

2015 Scientific Advisory Committee Meeting
Hampton Inn, Richland, WA
September 1-2, 2015

2017 Radiochemistry Progress Report

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*“Learning from Plutonium
and Uranium Workers”*



Outline

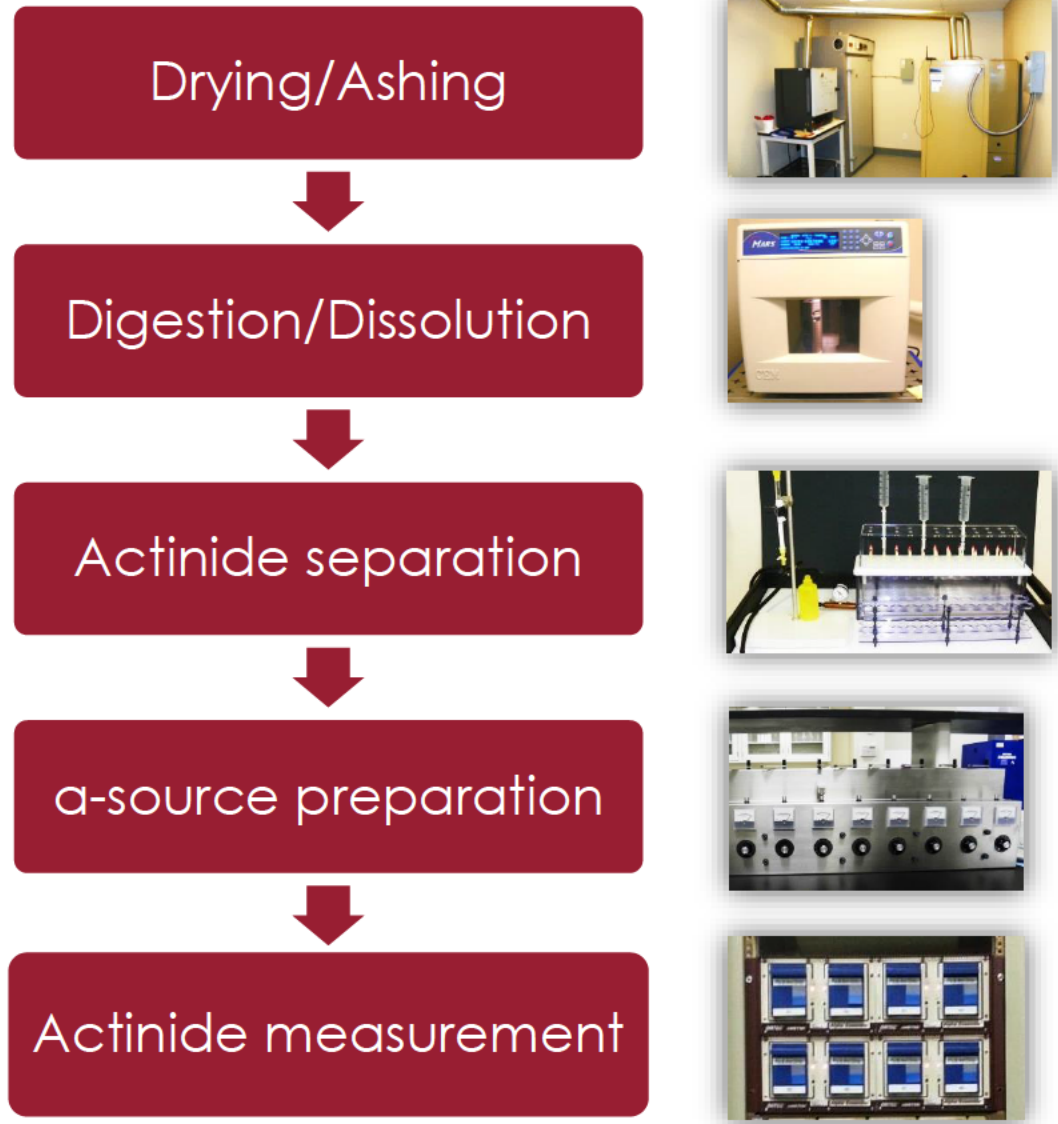
- Tissue analysis progress (7/1/2016 – 8/1/2017)
- Equipment upgrade and facility maintenance
- **New:** Radiochemistry database



Tissue Analysis Progress



Tissue Analysis Protocol





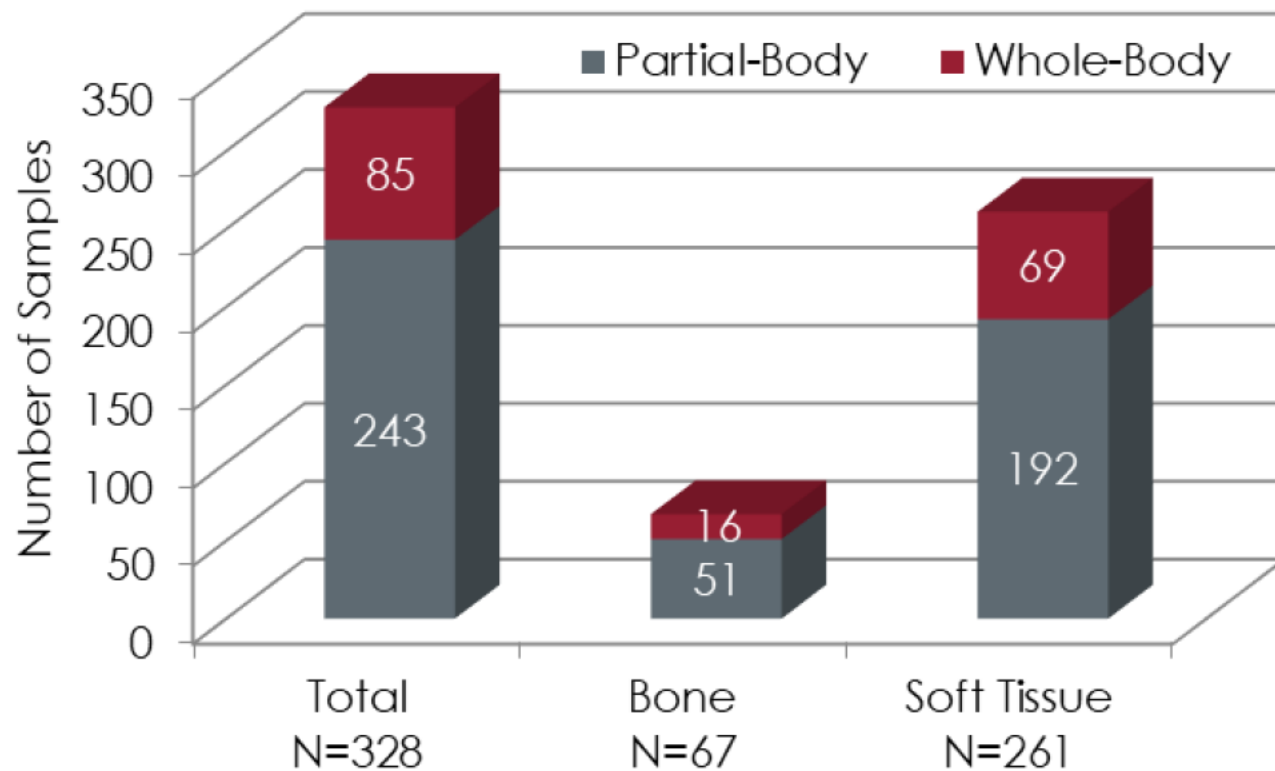
Cases Analyzed

Number of donations: 10

- Whole-body: 0303 (2008), 0806 (2015)
- Partial-body: 0385 (2010), 0410 (2016), 0443 (2006), 0521 (2010), 0771 (2008), 0800 (2009), 0845 (2016), 0958 (2009)



Tissues Analyzed





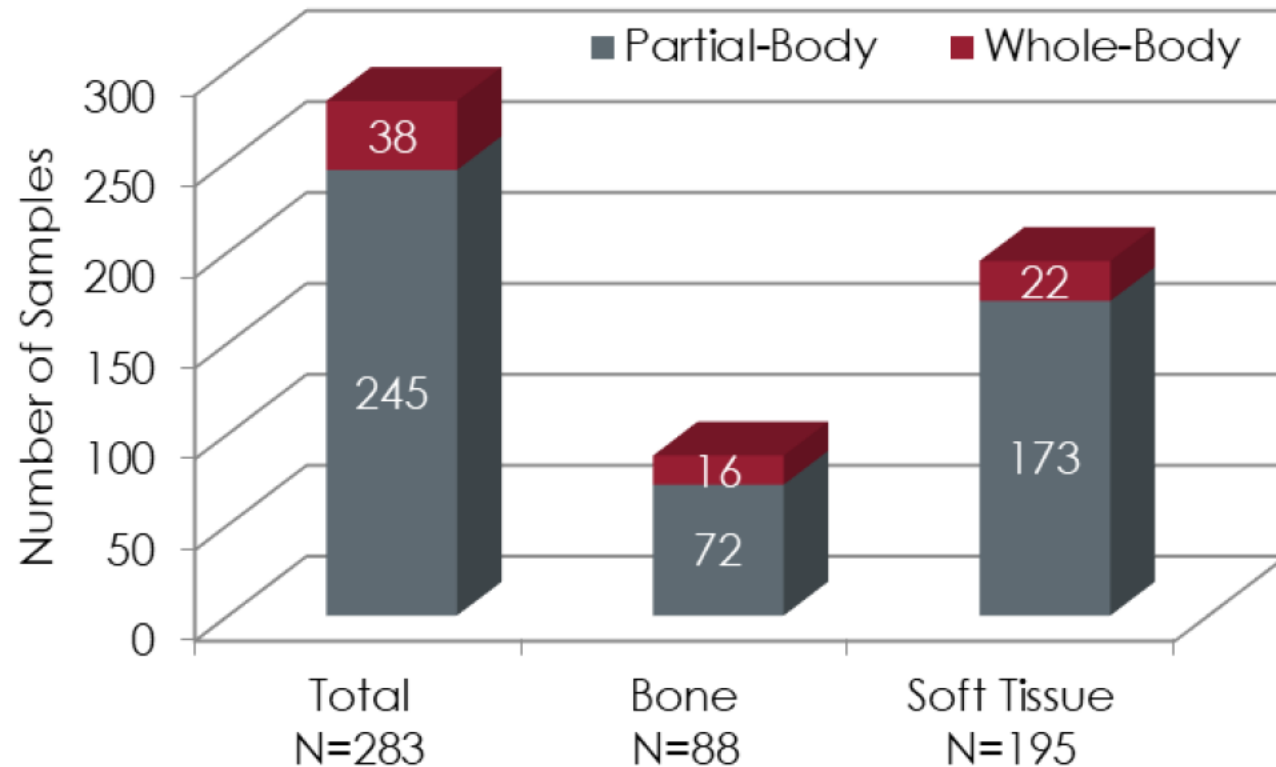
Cases in Progress

Number of donations in progress: 11

- Whole-body: 0303 (2008), 1053 (1997)
- Partial-body: 0315 (2004), 0341 (2004), 0371 (1992), 0421 (2016), 0446 (1995), 0460 (1996), 0695 (2008), 0702 (2006), 0817 (2004)



Tissues Analysis in Progress





Miscellaneous Samples

Analyzed

- Tissues: 4 (3 cases)
- Formalin: 10 (3 cases)
- Solutions (re-runs): 22 (7 cases)

In progress

- Tissues: 6 (4 cases)
- Formalin: 41 (2 cases)



New Donations

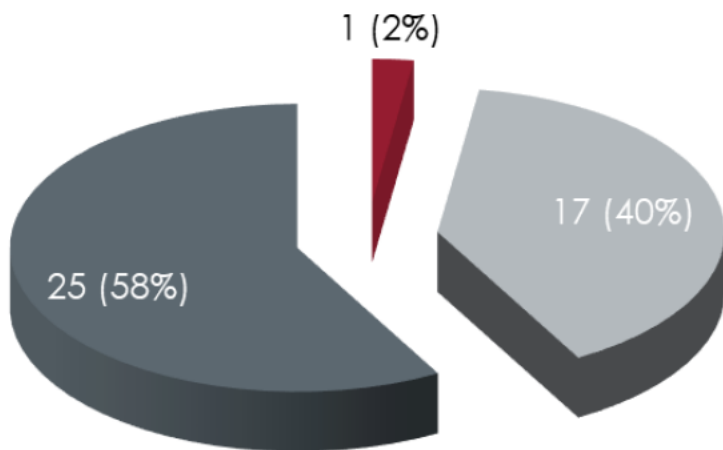
- Whole-body Case 0674 (2017)
- Partial-Body: 3
 - ✓ Case 0688 (2017)
 - ✓ Case 0410 (2016)
 - ✓ Case 0421 (2016)



Status Change: *Whole-Body*

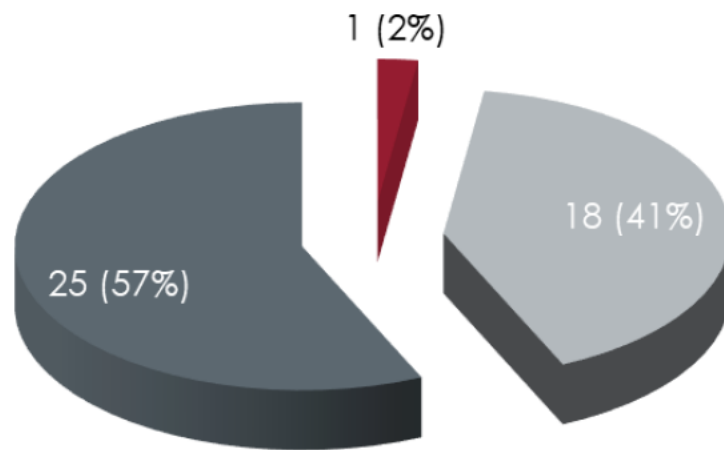
- Number of cases: 1
 - ✓ Case 1053 (1997): intact → incomplete

7/1/2016: 43



■ Intact ■ Incomplete ■ Complete

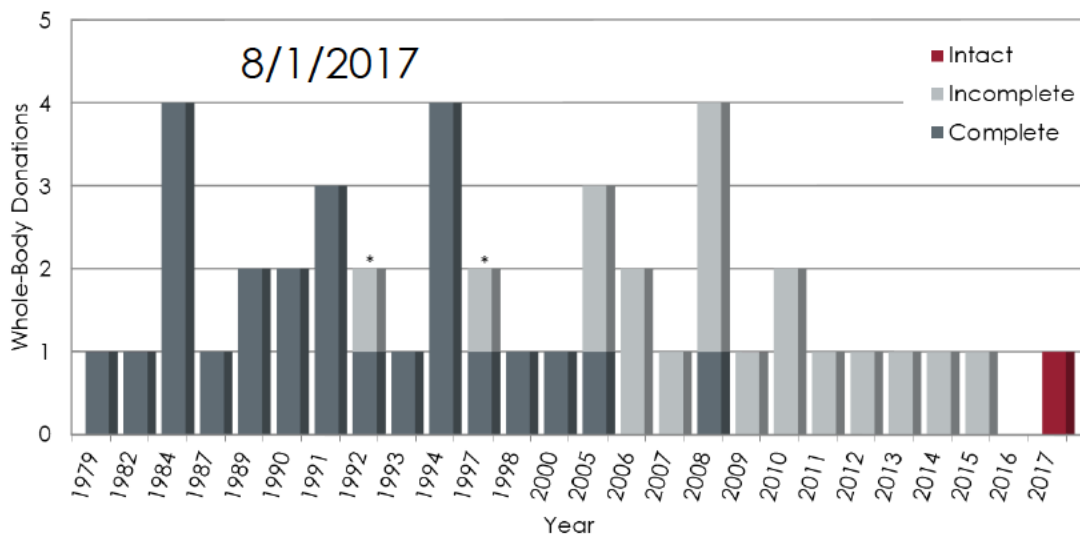
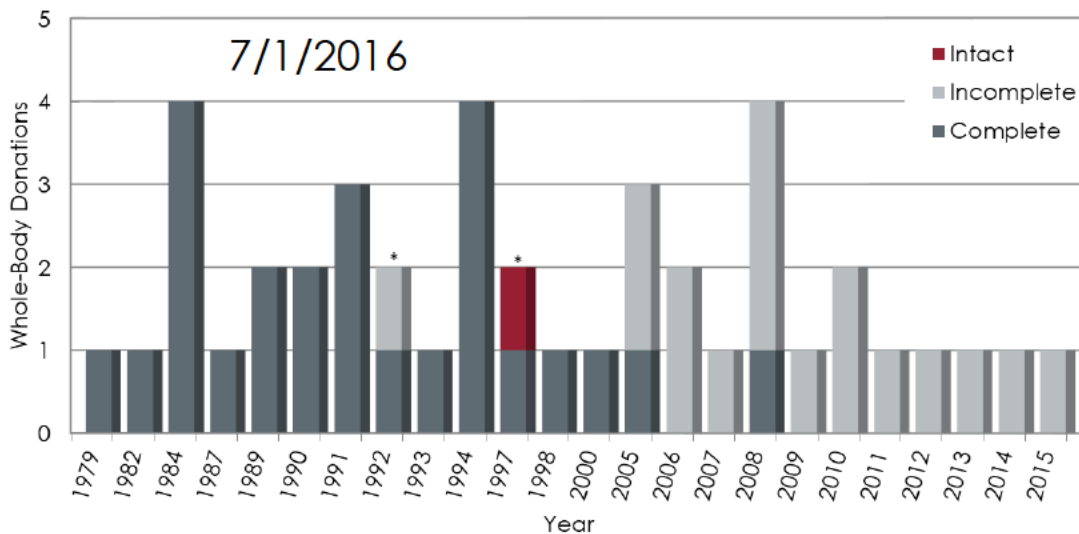
8/1/2017: 43 + 1



■ Intact ■ Incomplete ■ Complete



Status Summary by Year: Whole-Body





Status Change: *Partial-Body*

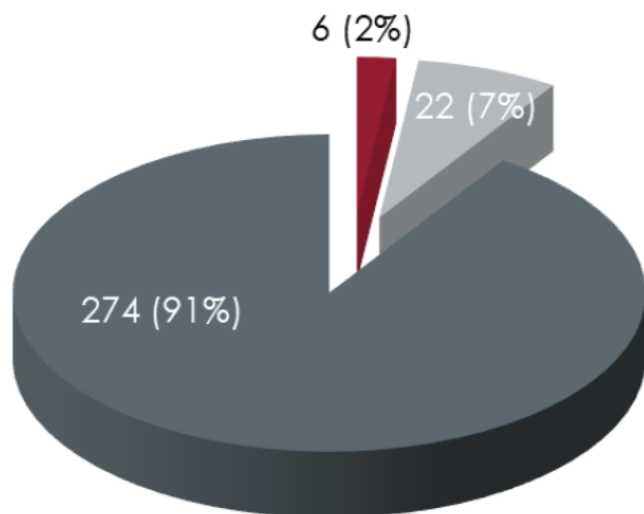
Number of cases: 13

- Case 0385 (2010): intact → complete
- Case 0410 (2016): intact → complete
- Case 0521 (2010): intact → complete
- Case 0771 (2008): intact → complete
- Case 0845 (2016): intact → complete
- Case 0443 (2006): incomplete → complete
- Case 0579 (1993): incomplete → complete
- Case 0733 (2003): incomplete → complete
- Case 0800 (2009): incomplete → complete
- Case 0958 (2009): incomplete → complete
- Case 0421 (2016): intact → incomplete
- Case 0695 (2008): intact → incomplete
- Case 0702 (2006): intact → incomplete



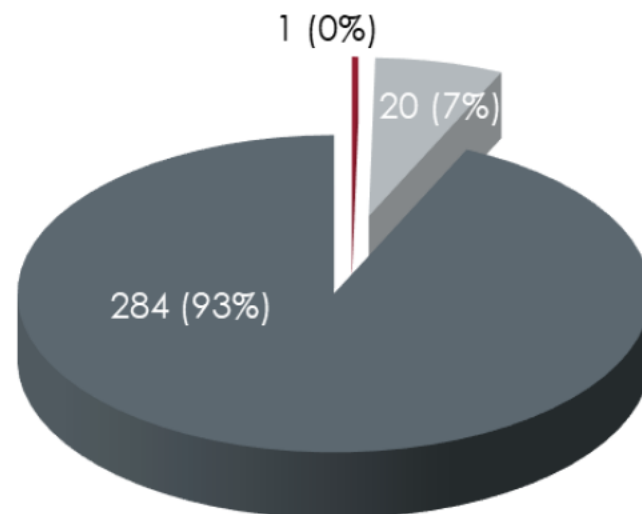
Status Change: *Partial-Body*

7/1/2016: 302



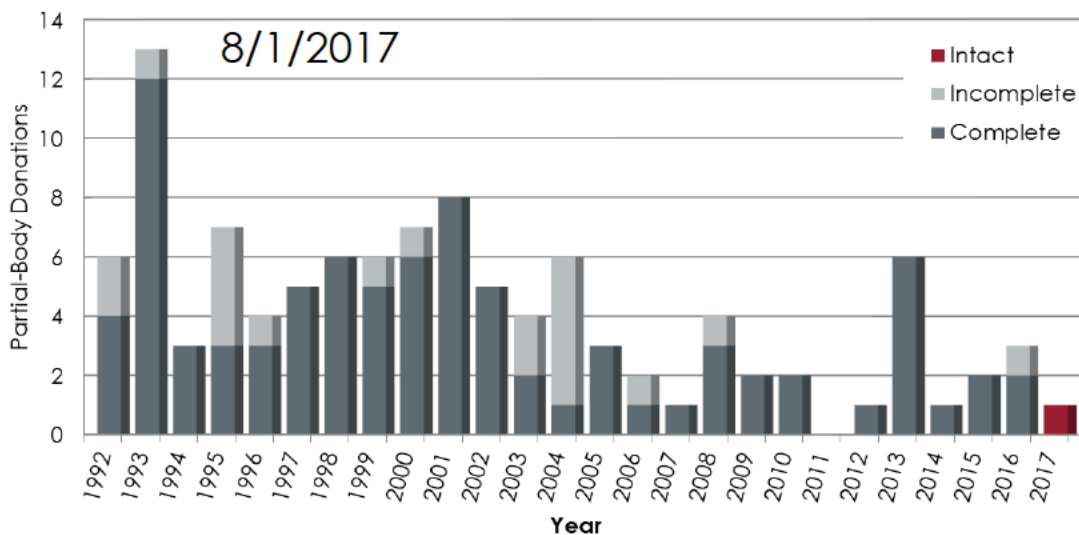
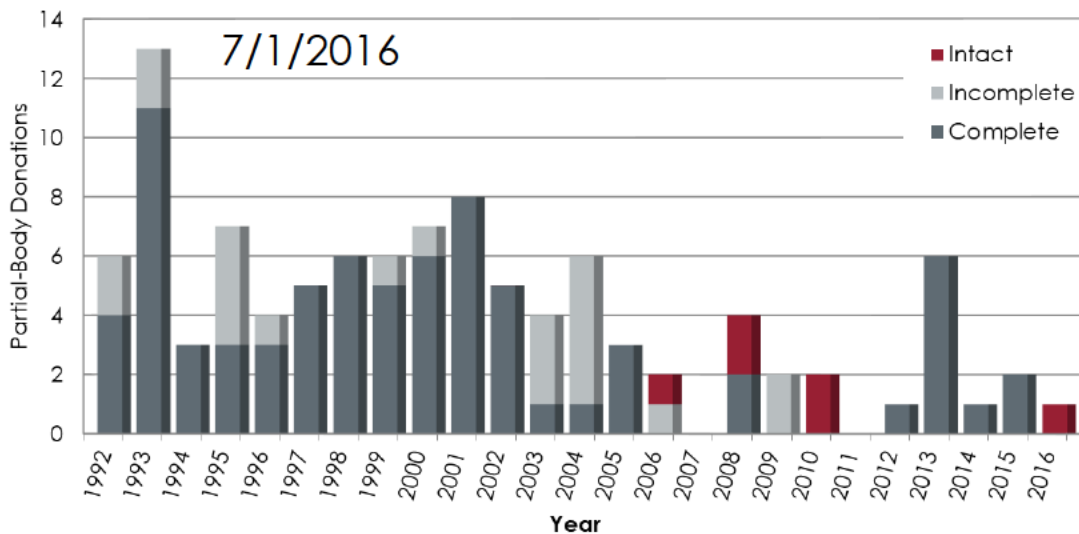
■ Intact ■ Incomplete ■ Complete

8/1/2017: 302 + 3



■ Intact ■ Incomplete ■ Complete

Status Summary by Year: *Partial-Body*





Equipment Upgrade & Facility Maintenance



Duct Work

- Acid corrosion in fume hoods and ducting

Before



After

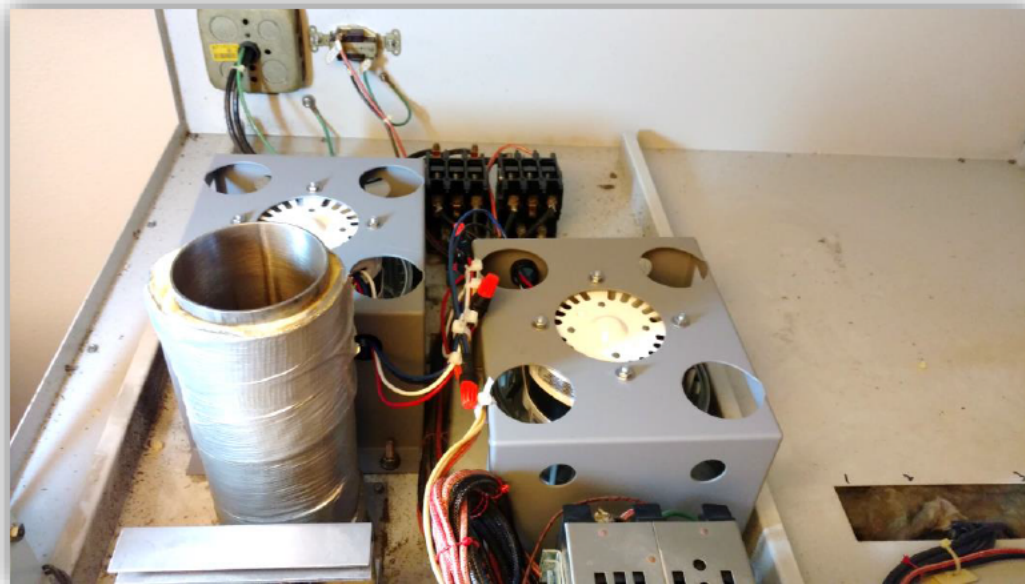




Drying Oven

Broken parts replaced:

- Motors
- Heating elements
- Relay





Water Purification System

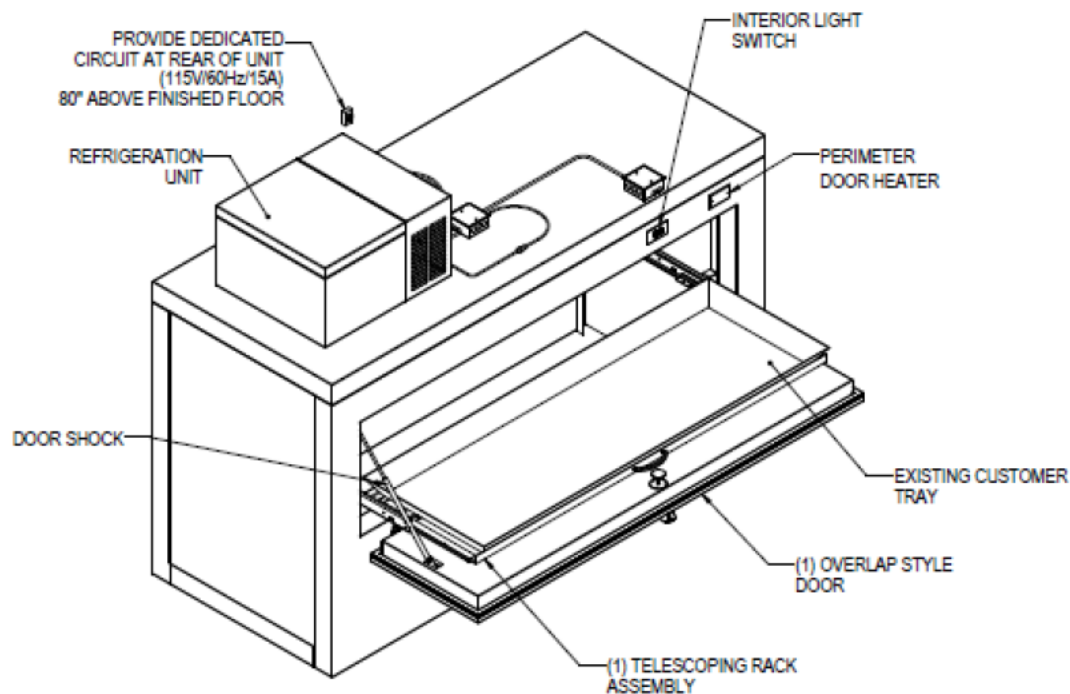
- New Millipore Elix 10





Mortuary Refrigerator

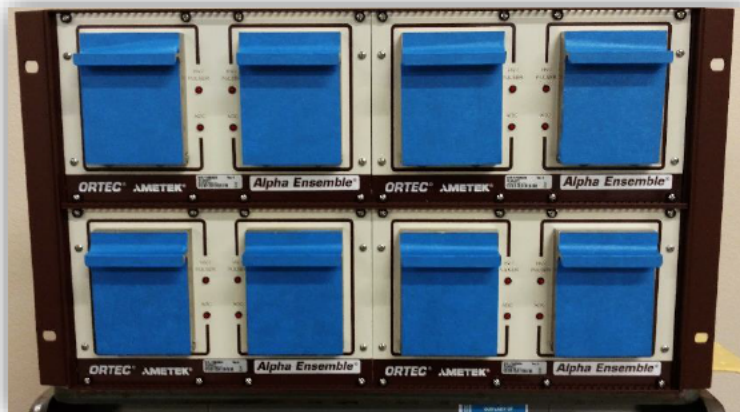
- MORTECH one body side loading refrigerator
- Custom design
- Expected delivery: October 2017





α -spectrometry System

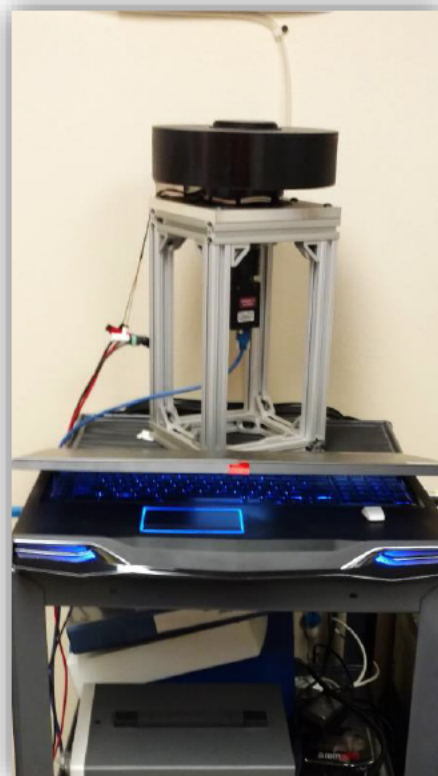
- ALPHA-ENSEMBLE® 8-input benchtop spectrometer
- Low-background ENS-U450 ULTRA-AS detectors (16)
- Rack-mount kit
- Increased total capacity of the system – 48 detectors





Ionizing-radiation Quantum Imaging Detector (iQID)

- Long-term lease of the iQID: USTUR-PNNL agreement





Radiochemistry Database



Radiochemistry Database

Records information on each step of the radiochemistry laboratory operation

- Sample identification
- Data recording and management
 - Drying, ashing, digestion/dissolution, actinide separation, α -source preparation, and counting*
- Tracers, QC solutions, and QA/QC samples
- Case notes
- Case data summary




Case File

Rationalized Laboratory Information : Database- S:\Radiochemistry\Lab Worksheets and Templates\Rational...

FILE HOME CREATE EXTERNAL DATA DATABASE TOOLS George

FrontPage EDDisplay

Case File Navigation



Case 0990

Donation Type: WB Radiochemistry Status: INCOMPLETE

Collection Date: Date Complete:

Case File (Link): [S:\Radiocher](#) Most Recent Count Date: 12/2/2015

Reports

Ashing and Dissolution Sheets
Preview Export

Run(s) 133

Radiochemical Separation
Preview Export

Electrodeposition
Preview Export

Results for Health Physics DB
Preview Export

External Files and Attachments

Rotor Load Matrix: [S:\Radiochemistry\DATA\R/](#)

Sample Analysis Sheets: [S:\Radiochemistry\DATA\R/](#)

RadChem Summary: [S:\Radiochemistry\DATA\R/](#)

Attached Files:

Case Notes:

Working Forms

Tissue Backlog

Add Autopsy Masses

Select Samples For Analysis

Analyzed Sample Information

Navigation Pane

USTUR Case Number NUM LOCK



Navigation

The screenshot shows a web application interface for radiochemistry data management. The browser window title is "Rationalized Laboratory Information : Database- S:\Radiochemistry\Lab Worksheets and Templates\Rational...". The application has a menu bar with "FILE", "HOME", "CREATE", "EXTERNAL DATA", and "DATABASE TOOLS". The user is logged in as "George".

The interface is divided into a "Navigation Pane" on the left and a main content area. The "Navigation Pane" has two tabs: "Case File" and "Navigation". The main content area is organized into four columns:

- Sample Processing:** Contains five rows of controls. Each row starts with a "Case" input field and a "Run" input field. Below these are buttons for "Select Samples For Analysis", "Separate Samples", "Dry/Ash Samples", "Electrodeposit Run", "Digest Samples", "AlphaVision Information", "Dissolve Samples", "Batch Entry", and "Aliquot Samples".
- AV Database:** Contains two buttons: "Update AV Results in DB" and "Choose AV Spectra".
- Data Export:** Contains two rows of controls. Each row starts with a "Case" input field and a "Run" input field. Below these are buttons for "Export Rotor Load Info", "Export for Analysis", and "Quarterly Reports".
- Book Keeping/Maintenance:** Contains several buttons: "Alpha Background Login", "Add New Tissue Samples", "Alpha Calibration Login", "Move Sample List", "Alpha Background QC", "Add Previously Digested Acid Samples", "Alpha Calibration QC", "Run" (with input field), "Add Aliquots To Themis", and "Alpha Detector Availability".

The bottom of the interface shows "Form View" on the left and "NUM LOCK" and other system icons on the right.



Ashing and Dissolution (I)

DryAshPositionGraphical

Case

Drying and Ashing Locations

Drying Map

C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
B	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1	2	3	4

II

Ashing Map

D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
B	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1	2	3	4

Upper

Sample:



Barcode	Case	Sample	Sort	Drying			Ashing		
15000861	0272	002A	0002A	IV <input type="text"/>	A <input type="text"/>	1 <input type="text"/>	Upper <input type="text"/>	<input type="text"/>	<input type="text"/>
13000779	0272	003	0003	III <input type="text"/>	A <input type="text"/>	2 <input type="text"/>	Upper <input type="text"/>	<input type="text"/>	<input type="text"/>
13000841	0272	004	0004	IV <input type="text"/>	B <input type="text"/>	1 <input type="text"/>	Upper <input type="text"/>	B <input type="text"/>	3 <input type="text"/>
15000860	0272	006A	0006A	IV <input type="text"/>	C <input type="text"/>	4 <input type="text"/>	Upper <input type="text"/>	<input type="text"/>	<input type="text"/>
13000873	0272	008A	0008A	IV <input type="text"/>	B <input type="text"/>	4 <input type="text"/>	Upper <input type="text"/>	D <input type="text"/>	3 <input type="text"/>
13000864	0272	009A	0009A	IV <input type="text"/>	A <input type="text"/>	4 <input type="text"/>	Upper <input type="text"/>	C <input type="text"/>	3 <input type="text"/>
13000800	0272	010	0010	IV <input type="text"/>	C <input type="text"/>	3 <input type="text"/>	Upper <input type="text"/>	B <input type="text"/>	1 <input type="text"/>
13000799	0272	011	0011	IV <input type="text"/>	A <input type="text"/>	3 <input type="text"/>	Upper <input type="text"/>	B <input type="text"/>	2 <input type="text"/>
13000839	0272	014	0014	III <input type="text"/>	B <input type="text"/>	1 <input type="text"/>	Lower <input type="text"/>	A <input type="text"/>	2 <input type="text"/>

Ashing and Dissolution (II)

Rationalized Laboratory Information: Database- S:\Radiochemistry\Lab Worksheets and Templates\Ra... ? - [X] [X] [X]

FILE HOME CREATE EXTERNAL DATA DATABASE TOOLS George [X]

FrontPage AshingDissolutionSheet

 **Ashing and
Dissolution Form**  Rev. 5
Date: 6/5/17
09001605

Case: 0996 Beaker Tare (g): 66.48
 Sample: 006 Dry Sample and Beaker (g): 67.77
 Initial Weight (g): 3.1 Dry Sample (g): 1.29
 Prepared Weight (g): 3.1 Ashed Sample and Beaker (g): 66.51
 Procedure Numbers: USTUR 106, USTUR 113 Ashed Sample (g): 0.03
 Tissue Type: Lymphatic - LNTH
 Tissue: Pulmonary (R) LN
 Drying Oven Shelf: [] [] [] [] Furnace Shelf: [] [] [] []

Dissolution Notes:
 MW 1 tube. 3/11 +9 mL HNO₃, +50 mg H₃BO₃, +20 mL HCL

Reagents Used:
 HNO₃ (mL): 18
 HCl (mL): 23
 HF (mL): 4
 -H₃BO₃ (mg): 50
 H₂O₂ (mL): []

Solution Weight (g): 129.05 Acid: 4 M (HP) HCl Aliquot (g) 6.88 ICP-MS?

	Date Started	Initials	Date Completed	Initials
Received	1/23/2015	EMT		
Dried	1/23/2015	EMT	2/2/2015	EMT
Muffled	2/2/2015	EMT	2/16/2015	EMT
Digestion	3/9/2015	EMT	3/11/2015	EMT
Dissolution	3/11/2015	EMT	3/13/2015	EMT

Record: 1 of 30 Filtered Search

Form View NUM LOCK FILTERED [] [] [] []



Radiochemical Separation

Rationalized Laboratory Information : Database- S:\Radiochemistry\Lab Worksheets and Templates\Rationalized Laboratory Information.acddb (Access... ? - □ X)

FILE HOME CREATE EXTERNAL DATA DATABASE TOOLS George ▾

FrontPage AlphaVisionInformation

Radiochemical Separation Form Rev. 4
Date: 6/2/17

Run **133**

Blank Spike Separation Date Am Tracer Pu Tracer U Tracer Th Tracer

Notes L743 X743 5/26/2015 EMT UTR0038 Am-243 UTR0039 Pu-242 UTR0037 U-232

Sample X743 was a mixture of 20.17 g of QCAP0016 and 19.98 g QCU0002. 200 uL of Tracer UTR0037 (U-232) was used for all samples.

	Vol. (uL)	% Bias	RSD
100	0.29%	0.05%	
200	-1.23%	0.09%	

Aliquot ID	Mass (g)				Aliquot	Tissue	Tracer Volume (uL)				Collection Date
	Initial	Ashed	Prep'd	Soln			Am	Pu	U	Th	
L743					21.03	4 M (ACS) HCl	100.0	100.0	200.0		
X743			1002.74		20.17	QCAP0016	100.0	100.0	200.0		
X743			773.39		19.98	QCU0002	100.0	100.0	200.0		
0990-006A	3.10	0.03	3.10	129.05	6.88	Pulmonary (R) LN	100.0	100.0	200.0		10/11/2005
0990-008A	47.62	2.22	47.62	181.02	90.11	Larynx	100.0	100.0	200.0		10/11/2005
0990-009A	24.67	0.69	24.67	131.63	66.43	Trachea	100.0	100.0	200.0		10/11/2005
0990-014A	0.48	0.00	0.48	131.85	6.97	Axillary (R) LN	100.0	100.0	200.0		10/11/2005
0990-016A	524.58	7.97	524.58	415.83	104.38	Cerebral Lobe (R)	100.0	100.0	200.0		10/11/2005
0990-023A	133.44	1.45	133.44	131.55	65.57	Prostate	100.0	100.0	200.0		10/11/2005
0990-024A	81.50	0.60	81.50	132.34	66.29	Pancreas	100.0	100.0	200.0		10/11/2005
0990-026A	3.62	0.02	3.62	131.22	65.40	Adrenal (R)	100.0	100.0	200.0		10/11/2005
0990-027A	461.10	13.85	461.10	373.00	37.74	Liver (R)	100.0	100.0	200.0		10/11/2005
0990-034A	212.57	2.81	212.57	133.27	66.83	Spleen	100.0	100.0	200.0		10/11/2005
0990-035A	108.11	1.31	108.11	132.58	66.47	Kidney (R)	100.0	100.0	200.0		10/11/2005
0990-042A	11.56	0.13	11.56	131.01	65.90	Testis (R)	100.0	100.0	200.0		10/11/2005
0990-052A1		0.74		131.84	92.64	Colon - Right (Ash Scrapings)	100.0	100.0	200.0		10/11/2005
0990-052B	314.03	2.50	314.03	135.65	95.58	Colon - Right	100.0	100.0	200.0		10/11/2005
0990-107A	41.82	17.47	41.82	381.95	43.73	Temporal 2 (R)	100.0	100.0	200.0		10/11/2005
0990-140A	16.08	3.71	16.08	134.37	41.80	Thoracic 7 - Arch	100.0	100.0	200.0		10/11/2005
0990-141A	23.46	2.82	23.46	133.66	40.32	Thoracic 7 - Body	100.0	100.0	200.0		10/11/2005
0990-173B	50.63	8.22	50.63	193.06	47.60	Rib 7 (R)	100.0	100.0	200.0		10/11/2005
0990-208A	106.98	51.63	106.98	1099.48	42.56	Femur: Mid Shaft (R)	100.0	100.0	200.0		10/11/2005
0990-210A	253.28	42.16	253.28	865.92	41.00	Femur: Distal End (R)	100.0	100.0	200.0		10/11/2005
0990-211A	30.83	7.62	30.83	172.60	45.18	Patella (R)	100.0	100.0	200.0		10/11/2005
0990-400A	259.42	2.05	259.42	132.51	66.37	Front: abdominal muscle	100.0	100.0	200.0		10/11/2005

2340 Lindberg Loop, Richland, WA 99354 Page 1 of 1

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Electrodeposition

Rationalized Laboratory Information : Database- S:\Radiochemistry\Lab Worksheets and Templates\Rationali...

FILE HOME CREATE EXTERNAL DATA DATABASE TOOLS George

FrontPage EDDisplay



Electrodeposition

Run 133 Notes

Sample X743 was a mixture of 20.17 g of QCAP0016 and 19.98 g QCU0002. 200 uL of Tracer UTR0037 (U-232) was used for all samples.

Planchet ID	ED Start	Initials	ED End	Initials	Pos'n	Notes
L743 Am	5/26/2015	EMT	5/29/2015	EMT	1	
X743 Am	5/26/2015	EMT	5/29/2015	EMT	2	
0990-006A Am	5/26/2015	EMT	5/29/2015	EMT	3	
0990-008A Am	5/26/2015	EMT	5/29/2015	EMT	4	
0990-009A Am	5/26/2015	EMT	5/29/2015	EMT	5	
0990-014A Am	5/26/2015	EMT	5/29/2015	EMT	6	
0990-016A Am	5/26/2015	EMT	5/29/2015	EMT	7	
0990-023A Am	5/26/2015	EMT	5/29/2015	EMT	8	
0990-024A Am	5/26/2015	EMT	5/29/2015	EMT	9	
0990-026A Am	5/26/2015	EMT	5/29/2015	EMT	10	
0990-027A Am	5/26/2015	EMT	5/29/2015	EMT	11	
0990-034A Am	5/26/2015	EMT	5/29/2015	EMT	12	
0990-035A Am	5/26/2015	EMT	5/28/2015	EMT	1	

Navigation Pane

Report View NUM LOCK



Sample Information Entry

Rationalized Laboratory Information : Database- S:\Radiochemistry\Lab Worksheets and Templates\Rationaliz... George

FILE HOME CREATE EXTERNAL DATA DATABASE TOOLS

FrontPage BatchInput

Batch Entry

Run 192 Employee Procedure USTUR 650 Count D

Planchet ID	Detector	Shelf	Count Time (s)	Count Date	Initials	Batch	Report
L802 Am	33	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
X802 Am	34	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
4356-115A1 Am	41	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
4356-115B1 Am	42	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
4356-115C1 Am	43	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
Bone-IP1 Am	37	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
Bone-IP2 Am	38	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
Bone-IP3 Am	39	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
Bone-IPC Am	40	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
Liver EP1 Am	02	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
Liver EP2 Am	03	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
Liver EP3 Am	04	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
Liver IP17.1 Am	05	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
Liver IP17.2 Am	06	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
Liver IP17.3 Am	07	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
APEP-100AA1 A	47	2	150000	7/28/2017	GT	A2017.07.28 001	Recount
APEP-100AB1 A	48	2	150000	7/28/2017	GT	A2017.07.28 001	Recount

Record: 1 of 63 Filtered Search

Form View NUM LOCK FILTERED




Analyzed Sample Info

Rationalized Laboratory Information : Database- S:\Radiochemistry\Lab Worksheets and Templates\Rationalized Laboratory Infor... George

FILE HOME CREATE EXTERNAL DATA DATABASE TOOLS

FrontPage CaseFileSampleDisplay



Analyzed Sample Information

Case	Sample	PlanchetID	Tissue	Date Rec'd	Separation Date	Count Date	JphaVision Report	Sort
0990	006	0990-006A Am	Pulmonary (R) LN	1/23/2015	5/26/2015	6/2/2015		
0990	006	0990-006A Pu	Pulmonary (R) LN	1/23/2015	5/26/2015	6/4/2015		
0990	006	0990-006A U	Pulmonary (R) LN	1/23/2015	5/26/2015	9/11/2015		
0990	008	0990-008A Am	Larynx	1/23/2015	5/26/2015	6/17/2015		
0990	008	0990-008A Pu	Larynx	1/23/2015	5/26/2015	6/4/2015		
0990	008	0990-008A U	Larynx	1/23/2015	5/26/2015	9/14/2015		
0990	008	0990-008B Am	Larynx	1/23/2015	10/2/2015	12/2/2015		
0990	008	0990-008B Pu	Larynx	1/23/2015	10/2/2015	12/2/2015		
0990	009	0990-009A Am	Trachea	1/23/2015	5/26/2015	6/2/2015		
0990	009	0990-009A Pu	Trachea	1/23/2015	5/26/2015	6/4/2015		
0990	009	0990-009A U	Trachea	1/23/2015	5/26/2015	9/14/2015		
0990	014	0990-014A Am	Axillary (R) LN	1/23/2015	5/26/2015	6/2/2015		
0990	014	0990-014A Pu	Axillary (R) LN	1/23/2015	5/26/2015	6/4/2015		
0990	014	0990-014A U	Axillary (R) LN	1/23/2015	5/26/2015	9/14/2015		
0990	016	0990-016A Am	Cerebral Lobe (R)	1/23/2015	5/26/2015	6/2/2015		
0990	016	0990-016A Pu	Cerebral Lobe (R)	1/23/2015	5/26/2015	6/4/2015		
0990	016	0990-016A U	Cerebral Lobe (R)	1/23/2015	5/26/2015	9/16/2015		
0990	023	0990-023A Am	Prostate	1/23/2015	5/26/2015	6/2/2015		
0990	023	0990-023A Pu	Prostate	1/23/2015	5/26/2015	6/4/2015		
0990	023	0990-023A U	Prostate	1/23/2015	5/26/2015	9/16/2015		
0990	024	0990-024A Am	Pancreas	1/23/2015	5/26/2015	6/17/2015		

Record: 1 of 94 Filtered Search

Navigation Pane

USTUR Case Number NUM LOCK FILTERED



Export Results

Rationalized Laboratory Information : Database- S:\Radiochemistry\Lab Worksheets and Templates\Rationalized Laboratory Information.accdb (Access 2007 - 2013 file format) - Access

George

Lab	Aliquot Samp	Tissue	Prepared Ml	Ashed Samp	Pu Tracer Recovery	Pu-239 (Bq)	Pu-239 Activity U	<MDA	Pu-239 (Bq/l)	Pu-239 Unce	Pu-239 (Bq)
RRL	006A	Pulmonary (R) LN	3.10	0.03	97.4%	1.21E+00	4.76E-02	False	3.90E+02	1.53E+01	
RRL	008A	Larynx	47.62	2.22	101.3%	2.00E-02	1.27E-03	False	4.20E-01	2.66E-02	
RRL	008B	Larynx	47.62	2.22	99.7%	2.93E-02	9.17E-03	True	6.16E-01	1.92E-01	
RRL	009A	Trachea	24.67	0.69	106.0%	2.67E-02	1.43E-03	False	1.08E+00	5.78E-02	
RRL	610A	Lung: Superior (R)	301.04	3.61	103.8%	2.32E+00	8.62E-02	False	7.72E+00	2.86E-01	
RRL	630A	Lung: Inferior (R)	547.34	6.04	102.0%	2.36E+00	8.35E-02	False	4.32E+00	1.53E-01	
RRL	027A	Liver (R)	461.10	13.85	84.7%	2.71E+00	9.95E-02	False	5.87E+00	2.16E-01	
RRL	027B	Liver (R)	461.10	13.85	87.5%	2.94E+00	2.38E-01	True	6.37E+00	5.17E-01	
RRL	023A	Prostate	133.44	1.45	103.4%	1.42E-03	3.00E-04	False	1.07E-02	2.25E-03	
RRL	024A	Pancreas	81.50	0.60	79.8%	1.11E-02	9.81E-04	False	1.36E-01	1.20E-02	
RRL	026A	Adrenal (R)	3.62	0.02	93.2%	6.99E-04	2.27E-04	True	1.93E-01	6.27E-02	
RRL	035A	Kidney (R)	108.11	1.31	98.5%	1.66E-02	1.11E-03	False	1.53E-01	1.03E-02	
RRL	014A	Axillary (R) LN	0.48	0.00	105.7%	0.00E+00	1.04E-03	True	0.00E+00	2.17E+00	
RRL	016A	Cerebral Lobe (R)	524.58	7.97	99.8%	1.34E-02	1.27E-03	False	2.56E-02	2.43E-03	
RRL	034A	Spleen	212.57	2.81	104.8%	1.25E-01	4.72E-03	False	5.89E-01	2.22E-02	
RRL	042A	Testis (R)	11.56	0.13	97.5%	2.81E-03	4.23E-04	False	2.43E-01	3.66E-02	
RRL	052A1	Colon - Right (Ash Scraping)		0.74	97.5%	1.68E-03	3.05E-04	False			
RRL	052B	Colon - Right	314.03	2.50	91.5%	3.15E-03	4.00E-04	False	1.00E-02	1.27E-03	
RRL	400A	Front: abdominal muscle	259.42	2.05	98.7%	2.93E-03	4.51E-04	False	1.13E-02	1.74E-03	
RRL	600A	Front: abdominal skin	92.54	0.51	92.0%	2.68E-03	4.21E-04	False	2.90E-02	4.55E-03	
RRL	870A	Hand Muscle: (R)	110.04	1.33	106.5%	2.93E-02	1.54E-03	False	2.67E-01	1.40E-02	

Record: 1 of 32

NUM LOCK SQL





Detector Management (I)

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FrontPage QCCal QCBkgd

Calibration Data

Export for Plots

Detector: 48

Acquisition Start Date: 5/3/2017

Efficiency: 0.2564114

Uncertainty: 2.276195E-03

Acceptable?

Efficiency within 2 sigma

Efficiency within 3 sigma

Efficiency more than 3 sigma

Record: 48 of 48

Form View NUM LOCK



Detector Management (II)

The screenshot shows a software interface for detector management. The main window is titled "Background Data" and contains several input fields and a table of statistical data.

Input Fields:

- Detector: 01
- Acquisition Start Date: 3/6/2015
- Total Counts: 48
- Max Am/Pu ROI Counts: 10.54
- Max U/Th ROI Counts: (empty)
- Acceptable?:

Statistical Data Table:

Minus 3Sigma	26.4
Minus 2Sigma	32.7
Mean	45.2
Plus 2Sigma	57.7
Plus 3 Sigma	64.0

MDA Ranges (Color-coded):

- MDA \leq 0.30 mBq (Blue)
- 0.30 mBq \leq MDA \leq 0.35 mBq (Green)
- 0.35 mBq \leq MDA \leq 0.40 mBq (Yellow)
- 0.40 mBq \leq MDA \leq 0.50 mBq (Orange)
- 0.50 mBq \leq MDA (Red)

The interface also includes a navigation pane on the left, a record counter at the bottom (1 of 1), and a search bar.



Tissue Sample Backlog

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FILE HOME CREATE EXTERNAL DATA DATABASE TOOLS

FrontPage SampleCountsPerTime BacklogReportExpanded

Backlog Report

Donation	Analyte	Case	Collection Date	Backlog
PB	Pu	0299	2000	10
		0315	2004	3
		0334	2004	24
		0341	2004	3
		0421	2016	4
		0439	2003	18
		0445	2003	1
		0446	1995	7
		0460	1996	1
		0688	2017	50
		0695	2008	16
		0702	2006	5
		0817	2004	4
		0854	1995	22
		0991	2004	25
Total backlog for analyte within donation type			15	193
PB	U	1015	1995	19
		1024	1995	11
		1025	1993	23
		1059	1999	14
		Total backlog for analyte within donation type		
<u>Total backlog for donation type</u>			19	<u>260</u>
WB	Am	0846	2008	106
		Total backlog for analyte within donation type		

Navigation Pane

Report View NUM LOCK



Thank you for your attention!

