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NAS JACKSONVILLE
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LETTER REGARDING HEXAVALENT CHROMIUM IN SOILS AND SEDIMENTS FOR
POTENTIAL SOURCES OF CONTAMINATION 3 AND 42 NAS JACKSONVILLE FL
6/17/1994
ABB ENVIRONMENTAL



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June 17, 1994

Mr. Jorge Caspary
Federal Facilities Coordinator
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

**SUBJECT: CONTRACT N62467-89-D-0317, INSTALLATION RESTORATION PROGRAM
ANALYSIS OF HEXAVALENT CHROMIUM IN SOILS AND SEDIMENTS
FOCUSED REMEDIAL INVESTIGATION/FEASIBILITY STUDY FOR PSCs 3 & 42
OPERABLE UNIT 2, NAVAL AIR STATION JACKSONVILLE, JACKSONVILLE, FLORIDA**

Dear Mr. Caspary,

As was discussed in the meeting held in Tallahassee last Tuesday, June 14, 1994, we have presented below and in the attached sheets the additional information concerning hexavalent chromium analysis of PSC 3 soils (Sludge Disposal Area) and PSC 42 sediments (Former Wastewater Treatment Plant Polishing Pond), and hexavalent chromium analysis in the groundwater conducted by IT Corporation.

In the Focused Remedial Investigation activity conducted by ABB-ES from January through March 1994, hexavalent chromium analysis was done utilizing EPA Method 7196 (Colorimetric procedure). FDEP Chapter 17-160.700 (Quality Assurance) recommends this method for hexavalent chromium analysis in extracts from soils, sediments, and residuals (concentrated waste samples, and sludges of domestic or industrial origin). In order to quantify the water-soluble fraction of hexavalent chromium present in soils and sediments, extraction from the solid matrix was done using analyte-free deionized distilled water at a ratio of 10 grams soil to 100 mL water. The mixture was filtered after 15 minutes. The filtrate was then analyzed for hexavalent chromium by Method 7196.

Samples were collected, iced, and sent to the off-site laboratory via courier for immediate analysis to meet the holding time requirement (24 hours). Review of the data received from the laboratory indicated that all associated QA/QC acceptance criteria were met. The results of the analysis are summarized in the attached table, which indicate nondetections of hexavalent chromium from PSC 3 soils and PSC 42 sediments.

Under the RCRA permit, groundwater under the sludge drying beds has been monitored by IT Corporation for RCRA constituents. The attached groundwater results submitted by IT Corporation are pertinent sections of reports where hexavalent chromium was analyzed, from groundwater sampling conducted in July 1989, January 1991, May 1991, and August 1991. The attached results indicate that hexavalent chromium was not detected in groundwater samples around the sludge drying beds, which would indicate that the sludge is most probably not a contributing factor of hexavalent chromium to the groundwater under the sludge drying beds.

ABB Environmental Services, Inc.



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Should you have any questions relating to the technical issues presented herein, please call Dr. Alexander Olis at (904) 269-7012.

Respectfully submitted,

ABB ENVIRONMENTAL SERVICES, INC.

A handwritten signature in black ink, appearing to read 'Peter Redfern', written over a large, stylized circular flourish.

Peter Redfern
Task Order Manager

cc: J. Murphy, SOUTHDIV
D. Gaskins, SOUTHDIV
K. Gartland, NASJAX
J. Hudson, USEPA

Table 1
Summary of Soil and Sediment Analytical Results
Total versus Hexavalent Chromium
WTP Sludge Disposal Area (PSC 3) and WTP Polishing Pond (PSC 42)

Focused RI/FS, Operable Unit 2
 Naval Air Station Jacksonville
 Jacksonville, Florida

Identifier	Depth (ft)	Total Chromium ¹	Hexavalent Chromium ²
WTP Sludge Disposal Area (PSC 3)			
U2SB12101	0-0.5	2900	1.16 U
U2SB12801	0-0.5	2570	0.9 U
U2SB13601	0-0.5	4130	1.67 U
WTP Polishing Pond (PSC 42)			
U2SD02101	n/a	399	1.14 U
U2SD02201	n/a	5360	1.86 U

NOTES: Analytical results expressed in milligrams per kilogram (mg/kg) dry weight.
 U = Analyte was not detected at the method detection limit. The number preceding the U qualifier is the sample adjusted method detection limit.
¹ PSC 3 soil samples submitted for total chromium analysis were taken from the same location as the samples submitted for hexavalent chromium analysis.
² Extraction using deionized-distilled water (1:10 soil/water ratio).