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ADDENDUM
TECHNICAL MEMORANDUM

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FROM: Brian Mulhearn, E/A&H

DATE: December 11, 1996

RE: ***Addendum to the September 18, 1996 Assemblies A through D Background Reference Concentrations Technical Memorandum***

The purpose of this addendum is to update the subsurface nickel background reference concentration (RC) in the September 18, 1996 *Assemblies A through D Background Reference Concentrations Technical Memorandum*. The RC equals two-times the arithmetic mean background concentration. Nickel was reported in only one sample analyzed, a field duplicate, while nondetects were reported as "U" values, which are the concentrations detectable by the laboratory.

During the December BRAC Cleanup Team meeting in Atlanta, Georgia, USEPA recommended using one-half of each "U" value when calculating the RC for nickel in subsurface soil. Because nickel was detected at least once, it was assumed to be present at an undetectable concentration when it was reported as a nondetect by the laboratory. The assumed concentrations, one-half of each "U" value, were inserted into the data before calculating the revised arithmetic mean and resulting RC. Table 1 summarizes subsurface soil concentrations reported in the above-referenced technical memorandum, including the revised RC for nickel. As shown in Table 1, the revised subsurface RC calculated as recommended by USEPA is 24.5 mg/kg. The previous subsurface nickel RC was 59.8 mg/kg, and other RCs are unchanged.

Table 1
Revised Background Reference Concentrations for Metals in Subsurface Soil (mg/kg)

	Sample ID						
	1BGS000110	2BGS000210	3BGS000310	4BGS000411	5BGS000510	5BGC000510	
Sample Date	09-Jan-95	12-Jan-95	10-Jan-95	11-Jan-95	12-Jan-95	12-Jan-95	
Parameter							RC_{SS}
Antimony	10.4 UR	10 UR	9.8 UR	10.3 UR	10.2 UR	10.3 UR	BDL
Arsenic	20.2 J	1.8 J	8.7 J	11.1 J	9 J	10.4 J	20.4
Barium	93.8 J	193 J	132 J	130 J	114 J	205 J	289
Beryllium	0.39 J	0.58 J	0.51 J	0.61 J	0.42 J	0.55 J	1.02
Cadmium	3.4 J	2.4 UJ	2.9 UJ	2.3 UJ	1.8 UJ	2.2 UJ	6.8
Chromium	11.7	17	12.7	16.6	12.7	15.1	28.6
Cobalt	7.3 J	5 J	8.9 J	7.8 J	6.9 J	10.1 J	15.3
Copper	14.8	12.6	18.8	19.9	15.2	20.3	33.9
Cyanide	0.5 U	0.5 U	0.55 U	0.58 U	0.5 U	0.54 U	BDL
Lead	8.7 J	7.9 J	12.2 J	11.7 J	9 J	14.2 J	25.1
Mercury	0.13 U	0.12 U	0.12 U	0.19	0.13 U	0.13 U	0.38
Nickel	19.4 UJ	14.2 UJ	21.5 UJ	18.1 UJ	14.1 UJ	29.9 J	24.5
Selenium	0.52 UJ	0.50 UJ	0.49 UJ	0.51 UJ	0.51 UJ	0.52 UJ	BDL
Silver	1.7 U	1.8 UJ	1.9 U	1.7 U	2.5 U	2 U	BDL
Thallium	0.52 U	0.5 U	0.49 U	0.51 U	0.51 U	0.52 U	BDL
Tin	32.3 UJ	22.5 UJ	22.6 UJ	29.1 UJ	22.8 UJ	38.7 UJ	BDL
Vanadium	18.5	18.6	22.5	27.3	22.3	29.8	46.3
Zinc	47.7 J	60.8 J	54.8 J	59.7 J	49.5 J	63.1 J	111.8

Notes:

U	—	Analyzed parameter not detected
UJ	—	Detection limit was estimated
UR	—	Nondetect result; detection limit was rejected due to laboratory nonconformity
J	—	Estimated value because quality control criteria were not met
RC_{SS}	—	Subsurface Reference Concentration
BDL	—	Below detection limits; RC is not applicable
mg/kg	—	Milligrams per Kilogram

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