

Energy Technology Engineering Center 4100 Guardian Street, Suite 160 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,

Stephin

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)

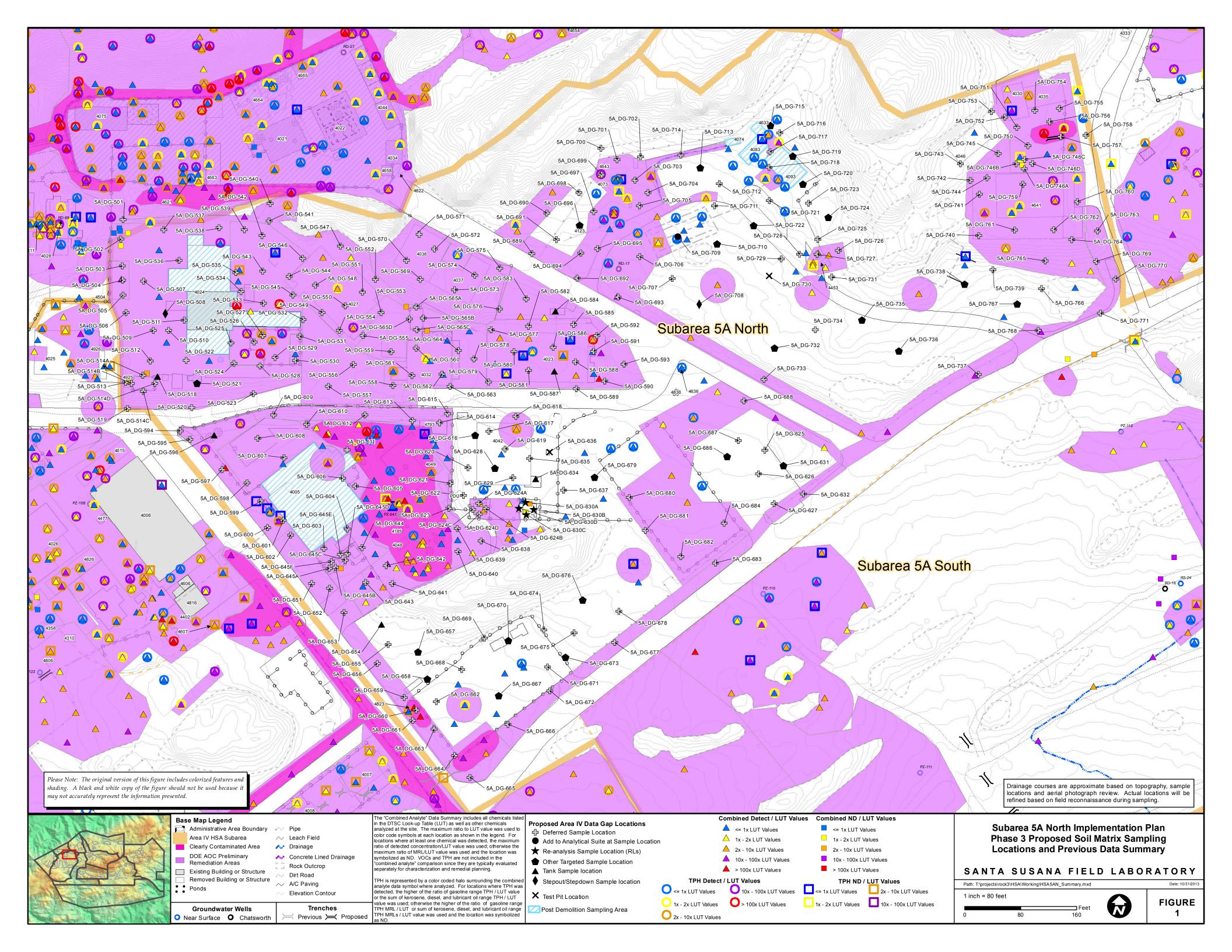


Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (1 of 22)

	1	T	1		1						Analytic	al Methor	d						
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals ² (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)		FPH EPA Method 8015B)	Formaldehyde EPA Method 8315A)	Worpholine EPA Method 8260 TIC)	Pesticides EPA Method 8081)	Herbicides (EPA Method 8151A) pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)		Collect Sample as Part of Implementation Plan (Yes or No)
5A_DG-501	SETF	Drainage Northwest of Building 4024	Soil Boring	0.5	X	X	X	x x				X	1	I	•	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. Location within PRA footprint where vertical extent is sufficiently defined. No
				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 sufficiently defined.
5A_DG-502	SETF	Northwest of Building 4024	Soil Boring	5 10	X H	X H	H H	X H				X H				X H	X H	~	PCBs).
5A_DG-503	SETF	Open Storage West of Building 4024	Soil Boring	0.5	X	X X	X H	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 No cation 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
		Sanding 1027		10 0.5	X	H X	H X	H X				H X				H X	H X		bedrock. Analyze 10' sample for PAHs only (hold other analyses pending shallower results). Stepdown from SL-237-SA5A for deeper sample (PAHs detected above ISLs at Location within PRA footprint where vertical extent is
5A_DG-504	SETF	Open Storage West of Building 4024	Soil Boring	5	X	X H	H H	X H				X H				X	X	 	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.
5A_DG-505	SETF	Open Storage West of Building 4024	Soil Boring	0.5	X X	X X	X H	X X				X X				X X	X X	·	Same as 5A_DG-503. 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).
5A_DG-506	SETF	West of Building 4024	Soil Boring / Test Pit	10 0.5 5 10	X X X H	X X H	H X X H	H X X H				X X H				H X X H	H X X H	·	Same as 5A_DG-503. Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.
5A_DG-507	SETF	Open Storage West of Building 4024	Soil Boring	0.5	X	X X	Х	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. 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).
				0.5	X	H X	H X	H X				H X				H X	H 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
5A_DG-508	SETF	West of Building 4024	Soil Boring	5 10 15 20	X X X	X X X	X X X	X X X				X X X				X X X	X X X	- - -	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 deepest sample just above bedrock; analyze all depths to characterize fill.
				30 0.5	X	X	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, sufficiently defined. Geophysical anomaly to be evaluated
			Soil Boring /	5	X	X X	X	X X				X				X X	X		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).
5A_DG-509	SETF	West of Building 4024	Test Pit	15	X	X	X	X				X				X	X		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).
				30	X	X	X	X				X				X	X		
				0.5 5	X X X	X X X	X X X	X X X				X X 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
5A_DG-510	SETF	West of Building 4024	Soil Boring	15 20	X	X	X X	X X				X X				X	X	1 1	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.
				30	X	X	X	X				X				X	X		

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

		1	ı	ı							Ans	alytical !	Method										
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals ² (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B)	(EPA Method 7196A) Perchlorate	(EPA Method 6850/6860) 1-4 Diovano	(EPA Method 8360B SIM)	(EPA Method 8015B)	IPH (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 Checklist³	Subarea 5A Data Gap TM Rationale / Comments ^{4,5,6}	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
				0.5 5	X	X	X	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		Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-511	SETF	West of Building 4024	Soil Boring	10	X	X	X	X					X					X	X		during original construction activities); positioned near ramp into B4024 adjacent to the reactor vault complex. Bedrock anticipated ~30'. Collect samples at 5'	No	
				15 20	X	X	X X	X					X X					X X	X X		intervals to 20', then every 10' to bedrock with the deepest sample just above bedrock; analyze all depths to characterize fill.		
				30	X	X	X	X					X					X	X	-	Location targets terrain conductivity anomaly and characterizes operational area.		Location within PRA footprint where vertical extent is
	arm.		Soil Boring /	0.5	X	X	X	X					X					X	X		Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with the deepest sample just above bedrock; hold deeper samples pending shallower		sufficiently defined. Geophysical anomaly to be evaluated during remediation.
5A_DG-512	SETF	Southwest of Building 4024	Test Pit	5	X	X	X	X					X					X	X		results. Conduct adjacent test pit for linear terrain conductivity anomaly and adjust 5' sample to target feature (or sample pit as appropriate).	No	
				0.5	H X	H X	Н	H X					H X					Н	H		Location targets asphalt swale that directs surface flow west of B4024 to the		Location within PRA footprint where vertical extent is
5A_DG-513	SETF	Drainage Southwest of Building 4024	Soil Boring	5	X	X	X	X					X					X	X	✓	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	No	sufficiently defined.
		Transformer 4927		10 0.5	X	X X	X	X					X					X	X X	_	depths. Transformers in Area IV with previous ND results are being resampled with		Location within PRA footprint where vertical extent is
5A_DG-514A	SETF	(Southwest of B4024) Transformer 4927	Soil Boring	3		H													H X		discrete samples. Collect samples at four discrete locations and analyze 0.5' samples for PCBs; hold deeper samples pending shallower results.		sufficiently defined.
5A_DG-514B	SETF	(Southwest of B4024) Transformer 4927	Soil Boring	3 0.5		H X													H X	✓		No	
5A_DG-514C 5A_DG-514D	SETF	(Southwest of B4024) Transformer 4927	Soil Boring Soil Boring	3 0.5		H X													H X				
3A_DG-314D	SEIF	(Southwest of B4024)	Son Bornig	0.5	X	H X	X	X					X					X	H X	\vdash	Location targets AST with unknown contents (AT-HS-5) identified in the		
5A_DG-518	SETF	Southwest of Building 4024	Soil Boring	5	X	X	Н	X					X					X	X		Sitewide Tank Inventory (CH2M Hill, 2011); positioned adjacent to undefined feature observed in 1978 photograph (HDMSm00000249). Bedrock anticipated	Yes	
3A_DG-318	SEII	Southwest of Building 4024	Son Boring	10	Н	Н	Н	Н					Н					Н	H		$\sim\!10'$. Collect samples at 5' intervals to bedrock with the deepest sample just above bedrock; hold deeper sample pending shallower results.	168	
																v	v				Location targets the drainage along the northern edge of B Street downslope from		Location within PRA footprint where vertical extent is
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	*	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	No	sufficiently defined.
		, ,		5	X	X	X	X					X			X	X	X	X		depths.		I consider DDA Constant
5A_DG-520	SETF	Drainage Along B Street South	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	No	Location within PRA footprint where vertical extent is sufficiently defined.
3A_DG-320	SEIF	of Building 4024	Soil Boring	5	X	Х	X	X					X					X	X	`	above bedrock; analyze all depths.	NO	
				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'.		
5A_DG-521	SETF	Cooling Tower 4928 (South of Building 4024)	Soil Boring	5	X	X	Н	X	X				X	X	X			X	X	*	Collect samples at 5' intervals to bedrock with the deepest sample just above bedrock; hold deeper samples pending shallower results.	Yes	
				10	Н	Н	Н	Н	Н				Н	Н	Н			Н	Н				
				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' interests to be bedrock with departs apply into the property of t		Location within PRA footprint where vertical extent is sufficiently defined. Soil adjacent to former UST to be evaluated during remediation.
5A_DG-522	SETF	South of Building 4024	Soil Boring	5	X	X	X	X					X					X	X	*	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	evaluated during remediation.
				10	X	X	X	X		\perp			X					X	X				Leasting within DDA 6
5A_DG-523	SETF	Drainage Along B Street Southeast of Building 4024	Soil Boring	0.5	X	X	X	Х					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 5	X	X	X H	X 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
			l	10	X	X	Н	X					X					X	X				during remediation.

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

		1	I	1							Analytic	al Metho	ho							
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals ² (EPA Methods 6010B/6010C/6020/6020A/471A/7471B) Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	enyls 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 ³	Collect Sample as Part of Implementation Plan (Yes or No)
				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 sufficiently defined.
5A_DG-525	SETF	East of Building 4024	Soil Boring	5	X	X	X	X				X					X	X	~	metals above screening criteria). Bedrock anticipated ~15'. Collect samples at 5' No
				10	X	X	X	X				X					X	X	1	intervals to bedrock with deepest sample just above bedrock; analyze all depths to characterize fill.
				0.5	X	X	X	X				X					X	X		Location targets fill from unknown origin with dioxins, PAHs, TPH, and metals Location within PRA footprint where vertical extent is an expected above consoning originity based on surrounding complex results; and
5A_DG-526	SETF	East of Building 4024	Soil Boring	5	X	X	X	X				X					X	X	/	detected above screening criteria based on surrounding sample results; and characterizes fenced open storage. Bedrock anticipated at 15'. Collect samples at No
				10	X	X	X	X				X					X	X	1	5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to characterize fill.
5A_DG-527	SETF	Open Storage East of Building 4024	Soil Boring	0.5 5	x x x	x x x	X X X	x x x				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.
5A_DG-528	SETF	Southeast of Building 4024	Soil Boring	0.5	X X	X X	X X	x 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. Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.
				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 homestaring formed are perfectly approximately ap
	22.1			10	X	X	X	X				X					X	X	1	5' intervals to bedrock with deepest sample just above bedrock; analyze all depths
5A_DG-530	SETF	Southeast of Building 4024	Soil Boring	0.5	X	X	X	X X				X					X	X		to characterize fill. Location targets fenced open storage southeast of B4024. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above No
				10	X	X	Н	X				X					X	X		bedrock; analyze all depths.
5A_DG-531	SETF	Open Storage East of Building 4024	Soil Boring	0.5	X	X	X H	X X				X					X	X	<u> </u>	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
				10	Н	Н	Н	Н				Н					Н	Н		deeper samples pending shallower results.
5A_DG-532	SETF	East of the Building 4024	Soil Boring	0.5	X	X	X H	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 Location within PRA footprint where vertical extent is sufficiently defined. No
		J		10	X	X	Н	X	+			X				1	X	X	1	bedrock; hold deeper samples pending shallower results.
5A_DG-533	SETF	East of the Building 4024	Soil Boring	0.5	X	X	X	х				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
3A_DG-333	SEIF	East of the Building 4024	Son Bornig	5	X	X	Н	X				X					X	X		sample just above bedrock; hold deeper samples pending shallower results.
51 P.3 -221	arm.	F CD	0.115	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'.
5A_DG-534	SETF	East of Building 4024	Soil Boring	5	X	X	Н	X	1			X					X	X	∄	Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.
				10	Н	Н	Н	Н	1		-	Н	_	_		-	Н	Н	-	Location targets removed fuel oil UST (UT-19) located northeast of B4024. Tank Location within PRA footprint where vertical extent is
5A DO 525	CETTE	Northood -f.D.: 11 4024	Coil De 1	0.5	X	X	X	X				X			<u> </u>		X	X		depth anticipated ~8'. Location based on facility drawing; previous location targeting UST (U5BS1126) had bedrock refusal above the tank bottom depth. sufficiently defined. Soil adjacent to former UST to be evaluated during remediation.
5A_DG-535	SETF	Northeast of Building 4024	Soil Boring	5	X	X	X	X				X					X	X		just above bedrock; analyze all depths to characterize fill of unknown origin and potential release from tank. Conduct geophysical survey prior to sampling to
				10	X	X	X	X				X					X	X		determine location of removed UST.

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (4 of 22)

		Г	1	I	<u> </u>						Analytics	al Method	1							
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans EPA Method 1613)	Metals ² (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B) Cr(VI)	Perchlorate (EPA Method 6850/6860)	-4 Dioxane EPA Method 8360B SIM)	erphenyls EPA Method 8015B)		Formaldehyde EPA Method 8315A)	Aorpholine EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Soil Moisture (ASTM D2216/EPA Method 160.3)	oata Gap Checklist³	
	arama.	N 1		0.5	X	X	X	X	. 40		1	X	H C	Z (I	10	X	X		Same as 5A_DG-537. Location within PRA footprint where vertical extent is
5A_DG-536	SETF	Northwest of Building 4024	Soil Boring	5 10	X H	X H	X H	X H				X H					X H	X H		No sufficiently defined.
5A_DG-537	SETF	Northwest of Building 4024	Soil Boring	0.5 5	X X	X X	X H	X 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; No
				10	Н	Н	Н	Н				Н					Н	Н		hold deeper samples pending shallower results. Stepout from U5BS1129 (TPH detected above ISL); also will provide stepout Location within PRA footprint where vertical extent is
				0.5	X	X	X	X				X					X	X		information for SL-120-SA5A (dioxins detected above ISLs). Bedrock sufficiently defined.
5A_DG-538	SETF	North of Building 4024	Soil Boring	5	X	X	X	X				X					X	X	/	anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.
				10	Н	Н	Н	Н				Н					Н	Н		
				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 sufficiently defined.
5A_DG-539	SETF	Northeast of Building 4024	Soil Boring	5	Х	X	Н	X				X					X	Х	/	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
				10	Н	Н	Н	Н				Н					Н	Н		shallower results.
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 No
				5	X	X	X	X				X			X	X	X	X		with deepest sample just above bedrock; analyze all depths.
54 DC 541	CETE	N. d CD This 4024	G. I.D. iv	0.5	Х	х	X	Х				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'
5A_DG-541	SETF	Northeast of Building 4024	Soil Boring	5	Х	х	X	Х				X					X	X		intervals to bedrock with deepest sample just above bedrock; analyze all depths.
			Soil Boring /	0.5	X	Х	X	Х				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 Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.
5A_DG-542	SETF	North of Building 4027	Test Pit	5	X	X	X	Х				X					X	X		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).
				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 sufficiently defined.
5A_DG-543	SETF	East of Building 4024	Soil Boring	5	X	X	X	X				X					X	X	*	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.
				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' sufficiently defined. Soil adjacent to sanitary sewer discharge
5A_DG-544	SETF	West of Building 4027	Soil Boring	5	X	X	X	X				X					X	X		intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.
5A_DG-545	SETF	Between Buildings 4024 and	Soil Boring	0.5	X	X	X	Х				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 No
		4027	30mg	5	X	X	Н	X				X					X	X		bedrock; hold deeper samples pending shallower results, if collected.
5A DC 546	CETE	North of Building 4027	Soil Darie	0.5	X	Х	X	Х				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
5A_DG-546	SETF	North of Building 4027	Soil Boring	5	X	X	Х	X				X					X	X	Ů	samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.

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

	<u> </u>	1	1	1								Analytic	al Metho	d										T
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals ² (EPA Methods 6010B/6010C/6020/6020A7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	(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 Checklist³		Subarea 5A Data Gap TM Rationale / Comments ^{4,5,6}	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
5A_DG-547	SETF	Drainage Northeast of	Soil Boring /	0.5	X	Х	Х	х					X					X	X		PAHs of SL-121	on targets point magnetometer anomaly and drainage (dioxins, metals, and detected above ISLs in existing samples within drainage); also stepout from 1-SA5A (dioxins detected above ISLs). Bedrock anticipated <5'. Collect es at 5' intervals to bedrock with deepest sample just above bedrock; analyze	No	Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.
5A_DG-54/	SEIF	Building 4027	Test Pit	5	X	Х	X	Х					X					X	X		all dep	oths. Conduct adjacent test pit for linear terrain conductivity anomaly and 5' sample to target feature (or sample pit as appropriate).	NO	
51 PG 540	QETTE:	Within Building 4027	Soil Boring /	0.5	X	X	X	х					X					Х	X		from U magne	on targets linear magnetometer anomaly beneath B4027; also a stepout USBS1105 (TPH detected above ISL at 0.5') and targets linear etometer anomaly. Bedrock anticipated ~5'. Collect samples at 5' intervals rock with deepest sample just above bedrock; hold deeper samples pending		Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated during remediation.
5A_DG-548	SETF	Footprint	Test Pit	5	X	Х	х	х					X					X	х		shallov	wer results, if collected. Conduct adjacent test pit for linear magnetometer lly and adjust 5' sample to target feature (or sample pit as appropriate).	No	
				0.5	Х	X	X	X	X				X			X	X	X	X			sentative location to characterize operational area; positioned along western f B4027 footprint which was used as a hazardous waste storage facility near		Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-549	SETF	West of Building 4027	Soil Boring	5	X	X	Н	X	X				X			X	X	X	X	/	Bedroc	ay door and possible drums observed in 1978 photo (HDMSm000000249). ck anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock	No	
				10	Н	Н	Н	Н	Н				Н			Н	Н	Н	Н		results.	•		
		Wishin Duilding 4027		0.5	X	X	X	X	X				X			X	X	X	X		used as	on targets former location of floor trench located beneath B4027 which was sa hazardous waste storage facility; also a stepout from U5BS1118 (TPH		Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-550	SETF	Within Building 4027 Footprint	Soil Boring	5	X	X	X	X	X				X			X	X	X	X			ed above ISL at 0.5'). Bedrock anticipated ~10'. Collect samples at 5' als to bedrock with deepest sample just above bedrock; analyze all depths.	No	
				10	X	X	X	X	X				X			X	X	X	X	-	Locatio	on targets former location of floor trench located beneath B4027 which was		Location within PRA footprint where vertical extent is
5A_DG-551	SETF	Within Building 4027 Footprint	Soil Boring	5	X	X	X	X	X				X			X	X	X	X		sample	s a hazardous waste storage facility. Bedrock anticipated ~5'. Collect es at 5' intervals to bedrock with deepest sample just above bedrock; hold samples pending shallower results, if collected.	No	sufficiently defined.
		Drainage Northeast of		0.5	Х	X	X	X					X					X	X			at from SL-122-SA5A (dioxins detected above ISL at 0.5'); positioned drainage. Bedrock anticipated <5'. Collect samples at 5' intervals to		Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-552	SETF	Building 4027	Soil Boring	5	X	X	X	X					X					X	X			k with deepest sample just above bedrock; analyze all depths.	No	
5A_DG-553	SETF	Southeast of Building 4027	Soil Boring	0.5	X	Х	Х	X.	X				X			X	X	X	Х	/	shower	sentative location positioned near B4027 equipment pad and emergency r. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with st sample just above bedrock; hold deeper samples pending shallower	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	X	X	X				X			X	X	X	X		results.	, if collected.		
5A_DG-554	SETF	South of Building 4027	Soil Boring	0.5 5	X X	X	X X	X X	X X				X			X	X	X	X		B4027	nt from U5BS1118 (TPH detected above ISL at 0.5'); positioned near a detrance. Bedrock anticipated ~10'. Collect samples at 5' intervals to be with deepest sample just above bedrock; hold deeper samples pending	No	Location within PRA footprint where vertical extent is sufficiently defined.
				10	Н	Н	Н	Н	Н				Н			Н	Н	Н	Н	1		wer results. It from U5BS1118 (TPH detected above ISL at 0.5'); positioned near		Location within PRA footprint where vertical extent is
				0.5	X	X	X	X	X				X			X	X	X	X	┨ .	B4027	in from USBS1116 (1PH detected above 1SL at 0.5); positioned near 'equipment pad (B4027 was used as a hazardous waste storage facility). ck anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest		sufficiently defined.
5A_DG-555	SETF	South of Building 4027	Soil Boring	5	X	X	X	X	X				X			X	X	X	X	╣ ′		e just above bedrock; hold deeper samples pending shallower results.	No	
				0.5	H X	H X	H X	H X	Н				H X			Н	Н	H X	H X	\parallel		sentative location to characterize operational area west of B4032; also a t from SL-249-SA5A (TPH detected above ISLs at 2.5' [fill from unknown		Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-556	SETF	West of Building 4032	Soil Boring	5	X	X	X	X					X					X	X	/	origin])). Bedrock anticipated >10'. Collect samples at 5' intervals to bedrock with st sample just above bedrock; hold deeper samples pending shallower	No	
				10	Н	Н	Н	Н					Н					Н	Н		results.			
				0.5	X	X	X	X					X					X	X	1	present	on targets open storage south of B4027 identified in EPA tech memo and t in the 1960 aerial. Bedrock anticipated >10'. Collect samples at 5'		Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-557	SETF	West of Building 4032	Soil Boring	5	X	X	X	X					X				1	X	X	╢ ′		als to bedrock with deepest sample just above bedrock; hold deeper samples ag shallower results.	No	
				10	Н	Н	Н	Н					Н					Н	Н					

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (6 of 22)

		1									Analyti	ical Met	hod							
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals ² EPA Methods 6010B/6010C/6020/6020A/7471A/7471B) Cr(VI)	Perchlorate EPA Method 6850/6860)	1-4 Dioxane EPA Method 8360B SIM)	enyls Method 8015B	IPH FDA Method 8015B)	(EF A Method 6015B) 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 Checklist³	Collect Sample as Part of Implementation Plan (Yes or No)
				0.5	X	X	X	X				X					X	X		Stepout from SL-249-SA5A (TPH detected above ISLs at 2.5' [fill from unknown Location within PRA footprint where vertical extent is
5A_DG-558	SETF	Southwest of Building 4032	Soil Boring	5	X	X	Н	X				X					X	X	~	origin]). Bedrock anticipated just over 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending No No Sufficiently defined. Lateral extent of fill to be evaluated during remediation.
				10	Н	Н	Н	Н				Н					Н	Н		shallower results.
				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]). Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated
5A_DG-559	SETF	Northwest Building 4032	Soil Boring	5	X	X	X	Х				Х					X	X	1 ,	Bedrock anticipated >10. Collect samples at 5' intervals to bedrock with deepest during remediation.
3/1_DG 337	SETT	Trofulwest Building 4032	Bon Bonng																-	sample just above bedrock; hold deeper samples pending shallower results.
				10	X	X	X	X				X					X	X		
		Within Building 4032		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 sufficiently defined.
5A_DG-560	SETF	Footprint	Soil Boring	5	X	X	X	X				X					X	X		bedrock; hold deeper samples pending shallower results.
				10	Н	Н	Н	Н				Н					Н	Н		
				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 sufficiently defined. Lateral extent of fill to be evaluated
5A_DG-561	SETF	Within Building 4032	Soil Boring	5	X	X	X	X				X					X	X	/	2.5'). Bedrock anticipated >10'. Collect samples at 5' intervals to bedrock with during remediation.
		Footprint		10	X	X	X	X				X					X	X		deepest sample just above bedrock; analyze all depths to characterize fill.
				10	Λ	Λ	Λ	Λ				Λ					Λ	Λ		Resample SL-235-SA5A for TPH; ~5' of fill from unknown origin present at SL- Location within PRA footprint where vertical extent is
				0.5			X					X						X		235-SA5A and SL-249-SA5A and fill at SL-249-SA5A had TPH detected above sufficiently defined.
	aram.	Within Building 4032		_															╢ ,	ISL. Location also targets light toned mounded material identified in EPA tech memo. Bedrock anticipated at ~10'. Collect samples at 5' intervals to bedrock
5A_DG-562	SETF	Footprint	Soil Boring	5			Н					X						X		with deepest sample just above bedrock; analyze 0.5' and 5' sample for TPH (hold
				10			Н					Н						Н		other analyses) and hold deeper samples pending shallower results.
															-				┨┝──	Location targets sanitary sewer pipe connection to B4032 and characterizes fill Location within PRA footprint where vertical extent is
54 P.C 562	GEATE.	Southeast Corner of Building	G ''D '	0.5	X	X	X	X				X	_				X	X	╢ ,	observed in borings south of B4032; positioned near B4032 entrance. Bedrock sufficiently defined. Lateral extent of fill to be evaluated
5A_DG-563	SETF	4032	Soil Boring	5	X	X	X	X				X	_				X	X	-	anticipated >10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to characterize fill.
								 											1	Location targets removed UST UT-22 (used for fuel oil); positioned within light Location within PRA footprint where vertical extent is
				0.5	X	X	X	X				X					X	X		toned mounded material identified in EPA tech memo. Bedrock is anticipated at sufficiently defined. Soil adjacent to former UST to be
5A_DG-564	SETF	East of Building 4032	Soil Boring	5	X	X	X	X				X					X	X	\ \	~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths. Conduct geophysical survey prior to sampling to No
																			-	determine location of removed UST, shown in two different locations in separate documents.
				10	X	X	X	X				X					X	X		
5 A DC 505 A	CETE	Transformer Pad 4727	G. T.D.	0.5	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' Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-565A	SETF	(North of Building 4032)	Soil Boring	5	X	X	X	X				X	_		X	X	X	X	-	samples for PCBs; hold deeper samples pending shallower results. Northern
5 A DC 565D	CETE	Transformer Pad 4727	Cail Dania	0.5		X						1			1.			X	1	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
5A_DG-565B	SETF	(North of Building 4032)	Soil Boring	3		Н												Н		location locations, bedrock anticipated ~5'. Collect samples at 5' intervals to
5A_DG-565C	SETF	Transformer Pad 4727 (North of Building 4032)	Soil Boring	0.5		X H	-			1					1			X H		bedrock with bottom sample collected just above bedrock; analyze all depths.
		_		0.5	X	X	X	X		+		X			+	1	X	Х	1	
5A_DG-565D	SETF	Transformer Pad 4727 (North of Building 4032)	Soil Boring	3	X	X	Н	X				X					X	X	1	
		, , , , , , , , , , , , , , , , , , , ,		5	X	X	Н	X				X			1		X	X		Papercentative location to characterize operational area positioned pear entrance
				0.5	X	X	X	X				X					X	X	1	Representative location to characterize operational area; positioned near entrance to B4036. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with sufficiently defined.
5A_DG-569	SETF	South of Building 4036	Soil Boring	5	X	X	X	X				X					X	X	╢ ′	deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.
					^	Λ	Λ			1							-	Λ	╢	Representative location to characterize Building 4036 footprint. Bedrock Location within PRA footprint where vertical extent is
54 DC 570	opre	Within Building 4036	Coil D.	0.5	X	X	X	X				X					X	X		anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample sufficiently defined.
5A_DG-570	SETF	Footprint	Soil Boring	5	X	X	Н	X				X					X	X]	just above bedrock; hold deeper samples pending shallower results, if collected.
									1			71						1 .,		

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (7 of 22)

		T	1	1								Analytic	al Metho	d							
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans EPA Method 1613)	Metals ² EPA Methods 9010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	Perchlorate EPA Method 6850/6860)	1-4 Dioxane EPA Method 8360B SIM)	Ferphenyls EPA Method 8015B)	FPH (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 ³	Collect Sample as Part of Implementation Plan (Yes or No)
		Within Building 4036		0.5	X	X	X	X	• •				X		70			X	X		Representative location to characterize Building 4036 footprint. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample sufficiently defined.
5A_DG-571	SETF	Footprint	Soil Boring	5	X	X	Н	X					X					X	X	╣ ′	just above bedrock; hold deeper samples pending shallower results, if collected.
				0.5	X	X	X	X					X					X	X	╫	Representative location to characterize Building 4036 footprint. Bedrock Location within PRA footprint where vertical extent
5A_DG-572	SETF	Within Building 4036 Footprint	Soil Boring																	- ·	anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.
				5	X	X	Н	X					X					X	X	-	Representative location to characterize former B4037 footprint which was used as Location within PRA footprint where vertical extent
5A_DG-573	SETF	Within Building 4037 Footprint	Soil Boring	0.5	X	X	X	X X	X X		X		X			X	X	X	X	-	intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.
				0.5	X	X	X	Х	X		X		X			X	X	X	X		Representative location to characterize former B4037 footprint which was used as Location within PRA footprint where vertical extent
5A_DG-574	SETF	Within Building 4037 Footprint	Soil Boring	5	X	X	X	X	X		X		X			X	X	X	X		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.
5A_DG-575	SETF	East of Building 4037	Soil Boring	0.5	X	Х	X	Х	X		X		X			Х	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 Location within PRA footprint where vertical extent sufficiently defined. No
				5	X	X	X	X	X		X		X			X	X	X	X		bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results, if collected.
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 No Location within PRA footprint where vertical extent sufficiently defined.
				0.5	X	X	X	X	X				X	X	X			X	X	-	collected. Representative location to characterize equipment north of B4023; positioned near Location within PRA footprint where vertical extent
5A_DG-577	SETF	North of Building 4023	Soil Boring	5	X	X	X	X	X				X	X	X			X	X	- ·	former cooling unit. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending No
		-		10	Н	Н	Н	Н	Н				Н	Н	Н			Н	Н		shallower results.
				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 sufficiently defined.
5A_DG-578	SETF	West of Building 4023	Soil Boring	5	X	X	X	X	X				X	X	X			X	X	/	facility drawing (only present on one drawing). Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold
				10	Н	Н	Н	Н	Н				Н	Н	Н			Н	Н		deeper samples pending shallower results.
		Southwest Corner of Building		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'. Location within PRA footprint where vertical extent sufficiently defined. Soil adjacent to sanitary sewer or sufficiently defined.
5A_DG-579	SETF	4023	Soil Boring		X	X	X	X	X				X	X	X			X	X	╢ ′	Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to characterize fill. No location from B4023 and lateral extent of fill to be eduring remediation.
				10	X	X	X	X X	X				X	X	X			X	X	╢	Stepout from SL-001-SA5A (PCBs, TPH detected above ISLs), SL-004-SA5A Location within PRA footprint where vertical extent
5A_DG-580	SETF	Within Building 4023	Soil Boring	0.5	X	X	X H	X					X					X	X	$\ $ $_{\prime}$	(PCBs and dioxins detected above ISLs), and SL-002-SA5A (PCBs, dioxins detected above ISLs). Bedrock anticipated ~10'. Collect samples at 5' intervals to No
3A_DG-360	SEIF	Footprint	Son Bornig	10	Н	H	Н	Н					Н					Н	Н	┨ ゙	bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.
				0.5	X	X	X	X					Х					X	X	\blacksquare	Same as 5A_DG-586. Location within PRA footprint where vertical extent
5A_DG-581	SETF	Within Building 4023 Footprint	Soil Boring	5	X	X	Н	X					X					X	X	1 1	No sufficiently defined.
		•		10	Н	Н	Н	Н					Н					Н	Н	-	Stepout from SL-004-SA5A (dioxins, PCBs detected above ISLs); positioned Location within PRA footprint where vertical extent
5A_DG-582	SETF	North of Building 4023	Soil Boring	0.5	X	X	X	X					X					X	X	-	outside drainage. Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper samples pending No No
				5	X	X	X	X					Х					X	Х		shallower results if collected.

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (8 of 22)

	T	1	1								Analytic	cal Metho	nd									1
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals ² (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B) Cr(VI)	Perchlorate EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)			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	Subarea 5A Data Gap TM Rationale / Comments ^{4,5,6}	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
5A_DG-583	SETF	North of Building 4023	Soil Boring	0.5	X	X	X	X X				X		Į.			X	X	<u>-</u>	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.
				0.5	X		X	X				X					X	X		Location targets two ASTs with unknown contents (Unknown-AT-L9-1, -2)		
5A_DG-584	SETF	North of Building 4023	Soil Boring	5 10	X H	X H	X H	X H				X H					X H	X H	*	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	
5A_DG-585	SETF	North of Building 4023	Soil Boring	0.5	X	X	X X	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.
5A_DG-586	SETF	Within Building 4023 Footprint	Soil Boring	0.5	X	X X	X X	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	No	Location within PRA footprint where vertical extent is sufficiently defined.
				0.5	X	X	X	X X				X					X	X		characterize fill. 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		Soil boring will be collected as part of the implementation plan; the test pit will be deferred pending Go-Backs Analysis.
5A_DG-587	SETF	Within Building 4023 Footprint	Soil Boring/Test Pit	5	X	X	X	X X				X					X X	X	*	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	
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.
				0.5	X		X	X				X					X	X		Same as 5A_DG-588; positioned near entrance to B4023.		Location within PRA footprint where vertical extent is
5A_DG-589	SETF	South of Building 4023	Soil Boring	5	X	X	X	X				X					X	X	*		No	sufficiently defined.
5A_DG-590	SETF	Southeast of Building 4023	Soil Boring		X	X	Х	X				Х					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.
				0.5	X	X	X	X				X					X	X		Resample SL-013-SA5A for TPH and stepout for SL-012-SA5A (TPH detected		Location within PRA footprint where vertical extent is
5A_DG-591	SETF	East of Building 4023	Soil Boring	5								X						X	*	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	sufficiently defined.
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	No	Location within PRA footprint where vertical extent is sufficiently defined.
				0.5	X	X	X	X				X					X	X		pending shallower results, if collected. Representative location to characterize open storage east of B4023 observed in post-1980 aerial photos. Bedrock anticipated ~10'. Collect samples at 5' intervals		Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-593	SETF	East of Building 4023	Soil Boring	5 10	X H	X H	X H	X H				X H					X H	X H		to bedrock with deepest sample just above bedrock; hold deeper samples pending shallower results.	No	
5A_DG-594	PDU Area	Drainage at Corner of 17th and B Street	d Soil Boring	0.5	X	X	X X	X 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.
				10	X	X	X	X				X			X	X	X	X		gust above beurber, anaryze an deptils.		

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (9 of 22)

	1	<u> </u>	1								Λ	nalytical	l Method	1							
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals ² (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B) C-CVI)	(EPA Method 7196A)	(EPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	IPH (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 ³	
5A_DG-595	PDU Area	Drainage Along 17th Street Northwest of Building 4005	Soil Boring	0.5 5 10	X X X	X X X	X X X	X X	X X X				X X X	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. Location within PRA footprint where vertical extent is sufficiently defined. No
5A_DG-596	PDU Area	Northwest of Building 4005	Soil Boring	0.5	X	X	X		X				X	А				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 Yes
3A_DG-390	FDU Alea	Northwest of Building 4003	Son Boring	5	X	X	Н	X	X				X					X	X		bedrock; analyze all depths; hold deeper sample pending shallower results, if collected.
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
				5	X	X	X		X				X					X	X		all depths; hold deeper sample pending shallower results, if collected.
5A_DG-598	PDU Area	Northwest of Building 4005	Soil Boring	0.5	X	X	X H	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;
5A_DG-599	PDU Area	West of Building 4005	Soil Boring	0.5 5	H X X	H X X	H X X	H X X					H X X					H X X	H X X		hold deeper sample pending shallower results. Same as 5A_DG-602. Location within PRA footprint where vertical extent is sufficiently defined. Soil adjacent to septic tank to be
				0.5	X	X	X	X X					X X					X	X		Evaluated during remediation.
5A_DG-600	PDU Area	West of Building 4005	Soil Boring	5	X	X	X	X					X					X	X	· ·	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
				10	Х	X	X	Х					X					X	X		just above bedrock; analyze all depths to assess potential subsurface release and migration along bedrock.
5A_DG-601	PDU Area	West Side of Building 4005	Soil Boring	0.5	X	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.
				10	X	X	X	X					X					X	X		Stepout from septic tank (dioxins); also characterizes operational area. Collect Location within PRA footprint where vertical extent is
5A_DG-602	PDU Area	West of Building 4005	Soil Boring	0.5 5 10	X X X	X	X X X	X X X					X X X					X X X	X X X	/	samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential subsurface release and migration along bedrock.
5A_DG-603	PDU Area	Southwest of Building 4005	Soil Boring	0.5 5	X X X H	X X X H	X H H	X X H					X X H					X X H	X X H		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. Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-604	PDU Area	South of Building 4005	Soil Boring	0.5	X	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 No Location within PRA footprint where vertical extent is sufficiently defined.
				0.5	X	X	X	X	X				X	X	X			X	X		collected. Location targets adjacent to B4005 drain line and floor trench (dioxins, metals, PAHs, and PCBs detected above ISLs in previous lined trench sediment samples); Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-605	PDU Area	East of Building 4005	Soil Boring	5	X	X	X H		X X				X	X	X			X	X		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.
5A_DG-606	PDU Area	East of Building 4005	Soil Boring		X X	X X	X X	X	X 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
				10	Н	Н	Н	Н	Н				Н	Н	Н			Н	Н		sample pending shallower results.

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (10 of 22)

Part		1		1	<u> </u>	I						,	Analytica	l Metho	d							
March Marc	Location ID	Area	Location Description			PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	A/7471A	Cr(VI) (EPA Method 7196A)	Perchlorate (EPA Method 6850/6860)	oxane Method 8360B SIM)		Method 8015B)		Morpholine (EPA Method 8260 TIC)	Pesticides (EPA Method 8081)	Herbicides (EPA Method 8151A)	pH (EPA Method 9045C)	Method	Che	Subarea 5A Data Gap TM Rationale / Comments 4,5,6 Subarea 5A Data Gap TM Rationale / Comments 4,5,6 Implementation Plan (Yes or No)
Process of the proc					0.5	X	X	X	X					X					X	X		
March Marc	5A_DG-607	PDU Area		Soil Boring	5	X	X	X	X					X					X	X	✓	
March Marc			Daniang 1000		10	X	X	Н	X					X					X	X	1	shallower results.
No. 10 1 1 1 1 1 1 1 1	5A_DG-608	PDU Area	North of Building 4005	Soil Boring																		contents; also characterizes open storage/operational area. Shallow bedrock anticipated. Collect samples at 5' intervals to bedrock with deepest sample just No
March Marc					_																┦—	
Fig. 1, 1964 Fig.			Drainage Along B Street North			-	-	-											.		┨ .	deepest sample just above bedrock; analyze all depths based on potential for sufficiently defined.
Policy P	5A_DG-609	PDU Area		Soil Boring		-	1	-										-	+	-	∐ ′	vertical migration of surface water/contaminants.
March PD Area North of Building 1005 Sol Burnt					10	X	X	X	X	X				X	X		X	X	X	X	4	
SA DG-611 PDU Area Newtones of Bealing 400% Self Buring 100%	5A_DG-610	PDU Area	North of Building 4005	Soil Boring																	-	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
Miles Mile					3	Λ	Λ	11	Λ	Λ				Λ	Λ				Λ	Λ		
Mailing AUS Four Four Four Policy	5A DG-611	PDU Area		Soil Boring																	-	staining); also stepout for Clearly Contaminated Area. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample
Pour Area Pour			Building 4005																		1	just above bedrock, analyze an depuis to assess potential depui of impacts
Policy P					10	X	X	X	X					X					X	X		
Policy P					0.5	-	X	+											+	+	1	undefined feature area (possible staining). Collect samples at 5' intervals to sufficiently defined.
Four-part Four	5A_DG-612	PDU Area		Soil Boring	_		-	+	-										+	_	4	bedrock with deepest sample just above bedrock; analyze all depths to assess
North of Clearly Contaminated Area (note previous nearby samples of sirewals to be bedock with deepers sample just above bedrock; hold deeper sample pending shallower results. If collected. No			Daniang 1000		10	X	X	X	X					X	X				X	X	╟	
SA_DG-614 PDU Area Northeast of Clearly Contaminated Area East of Building 4005 Soil Boring SA_DG-616 PDU Area Northeast of Clearly Contaminated Area East of Building 4005 Soil Boring SA_DG-616 PDU Area Northeast of Clearly Contaminated Area East of Building 4005 Soil Boring SA_DG-616 PDU Area Northeast of Clearly Contaminated Area East of Building 4042 Soil Boring SA_DG-616 PDU Area Northeast of Clearly Contaminated Area East of Building 4042 Soil Boring SA_DG-616 PDU Area Northeast of Clearly Contaminated Area East of Building 4042 Soil Boring SA_DG-616 PDU Area Northeast of Clearly Contaminated Area East of Building 4042 Soil Boring SA_DG-616 PDU Area Northeast of Clearly Contaminated Area East of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616 SA_DG-616 PDU Area North of Building 4042 Soil Boring SA_DG-616	5A_DG-613	PDU Area		Soil Boring	0.5	X	X	X	X					X					X	X	-	Clearly Contaminated Area (note previous nearby samples not analyzed for dioxins). Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with
Northeast of Clearly Contaminated Area East of Building 4005 Soil Boring SA_DG-615					5	X	X	Н	X					X					X	X		if collected.
Building 4005 S X X H X X X X X X X	5A DG-614	PDU Area		Soil Boring	0.5	X	X	X	Х					X					X	X		Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sufficiently defined.
Dallarder Northerds of Clear Sample and Salator Building 4005 Soil Boring Soil B					5	X	X	Н	X					X					X	X		
Dallarder Northerds of Clear Sample and Salator Building 4005 Soil Boring Soil B			D : N : 27		0.5	X	X	X	X					X			X	X	X	X	╟─	Location targets stormwater conveyance pipe discharge point into drainage. Location within PRA footprint where vertical extent is
Building 4005 10 X X X X X X X X X	5A_DG-615	PDU Area		Soil Boring					l									l			1 /	Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; sufficiently defined.
SA_DG-616 PDU Area West Side of Building 4042 Soil Boring 5 X X X X X X X X X X X X X X X X X X							X	+										1		-	1	analyze an depuis to assess potential subsurface release and inigration along
SA_DG-617 PDU Area West state of Building 4042 Footprint					0.5	_	X	X	X					X						X		
FA_DG-617 PDU Area Within Building 4042 Footprint Sa_DG-618 PDU Area PDU Ar	5A_DG-616	PDU Area	West Side of Building 4042	Soil Boring		_		+													1 1	
Sa_DG-617 PDU Area Within Building 4042 Footprint Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X X X S Soil Boring 5 X X X X X X X X S Soil Boring 5 X X X X X X X X S Soil Boring 5 X X X X X X X X S Soil Boring 5 X X X X X X X X X S Soil Boring 6 Soil Boring 6 X X X X X X X X X X X X X X X X X X				-								-							_		╟─	
SA_DG-618 PDU Area North of Building 4042 Soil Boring 5 X X X X X X X X X X X X X X X X X X	5A DG-617	PDU Area		Soil Boring				+	-											+	1	at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sufficeint for characterization of soils in area.
5A_DG-618 PDU Area North of Building 4042 Soil Boring 5 X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X S Soil Boring 5 X X X X X S Soil Boring 5 X X X X X S Soil Boring 5 X X X X X S Soil Boring 5 X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X X S Soil Boring 5 X X X X X X X X S Soil Boring 5 X X X X X X X X S Soil Boring 5 X X X X X X X X X X X X X X X X X X	3/1_DG-017	I DO Aica	Footprint	Jon Dornig					-											+	1	sample pending shallower results.
5A_DG-618 PDU Area North of Building 4042 Soil Boring 5 X X X X X S Soil Boring 5 X X X X X S Soil Boring 5 X X X X X S Soil Boring 5 X X X X X S Soil Boring 5 X X X X X S Soil Boring 5 X X X X X S Soil Boring 5 X X X X X S Soil Boring 5 X X X X X S Soil Boring 5 X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X S Soil Boring 5 X X X X X X X S Soil Boring 5 X X X X X X X S Soil Boring 5 X X X X X X X S Soil Boring 5 X X X X X X X X S Soil Boring 5 X X X X X X X X X X X S Soil Boring 5 X X X X X X X X X X X X X X X X X X				1				<u> </u>													╫	
deepest sample just above bedrock, analyze an depuis to assess possible leakage	5A_DG-618	PDU Area	North of Building 4042	Soil Boring																-	1	
					10				l												1	deepest sample just above bedrock, analyze an depuis to assess possible leakage

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (11 of 22)

	T	T		T	1							Analytica	134.0										1	
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans EPA Method 1613)	Metals ² 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)	Ferphenyls EPA Method 8015B)	IPH 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 Checklist³	Subarea 5A Data Gap TM Rationale	/ Comments ^{4,5,6}	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
				0.5	X	X	X	X	X				X	X				X	X		ocation targets intersection of two former floor tren (a)P and TPH; positioned near operations associate			Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
5A_DG-619	PDU Area	Within Building 4042 Footprint	Soil Boring	5	X	X	X	X	X				X	X				X	X	/	evious sample U5BS1107 analyzed for metals only	. Collect samples at 5'	No	sufficient for characterization of soils in area.
		Роофии		10	X	X	Н	X	X				X	X				X	X	1	tervals to bedrock with deepest sample just above beess possible leakage from trenches.	bedrock; analyze all depths to	0	
				0.5	X	X	X	X					X					X	X		epresentative location to characterize operational ar			Existing samples and other proposed data gap samples are
5A_DG-620	PDU Area	West of Building 4042	Soil Boring	5 10	X H	X	X	X H					X H					X	X		tervals to bedrock with deepest sample just above bending shallower results.	bedrock; hold deeper sample	No	sufficeint for characterization of soils in area.
							Н											Н	Н	┢	epresentative sample to characterize open storage/o			Location within PRA footprint where vertical extent is
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	-	hich had terphenyl use. Bedrock anticipated <5'. bedrock with deepest sample just above bedrock; a rtical extent of potential impacts.		ls No	sufficiently defined.
				_	X	X		X				X	X						X	⊩				Lossies in a discharge DDA Control of a discharge
5A_DG-622	PDU Area	Southwest of Building 4042	Soil Boring	0.5	X	X	X	X X					X					X	X	-	me as 5A_DG-620.		No	Location immediately adjacent to a PRA footprint and existing samples are sufficeint for characterization of soils in area.
5.1_5 0 022	1501100	Southwest of Bunding 1012	Join Borning	10	Н	Н	Н	Н					Н					Н	Н	1				
5A_DG-623	PDU Area	East of Clearly Contaminated Area East of Building 4005	Soil Boring	0.5	X	X	X	Х					X					X	X	·	ocation targets open storage; also stepout for Clearl edrock anticipated <5'. Collect samples at 5' interv mple just above bedrock; analyze all depths to asse	als to bedrock with deepest	ıl No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	Н	X					X					X	X		pacts.			
5A_DG-624A	PDU Area	Transformer Southwest of Building 4042	Soil Boring	0.5		X H													X H		ansformers in Area IV with previous ND results at screte samples. Collect samples at four discrete loc			Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-624B	PDU Area	Transformer Southwest of Building 4042	Soil Boring	0.5		X													X	1	mples for PCBs; hold deeper samples pending shal			
5A_DG-624C	PDU Area	Transformer Southwest of Building 4042	Soil Boring	0.5		X													X				No	
5A_DG-624D	PDU Area	Transformer Southwest	Soil Boring	3 0.5		H X													H X					
		Eastern Portion of Open		0.5	X	H X	X	X					X					X	H X		ocation targets magnetic anomaly, dark toned mate edrock anticipated ~5'. Collect samples at 5' interv			Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area. Geophysical
5A_DG-625	PDU Area	Storage / Parking Area Near 12th and G Street	Soil Boring	5	X	X	Н	X					X					X	X	1 '	mple just above bedrock; hold deeper sample pend llected.	ing shallower results, if	No	anomaly to be evaluated during remediation.
5A_DG-626	PDU Area	Eastern Portion of Open Storage / Parking Area Near	Soil Boring	0.5	X	X	X	X					X					X	X		ocation targets dark toned material and open storag ollect samples at 5' intervals to bedrock with deepe	st sample just above bedrock	S No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
		12th and G Street		5	X	X	Н	X					X					X	X	-	old deeper sample pending shallower results, if coll ocation targets magnetic anomaly, dark toned mate.			Location immediately adjacent to a PRA footprint and existing
5A_DG-627	PDU Area	Eastern Portion of Open Storage / Parking Area Near	Soil Boring	0.5	X	X	X	X					X					X	X	/	sitioned adjacent to Old Conservation Pipeline (dicticipated ~5'. Collect samples at 5' intervals to bed	esel fuel). Bedrock lrock with deepest sample	No	samples and other proposed data gap samples are sufficeint for characterization of soils in area.
		12th and G Street		5	X	X	Н	X					X					X	X	<u> </u>	st above bedrock; hold deeper sample pending shal			
5A_DG-628	PDU Area	Within Building 4042	Soil Boring	0.5	X	X	X	X X					X					X	X		th alcohol ASTs. Analyze 0.5' and 5' samples due	to D&D soil disturbance.	Yes	
3A_DO-026	1 DO Aled	Footprint	Jon Dornig	10	Н	Н	Н	Н					Н					Н	Н	1	ollect samples at 5' intervals to bedrock with deepe ald deeper sample pending shallower results.	si sampie just above bedrock	165	
5A_DG-629	PDU Area	Building 4042	Soil Boring	0.5 5	X X	X X	X X	X X					X X					X X	X X		me as 5A_DG-628.		No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
5A_DG-630A	PDU Area	Transformer Southeast	Soil Boring	10 0.5	X	X	Н	X					X					X	X X	_	ansformers in Area IV with previous ND results an	e being resampled with		
		of Building 4042 Transformer Southeast		3 0.5		H X													H X	$\ $	screte samples. Collect samples at four discrete loo mples for PCBs; hold deeper samples pending shal	cations and analyze 0.5'		
5A_DG-630B	PDU Area	of Building 4042 Transformer Southeast	Soil Boring	3 0.5		H													H X	/			Yes	
5A_DG-630C	PDU Area	of Building 4042	Soil Boring	3		Н													Н	1				
5A_DG-630D	PDU Area	Transformer Southeast of Building 4042	Soil Boring	0.5		X H													X H					

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (12 of 22)

	I	<u> </u>	T		1							Analytic	al Meth	nd									T
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals ² (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 Checklist³	Subarea 5A Data Gap TM Rationale / Comments 4.5,6	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
5A_DG-631	PDU Area	Eastern Portion of Open Storage / Parking Area Near	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	Yes	
3A_DG-031	FDU Alea	12th and G Street	Son Boring	5	X	X	Н	X					X					X	X		sample just above bedrock; analyze all depths.	res	
				0.5	Х	X	X	X	X				X	X		X	Х	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		Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-632	PDU Area	Drainage Along G Street South of Open Storage / Parking	h Soil Boring	5	X	X	X	X	X				X	X		X	X	X	X	- I	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;	No	
		Area		10	X	X	X	X	X				X	X		X	X	X	X	1	analyze all depths to assess potential migration along bedrock.		
				0.5	X	X	X	X	X				X	X	X			X	X		Location targets AST with unknown contents; also characterizes area around		
5A_DG-634	PDU Area	Southeast of Building 4042	Soil Boring	5	X	X	X	X	X				X	X	X			X	X	/	cooling tower identified in facility drawings. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending	Yes	
				10	Н	Н	Н	Н	Н				Н	Н	Н			Н	Н		shallower results.		
				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;		Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area. Geophysical
5A_DG-635	PDU Area	Within Building 4042 Footprint	Soil Boring / Test Pit	5	X	X	X	X					X					X	X	/	hold deeper sample pending shallower results. Conduct adjacent test pit for geophysical anomaly. Adjust 5' sample to target feature (or sample pit as	No	anomaly to be evaluated during remediation.
				10	Н	Н	Н	Н					Н					Н	Н		appropriate).		
5A_DG-636	PDU Area	East of Building 4042	Soil Boring /	0.5	X	X	X	X					X					X	X		Same as 5A_DG-635.	Yes	
			Test Pit	10	Н	Н	Н	Н					Н					Н	Н	1	I and a distribution of the state of the sta		Frieding complete and other property of the complet
5A_DG-637	PDU Area	East of Building 4042	Soil Boring	0.5	X	X	X H	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	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
				10	Н	Н	Н	Н					Н					Н	Н	1	deepest sample just above bedrock; hold deeper sample pending shallower results.		
5A_DG-638	PDU Area	Southeast of Clearly Contaminated Area East of	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	No	Location within PRA footprint where vertical extent is sufficiently defined.
		Building 4005		5	X	X	Н	Х	X				X	X	X			X	X		with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.		
54 DC 620	DDII A	Southeast of Clearly	Cail Danina	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	No	Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-639	PDU Area	Contaminated Area East of Building 4005	Soil Boring	5	Х	X	Н	Х	X				X	X	Х			X	Х		deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	NO	
5A_DG-640	PDU Area	Southeast of Clearly Contaminated Area East of	Soil Boring	0.5	Х	X	X	Х	X				X	X	X			Х	Х	1	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	No	Location within PRA footprint where vertical extent is sufficiently defined.
3A_DG-040	FDU Alea	Building 4005	Son Boring	5	X	X	Н	Х	X				X	X	Х			X	Х		samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	140	
5A_DG-641	PDU Area	South of Building 4005	Soil Boring	0.5	Х	Х	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	No	Location within PRA footprint where vertical extent is sufficiently defined.
				5	X	X	Н	X					X					X	X		pending shallower results, if collected.		Location within DDA fortuning
				0.5	X	X	X	X	X				X	X	X			X	X	1	Location targets adjacent to B4005 floor trench (dioxins, metals, PAHs, and PCBs detected above ISLs in previous lined trench sediment samples); also located near		Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-642	PDU Area	South of Building 4005	Soil Boring		X	X	X	X	X				X	X	X			X	X		cooling tower and characterizes operational area. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above	No	
				10	X	X	X	X	X				X	X	X			X	X	-	bedrock; analyze all depths. Stepout from Clearly Contaminated Area. Bedrock anticipated <5'. Collect		Location within PRA footprint where vertical extent is
5A_DG-643	PDU Area	South of Building 4005	Soil Boring	0.5	X	X	X	X					X					X	X	\parallel	samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	sufficiently defined.
				0.5	X	X	H X	X					X					X	X	-	Same as 5A_DG-643.		Location within PRA footprint where vertical extent is
5A_DG-644	PDU Area	South of Building 4005	Soil Boring	5	X		Н	X					X					X	X	1		No	sufficiently defined.

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (13 of 22)

			l I	ı							Analyti	cal Meth	od							
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals ² (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B) Cr(VI)	(EPA Method 7196A) Perchlorate	(EFA Method 0550/0500) 1-4 Dioxane	(EFA Method 8500B SLV) 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 Checklist³	Subarea 5A Data Gap TM Rationale / Comments 4.5.6 Subarea 5A Data Gap TM Rationale / Comments 4.5.6 Implementation Plan (Yes or No)
5A_DG-645A	PDU Area	Transformer 4705 (South of Building 4005)	Soil Boring	0.5		X H												X H		Location targets two former transformers. Transformers in Area IV with previous ND results are being resampled with discrete samples. Collect samples at six Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-645B	PDU Area	Transformer 4705 (South of Building 4005)	Soil Boring	0.5		X H												X H		discrete locations and analyze 0.5' samples for PCBs; hold deeper samples pending shallower results.
5A_DG-645C	PDU Area	Transformer 4705	Soil Boring	0.5		X												X		pending snanower results.
		(South of Building 4005) Transformer 4705		3 0.5		H X												H X	~	No
5A_DG-645D	PDU Area	(South of Building 4005) Transformer 4705	Soil Boring	3 0.5		H X												H X		
5A_DG-645E	PDU Area	(South of Building 4005)	Soil Boring	3		Н												Н		
5A_DG-645F	PDU Area	Transformer 4705 (South of Building 4005)	Soil Boring	0.5 3		X H												X 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			X X	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
				10	X	X	X	X	X			X	X	X			X	X		bedrock.
5A_DG-652	PDU Area	South of Building 4005	Soil Boring	0.5 5 10	X X H	X X H	X H H	X X H				X X H					X X H	X X H		Same as 5A_DG-643. Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-653	PDU Area	South of Building 4005	Soil Boring	0.5 5 10	X X H	X X H	X H H	X X H				X X H					X X H	X X H		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. Location within PRA footprint where vertical extent is sufficiently defined. No
				0.5	X	Х	Х	X				X					Х	Х		Location targets a potential AST and undefined features observed in 1978 aerial.
5A_DG-654	PDU Area	Northwest of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	5	X	X	Н	X				X					X	X	✓	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.
				10	Н	Н	Н	Н				Н					Н	Н		
5A_DG-655	PDU Area	North of Coal Storage / Parking Area Near 17th and G	Soil Boring	0.5 5	X	X	X H	X X				X					X X	X	*	Location targets potential storage area based on aerial photographs. Analyze 0.5' Other proposed data gap samples are sufficeint for 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
		Street	-	10	Н	Н	Н	Н				Н					Н	Н		deeper sample pending shallower results.
		Drainage Along 17th Street		0.5	X	X	X	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 Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-656	PDU Area	Northeast of Coal Storage/Parking Area	Soil Boring	5	X	X	X	X X	X X			X	X	X			X	X	1	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.
				0.5	X	X	X	X				X				+ +		X		Location targets potential storage area based on aerial photographs. Analyze 0.5'
5A_DG-657	PDU Area	North of Coal Storage / Parking Area Near 17th and G	Soil Boring	5	X	X	X	X				X	+	+			X X		/	and 5' samples based on potential for disturbed soils noted in aerial. Collect
3A_DG-037	1 DU Alta	Street	Son Bornig	10	H	Н	Н	Н				Н	1				Н	X H		samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.
		North of Coal Storage /		0.5	X	X	X	Х				X					Х	Х		Location targets unlined surface water flow pathway along the northern perimeter of the Coal Storage/Parking Area. Bedrock anticipated <5'. Collect samples at 5'
5A_DG-658	PDU Area	Parking Area Near 17th and G Street	Soil Boring	5	X	X	X	х				Х					X	X		intervals to bedrock with deepest sample just above bedrock; analyze all depths based on potential for vertical migration of surface water/contaminants.
		Northwest of Coal Storage /		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 sufficiently defined.
5A_DG-659	PDU Area	Parking Area Near 17th and G Street	Soil Boring	5	X	X	X	X				X	1	L	L		X	X		and in-line with surface water pathway along northern perimeter of Coal Storage/Parking Area. Collect samples at 5' intervals to bedrock with deepest
		Street		10	X	X	X	X				X					X	X		sample just above bedrock; analyze all depths to assess potential migration along bedrock.
		Clearly Contaminated Area		0.5	X	X	X	X				X	\perp				X	X		Stepdown within Clearly Contaminated Area (dioxins, metals, PAHs, PCBs at depth near two adjacent surface-only samples; TPH not previously analyzed). Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-660	PDU Area	West of Coal Storage / Parking	Soil Boring	5	X	X	X	X				X					X	X		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
		Area Near 17th and G Street		10	X	X	X	X				X					X	X		trap feature.

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (14 of 22)

		1	1	<u> </u>	1							Analytica	l Method	1							
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans EPA Method 1613)	Metals ² EPA Methods 5010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) EPA Method 7196A)	Perchlorate EPA Method 6850/6860)	1-4 Dioxane EPA Method 8360B SIM)	Ferphenyls EPA Method 8015B)	FPH 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 Checklist³	Collect Sample as Part of Implementation Plan (Yes or No)
5A_DG-661	PDU Area	Drainage Along 17th Street West of Coal Storage / Parking	Soil Boring	0.5	X	Х	Х	х					Х					Х	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 treatment of the complex of 5!
5.1_55 001	13071104	Area	Jon Boring	5	X	X	X	X					Х					X	X		floor trench conveyance pipes. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.
5A_DG-662	PDU Area	Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X X	X H	X 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
		Coal Storage / Parking Area		10 0.5	H X	H X	H X	H X					H X					H X	H X		deeper sample pending shallower results. Stepout from Clearly Contaminated Area west of Coal Storage/Parking Area. Location within PRA footprint where vertical extent is
5A_DG-663	PDU Area	Near 17th and G Street Footprint	Soil Boring	5 10	X	X	H H	X X					X X					X	X X	√	Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths. Stepout for Clearly Contaminated Area south of Coal Storage/Parking Area and Location within PRA footprint where vertical extent is
5A_DG-664	PDU Area	Coal Storage / Parking Area Near 17th and G Street	Soil Boring	5	X	X	X X	X					X X					X	X	/	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 No
		Footprint		0.5	X	X	X	X	X				X	X	X	X	X	X	X		above bedrock; analyze all depths. Location targets low spot before culvert in drainage along G street immediately Location within PRA footprint where vertical extent is
5A_DG-665	PDU Area	Drainage at Intersection of 17th and G Street South of Coal Storage /	Soil Boring	5	X	X	X	X	X				X	X	X	X	X	X	X		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
		Parking Area		10	X	X	X	X	X				X	X	X	X	X	X	X		assess potential migration along bedrock. Location targets geophysical anomaly and drainage along G Street upstream of Location within PRA footprint where vertical extent is
5A_DG-666	PDU Area	Drainage Along G Street South	Soil Boring	0.5	X	X	X	X					X					X	X		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
		of Coal Storage / Parking Area		10	X	X	X	X					X					X	X		bedrock; analyze all depths to assess potential migration along bedrock.
5A_DG-667	PDU Area	Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X H	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.
5A_DG-668	PDU Area	Coal Storage / Parking Area Near 17th and G Street	Soil Boring	10 0.5 5	X X	H X X	H X H	X					H X X					H X X	H X X	✓	Same as 5A_DG-667. Existing samples and other proposed data gap samples are sufficient for characterization of soils in area.
		North of Coal Storage /		0.5	H X	H X	H X	H X					H X					H X	H X		Location targets unlined surface water flow pathway along the northwestern perimeter of the Coal Storage/Parking Area. Bedrock anticipated <5'. Collect Sufficeint for characterization of soils in area.
5A_DG-669	PDU Area	Parking Area Near 17th and G Street	Soil Boring	5	X	X	X	X					X					X	X	•	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.
5A_DG-670	PDU Area	Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5	X	X	X H	X					X X					X X	X	/	Same as 5A_DG-667; also targets former structures. Yes
5A_DG-671	PDU Area	Coal Storage / Parking Area Near 17th and G Street	Soil Boring	10 0.5 5	H X X	H X X	H X H	H X X					H X X					H X X	H 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. Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
5A_DG-672	PDU Area	Drainage Along G Street South	Soil Boring	10 0.5 5	H X X	H X X	H X X	H X X					H X X					H X X	H X X	/	Same as 5A_DG-666. Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated
		of Coal Storage / Parking Area		10	X	X	X	X					X					X	X		during remediation. Location targets unlined surface water flow pathway along the eastern perimeter of the Coal Storage/Parking Area. Bedrock anticipated ~5'. Collect samples at 5'
5A_DG-673	PDU Area	East of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	5	X	X	X	X					X					X	X	*	intervals to bedrock with deepest sample just above bedrock; analyze all depths to assess potential for vertical migration of surface water/contaminants.

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (15 of 22)

		T									Ana	alytical !	Method								
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals ² (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)	(EPA Method 8015B)	IPH (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	
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 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.
5A_DG-675	PDU Area	East of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5 5 10	X X H	X X H	X H H	X X H					X X H					X X H	X X H		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. Other proposed data gap samples are sufficeint for characterization of soils in area.
5A_DG-676	PDU Area	East of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5 5 10	X X H	X X H	X H H	X X H					X X H					X X H	X X H		Same as 5A_DG-675. Yes Location targets drainage along G street; positioned upstream of Clearly Location within PRA footprint where vertical extent is
5A_DG-677	PDU Area	Drainage Along G Street	Soil Boring	0.5 5 10	X X X	X X X	X X X	X X X					X X X					X X X	X X X	-	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.
5A_DG-678	PDU Area	East of Coal Storage / Parking Area Near 17th and G Street	Soil Boring	0.5 5 10	X X H	X X H	X H H	X X H					X X H					X X H	X X H		Same as 5A_DG-675. Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
5A_DG-679	PDU Area	East of Building 4042	Soil Boring	0.5 5 10	X X H	X X H	X H H	X X H					X X H					X X H	X X H	~	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
5A_DG-680	PDU Area	Western Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5 5 10	X X H	X X H	X H H	X X H					X X H					X X H	X X H	*	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. Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-681	PDU Area	Drainage West of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5 5 10	X X X	X X X	X X X	X	X X X				X	X X X		X X X	X X X	X X X	X X X	1	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. Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-682	PDU Area	Western Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5 5 10	X X H	X X H	X H H	X X H					X X H					X X H	X X H	*	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. Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-683	PDU Area	Drainage Along G Street South of Open Storage / Parking Area		10	X X X	X X X	X X X	X X	X X X				X X	X X X		X X X	X X X	X X X	X X X	1	Same as 5A_DG-677. Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-684	PDU Area	Western Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5 5 10 0.5	X X H	X X H	X H H	X X H		X			X X H					X X H	X X H	'	Location targets open storage. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results. Collect sample at SL-215-SA5A to confirm previous perchlorate detection at 5'. Location within PRA footprint where vertical extent is sufficiently defined. Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-685	PDU Area	Northeastern Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	5 10						X									X H	/	Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results. No detection for Method 314.0 with elevated detection using definitive isotopoic Method 6850.
5A_DG-686	PDU Area	Eastern Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5	X	X	X H	X					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.
5A_DG-687	PDU Area	Eastern Portion of Open Storage / Parking Area Near 12th and G Street	Soil Boring	0.5	X	X	X H	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. Existing samples and other proposed data gap samples are sufficient for characterization of soils in area.
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					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. Location within PRA footprint where vertical extent is sufficiently defined. No
5A_DG-689	B4641 Area	Drainage Along 12th Street	Soil Boring	0.5	X	X	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. Location within PRA footprint where vertical extent is sufficiently defined.
				10	X	X	X	X					X					X	X		

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (16 of 22)

					1						Analytic	al Meth	od									
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals ² (EPA Methods 60.0B/60.10C/60.20/60.20A/7471A/7471B) Cr(VI)	Perchlorate EPA Method 6850/6860)	1-4 Dioxane EPA Method 8360B SIM)	Terphenyls (EPA Method 8015B)	FPH (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 Checklist³	Subarea 5A Data Gap TM Rationale / Comments ^{4,5,6}	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
				0.5	X	X	X	X			1.0	X		20			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		Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-690	B4641 Area	East of Building 4073	Soil Boring	5	X	X	X	X				X					X	X	✓	with deepest sample just above bedrock; hold deeper sample pending shallower	No	sufficiently defined.
				10	Н	Н	Н	Н				Н					Н	Н		results.		
				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		Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
5A_DG-691	B4641 Area	East of Building 4073	Soil Boring	5	X	X	X	X				X					X	X		bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No	
				10	Н	Н	Н	Н				Н					Н	Н	_			The state of the s
				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		Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-692	B4641 Area	Southeast of Building 4073	Soil Boring	5	X	X	X	X				X			X	X	X	X		just above bedrock; analyze all depths.	No	
				10	X	X	X	X				X		1	X	X	X	X	-	Stepdown at SL-110-SA5A (dioxins and PAHs detected above ISLs shallow; no		Location within PRA footprint where vertical extent is
				0.5	Н	Н	Н	Н				X		1	-		Н	X		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		sufficiently defined.
5A_DG-693	B4641 Area	Drainage Along 12th Street	Soil Boring	5	X	X	X	X				X					X	X		for TPH only and analyze all samples deeper than 0.5' for full suite.	No	
				10	X	X	X	X				X					X	X				
				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		Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-694	B4641 Area	Southeast of Building 4073	Soil Boring	5	X	X	X	X				X			X	X	X	X	_	deepest sample just above bedrock; analyze all depths.	No	
				10	X	X	X	X				X		1	X	X	X	X	-	Location targets stormwater flow path along road downstream of B4073 area		Location within PRA footprint where vertical extent is
				0.5	X	X	X	X				X		1			X	X	╢ ,	(metals [Hg up to 4.8 ppm], TPH, PAHs, and dioxins detected above ISLs).		sufficiently defined.
5A_DG-695	B4641 Area	Southeast of Building 4073	Soil Boring	5	X	X	X	X				X		1			X	X	-	Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	
				10	X	X	X	X				X					X	X	 	Location targets B4123 footprint (KEWB Waste Storage Yard); also characterizes		
				0.5	X	X	X	X				X					X	X		and/or delineates fill of unknown origin. Note that RFI and EPA collocated		
5A_DG-696	B4641 Area	Within Building 4123 Footprint	Soil Boring	5	X	X	X	X				X					X	X	*	sample locations targeting B4123 were inadvertently placed ~50' east of former building footprint. Bedrock anticipated between 5' and 10'. Collect samples at 5'	Yes	
				10	X	X	Х	х				X					X	X		intervals to bedrock with deepest sample just above bedrock; analyze all depths.		
				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		Location within PRA footprint where vertical extent is
5A_DG-697	B4641 Area	Building 4073 Area	Soil Boring	5	X	X	X	X				X					X	X	-	area; also characterizes fill of unknown origin observed in adjacent borings. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock	No	sufficiently defined. Lateral extent of fill to be evaluated during remediation
3A_DG-071	B4041 Alca	Building 4075 Area	Son Boring	10	X	X	X	X				X					X		1	with deepest sample just above bedrock; analyze all depths.	110	
								1						-				X	-	Stepout for SL-127-SA5A (dioxins detected above ISLs). Bedrock anticipated		Existing samples and other proposed data gap samples are
5A_DG-698	B4641 Area	Building 4073 Area	Soil Boring	0.5	X	X	X	X				X					X	X	/	<5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No	sufficeint for characterization of soils in area.
				5	X	X	X	X				X					X	X		bedrock, note deeper sample pending shanower results, it conceted.		
				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		Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-699	B4641 Area	Building 4073 Area	Soil Boring	5	X	X	X	X				X					X	X	*	to bedrock with the deepest sample just above bedrock; analyze all depths.	No	sufficiently defined.
				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 sufficeint for characterization of soils in area.
211_20 700			200 20000	10	X	X	X	X				X					X	X			1.0	Lateral extent of fill to be evaluated during remediation.
				0.5	X	X	X	X				X					X	X	<u> </u>	Same as 5A_DG-699.		Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated
5A_DG-701	B4641 Area	Building 4073 Area	Soil Boring	5 10	X	X	X	X				X	1	1			X	X	-		No	during remediation.
				0.5	X	X	X	X				X					X	X		Same as 5A_DG-699.		Location immediately adjacent to a PRA footprint and existing
5A_DG-702	B4641 Area	Building 4073 Area	Soil Boring	5 10	X X	X X	X X	X X				X X					X X	X X	1		No	samples are sufficeint for characterization of soils in area. Lateral extent of fill to be evaluated during remediation.
			1	10	X	X	X	A		1	1	X	1	1	1	1	X	X				Zatorai extent of thi to be evaluated during remediation.

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (17 of 22)

											1	Analytica	l Methor	d							<u> </u>		
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	4etals² EPA Methods 010B/6010C/6020/6020A/7471A/7471B)	Cr(VI) (EPA Method 7196A)	erchlorate EPA Method 6850/6860)	-4 Dioxane EPA Method 8360B SIM)	Ferphenyls EPA Method 8015B)	FPH EPA Method 8015B)	Formaldehyde EPA Method 8315A)	Aorpholine 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 Checklist³	Subarea 5A Data Gap TM Rationale / Comments ^{4,5,6}	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
5A DG-703	B4641 Area	Building 4073 Area	Soil Boring	0.5	X	X	X	X			-0	I ()	X	H ()	Z O)	H ()	X X	X X	<u> </u>	Same as 5A_DG-699.	No	Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated
3A_DG-703	B4041 Alea	Building 40/3 Area	Soft Borning	10	X	X	X	X					X					X	X	Ľ		NO	during remediation.
5A_DG-704	B4641 Area	Building 4073 Area	Soil Boring	0.5 5 10	X X X	X X X	X X X	X X X					X X 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.
5A_DG-705	B4641 Area	Building 4073 Area	Soil Boring	0.5	X	X	X	X					X					X	X	1	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.
				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		Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-706	B4641 Area	Open Space South of Building 4093 Leach Field	Soil Boring	5	X	X	X	X					X					X	X	1	stepout from SL-143-SA5A (dioxins and PAHs detected above ISLs). Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample	No	
				10	Н	Н	Н	Н					Н					Н	Н		just above bedrock; hold deeper sample pending shallower results.		
5A DC 707	D4641 A	Open Space South of Building	C-il D-sis-	0.5	X	X	X	X					X					X	X	_	Same as 5A_DG-706.	N-	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
5A_DG-707	B4641 Area	4093 Leach Field	Soil Boring	5 10	X H	X H	H H	X H					X H					X H	X H	ľ		No	
5A_DG-708	B4641 Area	Open Space South of Building 4093 Leach Field	Soil Boring	0.5 5	X X	X	X H	X 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	Yes	
				10	Н	Н	Н	Н					Н					Н	Н	<u> </u>	results. Recollect at SL-148-SA5A to analyze for terphenyls within B4093 leach field		
5A_DG-709	B4641 Area	Building 4093 Leach Field	Soil Boring	0.5	X	X H	X H	X H				X	X H					X H	X		(terphenyl tank present in B4093). Bedrock anticipated <15'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all	Yes	
311_50 707	B-10-11 Filed	Building 40/3 Ecteri Field	Bon Bonng	10	Н	Н	Н	Н				X	Н					Н	X		samples for terphenlys and analyze 0.5 ' sample for full suite since shallow sample at SL-148-SA5A not collected.	103	
				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		
5A_DG-710	B4641 Area	Open Space South of Building 4093 Leach Field	Soil Boring	5	X	X	X	X					X					X	X	*	characterizes area downslope of disturbed ground identified by EPA in the 1995 aerial photo. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock	Yes	
		4093 Leach Fleid		10	Н	Н	Н	Н					Н					Н	Н		with deepest sample just above bedrock; hold deeper sample pending shallower results.		
5A_DG-711	B4641 Area	North of Building 4093 Leach Field	Soil Boring	0.5	X	X	X	X					X					X	X	1	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		Same as 5A_DG-711; positioned within drainage.		Existing samples and other proposed data gap samples are
5A_DG-712	B4641 Area	North of Building 4093 Leach Field	Soil Boring	0.5	X	X	X H	X					X					X	X	1	Danc as 37_DO-711, positioned within dramage.	No	Existing samples and other proposed data gap samples are sufficeint for characterization of soils in area.
				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.		
5A_DG-713	B4641 Area	Parking Area between Buildings 4073 and 4083	Soil Boring	5	X	X	Н	X					X					X	X	*	Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	Yes	
54 PG 514	D4C4: 1	Drainage Between Buildings	G. J.D.	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		Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-714	B4641 Area	4073 and 4074	Soil Boring	5	X	X	X	X					X					X	X		all depths.	No	
				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		
5A_DG-715	B4641 Area	Building 4633	Soil Boring	5	X	X	Н	X	X				X	X	X			X	X		above bedrock; analyze all depths.	Yes	

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (18 of 22)

			1								Analytica	al Method	l							T	
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals ² (EPA Methods 6010B/6010C/6020/6020A7471A/7471B) Cr(VJ) (EPA Method 7196A)	Perchlorate EPA Method 6850/6860)	-4 Dioxane EPA Method 8360B SIM)	Ferphenyls EPA Method 8015B)	FPH FPA 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 Checklist³	Subarea 5A Data Gap TM Rationale / Comments ^{4,5,6}	Collect Sample as Part of Implementation Plan (Yes or No)
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'	Existing samples and other proposed data gap samples a sufficeint for characterization of soils in area.
3A_DG-/16	B4041 Area	North of Building 4093	Son Boring	5	X	X	Н	X				X					X	X		intervals to bedrock with deepest sample just above bedrock; analyze all depths.	NO
5A_DG-717	B4641 Area	Northwest of Building 4093	Soil Boring	0.5	х	X	х	X			X	X					х	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	Location within PRA footprint where vertical extent is sufficiently defined.
		_		5	X	X	Н	X			X	X					X	X		all depths.	
				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	Location within PRA footprint where vertical extent is sufficiently defined. Soil adjacent to sanitary sewer discl
5A_DG-718	B4641 Area	Building 4093	Soil Boring	5	X	X	X	X			X	X					X	X	/	~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	No location from B4027 to be evaluated during remediation
				10	Н	Н	Н	Н			Н	Н					Н	Н		deeper sample pending shallower results. Stepout from SL-167-SA5A (metals [Hg 15x ISL] and TPH detected above ISLs);	
5A_DG-719	B4641 Area	Building 4093	Soil Boring	0.5	X	X	X	X			X	X					X	X	-	positioned near entrance to B4093 (terphenyl tank present in B4093). Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just	Yes
				5	X	X	Н	X			X	X					X	X	-	above bedrock; analyze all depths. Representative location to characterize operational area (terphenyl tank present in	
5A_DG-720	B4641 Area	Southeast of Building 4093	Soil Boring	0.5	X	X	X	X			X	X					X	X		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			District Land
				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	Existing samples and other proposed data gap samples a sufficeint for characterization of soils in area.
5A_DG-721	B4641 Area	Southwest of Building 4093	Soil Boring	5	X	X	Н	X				X					X	X	-	bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.	No
				0.5	X	X	H X	X				X X					X	X	-	Representative location to characterize drainage downslope of operational area.	
5A_DG-722	B4641 Area	Drainage East of Building 4093 Leach Field	Soil Boring	5	X	X	X	X				X					X	X	-	Bedrock anticipated <5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	Yes
				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'	Existing samples and other proposed data gap samples a sufficeint for characterization of soils in area.
5A_DG-723	B4641 Area	Southeast of Building 4093	Soil Boring	5	Х	X	X	X				X					X	X		intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results, if collected.	No
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		Stepout from SL-171-SA5A and SL-173-SA5A (dioxins, metals, PAHs, and	Existing samples and other proposed data gap samples a
5A_DG-725	B4641 Area	Building 4453	Soil Boring	0.5	X	X	X	X				X					X	X	·	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	sufficeint for characterization of soils in area.
				5	X	X	X	X				X					X	X		collected.	
5A_DG-726	B4641 Area	Building 4453	Soil Boring	0.5	X	X	X	X X				X X					X	X	-	Same as 5A_DG-725.	Location within PRA footprint where vertical extent is sufficiently defined.
			a 11.5	0.5		X						X						Х		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	Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-727	B4641 Area	Building 4453	Soil Boring	5		X						X						X		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
5A_DG-728	B4641 Area	Building 4453	Soil Boring	0.5	X	X	X	X X				X X			X X	X X	X	X X	✓	Same as 5A_DG-725; positioned in access road to B4093.	Existing samples and other proposed data gap samples a sufficeint for characterization of soils in area.

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (19 of 22)

	1		1	1	T							Analytica	al Metho	d							
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals ² (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)	(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 Checklist³	
5A_DG-729	B4641 Area	Open Space West of Building 4453	Soil Boring	0.5	x	X	Х	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. Other proposed data gap samples are sufficeint for characterization of soils in area.
				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'
5A_DG-730	B4641 Area	Open Space West of Building 4453	Soil Boring / Test Pit	5	X	X	X	X					X					X	X	-	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).
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. Location immediately adjacent to a PRA footprint and existing samples are sufficient for characterization of soils in area.
				0.5	H X	H X	H X	H X					H X			Н	Н	H X	H X		Location targets former road and vegetation clearance area observed in 1980
5A_DG-732	B4641 Area	Open Space Southwest of Building 4453	Soil Boring	5	X	X	Н	X					X					X	X	/	aerial photo. Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results.
				0.5	H X	H X	H X	H X	X				H X					H X	H X		Stepout from SL-111-SA5A and SL-109-SA5A (dioxins and hexavalent Location within PRA footprint. Previous sampling
5A_DG-733	B4641 Area	Drainage Along 12th Street	Soil Boring	5	X	X	X	X	X				X					X	X	✓	chromium). Bedrock anticipated between 5' and 10'. Collect samples at 5' characterized soil at depth. intervals to bedrock with deepest sample just above bedrock; analyze all depths. No
	-			10 0.5	X	X	X	X	X				X					X	X	-	Same as 5A_DG-732. Existing samples and other proposed data gap samples are
5A_DG-734	B4641 Area	Open Space South of Building 4453	Soil Boring	5	X H	X H	H H	X H					X H					X H	X H	'	No sufficeint for characterization of soils in area.
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
				0.5	X	X	X	X					X					X	X		Location targets vegetation clearance area observed in 1980 aerial photo.
5A_DG-736	B4641 Area	Open Space Southeast of Building 4453	Soil Boring	5	X	X	Н	X					X					X	X	*	Bedrock anticipated ~10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results. Yes
				0.5	Н	Н	Н	Н					H X	X				Н	H X		Stepdown at SL-107-SA5A (dioxins and PAHs detected above ISLs shallow; no Location within PRA footprint where vertical extent is
5A_DG-737	B4641 Area	Drainage Along G Street and 11th Street	Soil Boring	5	X	X	X	X	X				X	X				X	X	1	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.
				0.5	X	X	X	X	Λ				X	A				X	X		Location targets disturbed ground area identified in EPA technical memorandum
5A_DG-738	B4641 Area	South of Building 4641	Soil Boring	5	X	X	Н	х					X					X	X	/	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
				0.5	H X	H X	H X	H X					H X			X	X	H X	H X		bedrock; hold deeper sample pending shallower results. Location targets stormwater pipe discharge location and delineates extent of fill of Location immediately adjacent to a PRA footprint and existing
5A_DG-739	B4641 Area	South of Building 4641	Soil Boring	5	X	X	X	Х					X			X	X	X	X	/	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 samples and other proposed data gap samples are sufficeint for characterization of soils in area.
				0.5	X	X	X	X					X			X	X	X	X		Location targets linear terrain conductivity and characterizes fill of unknown Location within PRA footprint where vertical extent is
5A_DG-740	B4641 Area	Building 4641	Soil Boring / Test Pit	5	X	X	X	X					X					X	X	/	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
	-			0.5	X	X	X	X					X					X	X	-	appropriate). Location targets linear terrain conductivity and characterizes fill of unknown Location within PRA footprint where vertical extent is
5A_DG-741	B4641 Area	Building 4641	Soil Boring	5	X	X	X	X					X					X	X		origin. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths. No sufficiently defined. Geophysical anomaly and lateral extent of fill to be evaluated during remediation.
			1	10	Λ	Λ	Λ	Λ				<u> </u>	Λ	l .	1	L	1	Λ	Λ	Ш	

Table 1 Phase 3 Subarea 5A North Implementation Plan Proposed Sample Locations (20 of 22)

				1							Ana	lytical Mo	ethod										
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans EPA Method 1613)	Metals ² EPA Methods 60.10B/6010C/6020/6020A/7471A/7471B)	EPA Method 7196A) erechlorate	oxane	EPA Method 8360B SIM) [erphenyls	(EPA Method 8015B)	EPA Method 8015B)	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 Checklist³	Subarea 5A Data Gap TM Rationale / Comments ^{4,5,6}	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
				0.5	X	X	X	X					ζ -	,			70	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		Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated
5A_DG-742	B4641 Area	Building 4641	Soil Boring	5	Х	X	X	X				Σ	ĸ					X	X	'	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	during remediation.
				0.5	X	X	X	X				2	K					X	X		Representative location to characterize operational area and open storage identified in EPA HSA (open storage area offset to northeast in GIS). Bedrock		Location immediately adjacent to a PRA footprint and existing samples are sufficeint for characterization of soils in area.
5A_DG-743	B4641 Area	Building 4046	Soil Boring	5	X	X	X	X				2	ζ.					X	X		anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	
				0.5	X	X	X	X				Σ	ζ					X	X		Representative location to characterize fill of unknown origin. Bedrock		Location within PRA footprint where vertical extent is
5A_DG-744	B4641 Area	Building 4641	Soil Boring	5 10	X	X	X	X					ζ ζ					X	X	*	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	sufficiently defined. Lateral extent of fill to be evaluated during remediation.
5A DC 745	D4641 Ann	North of Duilding 4641	Cail Danina	0.5	X	X	X	X					ζ .					X	X		Location targets drainage downstream of operational area and open storage. Bedrock anticipated ~5'. Collect samples at 5' intervals to bedrock with deepest	No	Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-745	B4641 Area	North of Building 4641	Soil Boring	5	X	X	X	х				2	ζ.					X	X	*	sample just above bedrock; analyze all depths.	No	
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'		Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated
54 DG 546D	DACAL A	N. d. SD TE 4641	G 31 D .	0.5		H X				-									H X		samples for PCBs; hold deeper samples pending shallower results.		during remediation.
5A_DG-746B	B4641 Area	North of Building 4641	Soil Boring	3 0.5	X	H X	X	X					7					v	H X		Northern sample (5A_DG-151C) also characterizes open storage and fill of	N-	
5A_DG-746C	B4641 Area	North of Building 4641	Soil Boring	3	X	X	X	X					K K					X	X		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	
	-			10 0.5	X	X	X	X				Σ	ζ					X	X				
5A_DG-746D	B4641 Area	North of Building 4641	Soil Boring	5		Н													Н				
		Open Storage North of		0.5	X	X	X	X				Σ	ζ.					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.		Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated
5A_DG-750	B4641 Area	Building 4641	Soil Boring	5	X	X	X	X				Σ	ζ.					X	X	*	Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	during remediation.
				10	X	X	X	X					ζ					X	X		Company A. D.C. 750		La cation within DDA for the interest in
5A_DG-751	B4641 Area	South of Building 4030	Soil Boring	0.5 5	X	X	X	X				Σ	ζ					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
				10	X	X	X	X						-				X	X		Location targets sewer connection to B4030 and open storage identified in EPA		during remediation. Location within PRA footprint where vertical extent is
5A_DG-752	B4641 Area	Building 4030	Soil Boring	0.5	X	X	X	X					ζ.					X	X	✓	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	sufficiently defined. Soils adjacent to sanitary sewer discharge from B4030 to be evaluated during remediation.
	_			5	X	X	X	X					ζ					X	X		Same as 5A_DG-743.		Location immediately adjacent to a PRA footprint and existing
5A_DG-753	B4641 Area	Building 4046	Soil Boring	0.5	X	X	X	X					ζ					X	X	*	Same as SA_DO-743.	No	samples and other proposed data gap samples are sufficeint for
				0.5	X	X	X	X					ζ .					X	X		Representative location to characterize open storage and fill of unknown origin (metals, dioxins, and TPH above ISLs). Bedrock anticipated <5'. Collect samples		characterization of soils in area. Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated
5A_DG-754	B4641 Area	South of Building 4035	Soil Boring	5	X	X	X	X					ζ.					X	X	~	at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths.	No	during remediation.
				0.5	X	X	X	X					ζ .			+		X	X		Same as 5A_DG-754; also targets linear magnetometer anomaly.		Location within PRA footprint where vertical extent is
5A_DG-755	B4641 Area	South of Building 4035	Soil Boring	5	X	X	X	Х				2	ζ.					X	X	 		No	sufficiently defined. Geophysical anomaly and lateral extent of fill to be evaluated during remediation.
		Between Buildings 4030 and		0.5	X	X	X	X					ζ					X	X		Same as 5A_DG-750.		Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated
5A_DG-756	B4641 Area	4641	Soil Boring	5 10	X	X	X	X					ζ	-				X	X	'		No	during remediation.
				10	X	X	X	A				2	7					X	X				

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

					—				- 1		Ana	alytical Mo	- arou									1	
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	PCBs / PCTs (EPA Method 8082)	Dioxins/Furans (EPA Method 1613)	Metals ² (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B) C-XVI	CI(VI) (EPA Method 7196A) Perchlorate	(EPA Method 6850/6860) 1-4 Dioxane	(EPA Method 8360B SIM) Terphenyls	(EPA Method 8015B)	(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	Subarea 5A Data Gap TM Rationale / Comments ^{4,5,6}	Collect Sample as Part of Implementation Plan (Yes or No)	Rationale for Deferment
5A_DG-757	B4641 Area	Between Buildings 4030 and 4641	Soil Boring / Trench	5	X	X	X	X				>	ζ				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.
	B4641 Area B4641 Area	Between Buildings 4030 and 4641 Building 4641	Soil Boring Soil Boring	0.5 5 10 0.5 5	X X X X	X X X X	X X X X	X X X X					ζ ζ				X X X X	X X X	X X X X	/	Same as 5A_DG-750. 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 No	Location immediately adjacent to a PRA footprint and existing samples are sufficeint for characterization of soils in area. Lateral extent of fill to be evaluated during remediation. Location within PRA footprint where vertical extent is sufficiently defined. Lateral extent of fill to be evaluated during remediation.
5A_DG-760	B4641 Area	Building 4641	Soil Boring	10 0.5 5 10	X X X X	X X X	X X X	X X X X				> > > > > > > > > > > > > > > > > > >	Κ Κ Κ				X X X	X X	X X X X	✓	Same as 5A_DG-759.	No	Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-761	B4641 Area	Building 4641	Soil Boring	0.5 5 10 0.5	X X X	X X X	X X X	X X X)))	ζ				X X X	X X	X X X	~	Same as 5A_DG-759. 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. Location within PRA footprint where vertical extent is
5A_DG-762	B4641 Area	Building 4641	Soil Boring	5 10 0.5	X X X	X X X	X X X	X X X))	ζ				X X	X X	X X X	✓	Location targets stormwater pipe discharge location. Bedrock anticipated between	No	sufficiently defined. Lateral extent of fill to be evaluated during remediation. Location within PRA footprint where vertical extent is
5A_DG-763	B4641 Area	East of Building 4641	Soil Boring	5 10 0.5	X X X	X X X	X X X	X X X				> >	ζ				X X X	X X	X X X		5' and 10'.Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths. Location targets southern end of loading dock area and high bay door at B4641.	No	sufficiently defined. Location within PRA footprint where vertical extent is
_	B4641 Area	Building 4641	Soil Boring	5 10 0.5	X X X	X X X	X X X	X X X				3	ζ				X X X	X X	X X X		Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; analyze all depths. Location targets magnetometer anomaly and further characterizes fill of unknown origin. Bedrock anticipated between 5' and 10'. Collect samples at 5' intervals to	No	sufficiently defined. Geophysical anomaly to be evaluated during remediation. Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated
5A_DG-765	B4641 Area	South of Building 4641	Soil Boring	5 10 0.5	X X X	X X X	X X X	X X X				Σ	ζ ζ				X X	X :	X X X		bedrock with deepest sample just above bedrock; analyze all depths. Location targets magnetometer anomaly and characterizes open space downslope of an operation area. Bedrock anticipated between 5' and 10'. Collect samples at	No	during remediation. Location within PRA footprint where vertical extent is sufficiently defined. Geophysical anomaly to be evaluated
5A_DG-766	B4641 Area	South of Building 4641	Soil Boring	5 10 0.5	X H X	X H X	H H X	X H X				ŀ	K I				H	Н	X H X	*	5' intervals to bedrock with deepest sample just above bedrock; hold deeper sample pending shallower results. Representative location to characterize open area downslope of an operational	No	during remediation.
5A_DG-767	B4641 Area	South of Building 4641	Soil Boring	5 10	X	X X	X X	X X))	ζ				X	X X	X X		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. Stepdown at SL-105-SA5A (dioxins and PAHs detected above ISLs shallow; no	Yes	Location within PRA footprint where vertical extent is
5A_DG-768	B4641 Area	Drainage Along G Street and 11th Street	Soil Boring	0.5 5	X	X	X		X X			Σ	X X X X X	[X	X :	X X X	1	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	sufficiently defined.
5A_DG-769	B4641 Area	South of Building 4641	Soil Boring	0.5 5 10	X X X	X X X	X X X	X X X))	ζ ζ))	Х	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.

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

		I	1								Analytic	al Mathe	vd.							
Location ID	Area	Location Description	Sample Type	Depth (ft bgs) ¹	PAHs including NDMA (EPA Method 8270C [SIM])	.s. 10	Dioxins/Furans (EPA Method 1613)	Metals ² (EPA Methods 6010B/6010C/6020/6020A/7471A/7471B) Cr(VI)	(EPA Method 7196A) Perchlorate FPA Method 6850/6860)	1-4 Dioxane (EPA Method 8360B SIM)	yls ethod 8015B)	od 8015B)	ehyde xthod 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 ²	Subarea 5A Data Gap TM Rationale / Comments 4.5.6 Subarea 5A Data Gap TM Rationale / Comments 4.5.6 Collect Sample as Part of Implementation Plan (Yes or No)
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 No Location within PRA footprint where vertical extent is sufficiently defined.
3A_DG-110	D-1041 Aica	Dramage Along Tom Succe	Son Boring	5	X	X	X	X				X					X	X		all depths.
				0.5	X	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'. Location within PRA footprint where vertical extent is sufficiently defined.
5A_DG-771	B4641 Area	Drainage Along G Street and 10th Street	Soil Boring	5	X	X	X	X				X			X	X	X	X	✓	Collect samples at 5' intervals to bedrock with deepest sample just above bedrock; No
				10	X	X	X	X				X			X	X	X	X		analyze all depths.

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.

HSA = Historical Site Assessment

- 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

ACTORYLIS and ADDICTATIONS
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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 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