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SUMMARY REPORT ON THE ANALYSIS OF SLUDGE BATCH 3 (MACROBATCH 4) DWPF POUR STREAM GLASS SAMPLE FOR CANISTER S02312

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August 2005

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SUMMARY

In order to comply with the Waste Acceptance Product Specifications in Sludge Batch 3 (Macrobatch 4), Savannah River National Laboratory personnel performed characterization analyses on the Defense Waste Processing Facility (DWPF) pour stream glass sample taken during filling of Canister S02312. This report summarizes results of the characterization that indicate that the DWPF produced glass is significantly more durable than the Environmental Assessment glass. Results and further details are documented in the report, *Analysis of Sludge Batch 3 (Macrobatch 4) DWPF Pour Stream Glass Sample for Canister S02312*, WSRC-TR-2005-00354 (2005).

Concentration of Major (>0.5 Wt. % Elemental Basis) Components (As Oxides) of Pour Stream Glass Sample S02312

Oxide	Wt. %
Al ₂ O ₃	4.79
B ₂ O ₃	4.44
CaO	1.03
Fe ₂ O ₃	10.8
Li ₂ O	4.96
MgO	1.16
MnO	2.09
Na ₂ O	11.9
SiO ₂	51.0
U ₃ O ₈	3.51

PCT Results for Pour Stream Glass Sample S02312

Element	Measured g/L (Std. Dev., %RSD)	Measured EA g/L (Std. Dev.)	Published EA g/L (Std. Dev.)
B	1.09 (0.07, 6.4)	16.7 (0.2)	16.7 (1.2)
Na	1.03 (0.02, 3.2)	12.9 (0.03)	13.3 (0.9)
Li	0.94 (0.02, 2.3)	9.1 (0.03)	9.6 (0.7)

**Reportable Radionuclide Content Measured
for Pour Stream Glass Sample S02312**

Radionuclide	Ci/kg Glass
Sr-90	1.89
Zr-93	2.15E-04
Tc-99	5.89E-05
Cs-137	1.45E-01
Sm-151	8.82E-02
U-233	4.30E-06
U-234	1.35E-05
U-235	3.66E-07
U-236	4.16E-07
Np-237	1.51E-05
U-238	9.94E-06
Pu-238	1.32E-02
Pu-239	7.55E-03
Pu-240	2.40E-03
Pu-241	2.83E-02
Pu-242	1.72E-06
Am-241	7.86E-03
Am-243	7.56E-04

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