

## ORISE

OAK RIDGE INSTITUTE FOR SCIENCE AND EDUCATION

March 25, 1997

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**SUBJECT: REVISED INTERIM LETTER REPORT—VERIFICATION SURVEY OF  
THE ST. LOUIS AIRPORT SITE (SLAPS) VICINITY PROPERTY NO. 32,  
HAZELWOOD, MISSOURI**

Dear Dr. Williams:

The Environmental Survey and Site Assessment Program (ESSAP) of the Oak Ridge Institute for Science and Education (ORISE) conducted verification activities at the St. Louis Airport Site (SLAPS) Vicinity Property (VP) No. 32 on July 22, 1996. Verification activities were performed in support of the remedial actions that Bechtel National, Inc. (BNI), the Formerly Utilized Sites Remedial Action Program project management contractor, performed for a number of the SLAPS VPs during Fiscal Year 1996.

SLAPS was acquired by the Manhattan Engineer District (MED) and operated from 1946 to 1966. The site was used for storage of waste materials that were generated during uranium processing from 1942 until the late 1950s at the Mallinckrodt facility, located in downtown St. Louis. These processing wastes, which consisted of pitchblende raffinate residues, radium-bearing residues, and barium sulfate cake, were purchased by Continental Mining and Milling Company of Chicago (CMMC) in 1966 and, subsequently, transported to 9200 Latty Avenue for storage under an Atomic Energy Commission (AEC), predecessor agency to the U.S. Department of Energy (DOE), license. During transit, some of the materials spilled onto the haul roads and contiguous properties, primarily collecting in the drainage ditches. The haul roads used for transport to the Latty Avenue storage site and other sites included McDonnell Boulevard, formerly Brown Avenue, Hazelwood Avenue, Pershall Road, Eva Avenue, Frost Avenue, and Latty Avenue.

VP 32 is located on Hazelwood Avenue in Hazelwood, Missouri (Figure 1). Soil contamination was confined to the right-of-way portion of the property and extended from the boundary of Hazelwood Avenue to approximately 5 to 10 meters west of the road. BNI subdivided the property into two units—32A and 32B. Figure 2 shows the remediated portions of VP 32B. BNI remediated the contaminated soil from the property to depths of approximately 0.5 to 1 meter below the surface. BNI then subdivided the excavated portion of the property into approximately 100 m<sup>2</sup> survey units

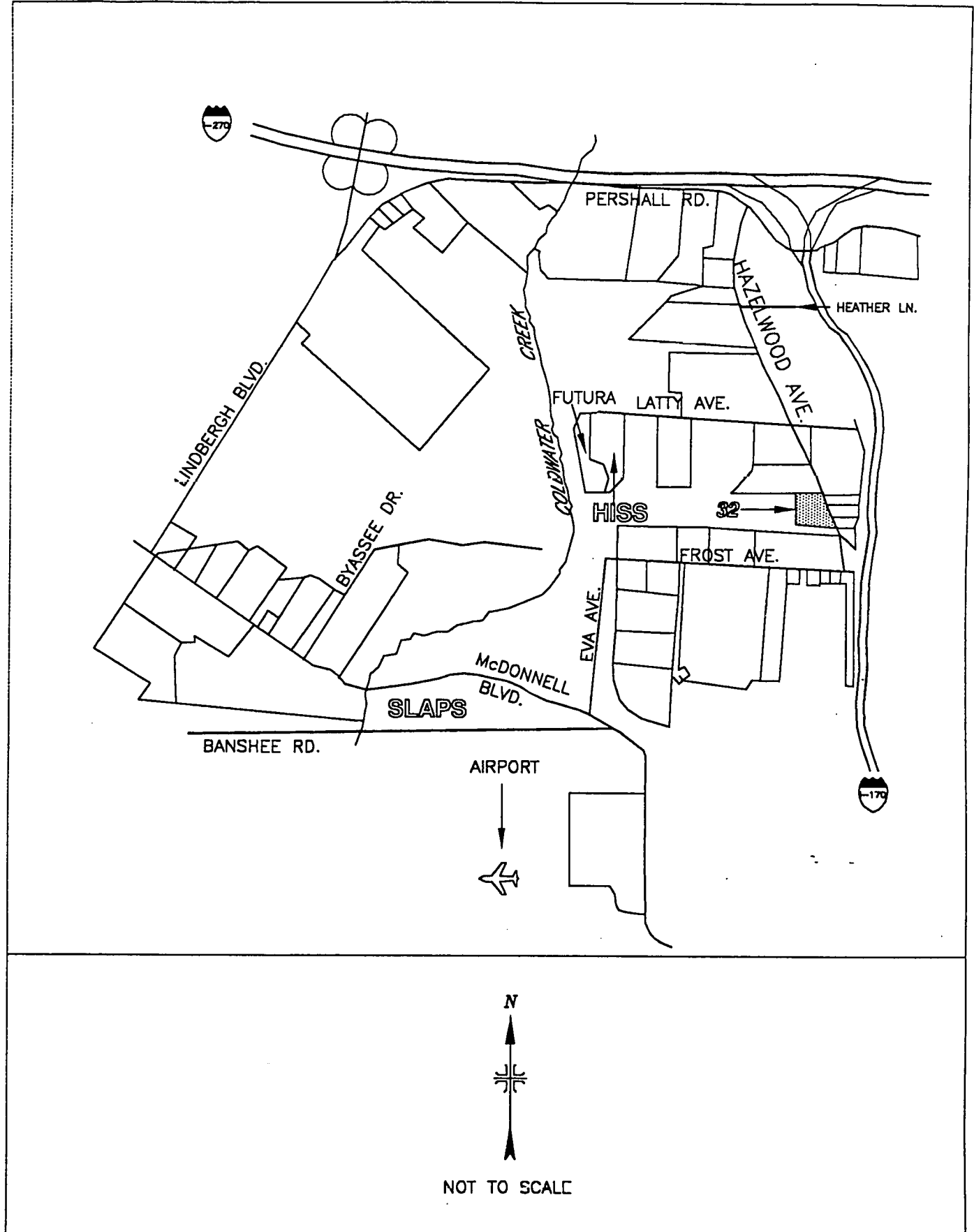


FIGURE 1: Location of SLAPS Vicinity Property Number 32

TABLE 1

**EXPOSURE RATES AND RADIONUCLIDE CONCENTRATIONS IN SOIL  
ST. LOUIS AIRPORT SITE VICINITY PROPERTY NUMBER 32B  
HAZELWOOD, MISSOURI**

Sample Location <sup>a</sup>	Exposure Rates at 1 m (μR/h) <sup>b</sup>	Radionuclide Concentration (pCi/g) <sup>b</sup>		
		Ra-226	Th-230	U-238
32B - GRID 2				
191	9	1.4 ± 0.2 <sup>c</sup>	5.32 ± 0.54 <sup>d</sup>	<1.5
192	10	1.4 ± 0.2	7.70 ± 0.74 <sup>d</sup>	1.0 ± 0.8
193	10	1.2 ± 0.1	8.36 ± 0.81 <sup>d</sup>	1.6 ± 0.7
194	9	1.1 ± 0.2	4.95 ± 0.53 <sup>d</sup>	0.9 ± 0.8
195	9	1.3 ± 0.2	3.97 ± 0.45 <sup>d</sup>	2.2 ± 1.0
32B - GRID 8				
186	11	1.3 ± 0.2	1.72 ± 0.27 <sup>d</sup>	2.5 ± 1.1
187	10	1.3 ± 0.2	1.58 ± 0.26 <sup>d</sup>	1.6 ± 1.1
188	10	1.5 ± 0.2	1.72 ± 0.27 <sup>d</sup>	1.7 ± 1.0
189	11	1.4 ± 0.2	2.08 ± 0.33 <sup>d</sup>	2.0 ± 1.1
190	10	1.2 ± 0.1	2.50 ± 0.36 <sup>d</sup>	1.6 ± 0.9
32A <sup>e</sup>				
171	---	0.9 ± 0.2	<13.1	0.8 ± 0.9
172	---	0.9 ± 0.1	<13.8	0.9 ± 0.8
173	---	0.8 ± 0.1	<12.6	1.7 ± 0.9
174	---	1.0 ± 0.2	<12.8	1.4 ± 0.9
175	---	1.2 ± 0.2	<14.8	2.0 ± 1.1

<sup>a</sup>Refer to Figure 2.

<sup>b</sup>Results include background.

<sup>c</sup>Uncertainties represent the 95% confidence level, based only on counting statistics.

<sup>d</sup>Alpha spectrometry results.

<sup>e</sup>Samples collected by BNI. Sample locations are not shown on Figure 2.

<sup>f</sup>Measurement not performed.

## REFERENCES

Oak Ridge Institute for Science and Education. Draft Reports-Verification Surveys of Properties 19, 20, 41, 43, 44, and 45, St. Louis Airport site Vicinity Properties, Hazelwood and Berkeley, Missouri. Oak Ridge, TN; February 23, 1996.

U.S. Department of Energy (DOE). Radiation Protection of the Public and Environment. Washington, DC: DOE Order 5400.5. June 5, 1990a.

U.S. Department of Energy. Memorandum from J. Fiore to L. Price, "Uranium Cleanup Guidelines for St. Louis, MO, FUSRAP Sites." November 6, 1990b.

SL-1168

00-2264

Formerly Utilized Sites Remedial Action Program (FUSRAP)

# ADMINISTRATIVE RECORD

for the St. Louis Site, Missouri



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