START 9713539.1736 0046910 56991-WES-493

TELEDYNE ISOTOPES

WESTON/WESTINGHOUSE/HANFORD

Case Narrative/Cover Sheet for Reports of Analysis and Lab Data

FEB 1997 RECEIVED EDMC

Date 04-10-92

TI #'s 56991 - 56993

WO #'s 4-4637

Comments:
Activity for Matrix Spike TI #56992 and Matrix Spike Duplicate TI #56993

Nuclide	Activity pCi/g	Acceptable Range
Technicium-99	20.	16. - 24.
Gross Alpha	33.6	25. - 42.
Gross Beta	68.	58. - 78.
Strontium-90	4.0	3.4 - 4.6
Cesium-239	0.044	0.031 - 0.058
Plutonium-239	0.329	0.26 - 0.39

Gross Alpha, Gross Beta:

Spiked soil samples analyzed for Alpha and Beta activity can give results which are outside the expected range because the counting situation is different from the self-absorption calibration method.

In calibration, the radioactive standard solutions are evaporated together with varying amounts of sodium carbonate and sodium nitrate salts. The counting results of these standards are used to construct a self-absorption curve which indicates the effective counting efficiency as a function of residue mass. Experiments have shown that this method gives good agreement with finely divided silt sediments which have been spiked with standard solutions.

When soil samples are coarse, or contain mineral grains, the spiking solution does not penetrate to the interior of the solid particles. This results in a more efficient counting situation, so that the results are higher than expected. The disagreement, therefore is caused by the character of the soil sample.

Contents:

Reports of Analysis	3	Pages
Tc-99	3	Pages
Gross Alpha	4	Pages
Gross Beta	-	Pages
Sr-90	3	Pages
Gamma	7	Pages
Pu-238-239	3	Pages
C-O-C	1	Pages
Other	-	Pages

APR 1992 RECEIVED OSM DMO

TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 04/08/92

	WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 1
MS JOSIE KING WESTON/WESTINGHOUSE/HANFORD 208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE PA 19341-1313	4-4637	LL-0850-F4	11/06/91	12/09/91	

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
56991	9110L121-001 B015K1		10/22				TC-99	6.5 +-0.3 E 01		11/19			3
							GR-A	5.2 +-3.9 E 00		12/05			3
							GR-B	7.4 +-0.4 E 01		12/05			3
							SR-90	8.5 +-4.4 E-02		11/19			3
							BE-7	L.T. 8. E-01		02/27			4
							K-40	1.39+-0.14E 01		02/27			4
							MN-54	L.T. 3. E-02		02/27			4
							CO-58	L.T. 7. E-02		02/27			4
							FE-59	L.T. 3. E-01		02/27			4
							CO-60	1.24+-0.12E 00		02/27			4
							ZN-65	L.T. 7. E-02		02/27			4
							ZR-95	L.T. 8. E-02		02/27			4
							RU-103	L.T. 2. E-01		02/27			4
							RU-106	L.T. 2. E-01		02/27			4
							I-131	L.T. 1. E 03		02/27			4
							CS-134	L.T. 3. E-02		02/27			4
							CS-137	L.T. 2. E-02		02/27			4
							BA-140	L.T. 1. E 01		02/27			4
							CE-141	L.T. 4. E-01		02/27			4
							CE-144	L.T. 2. E-01		02/27			4
							RA-226	8.52+-3.00E-01		02/27			4
							TH-228	5.18+-0.52E-01		02/27			4
							TOTAL-U	L.T. 4. E-01		02/27			4
							PU-238	L.T. 9. E-03		03/05			6
							PU-239	L.T. 4. E-03		03/05			6
56992	9110L121-001 MSB015K1		10/22				TC-99	8.4 +-0.4 E 01		11/19			3
							GR-A	1.0 +-0.1 E 02		12/05			3
							GR-B	1.7 +-0.1 E 02		12/05			3
							SR-90	4.9 +-0.2 E 00		11/19			3
							BE-7	L.T. 2. E 00		03/30			4
							K-40	1.34+-0.13E 01		03/30			4

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TELEDYNE ISOTOPES

REPORT OF ANALYSIS

RUN DATE 04/08/92

WORK ORDER NUMBER	CUSTOMER P.O. NUMBER	DATE RECEIVED	DELIVERY DATE	PAGE 2
4-4637	LL-0850-F4	11/06/91	12/09/91	

MS JOSIE KING
WESTON/WESTINGHOUSE/HANFORD
208 WELSH POOL ROAD
PICKERING CREEK INDUSTRIAL PARK
LIONVILLE PA 19341-1313

S O I L

TELEDYNE SAMPLE NUMBER	CUSTOMER'S IDENTIFICATION	STA NUM	COLLECTION-DATE START DATE	TIME	STOP DATE	TIME	NUCLIDE	ACTIVITY (PCI/GM DRY)	NUCL-UNIT-% U/M *	MID-COUNT TIME DATE	TIME	VOLUME - UNITS ASH-WGHT-% *	LAB.
56992	9110L121-001 MSB015K1		10/22				MN-54	L.T. 5. E-02		03/30			4
							CO-58	L.T. 1. E-01		03/30			4
							FE-59	L.T. 9. E-01		03/30			4
							CO-60	1.30+-0.13E 00		03/30			4
							ZN-65	L.T. 1. E-01		03/30			4
							ZR-95	L.T. 2. E-01		03/30			4
							RU-103	L.T. 5. E-01		03/30			4
							RU-106	L.T. 4. E-01		03/30			4
							CS-134	L.T. 4. E-02		03/30			4
							CS-137	3.53+-0.36E-01		03/30			4
							BA-140	L.T. 2. E 02		03/30			4
							CE-141	L.T. 1. E 00		03/30			4
							CE-144	L.T. 3. E-01		03/30			4
							RA-226	1.06+-0.43E 00		03/30			4
							TH-228	5.58+-0.56E-01		03/30			4
							PU-238	L.T. 4. E-03		03/05			6
							PU-239	3.8 +-0.4 E-01		03/05			6
56993	9110L121-001MSDB015K1		10/22				TC-99	8.5 +-0.5 E 01		11/19			3
							GR-A	9.9 +-1.5 E 01		12/05			3
							GR-B	1.7 +-0.1 E 02		12/05			3
							SR-90	4.3 +-0.2 E 00		11/19			3
							BE-7	L.T. 2. E 00		03/31			4
							K-40	1.45+-0.15E 01		03/31			4
							MN-54	L.T. 4. E-02		03/31			4
							CO-58	L.T. 1. E-01		03/31			4
							FE-59	L.T. 8. E-01		03/31			4
							CO-60	1.36+-0.14E 00		03/31			4
							ZN-65	L.T. 1. E-01		03/31			4
							ZR-95	L.T. 2. E-01		03/31			4
							RU-103	L.T. 4. E-01		03/31			4
							RU-106	L.T. 3. E-01		03/31			4

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WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON

Page ____ of ____

Client: Weston
Est. Final Proj. Sampling Date:
Work Order #: 6168-02-01
Project Contact/Phone #:
AD Project Manager:
QC: CLP Del: CLP TAT:
Date Rec'd: Date Due:
Account #:

Refrigerator #:
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives:

ANALYSES REQUESTED →

ORGANIC							INORG	
VOA	BNA	Pest/PCB	Herb	Radio Chem			Metal	CN

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only													
	B015K1			S	10/22/91						✓				9110L121-001					
	Radiochem = Total Alpha/beta, Gamma Scan, TC99, SR-90, CS-137, CO-60 PU238, PU239/240, RU-106, Total Uranium																			

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
Run ① MS/MSD.

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # _____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	11/5/91	6:00 PM
	[illegible]	11-6-91	1200

Relinquished by	Received by	Date	Time

RFW 21-21-001/A-7/91 ____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Ref# _____ Cooler# _____ 381-596a

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