Table 1-4
Summary of Soil Risks and Rationale for Remedial Action - Administration Area East
Aerojet - Boundary Operable Unit Feasibility Study

Remedial Area Number	Colocated Remedial Area	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained, Not Retained, or Remediation Completed
AE-R-1	—	RTG	03D-SB12	—	—	—	—	—	B(a)A, TPH-D, TPH-Mo	11	37	NI	Commercial	Adjacent to building, excavation may impact structure	B(a)A was ranked as a negligible RTG and TPH-D and TPH-Mo were ranked as high RTGs. B(a)A (45 µg/kg) exceeded its PGW SSL (29 µg/kg) only in the 11-foot bgs sample. TPH-D (180 mg/kg, 350 mg/kg, and 970 mg/kg) exceeded its PGW SSL (100 mg/kg) in the 5-, 11-, and 35-foot bgs samples, respectively. TPH-Mo (1,100 mg/kg, 2,100 mg/kg, and 750 mg/kg) exceeded its PGW SSL (500 mg/kg) at 5-, 11-, and 35-foot bgs, respectively. Groundwater in the vicinity of this location is impacted by TPH-D and TPH-Mo. A containment/remedial alternative other than excavation (eg air sparging and soil vapor extraction) will be used (See Section 6.0).	R
AE-R-2	AE-R-4 AE-N-4 AE-N-5 AE-N-21	HH	03D-SB05 03D-SB06 03D-SB07 03D-SB20 03D-SB33	1,1,2,2-PCA, A-1254, Fe	5E-4	4.2E+1 (RC)	—	—	—	—	34-37	NI	Commercial	Adjacent to building, excavation may impact structure	**At sample location 03D-SB05**, A-1254 exceeded the resident ILCR in the 1- and 5-foot bgs samples (2.6E-5 and 1.4E-6, respectively) and commercial worker receptors (7.8E-6) at 5 feet bgs, but A-1254 did not exceed HH risk in the 4- or 10-foot bgs samples. **At sample location 03D-SB06**, A-1254 (5E-6) exceeded the ILCR for resident child in the 10-foot bgs sample, but does not exceed HH risk in the 1-or 5-foot bgs samples. Iron (3.8E+0) exceeded resident child HI at 10 feet bgs. **At sample location 03D-SB07**, 1,1,2,2-PCA exceeded the ILCR for resident child (5E-6) and commercial worker (2E-6) receptors at 1 foot bgs, but 1,1,2,2-PCA did not exceed HH risk in the 5-, 7-, or 10-foot bgs samples. **At sample location 03D-SB20**, A-1254 (5E-6) exceeded the resident child ILCR in the 11-foot bgs sample, but did not exceed HH risk in the 5-foot bgs sample. **At sample location 03D-SB33**, A-1254 exceeded the ILCR for resident child (5E-4), construction worker (2E-5) and commercial worker (2E-4), and the HI for resident child (4.2E+1), resident adult (5.0E+0), construction worker (1.1E+1) and commercial worker (4.4E+0) in the 5-foot bgs sample. No compounds exceeded HH risk in the 11-foot bgs sample. At a minimum, the area will be capped or excavated to a depth of 6 feet bgs (to protect future commercial/industrial reuse and construction worker) and the extent of impacts will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of A-1254 and 1,1,2,2-PCA impacts (outside the buildings) will be determined prior to capping. Additional land use controls will be necessary to prevent residential reuse unless soil is remediated to residential standards.	R
AE-R-3	AE-N-17	HH	03D-AH01	B(a)A, B(a)P, B(b)F, B(k)F, Chrysene, D(a,h)A, I(1,2,3-cd)P, 1,1,2,2-PCA	2E-3	4.6E-1 (RC)	—	—	—	—	33	NI	Commercial	Adjacent to building, excavation may impact structure	B(a)A, B(a)P,B(b) F, B(k)F, D(a,h,)A, chrysene, and I(1,2,3-cd)P risk exceeded the ILCR for resident (total risk 2E-3), and commercial worker (total risk 7E-4) and B(a)A, B(a)P,B(b) F, B(k)F, D(a,h,)A, and I(1,2,3-cd)P exceeded the construction worker (total risk 7E-5) ILCR in the 3-foot bgs sample, but not in the 0.01-foot bgs sample, and no deeper samples were collected. At a minimum, the area will be excavated to 4 feet bgs and the lateral and vertical extent of PAH impact will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of PAH impact (outside the building) will be determined prior to capping.	R
AE-R-4	AE-R-2 AE-N-5	HH	03D-SB33	A-1254	5E-4	4.2E+1 (RC)	—	—	—	—	35	NI	Commercial	No	A-1254 exceeded the ILCR for resident child (5E-4), construction worker (2E-5) and commercial worker (2E-4). A-1254 exceeded the HI for resident child (4.2E+1), resident adult (5.0E+0), construction worker (1.1E+1), and commercial worker (4.4E+0) receptors at 5 feet bgs. No compounds exceeded HH risk at 11 feet bgs. At a minimum, the area will be excavated to a depth of 6 feet bgs (to protect future commercial/industrial reuse and construction worker), and the lateral and vertical extent of A-1254 impact will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of A-1254 impact will be determined prior to capping. Additional land use controls will be necessary to prevent residential reuse unless soil is remediated to residential standards.	R
AE-R-5	AE-R-6 AE-R-7 AE-N-6	HH	03D-SB02 03D-SB67 03D-SB69	A-1254	3E-5	3.0E+0 (RC)	—	—	—	—	34	NI	Commercial	A portion of the excavation area is adjacent to a building, excavation may impact structure	**At sample location 03D-SB02**, A-1254 exceeded the resident (3E-5) and commercial worker (9E-6) ILCR and resident child HI (3E+0) in the 1-foot bgs sample but not in the 0.01- 3-, 6-, 7-, 10-, and 11-foot bgs samples. **At sample location 03D-SB67**, A-1254 exceeded resident and commercial worker ILCR (1E-6) in the 1-foot bgs sample (6E-6 and 2E-6, respectively), and residential ILCR in the 10-foot bgs sample (2E-6), but not in the 5-foot bgs sample. **At sample location 03D-SB69,** A-1254 exceeded resident ILCR (1E-6) in the 1-foot bgs sample (4E-6), but not in the 5-foot bgs sample. At a minimum, the area will be capped or excavated to a depth of 2 feet bgs (to protect future commercial/industrial reuse and construction worker), and the lateral and vertical extent of A-1254 impact will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of A-1254 impact (outside the buildings) will be determined prior to capping. Additional land use controls will be necessary to prevent residential reuse unless soil is remediated to residential standards.	R

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Remedial Area Number	Colocated Remedial Area	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained, Not Retained, or Remediation Completed
AE-R-6	AE-R-5 AE-R-7 AE-N-6	HH	03D-AH02 03D-SB02 03D-SB46 03D-SB68	A-1254, B(a)A, B(a)P, B(b)F, B(k)F, Chrysene, I(1,2,3-cd)P	2E-3	9.8E+0 (RC)	—	—	—	—	34	NI	Commercial	A portion of the excavation area is adjacent to a building, excavation may impact structure	**At sample location 03D-AH02**, the total risk from B(a)A, B(a)P,B(b) F, B(k)F, chrysene and/or I(1,2,3-cd)P exceeded the resident (2E-3), construction worker (7E-5) and commercial worker (7E-4) ILCR (1E-6) in the 3-foot bgs sample, but not in the 0.01-foot bgs sample. No deeper samples were collected at this location. **At sample location 03D-SB02**, A-1254 exceeded the ILCR for resident (3E-5) and commercial worker (9E-6) and resident child HI (3E+0) in the 1-foot bgs sample. No compounds exceeded HH risk in the 0.01-, 3-, 6-, 7-, 10-, and 11-foot bgs samples. **At sample location 03D-SB46,** A-1254 exceeded the ILCR for resident (1E-4), construction worker (4E-6), and commercial worker (4E-5) and the HI for resident child (9.8E+0), adult (1.2E+0), and construction worker (2.6E+0) in the 11-foot bgs sample. No compounds exceeded HH risk in the 5-foot bgs sample at this location. **At sample location 03D-SB68,** A-1254 exceeded the ILCR for resident (2E-5) and commercial worker (6E-6) and HI for resident child (1.5E+0) in the 1 foot bgs sample, and the ILCR for resident (4E-6) in the 10-foot bgs sample. No compounds exceeded the HH risk in the 5 foot bgs sample at this location. At a minimum, the area will be capped or excavated to 4 feet bgs to address the shallow HH risk to commercial/industrial reuse and construction workers and the lateral and vertical extent of the A-1254 impact will be assessed during excavation. If capping is selected as the final remedy, the lateral extent (outside the buildings) of A-1254 impact will be determined prior to capping. Additional land use controls will be necessary to prevent residential reuse unless soil is remediated to residential standards. Additional land use controls will be necessary to prevent residential reuse unless soil is remediated to residential standards.	R
AE-R-7	AE-R-5 AE-R-6 AE-N-6	RTG	03D-SB46 03D-SB67	—	—	—	—	—	Naph, A-1254, TPH-D, TPH-Mo	9	34	NI	Commercial	A portion of the excavation area is adjacent to a building, excavation may impact structure	**At sample location 03D-SB46**, A-1254, TPH-D, and TPH-Mo were ranked as high RTGs and Naph was ranked as a low RTG. Naph (1,900 µg/kg) exceeded its PGW SSL (140 µg/kg) in only the 5-foot bgs sample. A-1254 (11,000 µg/kg), TPH-D (9,100 mg/kg), and TPH-Mo (12,000 mg/kg) exceeded their PGW SSLs (34 µg/kg, 100 mg/kg and 500 mg/kg, respectively) only in the 11-foot bgs sample. No compounds exceeded PGW SSLs in the 15-foot bgs sample. Groundwater was impacted by A-1254, TPH-D, and TPH-Mo in nearby well 881. **At sample location 03D-SB67**, A-1254 was ranked as a high RTG. A-1254 (510 µg/kg, 140 µg/kg, and 8,700 µg/kg) exceeded its PGW SSL (34 µg/kg) at depths of 1, 10 and 15 feet bgs, respectively. At a minimum, the area will be capped or excavated to 12 feet bgs (1 foot below the deepest exceedence at sample location 03D-SB46) and a containment/remedial alternative other than excavation will be used for the deeper A-1254 exceedence at this location (See Section 6.0). If capping is selected as the final remedy, the lateral extent of A-1254 and TPH impacts (outside the buildings) will be determined prior to capping.	R
AE-R-8	AE-N-14 AE-N-15	HH	A20-RB37-SB01 A20-RB37-SB02	A-1254 Pb	4E-5	3.0E+0 (RC)	—	—	—	—	27	NI	Commercial	Adjacent to building, excavation may impact structure	**At sample location A20-RB37-SB01**, A-1254 exceeded the HI for resident child (2.8E+0) in the 1-foot bgs sample. Resident child blood lead (14 µg/dL) exceeded the blood lead risk level (10 µg/dL) in the 1-foot bgs sample. No compounds exceeded HH risk in the 5-foot and 11-foot bgs samples. **At sample location A20-RB37-SB02**, A-1254 exceeded the HI for a resident child (1.8E+0) in the 1-foot bgs sample, HH risk was not exceeded in the 5- and 11-foot bgs samples. The high human health risk contour is based upon a residential scenario. The risk to human health (residential) extends to a depth of 1 foot below ground surface. Although this area is intended to remain commercial/industrial; since the impact is so limited, the area will be excavated to 2 feet bgs and the lateral and vertical extent of A-1254 and lead impact will be assessed during excavation. If excavation is not selected, then deed restrictions will need to be developed to prevent residential redevelopment and/or specify the requirements for residential redevelopment (excavation to 2 feet bgs or capping).	R
AE-R-9	AE-N-12 AE-N-13	HH	03D-SNS34	A-1254, A-1260, Cr+6	2E-5	1.8E+0 (RC)	—	—	—	—	22	NI	Commercial	Adjacent to building, excavation may impact structure	This sample was collected from a drainage inlet. A-1254 (4.7E-6 and 1.4E-6) and A-1260 (1.7E-5 and 5.0E-6) exceeded residential and commercial worker ILCR, respectively, and A-1260 (1.3E+0) exceeded resident child HI in the 0.25 foot bgs sample. Cr+6 (2.9E-6) exceeded the construction worker ILCR at 0.5 feet. The high human health risk contour is based upon a residential scenario. The risk to human health (residential) extends to a depth of 0.5 foot below ground surface. Although this area is intended to remain commercial/industrial; since the impact is so limited, the sediment will be removed and the culvert will be cleaned. Alternatively, deed restrictions will need to be developed to prevent residential redevelopment and/or specify the requirements for residential redevelopment (culvert cleaning or capping).	R
AE-C-1	AE-C-2 AE-C-5 AE-C-10	HH	11D-SNS22	A-1260	2E-5	1.2E+0 (RC)	—	—	—	—	27	NA HH Risk Only	Commercial	No	A-1260 exceeded the resident (2E-5) and commercial worker (4E-6) ILCR and resident child HI (1.2E+0) in the 0.5-foot bgs sample but not in the 2.5-foot bgs sample. Sample 11D-SNS22 is within the ditch and the high HH risk at this RA was addressed in 2010 by excavation at AE-C-5.	C

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Remedial Area Number	Colocated Remedial Area	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained, Not Retained, or Remediation Completed
AE-C-2	AE-C-1 AE-C-5 AE-C-10	RTG	11D-SNS16 11D-SNS17 11D-SNS22	—	—	—	—	—	A-1260, B(a)P, B(b&k)F, Cd	6	27-28	NI	Commercial	No	The RTG contaminants were low mobility/solubility compounds (A-1260, SVOCs, and metals), ranked as negligible to moderate RTGs, and the contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. The RTG at this RA was addressed by the excavation conducted during 2010 at AE-C-5. **At sample location 11D-SNS16**, A-1260 (1,100 µg/kg) exceeded its PGW SSL (34 µg/kg) at 0.5 feet and was ranked as a moderate RTG. Cd (2 mg/kg) exceeded its PGW SSL (1.2 mg/kg) in the 0.5-foot bgs sample and was ranked as a low RTG. No compounds exceeded their PGW SSLs in the 2.5-foot bgs sample. **At sample location 11D-SNS17**, A-1260 (150 µg/kg) exceeded its PGW SSL (34 µg/kg) at 0.5 feet and was ranked as a moderate RTG. B(a)P (41 µg/kg) and B(b&k)F (64 µg/kg and 29 µg/kg) exceeded their PGW SSLs (2.9 µg/kg and 29 µg/kg, respectively) in the 0.5-foot bgs sample and were ranked as low RTGs. **At sample location 11D-SNS22**, A-1260 (1,300 µg/kg) and B(a)P (9 µg/kg) exceeded their PGW SSLs (34 µg/kg and 2.9 µg/kg, respectively) in the 0.5-foot bgs sample and were ranked as low RTGs. Cd (3.7 mg/kg) and Pb (23 mg/kg) exceeded their PGW SSLs (1.2 mg/kg and 23 mg/kg, respectively) in the 0.5-foot bgs sample and were ranked as negligible RTGs.	C
AE-C-3	AE-C-5 AE-C-6 AE-C-11	HH	11D-SNS15	A-1254, Pb	1E-4	9E+0 (RC)	NA	NA	NA	NA	28	NI	Commercial	No	A-1254 exceeded the ILCR for the resident (1.1E-4) and exceeded the HI for resident child (8.9E+0), resident adult (1.1E+0) and construction worker (2.3E+0) in the 0.5-foot bgs sample. Resident child blood lead (11 µg/dL) exceeded the blood lead risk level (10 µg/dL) in the 0.5-foot bgs sample. HH risks were not exceeded at 2.5 feet bgs. The risk drivers for this remedial area are the residential child HI and blood lead exceedences. The HH risk at this RA was addressed in 2010 by excavation at AEE-C-5.	C
AE-C-4	AE-C-3 AE-C-5 AE-C-6	HH	A20-RB37-SB01 A20-RB37-SB02	A-1254, A-1260, Pb	1E-4	—	—	—	—	—	28	—	Commercial	A portion of the excavation area is adjacent to a building, excavation may impact structure	**At sample location A20-RB37-SB01**, A-1254 exceeded the ILCR for resident (3.5E-5) and commercial worker (1.0E-5) ILCRs and the resident child HI (2.8E+0) in the 1-foot bgs sample. Resident child blood lead (14 µg/dL) in the 1-foot bgs sample exceeded the blood lead risk level (10 µg/dL). No compounds exceeded HH risk in the 5- and 11-foot bgs samples. **At sample location A20-RB37-SB02**, A-1254 exceeded the ILCR for resident (2.3E-5) and commercial worker (6.7E-6) receptors and the HI for resident child (1.8E+0) at 1 foot bgs, respectively. No compounds exceeded HH risk in the 5- and 11-foot bgs samples. The HH risk at this RA was addressed in 2010 by excavation at AE-C-5.	C
AE-C-5	AE-C-1 AE-C-2 AE-C-3 AE-C-4 AE-C-5 AE-C-6 AE-C-10 AE-C-11	Ecological	11D-SNS01 11D-SNS02 11D-SNS03 11D-SNS10 11D-SNS12 11D-SNS14 11D-SNS13 11D-SNS15 11D-SNS16 11D-SNS17 11D-SNS22 A20-RC29-SB01	—	—	—	A-1016, A-1248, A-1254, A-1260, Hg, Mo, Zn	6941 (A)	—	—	28	NI	Commercial	No	COPECS exceeding their respective screening levels were detected in the 0.01- to 2.5-foot bgs interval. The southern east-west portion of the drainage system is a concrete culvert covered with asphalt. No habitat exists; however, the area is retained for HH risk (AE-R-8). The ecological risk at this RA was addressed in 2010 by excavation to depths between 2 and 10 feet bgs and the culverted portions of this area were rinsed to remove sediment. A removal action report (Aerojet, 2010) was submitted and accepted by the Agencies as documentation to support completion of terms in the Unilateral Administrative Order dataed November 2, 2009 for a Time Critical Removal Action (USEPA 2010).	C
AE-C-6	AE-C-3 AE-C-4 AE-C-5 AE-C-11	RTG	11D-SNS12 11D-SNS14 11D-SNS15 A20-RC29-SB01	—	—	—	—	—	A1254, A-1260, B(a)P, B(b&k)F, TPH-Mo, Cd, Pb	6	27-28	NI	Commercial	No	The RTG contaminants were low mobility/solubility compounds (PCBs, SVOCs and metals), ranked as negligible to moderate RTGs, and the contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. The RTG at this RA was addressed by the excavation conducted during 2010 at AE-C-5. **At sample location 11D-SNS12**, A-1254, A-1260, and Pb were ranked as low RTGs. A-1254 (160 µg/kg), A-1260 (330 µg/kg), and Pb (36 mg/kg) exceeded their PGW SSLs (34 µg/kg, 34 µg/kg, and 23 mg/kg, respectively) only at 0.5 foot bgs. **At sample location 11D-SNS13**, A-1254 and A-1260, were ranked as negligible RTGs. A-1254 (120 µg/kg) and A-1260 (310 µg/kg) exceeded their PGW SSLs (34 µg/kg) in only the 0.5-foot bgs sample. **At sample location 11D-SNS14**, A-1254, B(a)P and Cd were ranked as low RTGs. A-1254 (150 µg/kg), B(a)P (7 µg/kg), and Cd (1.4 mg/kg) exceeded their PGW SSLs (34 µg/kg, 2.9 µg/kg, and 1.2 mg/kg, respectively) only in only the 0.5-foot bgs sample. **At sample location 11D-SNS15**, A-1254 was ranked as a moderate RTG, B(a)P, B(b&k)F, Cd, and Pb were ranked as low RTGs. A-1254 (10,000 µg/kg), B(a)P (41 µg/kg), B(b&k)F (30 µg/kg), Cd (2.7mg/kg), and Pb (150 mg/kg) exceeded their PGW SSLs (34 µg/kg, 2.9 µg/kg, 29 µg/kg, 1.2 mg/kg, and 23 mg/kg, respectively) in only the 0.5-foot bgs sample. **At sample location A20-RC29-SB01**, A-1254 was ranked as a negligible RTG and TPH-Mo was ranked as a moderate RTG. A-1254 (59 µg/kg) exceeded its PGW SSL (34 µg/kg) in only the 1-foot bgs sample. TPH-Mo (620 mg/kg) exceeded its PGW SSL (500 mg/kg) in only the 5-foot bgs sample. No compounds exceeded their PGW SSLs in the 11-foot bgs sample.	C
AE-C-7	AE-C-8 AE-C-9	HH	11D-SB06	A-1260	2E-5	1.4E+0 (RC)	—	—	—	—	27	NI	Commercial	No	A-1260 exceeded the HI for resident child HI (1.4E+0) risk level in the 1 foot bgs sample. No compounds exceeded HH risk in the 5- and 11-foot bgs samples. The high HH risk at this RA was addressed in 2010 by excavation to a depth of 8 feet over a 25-foot by 30 foot area in the vicinity of sample location 11D-SB06 and an additional 90-foot by 30-foot strip was excavated to the south of this location to a depth of 2 feet bgs.	C

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Remedial Area Number	Colocated Remedial Area	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained, Not Retained, or Remediation Completed
AE-C-8	AE-C-7 AE-C-9	HH	11D-SB06	A-1260	2E-5	1.4E+0 (RC)	—	—	—	—	27	NI	Commercial	No	A-1260 exceeded the ILCR risk levels for resident (2E-5) and commercial worker (5E-6) in the 1 foot bgs sample. No compounds exceeded HH risk in the 5- and 11-foot bgs samples. The low HH risk at this RA was addressed in 2010 by excavation to a depth of 8 feet over a 25-foot by 30 foot area in the vicinity of sample location 11D-SB06 and an additional 90-foot by 30-foot strip was excavated to the south of this location to a depth of 2 feet bgs.	C
AE-C-9	AE-C-7 AE-C-8	RTG	11D-SB06	—	—	—	—	—	A-1260	3	27	NI	Commercial	No	A-1260 (1,600 µg/kg) exceeded its PGW SSL (34 µg/kg) at 1-foot bgs and was ranked as a low RTG. No compounds exceeded their PGW SSLs at 5 feet or 11 feet bgs. The RTG risk at this RA was addressed in 2010 by excavation to a depth of 8 feet over a 25-foot by 30 foot area in the vicinity of sample location 11D-SB06 and an additional 90-foot by 30-foot strip was excavated to the south of this location to a depth of 2 feet bgs.	C
AE-C-10	AE-C-1 AE-C-2 AE-C-5	HH	11D-SNS16 11D-SNS17 11D-SNS22	A-1260	2E-5	1.2E+0 (RC)	—	—	—	—	28	NI	Commercial	No	**At sample location 11D-SNS16**, A-1260 (1E-5 and 4E-6) in the 0.5-foot bgs sample exceeded resident and commercial worker ILCR, respectively. No compounds exceeded HH risk in the 2.5-foot bgs sample. **At sample location 11D-SNS17**, A-1260 (3E-6) exceeded resident ILCR in the 0.5 foot bgs sample. No compounds exceeded HH risk in the 2.5-foot bgs sample. **At sample location 11D-SNS22**, A-1260 exceeded the ILCR for resident (2E-5) and commercial worker (4E-6) and the HI for resident child (1.2E+0) in the 0.5-foot sample. No compounds exceeded HH risk in the 2.5-foot bgs sample. The risk at this area was based on samples collected from a ditch. The low HH risk at this RA was addressed in 2010 by excavation at AE-C-5.	C
AE-C-11	AE-C-3 AE-C-4 AE-C-5 AE-C-6	HH	11D-SNS15	A-1254	3E-5	9.5E-1 (CW)	—	—	—	—	28	NI	Commercial	No	A-1254 exceeded the ILCR for construction worker (3.3E-6), and commercial worker (3.4E-5) receptors. HH risks were not exceeded at 2.5 feet bgs. The low HH risk at this RA was addressed in 2010 by excavation at AE-C-5.	C
AE-N-1	—	RTG	51D-SB06	—	—	—	—	—	Cd	1	36	NI	Commercial	No	The RTG was ranked as negligible; therefore, this RA was not recommended for retention. Cd (2.2 mg/kg) exceeded its PGW SSL (1.2 mg/kg).	N
AE-N-2	AE-N-3	RTG	03D-SB17	—	—	—	—	—	B(a)A, TPH-D, TPH-Mo	6	37	NI	Commercial	No	The RTG contaminants were a low mobility/solubility compound (B(a)A) ranked as a negligible RTG, and TPH ranked as a moderate RTG. The concentrations were decreasing with depth and were bounded below the PGW SSL at 5 feet; therefore, this RA was not recommended for retention. B(a)A (130 µg/kg) exceeded its PGW SSL (29 µg/kg) in the 1-foot bgs sample. TPH-D (850J mg/kg) and TPH-Mo (4,300 mg/kg) exceeded their PGW SSLs (100 mg/kg and 500 mg/kg, respectively) at 1- foot bgs sample. B(a)A was not detected and TPH-D and TPH-Mo were below their PGW SSLs in the 5- and 11-foot samples.	N
AE-N-3	AE-N-2	HH	03D-SB04	1,1,2,2-PCA	6E-6	4.7E-1 (RC)	—	—	—	—	35	NI	Commercial	Adjacent to building, excavation may impact structure	The HH risk was just above 1E-6 and HI<1; therefore, this RA was not recommended for retention. 1,1,2,2-PCA exceeded the ILCR for resident child (6E-6) and commercial worker (2E-6) in the 1-foot bgs sample and resident child (3E-6) at 10 feet bgs. No compounds exceeded HH risk at 3-, 5-, and 6 feet bgs.	N
AE-N-4	AE-R-2 AE-N-5 AE-N-21	RTG	03D-SB43	—	—	—	—	—	A-1254	6	34	NI	Commercial	No	The RTG contaminant (A-1254) was a low mobility/solubility compound and ranked as moderate. The concentrations decrease with depth and were bounded below the PGW SSL at 11 feet, which is deeper than the retention criteria (<5 feet); however, no compounds exceeded their PGW SSLs in the 23- or 35-feet bgs samples. Therefore, this RA was not recommended for retention. **At sample location 03D-SB43,** A-1254 (110 µg/kg and 37 µg/kg) exceeded the PGW SSL (34 µg/kg) at 5 feet and 11 feet bgs, respectively, and was ranked as a moderate RTG.	N
AE-N-5	AE-R-2 AE-R-4 AE-N-4 AE-N-21	RTG	03D-SB20 03D-SB33 03D-SB43 03D-SB63 03D-SB64 03D-SB65 03D-SB66	—	—	—	—	—	A-1254, TPH-D, TPH-Mo	6	34-37	NI	Commercial	No	The RTG contaminants were A-1254 (a low mobility/solubility compound) and TPH, ranked as negligible to moderate RTGs. The A-1254 concentrations decreased with depth and were bounded below 15 feet. TPH was not bounded at 03D-SB20 below PGW SSLs by samples collected deeper than 11 feet bgs; however, TPH concentrations were below PGW SSLs in samples collected at 23 feet bgs at location 03D-SB33 located about 30 feet away. Although the screening levels were still exceeded deeper than the retention criteria, based on thickness of unimpacted soils at depth and the contaminants' low mobility, the area was not recommended for retention. **At sample location 03D-SB20**, A-1254 and TPH-Mo were ranked as low RTGs, and TPH-D was ranked as a moderate RTG. A-1254 (430 µg/kg), TPH-D (6,000 mg/kg), and TPH-Mo (1,000 mg/kg) exceeded their PGW SSLs (34 µg/kg, 100 mg/kg, and 500 mg/kg, respectively) at 11 feet bgs. **At sample location 03D-SB33**, A-1254 (47,000 µg/kg and 98 µg/kg) exceeded the PGW SSL (34 µg/kg) in the 5- and 11-foot bgs samples, respectively, and was ranked as a moderate RTG. **At sample location 03D-SB43**, A-1254 (110 µg/kg and 37 µg/kg) exceeded the PGW SSL (34 µg/kg) in the 5- and 11-foot bgs samples, respectively, and was ranked as a moderate RTG. **At sample location 03D-SB63**, A-1254 (46 µg/kg and 63 µg/kg) exceeded the PGW SSL (34 µg/kg) in the 10- and 15-foot bgs samples, respectively, and was ranked as a moderate RTG. **At sample location 03D-SB64**, A-1254 (50 µg/kg and 47µg/kg) exceeded the PGW SSL (34 µg/kg) in the 1- and 5-foot bgs samples, respectively, and was ranked as a negligible RTG. **At sample location 03D-SB65**, A-1254 (55 µg/kg) exceeded the PGW SSL (34 µg/kg) at 12 feet bgs and was ranked as a moderate RTG. **At sample location 03D-SB66**, A-1254 (51 µg/kg and 100 µg/kg) exceeded the PGW SSL (34 µg/kg) in the 10- and 15-foot bgs samples, respectively, and was ranked as a low RTG.	N

Table 1-4
Summary of Soil Risks and Rationale for Remedial Action - Administration Area East
Aerojet - Boundary Operable Unit Feasibility Study

Remedial Area Number	Colocated Remedial Area	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained, Not Retained, or Remediation Completed
AE-N-6	AE-R-5 AE-R-6 AE-R-7	RTG	03D-SB45 03D-SB68 03D-SB69	—	—	—	—	—	Naph, A-1254	6	34	NI	Commercial	A portion of the area is adjacent to a building, excavation may impact structure	The RTG contaminants were low mobility/solubility compounds (Naph and A-1254) and were ranked as a low to moderate RTG, respectively; therefore, this RA was not recommended for retention. **At sample location 03D-SB45**, Naph (280 µg/kg) exceeded its PGW SSL (140 µg/kg) at 5 feet bgs. No other samples were collected. **At sample location 03D-SB68**, A-1254 (1,700 µg/kg, 86 µg/kg, 320 µg/kg, and 78 µg/kg) exceeded the PGW SSL (34 µg/kg) in the 1-, 5-,10-, and 15-foot bgs samples. **At sample location 03D-SB69**, A-1254 (370 µg/kg and 16,000 µg/kg) exceeded the PGW SSL (34 µg/kg) in the 1- and 15-foot bgs samples.	N
AE-N-7	—	RTG	03D-SB52	—	—	—	—	—	A-1254, TPH-D, TPH-Mo, Pb	4	33	NI	Commercial	No	RTG contaminants were ranked as low or negligible RTGs; therefore, this RA was not recommended for retention. A-1254 (48 µg/kg) and Pb (23 mg/kg) exceeded their PGW SSLs (34 µg/kg and 23 mg/kg, respectively) in the 1-foot bgs sample and were ranked as negligible RTGs. TPH-D (110 mg/kg) and TPH-Mo (660 mg/kg) exceeded their PGW SSLs (100 mg/kg and 500 mg/kg, respectively) in the 5-foot bgs sample and were ranked as low RTGs. No compounds exceeded PGW SSLs in the 11-foot bgs sample at this location. PCBs, TPH, and metals generally have low solubility and mobility.	N
AE-N-8	—	RTG	03D-SB27	—	—	—	—	—	B(a)P, TPH-D, TPH-Mo	6	32	NI	Commercial	Adjacent to building, excavation may impact structure	The RTG contaminants were a low mobility/solubility compound (B(a)P) ranked as a low RTG, and TPH ranked as a moderate RTG. The contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. TPH-D (170 mg/kg) and TPH-Mo (660 mg/kg) exceeded their PGW SSLs (100 mg/kg and 500 mg/kg, respectively) in the 1-foot bgs sample. B(a)P (6.1 µg/kg) exceeded the PGW SSL (2.9 µg/kg) in the 1-foot bgs sample.	N
AE-N-9	—	RTG	03D-SB36	—	—	—	—	—	B(a)A, TPH-D	6	31	NI	Commercial	Adjacent to building, excavation may impact structure	The RTG contaminants were a low mobility/solubility compound (B(a)A) ranked as a low RTG, and TPH ranked as a moderate RTG. Both compounds were found in groundwater, but are likely from upgradient sources (see PGW Evaluation in HHRA Volume II); therefore, this RA was not recommended for retention. TPH-D (120 mg/kg) exceeded the PGW SSL (100 mg/kg) only in the 11-foot bgs sample. No deeper samples were collected. B(a)A (42 µg/kg) exceeded the PGW SSL (29 µg/kg) only in the 1-foot bgs sample.	N
AE-N-10	AE-N-20	RTG	03D-SB22	—	—	—	—	—	A-1248	4	30	NI	Commercial	Collected inside building, excavation delayed until building demolition	The RTG ranking was low; therefore, this RA was not recommended for retention. A-1248 (260 µg/kg) exceeded the PGW SSL (34 µg/kg) only in the 7.75-foot bgs sample, but was not detected in the 11-foot bgs sample.	N
AE-N-11	—	RTG	A20-RX73-SB03	—	—	—	—	—	B(a)P, TPH-D, TPH-Mo	6	29	NI	Commercial	Adjacent to building, excavation may impact structure	The RTG contaminants were a low mobility/solubility compound (B(a)P) ranked as a low RTG, and TPH ranked as a low or moderate RTG. The contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. B(a)P (7.4 µg/kg), TPH-D (250 mg/kg), and TPH-Mo (940 mg/kg) exceeded PGW SSLs (2.9 µg/kg, 100 mg/kg, 500 mg/kg, respectively) in the 1-foot bgs sample. No compounds exceeded PGW SSLs in the 5- or 11-foot bgs samples.	N
AE-N-12	AE-R-9 AE-N-13	RTG	03D-SNS34	—	—	—	—	—	A-1254, A-1260, B(a)A, B(a)P, B(b&k)F, Cd, Pb	6	22	NI	Commercial	Adjacent to building, excavation may impact structure	The RTG contaminants were a low mobility/solubility compound (B(a)P) ranked as a low RTG, and TPH ranked as a low or moderate RTG. The contamination was only in shallow[5] soil samples collected from a lined culvert; therefore, this RA was not recommended for retention. A-1254, A-1260, B(a)A, B(a)P, B(b&k)F, Cd, and Pb RTG were ranked as a negligible RTG because the sample was collected from a lined culvert. A-1254 (420 mg/kg), A-1260 (1,500 mg/kg), B(a)A (42 µg/kg), B(a)P (38 µg/kg), B(b&k)F (88 µg/kg), Cd (3.5 mg/kg), and Pb (110 mg/kg) exceeded PGW SSLs (34 µg/kg, 34 µg/kg, 29 µg/kg, 2.9 µg/kg, 29 µg/kg, 1.2 mg/kg, and 23 mg/kg, respectively) in the 0.25-foot bgs sample; no deeper samples were collected. The high HH risk associated with this boring location is addressed in RA AE-R-9 above.	N
AE-N-13	AE-R-9 AE-N-12	HH	03D-SNS34	A-1254, A-1260, Cr+6	2E-5	1.8E+0 (RC)	—	—	-	-	-	NI	Commercial	Adjacent to building, excavation may impact structure	The HH risk was just above 1E-6, HI<1; therefore, this RA was not recommended for retention. A-1254 (4.7E-6 and 1.4E-6) and A-1260 (1.7E-5 and 5.0E-6) exceeded residential and commercial worker ILCR, respectively, in the 0.25 foot bgs sample. No deeper samples were collected at this location. Cr+6 (2.9E-6) exceeded the construction worker ILCR at 0.5 feet. The high HH risk associated with this boring location is addressed in RA AE-R-9 above.	N
AE-N-14	AE-R-8 AE-N-15	RTG	A20-RB37-SB01	—	—	—	—	—	A1254, B(a)P, TPH-D, Cd, Pb	4	29	NI	Commercial	Adjacent to building, excavation may impact structure	The RTG contaminants were low mobility/solubility compounds (A-1254, B(a)P, and metals) and TPH, ranked as low or negligible RTGs, and the contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. TPH-D was ranked a low RTG and A-1254, B(a)P, Cd, and Pb were ranked as negligible RTGs. A-1254 (3,100 µg/kg), B(a)P (16 µg/kg), TPH-D (270 mg/kg), Cd (1.6 mg/kg), and Pb (210 mg/kg) exceeded their PGW SSLs (34 µg/kg, 2.9 µg/kg, 100 mg/kg. 1.2 mg/kg, and 23 mg/kg, respectively) in the 1-foot bgs sample, but were below their respective PGW SSLs in the 5- and 11-foot bgs samples. The high HH risk associated with this boring location is addressed in RA AE-R-8 above.	N
AE-N-15	AE-R-8 AE-N-14	HH	A20-RB37-SB01 A20-RB37-SB02 A20-RB37-SB03	A-1254	4E-5	3.0E+0 (RC)	—	—	—	—	—	NI	Commercial	Adjacent to building, excavation may impact structure	The risk driver for this remedial area is low risk for residential and commercial receptors. The area is covered with asphalt. The RA was not recommended for retention because the anticipated future use for this remedial area is commercial. The high HH risks associated locations A20-RB37-SB01 and A20-RB37-SB02 are discussed in RA AE-R-8 above. **At sample location A20-RB37-SB01**, A-1254 exceeded the ICLR for resident (3.5E-5) and commercial worker (1.0E-5) in the 1-foot bgs sample. No compounds exceeded HH risk in the 5-foot and 11-foot bgs samples. **At sample location A20-RB37-SB02**, A-1254 exceeded the ILCR for the resident (2.3E-5) and commercial worker (6.7E-6) receptors in the 1-foot bgs sample, HH risk was not exceeded in the 5- and 11-foot bgs samples. **At sample location A20-RB37-SB03,** A-1254 exceeded the ILCR for the resident (2.4E-6) in the 1-foot bgs sample, HH risk was not exceeded in the 5- and 11-foot bgs samples.	N

Table 1-4
Summary of Soil Risks and Rationale for Remedial Action - Administration Area East
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Remedial Area Number	Colocated Remedial Area	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained, Not Retained, or Remediation Completed
AE-N-16	—	HH	03D-SB37	A-1254	2E-6	1.4E-4 (RC)	—	—	—	—	30	NI	Commercial	Adjacent to building, excavation may impact structure	HH risk was just above 1E-6, HI<1; therefore, this RA was not recommended for retention. A-1254 (1.6E-6) exceeded the resident ILCR in the 5- foot bgs sample, but did not exceed in the 11-foot bgs sample.	N
AE-N-17	AE-R-3	HH	03D-SB01 03D-AH01	1,1,2,2-PCA	3E-6	7.9E-1 (RC)	—	—	—	—	33	NI	Commercial	No	The HH risk was just above 1E-6, HI<1; therefore, this RA was not recommended for retention. 1,1,2,2-PCA (3E-6) exceeded the resident ILCR at 1-foot bgs sample, but not in the 5- or 10-foot bgs samples.	N
AE-N-18	—	HH	51D-SB02 51D-SB04	1,1,2,2-PCA	8E-6	3.1E-3 (RC)	—	—	—	—	34	NI	Commercial	No	HH risk was just above 1E-6, HI<1; therefore, this RA was not recommended for retention. **At sample location 51D-SB02**, 1,1,2,2-PCA (5E-6 and 2E-6) exceeded ILCR for resident and commercial worker, respectively in the 1-foot bgs sample. No compounds exceeded HH risk levels in the 5- and 11-foot bgs samples. **At sample location 51D-SB04**, 1,1,2,2-PCA exceeded ILCR for resident (8E-6) and commercial worker (3E-6) in the 1 foot bgs sample. No compounds exceeded HH risk levels in the 1.5-, 5-, and 11-foot bgs samples.	N
AE-N-19	—	RTG	03D-SB50	—	—	—	—	—	A-1260	3	34	NI	Commercial	No	The RTG contaminant was a low mobility/solubility compound (A-1260) and ranked as a low RTG, and the contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. A-1260 (65 µg/kg) exceeded its PGW SSL (34 µg/kg) in the 1-foot bgs sample and was not detected in the 5- or 11-foot bgs samples.	N
AE-N-20	AE-N-10	HH	03D-SB22	A-1248	3E-6	2.4E-1 (RC)	—	—	—	—	30	NI	Commercial	Collected inside building, excavation delayed until building demolition	The HH risk was just above 1E-6, HI<1; therefore, this RA was not recommended for retention. A-1248 (3E-6) exceeded resident ILCR in the 7.75-foot bgs sample. No compounds exceeded HH risk in the 11 foot bgs sample.	N
AE-N-21	AE-R-2 AE-N-4 AE-N-5	HH	03D-SB05 03D-SB06	A-1254, A-1260Fe	3E-5	3.8E+0 (RC)	—	—	—	—	35	NI	Commercial	Adjacent to building, excavation may impact structure	The HH risk was below 1E-5; Commercial or CW HI<1 for any individual chemical; therefore, this RA was not recommended for retention. The likelihood for residential re-use of the Admin Area is low. **At sample location 03D-SB05**, A-1254 (2.4E+0) exceeded the HI for resident child and ILCR for resident (3E-5) and commercial worker (8E-6) at 5 feet bgs only. **At sample location 03D-SB06**, iron (3.8E+0) exceeded resident child HI and A-1260 exceeded the ILCR for resident (5E-6) at 10 feet bgs. Additional land use controls will be necessary to prevent residential reuse unless soil is remediated to residential standards.	R

Notes:

1 - See Table 1-12 for a list of acronyms
2 - References for these columns can be found in Table 1-13
3 - Green-hatched areas shown on Figure 1-33 were identified by the risk assessors in Section 9 of the HHERA as the only areas requiring mitigation for ecological risks
4 - RTG Score Ranking: 0-2 Negligible, 3-4 Low, 5-6 Moderate, >6 High
5 - Shallow soil samples are defined as samples collected at depths less than 5 feet bgs
6 - "—" means "not applicable"

Table 1-5
Summary of Soil Risks and Rationale for Remedial Action - Administration Area West
Aerojet - Boundary Operable Unit Feasibility Study

Remedial Area Number	Colocated Remedial Area	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2,3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained or Not Retained
AW-R-1	AW-N-23	HH	05D-SB07	A-1260	9E-6	8.1E-1 (RC)	—	—	—	—	44	MI	Mixed Use	No	A-1260 exceeded the ILCR for the resident (9E-6) and commercial (3E-6) receptors in the 1 foot bgs sample and no deeper samples were collected. At a minimum, the area will be capped or excavated to a depth of 2 feet bgs and the lateral and vertical extent of A-1260 impact will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of A-1260 impact will be determined prior to capping.	R
AW-R-2	AW-N-20 AW-N-24	HH	O5D-SB06	A-1254	3E-5	2.5E+0 (RC)	—	—	—	—	40	MI	Mixed Use	No	A-1254 exceeded the HI for the resident child (2.5E+0) and commercial worker (1.0E+0) receptors in the 1-foot bgs sample and no deeper samples were collected. At a minimum, the area will be capped or excavated to 2 feet bgs and the lateral and vertical extent of A-1254 impact will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of A-1254 impact will be determined prior to capping.	R
AW-R-3	AW-N-11	HH	05D-SNS18	A-1260	2E-6	3.7E-1 (CW)	—	—	—	—	37	NI	Mixed Use	No	A-1260 exceeded the ILCR for resident (2E-6) in the 0.5 foot sample, but not in the 2.5-foot bgs sample at sample location 05D-SNS18. At a minimum, the area will be capped or excavated to 1.5 feet bgs beneath the deepest sample where risk was exceeded and the lateral and vertical extent of will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of A-1260 impact will be determined prior to capping.	R
AW-R-4	AW-R-5 AW-N-17	HH	D(b)-SD01	A-1260	3E-6	5.2E-1 (RC)	—	—	—	—	40	NI	Mixed Use	No	A-1260 exceeded the ILCR for resident (2E-6) in the surface (0 foot) sample at sample location D(b)-SD01, and no deeper samples were collected because the sample was collected from a lined culvert. At a minimum, the area will be capped or excavated to 0.5 foot or to depth of the lining of the culvert. If capping is selected as the final remedy, the lateral extent of A-1260 impact will be determined prior to capping.	R
AW-R-5	AW-R-4 AW-N-17	RTG	D(b)-SB03	—	—	—	—	—	TPH-D, TPH-Mo	9	40	NI	Mixed Use	No	TPH-D and TPH-Mo were ranked as high RTGs in D(b)-SB03. TPH-D (240 mg/kg) and TPH-Mo (730 mg/kg) exceeded their PGW SSLs (100 mg/kg and 500 mg/kg, respectively) in the 1-foot bgs sample, but no deeper samples were collected. Groundwater was impacted by TPH-D and TPG-MO in nearby boring 52D-SB18. At a minimum, the area will be capped or excavated to 2 feet and the lateral and vertical extent of TPH impact will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of TPH impact will be determined prior to capping.	R
AW-R-6	AW-N-12 AW-N-18	HH	52D-SB01 52D-SB02	Ni	3E-7	2.6E+0 (RC)	—	—	—	—	47	NI	Mixed Use	No	Ni exceeded resident child HI (1.4E+0) and construction worker (1.5E+1) HI in the 1-foot bgs sample, but not in the 5- or 10-foot bgs samples. At a minimum, the area will be capped or excavated to 2 feet and the lateral and vertical extent of Ni impact will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of Ni impact will be determined prior to capping.	R
AW-R-7	AW-N-25	HH	52D-SB07	B(a)P, B(b&k)F	1E-5	2.1E-1 (CW)	—	—	—	—	45	NI	Mixed Use	No	B(a)P and B(b&k)F exceeded resident ILCR (1E-5) and commercial worker HH risk (3E-6) in the 5-foot sample, but not in the 11-foot bgs sample at sample location 52D-SB07. At a minimum, the area will be capped or excavated to 6 feet and the lateral and vertical extent of PAH impact will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of PAH impact will be determined prior to capping.	R
AW-R-8	AW-R-9 AW-R-10 AW-N-21	HH	05D-SB03 06D-SB01 06D-SB02 06D-SB05 06D-SNS01 06D-SNS02 06D-SNS03 06D-SNS04 06D-SNS06 06D-SNS07 06D-SNS08 06D-SNS09 06D-SNS10	Cr+6, SB, Ni	4E-4	2.9E+1 (CW)	—	—	—	—	45	NI	Mixed Use	No	Cr+6 exceeded the noncancer HI for the resident child (3.2E+0) and CW (1.1E+1) receptors at 0.01 foot at sample location 06D-SNS01, at 0.5 foot at sample locations 06D-SNS06 (2.1E+0 and 1.1E+1, respectively), 06D-SNS07 (4.3E+0 and 1.2E+1, respectively), and 06D-SNS08 (1.9E+0 and 9.4E+0, respectively), and the CW receptor only at 2.5 feet bgs at sample locations 06D-SNS06 (1.3E+0) and 06D-SNS07 (2.2E+0); no deeper samples were collected at these locations. At sample location 06D-SB02, Cr+6 exceeded the noncancer HH risk level for resident child (2.1E+0 and 2.9E+0) and CW (2.0E+1 and 2.9E+1), and the ILCR level for the resident (2E-5 and 4E-5), CW (3E-4 and 4E-4), and commercial worker (1E-5 and 2E-5) receptors at 5 and 11 feet bgs, respectively. At 05D-SB03, Cd exceeded the HI for the resident child (2.7E+0) at 1 foot bgs. At 06D-SNS07, Ni exceeded the HI for the resident child (1.1E+0) at 0.5 feet bgs and CW (1.1E+1 and 2.1E+0) at 0.5 and 2.5 feet bgs, respectively. Ni also exceeded the HI for the CW receptor at 06D-SNS06 (1.1E+1 and 1.2E+0) at 0.5 and 2.5 feet bgs and at 06D-SNS08 (0.1E+0) at 0.5 feet bgs. The area will be capped or excavated to a depth of 12 feet bgs to address the HH risk and the lateral and vertical extent will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of Cr+6 impact will be determined prior to capping.	R

Table 1-5
Summary of Soil Risks and Rationale for Remedial Action - Administration Area West
Aerojet - Boundary Operable Unit Feasibility Study

Remedial Area Number	Colocated Remedial Area	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained or Not Retained
AW-R-9	AW-R-8 AW-R-10 AW-R-12 AW-R-13 AW-N-14 AW-N-21 AW-N-26	RTG	05D-SB02 05D-SB03 05D-SB04 05D-SNS03 05D-SNS04 05D-SNS10 05D-SNS11 05D-SNS12 05D-SNS13 05D-SNS14 05D-SNS15 06D-SB01 06D-SB02 06D-SB05 06D-SB06 06D-SNS02 06D-SNS03 06D-SNS04 06D-SNS06 06D-SNS07 06D-SNS08 06D-SNS09 06D-SNS10 06D-SNS11 52D-SB11 52D-SB12 52D-SNS01 52D-SNS02	—	—	—	—	—	TPH-D, TPH-Mo, B(a)P, B(b&k)F, B(b)F, ClO4, Sb, Cd, Cr, Cr+6, Pb	6	43-47	NI	Mixed Use	No	The remedy proposed for RA AW-R-10 addresses the RTG for the majority of the listed sample locations. Sample locations that exceed HH or ecological risks are shown in separate RAs and included in other remedial areas. Of these borings, only sample location 06D-SNS09, 06D-SNS10 and 06D-SNS11 were ranked as moderate RTG for ClO4. ClO4 was detected above its PGW SSL (60 µg/kg) and at 2.5-foot bgs samples from locations 06D-SNS09 (1,300 µg/kg), 06D-SNS10 (530 µg/kg), and 06D-SNS11 (1,900 µg/kg). The remainder of the borings and the compounds—B(a)P, B(b&k)F, B(b)F, Sb, Cd, Cr, Cr+6, and Pb—were ranked as low or negligible RTGs in Table 8.3-1 of the HHERA (Volume II). The area surrounding sample locations 06D-SNS09, 06D-SNS10, and 06D-SNS11 will be capped or excavated to a minimum depth of 3.5 feet bgs and the lateral and vertical extent of ClO4 impact will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of CLO4 impact will be determined prior to capping.	R
AW-R-10	AW-R-6 AW-R-8 AW-R-9 AW-R-12 AW-R-13 AW-N-6 AW-N-7 AW-N-10 AW-N-12 AW-N-18 AW-N-21	Ecological	05D-AH01 05D-SNS02 05D-SNS03 05D-SNS04 05D-SNS05 05D-SNS06 05D-SNS11 05D-SNS13 05D-SNS14 05D-SNS15 05D-SNS16 05D-SNS17 05D-SNS20 09D-SNS05 12D-SNS01 12D-SNS02 12D-SNS03 12D-SNS04 12D-SNS05 12D-SNS09	—	—	—	Sb, Cd, Cr, Cu, Pb, Hg, Mo, Ni, Ag, Zn	609,804 (A)	—	—	—	NI	Mixed Use	No	COPECs exceeding their respective screening levels were detected in the 0.25- to 1-foot bgs interval. At a minimum, the area will be capped or excavated to 2 feet bgs and the lateral and vertical extent of the COPEC's impact will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of impacts from COPECs will be determined prior to capping. The human health risk from B(a)P, Ni, Cr+6 and Pb (AW-R-12 and AW-R-13) will be tracked as part of the ecological remedy at this RA.	R
AW-R-11	AW-N-22	HH	05D-SB09	A-1254	7E-6	5.9E-1 (RC)	—	—	—	—	46	VI	Mixed Use	No	A-1254 was the only compound detected above HH risk levels. A-1254 exceeded the 1E-6 ILCR level for the commercial worker (2E-6) and resident (7E-6) receptors at 1 foot bgs and no deeper samples were collected. At a minimum, the area will be capped or excavated to 2 feet bgs and the lateral and vertical extent of A-1254 impact will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of A-1254 impact will be determined prior to capping.	R
AW-R-12	AW-R-9 AW-R-10 AW-N-21	HH	05D-SNS15	B(a)P, Ni, Cr+6	2E-6	2.0E+0 (CW)	—	—	—	—	43	NI	Mixed Use	No	Cr+6 (3E-6, 2E-6 and 2E-6) exceeded the ILCR(1E-6) risk for the construction worker receptor in the 0.5-, 5- and 10-foot bgs samples, respectively, but not in the 2.5-foot bgs sample. Nickel (1.8E+0)exceeded the HI (1.0E+0) in the 0.5-foot bgs sample only. No deeper samples were collected. B(a)P (2E-6) exceeded the ILCR for the resident child receptor in the 0.5-foot bgs sample only. This area will be capped or excavated to 2 feet bgs in Remedial Area AW-R-10 for ecological risk. The HH risk will be tracked as part of the AW-R-10 remedy.	R
AW-R-13	AW-R-9 AW-R-10 AW-N-21	HH	05D-SNS04 05D-SNS13	Cr+6, Ni, Pb	3E-6	1.7E+0 (CW)	—	—	—	—	43	NI	Mixed Use	No	Cr+6 exceeded resident child ILCR and CW noncancer HI risk levels and resident child blood Pb >10 µg/dL at sample location 05D-SNS04 in the 0.01-foot bgs sample and at sample location 05D-SNS13 in the 0.5-foot bgs sample. Cr+6 exceeded CW ILCR levels in the 0.5- (3E-6), 5- (2E-6) and 10-foot bgs (2E-6) samples, but not in the 2.5-foot bgs samples. No deeper samples were collected. This area will be capped or excavated to 2 feet in Remedial Area AW-R-10 for ecological risk. The HH risk will be tracked as part of the AW-R-10 remedy.	R

Table 1-5
Summary of Soil Risks and Rationale for Remedial Action - Administration Area West
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Remedial Area Number	Colocated Remedial Area	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2,3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained or Not Retained
AW-R-14	AW-R-7 AW-N-26	HH	52D-SB10	Cr+6	5E-4	3.3E+1 (CW)	—	—	—	—	46	NI	Mixed Use	No	Cr+6 (720 mg/kg) exceeded the ILCR for resident (4E-5), CW (5E-4), and commercial worker (2E-5) and the HI for RC (3.3E+0) and CW (3.3E+1) risk levels in the 11-foot bgs sample at sample location 52D-SB10. However, the 1-, 5-,23-, 35-, and 39-foot bgs samples and none of the samples from nearby boring 52D-SB09 exceeded the risk levels. Cr+6 also did not exceed the HH risk levels in soil samples collected from the 10.5- or 11-foot depth at nearby borings 52D-SB08 or 52D-SB12. Further sampling will be conducted at, and in the vicinity of, sampling location 52E-SB-10 to determine the lateral and vertical extent of Cr+6 in soil. The results of this soil sampling activity will be used to aid in the selection of an appropriate remedy. Costs to cap the area shown on Figure 1-25 are included in the costing tables for reference.	R
AW-N-1	—	RTG	05D-SNS01 05D-SNS08	—	—	—	—	—	Cd, Pb	6	48	VI	Mixed Use	No	The RTG contaminants were low mobility/solubility compounds (metals), ranked as a low RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. Cd was detected above its PGW SSL (1.2 mg/kg) in the 0.5- (1.4 and 1.5 mg/kg, respectively) and 2.5-foot (26 and 1.5 mg/kg, respectively) samples, and no deeper samples were collected. The Cd detections were considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II). Pb also was detected above its PGW SSL (23 mg/kg) in the 0.5- (106 and 70 mg/kg, respectively) and in the 2.5-foot bgs (67 mg/kg) samples at 05D-SNS08 only; no deeper samples were collected. The depth to groundwater at this sample location is 48 feet.	N
AW-N-2	—	RTG	05D-SB10	—	—	—	—	—	A-1254	6	48	VI	Mixed Use	No	The RTG contaminant was a low mobility/solubility compound (A-1254), ranked as a moderate RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. A-1254 (46 µg/kg) was detected above its PGW SSL (34 µg/kg) in the 1-foot bgs sample at sample location 05D-SB10; however, no deeper samples were collected. The depth to groundwater at this location is 48 feet.	N
AW-N-3	—	RTG	12D-SNS08	—	—	—	—	—	Cd	6	34	VI	Mixed Use	No	The RTG contaminant was a low mobility/solubility compound (Cd), ranked as a low RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. Cd was ranked as a low RTG in the PGW evaluation in the HHRA, Volume II, despite the RTG score of 6. Cd (1.7 mg/kg) was detected above its PGW SSL (1.2 mg/kg) in the 2.5-foot bgs sample at sample location 12D-SNS08, but was below the PGW SSL at 1 foot bgs (0.52 mg/kg). Cd tends to have low solubility and mobility and the depth to groundwater is 34 feet at this location. The Cd detection at 2.5 feet bgs was considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHRA Volume II).	N
AW-N-4	—	RTG	08D-SB06	—	—	—	—	—	ClO4	3	34	MI	Mixed Use	No	The RTG was ranked as low, concentrations were bounded at depth, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. ClO4 (78 µg/kg) was detected above its PGW SSL (60 µg/kg) in the 1-foot sample at sample location 08D-SB06, but was below the PGW SSL in the 5- (18 µg/kg) and 11-foot bgs (27 µg/kg) samples. At this location, the depth to groundwater is 34 feet.	N
AW-N-5	—	RTG	08D-SB03	—	—	—	—	—	ClO4	3	35	MI	Mixed Use	No	The RTG was ranked as low, concentrations were bounded at depth, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. ClO4 (99 µg/kg) was detected above its PGW SSL (60 µg/kg) in the 1- foot bgs sample at sample location 08D-SB03, but was not detected in the 5- and 11-foot bgs samples. The depth to groundwater at this location is 35 feet.	N
AW-N-6	AW-R-10	RTG	09D-SNS05	—	—	—	—	—	Cd, Pb	6	37	NI	Mixed Use	No	The RTG contaminants were low mobility/solubility compounds (metals), ranked as a low RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. Cd was detected above its PGW SSL (1.2 mg/kg) in the 0.5 foot (2.5 mg/kg) and 2.5-foot (1.7 mg/kg) samples, but no deeper samples were collected. Pb also was detected above its PGW SSL (23 mg/kg) in the 0.5 foot (24 mg/kg), but not in the 2.5-foot bgs (12 mg/kg) sample. The PGW SSLs for Cd and Pb are the BTV. The depth to groundwater is 37 feet at this location. The Cd and Pb detections were considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHRA Volume II).	N
AW-N-7	AW-R-10	RTG	05D-SNS17	—	—	—	—	—	Cd, Pb	6	38	NI	Mixed Use	No	The RTG contaminants were low mobility/solubility compounds (metals), ranked as a low to moderate RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention for RTGs. Cd was ranked as a moderate RTG in the 0.5-foot bgs sample, and Cd (2.5 feet) and Pb (0.5 and 2.5 feet) were ranked as low RTGs. Cd was detected above its PGW SSL (1.2 mg/kg) in the 0.5- (5.6 mg/kg) and 2.5-foot bgs (2.3 mg/kg) samples, and no deeper samples were collected. Pb was also detected above the PGW SSL (23 mg/kg) in the 0.5-foot bgs sample (130 mg/kg), but not in the 2.5-foot (10 mg/kg) sample. The PGW SSLs for Cd and Pb are the BTV. The depth to groundwater is 38 feet at this location. The Cd (2.5 feet bgs) and Pb detections were considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II).	N
AW-N-8	—	RTG	05D-SNS19	—	—	—	—	—	Pb	4	36	VI	Mixed Use	No	The RTG contaminant was a low mobility/solubility compound (Pb), ranked as a low RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. Pb was detected above its PGW SSL (23 mg/kg) in the 0.5-foot bgs (41 mg/kg) sample, but not in the 2.5-foot (9.9 mg/kg) sample. The PGW SSL for Pb is the BTV. The depth to groundwater at this location is 36 feet. The Pb detection was considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHRA Volume II).	N
AW-N-9	—	RTG	A20-ST01-SB03	—	—	—	—	—	A-1254	4	38	MI	Mixed Use	No	The RTG contaminant was a low mobility/solubility compound (A-1254), ranked as a low RTG, and contamination was only in shallow[5] soil samples; therefore, the RA was not recommended for retention. A-1254 (130 µg/kg) was detected above its PGW SSL (60 µg/kg) in the 1-foot bgs sample at sample location A20-ST01-SB03, but was not detected in the 5-foot bgs sample. At this location, the depth to groundwater is 38 feet and the A-1254 concentration is bounded.	N
AW-N-10	AW-R-10	RTG	05D-SNS16	—	—	—	—	—	B(a)A, B(a)P, B(b&k)F, TPH-D, TPH-Mo, Cd, Pb	6	41	NI	Mixed Use	No	The RTG contaminants were low mobility/solubility compounds (SVOCs and metals) and TPH, ranked as a low or moderate RTG, contamination was only in shallow[5] soil samples, and it was bounded; therefore, this RA was not recommended for retention. B(a)A, B(a)P, B(b&k)F, TPH-D (250 mg/kg) and TPH-Mo (850 mg/kg) exceeded their PGW SSLs (100 and 500 mg/kg, respectively) in the 0.5-foot bgs sample and were ranked as moderate RTGs, but were below PGW SSLs in the 2.5-foot bgs sample. Cd and Pb were each ranked as low RTGs. At sample location 05D-SNS16, B(a)A (47 µg/kg), B(a)P (7 µg/kg), and B(b&k)F (260 µg/kg) exceeded their PGW SSLs (29 µg/kg, 2.9 µg/kg, and 29 µg/kg, respectively) in the 0.5-foot bgs sample and B(b&k)F (30 µg/kg) exceeded its PGW SSL in the 2.5-foot bgs sample. Cd was detected above its PGW SSL (1.2 mg/kg) in the 0.5- (4.6 mg/kg), 2.5- (3.9 mg/kg) and 5-foot bgs (2 mg/kg) samples, but was below the PGW SSL in the 10-foot bgs sample. Pb also was detected above its PGW SSL (23 mg/kg) in the 0.5- (65 mg/kg) and 2.5-foot bgs (76 mg/kg) samples, but was below the PGW SSL in the 5- and 10-foot bgs samples. The depth to groundwater is 41 feet at this location. Although this area is not retained, remedy under AW-R-10 for ecological will remove shallow soils.	N

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Remedial Area Number	Colocated Remedial Area	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained or Not Retained
AW-N-11	AW-R-3	RTG	05D-SNS18	—	—	—	—	—	A-1260, B(a)P, B(b&k)F, Cd, Pb	6	37	NI	Mixed Use	No	A-1260 and Pb were ranked as moderate RTGs, and B(a)P, B(b&k)F, and Cd were ranked as low RTGs. A-1260 (100 µg/kg and 65 µg/kg) and Pb (48 mg/kg and 62 mg/kg) exceeded their PGW SSLs (34 µg/kg and 23 mg/kg, respectively) in the 0.5- and 2.5-foot samples, and no deeper samples were collected. B(a)P (14 µg/kg), B(b&k)F (38 µg/kg), and Cd (1.7 mg/kg) exceeded their PGW SSLs (2.9 µg/kg, 29 µg/kg and 1.2 mg/kg, respectively) in the 0.5-foot sample. No data was available to assess if these compounds were present in groundwater. Although this area is not retained, remedy under AW-R-3 for HH will address shallow RTG.	N
AW-N-12	AW-R-6 AW-N-18	RTG	05D-SB01 05D-SNS09 05D-SNS20	—	—	—	—	—	A-1254, Cd, Pb	3	47	NI	Mixed Use	No	The RTG contaminants were low mobility/solubility compounds (A-1254 and metals), ranked as a low or negligible RTG, and the contamination was only in shallow[5] soil samples; therefore this RA was not recommended for retention. A-1254, Cd, and Pb were ranked as low RTGs. At sample location 05D-SB01, A-1254 (76 µg/kg) was detected above its PGW SSL (60 µg/kg) in the 1-foot bgs sample, but was not detected in the 5-, 11-, 23-, 35, and 39-foot bgs samples. At 05D-SNS20, Cd (1.8 mg/kg) and Pb (150 mg/kg) were detected above their PGW SSLs (1.2 mg/kg and 23 mg/kg, respectively) in the 0.5-foot bgs sample, but were below the PGW SSLs in the 2.5-, 5- and 10-foot bgs samples. The depth to groundwater at this location is 47 feet.	N
AW-N-13	AW-N-16	RTG	08D-SB02	—	—	—	—	—	A-1254, B(a)P, B(b&k)F	4	35	NI	Mixed Use	No	RTG was ranked as low; therefore this RA was not recommended for retention. A-1254, B(a)P, and B(b&k)F were ranked as low RTGs. A-1254 (270 µg/kg), B(a)P (20 µg/kg), and B(b&k)F (31 µg/kg) exceeded their PGW SSLs (34 µg/kg, 2.9 µg/kg, and 29 µg/kg, respectively) in the 0.5-foot bgs sample this sample location, but only B(a)P (8.5 µg/kg) exceeded in the 5-foot bgs sample. None of these compounds exceeded their respective PGW SSLs in samples collected at 11-, 23-, and 35-feet bgs at this location. A-1254 is limited to near-surface soil and this location is surrounded by samples that do not exceed risk, so this is an isolated detection.	N
AW-N-14	AW-N-9	HH	A20-ST01-SB03	—	—	—	—	—	—	—	38	NI	Mixed Use	No	This area is below the HH risk of $1x10^{-6}$ and an HI of 1 and poses no risk. It was inadvertently mapped and, therefore, is not recommended for retention.	N
AW-N-15	AW-N-19	HH	D(c)-SB05	B(a)P	4E-6	4.0E-1 (CW)	—	—	—	—	33	VI	Mixed Use	No	HH risk was just above 1E-6 and HI<1; therefore, this RA was not recommended for retention. B(a)P was the only compound above the residential HH risk levels (2.6E-6 ILCR). The cumulative risk for B(a)A, B(b&k)F, D(a,h)A, and I(1,2,3-cd)P was 4E-6, which did not exceed HH risk levels at 5 feet.	N
AW-N-16	AW-N-28	HH	08D-SB02	A-1254	4E-6	5.3E-1 (CW)	—	—	—	—	35	NI	Mixed Use	No	HH risk was just above 1E-6 and HI<1; therefore, this RA was not recommended for retention. A-1254 was the only compound detected above HH risk levels. A-1254 (3E-6) exceeded the residential ILCR level at 0.5 foot bgs, but was below 1E-6 at 5 feet bgs, and was not detected in the 11-, 23- or 35-foot samples collected at sample location 08D-SB02.	N
AW-N-17	AW-R-4 AW-R-5	HH	D(b)-SB04	B(a)P	2E-6	7.1E-5 (RC)	—	—	—	—	40	NI	Mixed Use	No	HH risk was just above 1E-6 and HI<1; therefore, this RA was not recommended for retention. B(a)P (1.6E-6) exceeded HH risk levels in the 1 foot bgs sample, but did not exceed in the 5- and 11-foot bgs samples at D(b)-SB04. B(a)P is limited to near-surface soil, so this is an isolated detection.	N
AW-N-18	AW-R-6 AW-N-12	HH	05D-SNS09	B(a)P	3E-6	3.00E-01	—	—	—	—	47	NI	Mixed Use	No	HH risk was just above 1E-6 and HI<1; therefore, this RA was not recommended for retention. B(a)P (2.4E-6) exceeded residential ILCR (1E-6) in the 0.5-foot sample at sample location 05D-SNS09, but not in the 2.5-foot bgs sample. B(a)P is limited to near-surface soil, so this is an isolated detection. Additionally, this area will be capped or excavated as part of AW-R-10 and the risk will be addressed by that excavation.	N
AW-N-19	AW-N-15	RTG	D(c)-SB05	—	—	—	—	—	B(a)A, B(a)P, B(b&k)F, D(a,h)A, I(1,2,3-cd)P	4	33	VI	Mixed Use	No	RTG was ranked as low; therefore this RA was not recommended for retention. B(a)A, B(a)P, B(b&k)F, D(a,h)A, I(1,2,3-cd)P were ranked as low RTGs. B(a)A (77 µg/kg), B(a)P (100 µg/kg), B(b&k)F (200 µg/kg), D(a,h)A (18 µg/kg), and I(1,2,3-cd)P (59 µg/kg) exceeded their PGW SSLs (29 µg/kg, 2.9 µg/kg, 29 µg/kg, 2.9 µg/kg, and 29 µg/kg, respectively)in the 1-foot bgs sample at sample location D(c)-SB05, but were not detected in the 5-foot bgs sample collected at this location.	N
AW-N-20	AW-R-2 AW-N-24	HH	05D-SB06	A-1254	3E-5	2.5E+0 (RC)	—	—	—	—	—	MI	Mixed Use	No	A-1254 exceeded the ILCR for resident (3E-5) and commercial worker (8E-6) receptors in the 1-foot bgs sample and no deeper samples were collected. The high HH risks associated with location 05D-SB06 are discussed in RA AW-R-2 above.	N

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Summary of Soil Risks and Rationale for Remedial Action - Administration Area West
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Remedial Area Number	Colocated Remedial Area	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2,3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained or Not Retained
AW-N-21	AW-R-7 AW-R-8 AW-R-9 AW-R-10 AW-N-13 AW-N-14	HH	05D-SB02 05D-SB03 05D-SB04 05D-SNS03 05D-SNS04 05D-SNS10 05D-SNS11 05D-SNS12 05D-SNS13 05D-SNS14 05D-SNS15 06D-SB01 06D-SB02 06D-SB05 06D-SNS03 06D-SNS04 06D-SNS06 06D-SNS07 06D-SNS08 06D-SNS09 06D-SNS10 06D-SNS11 52D-SB06 52D-SB08 52D-SB09 52D-SB10 52D-SB11 52D-SB12 52D-SB13 52D-SNS01 52D-SNS02 52D-SNS03 52D-SNS04 52D-SNS12	Cr+6, Ni, Pb	3E-6	2.9E+1 (CW)	—	—	—	—	—	NI	Mixed Use	No	This large RA is based on low HH risks, which will be addressed by retained RAs AW-R-7 and AW-R-8 (high risk HH). AW-R-9 (RTG) and AW-R-10 (ecological risk). Based on this, this area is not recommended for retention.	N
AW-N-22	AW-R-11	RTG	05D-SB09	—	—	—	—	—	A-1254	6	46	VI	Mixed Use	No	A-1254 was ranked as a moderate RTG. A-1254 (610 µg/kg) was detected above its PGW SSL (34 µg/kg) in the 1-foot bgs sample at sample location 05D-SB09; however, no deeper samples were collected. A-1254 tends to have low solubility and mobility and the depth to groundwater at this sample location is 46 feet.	N
AW-N-23	AW-R-1	RTG	05D-SB07	—	—	—	—	—	A-1260, Cd	6	44	MI	Mixed Use	No	A-1260 was ranked as a moderate RTG and Cd was ranked as a low RTG. A-1248 (800 µg/kg) and Cd (2.6 mg/kg) exceeded their PGW SSLs (34 µg/kg and 1.2 mg/kg, respectively) in the 1-foot sample and no deeper samples were collected. No data were available to assess if A-1260 or Pb were present in groundwater. A-1260 and metals tend to have low solubility and mobility and the depth to groundwater is 44 feet at this location.	N
AW-N-24	AW-R-2 AW-N-20	RTG	05D-SB06	—	—	—	—	—	A-1254, Cd, Cr, Pb	6	40	MI	Mixed Use	No	A-1254, Cd, and Cr were ranked as moderate RTGs and Pb was ranked as a low RTG. A-1248 (2,500 µg/kg), Cd (9.6 mg/kg), Cr (670 mg/kg), and Pb (30.1 mg/kg) exceeded their PGW SSLs (34 µg/kg, 1.2 mg/kg, 500 mg/kg, and 23 mg/kg, respectively) in the 1-foot bgs sample and no deeper samples were collected. A-1254 and metals tend to have low solubility and mobility and the depth to groundwater is 48 feet at this location.	N
AW-N-25	AW-R-7	RTG	52D-SB07	—	—	—	—	—	B(a)A, B(a)P, B(b&k)F, I(1,2,3-cd)P, TPH-D, TPH-Mo	8	45	NI	Mixed Use	No	B(a)A, B(a)P, B(b&k)F, I(1,2,3-cd)P, and TPH-D were ranked as low RTGs and TPH-Mo was ranked as a moderate RTG. B(a)A (330 µg/kg), B(a)P (340 µg/kg), B(b&k)F (450 µg/kg), I(1,2,3-cd)P (59 µg/kg), TPH-D (220 mg/kg), and TPH-Mo (530 mg/kg) were detected above their PGW SSLs (29 µg/kg, 2.9 µg/kg, 29 µg/kg, 29 µg/kg, 100 mg/kg, and 500 mg/kg, respectively) in the 5-foot bgs sample at sample location 52B-SB07, but did not exceed their respective PGW SSLs in the 1-or 10-foot bgs samples. The depth to groundwater is 38 feet at this location. PAHs and TPH generally have low solubility and mobility.	N
AW-N-26	AW-R-7 AW-R-14	RTG	52D-SB10	—	—	—	—	—	Cr, Cr+6	1	45	NI	Mixed Use	No	RTG was ranked negligible. At sample location 52D-SB10, Cr (550 mg/kg) and Cr+6 (720 mg/kg) exceeded their PGW SSLs (500 mg/kg and 21 mg/kg, respectively) in the 11-foot bgs sample, but not in the 1-, 5-, 23-, 35-, and 39- foot bgs samples. Cr (5.4 µg/L) was detected in groundwater at well 3684 at a concentration an order of magnitude below the MCL (50 µg/L) an Cr+6 was not detected in groundwater.	N

Notes:
1 - See Table 1-12 for a list of acronyms
2 - References for these columns can be found in Table 1-13
3 - Green-hatched areas shown on Figure 1-30 were identified by the risk assessors in Section 9 of the HHERA as the only areas requiring mitigation for ecological risks
4 - RTG Score Ranking: 0-2 Negligible, 3-4 Low, 5-6 Moderate, >6 High
5 - Shallow soil samples are defined as samples collected at depths less than 5 feet bgs
6 - "—" means "not applicable"

Table 1-6
Summary of Soil Risks and Rationale for Remedial Action - Line 2
Aerojet - Boundary Operable Unit Feasibility Study

Remedial Area Number	Colocated Remedial Areas	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained or Not Retained
L2-R-1	—	RTG	E(n)-SNS03	—	—	—	—	—	ClO4	6	41	VI	Mixed Use	Adjacent building, excavation may impact structure.	ClO4 was ranked as a high RTG. The maximum ClO4 concentration (550 µg/kg) above the PGW SSL (60 µg/kg) was detected at 0.5 foot bgs and remained a high RTG for the sample collected at 2.5 feet bgs (250 µg/kg) and no deeper samples were collected. At a minimum, the area will be capped or excavated to 1 foot below the deepest sample where risk was exceeded and the lateral and vertical extent of ClO4 will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of ClO4 impact will be determined prior to capping.	R
L2-R-2	—	HH	L2-ST26-SB01 L2-ST24-SB01	B(a)P B(b&k)F	1.E-05	8.4E-01 (CW)	—	—	—	—	45	NI	Mixed Use	Adjacent building, excavation may impact structure.	B(a)P and B(b&k)F exceeded the ILCR risk level for the resident (1E-5) and commercial worker (4E-6) receptors at 2 feet bgs. The maximum PAH concentrations were both detected in the 2-foot bgs sample, but were not detected in the 5-foot bgs sample. At a minimum, the area will be capped or excavated to 1 foot below the deepest sample where risk was exceeded and lateral and the vertical extent of PAHs will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of PAH impact will be determined prior to capping.	R
L2-R-3	—	RTG	E(e)-SNS01	—	—	—	—	—	ClO4, TPH-D	10	43	NI	Mixed Use	No	ClO4 was ranked as a high RTG and TPH-D was ranked as a moderate RTG. ClO4 concentrations (140 and 74 µg/kg) exceeded the PGW SSL (60 µg/kg) in the 0.5- and 2.5-foot bgs samples, respectively, in sampling location E(e)-SNS01. TPH-D (110 mg/kg) exceeded the PGW SSL (100 mg/kg) at 0.5 foot bgs, but not at 2.5 feet bgs. No deeper samples were collected. At a minimum, the area will be capped or excavated to 1 foot below the deepest sample where risk was exceeded and the lateral and vertical extent will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of CLO4 impact will be determined prior to capping.	R
L2-R-4	—	RTG	28E-SB01 28E-SB05	—	—	—	—	—	ClO4, Mn, Ni, Tl	8	50	NI	Mixed Use	No	Mn, Ni, and Tl concentrations exceeded their respective PGW SSLs at 11.5 feet bgs and below at sampling location 28E-SB01, but were ranked as low RTGs because they were "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II). ClO4 was ranked a high RTG. ClO4 concentrations exceeded the PGW SSL (60 µg/kg) at depths of 1 foot bgs (670 µg/kg) and 10 feet bgs (67 µg/kg) in sampling location 28E-SB05 only. In sampling locations 28E-SB01 and 28E-SB05, ClO4 concentrations (up to 1,700 µg/kg at 28E-SB01 at 35 feet bgs) exceeded the PGW SSL below 10 feet bgs and continued to exceed the PGW SSL to a depth of 50 feet bgs (the depth to groundwater). ClO4 was detected in groundwater. At a minimum, the area will be capped or excavated to a depth of 12 feet and the lateral and vertical extent of ClO4 will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of ClO4 impact will be determined prior to capping. Deeper ClO4 impacts will be addressed by L2-R-9.	R
L2-R-5	—	RTG	28E-SB03 28E-SB06	—	—	—	—	—	ClO4	8	50	NI	Mixed Use	Adjacent building, excavation may impact structure.	ClO4 was ranked as a high RTG. ClO4 concentrations exceeded the PGW SSL (60 µg/kg) in only the 11-foot bgs sample (69 µg/kg) from sampling location 28B-SB03. For sampling location 28E-SB06, ClO4 concentrations exceeded the PGW SSL at depths of 1- (110 µg/kg), 5- (5,100 µg/kg), and 10-feet bgs (4,300 µg/kg) and at each 10-foot interval to 50 feet bgs (depth of groundwater). ClO4 was detected in groundwater. At a minimum, the area will be capped or excavated to a depth of 12 feet and the lateral and vertical extent of ClO4 will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of ClO4 impact will be determined prior to capping. Deeper ClO4 impacts will be addressed by L2-R-9.	R
L2-R-6	—	RTG	L2-ST28-90-SB01	—	—	—	—	—	ClO4	7	45	NI	Mixed Use	No	ClO4 was ranked as a high RTG. ClO4 concentrations (75 µg/kg and 140 µg/kg) exceeded the PGW SSL (60 µg/kg) in the 2.5- and 4.5-foot bgs samples, respectively, and was not bounded vertically. At a minimum, the area will be capped or excavated to 1 foot below the deepest sample where risk was exceeded and the lateral and vertical extent will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of ClO4 impact will be determined prior to capping.	R
L2-R-7	—	RTG	E(e)-SB03	—	—	—	—	—	ClO4	11	45	NI	Mixed Use	Adjacent building, excavation may impact structure.	ClO4 was ranked as a high RTG. ClO4 concentrations exceeded the PGW SSL (60 µg/kg) in the 1-, 5-, 20-, 30-, 40- and 50-foot bgs samples and was not bounded vertically. The ClO4 concentration in the 10-foot bgs sample (57 µg/kg) was slightly below the PGW SSL (60 µg/kg). The highest concentration (1,400 µg/kg) of ClO4 was detected in the 20-foot bgs sample. At a minimum, the area will be capped or excavated to a depth of 12 feet and the vertical extent of ClO4 will be assessed during excavation.	R
L2-R-8	L2-N-10	RTG	E(d)-SNS03 E(e)-SB02	—	—	—	—	—	ClO4	11	45	NI	Mixed Use	Adjacent building, excavation may impact structure.	ClO4 is a high RTG. ClO4 concentrations exceeded the PGW SSL at depths of 0.5-, 2.5-, 10-, 20-, 30-, and 40-feet bgs in sampling location E(d)-SNS03 and at 11-, 22-, and 42-feet bgs, but not at 1- and 5-feet bgs in sampling location E(e)-SB02. ClO4 was detected in groundwater. At a minimum, this area will be capped or excavated to a depth of 12 feet and the lateral and vertical extent of ClO4 will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of ClO4 impact will be determined prior to capping.	R
L2-R-9	—	RTG	28E-SB02 28E-SB07 28E-SPB02	—	—	—	—	—	ClO4, Al, Mn, NDMA, Tl	8	50	NI	Mixed Use	No	Al (53,000 mg/kg), Mn (1,300 and 1,500 mg/kg), and Tl (2.8 and 3.2 mg/kg) concentrations exceeded their respective PGW SSL between 11.5 and 47 feet bgs, but were ranked as a low RTG as these metals were "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II). ClO4 and NDMA are a high RTG. ClO4 concentrations exceeded the PGW SSL at depths of 11 feet bgs and continued to 50 feet bgs (depth of groundwater). NDMA was only detected above the PGW SSL in one sample from sampling location 28E-SBO2 at a depth of 35 feet. ClO4 was detected in groundwater. A containment/remedial alternative other than excavation will be used (See Section 6.0).	R
L2-N-1	—	RTG	29E-SB10 29E-SNS07	—	—	—	—	—	Cd	6	46	NI	Open Space	No	The RTG was ranked as low and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. Cd (1.2 mg/kg) exceeded its PGW SSL (0.72 mg/kg) in the 1-foot bgs sample at sampling location 29E-SB10. No deeper samples were collected for Cd. Cd at this location was "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II).	N
L2-N-2	—	RTG	L2-ST26-SNS02	—	—	—	—	—	B(a)P	4	46	MI	Residential	No	The RTG was ranked as low and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. B(a)P (55 µg/kg) exceeded the PGW SSL (2.9 µg/kg) only in the 0.5-foot bgs sample; B(a)P was not detected in the 2.5-foot bgs sample. The depth to groundwater is 45 feet at this location.	N

Table 1-6
Summary of Soil Risks and Rationale for Remedial Action - Line 2
Aerojet - Boundary Operable Unit Feasibility Study

Remedial Area Number	Colocated Remedial Areas	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained or Not Retained
L2-N-3	—	RTG	L2-ST26-SB04	—	—	—	—	—	Tl	3	45	MI	Residential	No	The RTG was ranked as low and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. Tl (2.8 mg/kg) exceeded the PGW SSL (2.5 mg/kg) only in the 1-foot bgs sample and did not exceed the PGW SSL in the 5- and 11-foot bgs samples. The PGW SSL concentrations are also equivalent to the BTV. Tl was "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II).	N
L2-N-4	—	RTG	E(n)-SB01 E(n)-SD01	—	—	—	—	—	Cd, Mn, Tl	4	43	MI	Residential	No	The RTGs were ranked as low and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. Cd and Mn were ranked as a low RTG in sample E(n)-SD01. Cd concentrations only exceeded the PGW SSL (0.72 mg/kg) in the 0.25- and 1.5-foot bgs samples (0.74 and 0.79 mg/kg, respectively), but did not exceed in the 5-foot bgs sample. Mn concentrations only exceeded the PGW SSL (1,100 mg/kg) in the 1.5-foot bgs sample (1,700 mg/kg), but did not exceed in the 5-foot sample. Tl exceeded the PGW SSL (2.5 mg/kg) in the 1-foot bgs sample (2.9 mg/kg), but did not exceed in the 5- or 9.5-foot bgs samples. The PGW SSL concentrations are equivalent to the BTV. Mn and Tl were "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II).	N
L2-N-5	—	RTG	29E-SB05 29E-SB09	—	—	—	—	—	B(b&k)F, Cd, I(1,2,3-cd)P, Al	6	48	NI	Mixed Use	Adjacent building, excavation may impact structure.	The RTG contaminants were low mobility/solubility compounds (SVOCs and metals), ranked as a low to moderate RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. B(b&k)F and I(1,2,3-cd)P are ranked as moderate RTG and Cd and Al are ranked as low RTG. B(b,k)F (31 µg/kg) and I(1,2,3-cd)P (33 µg/kg) concentrations only slightly exceed the PGW SSL (29 µg/kg for both compounds) in the 2-foot bgs sample at sampling location 29E-SB09; however, no deeper samples were collected. Both compounds exhibit extremely low solubility and high affinity for organic carbon and, therefore, low mobility. Cd concentrations (both 1.2 mg/kg) exceeded the PGW SSL (0.72 mg/kg) only in the 2- and 6-foot bgs samples at sampling location 29E-SB05. Cd did not exceed the PGW SSL in the 11.5-foot bgs sample. Al (47,000 and 45,000 µg/kg) concentrations only exceeded the PGW SSL (43,000 mg/kg) in the 1- and 5-foot bgs samples, respectively, at sampling location 29E-SB09, but did not exceed the PGW SSL in the 11-foot bgs sample. The Al and Cd PGW SSL concentrations are equivalent to their respective BTVs. These metal detections were considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II).	N
L2-N-6	—	RTG	E(n)-SNS01	—	—	—	—	—	Cd	2	45	MI	Mixed Use	No	The RTG was ranked as negligible and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. Cd (3.3 mg/kg) exceeded the PGW SSL (0.72 mg/kg) only in the 0.5-foot bgs sample, but did not exceed in the 2.5-foot bgs sample at sampling location E(n)-SNS01. Metals tend to have low solubility and mobility and the depth to groundwater is 45 feet bgs at this location.	N
L2-N-7	—	HH	59E-SB01 59E-SB03 59E-SB04	Al, Ni	NA	3.0E+00 (CW)	—	—	—	—	48.5	NI	Mixed Use	No	The contaminants are suspected to be naturally occurring (see PGW Evaluation in HHERA Volume II); therefore, this RA was not recommended for retention. The cumulative risk (1.1E+0) for Al and Sb exceeded the HI for a child receptor in the 11-foot bgs sample from sampling location 59E-SB03; however, neither compound exceeded the HI of 1.0. Aluminum exceeded construction worker HI at 11 feet bgs (2.0E+0) in sampling location 59E-SB03 and at 2.5 feet bgs (1.2E+0) in sampling location 59E-SB04 and nickel exceeded the construction worker HI at 11 feet bgs (1.5E+0) in sampling location 59E-SB04.	N
L2-N-8	—	HH	59E-SB02	Al	NA	1.6E+00 (CW)	—	—	—	—	44	MI	Mixed Use	No	Al concentrations were suspected to be naturally occurring (see PGW Evaluation in HHERA Volume II); therefore, this RA was not recommended for retention. Al (1.2E+0) was the only compound to exceed HH risk levels, but only for the construction worker scenario in the sample collected from a depth of 10.5 feet bgs at sampling location 59E-SB02. The cumulative risk (1.2E+0) from Al, Sb, and Ni concentrations exceeded the HI of 1.0E+0 for a construction worker in the 5-foot bgs sample; however, none of these metals exceeded risk levels.	N
L2-N-9	—	RTG	DSA-SB04	—	—	—	—	—	Tl	6	45	NI	Mixed Use	Adjacent building excavation may impact structure.	The RTG contaminant was a low mobility/solubility compound (Tl) ranked as moderate and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. Tl was ranked as a moderate RTG. Tl (3.0 mg/kg) exceeded the PGW SSL (2.5 mg/kg) only in the 5-foot bgs sample. Tl did not exceed the PGW SSL at 11 feet bgs. The Tl detections were considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II).	N
L2-N-10	L2-R-8	RTG	E(d)-SNS01 E(d)-SNS02 E(d)-SNS03 E(e)-SB01 E(e)-SB02	—	—	—	—	—	B(a)P, B(b&k)F, I(1,2,3-cd)P, TPH-D, TPH-Mo, Al, Mn, Tl	11	45	NI	Mixed Use	Adjacent building, excavation may impact structure.	The RTG contaminants were low mobility/solubility compounds (metals), and ranked as a low RTG; therefore, this RA was not recommended for retention. PAH concentrations were a negligible RTG in sample E(d)-SNS01 at 0.5 feet bgs. Al (51,000 mg/kg), Mn (1,300 and 4,900 mg/kg), and Tl (4.2, 4.6, and 5.1 mg/kg) were detected above their respective PGW SSLs at depths between 11 feet and 42 feet bgs at sampling location E(e)-SB02, but each metal is a low RTG, as these metals were "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II).	N
L2-N-11	—	RTG	59E-SB04	—	—	—	—	—	Al, Mn, Ni, Tl	6	48.5	NI	Mixed Use	No	The RTG contaminants were low mobility/solubility compounds (metals) and ranked as a low RTG; therefore, this RA was not recommended for retention. Al exceeded the PGW (43,000 mg/kg) only at 2.5 feet bgs in sampling location 59E-SB04 (48,000 mg/kg). Mn (1,500 mg/kg) exceeded the PGW SSL (1,100 mg/kg) only at 2.5 feet bgs in 59E-SB04. Ni was detected above the PGW SSL (120 mg/kg) in samples collected at 11 feet bgs in sampling location 59E-SB04 (210 mg/kg). Tl was detected above the PGW SSL (2.5 mg/kg) in samples collected at 11 feet bgs in sampling location 59E-SB04 (2.8 mg/kg). The metal concentration above the PGW SSLs were "outside the range of statistical background, but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II). Metals tend to have low solubility and mobility and the depth to groundwater averages 48.5 feet bgs.	N

Table 1-6
Summary of Soil Risks and Rationale for Remedial Action - Line 2
Aerojet - Boundary Operable Unit Feasibility Study

Remedial Area Number	Colocated Remedial Areas	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained or Not Retained
L2-N-12	—	RTG	59E-SB03	—	—	—	—	—	Al, Ni, Tl	6	48.5	NI	Mixed Use	No	The RTG contaminants were low mobility/solubility compounds (metals) and ranked as a low RTG; therefore, this RA was not recommended for retention. Al exceeded the PGW (43,000 mg/kg) only at 11 feet bgs in sampling location 59E-SB03 (79,000 mg/kg). Ni was detected above the PGW SSL (120 mg/kg) only at 11 feet bgs in sampling location 59E-SB03 (130 mg/kg). Tl was detected above the PGW SSL (2.5 mg/kg) only at 11 feet bgs in sampling location 59E-SB03 (3.4 mg/kg). The metal concentrations above the PGW SSLs were "outside the range of statistical background, but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II). Metals tend to have low solubility and mobility and the depth to groundwater averages 48.5 feet bgs.	N
L2-N-13	—	RTG	59E-SB02	—	—	—	—	—	Al, Mn, NDMA, ClO4	8	44	MI	Mixed Use	No	Al and Mn were ranked as low RTGs, NDMA a moderate RTG, and ClO4 a high RTG. AL and Mn were suspected to be naturally occurring, NDMA was a single isolated occurrence and bounded above the water table, and CLO4 was also a single isolated occurrence at depth. Based on these data, this RA was not recommended for retention. Al and Mn were considered to be "outside range of statistical background, but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II). NDMA (0.21 µg/kg) was detected above its PGW SSL (0.03 µg/kg) only at 23 feet bgs. The NDMA was an isolated detection and the underlying sample did not contain NDMA. ClO4 (85 µg/kg) was detected above its PGW SSL (60 µg/kg) only at 35 feet bgs. The depth to groundwater is 44 feet bgs.	N

Notes:
1 - See Table 1-12 for a list of acronyms
2 - References for these columns can be found in Table 1-13
3 - Green-hatched areas shown on Figure 1-31 were identified by the risk assessors in Section 9 of the HHERA as the only areas requiring mitigation for ecological risks
4 - RTG Score Ranking: 0-2 Negligible, 3-4 Low, 5-6 Moderate, >6 High
5 - Shallow soil samples are defined as samples collected at depths less than 5 feet bgs
6 - "—" means "not applicable"

Table 1-7
Summary of Soil Risks and Rationale for Remedial Action - Line 5 North
Aerojet - Boundary Operable Unit Feasibility Study

Remedial Area Number	Colocated Remedial Areas	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained or Not Retained
L5-R-1	L5-R-3 L5-N-4	HH	52E-SNS01	B(a)P	5.E-06	6.8E-02 (RC)	—	—	—	—	65	NI	Residential	No	B(a)P (5E-6 and 1E-6) exceeded the ILCR for resident and commercial worker receptors, respectively in the 0.5-foot bgs sample, but not in the 5- or 11-foot bgs samples. At a minimum, the area will be capped or excavated to 1.5 feet bgs and the lateral and vertical extent of PAH impact will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of PAH impact will be determined prior to capping.	R
L5-R-2	—	RTG	52E-SB14	—	—	—	—	—	ClO4	7	68	NI	Residential	No	ClO4 was ranked as a high RTG. The maximum ClO4 concentration (520 µg/kg) above the PGW SSL (60 µg/kg) was detected in the 5-foot bgs sample, and ClO4 remained a high RTG for the deepest sample at 11 feet bgs (240 µg/kg). At a minimum, the area will be capped or excavated to a depth of 12 feet and the lateral and vertical extent of ClO4 impact will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of CLO4 impacts will be determined prior to capping.	R
L5-R-3	L5-R-1 L5-N-4	Ecological	52E-SNS01	—	—	—	Cd DnOP	Cd 13.3 (M) DnOP 96 (A)	—	—	65	NI	Residential	No	This area was selected for retention in the facility ecological evaluation (Appendix D). There are elevated Cd and Di-n-octalphthalate (DnOP) ecological hazards. This area will be capped or excavated to 1.5 feet bgs in Remedial Area L5-R-1. The ecological risk will be tracked as part of the L5-R-1 remedy.	R
L5-N-1	—	RTG	E(L)-SB01	—	—	—	—	—	ClO4, TPH-D	8	68	NI	Residential	No	The high RTG ranking was based on concentrations of TPH as diesel; however, the concentrations were decreasing with depth and were bounded below the PGW SSL at 5 feet and, therefore, this RA was not recommended for retention. TPH-D was ranked as a high RTG and ClO4 was ranked as a low RTG in the 0.25- foot bgs sample. TPH-D and ClO4 were not detected in underlying samples collected at 5 feet bgs and greater depths. TPH-D (150 mg/kg) and ClO4 (86 µg/kg) were detected above their PGW SSLs (100 mg/kg and 60 µg/kg, respectively) in the 0.25-foot bgs sample. TPH-D has limited mobility and the depth to groundwater is 68 feet bgs.	N
L5-N-2	—	RTG	52E-SB04 52E-SB05	—	—	—	—	—	B(b&k)F, TPH-D, TPH-Mo, ClO4, Cd, Pb	7	70	NI	Residential	No	The RTG was ranked as low or negligible and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. B(b&k)F, TPH-D, TPH-Mo, ClO4, and Cd were ranked as low RTGs and Pb was ranked as a negligible RTG; B(b&k)F (180 µg/kg) was detected above the PGW SSL (29 µg/kg) in the 1-foot bgs sample at sampling location 52E-SB04. No deeper samples were collected. TPH-D (2,200 mg/kg), TPH-Mo (5,700 mg/kg), ClO4 (260 µg/kg), Cd (1.8 mg/kg) and Pb (52 mg/kg) were detected above their PGW SSLs (100 mg/kg, 500 mg/kg, 60 µg/kg, 1.2 mg/kg and 23 mg/kg, respectively) in the 1.5-foot bgs sample at sampling location 52E-SB05. None of these compounds exceeded their PGW SSLs in the 5- or 11-foot bgs samples. The Cd and Pb detections in the 1.5-foot bgs sample at sampling location 52E-SB05 were considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II). PAHs, TPH and metals tend to have limited mobility and solubility and TPH will degrade over time. The depth to groundwater is 70 feet. Cd and Pb were detected in groundwater from boring 51E-SB04.	N
L5-N-3	—	RTG	52E-SB07 52E-SB12	—	—	—	—	—	ClO4 Cd, Pb	6	70	NI	Residential	No	The RTG was ranked low for ClO4 at 52E-SB07. The RTG was ranked low for metals and moderate for ClO4 at 52E-SB12; however, the CLO4 concentration was bounded below the PGW SSL at 5 feet and, therefore, this RA was not recommended for retention. ClO4 was detected at 1 foot bgs at sampling locations 52E-SB07 (77 µg/kg) and 52E-SB12 (65 µg/kg) at concentrations slightly above the PGW SSL (60 µg/kg). ClO4 was not detected at sampling location 52E-SB07 at 5- and 11 feet bgs and was below the PGW SSL at sampling location 52E-SB12 at 5 feet bgs. ClO4 was detected in groundwater beneath this area; however, concentrations are higher in areas that are upgradient of these locations. Cd and Pb were ranked as low and negligible RTGs, respectively, at sampling location 52E-SB12. Cd (4 mg/kg) and Pb (39 mg/kg) exceeded their PGW SSLs (1.3 mg/kg and 23 mg/kg, respectively) in the 1-foot bgs sample, but did not exceed the PGW SSLs in the 5-foot bgs samples. The Cd and Pb detections in the 1-foot bgs sample at sampling location 52E-SB12 were considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II). The depth to groundwater is 70 feet. Cd and Pb were detected in groundwater from boring 51E-SB04.	N
L5-N-4	—	RTG	52E-SB18	—	—	—	—	—	B(a)A, B(a)P, B(b,k)F, D(a,h)A, I(1,2,3-cd)P, TPH-D, TPH-Mo, Cd, Pb	6	65	NI	Residential	No	The RTG was ranked as low or moderate and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. B(a)A, B(a)P, B(b,k)F, D(a,h)A, I(1,2,3-cd)P and TPH-Mo were ranked as moderate RTGs and Cd, Pb, and TPH-D were ranked as low RTGs. B(a)A (88 µg/kg), B(a)P (130 µg/kg), B(b,k)F (350 µg/kg), D(a,h)A (14 µg/kg), I(1,2,3-cd)P (57 µg/kg) exceeded their PGW SSLs (29 µg/kg, 2.9 µg/kg, 29 µg/kg, 2.9 µg/kg, and 29 µg/kg, respectively) only in the 0.5-foot bgs sample. TPH-D (180 mg/kg) and TPH-Mo (550 mg/kg) exceeded their PGW SSLs (100 mg/kg and 500 mg/kg, respectively) only in the 0.5-foot bgs sample and were below their PGW SSLs in the 5- and 11-foot bgs samples. TPH has limited mobility and solubility and will naturally degrade. Cd (4.8 mg/kg) and Pb (170 mg/kg) exceeded their PGW SSLs (1.2 mg/kg and 23 mg/kg, respectively) only in 0.5-foot bgs sample and were below their PGW SSLs in the 5- and 11-foot bgs samples. The Cd detection at 0.5-foot bgs was considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II).	N
L5-N-5	—	Ecological	51E-SB02	—	—	—	Cd	15.6 (M)	—	—	70	NI	Residential	No	Cd was the only COPEC collected from Facility areas, with maximum concentration of 5.61 mg/kg, that was > 10x ESL, in the 1-foot bgs sample at sampling location 51E-SB02, with an HQ of 15.6, for potenital mammalian wildlife risk. Cd exceedance was very isolated, with no other Cd sample results at Line 5 North being > 10x the ESL, except for 52E-SNS01 at a depth of 0.5 ft bgs (4.8 mg/kg). Background Xero BTV for Cd was 1.2 mg/kg.	N

Notes:
1 - See Table 1-12 for a list of acronyms
2 - References for these columns can be found in Table 1-13
3 - Green-hatched areas shown on Figure 1-32 were identified by the risk assessors in Section 9 of the HHERA as the only areas requiring mitigation for ecological risks
4 - RTG Score Ranking: 0-2 Negligible, 3-4 Low, 5-6 Moderate, >6 High
5 - Shallow soil samples are defined as samples collected at depths less than 5 feet bgs
6 - '—' means "not applicable"

Table 1-8
Summary of Soil Risks and Rationale for Remedial Action - Buffalo Creek and West Lakes
Aerojet - Boundary Operable Unit Feasibility Study

Remedial Area Number	Colocated Remedial Areas	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2,3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained, Not Retained or Remediation Completed
Buffalo Creek																
BC-R-1	BC-N-1 BC-N-2 BC-N-3 BC-N-4 BC-N-5	Ecological	59E-SD02 BC-SD01 BC-SD02 BC-SD03 WL-SD11 WL-SD14	—	—	—	A-1254, Pb, Hg, Ag, Zn	6078 (A)	—	—	49-63	VI	Open Space Drainage	No	This Remediation Area was selected for further action in the SLERA. **At sample location WL-SD11**, Ag (10 mg/kg) was the highest ecological risk (>10 times the benthic macroinvertebrate receptor ESL) in the 0.25 foot sample, and was still elevated (10 mg/kg) in the 1.5-foot sample; deeper samples for metals were not analyzed. **At sample WL-SD14**, Ag (22.3J mg/kg) was the highest ecological risk (>10 times benthic macroinvertebrate receptor ESL) in the 0.25-foot sample; deeper samples for metals were not analyzed. **At sample location 59E-SD02**, A-1254 was retained as a COPEC at 0.25 and 1 foot bgs. Hg (0.31 mg/kg) was the highest ecological risk in the 0.25-foot sample, but was not detected above the BTV (0.13 mg/kg) in the 1 -foot sample. **At sample location BC-SD01**, A-1254, Cd, Cr, Pb, Ni, Ag, and Zn were retained as COPECs at 0.25 foot bgs; however, Ni (34.9 mg/kg) was below the BTV (140 mg/kg). Ag was the highest ecological risk in the 0.25-foot sample; however, deeper samples for metals were not analyzed. **At sample location BC-SD02**, A-1254, Pb, and Ag were retained as COPECs at 0.25 foot bgs. A-1254 was the highest ecological risk (>10 times avian receptor ESL) in the 0.25-foot sample; however, deeper samples were not analyzed. **At sample location BC-SD03**, Ni, Ag, and Zn were retained as COPECs; however, the Ni concentration (33.3 mg/kg) was below the BTV (140 mg/kg). Of these compounds, Ag is the highest ecological risk (>10 times benthic macroinvertebrate receptor ESL) at 0.25 foot. The area will be excavated to a depth of 2.5 feet bgs, 1 foot below the deepest sample exceeding ecological risk levels. The lateral and vertical extent of COPECs will be assessed during excavation.	R
BC-R-2	BC-N-8 BC-N-9	Ecological	28E-SNS01 59E-SD03 59E-SD04 WL-SD09	—	—	—	A-1254, Cr, Pb, Hg, Ni, Ag, Zn	3529 (A)	—	—	46-50	MI	Open Space Drainage	No	This Remediation Area was selected for further action in the SLERA. **At sample location WL-SD09,** Ag (35 mg/kg) was retained as a COPEC in the 0.25-foot sample. **At sample location 59E-SD03**, A-1254 (21J µg/kg), Cr 90.5J mg/kg), Pb (45.5 mg/kg), Ni (50.5 mg/kg), Ag (6.1J mg/kg), and Zn (196 mg/kg) were retained as COPECs at 0.25 foot bgs; however, Cr and Ni concentrations were below their BTVs (118 mg/kg and 140 mg/kg, respectively). No deeper samples were collected at this location; however a 1-foot bgs sample was collected at nearby sample 59E-SB05. **At sample location 28E-SNS01**, Hg (0.18 mg/kg) and Ag (17 mg/kg) were retained as COPECs in the 0.25 foot bgs sample. **At sample location 59E-SD04**, A-1254 (2J µg/kg), Ni (51.1 mg/kg), Ag 13.8J mg/kg), and Zn (187 mg/kg) were retained as COPECs; however, the Ni concentration was below the BTV (140 mg/kg). The area will be excavated to a depth of 2 feet bgs, 1 foot below the deepest sample exceeding ecological risk levels. The lateral and vertical extent of COPECs will be assessed during excavation.	R
BC-C-1	—	Ecological	WL-SD02 WL-SD16 WL-SD13 WL-SD12	—	—	—	A-1254, Cr, Cu, Hg, Mn, Ni, Ag, Zn	>10 (B)	—	—	63-78	VI	Open Space Drainage	No	This Remediation Area was selected for further action in the SLERA. **At sample location WL-SD16**, Ag, Cr, Ni, and Zn were retained as COPECs; however, the Cr (106J mg/kg) and Ni (36.9 mg/kg) concentrations were below their BTVs (118 mg/kg and 140 mg/kg, respectively). Ag was the highest ecological risk (>10 times benthic macroinvertebrate receptor ESL) in the 0.25-foot sample; deeper samples for metals were not analyzed. **At sample location WL-SD02**, A-1254, Cr, Cu, Hg, Ni, Ag and Zn were retained as COPECs; however, the Cu (75 mg/kg) and Ni (43 mg/kg) concentrations were below their BTVs (76 mg/kg and 140 mg/kg, respectively). Ag was the highest ecological risk (>10 times benthic macroinvertebrate receptor ESL) in the 0.25-foot bgs sample and was still elevated (24 mg/kg) in the 1.5-foot sample; deeper samples for metals were not analyzed. **At sample location WL-SD13**, Cr, Cu, Ni, and Ag were retained as COPECs; however, the Ni concentration (55 mg/kg) was below the BTV (140 mg/kg). Cr (1,200 mg/kg) was the highest ecological risk (>10 times benthic macroinvertebrate receptor ESL) in the 0.25-foot bgs sample, but was much lower (40 mg/kg) in the 1.5-foot bgs sample; deeper samples for metals were not analyzed. **At sample location WL-SD12**, Cr, Cu, Mn, Ni, and Ag were retained as COPECs. Ag was the highest ecological risk (>10 times benthic macroinvertebrate receptor ESL) in the 1.5-foot bgs sample and was also elevated (17 mg/kg) in the 0.25-foot bgs sample; deeper samples for metals were not analyzed. This area was excavated during 2010 as part of the "Removal Action Proposal – Buffalo Creek Vegetation and Sediment Near the ARGET Discharge, Aerojet Superfund Site, Sacramento County, California" dated August 16, 2010. USEPA approved this proposal in a letter dated September 29, 2010.	C
BC-N-1	BC-R-1 BC-N-10	RTG	59E-SD01	—	—	—	—	—	A-1254	3	45	MI	Mixed Use	No	The RTG contaminant was a low mobility/solubility compound (A-1254), ranked as a low RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. A-1254 (73 µg/kg) exceeded the PGW SSL (34 µg/kg) at 0.2 foot bgs and was not detected in the 1.5- or 5-foot bgs samples.	N
BC-N-2	BC-R-1 BC-N-3	RTG	BC-SD01	—	—	—	—	—	A-1254 Cd, Pb	6	49	VI	Open Space Drainage	No	The RTG contaminants were low mobility/solubility compounds (PCBs and metals) and ranked as a moderate RTG; therefore, this RA was not recommended for retention. A-1254 (740 µg/kg), Cd (27.9 mg/kg), and Pb (72.1 mg/kg) exceeded their PGW SSLs (34 µg/kg, 102 mg/kg, and 23 mg/kg, respectively) at 0.25 foot bgs and no deeper samples were collected.	N
BC-N-3	BC-R-1 BC-N-2	HH	BC-SD01	A-1254	8E-6	8.6E-1 (RC)	—	—	—	—	—	VI	Open Space Drainage	No	The HH risk was just above 1E-6 and HI>1; therefore, this RA was not recommended for retention. A-1254 exceeded the resident ILCR for the resident child (8E-6) and commercial worker receptors (2.5E-6) at 0.25 foot bgs. No deeper samples were collected.	N
BC-N-4	BC-R-1 BC-N-5	RTG	BC-SD02	—	—	—	—	—	A-1254 Pb	3	45	VI	Open Space Drainage	No	The RTG contaminants were low mobility/solubility compounds (A-1254 and Pb) and ranked as a low RTG; therefore, this RA was not recommended for retention. A-1254 (1,100 µg/kg) and Pb (29.9 mg/kg) exceeded their PGW SSLs (34 µg/kg, and 23 mg/kg, respectively) at 0.25 foot bgs and no deeper samples were collected.	N
BC-N-5	BC-R-1 BC-N-4	HH	BC-SD02	A-1254	1E-5	1.0E+0 (RC)	—	—	—	—	—	VI	Open Space Drainage	No	The HH risk was just above 1E-6 and HI=1; therefore, this RA was not recommended for retention. A-1254 exceeded the resident ILCR for the resident child (1.2E-5) and commercial worker receptors (3.7E-6) at 0.25 foot bgs. No single compound exceeded the HI; however, the additive risk for A-1254 and Ag was 1.0E+0. No deeper samples were collected. This area will be excavated to 2.5 feet bgs in BC-R-1	N
BC-N-6	BC-R-1 BC-N-7	RTG	59E--SD02	—	—	—	—	—	A-1254 Pb	4	50	VI	Open Space Drainage	No	The RTG contaminants were low mobility/solubility compounds (A-1254 and Pb), ranked as a low RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. A-1254 (91 µg/kg) and Pb (25 mg/kg) exceeded their PGW SSLs (34 µg/kg, and 23 mg/kg, respectively) at 0.25 foot bgs, but did not exceed at 1.5 feet bgs.	N

Table 1-8
Summary of Soil Risks and Rationale for Remedial Action - Buffalo Creek and West Lakes
Aerojet - Boundary Operable Unit Feasibility Study

Remedial Area Number	Colocated Remedial Areas	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2,3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained, Not Retained or Remediation Completed
BC-N-7	BC-R-1 BC-N-6	HH	59E--SD02	Mn	1E-6	4.0E+0 (CW)	—	—	—	—	—	—	Open Space Drainage	No	The HH risk was below 1E-6; however, the HI>1. The sample was collected in a drainage ditch that will remain in use for this purpose; therefore, this RA was not recommended for retention. Mn exceeded the HI (4.0E+0 and 3.7E+0) for the construction worker receptor at 0.25 and 1.5 feet bgs. No deeper samples were collected.	N
BC-N-8	BC-R-2 BC-N-9	RTG	59E-SD03	—	—	—	—	—	A-1254 Pb	6	47	VI	Open Space Drainage	No	The RTG contaminants were low mobility/solubility compounds (A-1254 and Pb) and ranked as a low to moderate RTG; therefore, this RA was not recommended for retention. A-1254 (210 µg/kg) and Pb (45.5 mg/kg) exceeded their PGW SSLs (34 µg/kg, and 23 mg/kg, respectively) at 0.25 foot bgs and no deeper samples were collected.	N
BC-N-9	BC-R-2 BC-N-8	HH	59E-SD03	A-1254	2E-6	2.0E-1 (RC)	—	—	—	—	—	—	Open Space Drainage	No	The HH risk was just above 1E-6 and HI<1; therefore, this RA was not recommended for retention. A-1254 exceeded the resident ILCR for the resident child (2.4E-6) a at 0.25 foot bgs. No deeper samples were collected. The HH risk for this RA will be addressed while addressing the ecological risk in BC-R-2.	N
BC-N-10	BC-R-1 BC-N-1	HH	59E-SD01	Mn	0.0000009	1.1E+1 (CW)	—	—	—	—	45	VI	Mixed Use	No	Mn (200 mg/kg, and 1,200 mg/kg) exceeded the construction worker HHSL in the 1.5- and 5-foot bgs samples, respectively. The BTV for Mn is 1,500 mg/kg. The area will be excavated to a depth of 1 foot bgs to address the ecological risk as part of BC-R-3.	R
West Lakes																
WL-R-1	—	RTG	WL-SB01	—	—	—	—	—	ClO4	4	73	MI	Open Space	No	ClO4 (9,000 µg/kg) exceeded the PGW SSL (60 µg/kg) in the 5-foot bgs sample and was ranked as a low RTG. At a minimum, the area will be excavated to a depth of 6 feet bgs, 1 foot below the deepest risk exceedence. The lateral and vertical extent of ClO4 will be assessed during	R
WL-N-1	—	RTG	WL-SD07	—	—	—	—	—	A-1260	4	63	VI	Open Space	No	The RTG contaminant was a low mobility/solubility compound (A-1260), ranked as a low RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. A-1260 was a low RTG in the 0.5-foot bgs sample, but was not detected in the 1.5-foot bgs sample. A-1260 has low solubility and mobility.	N
WL-N-2	—	RTG	WL-SD08	—	—	—	—	—	B(a)P, B(b&k)F	4	63	VI	Open Space	No	The RTG contaminants were low mobility/solubility compounds (B(a)P and B(b&k)F), ranked as a low RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. B(a)P and B(b&k)F were low RTG in the 0.5-foot bgs sample, but were not detected in the 1.5-foot bgs sample. PAHs have low solubility and mobility.	N
WL-N-3	—	RTG	WL-SD04	—	—	—	—	—	A-1260	4	63	VI	Open Space	No	The RTG contaminant was a low mobility/solubility compound (A-1260), ranked as a low RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. A-1260 (37J µg/kg) exceeded the PGW SSL (34 µg/kg) in the 0.5-foot sample, but not in the 1.5-foot sample) and has low solubility and mobility.	N
WL-N-4	—	RTG	WL-SD06	—	—	—	—	—	A-1260	6	63	VI	Open Space	No	The RTG contaminant was a low mobility/solubility compound (A-1260), ranked as a moderate RTG, and only detected in one sample at an estimated concentration (38Jug/Kg) just above teh PGW SSL (34ug/Kg); therefore, this RA was not recommended for retention.	N

Notes:
1 - See Table 1-12 for a list of acronyms
2 - References for these columns can be found in Table 1-13
3 - Green-hatched areas shown on Figure 1-33 were identified by the risk assessors in Section 9 of the HHERA as the only areas requiring mitigation for ecological risks
4 - RTG Score Ranking: 0-2 Negligible, 3-4 Low, 5-6 Moderate, >6 High
5 - Shallow soil samples are defined as samples collected at depths less than 5 feet bgs
6 - "—" means "not applicable"

Table 1-9
Summary of Soil Risks and Rationale for Remedial Action - Magazine Area, Open Space 3 and Open Space 4 Areas
Aerojet - Boundary Operable Unit Feasibility Study

Remedial Area Number	Colocated Remedial Areas	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained or Not Retained
MA-N-1	—	RTG	A48-RCO8-SB01	—	—	—	—	—	Tl	6	75	VI	Not Currently Planned	Adjacent to building, excavation may impact structure	The RTG contaminant was a low mobility/solubility compound (Tl), ranked as moderate, and suspected to be naturally occurring; therefore, this RA was not recommended for retention. The maximum concentration (4.5 mg/kg) was detected at 11 feet bgs, but Tl concentrations in the 2- and 5.5-foot bgs samples did not exceed the PGW SSL (2.5 mg/kg). Detected Tl concentrations were " outside the range of statistical background, but suspected to be naturally occurring." No data were available to assess if the Tl was present in groundwater.	N
MA-N-2	—	RTG	A48-ST13-SB01	—	—	—	—	—	ClO4	6	80	VI	Not Currently Planned	No	The RTG was ranked as a moderate and the ClO4 was only detected at significant concentration (330 ug/Kg) in the 6 foot bgs sample. The 11 foot bgs sample contained perchlorate (64 ug/Kg) at the PGW SSL (60 ug/Kg). Therefore, since RTG was moderate and ClO4 was very isolated, this RA was not recommended for retention.	N

Notes:

1 - See Table 1-12 for a list of acronyms
2 - References for these columns can be found in Table 1-13
3 - Green-hatched areas shown on Figure 1-34 were identified by the risk assessors in Section 9 of the HHERA as the only areas requiring mitigation for ecological risks
4 - RTG Score Ranking: 0-2 Negligible, 3-4 Low, 5-6 Moderate, >6 High
5 - "—" means "not applicable"

Table 1-10
Summary of Soil Risks and Rationale for Remedial Action - Chemical Plant 2
Aerojet - Boundary Operable Unit Feasibility Study

Remedial Area Number	Colocated Remedial Areas	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained or Not Retained
CP2-R-1	CP2-R-10 CP2-R11 CP2-N-18 CP2-N-21 CP2-N-22 CP2-N-23	Ecological	59F-SD01 59F-SD05 59F-SB22 59F-SPB02 CP2-08-SNS02 CP2-08-SNS04	—	—	—	Sb, Ni, Se, 4,4-DDD, 4,4-DDE, 4,4-DDT, A-1248, A-1254, d-BHC, Endrin, Prowl, phenol, Ba, B, Cd, Pb, Zn	1581 (A)	—	—	82-85	NI	Not Currently Planned	No	COPECS exceeding their respective screening levels were detected in the 0.25 to 1-foot depth interval. At a minimum, the area will be capped or excavated to 2 feet bgs and the lateral and vertical extent will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of impacts from COPECs will be determined prior to capping. The human health risk from A-1248 (CP2-R-10) and Ba (CP2-R-11) will be tracked as part of the ecological remedy at this RA.	R
CP2-R-2	CP2-R-3 CP2-N-2 CP2-N-24	HH	59F-SB28	A-1254	3E-5	2.5E+0 (RC)	—	—	—	—	80	MI	Not Currently Planned	No	A-1254 exceeded the residential child (2.5E+0) HI in the 1-foot sample at sampling location 59F-SB28. At a minimum, the area will be capped or excavated to 2 feet bgs and the lateral and vertical extent will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of A-1254 impact will be determined prior to capping. Confirmation of remedy for HH will be tracked under CP-R-3.	R
CP2-R-3	CP2-R-2 CP2-R-6 CP2-N-2 CP2-N-3 CP2-N-24	Ecological	59F-SB26 59F-SB27 59F-SB28 59F-SD02	—	—	—	4,4'-DDE, 4,4'-DDT, Endrin, phenanthrene, BEHP, Dieldrin, EA, A-1254, Cr, Cu, Ni	280 (A)	—	—	80-85	NI	Not Currently Planned	No	BEHP, Dieldrin, Endrin, A-1254, Cr, Cu, Ni, and Zn were retained as COPECs in the 1-foot bgs sample at 59F-SB28. COPECS that exceeded their respective screening levels were detected in the 1-foot depth interval at both locations. At a minimum, the area will be capped or excavated to 2 feet bgs and the lateral and vertical extent will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of impacts from COPECs will be determined prior to capping.	R
CP2-R-4	CP2-R-5 CP2-N-25	HH	59F-SD02	A-1248, A-1254	6E-6	5.2E-1 (RC)	—	—	—	—	85	MI	Not Currently Planned	No	A-1248 exceeded HH risk levels at sampling location 59F-SD02. A-1248 exceeded the resident (6E-6) and commercial worker (2E-6) ILCR in the 0.25-foot sample. A-1254 also exceeded HH risk levels at sampling location 59F-SD02. A-1254 exceeded the resident (4E-6 and 5E-6) ILCR in the 1.5- and 5-foot samples. At a minimum, the area will be capped or excavated to 6 feet and the lateral and vertical extent will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of A-1248 impact will be determined prior to capping.	R
CP2-R-5	CP2-R-4 CP2-N-25	HH	59F-SB27	A-1254	4E-6	3.2E-1 (RC)	—	—	—	—	82	MI	Not Currently Planned	No	A-1254 exceeded the resident (4E-6) ILCR in the 1-foot bgs sample at sampling location 59F-SB27. No deeper samples were collected at this location. At a minimum, the area will be capped or excavated to 2 feet and the lateral and vertical extent will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of A-1254 impact will be determined prior to capping. Confirmation of remedy for HH will be tracked under CP2-R-3.	R
CP2-R-6	CP2-R-3 CP2-N-3	HH	59F-SB26	A-1254	2.5E-5	9.9E-1 (RC)	—	—	—	—	85	MI	Not Currently Planned	No	A-1254 exceeded the resident (2E-5) and commercial worker (5E-6) ILCR in the 1-foot bgs sample at sampling location 59F-SB26. No deeper samples were collected at this location. At a minimum, the area will be capped or excavated to 2 feet bgs and the lateral and vertical extent will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of A-1254 impact will be determined prior to capping. Confirmation of remedy for HH will be tracked under CP2-R-3.	R
CP2-R-7	CP2-N-1 CP2-N-30	Ecological	OS1-F3-SD01	—	—	—	A-1254	16 (A)	—	—	75	VI	Not Currently Planned	No	A-1254 was retained as a COPEC at this location. A-1254 (160 µg/kg) exceeded 10x the ESL (10.1 µg/kg) for the avian receptor in the 0.25 foot sample. No deeper samples were collected. This area will be capped or excavated to 1.25 feet bgs and the lateral and vertical extent will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of impacts from Ba will be determined prior to capping. .	R
CP2-R-8	CP2-N-27 CP2-N-28	HH	F(c)-SB04	A-1248	1E-3	1.1E+2 (RC)	—	—	—	—	100	NI	Not Currently Planned	No	A-1248 exceeded the ILCR for resident (1E-3) and commercial worker (4E-4), and the HI for resident child (1.1E+2), adult (1.3 E+1), construction worker (2.8E+1), and commercial worker (1.1E+1) in the 1-foot bgs sample at sampling location F(c)-SB04, but not in the 5-foot bgs sample. At a minimum, the area will be capped or excavated to 2 feet bgs and the lateral and vertical extent will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of impacts from A-1248 will be determined prior to capping.	R
CP2-R-9	CP2-N-18 CP2-N-29	HH	C208-SB02 C208-SB05 C208-SPB01 CP2-08-SB12	A-1248 A-1254	2E-5	1.7E+0 (RC)	—	—	—	—	95-98	NI	Not Currently Planned	No	**At sampling location C208-SB02**, A-1254 exceeded the HI (1.1E+0) and ICLR (1E-5) in the 1-foot bgs sample and exceeds the ICLR (5E-6) in the 3-foot bgs sample, but did not exceed HH risk levels in the 5- and 10-foot bgs samples. **At sampling location C208-SB05**, A-1248 exceeded the HI (1.2E+0) and ICLR (2E-5) in the 1-foot bgs sample and exceeded the ICLR in the 3-foot bgs (7E-6) and 5-foot bgs (3E-6) samples, but did not exceed HH risk levels in the 10-foot bgs sample. **At sampling location C208-SPB01**, A-1254 exceeded the HI (1.6E+0) in the 1-foot bgs sample and exceeded ILCR in the 1-foot bgs (2E-5) and 6-foot bgs (2E-6) samples, but did not exceed the ILCR in the 3- and 10-foot bgs samples. **At sampling location CP2-08-SB12**, A-1248 exceeded the HI (1.7E+0) and ICLR (2E-5) in the 1-foot bgs sample, but did not exceed HH risk levels in the 5-foot bgs sample. The high human health risk contour is based upon a residential scenario. The risk to human health (residential) extends to a depth of 1 foot below ground surface. This area is intended to remain commercial/industrial; therefore, deed restrictions will need to be developed to prevent residential redevelopment and/or specify the requirements for residential redevelopment (excavation to 2 feet bgs or capping).	R
CP2-R-10	CP2-R-1 CP2-N-21 CP2-N-22	HH	59F-SD01	A-1248	2E-4	1.4E+1 (RC)	—	—	—	—	82	MI	Not Currently Planned	No	A-1248 exceeded the HI for RC (1.4E+1) and the ILCR for resident (2.3E-4) risk level in the 0.25-foot bgs sample, but not in the 1.5- or 5-foot bgs samples. This area will be capped or excavated to 2 feet bgs in remedial area CP2-R-1 for ecological risk. The HH risk will be capped or excavated to 1.25 feet bgs and implemented as part of the CP2-R-1 remedy. If excavation is selected as the remedial option, the lateral and vertical extent of contamination will be assessed during excavation for CP2-R-1. Because the sample was collected within a drainage feature, the kriged extent shown on Figure 6-3 will not necessarily be excavated. The additional kriged area was not included in the excavation volume estimate.	R
CP2-R-11	CP2-R-1 CP2-N-18	HH	59F-SPB02	Ba	2E-9	3.4E+0 (CW)	—	—	—	—	85	NI	Not Currently Planned	No	Ba (3.4E+0) exceeds the construction worker HI in the 1-foot sample at sample location 59F-SPB02, but does not exceed in 5- or 10-foot samples. This area will be capped or excavated to 2 feet bgs and implemented as part of the CP2-R-1 remedy and the lateral and vertical extent will be assessed during excavation. If capping is selected as the final remedy, the lateral extent of impacts from BA will be determined prior to capping. If excavation is selected as the remedial option, the lateral and vertical extent of contamination will be assessed during excavation for CP2-R-1. Because the sample was collected within a drainage feature, the kriged extent shown on Figure 6-3 will not necessarily be excavated. The additional kriged area was not included in the excavation volume estimate.	R

Table 1-10
Summary of Soil Risks and Rationale for Remedial Action - Chemical Plant 2
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Remedial Area Number	Colocated Remedial Areas	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained or Not Retained
CP2-N-1	CP2-R-7 CP2-N-30	HH	OS1-F3-SD01	Prowl	2E-6	1.5E-1 (RC)	—	—	—	—	75	VI	Not Currently Planned	No	HH risk was just above 1E-6 and HI<1; therefore, this RA was not recommended for retention. Prowl (2E-6) only slightly exceeded the ILCR risk level (1E-6) at 0.25 foot bgs and has an HI<1.	N
CP2-N-2	CP2-R-2 CP2-R-3 CP2-N-24	RTG	59F-SNS02 59F-SB28	—	—	—	—	—	A-1254, Dieldrin, Cd, Tl	6	81	MI	Not Currently Planned	No	The RTG contaminants were low mobility/solubility compounds (A-1254, Dieldrin, and metals), ranked as a low to moderate RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. A-1254 (2,800 µg/kg) and Dieldrin (5.4 µg/kg) were detected above their PGW SSLs (34 µg/kg and 4.2 µg/kg, respectively) in the 1-foot bgs sample at sampling location 59F-SB28 and were ranked as moderate RTGs. Cd (0.96 mg/kg and 0.8mg/kg) was detected at 0.5 foot and 2.5 feet bgs, respectively, in sampling location 59F-SNS02 at concentrations above the PGW SSL (0.72 mg/kg), and Tl (2.8 mg/kg) was detected above the PGW SSL (2.5 mg/kg) in the 2.5-foot bgs sample at this location. A-1254 and metals generally have low solubility and low mobility, and coupled with the 81-foot depth to water, are not likely to impact groundwater beneath this area.	N
CP2-N-3	CP2-R-3 CP2-R-6	RTG	59F-SB13 59F-SB26 59F-SNS03 59F-SNS04	—	—	—	—	—	A-1254, B(a)A, B(a)P, B(b)F, I(1,2,3-cd)P, Cd, Tl	6	83	NI	Not Currently Planned	No	The RTG contaminants were low mobility/solubility compounds (A-1254, SVOCs and metals), ranked as a low to moderate RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. The compounds A-1254 (1,100 µg/kg), B(a)A (170 µg/kg), B(a)P (150J µg/kg), B(b)F (230J µg/kg), and I(1,2,3-cd)P (100 µg/kg) were detected at 1-foot bgs in sampling location 59F-SB26 above their PGW SSLs (34 µg/kg, 29 µg/kg, 2.9 µg/kg, 29 µg/kg, and 29 µg/kg, respectively) and were ranked as moderate RTGs. Cd (0.84 mg/kg) exceeded its PGW SSL (0.72 mg/kg) at 5 feet bgs in sampling location 59F-SB13. B(a)P (6.8 µg/kg) at 0.5 foot bgs, Cd (0.83 mg/kg), and Tl (3.2 mg/kg) at 2.5 feet bgs exceeded their PGW SSLs (2.9 µg/kg, 0.72 mg/kg and 2.5 mg/kg, respectively) at sampling location 59F-SNS03; Tl (3.2 mg/kg) also exceeded the PGW SSL at 0.5 foot bgs at sampling location 59F-SNS04. B(a)P, Cd, and Tl at sampling locations 59F-SNS03 and 59F-SNS04 were all ranked as low RTGs. Cd and Tl metals were considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II). B(a)P and the metals generally have low solubility and mobility.	N
CP2-N-4	—	RTG	59F-SB11 59F-SB12 59F-SB15	—	—	—	—	—	B(a)P, B(b&k)F, CL04, Tl	3	87	NI	Not Currently Planned	No	The RTG contaminants were low mobility/solubility compounds (A-1254, ClO4 and metals), ranked as a low to moderate RTG, and contamination was only in shallow5 soil samples; therefore, this RA was not recommended for retention. B(a)P, B(b&k)F, ClO4, and Tl were low RTGs. The maximum ClO4 concentration (95 µg/kg) above the PGW SSL (60 µg/kg) was detected at 5 feet bgs in sampling location 59F-SB11, but ClO4 was not detected at 11- and 15-feet bgs. ClO4 (11 µg/kg) also was below the PGW SSL in the 1-foot bgs sample at this location. B(a)P and B(b&k)F were only detected above their respective PGW SSLs in the 1-foot bgs sample at sampling location 59F-SB-12 and the 5-foot bgs sample at sampling location 59F-SB15, but were not detected in the 11- and 15-foot bgs samples at these locations. Tl was detected above its PGW SSL in the 1- and 5-foot samples at 59F-SB12 and in the 1-foot sample at sampling location 59F-SB11, but was below the PGW SSL in the 11- and 15-foot samples at these locations. Tl was considered to	N
CP2-N-5	—	RTG	CP2-07-SB03 CP2-07-SB11	—	—	—	—	—	Tl	6	104	NI	Not Currently Planned	No	The RTG contaminants were low mobility/solubility compounds (metals), ranked as a low to moderate RTG, and contamination was only in shallow5 soil samples; therefore, this RA was not recommended for retention. Tl was a low RTG. Tl was detected above its PGW SSL only in the 55-foot bgs sample at sampling location CP2-07-SB03 and in the 1- and 5-foot samples at sampling location CP2-07-SB11, but was below the PGW SSL in the 11-foot sample at both of these locations. Tl was considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW	N
CP2-N-6	—	RTG	OS1-F2-SNS02 OS1-F2-SNS03	—	—	—	—	—	Dieldrin, HE, B(a)P	6	92	NI	Not Currently Planned	No	The RTG contaminants were low mobility/solubility compounds (B(a)P, pesticides and metals), ranked as a low to moderate RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. Heptachlor epoxide was ranked as a moderate RTG, while Dieldrin and B(a)P were ranked as low RTGs. HE (28 µg/kg) was detected above its PGW SSL (6 µg/kg) in the 0.5-foot bgs sample at sampling location OS1-F2-SNS02. Dieldrin (8.3 µg/kg and 5.1 µg/kg) was detected above the PGW SSL (4.2 µg/kg) in the 0.5-foot samples collected from sampling locations OS1-F2-SNS02 and OS1-F2-SNS03, respectively. B(a)P (12 µg/kg) was detected above the PGW SSL (2.9 µg/kg) in the 0.5-foot bgs sample at sampling location OS1-F2-SNS03. None of these compounds were detected above their respective PGW SSL in samples collected at 2.5 feet bgs. These compounds tend to have low solubility and mobility and the depth to groundwater is 92 feet bgs at this location.	N
CP2-N-7	—	RTG	OS1-F2-SB03	—	—	—	—	—	A-1254	6	93	MI	Not Currently Planned	No	The RTG contaminant was a low mobility/solubility compound (A-1254) and ranked as moderate; therefore, this RA was not recommended for retention. A-1254 (61 µg/kg) was detected above its PGW SSL (34 µg/kg) in the 1-foot bgs sample at sampling location OS1-F2-SB03; however, no deeper samples were collected. A-1254 tends to have low solubility and mobility and the depth to groundwater is 93 feet bgs at this location.	N
CP2-N-8	—	RTG	OS1-F2-SB04	—	—	—	—	—	A-1254	6	90	MI	Not Currently Planned	No	The RTG contaminant was a low mobility/solubility compound (A-1254) and ranked as a moderate RTG; therefore, this RA was not recommended for retention. A-1254 (93 µg/kg) was detected above its PGW SSL (34 µg/kg) in the 1-foot bgs sample at sampling location OS1-F2-SB04; however, no deeper samples were collected. A-1254 tends to have low solubility and mobility and the depth to groundwater is 90 feet bgs at this location.	N
CP2-N-9	—	RTG	CP2-08-SB15	—	—	—	—	—	Tl	3	98	MI	Not Currently Planned	No	The RTG contaminant was a low mobility/solubility compound (Tl) and ranked as a low RTG; therefore, this RA was not recommended for retention. Tl was ranked as a low RTG. Tl (2.8 mg/kg) was detected above its PGW SSL (2.5 mg/kg) in the 11-foot bgs sample at sampling location CP2-08-SB15; however, no deeper samples were collected. Tl was considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II) and the depth to groundwater is 90 feet bgs at this location.	N
CP2-N-10	—	RTG	62F-SB07 62F-SNS01	—	—	—	—	—	B(a)P, B(b&k)F	4	100	MI	Not Currently Planned	Exterior fence bisects the two sample locations	The RTG contaminants were low mobility/solubility compounds (B(a)P and B(b&k)F), ranked as a low RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. B(a)P (7 µg/kg and 8.1 µg/kg) was detected above its PGW SSL (2.9 µg/kg) in the 0.5-foot bgs sample at sampling location 62F-SNS01 and the 5-foot bgs sample at sampling location 62F-SB07, respectively. No deeper samples were collected at sampling location 62F-SNS01, but these PAHs were not detected in samples collected from sampling location 62F-SB07 at 10-, 20-, 30- and 40-feet bgs. PAHs tend to have low solubility and mobility and the depth to groundwater is 100 feet bgs at this location.	N
CP2-N-11	—	RTG	62F-SNS02	—	—	—	—	—	B(b&k)F	6	100	NI	Not Currently Planned	Adjacent to railroad tracks	The RTG contaminant was a low mobility/solubility compound (B(b&k)F) and ranked as a moderate RTG; therefore, this RA was not recommended for retention. B(b&k)F (39 µg/kg) was detected above its PGW SSL (29 µg/kg) in the 0.5-foot bgs sample at sampling location 62F-SNS02; however, no deeper samples were collected. PAHs tend to have low solubility and mobility and the depth to groundwater is 100 feet bgs at this location.	N
CP2-N-12	—	RTG	61F-SNS02	—	—	—	—	—	Cd	6	105	VI	Not Currently Planned	No	The RTG contaminant was a low mobility/solubility compound (Cd) and ranked as a low RTG; therefore, this RA was not recommended for retention. Cd (1 mg/kg) was detected above its PGW SSL (0.72 mg/kg) in the 1-foot bgs sample at sampling location 61F-SNS02; however, no deeper samples were collected. Cd was considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II) and the depth to groundwater is 105 feet bgs at this location.	N

Table 1-10
Summary of Soil Risks and Rationale for Remedial Action - Chemical Plant 2
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Remedial Area Number	Colocated Remedial Areas	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained or Not Retained
CP2-N-13	—	RTG	62F-SB06 62F-SB10	—	—	—	—	—	B(a)P, HE, As	3	100	NI	Not Currently Planned	Adjacent to railroad tracks	The RTG contaminants were low mobility/solubility compounds (B(a)P, HE, and As), ranked as a low RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. B(a)P (7.5 µg/kg) and HE (33 µg/kg) were detected above their PGW SSLs (2.9 µg/kg and 6 µg/kg, respectively) in the 2-foot bgs sample at sampling location 62F-SB06, but were not detected in the 5.5- or 11-foot samples. As (35 mg/kg) was detected above its PGW SSL (11 mg/kg) in the 1-foot bgs sample at sampling location 62F-SB10, but not in the 5- or 11-foot bgs samples. PAHs, pesticides, and metals tend to have low solubility and mobility and the depth to groundwater is 100 feet bgs at this location.	N
CP2-N-14	—	RTG	61F-SB04	—	—	—	—	—	HE	6	108	VI	Not Currently Planned	No	The RTG contaminant was a low mobility/solubility compound (HE) and ranked as a moderate RTG; therefore, this RA was not recommended for retention. HE (41 µg/kg) was detected above its PGW SSL (6 µg/kg) in the 1-foot bgs sample at sampling location 61F-SB04; however, no deeper samples were collected. Pesticides tend to have low solubility and mobility and the depth to groundwater is 108 feet bgs at this location.	N
CP2-N-15	CP2-N-3/7	RTG	60F-SNS01	—	—	—	—	—	B(a)P, B(b&k)F	4	108	NI	Not Currently Planned	No	The RTG contaminants were low mobility/solubility compounds (B(a)P and B(b&k)F) and ranked as a low RTG; therefore, this RA was not recommended for retention. B(a)P (14 µg/kg) and B(b&k)F (58 µg/kg) were detected above their PGW SSLs (2.9 µg/kg and 29 µg/kg, respectively) in the 0.5-foot bgs sample at sampling location 60F-SNS01; however, no deeper samples were collected. PAHs tend to have low solubility and mobility, and the depth to groundwater is 108 feet bgs at this location.	N
CP2-N-16	—	RTG	CP2-RE05-SB04	—	—	—	—	—	Cd	7	110	NI	Not Currently Planned	No	The RTG contaminant was a low mobility/solubility compound (Cd), ranked as a moderate RTG, and suspected to be naturally occurring; therefore, this RA was not recommended for retention. Cd (1 mg/kg) was detected above its PGW SSL (0.72 mg/kg) in the 11-foot sample at sampling location CP2-RE05-SB04, but not in the 1- or 5-foot bgs samples. No deeper samples were collected. Cd was detected in a nearby grab groundwater sample at a concentration above the PHG. Cd was considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II) and the depth to groundwater is 110 feet at this location.	N
CP2-N-17	—	RTG	F(c)-SB02	—	—	—	—	—	A-1254	6	100	NI	Not Currently Planned	No	The RTG contaminant was a low mobility/solubility compound (A-1254) and ranked as a moderate RTG; therefore, this RA was not recommended for retention. A-1254 (77 µg/kg) was detected above its PGW SSL (34 µg/kg) in the 1-foot bgs sample at sampling location F(c)-SB02; however, no deeper samples were collected. PCBs tend to have low solubility and mobility and the depth to groundwater is 100 feet bgs at this location.	N
CP2-N-18	CP2-R-1 CP2-R-9 CP2-R-11 CP2-N-19 CP2-N-23 CP2-N-29	RTG	F(c)-SNS01 CP2-08-SB10 CP2-08-SB13 F(c)-SNS02 CP2-08-SB12 F(c)-SNS03 CP2-08-SNS01 CP2-08-SNS02 CP2-08-SNS03 CP2-08-SNS04 59F-SB22	—	—	—	—	—	4,4-DDD, 4,4-DDT, A-1248, A-1254, Aldrin B(a)A, B(a)P, B(b&k)F, D(a,h)A, Al, Cd, Tl	6	85-98	NI	Not Currently Planned	No	The RTG contaminants were low mobility/solubility compounds (PCBs, pesticides, SVOCs and metals), ranked as a low to moderate RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. RTGs for all contaminants were ranked as low with the following exceptions: sampling location F(c)-SNS02 where A-1254 (200J µg/kg) was a moderate RTG at 0.5 feet, sampling location F(c)-SNS03 where A-1254 (230 µg/kg), B(a)P (12 µg/kg), and B(b&k)F (30 µg/kg) were moderate RTGs at 0.5 feet, sampling location CP2-08-SNS03 where A-1254 (75 µg/kg and 45 µg/kg) was a moderate RTG at 0.5 and 2.5 feet bgs, respectively. Pesticides, PAHs, PCBs, and metals generally have low solubility and mobility and the depth to groundwater is 85 to 98 feet bgs at this location.	N
CP2-N-19	CP2-N-18	HH	CP2-08-SNS02	—	2E-6	1.30E-01	—	—	—	—	90	NI	Not Currently Planned	No	The cumulative ILCR (2E-6) was just above 1E-6 and had an HI<1; therefore, this RA was not recommended for retention. A-1254 met the ILCR level (1E-6), but did not exceed it. The total resident ICLR was 2E-6 at 0.5 feet bgs, but did not exceed at 2.5 feet at sampling location CP2-08-SNS02.	N
CP2-N-20	—	RTG	59F-SNS01	—	—	—	—	—	B(a)P, B(b&k)F, As, Cd	6	87	NI	Not Currently Planned	No	The RTG contaminants were low mobility/solubility compounds (SVOCs and metals), ranked as a low to moderate RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. The maximum As concentration (17 mg/kg) above the PGW SSL (11 mg/kg) was detected at 2.5-feet bgs, but did not exceed the PGW SSL at 1 foot bgs. B(a)P, B(b&k)F, and Cd exceeded their respective PGW SSLs at 0.5 feet bgs, but did not exceed at 2.5 feet bgs.	N
CP2-N-21	CP2-R-1 CP2-R-10 CP2-N-22	RTG	59F-SD01	—	—	—	—	—	A-1248, Al, Pb	4	82	MI	Not Currently Planned	No	The RTG contaminants were low mobility/solubility compounds (A-1248 and metals), ranked as a low RTG, and contamination was only in shallow[5] soil samples; therefore, this RA was not recommended for retention. A-1248, Al, and Pb were low RTGs. A-1248 (16,000J µg/kg) and Pb (140 mg/kg) exceeded their PGW SSLs (34 µg/kg and 23 mg/kg, respectively) only in the 0.25-foot sample. Al (52,000 mg/kg) exceeded its PGW SSL (43,000 mg/kg) in the 1.5-foot bgs sample, but not in the 0.25- or 5-foot bgs samples, and was considered to be "outside range of statistical background but suspected to be naturally occurring" (see PGW Evaluation in HHERA Volume II). No data was available to assess if A-1248, Pb, or Al were present in groundwater.	N
CP2-N-22	CP2-R-1 CP2-R-10 CP2-N-21	HH	59F-SD01	A-1248	5E-5	—	—	—	—	—	82	MI	Not Currently Planned	No	The HH risk for the low risk contour was based on A-1248 exceeding ILCR for the construction worker (5E-6) and commercial worker (5E-5) receptors at 0.25 feet bgs, but not at 1.5 feet bgs. The high HH risk will be addressed in RA CP2-R-1; therefore, the low risk RA was not recommended for retention. HI for resident child (1.4E+1) and the ILCR for resident (2.3E-4) is discussed in RA CP2-R-10.	
CP2-N-23	CP2-R-1 CP2-N-18	HH	CP2-08-SNS04	A-1254	9E-6	4.6E-1 (RC)	—	—	—	—	85	NI	Not Currently Planned	No	HH risk was just above 1E-6 and HI<1; therefore, this RA was not recommended for retention. A-1254 exceeded the resident (9E-6) and commercial worker (3E-6) ILCR levels in the 0.5 foot bgs sample, but not in the 2.5-foot bgs sample at sample location CP2-08-SNS04. This area was identified for further action in the SLERA and the ecological risks will be addressed in CP2-R-1.	N
CP2-N-24	CP2-R-2 CP2-R-3 CP2-N-2	HH	59F-SB28	A-1254	3E-5	—	—	—	—	—	80	MI	Not Currently Planned	No	HH risk was just above 1E-6 and HI<1; therefore, this RA was not recommended for retention. A-1254 exceeded the ILCR for residential (3E-5) and commercial worker (9E-6) at 1 foot bgs, no deeper samples were collected. As CP2-R-2 will address the source, this area is not recommended for retention.	N

Table 1-10
Summary of Soil Risks and Rationale for Remedial Action - Chemical Plant 2
Aerojet - Boundary Operable Unit Feasibility Study

Remedial Area Number	Colocated Remedial Areas	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained or Not Retained
CP2-N-25	CP2-R-4 CP2-R-5	RTG	59F-SD02	—	—	—	—	—	A-1248, A-1254, Al, As	6	85	MI	Not Currently Planned	No	The RTG contaminants were low mobility/solubility compounds (A-1248, A-1254, Al, and As) and ranked as a low RTG; therefore, this RA was not recommended for retention. At 59F-SD02, A-1248 (540J µg/kg [0.25 foot]), A-1254 (320J µg/kg [1.5 feet] and 440 µg/kg [5 feet]), Al (51,000 mg/kg [0.25 foot] and 64,000 mg/kg (1.5 feet]) and As (15 mg/kg [1.5 feet]) exceeded their respective PGW SLs (34 µg/kg, 34 µg/kg, 43,000 mg/kg and 11 mg/kg, respectively). At 59F-SB27, A-1254 (350 µg/kg) exceeded its PGW SL (34 µg/kg) in the 1-foot sample and no deeper samples were collected at this location.	N
CP2-N-26	CP2-N-31	RTG	61F-SNS01	—	—	—	—	—	B(a)P, B(b&k)F, PCP, Cd	6	110	VI	Not Currently Planned	No	The RTG contaminants were low mobility/solubility compounds (SVOCs and metals) and ranked as a low to moderate RTG; therefore, this RA was not recommended for retention. B(a)P, B(b&k)F, and PCP were each ranked as a moderate RTG, while Cd was ranked as a low RTG. B(a)P (33J µg/kg) B(b&k)F (130J µg/kg), PCP (2,800 µg/kg), and Cd (1.6 mg/kg) were detected above their PGW SSLs (2.9 µg/kg, 29 µg/kg, 400 µg/kg, and 0.72 mg/kg, respectively) in the 0.5-foot bgs sample at sampling location 61F-SNS01, but no deeper samples were collected.	N
CP2-N-27	CP2-R-8 CP2-N-28	RTG	F(c)-SB04	—	—	—	—	—	A-1248	4	100	NI	Not Currently Planned	No	The RTG contaminant was a low mobility/solubility compound (A-1254), ranked as a low RTG, and contamination was only in shallow[5] soil samples. This RA was not recommended for retention. A-1248 (120,000 µg/kg) was detected above the PGW SSL (34 µg/kg) in the 1-foot bgs sample at sampling location F(c)-SB04, but did not exceed the PGW SSL in the 5-foot bgs sample (13 µg/kg) and was not detected in the 11-foot sample at this location.	N
CP2-N-28	CP2-R-8 CP2-N-27	HH	F(c)-SB04	A-1248	4E-5	—	—	—	—	—	100	NI	Not Currently Planned	No	Because this area will be capped or excavated to 2 feet in Remedial Area CP2-R-8 for HH risk, this RA was not recommended for retention for HH to avoid duplication of retained areas. For the low risk contour, A-1248 (4E-5) exceeded the ILCR (1E-6) for a construction worker at a depth of 1 foot bgs, but not at 5 feet bgs.	N
CP2-N-29	CP2-R-9 CP2-N-18	HH	C208-SB02 C208-SB05 C208-SPB01 C208-SPB06 CP2-08-SB12 F(c)-SNS02 F(c)-SNS03	A-1248 A-1254	5E-6	4.20E-01	—	—	—	—	95-98	NI	Not Currently Planned	No	HH risk was just above 1E-6 and HI<1; therefore, this RA was not recommended for retention. At sampling location C208-SPB06, A-1248 (4E-6 and 5E-6) exceeded the ILCR for the resident receptor at 1 foot and 3 feet bgs, and for the commercial worker receptor (2E-6) at 3 feet bgs, but did not exceed the HI. The high HH risk at locations C208-SB02, C208-SB5, C208-SPB01, and CP2-08-SB12 will be addressed in RA CP2-R-9.	N
CP2-N-30	CP2-R-7 CP2-N-1	RTG	OS1-F3-SD01	—	—	—	—	—	A-1254	6	75	VI	Not Currently Planned	No	The RTG contaminant was a low mobility/solubility compound (A-1254) and ranked as a moderate RTG; therefore, this RA was not recommended for retention. A-1254 (160 µg/kg) exceeded its PGW SSL (34 µg/kg) in the 0.25-foot sample. No deeper samples were collected at this location. A-1254 generally has low solubility and low mobility, and coupled with the 75-foot depth to water, is not likely to impact groundwater beneath this area.	N
CP2-N-31	CP2-N-26	HH	61F-SNS01	B(a)P, B(b&k)F, PCP	2E-6	1.7E-1 (CW)	—	—	—	—	110	VI	Not Currently Planned	No	HH risk was just above 1E-6 and HI<1; thereofre, this RA was not recommended for retention. B(a)P, B(b&k)F, and PCP were the main compounds that together caused an ILCR exceedence (2E-6) at sample location 61F-SNS01; however, no single compound's risk exceeds 1E-6. The human health risk contour is based upon a residential scenario. The risk to human health (residential) extends to a depth of 0.5 foot below ground surface. This area is intended to remain commercial/industrial; therefore, deed restrictions will need to be developed to prevent residential redevelopment and/or specify the requirements for residential redevelopment (excavation to 1.5 feet bgs or capping).	N

Notes:
1 - See Table 1-12 for a list of acronyms
2 - References for these columns can be found in Table 1-13
3 - Green-hatched areas shown on Figure 1-35 were identified by the risk assessors in Section 9 of the HHERA as the only areas requiring mitigation for ecological risks
4 - RTG Score Ranking: 0-2 Negligible, 3-4 Low, 5-6 Moderate, >6 High
5 - Shallow soil samples are defined as samples collected at depths less than 5 feet bgs
6 - "—" means "not applicable"

Table 1-11
Summary of Soil Risks and Rationale for Remedial Action - Dredge Pit and Eastern Basin
Aerojet - Boundary Operable Unit Feasibility Study

Remedial Area Number	Colocated Remedial Areas	Risk Addressed	Sample Location	COCs Exceeding HH Risk Levels[2]	Maximum ILCR[2]	Maximum HI[2]	COPECs Exceeding SLERA Risk Levels[2, 3]	Maximum HQ[2]	COCs w/ Potential RTG[2]	Maximum RTG Score[2,4]	Depth to Groundwater[2] (feet, bgs)	Degree of Isolation	Anticipated Future Use	Site Access Issues?	Rationale for Recommending Site to be Retained/Not Retained for Remedial Action	Retained or Not Retained
DPEB-R-1	DPEB-N-1 DPEB-N-2 DPEB-N-3 DPEB-N-4	Ecological	25F-AH01 25F-SB04 25F-SB05 25F-SB06 25F-SB07 25F-SB14 25F-SD01 25F-SPB01 25F-SPB02 25F-SPB03	—	—	—	B, Cd, Hg, Mo, Ni, Tl, Zn, DnBP, Prowl	823529 (A)	—	—	60	VI	Not Currently Planned	No	Hg, Prowl, DnBP, B, Cd, Mo, and Ni were retained as COPECs. Hg was widespread. The Hg screening levels are below the xerothent BTV (0.127 mg/kg); however, concentrations of Hg above the xerothent BTV were detected as deep as 41 feet at location 25F-SB06. Prowl (17,000 mg/kg) exceeded avian (0.865 mg/kg) and mammalian (0.624 mg/kg) ecological screening levels at 1 foot bgs at 25F-SPB03. This remedial area is an excavated depression and will be backfilled to at least 6 feet above grade, the depth of ecological exposure.	R
DPEB-N-1	DPEB-R-1 DPEB-N-2 DPEB-N-3 DPEB-N-4	HH	25F-AH01 25F-SB06 25F-SB07	Hg	7.E-07	1.5E+0 (RC)	—	—	—	—	60	VI	Not Currently Planned	No	The HH risk at this RA will be addressed by the action for ecological risk in DPEB-R-1 above. Hg (1.5E+0) exceeded the HI for resident child in the 1-foot sample at sample location 25F-SB07, but HH risk levels were not exceeded in sample locations 25F-HA01 and 25F-SB06. The likelihood for residential reuse of this area is extremely low. If reused, the area of this sample location will be backfilled, which will remove the exposure pathway.	N
DPEB-N-2	DPEB-R-1 DPEB-N-1 DPEB-N-3 DPEB-N-4	HH	25F-SB07 25F-SPB03	Prowl	2.E-08	7.3E+0 (RC)	—	—	—	—	60	VI	Not Currently Planned	No	The HH risk at this RA will be addressed by the action for ecological risk in DPEB-R-1 above; therefore, this RA is not recommended for retention. Prowl exceeded the HI for resident child (7.3E+0) and construction worker (2.0E+0) in the 1 foot sample only. The likelihood for residential reuse of this area is extremely low. If reused, the area of this sample location will be backfilled, which will remove the exposure pathway.	N
DPEB-N-3	DPEB-R-1 DPEB-N-1 DPEB-N-2 DPEB-N-4	HH	25F-SPB02	Hg	—	2.2E+0 (RC)	—	—	—	—	60	VI	Not Currently Planned	No	The HH risk at this RA will be addressed by the action for ecological risk in DPEB-R-1 above; therefore, this RA is not recommended for retention. Hg (1.5E+0 and 2.2E+0) exceeded the HI for a resident child in the 1- and 5-foot samples, respectively. The likelihood for residential reuse of this area is extremely low. If reused, the area of this sample location will be backfilled, which will remove the exposure pathway.	N
DPEB-N-4	DPEB-R-1 DPEB-N-1 DPEB-N-2 DPEB-N-3	RTG	25F-AH01 25F-SB06 25F-SB07	—	—	—	—	—	B(a)P B(b&k)F Hg, Tl	6	60	VI	Not Currently Planned	No	The RTG contaminants were low mobility/solubility compounds (SVOCs and metals), and were all ranked as low RTG; therefore, this RA is not recommended for retention. Hg, Tl, B(a)P, and B(b&k)F are low RTGs. Hg and Tl were detected above their respective PGW SSLs only in sample location 25F-SB07. Hg was detected at 1 foot and 11 feet bgs and Tl was detected at 5 and 41 feet bgs. Hg was bounded at depth and Tl was suspected to be "naturally occurring based on its distribution in the subsurface" (See PGW Evaluation in HHERA, Volume II). B(a)P and/or B(b&k)F were detected at concentrations exceeding the PGW SSL in samples collected from 25F-AH01 and 25F-SB06 to depths of 5 feet bgs, but were not detected in samples collected below 5 feet.	N

Notes:

1 - See Table 1-12 for a list of acronyms

2 - References for these columns can be found in Table 1-13

3 - Green-hatched areas shown on Figure 1-36 were identified by the risk assessors in Section 9 of the HHERA as the only areas requiring mitigation for ecological risks

4 - RTG Score Ranking: 0-2 Negligible, 3-4 Low, 5-6 Moderate, >6 High

5 - "—" means "not applicable"