

**Errata Sheet for
SEC-00150 St. Louis Airport Storage Site (SLAPS)
Evaluation Report Rev.0
Approved April 13, 2010**

Errata Sheet Administrative Summary

Petition Under Evaluation

Errata for Petition Number:	SEC-00150
Petition Type:	83.13
Evaluation Report Approval Date:	April 13, 2010
DOE/AWE Facility Name:	St. Louis Airport Storage Site (SLAPS)

ORAU Preparation and Review

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**Errata Sheet for
SEC Petition Evaluation Report SEC-00150**

NIOSH has identified discrepancies in Sections 5.2.1.1, 5.2.1.2, 5.2.1.3, 5.2.2.1, and 7.2.1.2 of the SLAPS SEC evaluation report, SEC-00150. The correct values with the corresponding text and reference callouts are identified below.

CHANGES TO SECTION 5.2.1.1

January 3, 1947 through November 2, 1971

PDF p. 20, first paragraph under this heading should read: The pitchblende raffinate, Am-7, was a product of operations at the Mallinckrodt Destrehan Street Refinery. Total uranium in the Am-7 residues was reported to be approximately 0.2% (AEC, 1949, p. 94).

PDF p. 21, second paragraph under this heading should read: The Am-10 raffinate was a residue resulting from the processing of domestic ores at the Mallinckrodt Destrehan Street Plant. For the Am-10, the total uranium was reported to be 47.6 tons U in 32,500 gross tons of material (0.15%) (Unknown, 1959).

PDF p. 21, third paragraph under this heading should read: Barium sulfate cake residue, AJ-4, was another product of the Mallinckrodt Destrehan Street Refinery. Various concentrations of uranium were reported in a 1965 tabulation as varying between 0.08% for leached material to 1.5% for unleached material (DOE, 1979). An earlier report (1948) reported a uranium content of 0.276% (Sargent, 1948).

PDF p. 21, fourth paragraph under this heading should read: C-Liner slag consisted mainly of dolomite liner with less than 2% uranium content (Unknown, 1959), and was stored in bulk on the ground at SLAPS. Shipments to SLAPS began March 10, 1946 and lasted until early 1953, when the dolomite liner was replaced by a recycled magnesium-fluoride liner. An April 11, 1959 inventory showed 7,800 tons of C-Liner slag containing 122.3 tons of uranium (Unknown, 1959). A portion was sent to Fernald for processing in the early 1960s. A November 1965 inventory showed 4,000 tons containing 49 tons uranium (Aerospace Corporation, post-1973). Because of the chemical separation of uranium from the daughter isotopes, this material may be fully characterized by the amount of uranium present.

PDF p. 21, fifth paragraph under this heading should read: The vitro residues contained uranium after separation from uranium daughters. It was described as having 1.9 tons of uranium within 290 tons of material, or 0.66% by weight (Unknown, 1959). Because of the chemical separation of uranium from the daughter isotopes, this material may be fully characterized by the amount of uranium present.

PDF p. 21, sixth paragraph under this heading should read: The Captured Japanese Sands are assumed to contain uranium in equilibrium with the uranium daughters. It was described as having 0.2 tons of uranium within 60 tons of material or 0.3% by weight (Unknown, 1959; Aerospace Corporation, post-1973). Because the uranium has not been chemically separated from the daughter isotopes, this material may be fully characterized by the amount of uranium present. The activity concentration of the daughters may be assumed to be in equilibrium with the uranium activity concentration.

PDF p. 21, seventh paragraph under this heading should read: Interim residue plant tailings were from operations at the Mallinckrodt Destrehan Street site, which began in 1955 to scalp the uranium content from the magnesium fluoride slag. The tailings were described as the end product from "non-uranium bearing slurry" (MCW, 1956, p. 6). In the late 1950s, the tailings were shipped to Fernald and processed, with the Fernald process rate increasing to about 600 tons per month in July 1959 (Aerospace Corporation, post-1973; Army Corps, 2002, p. 36; Belcher, 1964). The magnesium-fluoride slag (C-701) was contaminated with only uranium after chemical separation from the uranium daughters. The bulk of the material was described as having 144.4 tons of uranium within 7,000 tons of material (Aerospace Corporation, post-1973).

CHANGES TO SECTION 5.2.1.2

January 3, 1947 through November 2, 1971

PDF p. 22, second paragraph under this heading should read: Radium-226 bearing materials at the site included the K-65 residues stored between 1946 and 1949, and the AJ-4 residues which were stored between 1946 and 1967. Analyses of the K-65 residue material showed radium-226 concentrations ranging from 300 to 900 mg/ton (0.327 uCi/g to 0.980 uCi/g, respectively) (Lynch, 1949; AEC, 1949; Eisenbud, unknown). The K-65 residues were eventually transferred to Fernald. A 1979 report indicates a total weight for the residues as 1,757 dry tons, and having a total of 10,982 pounds of U₃O₈ (NLCO, 1979, p. 21). Analyses for other isotopes have not been located.

PDF p. 22, third paragraph under this heading should read: Barium sulfate cake residue, AJ-4, was another product of the Mallinckrodt Destrehan Street Refinery. Radium-226 concentrations were reported as high as 1.7 g/ton (1850 pCi/g) (Layfield, 1962).

CHANGES TO SECTION 5.2.1.3

January 3, 1947 through November 2, 1971

PDF p. 23, second paragraph under this heading should read: Thorium-230 was measured to be 76,760 pCi/g in Am-7 residues (Figgins, 1966).

CHANGES TO SECTION 5.2.2.1

PDF p. 24, second paragraph under this heading should read: A survey taken in March 1948 indicated a reading of 17.6% of the 12.5 mR/hr tolerance value (2.2 mR/hr) at a distance two feet from the K-65 storage shed (Soil Data, 1948). This shed contained the greatest amounts of radium-226 and represented the highest gamma exposure potential at the site; these residues were removed between 1948 and 1949.

CHANGES TO SECTION 7.2.1.2

January 1, 1984 through December 31, 1998

PDF p. 31, first paragraph under this heading should read: For the period from January 1, 1984 through December 31, 1998, air sampling was performed as part of the environmental monitoring program and as part of the personnel radiation protection program. The

environmental monitoring data covers the period in numerous environmental reports and data reports (Bechtel, 1985; Environmental Report, 1985; Environmental Report, 1987; Environmental Report, 1989; TLD Data, 1985; TLD Data, 1987a; TLD Data, 1988; TLD Data, 1990). Personnel air monitoring is covered in two reports; one report covers one individual in 1993 (Air Data, 1993) and a 1996 report covers a large number of workers in 1996 (Air Data, 1996). The data consistently indicate very low levels of airborne radioactivity; the total exposure recorded for 685 worker samples in 1996 was 16.32 DAC-h. The evaluation of DAC-h was based on thorium-230 as the isotope of concern. NIOSH believes that these data can be used to supplement the bounding assessment of internal dose for this period at SLAPS.

CHANGES TO REFERENCES

This reference was a duplicate reference and has been removed from the SRDB. The current SRDB number is included here: Figgins, 1966, *Survey of Sources of Ionium (Thorium-230)*; P. E. Figgins and H. W. Kirby; August 1, 1966; SRDB Ref ID: 14987

This reference was added: Layfield, 1962, *Pre-Licensing Visit to the Contemporary Metals Corporation Proposed Facility at Hazelwood, Missouri, and Residue Stockpiles at Robertson, Missouri, Docket No. 40-6811*, memorandum to files; Robert Layfield; September 25, 1962; SRDB Ref ID: 9823