY

Using the evaluation components discussed in Sections 2.1 through 2.3 above, a systematic process is being used during data gap analysis to ensure available information from multiple sources is considered during data gap review. Thus, combining data gap recommendations from the three evaluation components (data screening evaluations, migration pathway evaluations, and historical document/site survey reviews), sampling is proposed for the evaluated subarea.

The outcome of the data gap analysis process is the identification of soil sampling requirements for Phase 3, including rationale for Phase 3 samples, their locations, depths, and proposed analytical suites. Both soil and soil vapor sampling for chemicals in Phase 3 are proposed in this TM ('soil' sampling is often referred to as 'soil matrix' sampling to distinguish it from soil vapor sampling). Soil matrix and soil vapor media provide different types of chemical data for remedial planning purposes. Soil vapor sampling is preferred to assess the potential release of solvents, which contain VOCs. Since VOCs are highly volatile, they are best evaluated in soil vapor samples, not soil matrix. Therefore, soil vapor sampling is proposed in this TM to evaluate locations where solvents may have been used, stored, or released, or to step-out around previous detections of VOCs above ISLs. Soil vapor sampling is also proposed to provide VOC data over larger areas to evaluate potential solvent release locations when historical operations are uncertain (e.g., large storage areas), or to assess vapor transport from an underlying groundwater plume.



The analytical parameters proposed for step-out or step-down sampling locations are based both on what the prior data indicate are chemicals of potential concern for the location, in conjunction with data needs identified based on review of migration pathways and other lines of evidence. Proposed sample spacing is based on the types of operations and releases, the magnitude and gradients of nearby sampling results, and site conditions (e.g., depth of soil, proximity of bedrock outcrops). Generally, samples are located with a 25 to 100 foot spacing laterally, and at 0.5-, 5-, and 10-foot depth intervals vertically. In many cases the deepest samples will be placed on 'hold' by the laboratory, and analyzed if elevated results are detected in the shallower samples. In special cases, sampling is proposed at shallower depths (e.g., 2 feet) to assess potentially more limited downward migration of large organic molecules like PCBs, dioxins, or PAHs.

The data gap analysis also identifies additional investigation techniques for some areas to aid in selection of sampling locations. The additional investigation techniques can include trenching or test pit excavation to observe soil conditions prior to sampling, or geophysical surveying of areas to identify targeted features, such as pipelines, underground storage tanks, or fill areas. In some cases, field reconnaissance or mapping is needed to refine proposed sampling locations, such as along drainages. The sampling rationales included in this Data Gap TM specify these additional investigative techniques where applicable.

The data gap analysis can identify future sampling locations outside of the subarea being evaluated. These future locations are displayed with pink '+' symbols on Figures 1 and 2. In some cases, the samples are located outside of Area IV and will require additional surveys and coordination prior to sampling. In other cases, the proposed samples are within another subarea, and will be included in the corresponding Data Gap TM.

The information presented in this Data Gap TM, along with supporting GIS and analytical information, is reviewed with DTSC during the data gap process and with interested stakeholders at the end of the data gap process. Input received from DTSC during review and from the public during meetings is incorporated into the proposed sampling included in this Data Gap TM.

3.0 SUBAREA 5B DATA GAP ANALYSIS

The data gap analysis for Subarea 5B was performed following the process outlined above and using the DQOs presented in Section 4 of the MFSP (CDM, 2012b). The proposed sampling for this subarea is presented in Tables 1 (Soil Matrix), 2 (Soil Vapor), and 3 (Future), and Figures 1 (5B North), 2 (5B South), 3 (Soil Vapor), and 4 (Geophysical Survey Areas). Table 4 presents the lines of evidence evaluation summary for this subarea, with checkmarks indicating what information resulted in proposed data gap samples.



As part of the Subarea 5B data gap analysis, some areas were identified where the DQOs were uniquely applied, or where specific sampling approaches have been recommended. These are briefly described below. More detailed, sample-specific rationales for these (and all) areas are provided in Tables 1 through 3.

- Within and west of the Building 4010 Clearly Contaminated Area, sampling locations are proposed around the clearly contaminated area to define its lateral extent, and three locations are proposed within the area to complete definition of the vertical extent of contamination. To the west of the clearly contaminated area, representative sampling of a fill area (identified by boring log information and coincident with EPA geophysical anomalies) is proposed to characterize the fill material and define the extent of chemical concentrations previously detected above ISLs in this area. Trenching is also proposed to investigate soil conditions at the former B4010 Leach Field and tank pit locations.
- At the Sodium Component Test Installation and Kalina Complex Areas, proposed sample analysis includes corrosion inhibitor chemicals since these areas were used for steam power generation with numerous locations or facilities that used or stored cooling water. Potential corrosion inhibitor chemicals include hexavalent chromium, arsenic, hydrazine, and morpholine. Since hydrazine breaks down rapidly in the environment, sample analysis for the breakdown products n-Nitrosodimethylamine (NDMA) and formaldehyde are included in the analysis plan. Morpholine is not a typical laboratory analyte and will be identified if present as a tentatively identified compound (TIC). Additionally, trenching is proposed to assess potential liquid collection and conveyance features in each of these areas (i.e., 5B DG-597, 5B DG-598, 5B DG-616).
- At the Hazardous Materials Storage Area (HMSA) Building 4457 former sump locations, sampling is proposed to address elevated reporting limits in previous PCB results and to complete characterization of the soil beneath these features for metals and chemicals used as corrosion inhibitors. As described below, VOC analysis is also proposed at the top of bedrock and in soil vapor at the former sumps to evaluate the potential of these features serving as input location for groundwater contamination.
- At the Building 4005/4006 and Building 4011 Leach Fields, sufficient previous sampling was conducted within the leach fields to characterize soil conditions to the top of bedrock, so no additional sampling is proposed within the footprints of these features. However, lateral sampling is proposed around each of the former leach fields. At the Building 4011 Leach Field, sampling is proposed to delineate the extent of the clearly contaminated area, including that potentially associated with surrounding fill soil (see below). At the Building 4005/4006 Leach Field, sampling is proposed around the south of the leach field to assess the potential lateral migration of leachate.



- At Buildings 4007 and 4008, soil vapor sampling is not proposed since previous trenching/sampling in the area indicates that the soils are less than 5 feet thick (the minimum required for soil vapor sampling). VOCs are included in the soil matrix sampling analytical suite to assess potential solvent releases at these buildings.
- At representative geophysical terrain conductivity anomaly locations, investigation using test pits are proposed to evaluate potential subsurface features associated with each anomaly and to inspect soil conditions prior to collecting a soil sample (e.g., 5B DG-628, 5B DG-693, 5B DG-695).
- Within and adjacent to the 17th Street Pond and Drainage Clearly Contaminated Area, lateral step-out sampling is proposed to define the extent of contamination surrounding the former pond. Deeper sampling in the upstream drainages of the contamination area is proposed to determine the depth of impacts; deeper samples in the pond area are not proposed since previous sampling information is sufficient to assess vertical extent of soil contamination. Future sampling is proposed south of the contamination area within Area III to assess downslope contamination (5B_DG-793, 5B_DG-795, and 5B_DG-798).
- West of the 17th Street Pond and Drainage Clearly Contaminated Area, a fill area was identified by EPA and additional sampling is proposed to characterize its extent south of G Street and toward the Environmental Effects Laboratory (EEL) and coincident with the B4011 Leach Field clearly contaminated area. Trenching is proposed to observe soil conditions and fill depth in the area (e.g., 5B_DG-739, 5B_DG-741, and 5B_DG-810).
- At the EEL Area, sampling is proposed within the former building footprint and at site features including former tanks, a transformer, and chemical storage area. Future sampling is also proposed in Area III south and downslope of the chemical storage pad to characterize potential chemical release (5B_DG-814).
- <u>Historical drainages in Subarea 5B</u> are proposed for sampling based on aerial photograph review. These unlined drainage ditches occur along G Street, F Street, and 17th Street (adjacent to B4007 and B4008), and along 20th Street (at the western boundary of Subarea 5B).
- Sampling to address potential impacts to groundwater is proposed at several locations (listed below and shown on Figure 3). Proposed sampling at these locations includes vertical sampling to top of bedrock (including VOC analysis in the deepest samples collected) and soil vapor sampling. In addition, further evaluation by the groundwater team is recommended for mobile chemicals detected in soil, including VOCs, perchlorate, hexavalent chromium, nitrate, and NDMA in the vicinity of these features. Since some of these mobile chemicals are being evaluated as part of the DTSC background study, characterization of these constituents may be completed after



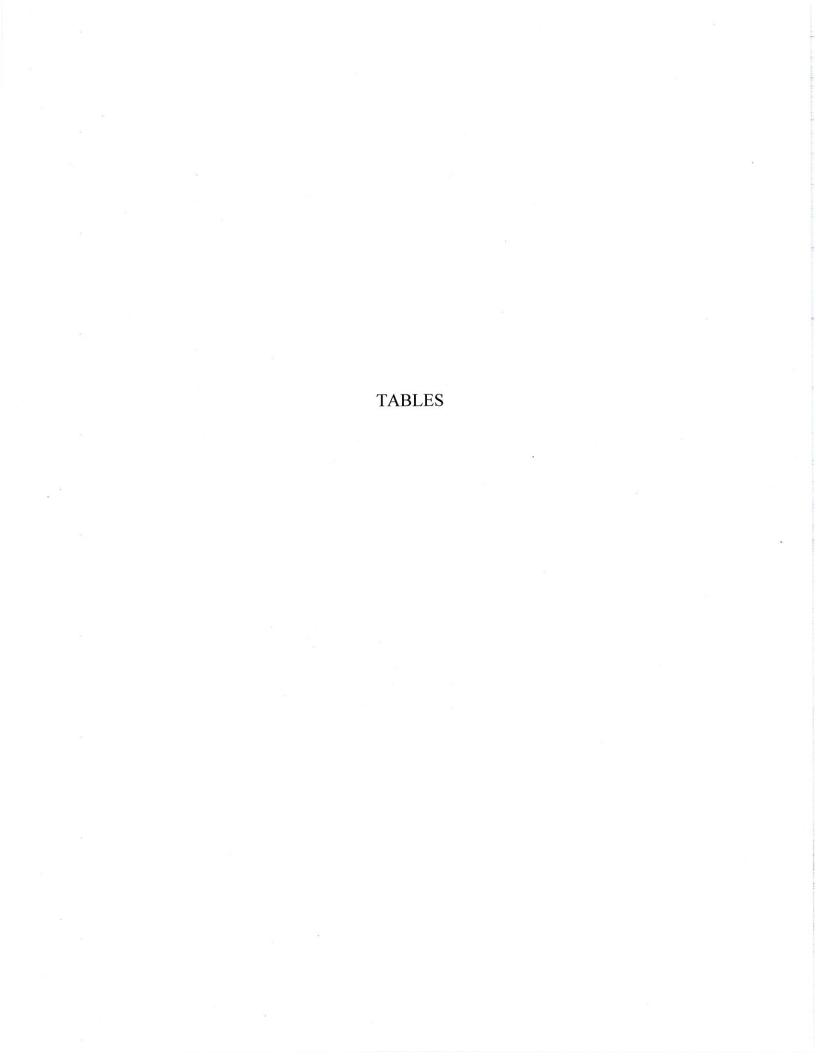
background is established. The identified potential groundwater input features/locations identified in Subarea 5B are:

- Building 4019 Reactor Pit and Holdup Tank
- o Building 4010 Leach Field
- Building 4010 Subsurface Reactor Features (including reactor pit, secondary equipment pit, and drain system sump)
- Building 4356 Below-Grade Tanks
- HMSA Building 4457 Sumps
- Potentially Saturated Area south of the Kalina Complex
- o Building 4005/4006 Leach Field
- o Building 4011 Leach Field
- o 17th Street Pond and Drainage

4.0 REFERENCES

- CDM Smith. 2012a. Work Plan for Chemical Data Gap Investigation, Phase 3 Chemical Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California. April.
- CDM Smith. 2012b. Master Field Sampling Plan for Chemical Data Gap Investigation Sampling at Area IV, Santa Susana Field Laboratory, Ventura County, California. April.
- Hydrogeologic, Inc. (HGL) 2012. Draft Final Historic Site Assessment Santa Susana Field Laboratory Site Area IV Radiological Study, Ventura County, California.





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	Location Description Sa		South of Building 4013			Northwest of Building 4356			North of Building 4012 B	t	Northwest Corner of Building 4012	•6			Kast of Building 4012 B			Tank Pit West of B4012 T			South of Building 4012 B			South of B4012		ŀ	Southwest of Building 4710 P			B4012			Buildiny 4012	
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	Location ID		5B DG-522			5B_DG-523			5R_DG-524		5B DG-525				5B_DG-526			SB_DG-527			5B_DG-528			5R_DG-529			SB_DG-530			5B_DG-531			SR DG-532	

Rationale / Comments*		Same as 5B_DG-\$26.		0	Same as 35 AAPS TO WEITHING IIII POLEDIAL UNBARIIMAAN US BOURGAN.		Same as 5B_DG-526. Also defines northern extent of fill contamination.			Location targets open storage area and provider stepout for PCBs at SL-024-SA5B. Hold 10' samples pending	shallower results since evaluating potential surface release.	The state of the s	cocanon tagets wante on joosa area, room to now sampre perioning manney returns since eventualing potential surface release. Formaldehyde and morpholine analyzed based on nearby formaldehyde detects and cooling tower	 operations (all Cr +6 ≤ ISLs in B4010/B4710/B4012 area). 	The state of the s	Location targets unidentified structures observed in 1988, 1990, and 1995 acrual photographs. Hold 10 foot samples pending shallow results to assess putential surface release. Formulakityde and morpholine analyzed based	on nearby formaldehyde detects and cooling tower operations (all Cr +6 < ISLx in B4010/B4710/B4012 area).		Targets operations and possible storage near AST (hydrochloric acid). Hold 10 foot samples pending shallow	results to sweare programs attrace receives from AAA storage to walten if evidence of till encountered, analyze to non- sample. Formaldehyde and morpholine analyzed based on nearby formaldehyde detects and cooling tower	מות שונונוני ויין בין בין אוני דאסטינט דאר די מודיים וויין מאסטינט אין אין בין בין אין אין די מאסטינט אין אין	Stepout to delineate identified contamination area for PAHs, PCBs, dioxins, metals, TPH and corression inhibitor conte. Analyze at death, due to detections in advanced fill contaminated area.		Stepout to delineate fill prevence between two fill areas and defeated dioxins, TPH and metals at SL-314-SA5B. PCB analyzed due to detections above ISLs in eastern fill area including 12 feet at SL-323-SA5B. Analyze at	depth due to potential fill, potential soil movement and former presence of deep bldg, features; 15 foot sample	targets native soil beneath full or deepest full it overlying bedrook.	Stepout to delineate PAHs, PcBs, dioxins, metals, TPH at depth (SL-020-SASB analyzed at 0.5 ft. only) and the wordern extent of the identified contamination area (exclusive fill increases and contamination between the two fill	areas). Analyze at depth due to detections in adjacent samples along mapped septic line and potential for soil	myrement and tornier prevence of over leatures (e.g., vaniss).	Stepdown to delineate depth of identified contamination. Targets below most elevated dioxin for full chemical	static, to where perturbate analysis to contain previous defection. To-tool sample degree haive with nonean tim- and fill native soil above bedrock, to evaluate depth penetration and maximum impacts above bedrock.	Wiscourt to distinct the different content of the DALE DATE showing models and convenient with later	surport to destinate to detections in adjacent fill contaminated area.	The same of the sa	Stepout to defineate identified confamination area for P.M.F. PCBs, dioxins, metals, 1PH and corresson inhibitor suite. Analyze at depth due to detections in adjacent fill/contaminated area.		Stemant to define at admitted contamination men for DAM, DCMs, dawins, metals [19] and contrast in hibbler	surfer. Analyze at depth due to delections in adjacent fill contaminated area; 10 foot sample targets native soil	beneath fill or fill native above bedrock, whichever occurs (bedrock anticipated before 10 ft.). Also addresses accesses XII result in transformer comments comple-	previous NO testa in nanviounee composee sample.	Addresses previous ND result in transformer composite sample. Recollect sample at former discrete location and analyze for PCBs, hold deep samples pending shallow results. Fill not anticipated based on nearby shallow refusal	(1.5 ft. bgs.)	Stepout for PCB detections > 1SLs at SL-230-SA5B. Fill not anticipated based on nearby shallow refusal (1.5 ft.	pgs)
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	Ата		B4010 Area			B4010 Area		Bd010 Area			B4010 Area			B4010 Area			B4010 Area			B4010 Area	•		B4010 Area		B4010 Area			B4010 Area			B4010 Area		R4010 Area			B4010 Area			B4010 Area			B4010 Area	$^{+}$	B4010 Area
	Location ID ¹		5B_DG-533			5B_DG-534		SR DOSSE			5B_DG-536			SB_DG-537			5B_DG-538			SB_DG-539		11 2 2 2 2 2	3B_DC-340		5B_DG-541			5B_DG-542			5B_DG-543		5B DG-544		AND DESCRIPTION	5B_DG-545			5B_DG-546			5B_DG-547	A CONTRACTOR OF THE PARTY OF TH	5B_DG-548

		n inhibitor	20		p Tank;	oil beneath fill			or.			m inhibitor		duce		n inhibitor					Harmon har	allow results				ld 10 foot		old to foot	le pending		awarnes allow results		1990). Hold 10		T		34035	ballow results		demonstration of	acterization of		c incor.		distrins in		
Rationale / Comments		tion area for P.Mis, P.C.	suite. Analyze at depth due to detections in adjacent fill/contaminated area.		Signdown to delineate depth of identified contamination area. Specifically targets former Waste Holds	e of deep impacts in excavation/fill area. 10 and 15	and fill native xoil above bedrock, to evaluate depth penetration and maximum impacts above bedrock		Steptown to define account of identified contamination area, specifically large is inmer (23), nowever,	fill/native soil above bedrock, to evaluate depth penetration and maximum impacts above bedrock.		Stepout to define ate identified contamination area for PAHs, PCBs, dioxins, metals, TPH and corrosion inhibitor	suite. Analyze at depth due to detections in adjacent fill/contaminated area.	Note: sample located outside of Subarea SB boundary (to the north) and in Subarea 7. Included since	delineating Identified Contamination Area in Subarea 2B.	Stepout to delineate identified contamination area for PAHs, PCBs, dioxins, metals, TPH and corrosion inhibito	suite. Analyze at depth due to detections in adjacent fill/contaminated area.		Targets doorway at B4052 and linear geophysical anomaly.			Targets Ienceline where open storage was observed in acraal photos. Hold 10 tool sample pending shallow results		Name as 5B DG-555.		Targets deceiving at B4052 and server as stepout to delineate PAHs and dioxins in SL-228-SA5B. Hold 10 foot sample pending shallow results.	The second secon	Stepout to defineath PAEs and droxins at SL-225-5A231 and targets doorway to yard from 14022. Froid 10 foot sample pending shallow results	Stepout for SL-228-SASR and addresses general operations within former B4025. Hold 10 foot sample pending	shallow results.	Location targets a 500-gallon diesel UST, a stepout for PAH and drown detects at SL-228-SA5B, and assessed building concentrates. Analysis all deaths for THI and held ID samples for other chemicals negative shallow results	since evaluating potential surface release.	Targets B4925 equipment pad and open storage identified in aerial photographs (1978, 1980, 1988, 1	foot sample pending shallow results.	Streemed Co. Z., Jake stime at 15DC113; Hald 10 foot named not what loss countly	Support for an execution at Cobost and Total of two persons statutes.	T	presidents, and potential releases/dumping from south-side doorway. Hold 10 foot sample pending shallow results	since addressing potential surface release.	Secure of the second of the BAHs metals and downs at N 128.8 MR and attents of the	Nicpout in drainage to delineate PC Bs. PATB. metais, and droxins at SL-138-5A5B and overall enait notential collection leature for nearby operations. Hold 10 foot samples pending shallow results.		I control pende come detent observed in nettal photos. Hold 10 foot cample neuding shallow results	Location targets open storage onests on actial process, root to tool sample personing stations received excellent	as a A C almost to the rest of the second se	Location targets open storage observed in total protost, also serves as a stepout to demonte FALES and protost. SL-067-SASB. Hold 10 foot sample pending shallow results since evaluating potential surface release.	
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۲	Depth (R. bgs)	0.5	\$	10	80	5	10	15	0.5	5	9 9	8.0		8	10	0.5	3	10	9.0	\$	10	0.5	10	0.5	10	9.5	10	0.5 5 10	0.5	5 01	0.5	5 9	0.5	5	10	9.5	10	0.5	\$	10	0.5	\$	01	0.5	10	8.0	
	Sample		Soil	Boring	1	Soil	Boring	1		Soil	James	T	Soil	Boring			Soil	Boring		Soil	2 more	Soil	Boring	Soil	Boring	Soil	Boring	Soul	So.i.	Horing	0.00	Boring		Soil	Smile	Soil	Boring		Roring		fied	Boring		Soil	Boring	Soil	Boring
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	Lecution Devertition		East Building 4710				Waste Holdup Tank East of B4010			Building 4710				East of Building 4710			East Building 4710			Rollup Door North of B4025		Yard North of	Building 40	Yard North	Building 4025	Building 4025		Yard North of Building 4025	XIII 8000 8000	Building 4025	4.000	Building 4926		Building 4025		Southeast Building 4025		4	Drainage Swale South of Building 4025	3		North of Building 4615		Fast of Building 4478		Washington Charles	East of Building 4478
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	Location ID ¹		SR DG-549				5R_DG-550			SB DG-551				5B_DC+552			5B DG-553			5B DG-554		SB DC.555	of the state of	200 000 00	316 DG-330	SB DG-557	-	5B_DG-558		5B_DG-559		5B_DG-560		5B_DG-561		5B DG-562			5B_DG-563			5B_DG-564		SB DG-565		200 600	3B DG-360

Kationale / Comments*	Data Gap Checklie?	Location targets EPA acrial photograph feat		Stepout for PAHs and doxins at SL-067-SA5B and provide characterization in FIMSA operations area. Hold 10	foot samples since evaluating potential surface release.		Characterizes operational area and werves as stepout for metals and TPH at HSBS02. Cooling tower state added	based on operations. Analyze all depths since delections at 1128502 at 0 teet.		Targete linear terrain conductivity anomaly (note: continuation of anomaly is targeted by DG-123)	╛	Location targets tootprint of B4357 Cooling tower suite added to full suite based on SC11 operations. Hold 19 foot sample pending shallow results		Same as 5R_DG-577. Analyze samples at 5 and 10 feet to address potential release beneath samp (approx. 4 feet).	Same as 5B_DG-577 (note trench depth approx. 14 feet based on previous sampling). Also stepout for SL-070-	SASB, analyze 0.5 feet due to shallow detects at that location.		Stepout for PAHs, perchlorate, and TPH in NL-070-SASB. Based on refusal at 3.5 in SL-070-SASB, collect sample	just above recitoss and analyze to extitude potential migration of personniale.	Location targets sump 1 at B-457. Complete analytical suite; re-analyze PCBs due to elevated RLs, metals due to anomalous pH values and historical storage of acids and bases noted in HSA, and corrosion inhibitors due to	operations at SCTL. Analyze 5 and 10 foot samples to evaluate potential release beneath trench (depth approx. 4 feet based on previous sampling).	Location targets sump 1 at B4457. Complete analytical suite: re-analyze PCBs due to elevated RLs, metals due to	anomalous pH values and historical storage of acids and bases noted in HSA, and corresson inhibitors due to		Same as 5B_DG-\$76.	>	Stepout to delineate PAHs (B(a)P at \$58 ppb) at SL-064-SA5B and TPH at SL-063-SA5B, and characterize	operational area. Hold 10 foot sample pending shallow results. Note likely shallow refusal based on SL-64.	Stepout to delineate PAHr (R(a)P at 558 ppb) at SL-064-SA5B and TPH at SL-063-SA5B, and characterize	operational area. Hold 10 foot sample pending shallow results. Note likely shallow reluxal based on SL-64.	Location targets operational area north of B4357. Analyze complete plus cooling tower suite since documented use	in operations at surrounding areas, Hold 10 foot sample pending shallow results.	Stepout to delineate PMIr (B(a)P at 558 pph) at SL-064-SA5B and TPH at SL-063-SA5B, and characterize	operational area. Hold 10 foot sample pending shallow results. Note takely shallow return based on St64.	Location targets transformer identified in HSA lawlifty drawing; previously unsampled. Collect and analyze four discount leads to an analyze mention shallow results.	directed incations, most deep samples pending stations tenans.				Same as 5B 1X2-587 also tarede finear terrain constitutivity amentaly.	7	On and these stressed for DCDs, matches showns where detected at \$\int attNDS AXB (Plane) such books annually.	fourth-position covered by SL-090. Analyze all depths baced on potential for impacts along bedrock (SL-089)	completed to 5 feet bgs - possible refusal). Stepout delineate impacts and address any uncertainty with previous tocation. Note: consider evaluation of nitrate if background concentration is established by	commencement of field work.
Ħ	Soil Moisture (ASTM D2216/ EPA Method 160.3)	×			×	=	×	×	×	×	=	××	Ξ	××	×	××	<×	×	=	×	×	-	,	×	×	××	×	×	×	ИΞ	×	×Ξ	×	x =	×		Ξ	×	× :	= >	×	×	×	×	×
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	Location ID ¹		5B DG-567		8B_DG-568			5B_DG-569		000 000 00	3B_DC+3/0	SB DG-871		5B_DG-572		5B DG-573			5B_DG-574		5B_DG-575		200 000 000	3B DO-270		58 DG-577		SB_DG-578		58_DG-579		5B_DG-580		5B_DG-581	5B DG-582	,	5B_DG-583	5B_DG-584	SR DG-686	000000000000000000000000000000000000000	5B_DG-586			SR_DG-587	

Rationale / Comments		Location targets sanitary sever cest from the building. [Portioned between EPA and RFI sever layers]	Stepout to delineate PAHs (B(a)P at \$58 ppb) at \$1,064-8A5B and TPH at \$1,4653-8A5B, and characterize	operational area. Hold 10 foot sample pending shallow results.		Previous sample was a composite of four discrete samples with detect < ISL result. Recollect samples at four four circumst discrete locations and analyze each sample for PCBs; hold deep samples neuting shallow results. (Note: SL-	233-SA5B serves as discrete location on north edge of pad)	Previous sample was a composite of four discrete samples with detect < [S], result. Recollect samples at four	former trenere totations and analyze often sumpte for P. Ess, front deep sumptes pending snation results (2006: 51 233-8ASB serves as discrete location on north edge of pad)	Precision sample was composed to the discrete supples with detect "ISI yealst Kecollect unapper at tour florated teacher beatiness and analyses each sample for PCHs, toold deep samples pending shallow results. (Note: S1, 23,245)81 serves as discrete heatinen on morth edges of pad)	St. DC-595 also serve as one of eight representative locations in R455 fill tree. Analyze 0.5 and 3 foot samples at DC-595 to tall turk to distribute till men teve description for 31 DC-525, analyze 10 foot sample. If fill present St. DC-593 definest methoses boundary of B4556 fill area melades same depths and unit, and St. Dc3- 595.	Collect sample at SL-070-SASB to confirm previous perchlorate detection at 3.5 feet. Bold 10 foot sample pending	shallow results.	One of eight representative locations for B4356 fill area (see description for 5B_DXE-611).	Note: Collect deepest sample just above bedrack and analyze VOCs (SM) to evaluate potential nigration		One of eight representative locations for B4356 fill area (see description for 5B_D3-611).	Note: Collect deepest sample just above bedrock and analyze VOCs (SM) to evaluate potential nigration bathway to groundwater.	One of eight representative locations for B4356 fill area (see description for 5B_DG-611)	Note: Collect deenest sample just above bedrock and analyze VOC's (SM) to evaluate notential migration	pathway to groundwater.	One of eight representative locations for B4356 fill area (see description for 5B_IXG-611).	Note: Collect deepest sample just above hedrock and analyze VOCs (SM) to evaluate potential nigration pathway to groundwater.			One of eight representative locations for B4336 fill area (see description for SB_DC+523).	Transfer a second season of tennols according to the restriction of anomalians and adversary and	ranges a reconstant containment urent, provides contractivation of operations are and adjacent and containment pit (water with hydrazine). Excevate exploratory trench in perpendicular direction to former trench.	aughment (southwest - northeast transect) and analyze for cooling tower state there associated with 35. 11 when the formal many of the state of the	goundaries (tours samples consecut at maximum or rece), sample and the bedruck per previous sampling.	Engels interaction of two linear terrain conductivity anomalies wouth of the SCTI Water Treatment Area. Analyze for reneral suite plus cooling towers/anti-corrorion suite. Adust's samples depths based on field obseryations (i.e., if	fill observed larget top of native and collected deepest sample just above bedrock if staining or impacts are	observed).	Imrgets former hazardous material storage building and linear terrain conductivity anomaly. Analyze for general stute plus evoding towers/anti-corrosson suite. Analyze all depths based on potential for significant chemical	quantities.
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	Depth (R. bgs)	0.5 5	0.5	\$	10	0.5	. 01	0.5	10	0.5	, m	0.5	3.5	0.5	8	10	0.5	\$ 01	0.5	s 3	15	0.5	\$	10	15	0.5	10	6.0	\$	10	5.0	8	10	5.0	\$ 10
	Nample Type	Soil	8	Soil		Soul	Boring	Soil	Boring		Soul	To S	Boring		Soil	0	1.0	Boring		Soil	2		Soil	Boring		Trench			Trench			Test Pit			Roring
	Locaton Description	Sanilary Sewer Exit at Building 4355		East of Building 4457			(North of Building 4356)		North of Building 4356		North of Building 4356	\dagger	South of Building 4478		North of Building 4356			Building 4356		Building 4356			Building 4356 Fill Area			Trench cast of Building 4656			Trench cast of Building 4656			Southwest of B4356			(Former Hazardous Materials Bidg.)
	Атта	SCTI		SCTI			N II		SCTI		SCTI		HMSA		SCTI			SCTI		SCTI			IL.8			SCTI	00000000		SCTI			SCTI			SCII
	Location ID ¹	5B_DG-588		5B_DG-589			38 DG-590A		5B_DG-590B		5B_DG-590C		88_DG-591		SR_DG-592			5B_DG-593		SB_DG-594			SR DC-596			5B DG-597			5B_DG-598			5B_DG-599			5B_DG-600

	Kationale / Comments		Same as 5B_DG-611.	Same as SB_DG-603.	Characterize operational area north of cooling tower, also serves as stepout to delineate direction at SL-235-SA5R. Bold 10 foot snaple grading shallow results. Analyze bill state plus cooling tower suite.	Invarion targets wastewater AST and serves as steneut for disxins to east. Analytes address [ul] suite for	protectubino (opportuno may opportuno maniero) ne oportuno maniero protectubino protectubino (opportuno may objectubino protectubino del control Note control Note retirol von extensional for unitional retenes from AST, had 10 feed top produtej palatov returnito. Note retirol von extensional for unitional returnitor in 22/55/33/18 tanget just above bedrood for deepest unique.	Inoution targets an axid XST Analyze cample at 0.5 feet and 8 feet thee to potential for eurheoi release from AST; hald 10 foot complex pending stallow results.		Impels aurecooled sondener: Analyze for full sunte plus ecooling tower stute to addices use of corrosson inhibitors. Hold 10 foot sample pending shallow results.	Same av SB_DG-606.	Location targets chemical storage area. Complete state plus corrossion inhibitor state storage supported steam	generation' cooling tower operations. Jibid 10 food samples on pending shallow results	Same as \$14_1X3+60X		I respice breate danted and connection confine common. Another addition full costs also confine towar connections	communication in agreement of presented properties of the properti		One of eight representative locations provide overall characterization of fill material within deep excavation area amount former platidities (ASG, breef or previous reprinciple devade delected, fill material observed in broings to material and amount of the property of the provided of the property	votate, may geophystean antinamic (imagene and serial contenents) activated present, simple of mace many content for general suite and sociality lower suite based on operations (hybratine, transmission fluids, oth, etc.). Analyze samples at all leashed based on substituting frame and to characterize extent of fill.	samples at an orphis based on sometimes remarks and to commensure, executed that	Targets AST with unknown contents and provides characterization at base of evoling towers slope; completes suite of previous sample for general suite plus ecoling tower suite and provides subsurface data. Hold 10 foot sample	pending shallow results.	Location targets unknown past with no documented storage. Collect samples to sereen operational area. Analyze for chemicals accessing twith cooling tower operations. Hold 10 foot sample pending shallow results since potential arranges or chemicals are collected.	Same as SB_DC+613		Location largels operations area identified as "open storage" and linear terrain conductivity anomaly. Analyze for	general and cooling tower suites. Total 10 feet sample pending shallow results snace potential surface or anomaly feature (pipeline) release.	Executive exploratory trench in northwest-routheast alignment targeting intersection of two linear terrain combactivity amountlies. Adjust samples depths based on field observations (i.e., if fill observed target top of native	and collected deepest sample just above bedrock if staining or impacts are observed). Targets Buiklang 4392 (Electrical Equipment Building). Hold 10 foot sample pending shallow results.	
		Pata Gap Checklist		Ļ	>		>	>		>	>		>		>		>					>		>		>	ļ	>	>		>
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		pH (EPA Method 9045C)	××	××:	××	Ξ :	и и :	× ×	Ξ	××=	××	Ξ >	×	×	×	Ξ	××	Ξ	×	×	×	××	Ξ	××:	×	×	×	ΝΞ	××	Ξ×	×
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		Depth (ft. bgv)	0.5	0.5	10 0.5 5	10	0.5 S	0.5	10	0.5 S	0.5	10	5	0.5	\$	10	0.5	10	0.5	v	10	5.0 .	10	8.0	0.5	\$	0.5	5 . g	8.0	10	10
		Nample Type	Soil	Soil	Soil	Horing	Soil	Soul	Sound	Soil	Soul	Smine	Soil		Soul		Soul	Hornig		Soil		Soil	Boring	Soul		Soil		Soul	Trench		Soul
		Location Description	Building 4656	North of Building 4656	North of Cooling Tower	1	Tank cast of Building 4358	Acid Based Tanks north of Building	_	Air-cooled Condenser East of Building 4360		+	Chemical Storage Building 4360		Chemical Storage Building 4560		Building 4358			Building 4656		Tank Southwest of SCTI water		Storage Area north of Building 4335	-	Concrete Pad south of Building 4656		Storage Area North of B4335	South of B4226	+	Building 4392 (Electrical Equipment Building)
		FY	SCTI	SCTI	SCII		SCTI	SCII SCII		SCTI	SCT1		SCTI		SCTI		SCII			SCTI		E-S		Kalina		Kalina Complex		Kalina Complex	Kalina Complex		Kalina Complex
		Location ID	58_DG-601	5B_DG-602	5B DG-603		5B_DG+604	SB_DG+605		5B_DG-606	5B_DG-607		8B_DG-608		5B DG-609		5R DG-610			58_DG-611		SB DG-613	21000	5B_DG-613		5B_DG+614		5B_DG-615	5B DG-616		5B_DG-617

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Kationale / Comments		Targets operational area wouth of B4356; include currosson inhibitors based on SCTI cooling tower operations	Hold 10 foot sample pending shallow results.		Targets potential sump on north sade of B4226. EPA HSA indicates sump on south sade of B4226; however, facility	drawing indicates sump on north side. Trenching proposed on wouth side to address uncertainty Location also became a transfer for the Contract of the Contract	anges worse, where in 1900 activity from any verves as support to 170,05 at 51,000 feets. Hotel to foot sample pending shallow results.		Representative sample in operational area with potential storage visible in 1980 acrial photo; also serves as stepout	for PCBs and metals at SL-035-5A3B and PCBs at SL-08 /5A3B. Told 10 toot sample pending snallow results.		Stepout for drovine in area with "Poseible Saturated Material" identified in FPA IRX, also provides additional characterization in area. Since potential surface water collection area, analyze all depths and larged just above	bedrock for potential migration along bedrock surface. Shallow bedrock likely, therefore distribute samples accordingly (thefe one surface, one just above bedrock).		Previous sample was a composite of four diseaset samples with ND result. Transformers in Area IV with previous ND results are being resampled with diseaset samples. Recollect samples at four (including 58–100-640) tomer	diverete locations and analyze each sample for PCBs, hold deep samples pending shallow results.	58 DG-6398 also serves as characterization for enerational area and taroots subsurface linear terrain conductivity	anomaly	(Note: 5B. DC-640 server as fourth discrete sample location characterizing fransformer.)	Samelar also control and the DATA IN the PACK IN THE SAME IN THE SAME	at SL-086-SA5B to conf	shallow results	Targets Building 4026 adjacent to motor generator room, include corrorion inhibitors since cooling tower orientations. Hold 10 feet samile benediting shallow results.		Representative sample in operational area with potential storage visible in 1980 aerial photo; also serves as stepout for IVTs, at \$1,487-\$3.53. Field 10 feot sample pending shallow results.		Targets operational area at SCTL (B4026). Analyze all depths if available roil as previous locations limited to 5 feet have transform above hadront such depend manule. No confirm traver momentums dominanted at famility therefore	chemical suite for CTs not included.	the state of the s	Same as 58 DG-587.	>	Removements to protein in one reliance between R4026 and R4357, also serves as stenout for PCBs and dioxins	at SL-236-SA5B. Analyze for 58 suite plus corrovion inhibitors based on proximity to cooling tower operations.	Hold 10 foot sample pending shallow results since evaluating potential surface release.	Same as SB DG4645.		Targets fine] oil AST: adequate representative sampling nearby, therefore limited suite for TPHPAHs. Analyze 0.5	R, and S R, since top several feet of voil were disturbed during building demolition; hold 10 foot sample pending A allow could a manufacture ample support refinal instance \$ feet has a		Stepdown for previous location targeting former sodium tank pit with fill observed to 10 feet and no refusal encountered. TPH - 10x ISL detected at depth. Depths indicated any estimated, target native soil below fill and	just above bedrock.
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	Location Description		South End of Building 4356	Operations Area			North of Building 4226			South of Building 4026			South of B4026		Transformer West of Building 4826		Transformer West of	Building 4826 & Ops Area	Transformer West of Building 4826	Transformer West of Building 4826		Building 4026	Buildian 1076	near Summer	2007	West of Building 4026		Building 4026			Catch Basin South of 4355		And the second	North of Building 40.20		Building 4026		Bushlem 40%			Building 4826
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	Location ID		\$59.00 ms	COLUMN TO THE PARTY OF THE PART		59	5B_DG-636			5B_DG-637			88_DG-638		5B DG-639A		SB DG-639B		5B_DC+639C	5B_DG-639D		5B_DG-640	th Desert	SP TOWNS		5B DG-644		5B_DG-645	175		5B_DG-646			3B_IX5-64/		SB_DG-648		Sta Deserte			5B_DG-650

Rationale / Comments		Representative location in operational area between B4026 and B4354. Also targets linear terrain conductivity	anomaly. Include corrotion inhibitors since cooling tower operations at B4006. Hold 10 foot sample pending	Shallow results	Targets potential storage observed in acrial photograph (see 1980 acrial photo). Hold 10 frost sample pending	shallow results	Same as 5B_DG-652.		Same av SB_DG-680.		Similar to SB_DG-680, targete B714 identified as the PowerPak Interconnecting Facility. Analyze 5 foot sample to	provide representative depth coverage for operational area.	Targets structure observed in acrial photographs (see 1980 acrial photo) and operational area southeast of B4026 -	potentially 84554 (Aotino Fameni Feet Structure). No ecosing tower operations accumented in atter. Front 10 foot sample pending shallow resulte.	Same av 5B_DG-656.		Same as 5B_DG+651.		Name as SB_DG-651.		Same as SB_DG-650.	Same as SB_DG-647.		One of tour epresentance samples in the operational area at 1940.5 Combustion 1 cet Faulisty, has overse an steporal for TPH at PUSS 1002. Analyze for 58 wate plus corrosion in thisburs vince cooling towar operations at adjuscent B-4006. Told foot cample produing ballow results vince evaluating surface release (no subsurface	features were documented).	Same as 5B_DG-662.		Same as St. DG-662.	67F2AL B) m - mmg	South as 3th Lithough.	Representative location in operational area between B4026 and B4006; also serves as stepout for PCBs and dioxins	at SL-236-SASB. Analyze for 5B surfe plax convoxon inhibitors based on proximity to cooling tower operations. Hold 10 foot sumple pending shallow results since evaluating potential surface release.		Same as 5B DG-667.			Same as 5B DG-667; also serves as stepout for IPH detects at SL-082-SA5B.		Stepant for TPH, dioxins and metals at presumed sump; also representative location in aperation area. Analyze all	samples for TPH and metals based on detections at depth in SL-081-8/A5B, SL-082-8/A5B, and PUBN1060, and remaining chemicals based on potential nigration from sump along bedrock.
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	Sample Type	Second	Soil	Boring	Soil	Boring	i.o.	Boring	Soil	Roring	Soil	Boring	:	Boring	Soil	Roring	Soil	Boring	Soil	Boring	Soil	Soil		Soil	Boring	5.0	Roring	Soil	Suma	Soil		Soil	Boring		Seni C	Boring	Soil	Bormg		Soil
	Jacation Description		South of Building 4826		West of Building 4354	(South of Building 4826)	West of Building 4354	(South of Building 4826)		Building 4714		Building 4714		(South of Building 4826)	Building 4354	(South of Building 4826)	State of Building 3	and Supplied to the or	200 Mg 17 Mg	South of Building 4826	Building 4826	North of Building 4026		Mosek of Bodding AG18			Ruilding 4615	South of Building 4615		Building 4615		East of Building 4026			East of Building 4026		10 40	East of Building 4026	30 00 00	Presumed Sump West of Building 4006
	Area		SCTI.			SCTI.		SCT.		SCTI.		SCIL		SCTI.		SCTI.	Idado		SEA.	SCII.	SCIL	SCII.		Ę			SCTI.	SCTL		SCIL		SCTL			SCTL			E		SCTL
	Loccation II)		5B DG-651	-		5B_DG-652		58_DG-653		SB_DG-654		5B_DG-655		5B_DG-656		5B_DG-657	eb the cen		100	5B_DG-639	5B_DG-660	5B_DG-661		SB Pythers			\$B_DG-663	5R DG-664		5B_DG-665		5B DG-667	1		5B DG-668			5B_DG=669		5B_DG-670

Rationale / Comments	bald Gap (Speelber	Stepdown for TPH and metals at depth in SI-002-SASB based on previous detection at 8 feet. Collect and analyze sample at 10 feet, 15 foot sample target just above beforeds.		angers serve time early many is a many/or or tree sample and more to tree sample.	Previous sample was a composite of four discrete samples with detect > ISLs. Resample with discrete samples;	recollect samples at four former discrete locations and analyze each sample for PCBs; hold deep samples pending	shallow results	3B_LX3-673 also serves as a stepout for IPH and metals at PUBSI066. Analyze 3 loot sample at this location.	5B_DC-676 also serves as a stepout for metals and dioxins at SL-083-SA5B. Analyze 3 foot sample at this location.		Stepost PCBs, dioxins, PAJs, and metals at SL-0R3-SASB. Also representative of operational area. Hold 10 foot sample pending shallow results	Stepout PCBs, dioxins, PADs, and metale at SL-083-SASB. Hold deep samples pending shallow results since no	detects at depth above 1SLs in adjacent samples	Stepout for mercury in PUBS1029, and PCBs, PAHs, metals, and dioxins in SL-083-SASB, also targets former	cooling tower. Hold deep samples pending shallow results since no detects above 1SL at depth in adjucent samples.		Targets R714 identitied as the PowerPak Interconnecting Facility. Also stepout for PUBS1029. Analyze for corrosion inhibitors since associated with enoling tower operations. Hold deep pending shallow results to evaluate	 potential for surface release. [Note: Feature was identified during sitewide aerual photograph review as a francformer chemical use area: however aerual photos are not conclusive. PCRs included in sankwee to address 	uncertainty.]	Stepont to delineate dioxins in SL-084-SASB: also targets former cooling tower and representative of general operation area. Hold 10 foot sample pending shallow results.	M. Paramantina a cur o cur o	Largely 15440.2 (All 11) Experiment Building). Cooling tower stille added based on surrounding operations.	Tarock Bild() which was also identified as "Section I ab Instrument Building" and later used for storage Insulan	and adversary motor than the contract of the c		Same as SB_DXF-685. Location also targets stain identified in EPA HSA.	One of four representative samples in operational area east of B4816, also serves as stepout for metals at	PUBSEANA. Cooling tower (correction introttor) state accept owers on surrounting operatures from 19 foot samples pending shallow results.		Location largets a 1,000-gallon diesel UST and provides representative characterization at surface. Collect samples	to bedrook due to tank size, hold samples deeper than 10 leet pending shallow results or analyze it impacts noted above bedrook.		Same as 5B 1X3-685		Same as SB_IX+685, also delineates northwestern extent of identified contamination area at 17th Street Dramage.	Mr. I have a characteristic have been about the second control from the first	Stepsawn to characterize distinge at depth (previous sampter shanow).	Exploratory test pit targets linear terrain conductivity anomaly, adjust sample depths based on field observations		
H	(YZLYI D3516/ EPA Method 160.3)	Т	Ţ	Т	I.	,	y -	_	د د		×××		==	×	н	-	×	н	_	××		××	= ;	x x	н	××:	×	×	H	l N	××	Н	× >		××	Ξ,	, x	××	×	×
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ľ	Depth (ft. hgs)	10	IS.	10	50	3	0.5	0.3	3.0	100	5 5 10	0.5	2 2	0.5	8	10	5.0	\$	10	9 8	10	0.5	10	0.8	10	0.5	0.5	s	10	0.5	201	15	5.0	10	0.5	10	0.5	10	8	10
	Nample Type	Soil	Buttog	Soil	Soil	Boring	Soil	Soil	Boring	Boring	Soil	1 0	Boring		Soul	9		Test Pit		Soul	Borng	Soil		Soil	Borng	Soil		Soil	Boring		Soul		Soil	Boring	Soul	Roring	Soil	•	Test Pat	7
	Location Description	"Presumed Sump" West of Building	-	Sewer Exit from SW Building 4006	t	Substation 4067	Substation 4067			Substation 4067	West of Building 4816	T	West of Building 4816		West of Building 4816			Building 4714		Building 4616		Building 4402		Building 4607	South of Building +816	Operational Area East of B4816 (South of Building 4006)		Operational Area East of B4816 (South of Building 4006)			East of Building 4006		Operational Area East of B4816	(cook amount to moor)	Operational Area East of B4816 (South of Building 4006)		17th Street Drainage		South of B4357	200 miles
	Атта	SCTI.		SCTI.		SCII.	SCTI.	- Contract	30.110	SCIL	SCIL		SCTL		SCTI.			SCTL		SCTI.		SCTL		SCTI.		SCTL		SCTL			SCTI.		ILLO	36.16	SCII.		SCTI.		HMSA	
	Location ID	5B_DG-671		5B_DG-672		5B_DG-673A	5B_DG-673B	and the case	Sh Doeses	3B_DC-673D	5B_DG-677		5B_DG-678		5B_DG-679			58_DG-680		5B DG-681	1	5B_DC-682		5B DG-683	13	5B_DG-684		5B DG-685			SB_DG-686		Tan Tart of a		5B DG-688		5B_DG-689		5B_DG-690	

Rationale / Comment		Sum as SB 1922-243	OF LOVE OF STATES	Same as 5B 13G-638.	TO COLUMN AND THE COL	Conduct geophysical survey and excavate trench targeting leach line, linear geophysical anomaly, and northern	of line. Extend trench approximately 20 feet car, determine if the pipeline goes underground at	Collect an additional sample if the formants of the papeline is identified or soil staming observed. Adjust 3 food boring sample to target beneath piping or below fill in top of native if observed. Analyze for PAHs and TPH.		Same as 5B_DG-638		Stepout for droxins and metals and characterization in open area. Shallow bedrock observed in surrounding	samples, concernate and analyze sample, but anne rections. Concern and adjust 5 foot boring sample to target (or sample pit as appropriate).	2075A 03 11 11 11 11 11 11 11 11 11 11 11 11 11	ONNER AS 2D LACES OF		or 8 representative (hashoun an International production and an article and and and an article and an article and an article and an article and an article and an article and article and article and article article article article and article arti	by 5 feet Pige. Collecte samples at 5-from intervals to bethrook and larged despect sample, part above bedrook. Analyze entface and top-ocl-bedrook sample, thold intermediate sample depths pending recults.	Same as 5B_DG-744; conduct focused geophysical survey and adjacent test pit for linear geophysical anomaly (fact	pipeline?) and adjust 5 foot boring sample to larget (or sample pit as appropriate).		NOT CALL OF THE PROPERTY OF TH	Sunty M. CE_AARON	Same as 5B_DG=705.	Same av 5R_DC+589		11 60 100 804	Same at 2ts LX4-103.	Same as 5B_IXE-705. Location at previously collected USBS1014 analyzed for PAHs, complete analytical suite.	One of 8 representative incations in former parking area with historical disturbed soil and unpaxed roads observed in acral photos. Returnly on bedinels, nance between 2 and 5 feet in previous bornure, collect samples at 5-foot	intervals to bedrock and target deepest sample just above bedrock. Analyze surface and top-of-bedrock sample, and hold intermediate sample depthy pending results.	Stepout for TPH detections to the south and dioxims porticides to the north; also provides additional characterization	in open area and targets fuel pipeline. Conduct geophysical survey and test pit/trenching to characterize potential impacts from pipeline. Collect and analyze samples per 5B. DG-695.		Same as 5B_D3-589.		Same as 5B_DG-705.	Alexander and an analysis of the state of th	Co-recate with sample USENIU. With representance sampling state of neutral processes impacts accounted with unidentified object, and parking area identified in 1988 aerial photo. Analyze vanne as SB_ING-711, however,	refusal on bedrock at 2 feet in boring USBS1013.	Location targets undefined feature identified in 1988 acrial photo. Also serves as representative sample for parking area IIJVd in 5B_DG-705 and stepout for dioxins in drainage sample SL-131-SA5B. Analyze surface and 5 foot	samples: hold 10 foot if collected pending shallow nearls. Refusal on bedrock at 2' in boing USBS1013 suggests shallow with.	
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	Depth (R. bgs)	5.0	\$ 92	0.5	\$ 01	5 0	0.0		10	9.0	10	0.5	5	01	5	10	0.5	50	0.5	8	10	15	5.	0.5	0.5	\$	10	5.0	5.0	9.0	s	0.5	\$	01	0.5	\$ 12	0.5	3	0.5	8	5.0	5	01
	Sample Type		Soul		Soil	T	Soil	Test Pat		Soil	3oring	Soul	Boring		Soil	Soring	lioS	Boring		Soil	Boring/ Text Pat		Boring	Soil	8	Soul		Soul	Soil		Boring		Soil	Fost Pit	0.0	Boring	Soul	Boring	Soil	Boring		Soil	
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	Location Description		Open Area South of SCTI, PowerPak Interconnecting Facility		South of B4026		The state of the s	Cast of P4003 P4000 Leads		Courts of Values Country	South of Nating Complex		East of B4005/B4006 Leach Field		Southwest of B4005/B4006 Leach	Pacid	Parking Area	Southwert of B4005/B4006 Leach Field		Open Area South of SCTL	PowerPak Interconnecting Facility	2000	South of B4005/B4006 Leach Field	Parking Area northwest of But 4011		Drainage along 20th Street, east of parking area		Parking Area northwest of Building	Parking Area northwest of Building	, , , , , , , , , , , , , , , , , , ,	4011		Former aboveground tank T-735		D. Company of the Com	Dramage along 20th Street, east of parking area	Parking Area northwest of Building	4011	Northwest of B4011			Northwest of B4011	
	Arra		B4011 Area		B4011 Area			D4011 Vica		troi d	NAULI AREA		B4011 Area		B4011 Area			B4011 Area			B4011 Area		B4011 Area	B4011 Area		B4011 Area		B4011 Area	B4011 Area		B4011 Area		B4007 Area			B4011 Area	Date 1 Aprel	B4011 Area	B4011 Area			B4011 Area	
	Location ID		5B_DG-691		5B_DG-692		100 PAC 600	20 170-673		50 DV3-601	218 LAS-074		5B_DG-695		5B DG-697			5B_DG-698			5B DG-699		5B_DG-700	5B_DG-701		5B_DG-702		5B_DG-703	5B_DG-704		58_DG-705		5B DG-707	1		5B_DG-708	60 193-200	SR_IX709	SB DG-710	-		SB_DG-711	

Kationale / Comments		Stepdown at SL-131-SA5B for contamination identified in F Street drainage ditch (all previous data collected at	vurface). Shallow bedrock anticipated; collect sample just above bedrock.	Stepout in Ilst area from drainage to assess potential overflow. Also targets soil disturbance area observed in 1960	acrial photo. Shallow soils likely based on samples in general area.		Same as 5B_DG-712 at SL-133-SA5B.	T	Located in operational area north of B4011; also server as stepout for detections in drainage (identified contamination area) to the north. Hold deeper samples pending shallow results (note; previous samples in	surrounding areas were surface only so depth to bedrock unknown, shallow bedrock anticipated).		Same as 58_DXF-215.		Transformers in Area IV are being resampled with analysis of all discrete samples. Recollect samples at four former discrete locations and analyze each sample for PCBs: hold deep samples pending shallow resulte.						Stepout from TPH detected at 5 feet (and some elevated metals; silver (# 1.5 mg/kg) based on former septie tank	incultura and potential incertainty associated with previous sample inculture to fank. Also addresses area of open storage. Analyze all depths and target deepest sample, just above bedrock.	continue terroris ameters/lends line and force Bdft and an AST ATA Laterary and continues at Bdf 22 Bdft	place sample location at north edge of existing asphalt patch (patch industes north boundary of existing start	backfulce septic tank. Analyze all samples based on potential for subsurface release from sewer/kach into. Larget soil just above bedrock in deepest sample.	Sample targets open storage in yard adjacent to B4011. Analyze all depths since staming observed at 3 feet and 8.5 feet in previous sampling in surrounding area.	\neg	Stepout in open storage area based on TPH SL-145-SA5B. Sample also targets feature observed in acrial photo (1959 [1962-63_1]) but not identified in GIS. Target deepest sample just above bedrock; analyze all depths since		Stepout and open storage area sample for PAHs, PCBs, dioxins, and metals analysis based on PAHs, PCBs, dioxins,	and metals detected at SL-156-SASB collected at EPA acrial photo location identified as "probable stained area." Hold deep samples pending shallow results since surface inmade were identified at SL-156-SASB.		Stepout and open storage area sample for PAHs, PCBs, droxins, and metals analysis based on PAHs, PCBs, droxins, and metals analysis based on PAHs, PCBs, droxins, and metals altered as \$1.155, \$4.88 and perfect to PDA secial plants to be action in particular as "meabulable strained mean."				unstate, and metair deceled at 24-130-35.25. Admits, to cooling tower totte since down trainings from croning flower operations a SCT and analyze all depths since draininge unlined. Collect decpert sample just above bedreck (shallow soils anticipated).	Stepout and open storage area sample for PAHs, PCBs, dioxins, and metals analysis based on PAHs, PCBs, dioxins,			Targets open storage area, hold deep samples pending shallow results.	
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	Depth (R. bgs)	9.0	\$. 0.5	•	10	0.5	\$	0.5	\$	10	0.5	10	0.5	500	i e	5.0	er.	9.9	6.5	\$	10	0.5	10	0.5	10	0.5	v 01	0.5	5.0	10	0.5	\$	10	0.5	s	9.0	5	10	9.9	10
	Sample Type	Soil	Boring		Soil	Boring	Soil	Boring		Soul	0	Soul	Boring	Soil	9	Boring	Soil	Boring	Soil		Boring		Soul	Roring	Soil	Boring	Soil	Boring		Soil	Some		Soul		To S	Boring		Soil	2	Soil	Boring
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	Location Description	4 000	F Street Drainage Ditch		North of F Street Drainage	(Identified Contam	E Cheese Decisions Dated	r succi mam		North of Building 4011		North of Building 4011		Transformer northwest		of B4011	Transformer northwest	of B401	Transformer northwest of B4011		B4011 Septic Tank		Position 1177	Ruming	Onen Storage West of B4011			Open Storage West of B4011		Open Storage West of B4011			Open Storage West of B4011		Mith Street D	West of B4011 Storage Yard		Open Storage West of B4011		6 0	Open Storage West of B4011
	Arra		B4011 Area		B4011 Arca		Date I free	Date I Area		B4011 Area		B4011 Area		B4011 Area		B4011 Area	B4011 Area		B4011 Area		B4011 Area		T A LINE	many repair	R4011 Apea			B4011 Area		B4011 Area			B4011 Area			B4011 Area		B4011 Area			B4011 Area
	Location ID ¹		5B_DG-712		5B DG-713		1 2 2 3 d	3h_IXI-114		SB_DG-715		SB DG-716		5B_DG-717A		SB_DG-717B	SB DG-717C		0717-DQ_88		5B_DG-721		60,000	77,400,700	5B DG-723			3B_IXG-724		5B DG-725			58_DG-726			58_DG-727		SB_DG-728		the fact that	5B_DXF-729

Rationale / Comments			Sample in drainage west of storage yard. Analyze for evoling tower suite since down drainage of SCTI operationst and all depths since drainage unlined. Collect deepest sample just above bedrock (shallow soils anticipated).		Some as SR_DG-723.	Acation larget onen storage area		Targets area south of G Street, drainage, and adjacent (ateput) for fill area to south for ISL exceedences of PCBs, darwin, metals, PAHs. Lead at LPRS1002 detected at 66 me/ke. Hold 10 foot samples of collected, refusal likely.	as shallow as 5.5 feet bgs (L2BS1902) pending shallow results or if fill encountered		State as 5B_DG-734.	Targets fill area admittled in EPA HSA and defines extent of identified contamination area at B4011 Leach Field.		discernible and okeptest simple just above bedrivek.	Stepout to wert of contaminated area and dioxins at SL-178-SA5B.		Location largels dramage within fill area and downstroam of identified confaminated areas. Analyse all depths	Targets fill area adentified in EPA HSA and defines extent of identified contamination area at B4011 Leach Field. Exemands from his investigate presente and doubt of fill. Analyze all doubts for full themself units based on PABs.	dioxine, PCBs and metals defected in fill and unknown source of material. Depth to refixul variable between 6 and 10 text bgs, solkest sample in underlying native soil if dissemble and despect sample just above bedived.	Treeds fill and southeast of significal contamination area at R401 Leach Field as nor SR 183-73.	_	Same at \$B_DQ+730	Targets fill soil east of identified contamination area at 84011 Leach Field as per 58_DG-736.	Stepout to delineate dioxins and perioides detected to the west. Location also provides characterization in open	area. Hold deeps samples pending surface results. Shallow bedrock observed in surrounding samples; collect deepset sample just alwaye bedrock.	Same av SB_DG-743.		Targets open area similar to 5B_DG-743.	Collected discrete samples around substation. Analyze full suite since location adjacent to substation support	structures, and bounds identified Contamination Area. Analyze sample just above bedrock at depth. Shallow sorie anticipated	Т	1	Connect thacere enables another anything, from over samples pending station teetins, charges more one detections in adjacent areas	Same as SR DCL/MS	
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	pH (EPA Method 9045C)	×××	×	×	××	//	==	×	×	н	××	×	×	×	××	×	XXX	×	×	× >	××	×××	:××	×	= =	×	HH	××	Ξ :	× >	< ×	×			×
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	Sample Type	Soil	Soil	Roring	Soil	9	Soil		Soil		Soil		Soil	9	Soil	Boring	Soil		Trench	\rightarrow	Soil	Trench	Soil		Soil	Soil	Boring	Soul	+	Soil	3	Roring	Soul		Boring
	Location Description	Open Storage West of B4011	20th Street Draininge	West of B4011 Storage Yard	Open Storage West of B4011		Storage Area southeast of B4011		B4011 Leach Field Area Along G Street		B4011 Leach Field Area		Fill Area FA-11 West of B4011		West of Identified Contamination	Area (East of 184013 Field)	Drainage West of B3271		Fill Area FA-11 West of B4011 Leach Field		Fill Area FA-11 Southcast of B4011 Lench Field	Fill Area FA-11 East of B4011 Leach Field	Fill Area FA-11 East of B4011 Leach Field		Open Area South of SCT1. PowerPak Interconnecting Facility	Onen Space South of SCTI	PowerPak Interconnecting Facility	Open Space South of SCTL.	PowerPak Interconnecting Facility	B4704 Transformer Substation		B4704 Transformer Substation	B4704 Transformer Substation		B4704 Transformer Substation
	Уче	B4011 Area	DAGII Vees	Dato Library	B4011 Area		B4011 Area		B4011 Area		B4011 Area		B4011 Area		B4011 Area		B4011 Area		B4011 Area		B4011 Area	B4011 Area	B4011 Area		B4007 Area		B4007 Area	B4007 Area		B4007 Area		B4007 Arca	B4007 Area		B4007 Area
	Location ID ¹	5B_DG-730	69 IVC-201	36 (Arr/3)	\$B_DG-732		5B_DG-733		5B_DG-734		5B_DG-735		5B_DG-736		58_DG-737	-	5B_DG-738		SR_DG-739		5B_DG-740	SB_DG-741	5B_DG-742		5B_DG-743		5B_DG-744	SB DG-745		5B_DG-746		SB_DG-747	5B_DG-748		5B_DG-749

Retinude / Comments		Same as SB_DG-748.	Same as SB DG-748		Stepout downwlope of AST, along pipeline and for TPH impacts at OCBS25 OCTS20. Collect vample along bedrook surface; likely more shallow than 5 ft bgs since bedrock encountered at between 1° and 3° in boring	OCBS25 and trench OCTS20, respectively. Analyze both samples to characterize potential migration of forch along bedrock.	Same as 5B_DX2-712 at SL-135-SA5B.	Same as 5B_DX=768.	Same as 5B_1Xi-768	Sume as 5B_DG-768.	Location targets storage vards around B4007 observed in acrial photographs, characterizes area for storage of flammable hardones materials or only early morpholine, hydrazone; petroloum first, metals, PCRs, and projeklants)	Gesettoor in KF1 and EFA LEAA Analyze for VOX in soil mattix vince voits to mattow for soil vapor 1 into usep samples pending shallow. Shallow bedresk observed in adjacent samples, collect 5 foot sample if soil present	Same as SR_DG-757	Characterizes B4008 for storage of flammable hazardous materials (solvents, morpholine, hydrazine, petroleum finch matela 1972, and nonealliante decorded in 1971 and 1773 Analyze for CCC, in real materix into mole to	the control of the co	Same as 5B_DG-759.	A COLLEGE MAN	-	,		Location targets downshope area from B4007R4008, also serves as stepout for XL-262-NASB to the northeast. Analyze for all chemicals identified in storage areas. Shallow hedrock observed in adjacent samples; collect and	analyze 5 foot sample if soil present.	Stepdovn to characterize dontage at depth (previous samples shallow).	Stepart to delineate discuss at SL-267-SASB and characterize area adjacent to storage at B4007-4008. Analyze for chemicals stored at B4007-B4008. Shallow bedrock observed in adjacent samples; collect and analyze 5 foot sample	if soil present.	Same as 58_DX=768.	Location characterizes area for storage of flammable hazardone materials (solvents, morpholine, hydrazine, national language of flammable hazardone materials (solvents, morpholine, hydrazine, hazardone materials (solvents, morpholine, hydrazine, hazardone materials (solvents, morpholine, hydrazine,	Stepout to delineate PAHs and TPH in L2BS1009 and TPH in L2BS1008. Sample adjacent to B4500 and general mentions are Staff and behave it and interest and markets of total samples it and recent	Operations are statutor the state of the sta	Same as 50_100-709	
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	De pth (ft. bgs)	0.5		3	9.9	\$	0.5	0.5	0.5	0.5	0.5	\$	5.0	0.5	\$	5'0	\$	6.5	9.5	0.5 S	5.0	\$	0.5 \$	0.5	*	5.0	9.0	•	9.5	8	5.5
	Sample Type	Soil	Smran Co. of	Soil	Soil	Roring	Soil	Soul	Soul	Soil	Soil	Boring	Soil		Roring	Soil	Boring	Soul	Soil	Soul	Soil	Boring	Soil	Soil	Bormg	Soul	Simon	Soil	H	Soul	Soil
	Location Description	B4704 Transformer Substation	t	B4704 Transformer Substation	-	Former aboveground tank T-7.35	F Street Dramage Ditch	2	Storage Yard North B4007	800t		Storage Yard North of B4008	Storage Vard North of B4008		Building 4008		under gamma	Building 4007	Building 4007	Storage Vard South of B4007		South of B4007	17th Street Dramage		South of Building 4007/4008	Storage Yard South of B4008		Storage Yard South of B400x		Storage Area South of Building 4008	R4007 Area Storage Area South of Building 4008
	Ата	B4007 Area	0.0000000000000000000000000000000000000	B4007 Area		B4007 Area	B4007 Area	B4007 Area	B4007 Area			B4007 Area	B4007 Area		B4007 Area	To Manager 1	Dation Area	B4007 Area	B4007 Area	B4007 Area		B4007 Area	B4007 Area		B4007 Area	B4007 Area		B4007 .Vea		B4007 Area	B4007 Area
	Location ID	5B_DG-750		SB_DG-751		SB_DC=752	5B_DG-753	SB_DG-754	5B_DG-755	5B_DG-756		\$B_DG-757	\$B_DG-758		5B_DG-759	A 100 months	3B_LX3=700	5B_DG-761	5B_DG-762	5B_DG-763		5B_DG-764	\$B_DG-765		SB_DG-766	5B DG-767		5B_DG-768		5B_DG-769	5R DG-770

F	Administry Community Commu	Same as 5B_DC+769.	Locations larget dramage along G Street. Analyze for all chemicals stored at B4007/4008 since location is	determination destinations of the perfect sample largets just above bedrack. Analyze all depths since historical dramage was unfined.	61 TO 197	_		Consult on draw draw of Chart	Samper on work and growing to succe.	Simple on alone of Street		Location target Tarricke feature observed in 1960 serial photograph and linear and mannetic econfivated	anomalies to characterize soil for potential pipeline or bursed metal.			dectrial priorio date as 1939)		Stepost on west side of 17 Street Pond doentified Confinantiation Area dramage (doexine 120 x ISL), and slope below G-street. Refusal in bedreak between 2.5 and 5 in northly borings.		Same as 5B_DG-782, west of 17th Street Dramage.	Secural constraints assessed benefiting to the effective open most market of the first open states of the first	exponent processing and the second of the se	Stepost transfering. Stepost transfering countries to characterize open area northeast of Identified Contamination Area.	Shallow soil anticipated based on previous sampling.		Stepout representative sample location to characterize open area northeast of Identified Contamination Axea (define extent), and stepout for SL-212-8A5B and SL-213-8A5B P.MI, PCB, metal, and dioxin detects. Analyze all depths	Shallow soil anticipated based on previous sampling.	Stepout representative sample location to characterize open area northeast of Identified Contamination Area (define	extent). Analyze all deputs. Shahow soil anticipated based on previous sampling.	Stepout representative sample location to characterize open area northeast of identified Contamination Area (define		Stepout representative sample location to characterize open area northeast of Identified Contamination Area (define	EXECUTE ANALYSE AIL OCPUTS. SHELLOW AND AUTOSPACE DANCE OF PINCATORS AND PILLS.	Stepout representative sample location to characterize open area worthcast of Identified Contamination. Area (define extent) and element for directors metale both to cart and weet. Analyze all denthe. Shallow sed antennated based on	previous sampling.	Same as 5B_DG-786.	Same as 5B_1X3-786	Notice of St. 1872-286	Same as 20 LVL-700.
-	(ASTAI D2216/ EPA Method 160.3)	××	×	×	×	T	Т		×	= >	×	- 2	×	н	×	×	<u> </u>	×	×	×	I	× :	 	×	×	×	×	×	×	×	×	×	×	×	×	× ×		× ×	. ×
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	Depth (ft. bgs)	0.5	0.5	\$	10	0.5	0 3	01	\$	0 0	\$ 51	9.0	\$	10	0.5	\$	10	0.5	\$	0.5	•	0.5		0.5	8	5.0	\$	0.5	\$	9.0	8	0.5	\$	6.5	٠	9.0	0.5	\$ 11	5
	Sample Type	Soil	1.5	Boring	S.	Soil	Boring		Soil		Soil		Soil	Simo	- I	Boring	1	Soil	Journal	Soil	Sorme	Soil		Soil	Soring	Soil	foring	Soil	Boring	Soil	Bormg	Soil	Boring	Soil	Boring	Soil	Soul	Boring	Bormg
-	z.	-		-	+	1000	-	+	77700	1	-	+	_	-			1	_	_		+		+				-	L		_		_					+	+	\neg
	Location Description	Storage Area South of Building 4008	G Street Drainner	West of 17th Street		G Street Drainage	West of 17th Street		North of Fill Area Along G Street		North of Fill Area Along G Street		North of Fill Area Along G Street	8		North of 17th Street Pond		Undefined object south of G Street		West of 17th St. Pond Identified	Contamination Area Drainage South	Northeast of 17th St. Pond Identified Contamination Area.		Northeast of 17th St. Pond Identified	Confamination Area	Northeast of 17th St. Pond Identified	Contamination Area.	Northeast of 17th St. Pond Identified	Contamination Area.	Northeast of 17th St. Pond Identified	Contamination Area.	Northeast of 17th St. Pond Identified	Contamination Area.	Area southeast of 17th St. P.	Identified Contamination Area	Area southeast of 17th St. Pond	Area southeast of 17th St. Pond	Identified Contamination A	Area southeast of 1/fb St. Fond Identified Contamination Area
	Area	B4007 Arca		B4007 Arca			B4001 Mca		17th St. Pond		17th St. Pond		17th St. Pond		20 10 10 10 10 10 10 10 10 10 10 10 10 10	17th St. Pond		17th St. Pond		17th St. Pond		17th St. Pond		17th St. Pond		Take to the s	TAIR SE LORG	1 10 100	17th St. Pohd		17th St. Pond		17th St. Pond		17th St. Pond	17th St. Pond	17th St. Pond	Avenue de la como	17th St. Pond
	Location 1D	5B_DG-771	8	SB_DG-772			38 JA-113		5B_DG-774		5B_DG-775		5B_DG-776			5B_DG-777		SB DG-778		5B_DG-779		SR_DG-780		5B DG-781		100 000 000	Sp. DO-185	the that flat	3B_DG-/83	N. S. S. S. S. S. S. S. S. S. S. S. S. S.	5B DG-784		5B_DG-785		5B_DG-786	SR DG-787	SH DG-788	30 100-100	5B_DG-789

	Rathrinds / Cammerati.	Same as SB_D3-7kG, wortheastern most extent of potential contamination extent within subarea 5B	Stepout for identified contamination area to the west, providing characterization of open area to the east. Location is also stepout between contamination area and six or (615 mg/kg) at location P2TS57. PCBs detected in identified	contamination area and as TR: at P2YSS7. Located in a suspect deedge area identified in RFI report. Analyze all depths, however, returnal on bodrock likely at approximately 5 feet bgs.		Same as \$B_DG-787, southeastern most extent of potential contamination extent within subarea 5B.	Same as M. DAr-791.	Execute test pit to investigate linear geophysical anomaly south of the 17th Street Pond Inspect test pit for signs of fill and innest sounds at no of native of fill observed. Collect denset samples into above bedond to evaluate	potential magration to groundwater.	Stepdown for PAH, PCB, dioxin, and silver in sample SI-284-8A3B (0.5 feet only) to awese damage sediment depth at downstream (Area IV) limit of Identified Contamination Area. Analyze 5 and 10 ft. samples, refits al in	upstucam location PUBS1054 at 7 ft. Target deepest sample just above bedrock.	Stepont for southwestern extent of 17th Street Pond Montáred Continuanation Area and dioxins in SL-172SASB. Analyze all depths. Refined in bedrock between 2° and 5' in nearly berings.		Stepont for southwestern extent of 17th Street Pond Identified Contamination Area and divortes in SL-1728ABF, age labe loateded within reclaimed water sprayfield area. Analyze all depths. Retireal in bedrock between 2 and 9' in another location.		Support for westers western of 17th Store Port Liketalistic Continuation and Leaf and dozine in SL-173-8ASB. Authory of Heights Referred in Defence between 2 and 4" in nearly berrage. Conduct adjacent text put for linear geosphysical automaty and adjust 5 foot boring sample to target (or sample put as appropriate).	Location characterizes area downslope of fill north of road, west of Identified Contamination Area, and assesses		 Conduct adjacent test pit for linear geophysical anomaly and adjust 5 foot boring sample to target (or sample pit as appropriate). 	(D) - (-1	Stepont from headinm of elevated duxture (23.2 x ISA), characterization of southern boundary of Jill, assessed potential impacts from nearby spray fields. Soil likely shallow based on nearby borings.	Location assesses potential impacts from adjacent EEL operational area and reclaimted water sprayfields to the cast Hold deep samples nonline shallow results or as warranted based on field observations. Hecavalent chromium,	formaldelyde and perchlorale added for potential presence in reclaimed water. Refusal on bedrock nearby at 2.5.		Location targets northern portion of chemical use area identified in RFI report. Hold deep samples pending shallow results to characterize potential surface impacts. Shallow bedwork anticipated based on ELRS1001.	\neg	Targets because based on unknown object in acral photograph (1988). Nearth to ges extinates and instortival storage to be stone type of container. Object skinfied as transformer but only seen in one photograph and large transformer but each because in one photograph and large transformer is based to south. Likely insidentified, however sample will be analyzed for full storage.		·	
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m	Pesticides (EPA Method 8081)							H									t		1		\dagger									
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Tabe i Sabara Sli Place 3 Propered Soll Sample Location (T of F9)	(VS188 podia)/ Vd3)		- 1					H						×	×		1	×		=	××=	×	Ξ	H		П				
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(*)	Type Type	Soil		Soil		Soil	Soil	Н	Test Pit	Pos	Roring	Soil	oring	Soil	oring	Soil Boring/		Soil	Boring/ Text Pit		Soil		Soil		Soil	Sormg	Soil	Bornig		
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er Al-	Location Description	Area southeast of 17th St. Pond Identified Contamination Area		East of 17th Street Identified Contamination Area		Area southeast of 17th St. Pond Identified Contamination Area	East of 17th Street Identified Contamination Area	20 March 197 C	Pond Pond		Dramage Near Area III Boundary	Area southwest of 17th St. Pond	Clearly Contaminated Area	Area southwest of 17th St. Pond	Clearly Contaminated Area	Area west of 17th St. Pond Clently Contaminated Area		Peoplement Water Spoudield	East of FEL.		Fill Area FA-11 East of B4011 Leach Field		East of Gas Cylinder Storage		Northeast of Unknown Tank no	of B5271		Transformer North of Building 3271	ia i	
	Area	17th St. Pond		17th St. Pond		17th St. Pond	17th St. Pond		17th St. Pond		17th St. Pond	0.00	I/m St. Pond	17th St. Bossel		17th St. Pond			17th St. Pond		17th St. Pond		EEL		198					
	Jacation ID	5B_DG-790		SB_DG-791		5B_DG-792	5B_DG-794		5B_DG-796		5B_DG-797	200 174 400	38 DG-699	DO DO WOO		5B_DG-802			5B_DG-803		5B_DG-805		5B_DG-806		CD INC. 807	No IN-SU		5B_DG-808		

Kationale / Comments		Two samples previously collected, at southwest (elevated detect) and northeast (ND with elevated RL) corners.	Resample of four locations to get representative sample consistent with discrete sampling for Area IV transformers and define for remodual parameter.	and define for remedian paraming. Troto deep samples pending snation tentars.				Stendown at elevated dowin heatinn (SL-192-SASBy tavet fill too of native soil and soil above bedrock as	appropriate based on field conditions observed. Deepest sample at 5 feet bgs in previous boring.		Stepout to characterize potential impacts outside of operational area (chem storage and PCBs at transformer), defined confinal amounts of PCBs at El RS16 and agrees notestial amounts from administratorized confined confined	sprayfields. Refusal depths at surrounding borings range from 3.5 to 7; collect and hold sample at 10' if soil is	present	Targets reclaimed water sprayfield. Hexavalent chromium, formaldehyde and perchlorate added for potential	presence an reclaimed water. Analyze 5 foot sample since targeting linear geophysical anomaly (potential pipeline): hold 10 foot sample pending shallow results.	Characterize soil immediately adjacent to concrete pad for Hazardous Materials Storage Area, undefined feature	approximately 7 feet bgs, target deepest sample just above bedrook due to arress potential fluid release and	migration along bedrock from HMSA.	Same as \$B_DG#13.	the first tree tree	Same as 5H_JX(+81.5.	Stepout to delineate surficial impacts of PCBs at ELBS16, assess EEL operational area and potential impacts from	adjacent reclaimed water sprayfields. Refusal depth at surrounding borings range from 3.3° to 6.5°, collect and hold sample at 10° if soil is present.	Stepdown sample to characterize potential vertical migration at location of detected PCBs in ELBS16.	Collect sample at SL-187-SASB to confirm previous perchlorate detection at 5 feet. Hold 10 foot sample pending shallow rouths.	And the second s	Conservable as services as to consempre, we permitted as secured as secured to too sample perions shallow readly.	Same as 5B DG-817.		Targots location of compressors and other operational equipment along north wall of B3.271.	Location targets operational area north of B3271 and south (downstope) of storage. Analyze full storage suries since advance or trains with instrument and the samples needing shallow results or warranted based on field	observations. Nearby borrings ELBS1009 and ELBS1030 encountered redusal on bedroock at 3' and 1.5'.	response of	Location targets an AST with unknown contents. Analyze for full storage suite to address uncertainty of tank contents. I Judy does namely non-time shallow could to characterize natural surface manage from AST. Shallow	bedrock anticipated based on ELBS1001.	CONTRACTOR OF THE PROPERTY OF	Stepout to define boundary of fill area as described below for 58_3X5-85.5	Location targets storage area observed in nerial photographs; hold deep samples pending shallow results. Shallow	soils anterpoted, 10 feet sample should target just above bedrock.	
	Data Gap Checklis?		_		_	_										L	>		>		>	L			>		>	L							>	_	>	L	>	
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	Depth (ft. bg·s)	0.5	3	3.3	0.5	3	0.5	8	6.0	10	0.5	3	10	6.0	201	0.5	\$	10	0.5	10	0.5 5	0.5	5 10	0.5	9.5	10	8 8	0.5	01	\$ 5	0.5	8	10	0.5	\$	10	0.5	0.5	\$	10
	Nample Type	Soul	Boring	Soil	Soil	Boring	Soil	Bormg	Soil	Horing		Soil		Conf	Roring		Soil	•	Soil	Surrous	Soil		Soil	Soil	Soil	Bormg	Soil	Soil	Boring	Soil		Soil		1	Soul		Soil		Soil	
	1.50		1		t			+						- 2	_	\vdash		_	-	\dashv	Area	1				\dashv						guilding			1221					
	Location Description	Transformer Pad	East of Building 3271	Transformer Pad East of Building 3271	Transformer Pad	East of Building 3271	Transformer Pad	East of Building 32/1	Fill area West of Identified	Confirmmation Area		Fast of Building 3271		The COUNTY of Board on Water	Sprayfield		Hazardous Materials Storage Area East of Building 3271	9	Hazardous Materials Storage Area	East of Bunding 5271	Hazardous Materials Storage East of Building 3271		East of Building 3271	Transformer Pad	Fill Area FA-11 East of B4011	Leach Field	Fill Area FA-11 East of B4011 Leach Field		East of Building 3271	North Wall of B3271		Operational Area north of Building			Unknown tank north of B3271		Fill Area PA-11 North of FEL Storage		Storage Area on Slope North of Building 1271	
	EŁ	LEA	700	THE	Newsy.	EEL	EEL		17th St. Pond			EET.		1000	BEL		EEL		EEL		EEL		HEI.	EE.	17th St. Pond		17th St. Pond		Œ.	HEL		HEI.			EEL		EE		EHI	
	Location ID'	An DG-snov	Vicasery ac	5B_DG-809B	100 miles	5B_DG-809C	5B -DG-809D		5B DG-810			5B_DG-811			5B_DG-812		5B_DG-813		5B DG-815		5B_DG-816		5B_DG-817	5B_DG-818	5B DG-819		5B_DG-820	A COMPANIES AND A STATE OF THE PARTY OF THE	5B_DG-821	5B_DG-822		5B_DG-823			5B_DG-824	Section 1	SB_DG-825		5B_DG-826	

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Rationale / Comments	para (5th Chrosthir)	Location targets downslope of storage area observed in aerial photographs; hold deep samples pending shallow	results. 10 fool sample should larget just above bedrock.		Location targets former sample ELBS1002 dawnedape of AST AT-EL-12 with unknown contents. Previous sample only analyzed for ITH (detected < ISL at 0.5 ft.). Analyze for full storage suite to address unsertainty of tank	confeats Reducek relatasi war 7.5 m boring ELISN 1002, 10 II. sample should largef immediately above bedrock for potential migration along bedrock surface. (Note: tank is represented in miscellameous lines layer in GIS).		Targets location of compressors and other operational equipment along north wall of B3271.			Targets location of compressors and other operational equipment along north wall of B3271.		Targets previous sample location ESBS1406, analyzed for metals only at 1 loot bgs only, to assess undefined feature	observed in 1967 aerial photo.	Location targets western portion of storage area observed in aerial photographs and defines fill boundary as	described below for 5B_IX3-833, sample and analyze as described above.		Stepout to deline boundary of fill area and PAHs, PCBs, and dioxins at SL-176-SA5B. If fill observed collect	vample in fill, native soil, just above bedrock as soil conditions warrant, otherwise sample at 0.5, 5 and just above bedrock as soil and above bedrock as the soil of the bedrock as the soil of the bedrock as the soil of the bedrock as the soil of the soil o	Degreek (Terusal annequated > 10 n. 0gs).	Stepout in drainage to west of dioxins in SL-176-SA5B. Location also targets reclaimed water sprayfield: hexavalent chromium, formaldchyde and psychlorate added for notential presence in reclaimed water. Analyze all	depths due to natural (unlined) dramage and deposition over time.	Note: 5B_DG+834 located east of Subarea 5B boundary in Subarea 5C.	Stemant to define boundary of fill area as described above for SR 1X7-833.	A supplied to define common to the supplied to	
	(V21X) D5516/ EPA Method 160-3)									1	T	I	L		L	_					2.5			I	T	
	Soil Moisture	X :	=	=	×	н	H	H	+	H	-	< =		×		+	×	X	×	×	×	×	×	F	×	×
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	Storpholine \$260B)	H	-					H		-	+	+	-		+	-			H					+	t	-
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	PAHs PAHs (EEA Method 8270C [SIM])	×	Ξ	H	×	Ξ	н	×	×	=	×	× =	×	×	-	×	×	×	×	×	×	×	×	1	< ×	×
	Depth (ft. bgs)	0.5	\$	10	5.0	\$	10	0.5	\$	10	6.0	v 91	0.5	\$ 2	50	8	10	0.5	5.0	10	6.0	\$	10	9.0	5	10
	Sample Type	0.000	Soul	Doring		Soil			Rorine		Soil	Boring		Soil		Soil	9		Soil	Boring		Soil	•		Soil	Hormg
		Н	0					T					t	_	1			t						1		+
	Location Description		Storage Area on Slope North of	Building 5271		Unknown tank -AT-EL-12 Northwest of B3271			North Wall of B3271			North Wall of B3271		Undefined feature North of B3271		Storage Area and Fill Boundary on	Simeran to man adore		Fill Area FA-11	Northwest of Building A.		West of EEL.			Fill Area FA-11	West of 1522/1
	Ата		EE.			EEL			EET.			EE		EEG.		REI.			EEL			EEE.			EEG.	STATE OF THE PARTY
	Location ID		SB DG-827			5B_DG-828			5B_DG-829		NAC TO SECOND	5B_DG-830		5B_DG-831		5B DG-832			5B DG-833			5B_DG-834			5B DG-835	

Explaining became ID vertex entitled or deleted during the date gap madyes process and are not inclinded in this table; 5B DC-503, 504-512, 513, 514-518, 4515, 457, 457, 475, 475, 476, 719, 720, 730, 730, 730, 730, 730, 431, 4314.
2 Standard metals analysis inclinate white and accuracy, test does not madule becoming inclinate analysis and accuracy, test does not analysis inclinate analysis and accuracy, test does not analysis and accuracy analysis and accuracy inclinates analysis and accuracy inclinates analysis and accuracy inclinates analysis and accuracy inclinates and accuracy inclinates and accuracy accuracy and accuracy inclinates and accuracy inclinates and accuracy accur

Table 2 Subarea 5B Phase 3 Proposed Soil Vapor Sample Locations (1 of 4)

Location ID	Area	Location Description	Depth (ft bgs) ¹	Data Gap Checklist ²	Rationale / Comments
5BSV_DG-501	B4019 Area	North of B4019	5	٧	Representative sample location in storage yard north of B4019.
5BSV_DG-502	B4019 Area	Sewer South of B4019	5	٧	Location targets sanitary sewer junction at exit from B4019 and sewer main on B Street.
5BSV_DG-503	B4019 Area	East of B4019	5		Representative location in B4019 operational area east.
5BSV_DG-504	B4019 Area	B4013	5	٧	Location targets diesel AST (T-EMG1) and characterizes operational area at B4013.
5BSV_DG-505	B4019 Area	North of B4013	5	٧	Location targets storage north of B4013 identified in EPA HSA.
5BSV_DG-506	B4019 Area	North of B4013	5		Representative location in B4013 operational area.
5BSV_DG-507	B4019 Area	B4013	5		Same as 5BSV_DG-506.
5BSV_DG-508	B4010 Area	Northwest of B4012/4228	5	٧	Location targets storage northwest of B4228 identified in EPA HSA.
5BSV_DG-509	B4010 Area	North of B4010	5	٧	Location targets potential waste disposal area identified in EPA HSA.
BSV_DG-510	B4010 Area	B4228	5	٧	Location targets reactor room in B4012 and two fuel oil ASTs (EMGEN and T-L01) in north portion of B4228. Collect sampl at 5 foot intervals with deepest sample just above bedrock.
BSV_DG-511	B4010 Area	B4228	5	٧	Location targets fuel oil AST (EMSTG) in south portion of B4228.
5BSV_DG-512	B4010 Area	Potential Leach Field South of B4228	5	٧	Location targets potential leach field identified in EPA HSA and AST with unknown contents. Collect samples at 5 foot intervivith depest sample just above bedrock.
5BSV_DG-513	B4010 Area	South of B4010	5	٧	Location defines southwestern extent of identified contamination area at B4010; also targets potential storage tank identified in EPA HSA. Collect samples at 5 foot intervals to bedrock, with deepest sample just above bedrock.
5BSV_DG-514	B4010 Area	Northwest of B4010	5		Representative location in operational area northwest of B4010.
5BSV_DG-515	B4010 Area	East of B4010	5		Delineates eastern extent of identified contamination area at B4010.
5BSV_DG-516	B4010 Area	East of B4010	5 10 15	٧	Location targets former reactor vault and UST in B4010; also addresses elevated RLs in previous sampling (L1SV1000). Collect samples at 5 foot intervals to bedrock, with deepest sample just above bedrock to evaluate potential input location to groundwater.
BSV_DG-517	B4010 Area	Southeast of B4010	5		Representative location in operational area southeast of B4010. Sample depth based on refusal in nearby locations.
BSV_DG-518	B4010 Area	Storage Yard North of B4025	5	v	Location targets storage observed along the fenceline north of B4025 in aerial photos.
BSV_DG-519	B4010 Area	B4025	. 5		Representative location in B4025 operational area and addresses elevated RLs in previous sampling (U5SV1106). Sample dephased on nearby locations.
BSV_DG-520	B4010 Area	UST East of B4025	5	٧	Location targets UST, equipment pad, and open storage observed in aerial photos east of B4025. Sample depth based on nearl locations.
BSV_DG-521	B4010 Area	Slope south of B4025	5 10	٧	Location targets drainage along road and surface water pathway downslope of B4025 operations / south-side doorway. Shall refusal in area; collect deeper samples if soil present.
BSV_DG-522	HMSA	North of B4457	5	-	Representative location in operational area north of B4457.
BSV_DG-523	HMSA	East of B4457	5 10	٧	Targets open storage observed in aerial photos.
5BSV_DG-524	HMSA	East of B4457	5	v	Location characterizes area with two features identified in EPA HSA as "dark toned material" within general open storage are
5BSV_DG-525	HMSA	Sump 2 at B4457	5	٧	Location targets Sump 2. Collect samples at 5 foot intervals with deepest sample just above bedrock to evaluate feature as potential input location to groundwater.
5BSV_DG-526	HMSA	Sump 1 at B4457	5	V	Location targets Sump 1. Collect samples at 5 foot intervals with deepest sample just above bedrock to evaluate feature as potential input location to groundwater.
5BSV_DG-527	HMSA	North of B4457	10 5		Same as SBSV_DG-522.
5BSV_DG-528	HMSA	South of B4457	5		Representative location in operational area south of B4457.
5BSV_DG-529	HMSA	West of Sump 1 at B4457	10 5	. v	Same as 5BSV_DG-527.
5BSV_DG-529	SCTI	B4356	5	v	Same as 5BSV_DG-532. One of four representative locations which provide overall characterization of fill material within de excavation area around former Building 4356; based on previous sporadic elevated detects. fill material observed in borings to
5BSV_DG-531	SCTI	B4356	5	. v	south, and geophy sical anomalies (magnetic and terrain conductivity anomalies present). Same as 5BSV_DG-533. Location targets secondary containment urench in SCTI water treatment area. The location is also one four representative locations which provide overall characterization of fill material within deep excavation area around forme Building 4356; based on previous sporadic elevated detects, fill material observed in borings to south, and geophysical anomal provides the statement of the sta
			10		(magnetic and terrain conductivity anomalies present). Collect samples at 5 foot intervals with deepest sample just above bedrock. Same as 5BSV_DG-530.
5BSV_DG-532	SCTI	North of B4356	5 10	٧	
5BSV_DG-533	SCTI	Water Treatment Area West of B4356	5 10	٧	Same as 5BSV_DG-531.
BSV_DG-534	SCTI	Water Treatment Area West of B4356	5 10	. •	Location targets secondary containment trench and pit in SCTI water treatment area.
5BSV_DG-535	SCTI	Water Treatment Area West of B4356	5	٧	Location characterizes ASTs associated with SCTI water treatment area. The location is also one of five representative locations which provide overall characterization of fill material within deep excavation area around former Building 4356; ba on previous sporadic elevated detects, fill material observed in borings to south, and geophysical anomalies (magnetic and ter
5BSV_DG-536	SCTI	Northwest Corner of SCTI	5	٧	conductivity anomalies present). Location targets chemical storage area. Shallow refusal in area; collect deeper samples if soil present.
5BSV_DG-537	SCTI	Cooling Tower Southwest of B4356	5	٧	Location targets cooling tower (B4656).

Table 2 Subarea 5B Phase 3 Proposed Soil Vapor Sample Locations (2 of 4)

Location ID	Area	Location Description	Depth (ft bgs) ¹	Data Gap Checklist ²	Rationale / Comments
5BSV_DG-538	Kalina Complex	South of B4355	5	٧	Targets open storage identified in EPA aerial photograph review.
5BSV_DG-539	Kalina Complex	South of B4355	5		Representative sample location in Kalina Complex operational area.
5BSV_DG-540	Kalina Complex	B4334	5	٧	Targets fuel oil AST (KR-102).
5BSV_DG-541	SCTL	Southwest of B4026	5		Representative location in operational area southwest of B4026.
5BSV_DG-542	SCTL	Southwest of B4026	5	٧	Targets former sump and open storage south of B4226.
5BSV_DG-543	SCTL	B4358	5	V	Targets "potentially saturated area" identified in EPA aerial photograph review. Collect deepest sample just above bedrock.
5BSV_DG-544	SCTL	B4026	10 5		Same as 5BSV_DG-546.Representative location in B4026 operational area.
5BSV_DG-545	SCTL	Catch Basin North of B4359	10 5	٧	Targets catch basin and "probable leakage" identified in EPA HSA.
5BSV_DG-546	SCTL	B4026	10 5		Same as 5BSV_DG-544.
5BSV_DG-547	SCTL	B4026	10 5	٧	Targets fuel oil AST (T-15).
	50000000	B4826	10 5	٧	Targets sodium tank pits in B4826.
5BSV_DG-548	SCTL		· 10		Same as 5BSV_DG-550; also addresses elevated RLs in previous sampling (HSSV05).
5BSV_DG-549	SCTL	East of B4026	10 5		Representative location in operational area north/northeast of B4026.
5BSV_DG-550	SCTL	North of B4026	10 5		Representative of operational area at on northeast side of B4006.
5BSV_DG-551	SCTL	Northeast of B4006	10 5	100	Targets fuel oil UST (UT-02).
5BSV_DG-552	SCTL	Tank East of B4006	10	v	Targets "presumable former septic tank" identified in EPA aerial photograph review.
5BSV_DG-553	SCTL	Septic Tank Southwest of B4006	10	v	Targets structure observed in aerial photographs (see 1980 aerial photo) and operational area southeast of B4026 - potentially
5BSV_DG-554	SCTL	Southeast of B4026	10	٧	B4354 (Control Element Test Structure); also addresses storage observed to the southwest. Location targets the SCTI Interconnecting PowerPak Facility and a debris area identified in EPA aerial photograph review.
5BSV_DG-555	SCTL	Southeast of B4026	5 10	٧	Characterizes "stain" and horizontal tank identified in EPA aerial photograph review; also addresses elevated RLs in previous
5BSV_DG-556	SCTL	East of B4816	5 10	٧	sampling (HSSV09).
5BSV_DG-557	SCTL	Southeast of B4816	5	٧	Targets drainage along 17th Street and open storage area identified in EPA aerial photo review.
5BSV_DG-558	SCTL	Southeast of B4816	5		Representative sample in operational area southeast of B4816/B4006.
5BSV_DG-559	B4011 Area	Northeast of B4005/4006 Leach Field	5	٧	Targets northern terminus of pipeline leading for fuel oil tank to the south.
5BSV_DG-560	B4011 Area	North of B4005/4006 Leach Field	5	٧	Same as 5BSV_DG-543.
5BSV_DG-562	B4011 Area	North of B4005/4006 Leach Field	5 10	٧	Same as 5BSV_DG-543.
5BSV_DG-561	B4011 Area	Northeast of B4005/4006 Leach Field	5	٧	Location targets B4005/4006 leach field. Collect deepest sample just above bedrock to evaluate leach field as potential input location to groundwater.
5BSV_DG-563	B4011 Area	Southwest of B4005/4006 Leach Field	5		Location targets drainage along 20th Street.
5BSV_DG-564	B4011 Area	South of B4005/4006 Leach Field	5		Representative location south of leach field.
5BSV_DG-565	B4011 Area	East of B4005/4006 Leach Field	5 10		Representative location east of leach field.
5BSV_DG-567	B4011 Area	South of B4005/4006 Leach Field	5		Same as 5BSV_DG-564.
5BSV_DG-566	B4011 Area	South of B4005/4006 Leach Field	5		Same as 5BSV_DG-564; also targets fuel pipeline and linear geophysical anomaly.
5BSV_DG-568	B4011 Area	South of B4005/4006 Leach Field	10 5		Same as 5BSV_DG-564.
5BSV DG-569	B4011 Area	Culvert at 20th and F Street	5		Targets drainage and culvert.
5BSV_DG-570	B4011 Area	East of B4639	5		Targets drainage along F Street and defining western edge of identified contamination area.
5BSV_DG-571	B4011 Area	North of B4011	10 5		Representative location in operational area north of B4011.
			10 5	٧	One of five samples targeting open storage area; also targets former septic tank and addresses elevated RLs in previous sampli
5BSV_DG-572	B4011 Area	West of B4011	10 5	200	(L2SV02, L2SV1008). One of five samples targeting open storage area west of B4011; also targets "probable horizontal tank" identified in EPA HSA
5BSV_DG-573	B4011 Area	West of B4011	10 5	٧	One of five samples targeting open storage area; also targets historical unlined drainage observed in 1967 aerial photograph.
5BSV_DG-574	B4011 Area	West of B4011	10	٧	One of five samples targeting open storage area.
5BSV_DG-575	B4011 Area	West of B4011	10	٧	

Table 2 Subarea 5B Phase 3 Proposed Soil Vapor Sample Locations (3 of 4)

1985 DG-585 Bibli Area Southwest of Bibli 10 0 0 0 0 0 0 0 0	Rationale / Comments	Data Gap Checklist ²	Depth (ft bgs) ¹	Location Description	Area	Location ID
Seventrol Seve	rage.	٧		West of B4011	B4011 Area	5BSV_DG-576
SBSV_DG-578 B4011 Area South of B4011 Leach Field D	ting open storage area; also targets drainage along G Street.	٧	5	Southwest of B4011	B4011 Area	5BSV_DG-577
Server S	locations characterizing fill area (FA-11) identified in EPA aerial photograph review.	٧	5	Southwest of B4011 Leach Field	B4011 Area	5BSV_DG-578
SBSV_DG-580 EEL Northwest of B1271 SBSV_DG-581 BB007 Area Bat of B40054006 Leach Field SBSV_DG-582 BB011 Area South of B40054006 Leach Field SBSV_DG-583 B4011 Area South of B40054006 Leach Field SBSV_DG-584 B4017 Area South of Tandsformer SBSV_DG-585 B4017 Area South of Tandsformer SBSV_DG-586 SBFV_DG-587 B4017 Area South of B4007 SBSV_DG-588 B4017 Area South of Tandsformer SBSV_DG-588 B4017 Area South of Tandsformer SBSV_DG-588 B4017 Area South of Tandsformer SBSV_DG-588 B4017 Area South of Tandsformer SBSV_DG-588 B4017 Area South of B4007 SBSV_DG-589 I7th Street Pond Northwest of 17th Street Pond Northwest of 17th Street Pond SBSV_DG-589 I7th Street Pond Northwest of 17th Street Pond Approx. 6 (see minimals) Tangets Fundament electricity open area northwest of Identified Contamination Area. Location alto tanget and one characterize open area northwest of Identified Contamination Area. SBSV_DG-590 I7th Street Pond Northwest of 17th Street Pond Approx. 6 (see minimals) Tangets Fundament of Internation and the transformer. SBSV_DG-590 I7th Street Pond Northwest of 17th Street Pond Northwest of 17th Street Pond SBSV_DG-590 I7th Street Pond Northwest of 17th Street Pond Approx. 6 (see minimals) Tangets Fundament of Internation and the transformer. SBSV_DG-590 I7th Street Pond SBSV_DG-590 I7th Street Pond SBSV_DG-590 I7th Street Pond SBSV_DG-590 I7th Street Pond East of I7th Street Pond Approx. 6 (see minimals) Approx. 6 (see minimals) Same as SBSV_DG-590. Same as SBSV_DG-590. Same as SBSV_DG-590. Same as SBSV_DG-590. Same as SBSV_DG-590. Same as SBSV_DG-590. Same as SBSV_DG-590. Same as SBSV_DG-590. Same as SBSV_DG-590. Same as SBSV_DG-590. Same as SBSV_DG-590. Same as SBSV_DG-590.	Location also characterizes potential impacts from reclaimed water spray field.	٧	5	South of B4011 Leach Field	B4011 Area	5BSV DG-579
BBV_DG-S82 BB007 Area East of B400544006 Leach Field S 10 V	n 8	٧	5	Northwest of B3271	EEL	5BSV DG-580
SBSV_DG-582 B4011 Area South of B4005/4006 Leach Field 5 V Targets fuel oil AST (T-735). SBSV_DG-583 B4011 Area F Suced Draininge 10 September 10 S	ast of leach field.		5	East of B4005/4006 Leach Field	B4007 Area	
10 10 10 10 10 10 10 10	735).	٧	5	South of B4005/4006 Leach Field	2000000	
SBSV_DG-585 B4007 Area South of Transformer 10 V Same as 5BSV_DG-576. SBSV_DG-586 B4007 Area South of B4007 5 Location targets drainage and culver leading to 17th Street Pond. SBSV_DG-587 B4007 Area South of B4007 5 Location targets drainage and culver leading to 17th Street Pond. SBSV_DG-587 B4007 Area East of B4500 10 V Location targets drainage and culver leading to 17th Street Pond. SBSV_DG-588 B4007 Area East of B4500 5 V Location targets drainage and culver leading to 17th Street Pond. SBSV_DG-589 17th Street Pond Northwest of 17th Street Pond 10 V Sear-Observe during EPA HSA. SBSV_DG-589 17th Street Pond Northwest of 17th Street Pond 10 One of six representative location to characterize open area northwest of Identified Contamination Area. SBSV_DG-589 17th Street Pond Northeast of 17th Street Pond 10 One of six representative sample locations characterizing open area casts of Identified Contamination Area. SBSV_DG-590 17th Street Pond Northeast of 17th Street Pond 10 Same as 5BSV_DG-590. SBSV_DG-591 17th Street Pond Northeast of 17th Street Pond 10 Targets drainage and culver leading to 17th Street Pond 10 One of six representative location to characterize open area northwest of Identified Contamination Area. SBSV_DG-590 17th Street Pond Northeast of 17th Street Pond 5 Same as 5BSV_DG-590. SBSV_DG-591 17th Street Pond Northeast of 17th Street Pond 10 Targets the 17th Street Pond Depth to bedrock anticipated to be approximately 6 feet based on surrounding samp degrees sample just above bedrock to evaluate potential input/migration pathway to groundwater contamination greater than 7 feet, collect first sample at 5 feet and second sample just above bedrock to evaluate potential input/migration pathway to groundwater contamination greater than 7 feet, collect first sample at 5 feet and second sample just above bedrock to evaluate potential input/migration pathway to groundwater contamination greater than 7 feet, collect first sample at 5 feet and second sample just above bedrock to evaluate potent	e. Collect deepest sample just above bedrock to evaluate potential recharge to groundwater.		5	F Street Drainage	B4011 Area	
SBSV_DG-S85 B4007 Area East of B4007 South of B4007 SBSV_DG-S86 B4007 Area East of B4500 SBSV_DG-S87 B4007 Area East of B4500 SBSV_DG-S87 B4007 Area East of B4500 SBSV_DG-S88 17th Street Pond Northwest of 17th Street Pond SBSV_DG-S88 17th Street Pond Northwest of 17th Street Pond SBSV_DG-S89 17th Street Pond Northwest of 17th Street Pond SBSV_DG-S90 17th Street Pond Northwest of 17th Street Pond SBSV_DG-S91 17th Street Pond Northwest of 17th Street Pond SBSV_DG-S92 17th Street Pond Northwest of 17th Street Pond SBSV_DG-S93 17th Street Pond Northwest of 17th Street Pond Approx. 6 (see rationally) SBSV_DG-S94 17th Street Pond East of 17th Street Pond Approx. 6 (see rationally) SBSV_DG-S95 17th Street Pond East of 17th Street Pond Approx. 6 (see rationally) SBSV_DG-S95 17th Street Pond East of 17th Street Pond SBSV_DG-S95 17th Street Pond East of 17th Street Pond Approx. 6 (see rationally) SBSV_DG-S95 17th Street Pond East of 17th Street Pond SBSV_DG-S95 17th Street Pond SBSV_DG-S95 17th Street Pond East of 17th Street Pond SBSV_DG-S95 SBSV_DG-S95 17th Street Pond East of 17th Street Pond SBSV_DG-S95 SBSV_DG-S95 17th Street Pond East of 17th Street Pond SBSV_DG-S95 SBSV_DG-S95 17th Street Pond SBSV_DG-S95 SBSV_DG-S95 17th Street Pond SSSV_DG-S95 SBSV_DG-S95 SSSV_DG-S95 SSSV_DG-S96 SSSV_DG-S96 SSSV_DG-S96 SSSV_DG-S96 SSSV_DG-S97 SSSV_DG-S96 SSSV_DG-S97 SSSV_DG-S98 SSSV_DG-S98 SSSV_DG-S99 SSSV_DG-	outh of the transformer.	٧	5	South of Transformer	B4007 Area	5BSV_DG-584
SBSV_DG-586 B4007 Area South of B4007 10 Location targets drainage and culvert leading to 17th Street Pond.		٧	5	East of B4011	B4007 Area	
58SV_DG-587 B4007 Area East of B4500 5	and culvert leading to 17th Street Pond.		5	South of B4007		
SBSV_DG-588 17th Street Pond Northwest of 17th Street Pond 10 SBSV_DG-589 17th Street Pond Northwest of 17th Street Pond 10 SBSV_DG-589 17th Street Pond Northwest of 17th Street Pond 10 SBSV_DG-590 17th Street Pond Northwest of 17th Street Pond 10 SBSV_DG-590 17th Street Pond Northwest of 17th Street Pond 10 SBSV_DG-590 17th Street Pond Northwest of 17th Street Pond 10 SBSV_DG-590 17th Street Pond Northwest of 17th Street Pond 10 SBSV_DG-590 17th Street Pond Northwest of 17th Street Pond 10 SBSV_DG-590 17th Street Pond 17th Street Pond 10 SBSV_DG-590 17th Street Pond 17th Street Pond 10 Targets the 17th Street Pond 17th Street Pond 17th Street Pond 10 Targets the 17th Street Pond 17th Street Pond 10 Targets the 17th	along G Street.	٧	5	East of B4500	International Control	
SBSV_DG-589 17th Street Pond Northwest of 17th Street Pond 10 One of six representative location to characterize open area northwest of Identified Contamination Area. SBSV_DG-590 17th Street Pond Northeast of 17th Street Pond 5 One of six representative sample locations characterizing open area cast of Identified Contamination Area. SBSV_DG-590 17th Street Pond Northeast of 17th Street Pond 10 Same as SBSV_DG-590. SBSV_DG-591 17th Street Pond Northeast of 17th Street Pond 10 Targets the 17th Street Pond 10 Targets the 17th Street Pond Depth to bedrock anticipated to be approximately 6 feet based on surrounding samp deeperst sample just above bedrock to evaluate potential input/migration pathway to groundwater contamination. Targets the 17th Street Pond Depth to bedrock anticipated to be approximately 5 feet based on surrounding samp deeperst sample just above bedrock to evaluate potential input/migration pathway to groundwater contamination. Targets the 17th Street Pond Depth to bedrock anticipated to be approximately 5 feet based on surrounding samp deeperst sample just above bedrock to evaluate potential input/migration pathway to groundwater contamination. Targets the 17th Street Pond Depth to bedrock anticipated to be approximately 5 feet based on surrounding samp deeperst sample just above bedrock to evaluate potential input/migration pathway to groundwater contamination. Targets the 17th Street Pond Depth to bedrock anticipated to be approximately 5 feet based on surrounding samp deeperst sample just above bedrock to evaluate potential input/migration pathway to groundwater contamination. Targets the 17th Street Pond Depth to bedrock anticipated to be approximately 5 feet based on surrounding samp deeperst sample at 5 feet and second sample just above bedrock to evaluate potential input/migration pathway to groundwater contamination. Targets the 17th Street Pond Depth to bedrock to evaluate potential input/migration pathway to groundwater contamination. Same as 5BSV_DG-590. Same as 5BSV_DG-590.		٧	5			
SBSV_DG-590 17th Street Pond Northeast of 17th Street Pond Same as SBSV_DG-590.			5	*	200.2014020000 - 1147010 - 11470	
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SBSV_DG-592 17th Street Pond 17th Street			10,740	SUPERIOR PRINCIPLE CONTROL OF THE PRINCIPLE OF THE PRINCI		
SBSV_DG-593 17th Street Pond	4					N 151
Approx. 6 (see rationale) SBSV_DG-594 17th Street Pond East of 17 Street Pond East of 17 Street Pond East of 17 Street Pond East of 17 Street Pond SBSV_DG-595 17th Street Pond East of 17th Street Pond Southeast of 17th Street Pond Southeast of 17th Street Pond Southeast of 17th Street Pond To Southeast of 17th Street Pond Southeast of 17th Street Pond	e bedrock to evaluate potential input/migration pathway to groundwater contamination. If total depth		Approx. 6 (see	# 1		_
SBSV_DG-595 17th Street Pond East of 17th Street Pond 10 5 Same as 5BSV_DG-590.	e bedrock to evaluate potential input/migration pathway to groundwater contamination. If total depth			East of 17 Street Pond	17th Street Pond	5BSV_DG-594
5BSV_DG-596 17th Street Pond Southeast of 17th Street Pond 5 Same as 5BSV_DG-590. 5BSV_DG-597 17th Street Pond Southeast of 17th Street Pond 5 Same as 5BSV_DG-590. 5BSV_DG-598 17th Street Pond South of 17 Street Pond 5 Same as 5BSV_DG-594. 5BSV_DG-598 17th Street Pond South of 17 Street Pond 10				East of 17th Street Pond	17th Street Pond	5BSV_DG-595
5BSV_DG-597 17th Street Pond Southeast of 17th Street Pond 5 Same as 5BSV_DG-590. 5BSV_DG-598 17th Street Pond South of 17 Street Pond 5 Same as 5BSV_DG-594.			5	Southeast of 17th Street Pond	17th Street Pond	5BSV_DG-596
5BSV_DG-598 17th Street Pond South of 17 Street Pond 5 Same as 5BSV_DG-594.			5	Southeast of 17th Street Pond	17th Street Pond	5BSV_DG-597
			5	South of 17 Street Pond	17th Street Pond	5BSV_DG-598
5BSV_DG-599 17th Street Pond B3271 5 Targets drainage in southern portion of 17th Street Pond Identified Contamination Area.	hern portion of 17th Street Pond Identified Contamination Area.	٧	5	B3271	17th Street Pond	5BSV_DG-599
SBSV_DG-600 17th Street Pond 17th Street Pond 5 Same as 5BSV_DG-593.				17th Street Pond	17th Street Pond	5BSV_DG-600
5BSV_DG-601 17th Street Pond Fill Area West of 17th Street Pond 10 Pone of six representative locations characterizing fill area (FA-11) identified in EPA aerial photograph review.	locations characterizing fill area (FA-11) identified in EPA aerial photograph review.	٧		Fill Area West of 17th Street Pond	17th Street Pond	5BSV_DG-601
5BSV_DG-602 17th Street Pond Fill Area West of 17th Street Pond 10 Same as 5BSV_DG-578.		٧		Fill Area West of 17th Street Pond	17th Street Pond	5BSV_DG-602
5BSV_DG-603 17th Street Pond Fill Area West of 17th Street Pond 10 Same as 5BSV_DG-578. Location also characterizes potential impacts from reclaimed water spray field.	. Location also characterizes potential impacts from reclaimed water spray field.	٧	5	Fill Area West of 17th Street Pond	17th Street Pond	5BSV_DG-603
5BSV_DG-604 EEL B3271 5 Location characterizes potential impacts from reclaimed water spray field.	otential impacts from reclaimed water spray field.	٧	5	B3271	EEL	5BSV_DG-604
5BSV_DG-605 EEL B3271 5 Same as 5BSV_DG-604.		٧	5	B3271	EEL	5BSV_DG-605
5BSV_DG-606 17th Street Pond B3271 5 Same as 5BSV_DG-604.		٧	5	B3271	17th Street Pond	5BSV_DG-606
5 Targets concrete pad for Hazardous Materials Storage Area, undefined feature observed in 1960-1963 aerial phot potential impacts from reclaimed water spray field. Bedrock in area approximately 7 feet bgs; target deepest samp bedrock due to assess potential fluid release and migration along bedrock from HMSA.	eclaimed water spray field. Bedrock in area approximately 7 feet bgs; target deepest sample just above	٧	5	B3271	EEL	5BSV_DG-607
5BSV_DG-608 EEL North of B3271 5 Representative location in operational area north of B3271; also addresses elevated RLs in previous sampling (EI	in appartianal area porth of B3271; also addresses alayated D1 s in provious campling (E1 CV/00)			N. d. 602271	9722	

Table 2 Subarea 5B Phase 3 Proposed Soil Vapor Sample Locations (4 of 4)

Location ID	Area	Location Description	Depth (ft bgs) ¹	Data Gap Checklist ²	Rationale / Comments
5BSV_DG-609	EEL	B3271	5	٧	Targets B3271.
5BSV_DG-610	EEL .	West of B3271	5 10	٧	Same as \$BSV_DG-578.
5BSV_DG-612	17th Street Pond	South of 17th Street Pond	5 10	٧	Location targets repair location along sanitary sewer line. Collect deepest sample just above bedrock to evaluate potential migration pathway to groundwater.

Footnotes

- 1. Soil vapor sampling field protocols still being defined; proposed sampling included in table to be implemented after DTSC approval of Soil Vapor SOP. It is anticipated that soil vapor samples will be collected at 5-foot intervals to a depth of 20 feet bgs, and at 10-foot intervals thereafter to bedrock. All soil vapor samples will be collected and analyzed in accordance with approved procedures in a Soil Vapor SOP. In areas where soils are not deep enough for soil vapor analysis, soil matrix samples will be collected for VOC analysis using EPA Method 8260B if soils are more than 2 feet thick.
- 2. Checkmark in column indicates sample was proposed based on review of information source indicated in Table 4 for the area listed in "Location Description" (GIS or aerial photo review layers).

Acronyms

ASTM = American Society for Testing and Materials bgs = below ground surface

bgs = below ground surface
DTSC = California Department of Toxic Substances Control
EEL = Environmental Effects Laboratory

EEL = Environmental Effects Laboratory
EPA = Environmental Protection Agency
fn = foot/feel
GIS = geographic information system
HSA = Historical Site Assessment
HMSA = Hazardous Material Storage Area
ISL = interim screening level
LF = leach field
RL = reporting limit
SCTI = Sodium Component Test Installation
SCTL = Sodium Component Test Loop
SOP = standard operating procedure
VOC = volatile organic compound

	Radinale / Comments	Future Location. Stepout for silver (and potentially PCBs) impacts in sample P2TS57 as described for	J. J. J. J. J. J. J. J. J. J. J. J. J. J	×	Future Location. Stepout to delineate elevated silver in sample P2TS56. Analyze for dioxins since it is	found throughout the 17th Street Fond Clearly Confaminaled Area. Deep samples on hold pending shallow results since no defections above 181s at depth. Depth to refusal unknown.	8 22	Future Location. Stepout to delineate down drainage extent of PAH, PCB, doxins, and metals impacts	from sample 21-20+20.25. Tool deepel samples pending stepower sample results at 51-20+50.55.		Future Location. Characterize soil immediately adjacent to concrete pad for Hazardous Materials Storage	Artea, underined readite observed in 1900-1903 acrain photograph, and potential impacts from recannets water spray field. Bedrock in area approximately 7 feet bgs, target deepest sample, just above bedrock due to assess	potential Iliud release and migration along bedrock from HMSA
	Pata Gap Checklist								>			>	
	Soil Moisture (ASTM D2216/ EPA Method 160.3)	×	×	Η	×	×	Ξ	×	×	Ξ	×	×	×
	(D24-00 borhold AFA) Hq	×	×	Ξ	×	×	Ξ	×	×	Ξ	×	×	×
	Herbicides (FPA Method 8151A)												
	Pesticides (FPA Method 8081)	03											
	Morpholine (FPA Method 8260 TIC)												
	(EPA Method 8260B)												
	(EPA Method 8260B) VOCs (SV)		×.										
	Formaldehyde (FPA Method 8315A)										×	×	×
	(EPA Method 8015B)	×	×	н	×	×	=	×	×	Ξ	×	×	×
Method	(0989/0589 poupaty Vd3)										×	×	×
Analytical Method	(EPA Sterhod 8330A) Perethlorate												
V	(B2108 borholt Aga)					_		-					
	(EPA Method 8015B)			_	H			_					
	Circols (EPA Method 7196A)						_				1000		
	Cr(A,I)										×	×	×
	(EPA Method 7471A)												
	/6020/60204/74713/4/7471B) (EPA Methods 6010B/6010C	×	×	Ξ	×	×	н	×	×	Ξ	×	×	×
	snaru-Tvanizoi() (£181 bothst/ A.9.3)	×	×	ш	×	×	н	×	×	н	×	×	×
	(EPA Method 8082)	×	×	н	×	×	Ξ	×	×	Ξ	×	×	×
	(EPA Method 8270C [SIM])	×	×	Ξ	×	×	Ξ	×	×	=	×	×	×
	Depth (feet bgs)	0.5	\$	10	0.5	5	- 01	0.5	5.0	01	0.5	5.0	10
	Sample Type		Soil		T	Soul	*		Soil			Soil	
H	ž "				-				-	:0	-	_	_
	Location Description	6	Identified Contamination Area	Area III		South of 17th St. Pond Clearly			Dramage South of Area III/IV Boundary			Hazardous Matrials Storage Area East of Building 3271	
	Arra		17th St. Pond			17th Street			South of	17th St. Pond		B4011 Area	
	Location ID		5B_DG-793			5B_DG-795			5B_DG-798			5B_DG-814	

Notes

1. Standard metals analyses includes solver and mercury, but does not include breavadorn chromium. Individual analyses for silver and mercury included for solver hostnines.

2. Checkmark in column indicates sample was proposed based on review of information source indicated in Table 4 for the area listed in "Location Description" (GIS or acrial photo review layers).

Subarea 5B Data Gap Checklist (Page 1 of 2)

17th St Pond

				58 Dat	5B Data Gap Evaluation Areas ¹	Areas 1			
INFORMATION SOURCE	B4019	B4010			Kalina			B4011	B4007
	Area	Area	SCTI	HMSA	Complex	SCTL	EE	Area	Area
GIS Base Map Layers		B	23	,		,	,		
Tanks (and Sitewide Lank Inventory Table)	> 1	> 1	> '	> 1	> 1	> 1	> 1	> 1	> 1
Iranstormers	>	>	>	> '	>	> '	> '	> '	>
Structures	>	>	>	>	>	>	>	>	>
Sumps	>	>	>	>	>	>	>	>	>
Vaults	>	>	>	>	>	>	>	>	>
Pipes	>	>	>	>	>	>	>	>	>
Undefined features	>	>	>	>	>	>	>	>	>
Chambrell Ites America (DEI)	>	>	,	^	^	>	>	>	^
(ILN) speak as near the contract of the contra	• 7	• ;	• 7	. 7	, 7	. 7	,	, ,	
Streams/ditches	>	>	>	>	>	>	>	> '	> '
Leachfields	>	>	>	>	>	>	>	>	>
Storage Yard Areas	>	>	>	>	>	>	>	>	>
Roads	>	>	>	>	>	>	>	>	>
Soil Disturbance (Veg clearance, excavation, grading, etc)	>	>	>	>	>	>	>	>	>
Migration Pathways									
C. Infrared Mileton	,	1	7	^	1	^	^	>	>
Sullace water	•	•	•						
Aerial Dispersion ²	>	>	>	>	>	>	>	>	>
Subsurface Soil	>	>	>	>	>	>	>	>	>
Site-wide Infrastructure									
IWW - spray fields	>	>	>	>	>	>	>	>	>
Natural Gas Pinelines (site-wide approach also in progress)	>	>	>	>	>	>	>	>	>
Gauser (ethaurida annocada alco in nerodrace)	>	>	>	>	>	>	>	>	>
פעאבו (פונים מבלבו מפרים ביים ביים ביים ביים ביים ביים ביים ב				6	10				
A cated 10 have Designed									
Actial Figure Newton	7	7	7	,	1.	7	7	,	1
Historical aerial photographs from 17 years (1955 - 2005)	>	>	>	•	•	•	•	•	•
EDA I augus									
110 CONT.	>	>	>	>	^	>	>	>	>
	2	2		, M	ν	NA	N N	ΔN	Ą
Forential Gamma Anomalies (FGRAT)	2 2						NA.	VN V	4
lank Points	¥ :	<u> </u>	<u> </u>		£ ;				
HSA Line Layer (HSA linear features)	NA	NA	Ą	Ā	AN	AN	Y.	¥.	1
HSA Photo Layer (HSA aerial photo review features)	>	>	>	>	>	>	>	>	>
Historical Use Data (chem use, storage, leach fields, releases, interviews, etc.)	>	>	>	>	>	>	>	>	>
Area IV Conduit (pipelines)	>	>	>	>	>	>	>	>	>
General Circums (FM GDP TC)	>	>	>	^	>	>	>	>	>
פרטניון איוכן פרטנין איין פרטנין איין פרטנין איין פרטנין איין פרטנין איין פרטנין איין פרטנין איין פרטנין איין									
~									
Other 5		10	93	•	•	•		7	,
Existing Building Feature Documentation - process info reviewed	>	>	>	>	>	>	>	>	> '
Historical Facility Diagrams - deep feature info reviewed	>	>	>	>	>	>	>	>	>

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> 4 4 4

(Page 2 of 2)

Subarea 5B Data Gap Checklist

INFORMATION SOURCE										
	B4019	B4010			Kalina			B4011	B4007	17th
	Area	Area	SCTI	HMSA	Complex	SCTL	EEL	Area	Area	Ponc
Groundwater Impacts / Potential Inputs to Groundwater Evaluated 4	>	>	>	>	>	٨	٨	٨	٨	^
Site-wide Tank Inventory Table for unlocated tanks (viewed with Tanks Base Map layer)	>	>	>	>	>	>	>	>	>	>
EPA Area IV radiological sampling results ⁵	>	>	>	>	>	>	>	>	>	>
Uncollected EPA Phase 1 sample locations ⁶	>	>	>	>	>	>	>	>	>	>
	>	Feature reviewe	ed during data g	Feature reviewed during data gaps evaluation						
	>	Indicates sampl	ing proposed ba	Indicates sampling proposed based on reviewed feature	d feature					
	1	No buildings pre	No buildings present for inspection	tion	,					
	NA	Information sou	irce not availabl	Information source not available for this subarea	ea					

h St

5B Data Gap Evaluation Areas

84010, 84012, 84025, 84710, 84228, and the area surrounding these buildings; SCT1 includes 84355, 84356, cooling tower (84656), condenser, water treatment area, and surrounding areas; HMSA includes 84457, 1. Data gap evaluations were performed over smaller footprints within each subarea. For Subarea 58: 84019 Area includes 84013, 84019, and the area surrounding these buildings; 84010/4102 Area includes 84357, 84478, three containment sumps, and areas surrounding these buildings/features; Kalina Complex includes 84334, 84335, 84392, and areas surrounding these buildings; and SCTL area includes B4359, 884226, B4826, B4816, B4816, B4854, and surrounding buildings and features; EEL includes B3271 and areas to the north and northeast; B4011 Area includes B4011, B4171, B4172, B4611, B4612, and surrounding areas; 84007 Area includes 84007, 84008, 84500, and surrounding areas; and the 17th Street Pond includes the pond and surrounding areas. 2. Evaluation of air dispersion migration pathways was performed using existing sampling results, or proposing additional sampling as warranted along predominant wind directions (NW-SE), and/or in adjacent drainages. For Subarea 58, three air dispersion sources were evaluated: stacks at 84010, 84012, and 84019. Additional future sampling is recommended in Subarea 7 and the NBZ to assess this pathway, but existing data along with newly proposed Phase 3 locations is considered sufficient to assess potential contamination with Subarea 58 from this pathway.

EPA boring logs from co-located sampling, filterable dataset, and the EPA HSA document. Previous RFI Group reports were used as a reference on an as-needed basis in evaluation of selected features (e.g. building 3. Other notes and resources used in the data gap process included data dotmaps, a co-located sampling boring log summany table (including analytical and sample depth info), boring and trench logs from the RFI, use descriptions).

4. Feature/area identified that may warrant further consideration of groundwater input sources and threat to groundwater sampling requirements by DTSC and SSFL groundwater teams. Identification based on type of feature (typicially, a liquid waste disposal or storage feature), and soil detections of mobile chemicals (e.g., VOCS, NDMA, perchlorate, 1,4-dioxane), and/or multiple chemical detections significantly above

5. EPA radiological sampling results summaries included as part of chemical data gap evaluation process; validated data from EPA will be reviewed when available. For Subarea 58, no chemical data gaps indicated based only on radiological sampling results although chemical sampling proposed at 2 areas with radiological trigger level exceedances (84010 and 17th Street Pond / Drainage Areas).

6. Proposed Phase 1 sampling locations where no radiological sample was collected by EPA (due to refusal, safety concerns, etc.) were evaluated to determine if a chemical data gap still existed, with additional sampling proposed in Phase 3 if a gap was identified.

