



## Energy Technology Engineering Center

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Simi Valley, CA 93063

November 1, 2013

Ms. Laura Rainey, P.G.  
DOE SSFL Project Manager  
Department of Toxic Substances Control  
5796 Corporate Avenue  
Cypress, CA 90630

Subject: Submittal of DOE's Phase 3 Subarea 5A North Implementation Plan, Santa Susana Field Laboratory

Dear Ms. Rainey:

The United States Department of Energy (DOE) is pleased to submit this Phase 3 Subarea 5A North Implementation Plan for your review and information. This Implementation Plan supplements the Subarea 5A Data Gap Analysis Technical Memorandum (TM) that was submitted as Attachment 1 in Addendum No. 4 to the *Master Field Sampling Plan (MFSP) to Chemical Data Gap Investigation, Phase 3 Soil Chemical Sampling at Area IV* and approved by DTSC in September 2012.

The Subarea 5A North Implementation Plan has been developed because new information has become available since submittal of the Subarea 5A Data Gap Analysis TM, including final Chemical Look-Up Table values issued by DTSC in June 2013 and receipt of Phase 3 sampling results for Subareas 5C, 5B, 3, 6, and 7. Based upon this new information, DOE is planning a phased soil sampling implementation approach for Subarea 5A North. This approach does not change the Data Quality Objectives (DQOs) published in the MFSP Work Plan; rather, the same DQOs are being applied for the Phase 3 investigation but are accomplished using phased sample collection and data evaluation that accounts for new information. Sampling needs for remedial planning were re-evaluated and previously proposed sample locations within 5A North were either selected for implementation or deferred until the initial Phase 3 Subarea 5A North soil sampling results are obtained and evaluated as part of DOE's 'Go-Back' planning.

The Phase 3 Subarea 5A North Implementation Plan consists of Figure 1 that displays locations selected for implementation or deferment, and Table 1 which summarizes the implementation rationale. This plan incorporates input from your staff as discussed at technical meetings in September 2013.

If you have any questions regarding this document, please contact me at (805) 416-0992. DOE plans to begin implementation of this plan for Subarea 5A North on November 11, 2013.

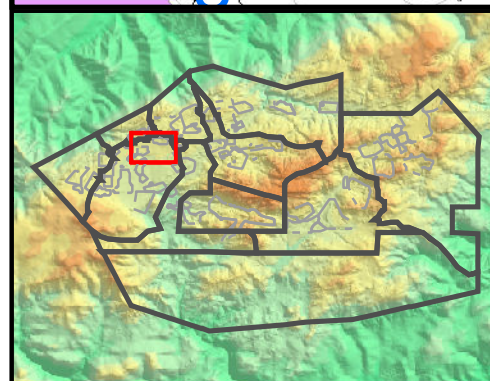
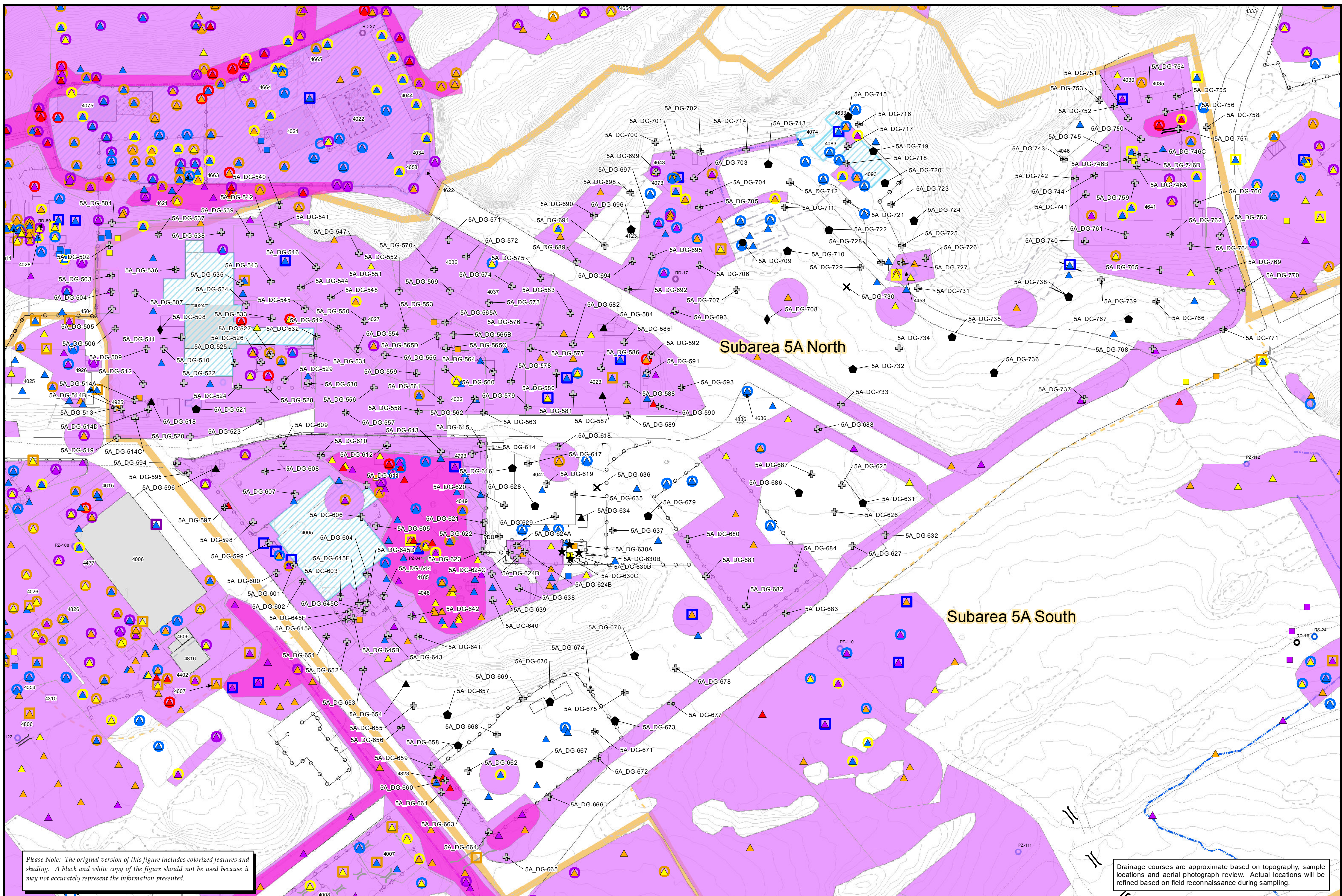
I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those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

Sincerely,

A handwritten signature in red ink, appearing to read "Stephie Jennings", with a stylized flourish at the end.

Stephie Jennings  
Deputy Federal Project Director,  
U.S. Department of Energy

cc: Mr. John Jones, DOE (w/o attachment)  
Mr. Buck King, DTSC (w/ attachment)  
Mr. Richard Hume, DTSC (w/o attachment)  
Mr. Mark Malinowski, DTSC (w/o attachment)  
Mr. David Dassler, Boeing (w/o attachment)  
Mr. John Wondolleck, CDM Smith (w/o attachment)  
Ms. Dixie Hambrick, MWH (w/o attachment)



Base Map Legend	
	Administrative Area Boundary
	Area IV HSA Subarea
	Clearly Contaminated Area
	DOE AOC Preliminary Remediation Areas
	Existing Building or Structure
	Removed Building or Structure
	Ponds
	Pipe
	Leach Field
	Drainage
	Concrete Lined Drainage
	Rock Outcrop
	Dirt Road
	A/C Paving
	Elevation Contour
Groundwater Wells	
	Near Surface
	Chatsworth
Trenches	
	Previous
	Proposed

The "Combined Analyte" Data Summary includes all chemicals listed in the DTSC Look-up Table (LUT) as well as other chemicals analyzed at the site. The maximum ratio to LUT value was used to color code symbols at each location as shown in the legend. For locations where at least one chemical was detected, the maximum ratio of detected concentration/LUT value was used; otherwise the maximum ratio of MR/LUT value was used and the location was symbolized as ND. VOCs and TPH are not included in the "combined analyte" comparison since they are typically evaluated separately for characterization and remedial planning.

TPH is represented by a color coded halo surrounding the combined analyte data symbol where analyzed. For locations where TPH was detected, the higher of the ratio of gasoline range TPH / LUT value or the sum of kerosene, diesel, and lubricant oil range TPH / LUT value was used; otherwise the higher of the ratio of gasoline range TPH MRL / LUT or sum of kerosene, diesel, and lubricant oil range TPH MRLs / LUT value was used and the location was symbolized as ND.

- Proposed Area IV Data Gap Locations**
- Deferred Sample Location
  - Add to Analytical Suite at Sample Location
  - Re-analysis Sample Location (RLs)
  - Other Targeted Sample Location
  - Tank Sample location
  - Stepout/Stepdown Sample location
  - Test Pit Location
  - Post Demolition Sampling Area

Combined Detect / LUT Values		Combined ND / LUT Values	
	<= 1x LUT Values		<= 1x LUT Values
	1x - 2x LUT Values		1x - 2x LUT Values
	2x - 10x LUT Values		2x - 10x LUT Values
	10x - 100x LUT Values		10x - 100x LUT Values
	> 100x LUT Values		> 100x LUT Values
TPH Detect / LUT Values		TPH ND / LUT Values	
	<= 1x LUT Values		<= 1x LUT Values
	1x - 2x LUT Values		1x - 2x LUT Values
	2x - 10x LUT Values		2x - 10x LUT Values
	10x - 100x LUT Values		10x - 100x LUT Values
	> 100x LUT Values		> 100x LUT Values

**Subarea 5A North Implementation Plan**  
**Phase 3 Proposed Soil Matrix Sampling**  
**Locations and Previous Data Summary**

**SANTA SUSANA FIELD LABORATORY**

Path: T:\projects\rock3\HSA\Working\HSA5A\_N\_Summary.mxd Date: 10/31/2013

1 inch = 80 feet

0 80 160 Feet

**FIGURE 1**

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
(1 of 22)

Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method																Data Gap Checklist <sup>3</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)					
5A_DG-501	SETF	Drainage Northwest of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets low spot in drainage before entering culvert inlet (dioxins, metals, and PAHs detected above ISLs in existing samples within drainage). Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with the deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X					X	X					
5A_DG-502	SETF	Northwest of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-537 (note, sample located south of pole-mounted transformer identified in HMSA RFI Report; prior sampling of transformer was ND for PCBs).	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X					X					X	X					
				10	H	H	H	H					H					H	H					
5A_DG-503	SETF	Open Storage West of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout from SL-237-SA5A (PAHs detected above ISLs at 10') and characterizes open storage area with most storage along fence. Bedrock anticipated ~15'. Collect samples at 5' intervals to bedrock with the deepest sample just above bedrock. Analyze 10' sample for PAHs only (hold other analyses pending shallower results).	No	Location within PRA footprint where vertical extent is sufficiently defined. Bedrock anticipated <15 feet bgs based on adjacent samples, which is within 5 feet of the deepest detect above LUT values (PAHs at 10' bgs at SL-237-SA5A).	
				5	X	X	H	X					X					X	X					
				10	X	H	H	H					H					H	H					
5A_DG-504	SETF	Open Storage West of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepdown from SL-237-SA5A for deeper sample (PAHs detected above ISLs at 10') and characterizes open storage area with most storage along fence. Bedrock anticipated ~15'. Collect samples at 5' intervals to bedrock with the deepest sample just above bedrock. Analyze all depths for PAHs only; hold other analyses pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined. Bedrock anticipated <15 feet bgs based on adjacent samples, which is within 5 feet of the deepest detect above LUT values (PAHs at 10' bgs at SL-237-SA5A).	
				5	X	X	H	X					X					X	X					
				10	X	H	H	H					H					H	H					
5A_DG-505	SETF	Open Storage West of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-503.	No	Location within PRA footprint where vertical extent is sufficiently defined. Bedrock anticipated <15 feet bgs based on adjacent samples, which is within 5 feet of the deepest detect above LUT values (PAHs at 10' bgs at SL-237-SA5A).	
				5	X	X	H	X					X					X	X					
				10	X	H	H	H					H					H	H					
5A_DG-506	SETF	West of Building 4024	Soil Boring / Test Pit	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-503.	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.	
				5	X	X	X	X					X					X	X					
				10	H	H	H	H					H					H	H					
5A_DG-507	SETF	Open Storage West of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout from SL-237-SA5A (PAHs detected above ISLs at 10') and characterizes open storage area with most storage along fence. Bedrock anticipated ~15'. Collect samples at 5' intervals to bedrock with the deepest sample just above bedrock. Analyze 10' sample for PAHs only (hold other analyses pending shallower results); hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined. Bedrock anticipated <15 feet bgs based on adjacent samples, which is within 5 feet of the deepest detect above LUT values (PAHs at 10' bgs at SL-237-SA5A).	
				5	X	X	H	X					X					X	X					
				10	X	H	H	H					H					H	H					
5A_DG-508	SETF	West of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets fill from unknown origin west of B4024 observed at SL-245-SA5A to 30' (fill extent shown on 1961 B4024 facility drawing and likely placed during original construction activities); positioned near outside storage. Bedrock anticipated ~30'. Collect samples at 5' intervals to 20', then every 10' to bedrock with the <b>deepest sample just above bedrock</b> ; analyze all depths to characterize fill.	Yes		
				5	X	X	X	X					X					X	X					
				10	X	X	X	X					X					X	X					
				15	X	X	X	X					X					X	X					
				20	X	X	X	X					X					X	X					
				30	X	X	X	X					X					X	X					
5A_DG-509	SETF	West of Building 4024	Soil Boring / Test Pit	0.5	X	X	X	X					X					X	X	✓	Location targets potential staining observed in aerial photo (1999) identified by EPA, terrain conductivity anomaly, localized depression with cracked asphalt, linear patched asphalt observed on site walk, and fill from unknown origin west of B4024 observed at SL-245-SA5A to 30' (fill extent shown on 1961 facility drawing and likely placed during original construction activities of B4024). Bedrock anticipated ~30'. Collect samples at 5' intervals to 20', then every 10' to bedrock with the deepest sample just above bedrock; analyze all depths to characterize fill. Conduct adjacent test pit for linear terrain conductivity anomaly and adjust 5' sample to target feature (or sample pit as appropriate).	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.	
				5	X	X	X	X					X					X	X					
				10	X	X	X	X					X					X	X					
				15	X	X	X	X					X					X	X					
				20	X	X	X	X					X					X	X					
				30	X	X	X	X					X					X	X					
5A_DG-510	SETF	West of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets terrain conductivity anomaly, linear patched asphalt observed on site walk (possibly related to anomaly), and fill from unknown origin west of B4024 observed at SL-245-SA5A to 30' (fill extent shown on 1961 B4024 facility drawing and likely placed during original construction activities). Bedrock anticipated ~30'. Collect samples at 5' intervals to 20', then every 10' to bedrock with the deepest sample just above bedrock; analyze all depths to characterize fill.	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.	
				5	X	X	X	X					X					X	X					
				10	X	X	X	X					X					X	X					
				15	X	X	X	X					X					X	X					
				20	X	X	X	X					X					X	X					
				30	X	X	X	X					X					X	X					

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
(2 of 22)

Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method															Data Gap Checklist <sup>3</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)				
5A_DG-511	SETF	West of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets fill from unknown origin west of B4024 observed at SL-245-SA5A to 30' (fill extent shown on 1961 B4024 facility drawing and likely placed during original construction activities); positioned near ramp into B4024 adjacent to the reactor vault complex. Bedrock anticipated ~30'. Collect samples at 5' intervals to 20', then every 10' to bedrock with the deepest sample just above bedrock; analyze all depths to characterize fill.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				
				15	X	X	X	X					X					X	X				
				20	X	X	X	X					X					X	X				
30	X	X	X	X					X					X	X								
5A_DG-512	SETF	Southwest of Building 4024	Soil Boring / Test Pit	0.5	X	X	X	X					X					X	X	✓	Location targets terrain conductivity anomaly and characterizes operational area. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with the deepest sample just above bedrock; hold deeper samples pending shallower results. Conduct adjacent test pit for linear terrain conductivity anomaly and adjust 5' sample to target feature (or sample pit as appropriate).	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.
				5	X	X	X	X					X				X	X					
				10	H	H	H	H					H				H	H					
5A_DG-513	SETF	Drainage Southwest of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets asphalt swale that directs surface flow west of B4024 to the culvert west of the transformer pad. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with the deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X				X	X					
				10	X	X	X	X					X				X	X					
5A_DG-514A	SETF	Transformer 4927 (Southwest of B4024)	Soil Boring	0.5		X												X	X	✓	Transformers in Area IV with previous ND results are being resampled with discrete samples. Collect samples at four discrete locations and analyze 0.5' samples for PCBs; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
3		H													H								
5A_DG-514B	SETF	Transformer 4927 (Southwest of B4024)	Soil Boring	0.5		X											X						
3		H													H								
5A_DG-514C	SETF	Transformer 4927 (Southwest of B4024)	Soil Boring	0.5		X												X					
3		H															H						
5A_DG-514D	SETF	Transformer 4927 (Southwest of B4024)	Soil Boring	0.5		X												X					
3		H															H						
5A_DG-518	SETF	Southwest of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets AST with unknown contents (AT-HS-5) identified in the Sitewide Tank Inventory (CH2M Hill, 2011); positioned adjacent to undefined feature observed in 1978 photograph (HDMSm000000249). Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with the deepest sample just above bedrock; hold deeper sample pending shallower results.	Yes	
				5	X	X	H	X					X				X	X					
				10	H	H	H	H					H				H	H					
5A_DG-519	SETF	Drainage Along B Street South of Building 4024	Soil Boring	0.5	X	X	X	X					X			X	X	X	X	✓	Location targets the drainage along the northern edge of B Street downslope from the transformer prior to flow leaving 5A North. Bedrock anticipated <5'. Collect at 5' intervals to bedrock with the deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X		X	X	X	X					
5A_DG-520	SETF	Drainage Along B Street South of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets the drainage along the northern edge of B Street immediately prior to flowing into the culvert diverting flow south under B Street. Bedrock anticipated <5'. Collect at 5' intervals to bedrock with the deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X				X	X					
5A_DG-521	SETF	Cooling Tower 4928 (South of Building 4024)	Soil Boring	0.5	X	X	X	X	X				X	X	X			X	X	✓	Location targets cooling tower and sump located south of B4024, cooling tower analytical suite (formaldehyde and Cr[VI]) included. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with the deepest sample just above bedrock; hold deeper samples pending shallower results.	Yes	
				5	X	X	H	X	X				X	X	X			X	X				
				10	H	H	H	H	H				H	H	H			H	H				
5A_DG-522	SETF	South of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets removed fuel oil UST (UT-18) located south of B4024. Tank bottom depth expected ~-8' with bedrock anticipated at ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to characterize fill of unknown origin and potential release from tank. Conduct geophysical survey prior to sampling to determine location of removed UST.	No	Location within PRA footprint where vertical extent is sufficiently defined. Soil adjacent to former UST to be evaluated during remediation.
				5	X	X	X	X					X				X	X					
				10	X	X	X	X					X				X	X					
5A_DG-523	SETF	Drainage Along B Street Southeast of Building 4024	Soil Boring	0.5	X	X	X	X					X			X	X	X	X	✓	Location targets the storm drain discharge point to the drainage along the northern edge of B Street; storm drain conveys surface water collected from the areas east and south of B4024. Bedrock anticipated <5'. Collect at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X		X	X	X	X					
5A_DG-524	SETF	Southeast of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-528.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.
				5	X	X	H	X					X				X	X					
				10	X	X	H	X					X				X	X					

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
(3 of 22)

Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method																	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs/ PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)	Data Gap Checklist <sup>3</sup>				
5A_DG-525	SETF	East of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets fill from unknown origin in location of former underground radioactive gas hold-up tanks (samples of fill contain dioxins, PAHs, TPH, and/or metals above screening criteria). Bedrock anticipated ~15'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to characterize fill.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X					X	X					
				10	X	X	X	X					X					X	X					
5A_DG-526	SETF	East of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets fill from unknown origin with dioxins, PAHs, TPH, and metals detected above screening criteria based on surrounding sample results; and characterizes fenced open storage. Bedrock anticipated at 15'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to characterize fill.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X					X	X					
				10	X	X	X	X					X					X	X					
5A_DG-527	SETF	Open Storage East of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepup at SL-113-SA5A for 0' and 5' samples (Zinc and TPH detected above ISLs at depth) to characterize fill in location of former underground radioactive gas hold-up tanks (samples of fill contain dioxins, PAHs, TPH, and/or metals above screening criteria) and fenced open storage observed first in 1990 aerial photo. Bedrock anticipated at 15'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to characterize fill.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X					X	X					
				10	X	X	X	X					X					X	X					
5A_DG-528	SETF	Southeast of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative location characterizing operational area; positioned south of fill from unknown origin in location of former underground radioactive gas hold-up tanks (samples of fill contain dioxins, PAHs, TPH, and/or metals above screening criteria). Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.	
				5	X	X	X	X					X					X	X					
				10	X	X	X	X					X					X	X					
5A_DG-529	SETF	East of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets ground penetrating radar anomaly and fill from unknown origin in location of former underground radioactive gas hold-up tanks (samples of fill contain dioxins, PAHs, TPH, and/or metals above screening criteria); and characterizes fenced open storage. Bedrock anticipated at 15'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to characterize fill.	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly and lateral extent of fill to be evaluated during remediation.	
				5	X	X	X	X					X					X	X					
				10	X	X	X	X					X					X	X					
5A_DG-530	SETF	Southeast of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets fenced open storage southeast of B4024. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X					X					X	X					
				10	X	X	H	X					X					X	X					
5A_DG-531	SETF	Open Storage East of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets drain discharge from the southern track of the gantry crane pad and characterizes fenced open storage. Bedrock anticipated at ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X					X					X	X					
				10	H	H	H	H					H					H	H					
5A_DG-532	SETF	East of the Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets area east of the Hot Waste Storage vaults and stepout from SL-117-SA5A and SL-118-SA5A (TPH detected above ISL). Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X					X					X	X					
				10	X	X	H	X					X					X	X					
5A_DG-533	SETF	East of the Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout from SL-118-SA5A (TPH detected above ISLs) and U5BS1127 (metals, TPH, and PAHs above ISLs); previous RFI stepouts not analyzed for TPH. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X					X					X	X					
5A_DG-534	SETF	East of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout from U5BS1127 (metals, TPH, and PAHs detected above ISLs); previous RFI stepouts not analyzed for TPH. Location also targets undefined feature observed in aerial photos (i.e., 1980). Bedrock is anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X					X					X	X					
				10	H	H	H	H					H					H	H					
5A_DG-535	SETF	Northeast of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets removed fuel oil UST (UT-19) located northeast of B4024. Tank depth anticipated ~8'. Location based on facility drawing; previous location targeting UST (U5BS1126) had bedrock refusal above the tank bottom depth. Bedrock at ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to characterize fill of unknown origin and potential release from tank. Conduct geophysical survey prior to sampling to determine location of removed UST.	No	Location within PRA footprint where vertical extent is sufficiently defined. Soil adjacent to former UST to be evaluated during remediation.	
				5	X	X	X	X					X					X	X					
				10	X	X	X	X					X					X	X					

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method															Data Gap Checklist <sup>3</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)				
5A_DG-536	SETF	Northwest of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-537.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-537	SETF	Northwest of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative location to characterize operational area northwest of B4024; positioned near storage observed in 1978 photograph (HDMSm000000249). Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-538	SETF	North of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout from U5BS1129 (TPH detected above ISL); also will provide stepout information for SL-120-SA5A (dioxins detected above ISLs). Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-539	SETF	Northeast of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout from drainage (dioxins, metals, and PAHs detected above ISLs in existing samples within drainage); positioned outside of drainage and south of location with highest concentrations detected above ISLs (SL-119-SA5A) in the vicinity. Bedrock is anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-540	SETF	Northeast of Building 4024	Soil Boring	0.5	X	X	X	X					X			X	X	X	X	✓	Location targets surface water pathway from RMHF upstream of drainage (dioxins, metals, and PAHs detected above ISLs in existing samples within drainage). Bedrock is anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X			X	X	X	X				
5A_DG-541	SETF	Northeast of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets low spot at end of surface water pathway from RMHF which flows into drainage (dioxins, metals, and PAHs detected above ISLs in existing samples within drainage). Bedrock is anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
5A_DG-542	SETF	North of Building 4027	Soil Boring / Test Pit	0.5	X	X	X	X					X					X	X	✓	Location targets linear magnetometer anomaly; positioned on the "Existing Test Shed" identified on facility drawings. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected. Conduct adjacent test pit for linear magnetometer anomaly and adjust 5' sample to target feature (or sample pit as appropriate).	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.
				5	X	X	X	X					X					X	X				
5A_DG-543	SETF	East of Building 4024	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative location characterizing operational area; positioned near apparent spill present on 1980 aerial photo and probable containers present on 1999 aerial photo (both noted by EPA). Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
5A_DG-544	SETF	West of Building 4027	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets sanitary sewer pipe connection to B4027; positioned near open storage along east side of B4027. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined. Soil adjacent to sanitary sewer discharge location from B4027 to be evaluated during remediation.
				5	X	X	X	X					X					X	X				
5A_DG-545	SETF	Between Buildings 4024 and 4027	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout from SL-118-SA5A that targeted the Hot Waste Storage vaults (TPH detected above ISLs); positioned near entrance to B4027. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X					X					X	X				
5A_DG-546	SETF	North of Building 4027	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout from SL-121-SA5A (dioxins detected above ISLs at 0.5'); positioned near concrete apron identified on facility drawings. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method															Data Gap Checklist <sup>3</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)				
5A_DG-547	SETF	Drainage Northeast of Building 4027	Soil Boring / Test Pit	0.5	X	X	X	X					X				X	X	✓	Location targets point magnetometer anomaly and drainage (dioxins, metals, and PAHs detected above ISLs in existing samples within drainage); also stepout from SL-121-SA5A (dioxins detected above ISLs). Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths. Conduct adjacent test pit for linear terrain conductivity anomaly and adjust 5' sample to target feature (or sample pit as appropriate).	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.	
				5	X	X	X	X					X				X	X					
5A_DG-548	SETF	Within Building 4027 Footprint	Soil Boring / Test Pit	0.5	X	X	X	X					X				X	X	✓	Location targets linear magnetometer anomaly beneath B4027; also a stepout from U5BS1105 (TPH detected above ISL at 0.5') and targets linear magnetometer anomaly. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected. Conduct adjacent test pit for linear magnetometer anomaly and adjust 5' sample to target feature (or sample pit as appropriate).	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.	
				5	X	X	X	X					X				X	X					
5A_DG-549	SETF	West of Building 4027	Soil Boring	0.5	X	X	X	X	X				X			X	X	X	X	✓	Representative location to characterize operational area; positioned along western side of B4027 footprint which was used as a hazardous waste storage facility near high bay door and possible drums observed in 1978 photo (HDMSm000000249). Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X	X			X			X	X	X	X					
				10	H	H	H	H	H			H			H	H	H	H					
5A_DG-550	SETF	Within Building 4027 Footprint	Soil Boring	0.5	X	X	X	X	X				X			X	X	X	X	✓	Location targets former location of floor trench located beneath B4027 which was used as a hazardous waste storage facility; also a stepout from U5BS1118 (TPH detected above ISL at 0.5'). Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X			X	X	X	X				
				10	X	X	X	X	X				X			X	X	X	X				
5A_DG-551	SETF	Within Building 4027 Footprint	Soil Boring	0.5	X	X	X	X	X				X			X	X	X	X	✓	Location targets former location of floor trench located beneath B4027 which was used as a hazardous waste storage facility. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X			X	X	X	X				
5A_DG-552	SETF	Drainage Northeast of Building 4027	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Stepout from SL-122-SA5A (dioxins detected above ISL at 0.5'); positioned within drainage. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X				X	X					
5A_DG-553	SETF	Southeast of Building 4027	Soil Boring	0.5	X	X	X	X	X				X			X	X	X	X	✓	Representative location positioned near B4027 equipment pad and emergency shower. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X			X	X	X	X				
5A_DG-554	SETF	South of Building 4027	Soil Boring	0.5	X	X	X	X	X				X			X	X	X	X	✓	Stepout from U5BS1118 (TPH detected above ISL at 0.5'); positioned near B4027 entrance. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X			X	X	X	X				
				10	H	H	H	H	H				H			H	H	H	H				
5A_DG-555	SETF	South of Building 4027	Soil Boring	0.5	X	X	X	X	X				X			X	X	X	X	✓	Stepout from U5BS1118 (TPH detected above ISL at 0.5'); positioned near B4027 equipment pad (B4027 was used as a hazardous waste storage facility). Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X			X	X	X	X				
				10	H	H	H	H	H				H			H	H	H	H				
5A_DG-556	SETF	West of Building 4032	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative location to characterize operational area west of B4032; also a stepout from SL-249-SA5A (TPH detected above ISLs at 2.5' [fill from unknown origin]). Bedrock anticipated >10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-557	SETF	West of Building 4032	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets open storage south of B4027 identified in EPA tech memo and present in the 1960 aerial. Bedrock anticipated >10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
				10	H	H	H	H					H					H	H				

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method																	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)	Data Gap Checklist <sup>3</sup>				
5A_DG-558	SETF	Southwest of Building 4032	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout from SL-249-SA5A (TPH detected above ISLs at 2.5' [fill from unknown origin]). Bedrock anticipated just over 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.	
				5	X	X	H	X					X					X	X					
				10	H	H	H	H					H					H	H					
5A_DG-559	SETF	Northwest Building 4032	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative location to characterize footprint of B4032 addition; also a stepout from SL-249-SA5A (TPH detected above ISLs at 2.5' [fill from unknown origin]). Bedrock anticipated >10. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.	
				5	X	X	X	X					X					X	X					
				10	X	X	X	X					X					X	X					
5A_DG-560	SETF	Within Building 4032 Footprint	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative location to characterize footprint of B4032. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X					X	X					
				10	H	H	H	H					H					H	H					
5A_DG-561	SETF	Within Building 4032 Footprint	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative location to characterize fill of unknown origin observed in borings south of B4032; also a stepout from SL-249-SA5A (TPH detected above ISLs at 2.5'). Bedrock anticipated >10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to characterize fill.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.	
				5	X	X	X	X					X					X	X					
				10	X	X	X	X					X					X	X					
5A_DG-562	SETF	Within Building 4032 Footprint	Soil Boring	0.5			X						X						X	✓	Resample SL-235-SA5A for TPH; ~5' of fill from unknown origin present at SL-235-SA5A and SL-249-SA5A and fill at SL-249-SA5A had TPH detected above ISL. Location also targets light toned mounded material identified in EPA tech memo. Bedrock anticipated at ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze 0.5' and 5' sample for TPH (hold other analyses) and hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5			H						X						X					
				10			H						H						H					
5A_DG-563	SETF	Southeast Corner of Building 4032	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets sanitary sewer pipe connection to B4032 and characterizes fill observed in borings south of B4032; positioned near B4032 entrance. Bedrock anticipated >10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to characterize fill.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.	
				5	X	X	X	X					X					X	X					
				10	X	X	X	X					X					X	X					
5A_DG-564	SETF	East of Building 4032	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets removed UST UT-22 (used for fuel oil); positioned within light toned mounded material identified in EPA tech memo. Bedrock is anticipated at ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths. Conduct geophysical survey prior to sampling to determine location of removed UST, shown in two different locations in separate documents.	No	Location within PRA footprint where vertical extent is sufficiently defined. Soil adjacent to former UST to be evaluated during remediation.	
				5	X	X	X	X					X					X	X					
				10	X	X	X	X					X					X	X					
5A_DG-565A	SETF	Transformer Pad 4727 (North of Building 4032)	Soil Boring	0.5	X	X	X	X					X			X	X	X	X	✓	Transformers in Area IV with previous ND results are being resampled with discrete samples. Collect samples at four discrete locations and analyze 0.5' samples for PCBs; hold deeper samples pending shallower results. Northern sample (5A_DG-565A) also targets drainage and western sample (5A_DG-565D) targets light toned mounded material identified in the EPA tech memo. At these location locations, bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with bottom sample collected just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				3	X	X	X	X					X			X	X	X	X					
				5	X	X	X	X					X			X	X	X	X					
5A_DG-565B	SETF	Transformer Pad 4727 (North of Building 4032)	Soil Boring	0.5		X											X							
				3		H												H						
5A_DG-565C	SETF	Transformer Pad 4727 (North of Building 4032)	Soil Boring	0.5		X											X							
				3		H												H						
5A_DG-565D	SETF	Transformer Pad 4727 (North of Building 4032)	Soil Boring	0.5	X	X	X	X					X					X	X					
				3	X	X	H	X					X					X	X					
				5	X	X	H	X					X					X	X					
5A_DG-569	SETF	South of Building 4036	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative location to characterize operational area; positioned near entrance to B4036. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X					X	X					
5A_DG-570	SETF	Within Building 4036 Footprint	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative location to characterize Building 4036 footprint. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X					X					X	X					

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method															Data Gap Checklist <sup>3</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)				
5A_DG-571	SETF	Within Building 4036 Footprint	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative location to characterize Building 4036 footprint. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X					X					X	X				
5A_DG-572	SETF	Within Building 4036 Footprint	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative location to characterize Building 4036 footprint. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X					X					X	X				
5A_DG-573	SETF	Within Building 4037 Footprint	Soil Boring	0.5	X	X	X	X	X		X		X			X	X	X	X	✓	Representative location to characterize former B4037 footprint which was used as a hazardous waste storage facility. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X		X		X		X	X	X	X					
5A_DG-574	SETF	Within Building 4037 Footprint	Soil Boring	0.5	X	X	X	X	X		X		X			X	X	X	X	✓	Representative location to characterize former B4037 footprint which was used as a hazardous waste storage facility. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X		X		X		X	X	X	X					
5A_DG-575	SETF	East of Building 4037	Soil Boring	0.5	X	X	X	X	X		X		X			X	X	X	X	✓	Representative location to characterize former operational area; positioned along south side of 12th Street at entryway to sidewalk on east and south sides of B4037 and doors on the north side of building (B4037 was used as a hazardous waste storage facility). Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X		X		X		X	X	X	X					
5A_DG-576	SETF	North of Building 4023	Soil Boring	0.5	X	X	X	X					X					X	X		Representative location to characterize former operational area east of B4037. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
5A_DG-577	SETF	North of Building 4023	Soil Boring	0.5	X	X	X	X	X				X	X	X			X	X	✓	Representative location to characterize equipment north of B4023; positioned near former cooling unit. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X	X	X			X	X				
				10	H	H	H	H	H				H	H	H			H	H				
5A_DG-578	SETF	West of Building 4023	Soil Boring	0.5	X	X	X	X	X				X	X	X			X	X	✓	Representative location to characterize operational area between B4032 and B4023; positioned near high bay door to B4032 and potential cooling tower on facility drawing (only present on one drawing). Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X	X	X			X	X				
				10	H	H	H	H	H				H	H	H			H	H				
5A_DG-579	SETF	Southwest Corner of Building 4023	Soil Boring	0.5	X	X	X	X	X				X	X	X			X	X	✓	Location targets sanitary sewer pipe connection to B4023 and characterizes fill of unknown origin observed in borings within B4023. Bedrock anticipated >10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to characterize fill.	No	Location within PRA footprint where vertical extent is sufficiently defined. Soil adjacent to sanitary sewer discharge location from B4023 and lateral extent of fill to be evaluated during remediation.
				5	X	X	X	X	X				X	X	X			X	X				
				10	X	X	X	X	X				X	X	X			X	X				
5A_DG-580	SETF	Within Building 4023 Footprint	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout from SL-001-SA5A (PCBs, TPH detected above ISLs), SL-004-SA5A (PCBs and dioxins detected above ISLs), and SL-002-SA5A (PCBs, dioxins detected above ISLs). Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-581	SETF	Within Building 4023 Footprint	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-586.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-582	SETF	North of Building 4023	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout from SL-004-SA5A (dioxins, PCBs detected above ISLs); positioned outside drainage. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method															Data Gap Checklist <sup>3</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCT's (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)				
5A_DG-583	SETF	North of Building 4023	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Representative location to characterize open area north of B4023; area observed to have asphalt with cracks in aerial photos, but little storage. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X					X				X	X					
5A_DG-584	SETF	North of Building 4023	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location targets two ASTs with unknown contents (Unknown-AT-L9-1, -2) located north of B4023. Bedrock is anticipated at ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	Yes		
				5	X	X	X	X					X			X	X						
				10	H	H	H	H					H				H	H					
5A_DG-585	SETF	North of Building 4023	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Stepout from SL-018-SA5A (dioxins, PCBs detected above ISLs); positioned within drainage. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X			X	X						
5A_DG-586	SETF	Within Building 4023 Footprint	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Stepout from SL-001-SA5A (PCBs, TPH detected above ISLs) and characterizes fill of unknown origin observed in borings within B4023; positioned within medium toned mounded material. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to characterize fill.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X			X	X						
				10	X	X	X	X					X			X	X						
5A_DG-587	SETF	Within Building 4023 Footprint	Soil Boring/Test Pit	0.5	X	X	X	X					X				X	X	✓	Location targets AST with unknown contents (Unknown-AT-L9-3) and linear magnetometer anomaly; positioned within medium toned mounded material identified in EPA tech memo and fill of unknown origin observed in borings within B4023. Bedrock is anticipated at ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths. Conduct adjacent test pit for linear magnetometer anomaly and adjust 5' sample to target feature (or sample pit as appropriate).	Yes	Soil boring will be collected as part of the implementation plan; the test pit will be deferred pending Go-Backs Analysis.	
				5	X	X	X	X					X			X	X						
				10	X	X	X	X					X			X	X						
5A_DG-588	SETF	Within Building 4023 Footprint	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Stepout from SL-009-SA5A (dioxins, PCBs, Hg, Zn detected above ISLs); positioned within medium toned mounded material identified in EPA tech memo. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X			X	X						
5A_DG-589	SETF	South of Building 4023	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Same as 5A_DG-588; positioned near entrance to B4023.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X			X	X						
5A_DG-590	SETF	Southeast of Building 4023	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location targets hole in asphalt slope adjacent to catch basin (southeast) welded shut; also a stepout from SL-016-SA5A (dioxins and Zn detected above ISLs). Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X			X	X						
5A_DG-591	SETF	East of Building 4023	Soil Boring	0.5									X				X		✓	Resample SL-013-SA5A for TPH and stepout for SL-012-SA5A (TPH detected above ISL). Bedrock anticipated at <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5								X				X							
5A_DG-592	SETF	Northeast of Building 4023	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Stepout from SL-012-SA5A (dioxins, PCBs, TPH detected above ISLs); positioned outside drainage. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X			X	X						
5A_DG-593	SETF	East of Building 4023	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Representative location to characterize open storage east of B4023 observed in post-1980 aerial photos. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X			X	X						
				10	H	H	H	H					H				H	H					
5A_DG-594	PDU Area	Drainage at Corner of 17th and B Street	Soil Boring	0.5	X	X	X	X					X			X	X	X	X	✓	Stepout for dioxins in drainage west near HMSA [Subarea 5B] and targets lined drainage receiving flow from south via unlined drainage and north and west via underground pipe. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X			X	X	X	X				
				10	X	X	X	X					X			X	X	X	X				

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method															Data Gap Checklist <sup>2</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)				
5A_DG-595	PDU Area	Drainage Along 17th Street Northwest of Building 4005	Soil Boring	0.5	X	X	X	X	X				X	X				X	X	✓	Location targets previously unlined drainage flowing north to culvert (see information layer in GIS). Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X	X				X	X				
				10	X	X	X	X	X				X	X				X	X				
5A_DG-596	PDU Area	Northwest of Building 4005	Soil Boring	0.5	X	X	X	X	X				X					X	X	✓	Stepout for mercury and TPH in nearby samples and targets ASTs with unknown contents; also characterizes open storage/operational area. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths; hold deeper sample pending shallower results, if collected.	Yes	
				5	X	X	H	X	X				X					X	X				
5A_DG-597	PDU Area	Northwest of Building 4005	Soil Boring	0.5	X	X	X	X	X				X					X	X		Location targets adjacent to B4005 floor trench (dioxins, metals, PAHs, and PCBs detected above ISLs in previous lined trench sediment samples); positioned between storm drain line and floor trench. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths; hold deeper sample pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X					X	X				
5A_DG-598	PDU Area	Northwest of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets adjacent to B4005 floor trench (dioxins, metals, PAHs, and PCBs detected above ISLs in previous lined trench sediment samples); also stepout for PAHs and characterizes operational area. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-599	PDU Area	West of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-602.	No	Location within PRA footprint where vertical extent is sufficiently defined. Soil adjacent to septic tank to be evaluated during remediation.
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				
5A_DG-600	PDU Area	West of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets B4005 floor trench conveyance pipe (dioxins, metals, PAHs, and PCBs detected above ISLs in previous lined trench sediment samples); also stepout from septic tank (dioxins detected above ISLs) and characterizes operational area; positioned between underground stormwater and floor trench conveyance pipes. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential subsurface release and migration along bedrock.	No	Location within PRA footprint where vertical extent is sufficiently defined. Soils adjacent to septic tank to be evaluated during remediation.
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				
5A_DG-601	PDU Area	West Side of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets sewer discharge location from B4005. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined. Soil adjacent to sanitary sewer discharge location from B4005 to be evaluated during remediation.
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				
5A_DG-602	PDU Area	West of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout from septic tank (dioxins); also characterizes operational area. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential subsurface release and migration along bedrock.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				
5A_DG-603	PDU Area	Southwest of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X		Representative location to characterize operational area. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-604	PDU Area	South of Building 4005	Soil Boring	0.5	X	X	X	X	X				X	X	X			X	X		Stepout from Clearly Contaminated Area; and located near cooling tower. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X	X				X	X	X			X	X				
5A_DG-605	PDU Area	East of Building 4005	Soil Boring	0.5	X	X	X	X	X				X	X	X			X	X	✓	Location targets adjacent to B4005 drain line and floor trench (dioxins, metals, PAHs, and PCBs detected above ISLs in previous lined trench sediment samples); also stepout for Clearly Contaminated Area and located near cooling tower. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X	X	X			X	X				
				10	X	X	H	X	X				X	X	X			X	X				
5A_DG-606	PDU Area	East of Building 4005	Soil Boring	0.5	X	X	X	X	X				X	X	X			X	X	✓	Representative location to characterize open storage/operational area; also stepout for Clearly Contaminated Area and located near cooling tower. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X	X	X			X	X				
				10	H	H	H	H	H				H	H	H			H	H				

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method																	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C [SIM])	PCBs/ PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)	Data Gap Checklist <sup>3</sup>				
5A_DG-607	PDU Area	North of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets adjacent to B4005 floor trench; also characterizes operational area. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X				X	X						
				10	X	X	H	X					X					X	X					
5A_DG-608	PDU Area	North of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X		Stepout for mercury and TPH in nearby samples and targets ASTs with unknown contents; also characterizes open storage/operational area. Shallow bedrock anticipated. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X					X				X	X						
5A_DG-609	PDU Area	Drainage Along B Street North of Building 4005	Soil Boring	0.5	X	X	X	X	X				X	X		X	X	X	X	✓	Location targets lined drainage. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths based on potential for vertical migration of surface water/contaminants.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X	X				X	X		X	X	X	X					
				10	X	X	X	X	X				X	X		X	X	X	X					
5A_DG-610	PDU Area	North of Building 4005	Soil Boring	0.5	X	X	X	X	X				X	X				X	X	✓	Location targets AST with unknown contents and undefined feature area (possible staining); also stepout for Clearly Contaminated Area and characterizes open storage/operational area. Shallow bedrock anticipated. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X	X				X	X				X	X					
5A_DG-611	PDU Area	Northeast of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets two liquid hold-up tanks and undefined feature area (possible staining); also stepout for Clearly Contaminated Area. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential depth of impacts (previous samples were shallow and for metals only).	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X					X	X					
				10	X	X	X	X					X					X	X					
5A_DG-612	PDU Area	Drainage North of Clearly Contaminated Area East of Building 4005	Soil Boring	0.5	X	X	X	X					X	X				X	X		Stepout from Clearly Contaminated Area; also targets drainage along B Street and undefined feature area (possible staining). Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential migration along bedrock.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X	X				X	X					
				10	X	X	X	X					X	X				X	X					
5A_DG-613	PDU Area	North of Clearly Contaminated Area East of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets undefined feature area (possible staining); also stepout from Clearly Contaminated Area (note previous nearby samples not analyzed for dioxins). Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X					X					X	X					
5A_DG-614	PDU Area	Northeast of Clearly Contaminated Area East of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X		Location targets B4793 footprint; also stepout from Clearly Contaminated Area. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X					X					X	X					
5A_DG-615	PDU Area	Drainage Northeast of Clearly Contaminated Area East of Building 4005	Soil Boring	0.5	X	X	X	X					X			X	X	X	X	✓	Location targets stormwater conveyance pipe discharge point into drainage. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential subsurface release and migration along bedrock.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X			X	X	X	X					
				10	X	X	X	X					X			X	X	X	X					
5A_DG-616	PDU Area	West Side of Building 4042	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets sewer discharge location from B4042; also characterizes operational area. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	Yes		
				5	X	X	X	X					X					X	X					
				10	X	X	X	X					X					X	X					
5A_DG-617	PDU Area	Within Building 4042 Footprint	Soil Boring	0.5	X	X	X	X					X					X	X		Stepout for B(a)P and TPH; also characterizes B4042 footprint. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Existing samples and other proposed data gap samples are sufficient for characterization of soils in area.	
				5	X	X	X	X					X					X	X					
				10	H	H	H	H					H					H	H					
5A_DG-618	PDU Area	North of Building 4042	Soil Boring	0.5	X	X	X	X					X					X	X		Stepout for B(a)P and TPH; positioned adjacent to underground stormwater conveyance pipe from SETF. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess possible leakage from pipe.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X					X	X					
				10	X	X	H	X					X					X	X					

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method																Data Gap Checklist <sup>3</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)					
5A_DG-619	PDU Area	Within Building 4042 Footprint	Soil Boring	0.5	X	X	X	X	X				X	X				X	X	✓	Location targets intersection of two former floor trenches and is a stepout for B(a)P and TPH; positioned near operations associated with alcohol ASTs. Note previous sample USBS1107 analyzed for metals only. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess possible leakage from trenches.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.	
				5	X	X	X	X	X				X	X				X	X					
				10	X	X	H	X	X				X	X				X	X					
5A_DG-620	PDU Area	West of Building 4042	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative location to characterize operational area. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.	
				5	X	X	X	X					X				X	X						
				10	H	H	H	H					H				H	H						
5A_DG-621	PDU Area	East of Clearly Contaminated Area East of Building 4005	Soil Boring	0.5	X	X	X	X				X	X					X	X	✓	Representative sample to characterize open storage/operational area near B4049 which had terphenyl use. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess vertical extent of potential impacts.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X				X	X					X	X					
5A_DG-622	PDU Area	Southwest of Building 4042	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-620.	No	Location immediately adjacent to a PRA footprint and existing samples are sufficeint for characterization of soils in area.	
				5	X	X	X	X					X				X	X						
				10	H	H	H	H					H				H	H						
5A_DG-623	PDU Area	East of Clearly Contaminated Area East of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets open storage; also stepout for Clearly Contaminated Area. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess vertical extent of potential impacts.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X					X				X	X						
5A_DG-624A	PDU Area	Transformer Southwest of Building 4042	Soil Boring	0.5		X													X	✓	Transformers in Area IV with previous ND results are being resampled with discrete samples. Collect samples at four discrete locations and analyze 0.5' samples for PCBs; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
5A_DG-624B	PDU Area	Transformer Southwest of Building 4042	Soil Boring	3		H												H						
				0.5		X												X						
5A_DG-624C	PDU Area	Transformer Southwest of Building 4042	Soil Boring	3		H												H						
				0.5		X												X						
5A_DG-624D	PDU Area	Transformer Southwest of Building 4042	Soil Boring	3		H												H						
				0.5	X	X	X	X					X					X	X					
5A_DG-625	PDU Area	Eastern Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets magnetic anomaly, dark toned material, and open storage. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area. Geophysical anomaly to be evaluated during remediation.	
				5	X	X	H	X					X				X	X						
5A_DG-626	PDU Area	Eastern Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets dark toned material and open storage. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.	
				5	X	X	H	X					X				X	X						
5A_DG-627	PDU Area	Eastern Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets magnetic anomaly, dark toned material, and open storage; positioned adjacent to Old Conservation Pipeline (diesel fuel). Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Location immediately adjacent to a PRA footprint and existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.	
				5	X	X	H	X					X				X	X						
5A_DG-628	PDU Area	Within Building 4042 Footprint	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets former B4042 footprint and adjacent to operations associated with alcohol ASTs. Analyze 0.5' and 5' samples due to D&D soil disturbance. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	Yes		
				5	X	X	X	X					X				X	X						
				10	H	H	H	H					H				H	H						
5A_DG-629	PDU Area	Building 4042	Soil Boring	0.5	X	X	X	X					X					X	X		Same as 5A_DG-628.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.	
				5	X	X	X	X					X				X	X						
				10	X	X	H	X					X				X	X						
5A_DG-630A	PDU Area	Transformer Southeast of Building 4042	Soil Boring	0.5		X												X	✓	Transformers in Area IV with previous ND results are being resampled with discrete samples. Collect samples at four discrete locations and analyze 0.5' samples for PCBs; hold deeper samples pending shallower results.	Yes			
5A_DG-630B	PDU Area	Transformer Southeast of Building 4042	Soil Boring	3		H											H							
				0.5		X												X						
5A_DG-630C	PDU Area	Transformer Southeast of Building 4042	Soil Boring	3		X											H							
				0.5		X												X						
5A_DG-630D	PDU Area	Transformer Southeast of Building 4042	Soil Boring	3		H												H						
				0.5		X												X						
				3		H												X						

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method															Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)			
5A_DG-631	PDU Area	Eastern Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5	X	X	X	X					X					X	X	Location targets drainage adjacent to medium toned material and open storage. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	Yes	
				5	X	X	H	X					X					X	X			
5A_DG-632	PDU Area	Drainage Along G Street South of Open Storage / Parking Area	Soil Boring	0.5	X	X	X	X	X				X	X		X	X	X	X	✓ Location targets drainage along G street south of Open Storage/Parking Area upstream of Clearly Contaminated Area south of Coal Storage/Parking Area and downstream of PAH and dioxin impacts; positioned adjacent to the Old Conservation Pipeline (diesel fuel). Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential migration along bedrock.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X	X		X	X	X	X			
				10	X	X	X	X	X				X	X		X	X	X	X			
5A_DG-634	PDU Area	Southeast of Building 4042	Soil Boring	0.5	X	X	X	X	X				X	X	X			X	X	✓ Location targets AST with unknown contents; also characterizes area around cooling tower identified in facility drawings. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	Yes	
				5	X	X	X	X	X				X	X	X			X	X			
				10	H	H	H	H	H				H	H	H			H	H			
5A_DG-635	PDU Area	Within Building 4042 Footprint	Soil Boring / Test Pit	0.5	X	X	X	X					X					X	X	✓ Location targets geophysical anomaly; also characterizes operational area. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results. Conduct adjacent test pit for geophysical anomaly. Adjust 5' sample to target feature (or sample pit as appropriate).	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area. Geophysical anomaly to be evaluated during remediation.
				5	X	X	X	X					X					X	X			
				10	H	H	H	H					H					H	H			
5A_DG-636	PDU Area	East of Building 4042	Soil Boring / Test Pit	0.5	X	X	X	X					X					X	X	✓ Same as 5A_DG-635.	Yes	
				5	X	X	X	X					X					X	X			
				10	H	H	H	H					H					H	H			
5A_DG-637	PDU Area	East of Building 4042	Soil Boring	0.5	X	X	X	X					X					X	X	✓ Location targets disturbed vegetation/soil noted in aerial photographs; also characterizes operational area. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
				5	X	X	H	X					X					X	X			
				10	H	H	H	H					H					H	H			
5A_DG-638	PDU Area	Southeast of Clearly Contaminated Area East of Building 4005	Soil Boring	0.5	X	X	X	X	X				X	X	X			X	X	Stepout from Clearly Contaminated Area; also characterizes open storage/operational area and area around cooling towers identified in facility drawings. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X	X				X	X	X			X	X			
5A_DG-639	PDU Area	Southeast of Clearly Contaminated Area East of Building 4005	Soil Boring	0.5	X	X	X	X	X				X	X	X			X	X	✓ Stepout from Clearly Contaminated Area, characterizes area around cooling towers identified in facility drawings, and targets possible light toned mounded material. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X	X				X	X	X			X	X			
5A_DG-640	PDU Area	Southeast of Clearly Contaminated Area East of Building 4005	Soil Boring	0.5	X	X	X	X	X				X	X	X			X	X	✓ Stepout from Clearly Contaminated Area, characterizes area around cooling towers identified in facility drawings, and targets possible light toned mounded material and surface drainage discharge. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X	X				X	X	X			X	X			
5A_DG-641	PDU Area	South of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X	Stepout from Clearly Contaminated Area; positioned between B4005 floor trench and stormwater conveyance line. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X					X					X	X			
5A_DG-642	PDU Area	South of Building 4005	Soil Boring	0.5	X	X	X	X	X				X	X	X			X	X	✓ Location targets adjacent to B4005 floor trench (dioxins, metals, PAHs, and PCBs detected above ISLs in previous lined trench sediment samples); also located near cooling tower and characterizes operational area. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X	X	X			X	X			
				10	X	X	X	X	X				X	X	X			X	X			
5A_DG-643	PDU Area	South of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X	Stepout from Clearly Contaminated Area. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X					X					X	X			
5A_DG-644	PDU Area	South of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X	Same as 5A_DG-643.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X					X					X	X			

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method															Data Gap Checklist <sup>2</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)				
5A_DG-645A	PDU Area	Transformer 4705 (South of Building 4005)	Soil Boring	0.5		X												X	✓	Location targets two former transformers. Transformers in Area IV with previous ND results are being resampled with discrete samples. Collect samples at six discrete locations and analyze 0.5' samples for PCBs; hold deeper samples pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
			3		H												H						
5A_DG-645B	PDU Area	Transformer 4705 (South of Building 4005)	Soil Boring	0.5		X											X						
			3		H												H						
5A_DG-645C	PDU Area	Transformer 4705 (South of Building 4005)	Soil Boring	0.5		X											X						
			3		H												H						
5A_DG-645D	PDU Area	Transformer 4705 (South of Building 4005)	Soil Boring	0.5		X											X	✓	Location targets drainage downslope of operational area with a cooling tower; positioned between underground stormwater and floor trench conveyance pipes. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential subsurface release and migration along bedrock.	No	Location within PRA footprint where vertical extent is sufficiently defined.		
			3		H											H							
5A_DG-645E	PDU Area	Transformer 4705 (South of Building 4005)	Soil Boring	0.5		X										X							
			3		H											H							
5A_DG-645F	PDU Area	Transformer 4705 (South of Building 4005)	Soil Boring	0.5		X										X							
			3		H											H							
5A_DG-651	PDU Area	Drainage Southwest of Building 4005	Soil Boring	0.5	X	X	X	X	X				X	X	X			X	X	✓	Same as 5A_DG-643.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X	X	X			X	X				
				10	X	X	X	X	X				X	X	X			X	X				
5A_DG-652	PDU Area	South of Building 4005	Soil Boring	0.5	X	X	X	X				X					X	X	✓	Representative location to characterize operational area; positioned downslope of Clearly Contaminated Area. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X				X				X	X						
				10	H	H	H	H				H				H	H						
5A_DG-653	PDU Area	South of Building 4005	Soil Boring	0.5	X	X	X	X				X					X	X	✓	Location targets a potential AST and undefined features observed in 1978 aerial. Analyze 0.5' and 5' samples based on potential for disturbed soils noted in aerial. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	Yes	Other proposed data gap samples are sufficeint for characterization of soils in area.	
				5	X	X	H	X				X				X	X						
				10	H	H	H	H				H				H	H						
5A_DG-654	PDU Area	Northwest of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X				X					X	X	✓	Location targets potential storage area based on aerial photographs. Analyze 0.5' and 5' samples based on potential for disturbed soils noted in aerial. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X				X				X	X						
				10	H	H	H	H				H				H	H						
5A_DG-655	PDU Area	North of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X				X					X	X	✓	Location targets drainage west of open storage observed in 1978 aerial photograph and downslope of B4005 cooling tower; positioned between underground stormwater and floor trench conveyance pipes. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential migration along bedrock.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X				X				X	X						
				10	H	H	H	H				H				H	H						
5A_DG-656	PDU Area	Drainage Along 17th Street Northeast of Coal Storage/Parking Area	Soil Boring	0.5	X	X	X	X	X				X	X	X			X	X	✓	Location targets potential storage area based on aerial photographs. Analyze 0.5' and 5' samples based on potential for disturbed soils noted in aerial. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	Yes	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X	X	X			X	X				
				10	X	X	X	X	X				X	X	X			X	X				
5A_DG-657	PDU Area	North of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X				X					X	X	✓	Location targets unlined surface water flow pathway along the northern perimeter of the Coal Storage/Parking Area. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths based on potential for vertical migration of surface water/contaminants.	Yes	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X				X				X	X						
				10	H	H	H	H				H				H	H						
5A_DG-658	PDU Area	North of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X				X					X	X	✓	Stepout from Clearly Contaminated Area west of Coal Storage/Parking Area; positioned between underground stormwater and floor trench conveyance pipes and in-line with surface water pathway along northern perimeter of Coal Storage/Parking Area. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential migration along bedrock.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X				X				X	X						
5A_DG-659	PDU Area	Northwest of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepdown within Clearly Contaminated Area (dioxins, metals, PAHs, PCBs at depth near two adjacent surface-only samples; TPH not previously analyzed). Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential migration along bedrock from adjacent sand trap feature.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X				X				X	X						
				10	X	X	X	X				X				X	X						
5A_DG-660	PDU Area	Clearly Contaminated Area West of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location within PRA footprint where vertical extent is sufficiently defined.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X				X				X	X						
				10	X	X	X	X				X				X	X						

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method															Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment	
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCT's (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)				
5A_DG-661	PDU Area	Drainage Along 17th Street West of Coal Storage / Parking Area	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout for dioxins, PCBs, metals, PAHs detected in Coal Storage/Parking Area perimeter samples (Clearly Contaminated Area) and characterizes drainage downslope of operational areas; positioned between underground stormwater and floor trench conveyance pipes. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
5A_DG-662	PDU Area	Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative sample to characterize the Coal Storage/Parking Area; also stepout for Clearly Contaminated Area west of Coal Storage/Parking Area. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
				5	X	X	H	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-663	PDU Area	Coal Storage / Parking Area Near 17th and G Street Footprint	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout from Clearly Contaminated Area west of Coal Storage/Parking Area. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X					X					X	X				
				10	X	X	H	X					X					X	X				
5A_DG-664	PDU Area	Coal Storage / Parking Area Near 17th and G Street Footprint	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout for Clearly Contaminated Area south of Coal Storage/Parking Area and targets surface flow pathway from Coal Storage/Parking Area to drainage along 17th Street. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				
5A_DG-665	PDU Area	Drainage at Intersection of 17th and G Street South of Coal Storage / Parking Area	Soil Boring	0.5	X	X	X	X	X				X	X	X	X	X	X	X	✓	Location targets low spot before culvert in drainage along G street immediately downslope of Clearly Contaminated Area south of Coal Storage/Parking Area and downstream of B4005 cooling tower; also targets Old Conservation Pipeline (diesel fuel). Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential migration along bedrock.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X	X	X	X	X	X	X				
				10	X	X	X	X	X				X	X	X	X	X	X	X				
5A_DG-666	PDU Area	Drainage Along G Street South of Coal Storage / Parking Area	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets geophysical anomaly and drainage along G Street upstream of Clearly Contaminated Area south of Coal Storage/Parking Area; positioned adjacent to Old Conservation Yard fuel pipeline. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential migration along bedrock.	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				
5A_DG-667	PDU Area	Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative sample to characterize the Coal Storage/Parking Area. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	Yes	
				5	X	X	H	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-668	PDU Area	Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-667.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
				5	X	X	H	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-669	PDU Area	North of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets unlined surface water flow pathway along the northwestern perimeter of the Coal Storage/Parking Area. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential for vertical migration of surface water/contaminants.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
				5	X	X	X	X					X					X	X				
5A_DG-670	PDU Area	Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-667; also targets former structures.	Yes	
				5	X	X	H	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-671	PDU Area	Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative sample to characterize the Coal Storage/Parking Area. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
				5	X	X	H	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-672	PDU Area	Drainage Along G Street South of Coal Storage / Parking Area	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-666.	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				
5A_DG-673	PDU Area	East of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets unlined surface water flow pathway along the eastern perimeter of the Coal Storage/Parking Area. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential for vertical migration of surface water/contaminants.	Yes	
				5	X	X	X	X					X					X	X				

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method															Data Gap Checklist <sup>3</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCT's (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)				
5A_DG-674	PDU Area	Northeast of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location targets an unlined surface water flow pathway along the northeastern perimeter of the Coal Storage/Parking Area. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential for vertical migration of surface water/contaminants.	No	Existing samples and other proposed data gap samples are sufficient for characterization of soils in area.	
				5	X	X	X	X					X				X	X					
5A_DG-675	PDU Area	East of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X					X				X	X		Location targets open space east of Coal Storage/Parking Area. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Other proposed data gap samples are sufficient for characterization of soils in area.	
				5	X	X	H	X					X				X	X					
				10	H	H	H	H					H				H	H					
5A_DG-676	PDU Area	East of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X					X				X	X		Same as 5A_DG-675.	Yes		
				5	X	X	H	X					X				X	X					
				10	H	H	H	H					H				H	H					
5A_DG-677	PDU Area	Drainage Along G Street	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location targets drainage along G street; positioned upstream of Clearly Contaminated Area south of Coal Storage/Parking Area and adjacent to Old Conservation Yard fuel pipeline. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential migration along bedrock.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X				X	X					
				10	X	X	X	X					X				X	X					
5A_DG-678	PDU Area	East of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X	X					X				X	X		Same as 5A_DG-675.	No	Existing samples and other proposed data gap samples are sufficient for characterization of soils in area.	
				5	X	X	H	X					X				X	X					
				10	H	H	H	H					H				H	H					
5A_DG-679	PDU Area	East of Building 4042	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location targets disturbed vegetation/soil noted in aerial photographs; also characterizes operational area. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	Yes		
				5	X	X	H	X					X				X	X					
				10	H	H	H	H					H				H	H					
5A_DG-680	PDU Area	Western Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location targets open storage observed along western fence in aerial photos. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X					X				X	X					
				10	H	H	H	H					H				H	H					
5A_DG-681	PDU Area	Drainage West of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5	X	X	X	X	X				X	X		X	X	X	X	✓	Location targets unlined surface water flow pathway along western perimeter of open storage. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X	X		X	X	X	X				
				10	X	X	X	X	X				X	X		X	X	X	X				
5A_DG-682	PDU Area	Western Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location targets open storage observed along western fence in aerial photos. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X					X				X	X					
				10	H	H	H	H					H				H	H					
5A_DG-683	PDU Area	Drainage Along G Street South of Open Storage / Parking Area	Soil Boring	0.5	X	X	X	X	X				X	X		X	X	X	X	✓	Same as 5A_DG-677.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X	X		X	X	X	X				
				10	X	X	X	X	X				X	X		X	X	X	X				
5A_DG-684	PDU Area	Western Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location targets open storage. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	H	X					X				X	X					
				10	H	H	H	H					H				H	H					
5A_DG-685	PDU Area	Northeastern Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5						X							X	✓	Collect sample at SL-215-SA5A to confirm previous perchlorate detection at 5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Location within PRA footprint. Perchlorate result below detection for Method 314.0 with elevated detection using definitive isotopoic Method 6850.		
				5						X							X						
				10						H												H	
5A_DG-686	PDU Area	Eastern Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5	X	X	X	X					X			X	X	X	✓	Location targets dark toned material and open storage. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	Yes		
				5	X	X	H	X					X			X	X	X					X
5A_DG-687	PDU Area	Eastern Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5	X	X	X	X					X				X	X		Location targets drainage adjacent to medium toned material and open storage. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Existing samples and other proposed data gap samples are sufficient for characterization of soils in area.	
				5	X	X	H	X					X				X	X					
5A_DG-688	PDU Area	Eastern Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Stepout (upstream) for dioxins; positioned in surface water pathway downslope of portion of Storage Area/Parking Area that flows toward 12th Street. Shallow bedrock anticipated. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X				X	X					
5A_DG-689	B4641 Area	Drainage Along 12th Street	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Representative location to characterize drainage. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X				X	X					
				10	X	X	X	X					X				X	X					

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method															Data Gap Checklist <sup>3</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)				
5A_DG-690	B4641 Area	East of Building 4073	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout for SL-126-SA5A and SL-127-SA5A (dioxins detected above ISLs). Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-691	B4641 Area	East of Building 4073	Soil Boring	0.5	X	X	X	X					X					X	X		Representative location to characterize open space downslope of operational areas. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Existing samples and other proposed data gap samples are sufficient for characterization of soils in area.
				5	X	X	X	X					X					X	X				
				10	H	H	H	H					H					H	H				
5A_DG-692	B4641 Area	Southeast of Building 4073	Soil Boring	0.5	X	X	X	X					X			X	X	X	X	✓	Location targets drainage downstream of operational area. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X			X	X	X	X				
				10	X	X	X	X					X			X	X	X	X				
5A_DG-693	B4641 Area	Drainage Along 12th Street	Soil Boring	0.5	H	H	H	H					X					H	X	✓	Stepdown at SL-110-SA5A (dioxins and PAHs detected above ISLs shallow; no deeper sample). Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze 0.5' sample for TPH only and analyze all samples deeper than 0.5' for full suite.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				
5A_DG-694	B4641 Area	Southeast of Building 4073	Soil Boring	0.5	X	X	X	X					X			X	X	X	X	✓	Location targets discharge from cooling water hold-up tank drain line. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X			X	X	X	X				
				10	X	X	X	X					X			X	X	X	X				
5A_DG-695	B4641 Area	Southeast of Building 4073	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets stormwater flow path along road downstream of B4073 area (metals [Hg up to 4.8 ppm], TPH, PAHs, and dioxins detected above ISLs). Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				
5A_DG-696	B4641 Area	Within Building 4123 Footprint	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets B4123 footprint (KEWB Waste Storage Yard); also characterizes and/or delineates fill of unknown origin. Note that RFI and EPA collocated sample locations targeting B4123 were inadvertently placed ~50' east of former building footprint. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	Yes	
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				
5A_DG-697	B4641 Area	Building 4073 Area	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout for (metals [Hg up to 4.8 ppm], TPH, PAHs, and dioxins detected in the area; also characterizes fill of unknown origin observed in adjacent borings. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				
5A_DG-698	B4641 Area	Building 4073 Area	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout for SL-127-SA5A (dioxins detected above ISLs). Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Existing samples and other proposed data gap samples are sufficient for characterization of soils in area.
				5	X	X	X	X					X					X	X				
5A_DG-699	B4641 Area	Building 4073 Area	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepup and stepdown at SL-128-SA5A to characterize fill of unknown origin and native soil beneath fill. Bedrock anticipated ~15'. Collect samples at 5' intervals to bedrock with the deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				
5A_DG-700	B4641 Area	Building 4073 Area	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-697.	No	Location immediately adjacent to a PRA footprint and existing samples are sufficient for characterization of soils in area. Lateral extent of fill to be evaluated during remediation.
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				
5A_DG-701	B4641 Area	Building 4073 Area	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-699.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				
5A_DG-702	B4641 Area	Building 4073 Area	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-699.	No	Location immediately adjacent to a PRA footprint and existing samples are sufficient for characterization of soils in area. Lateral extent of fill to be evaluated during remediation.
				5	X	X	X	X					X					X	X				
				10	X	X	X	X					X					X	X				

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method																	Data Gap Checklist <sup>3</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)						
5A_DG-703	B4641 Area	Building 4073 Area	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-699.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.		
				5	X	X	X	X					X					X	X						
				10	X	X	X	X					X					X	X						
5A_DG-704	B4641 Area	Building 4073 Area	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-699.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.		
				5	X	X	X	X					X					X	X						
				10	X	X	X	X					X					X	X						
5A_DG-705	B4641 Area	Building 4073 Area	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-697; positioned on undefined feature present in aerials from 1959 to 1967. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.		
				5	X	X	X	X					X					X	X						
5A_DG-706	B4641 Area	Open Space South of Building 4093 Leach Field	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets former road downslope of the former leachfield and upslope of the drainage along 12th St (dioxins and PAHs detected above ISLs); also serves as stepout from SL-143-SA5A (dioxins and PAHs detected above ISLs). Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined.		
				5	X	X	X	X					X					X	X						
				10	H	H	H	H					H					H	H						
5A_DG-707	B4641 Area	Open Space South of Building 4093 Leach Field	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-706.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.		
				5	X	X	H	X					X					X	X						
				10	H	H	H	H					H					H	H						
5A_DG-708	B4641 Area	Open Space South of Building 4093 Leach Field	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout from SL-111-SA5A (dioxins detected above ISLs) and SL-253-SA5A (dioxins and pesticides detected above ISLs); also characterizes area downslope of operations. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	Yes			
				5	X	X	H	X					X					X	X						
				10	H	H	H	H					H					H	H						
5A_DG-709	B4641 Area	Building 4093 Leach Field	Soil Boring	0.5	X	X	X	X				X	X					X	X	✓	Recollect at SL-148-SA5A to analyze for terphenyls within B4093 leach field (terphenyl tank present in B4093). Bedrock anticipated <15'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all samples for terphenyls and analyze 0.5' sample for full suite since shallow sample at SL-148-SA5A not collected.	Yes			
				5	H	H	H	H				X	H				H	X							
				10	H	H	H	H				X	H					H	X						
5A_DG-710	B4641 Area	Open Space South of Building 4093 Leach Field	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets former road downslope of the former leachfield and upslope of the drainage along 12th St (dioxins and PAHs detected above ISLs); also characterizes area downslope of disturbed ground identified by EPA in the 1995 aerial photo. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	Yes			
				5	X	X	X	X					X					X	X						
				10	H	H	H	H					H					H	H						
5A_DG-711	B4641 Area	North of Building 4093 Leach Field	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets geophysical anomaly (terrain conductivity) and leachfield and associated components; and stepout for SL-156-SA5A (dioxins and TPH detected above ISLs). Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.		
				5	X	X	X	X					X					X	X						
5A_DG-712	B4641 Area	North of Building 4093 Leach Field	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-711; positioned within drainage.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.		
				5	X	X	H	X					X					X	X						
5A_DG-713	B4641 Area	Parking Area between Buildings 4073 and 4083	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative location to characterize former parking lot and open storage observed in 1988 oblique photo; positioned downslope of operational area. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	Yes			
				5	X	X	H	X					X					X	X						
5A_DG-714	B4641 Area	Drainage Between Buildings 4073 and 4074	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout for SL-146-SA5A (dioxins, metals, PAH, and TPH detected above ISLs); positioned within drainage upstream of sample. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.		
				5	X	X	X	X					X					X	X						
5A_DG-715	B4641 Area	Building 4633	Soil Boring	0.5	X	X	X	X	X				X	X	X			X	X	✓	Location targets former B4633, the Reactor Cooling Water Pad. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	Yes			
				5	X	X	H	X	X				X	X	X			X	X						

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method															Data Gap Checklist <sup>2</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)				
5A_DG-716	B4641 Area	North of Building 4093	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5AN_DG-125; positioned near end of asphalt path from B4003 and upslope of SL-167-SA5A. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
				5	X	X	H	X					X					X	X				
5A_DG-717	B4641 Area	Northwest of Building 4093	Soil Boring	0.5	X	X	X	X				X	X					X	X	✓	Same as 5AN_DG-125; positioned in surface water pathway downslope of SL-167-SA5A (terphenyl tank present in B4093). Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	H	X				X	X					X	X				
5A_DG-718	B4641 Area	Building 4093	Soil Boring	0.5	X	X	X	X				X	X					X	X	✓	Location targets sewer connection to B4093 (terphenyl tank present in B4093); note many surrounding samples to north and east do not have shallow sample and ~2' of fill observed in borings. Bedrock anticipated between 10' and 15'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined. Soil adjacent to sanitary sewer discharge location from B4027 to be evaluated during remediation.
				5	X	X	X	X				X	X				X	X					
				10	H	H	H	H				H	H				H	H					
5A_DG-719	B4641 Area	Building 4093	Soil Boring	0.5	X	X	X	X				X	X					X	X	✓	Stepout from SL-167-SA5A (metals [Hg 15x ISL] and TPH detected above ISLs); positioned near entrance to B4093 (terphenyl tank present in B4093). Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	Yes	
				5	X	X	H	X				X	X					X	X				
5A_DG-720	B4641 Area	Southeast of Building 4093	Soil Boring	0.5	X	X	X	X				X	X					X	X		Representative location to characterize operational area (terphenyl tank present in B4093). Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	Yes	
				5	X	X	X	X				X	X					X	X				
5A_DG-721	B4641 Area	Southwest of Building 4093	Soil Boring	0.5	X	X	X	X					X					X	X		Representative location to characterize operational area; note many surrounding samples to north and east do not have shallow sample and ~2' of fill observed in borings. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
				5	X	X	H	X					X				X	X					
				10	X	X	H	X					X				X	X					
5A_DG-722	B4641 Area	Drainage East of Building 4093 Leach Field	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative location to characterize drainage downslope of operational area. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	Yes	
				5	X	X	X	X					X					X	X				
5A_DG-723	B4641 Area	Southeast of Building 4093	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Representative location to characterize operational area between B4093 and 4453; positioned near a former road. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
				5	X	X	X	X					X					X	X				
5A_DG-724	B4641 Area	Southeast of Building 4093	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-723.	Yes	
				5	X	X	X	X					X					X	X				
5A_DG-725	B4641 Area	Building 4453	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Stepout from SL-171-SA5A and SL-173-SA5A (dioxins, metals, PAHs, and pesticides detected above ISLs); positioned near end of asphalt path from B4641. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
				5	X	X	X	X					X					X	X				
5A_DG-726	B4641 Area	Building 4453	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-725.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X					X	X				
5A_DG-727	B4641 Area	Building 4453	Soil Boring	0.5		X							X						X	✓	Reanalysis at SL-173-SA5A for PCBs due to elevated reporting limits. Both SL-171-SA5A and SL-173-SA5A had samples with elevated reporting limits for PCBs. Recollecting at SL-173-SA5A due to location having highest reporting limit and positioned near entrance to B4453. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5		X						X							X				
5A_DG-728	B4641 Area	Building 4453	Soil Boring	0.5	X	X	X	X					X			X	X	X	X	✓	Same as 5A_DG-725; positioned in access road to B4093.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
				5	X	X	X	X					X			X	X	X	X				

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method																	Data Gap Checklist <sup>3</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)						
5A_DG-729	B4641 Area	Open Space West of Building 4453	Soil Boring	0.5	X	X	X	X					X			X	X	X	X	✓	Representative location to characterize open space downslope of operational areas; positioned in possible surface water flow path from operation area into open space (based on topography and aerial photos). Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Other proposed data gap samples are sufficeint for characterization of soils in area.		
				5	X	X	H	X					X			X	X	X	X						
5A_DG-730	B4641 Area	Open Space West of Building 4453	Soil Boring / Test Pit	0.5	X	X	X	X					X					X	X	✓	Location targets three point magnetometer anomalies and inline with interpreted drain remnant. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths. Conduct adjacent test pit for three point magnetometer anomalies and interpreted drain remnant and adjust 5' sample to target feature (or sample pit as appropriate).	Yes			
				5	X	X	X	X					X				X	X							
				10	X	X	X	X					X				X	X							
5A_DG-731	B4641 Area	Building 4453	Soil Boring	0.5	X	X	X	X					X			X	X	X	X	✓	Same as 5A_DG-725; positioned in surface water flow path not captured by SL-172-SA5A.	No	Location immediately adjacent to a PRA footprint and existing samples are sufficeint for characterization of soils in area.		
				10	H	H	H	H					H			H	H	H	H						
5A_DG-732	B4641 Area	Open Space Southwest of Building 4453	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets former road and vegetation clearance area observed in 1980 aerial photo. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	Yes			
				5	X	X	H	X					X				X	X							
				10	H	H	H	H					H				H	H							
5A_DG-733	B4641 Area	Drainage Along 12th Street	Soil Boring	0.5	X	X	X	X	X				X					X	X	✓	Stepout from SL-111-SA5A and SL-109-SA5A (dioxins and hexavalent chromium). Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint. Previous sampling characterized soil at depth.		
				5	X	X	X	X	X				X				X	X							
				10	X	X	X	X	X				X				X	X							
5A_DG-734	B4641 Area	Open Space South of Building 4453	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Same as 5A_DG-732.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.		
				5	X	X	H	X					X				X	X							
				10	H	H	H	H					H				H	H							
5A_DG-735	B4641 Area	Open Space Southeast of Building 4453	Soil Boring	0.5	X	X	X	X					X					X	X		Representative location to characterize open space downslope of operational areas; positioned on flat area adjacent to road. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	Yes			
				5	X	X	X	X					X				X	X							
5A_DG-736	B4641 Area	Open Space Southeast of Building 4453	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets vegetation clearance area observed in 1980 aerial photo. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	Yes			
				5	X	X	H	X					X				X	X							
				10	H	H	H	H					H				H	H							
5A_DG-737	B4641 Area	Drainage Along G Street and 11th Street	Soil Boring	0.5									X	X					X	✓	Stepdown at SL-107-SA5A (dioxins and PAHs detected above ISLs shallow; no deeper sample). Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze 0.5' sample for TPH only and all samples deeper than 0.5' for all analyses.	No	Location within PRA footprint where vertical extent is sufficiently defined.		
				5	X	X	X	X	X				X	X			X	X							
				10	X	X	X	X	X				X	X			X	X							
5A_DG-738	B4641 Area	South of Building 4641	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets disturbed ground area identified in EPA technical memorandum present in the 1995 aerial photo (possible location of leach field) and characterizes open space downslope of an operational area. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	Yes			
				5	X	X	H	X					X				X	X							
				10	H	H	H	H					H				H	H							
5A_DG-739	B4641 Area	South of Building 4641	Soil Boring	0.5	X	X	X	X					X			X	X	X	X	✓	Location targets stormwwater pipe discharge location and delineates extent of fill of unknown origin. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location immediately adjacent to a PRA footprint and existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.		
				5	X	X	X	X					X			X	X	X	X						
				10	X	X	X	X					X			X	X	X	X						
5A_DG-740	B4641 Area	Building 4641	Soil Boring / Test Pit	0.5	X	X	X	X					X					X	X	✓	Location targets linear terrain conductivity and characterizes fill of unknown origin. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths. Conduct adjacent test pit for linear terrain conductivity anomaly and adjust 5' sample to target feature (or sample pit as appropriate).	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly and lateral extent of fill to be evaluated during remediation.		
				5	X	X	X	X					X				X	X							
				10	X	X	X	X					X				X	X							
5A_DG-741	B4641 Area	Building 4641	Soil Boring	0.5	X	X	X	X					X					X	X	✓	Location targets linear terrain conductivity and characterizes fill of unknown origin. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly and lateral extent of fill to be evaluated during remediation.		
				5	X	X	X	X					X				X	X							
				10	X	X	X	X					X				X	X							

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
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Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method																Data Gap Checklist <sup>2</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)					
5A_DG-742	B4641 Area	Building 4641	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location targets terminus of lined drainage and entrance to B4641; also characterizes fill of unknown origin and open storage along west side of B4641 observed in 1974 oblique photo. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.		
				5	X	X	X	X					X				X	X						
5A_DG-743	B4641 Area	Building 4046	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Representative location to characterize operational area and open storage identified in EPA HSA (open storage area offset to northeast in GIS). Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location immediately adjacent to a PRA footprint and existing samples are sufficient for characterization of soils in area.		
				5	X	X	X	X					X				X	X						
5A_DG-744	B4641 Area	Building 4641	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Representative location to characterize fill of unknown origin. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to characterize fill.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.		
				5	X	X	X	X					X				X	X						
				10	X	X	X	X					X				X	X						
5A_DG-745	B4641 Area	North of Building 4641	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location targets drainage downstream of operational area and open storage. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.		
				5	X	X	X	X					X				X	X						
5A_DG-746A	B4641 Area	North of Building 4641	Soil Boring	0.5		X												X	✓	Transformers in Area IV with previous ND results are being resampled with discrete samples. Collect samples at four discrete locations and analyze 0.5' samples for PCBs; hold deeper samples pending shallower results.  Northern sample (5A_DG-151C) also characterizes open storage and fill of unknown origin. At this location, bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.		
			3		H											H								
5A_DG-746B	B4641 Area	North of Building 4641	Soil Boring	0.5		X											X							
			3		H												H							
5A_DG-746C	B4641 Area	North of Building 4641	Soil Boring	0.5	X	X	X	X					X				X	X						
				3	X	X	X	X					X				X	X						
			10	X	X	X	X	X					X				X	X						
5A_DG-746D	B4641 Area	North of Building 4641	Soil Boring	0.5		X												X						
				5		H												H						
5A_DG-750	B4641 Area	Open Storage North of Building 4641	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Stepout for SL-221-SA5A and SL-222-SA5A (dioxins, metals, PCBs, and PAH detected above ISLs) and characterizes open storage and fill of unknown origin. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.		
				5	X	X	X	X					X				X	X						
				10	X	X	X	X					X				X	X						
5A_DG-751	B4641 Area	South of Building 4030	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Same as 5A_DG-750.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.		
				5	X	X	X	X					X				X	X						
				10	X	X	X	X					X				X	X						
5A_DG-752	B4641 Area	Building 4030	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location targets sewer connection to B4030 and open storage identified in EPA memo (open storage area offset to northeast in GIS). Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined. Soils adjacent to sanitary sewer discharge from B4030 to be evaluated during remediation.		
				5	X	X	X	X					X				X	X						
5A_DG-753	B4641 Area	Building 4046	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Same as 5A_DG-743.	No	Location immediately adjacent to a PRA footprint and existing samples and other proposed data gap samples are sufficient for characterization of soils in area.		
				5	X	X	X	X					X				X	X						
5A_DG-754	B4641 Area	South of Building 4035	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Representative location to characterize open storage and fill of unknown origin (metals, dioxins, and TPH above ISLs). Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.		
				5	X	X	X	X					X				X	X						
5A_DG-755	B4641 Area	South of Building 4035	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Same as 5A_DG-754; also targets linear magnetometer anomaly.	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly and lateral extent of fill to be evaluated during remediation.		
				5	X	X	X	X					X				X	X						
5A_DG-756	B4641 Area	Between Buildings 4030 and 4641	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Same as 5A_DG-750.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.		
				5	X	X	X	X					X				X	X						
				10	X	X	X	X					X				X	X						

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
(21 of 22)

Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method															Data Gap Checklist <sup>3</sup>	Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)				
5A_DG-757	B4641 Area	Between Buildings 4030 and 4641	Soil Boring / Trench	5	X	X	X	X					X				X	X	✓	Stepout for SL-221-SA5A and SL-222-SA5A (dioxins, metals, PCBs, and PAH detected above ISLs) and characterizes open storage and fill of unknown origin. Excavate test pit to investigate linear magnetometer anomalies and adjust 5' sample to target features observed in the field (or sample pit as appropriate). Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths. Conduct trench according to orientation shown; adjust to north based on existing sewer line location.	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly and lateral extent of fill to be evaluated during remediation.	
				10	X	X	X	X					X				X	X					
5A_DG-758	B4641 Area	Between Buildings 4030 and 4641	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Same as 5A_DG-750.	No	Location immediately adjacent to a PRA footprint and existing samples are sufficient for characterization of soils in area. Lateral extent of fill to be evaluated during remediation.	
				5	X	X	X	X					X				X	X					
				10	X	X	X	X					X				X	X					
5A_DG-759	B4641 Area	Building 4641	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Representative location in area surrounding B4641. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.	
				5	X	X	X	X					X				X	X					
				10	X	X	X	X					X				X	X					
5A_DG-760	B4641 Area	Building 4641	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Same as 5A_DG-759.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X				X	X					
				10	X	X	X	X					X				X	X					
5A_DG-761	B4641 Area	Building 4641	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Same as 5A_DG-759.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.	
				5	X	X	X	X					X				X	X					
				10	X	X	X	X					X				X	X					
5A_DG-762	B4641 Area	Building 4641	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Same as 5A_DG-759.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.	
				5	X	X	X	X					X				X	X					
				10	X	X	X	X					X				X	X					
5A_DG-763	B4641 Area	East of Building 4641	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location targets stormwater pipe discharge location. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X				X	X					
				10	X	X	X	X					X				X	X					
5A_DG-764	B4641 Area	Building 4641	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location targets southern end of loading dock area and high bay door at B4641. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.	
				5	X	X	X	X					X				X	X					
				10	X	X	X	X					X				X	X					
5A_DG-765	B4641 Area	South of Building 4641	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location targets magnetometer anomaly and further characterizes fill of unknown origin. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.	
				5	X	X	X	X					X				X	X					
				10	X	X	X	X					X				X	X					
5A_DG-766	B4641 Area	South of Building 4641	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Location targets magnetometer anomaly and characterizes open space downslope of an operation area. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.	
				5	X	X	H	X					X				X	X					
				10	H	H	H	H					H				H	H					
5A_DG-767	B4641 Area	South of Building 4641	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Representative location to characterize open area downslope of an operational area; positioned at intersection of two surface flow pathways. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	Yes		
				5	X	X	X	X					X				X	X					
				10	X	X	X	X					X				X	X					
5A_DG-768	B4641 Area	Drainage Along G Street and 11th Street	Soil Boring	0.5									X	X				X	✓	Stepdown at SL-105-SA5A (dioxins and PAHs detected above ISLs shallow; no deeper sample). Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze 0.5' sample for TPH only and all samples deeper than 0.5' for all analyses.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X	X				X	X			X	X					
				10	X	X	X	X	X				X	X			X	X					
5A_DG-769	B4641 Area	South of Building 4641	Soil Boring	0.5	X	X	X	X					X			X	X	X	X	✓	Location targets stormwater pipe discharge location and delineates extent of fill of unknown origin. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X					X			X	X	X	X				
				10	X	X	X	X					X			X	X	X	X				

Table 1  
Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations  
(22 of 22)

Location ID	Area	Location Description	Sample Type	Depth (ft bgs) <sup>1</sup>	Analytical Method															Subarea 5A Data Gap TM Rationale / Comments <sup>4,5,6</sup>	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment	
					PAHs including NDMA (EPA Method 8270C (SIM))	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals <sup>2</sup> (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	TPH (EPA Method 8015B)	Formaldehyde (EPA Method 8315A)	Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)				
5A_DG-770	B4641 Area	Drainage Along 10th Street	Soil Boring	0.5	X	X	X	X					X				X	X	✓	Representative location to characterize drainage. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X				X	X					
5A_DG-771	B4641 Area	Drainage Along G Street and 10th Street	Soil Boring	0.5	X	X	X	X					X			X	X	X	✓	Stepout for SL-105-SA5A (dioxins, metals, and PAH detected above ISLs); positioned upstream of SL-105-SA5A. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	Location within PRA footprint where vertical extent is sufficiently defined.	
				5	X	X	X	X					X			X	X	X					X
				10	X	X	X	X					X			X	X	X					X

Footnotes

1. Sampling will generally be at 5 foot intervals to bedrock. In areas where fill is encountered or anticipated, samples will be collected from the top of native soil (beneath fill) and soil just above bedrock. Samples collected at 0.5' and 5' will be analyzed, with deeper samples placed on hold pending shallower results, unless otherwise stated. If deeper soils are encountered, additional sampling will be added as needed. Sample intervals may be added or adjusted based on field conditions.

2. Standard metals analysis includes silver and mercury, but does not include hexavalent chromium.

3. A check mark in column indicates sample was proposed based on review of information source indicated in the Data Gap Checklist, Table 4.

4. The Subarea 5A analytical suite for general operations includes primary chemical groups: PAHs, PCBs/PCTs, Metals, and TPH. The corrosion inhibitor suite includes formaldehyde and NDMA to address potential hydrazine use, and arsenic, hexavalent chromium, and morpholine (EPA Method 8260 TIC). PCBs/PCTs are proposed at locations associated with potential pond dredge material/mounds based on detections in previous sampling.

5. Dioxin analysis at depth is generally on hold pending shallower results unless warranted by observed site conditions (e.g. fill, subsurface features, or historical drainages).

6. Rationale originally included in the Subarea 5A Data Gap Analysis Technical Memorandum (Attachment 1 in Addendum No. 4 to the Master Field Sampling Plan) that was submitted and approved by DTSC in August 2012. The rationale has not been modified and is included for reference.

Acronyms and Abbreviations

AST = above-ground storage tank  
B = building (e.g. B4005 is Building 4005)  
B(a)P = benzo(a)pyrene  
bgs = below ground surface  
Cr(VI) = hexavalent chromium  
D&D = decommissioning and demolition  
EPA = Environmental Protection Agency  
ft = foot/feet  
H = sample on hold for corresponding analysis  
HDMS - Historical Document Management System  
Hg = mercury  
HMSA = Hazardous Materials Storage Area

HSA = Historical Site Assessment  
ISL = interim screening level  
KEWB = Kinetic Experiment Water Boiler  
ND = analyte not detected above method reporting limit  
NDMA = n-nitrosodimethylamine  
PAHs = polyaromatic hydrocarbons  
Pb = lead  
PCBs = polychlorinated biphenyls  
PCTs = polychlorinated terphenyls  
PDU = Coal Gasification Process Development Unit  
ppm = parts per million  
PRA = preliminary remediation area

RCRA = Resource Conservation and Recovery Act  
RFI = RCRA Facility Investigation  
RL = reporting limit  
RMHF = Radioactive Materials Handling Facility  
SETF = SNAP Environmental Test Facility  
SM = soil matrix  
TPH = total petroleum hydrocarbons  
UST = underground storage tank  
VOC = volatile organic compound  
X = sample to be analyzed by corresponding analytical method  
Zn = zinc