

CRITICAL LINK



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Secretary

*A Publication of the
Maryland Department of
Health and Mental Hygiene*

The Laboratories Administration—Maryland's State Public Health Laboratory

Iodine-131 from Fukushima Power Plant Detected in Maryland

Samples are tested by the Laboratories Administration Radiation Laboratory

Iodine (chemical symbol I) is a nonmetallic, crystalline, solid element. It has the unusual property of "sublimation" going from a solid to a gas without first becoming liquid. Iodine is part of thyroxin, a hormone produced by the thyroid gland that controls the body's rate of physical and mental development.



Photo 1: Public Health Laboratory Scientist Abudurehman Abulimiti identified and confirmed ¹³¹I activity found in a charcoal filter from a sampling station located in Harford County.
Photo: Georgia Corso

useful beta emission, Iodine-131 is used extensively in nuclear medicine.¹ This radioactive metal is produced commercially for medical and industrial uses through nuclear fission of either uranium or plutonium. It is highly radioactive, giving off energy in both beta and gamma radiation. It is also a by-product of nuclear fission processes in nuclear reactors and weapons testing. Because it is highly radioactive and volatile, Iodine-131 is a major concern in any kind of radiation release from a nuclear accident.

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Radioactive Iodine-131, also called Radioiodine, was discovered by Glenn T. Seaborg and John Livingood at the University of California in the late 1930's.¹ Because of its short half-life and

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Questions concerning technical content of this newsletter may be referred to Dr. Robert Myers at 410-767-6100

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Iodine-131 from Fukushima Power Plant Detected in Maryland

In Maryland

The Maryland Department of Natural Resources, Power Plant Research Program (DNR-PPRP) monitors the impact of electric power generation on the environment and human health, according to the mandate in the Power Plant Research Program (Annotated Code of Maryland, Natural Resources; § 3-303. Power Plant Environmental Research Program).² To assess long-term impacts to Maryland's ecological resources and potentially to the health of the citizens of Maryland, PPRP researches the transport and fate of radioactivity. Routinely released by Calvert Cliffs Nuclear Power Plant (CCNPP) in Maryland and Peach Bottom Atomic Power Station (PBAPS) in Pennsylvania, the potential impact zones include northeast Maryland, Susquehanna River, and upper Chesapeake Bay.² DNR-PPRP collects a variety of samples over a wide geographic area to assess nuclear power plant release impact. Maryland Department of Health and Mental Hygiene (DHMH) analyzes samples of air filters, charcoal filters, potable and raw water, precipitation,



Photo 2: The Radiation Laboratory uses high efficiency Germanium detectors to identify levels of radioactivity in charcoal filters, air particulate and other matrices in support of the DNR-PPRP. Photo: Georgia Corso

processed and raw milk, vegetables, oysters, soil, and sediments on a semi-annual to continuous basis in support of DNR-PPRP. Samples are tested by the DHMH-Laboratories Administration Radiation Section or by DNR to provide State officials with the information they need to protect the public's health.

The DHMH Laboratories Administration has the instrumentation and methodologies necessary to analyze the variety of samples brought in for DNR-PPRP monitoring. The laboratory receives and tests samples by gamma isotopic analysis using an extensive library, looking for man-made and naturally occurring gamma emitting radionuclides such as (¹³¹I, ¹⁴⁰Ba, ¹³⁷Cs, ⁶⁰Co, ⁴⁰K, ⁷Be). Other samples are tested for gross alpha and beta emitters on Gas Proportional Counter (GPC). Tritium (³H) testing is done by liquid scintillation.

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Photo 3: Samples are placed in the lead shielded Gamma detector for analysis. The outer jacket of the detector is 3/8 inch thick low carbon steel. The bulk shield is 4 inches of thick low background lead. And the graded lining is 0.062 inch thick copper. Photo: Georgia Corso

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Iodine-131 from Fukushima Power Plant Detected in Maryland

Touchdown in Maryland

Fallout from the damaged Fukushima Daiichi nuclear power plants in Japan reached Maryland in late March when Iodine-131 was detected by the Laboratories Administration in a charcoal filter on a regularly scheduled monitoring air sample from Harford County. After confirmation, the test results were made public on March 27, 2011. Dr. Robert M. Summers, Secretary of the Maryland Department of the Environment (MDE), and Maryland Health Secretary Dr. Joshua M. Sharfstein issued a news release announcing that low-level Iodine-131 had been discovered in the Harford County air sample.³ Levels of Iodine-131 detected on all nine air

sampling sites were below the levels of public health concern. Low levels of Iodine-131 were also detected in rainwater in Maryland, Massachusetts, and Pennsylvania.

The principal route of human absorption is via ingestion of fresh milk by cows eating contaminated grass. Concentration of radionuclides in milk reaches its peak days after deposition on vegetation. Iodine-131

can also cause exposure if a person consumes contaminated green leafy vegetables, drinking water, fish and shellfish, as well as exposure by inhalation of radioactive gases and external exposure from ground deposition. When Iodine-131 is ingested, some of it concentrates in the thyroid gland. The rest passes from the body in urine. Inhaled (airborne) Iodine-131 passes from the lungs into the blood stream, and collects in the thyroid. Any remaining iodine passes from the body with urine.¹

Due to its mode of beta decay, Iodine-131 is notable for causing mutation and death in cells which it penetrates, and other cells up to several millimeters away. For this reason, high doses of the isotope are sometimes paradoxically less dangerous than low doses, since they tend to kill tissues which would otherwise become cancerous as a result of the radiation.⁴

(Continued on page 4)

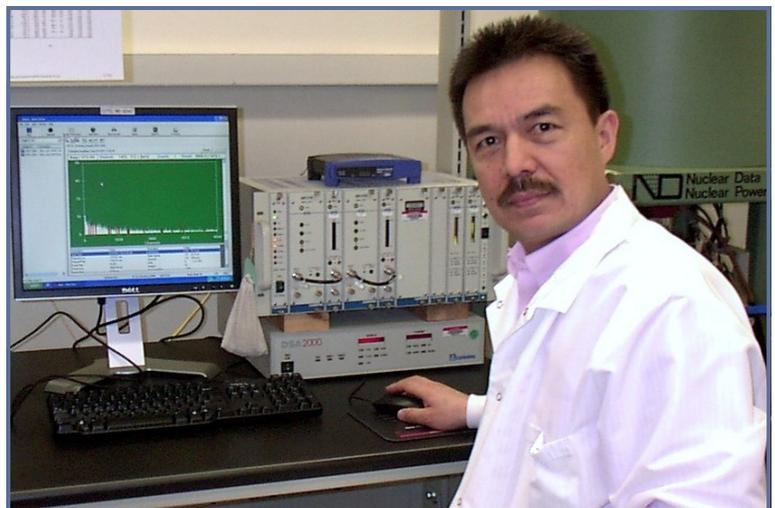


Photo 4: Abudurehman Abulimiti enters the specific geometries and sampling data into the Apex System. The spectrum is interpreted after analysis. Photo: Georgia Corso

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Iodine-131 from Fukushima Power Plant Detected in Maryland

Emergency Response in Maryland

The Maryland Emergency Response team was activated under the leadership of MDE as the Ingestion Pathway Coordinating Committee (IPCC). An expansive sampling plan was developed and executed to assure that drinking water for the citizens of Maryland did not show any activity of Iodine-131. The regular weekly air and rain monitoring program was expanded by adding other monitoring stations. This sampling program revealed no contamination to the drinking water supply, as well as a decrease in activity for Iodine-131 with the passage of time, until no activity was detected. All the data collected during this emergency event has been published on the DHMH website at http://ideha.dhmh.maryland.gov/eh/pdf/radiation_monitoring.pdf

*This article was compiled by
Monica Saunders and Mira Alpizar.*

References

¹ <http://www.epa.gov/rpdweb00/radionuclides/iodine.html#whodiscovered>

² State of Maryland Dept. of Natural Resources Nuclear Power Plant Monitoring Program by Versar Inc. February 2009 <http://ideha.dhmh.maryland.gov/EH/monitoring-radioactivity-from-japanese-reactor-accident.aspx>

³ http://articles.baltimoresun.com/2011-04-04/health/bs-md-radiation-testing-20110404_1_public-health-radiation-health-lab

⁴ <http://en.wikipedia.org/wiki/Iodine-131>

The services and facilities of the Maryland Department of Health and Mental Hygiene (DHMH) are operated on a non-discriminatory basis. This policy prohibits discrimination on the basis of age; ancestry; color; creed; marital status; mental or physical disability; national origin; race; religious affiliation, belief, or opinion; sex; or sexual orientation and plies to the provisions of employment and granting of advantages, privileges and accommodations.

The Department, in compliance with the Americans with Disabilities Act, ensures that qualified individuals with disabilities are given an opportunity to participate in and benefit from DHMH services, programs, benefits, and employment opportunities.

Laboratory Statistics

Reported by the
Laboratories Administration
covering results from the month of
APRIL 2011

ENTERIC BACTERIOLOGY

GENUS SEROVAR	SEX	AGE	#	JURISDICTION
CAMPYLOBACTER				
M		50	1	BALTIMORE
F		38	1	BALTIMORE
CAMPYLOBACTER COLI				
M		51	1	OUT OF STATE
M		39	1	OUT OF STATE
M		23	1	OUT OF STATE
F		0	1	PRINCE GEORGE'S
CAMPYLOBACTER FETUS SS. FETUS				
M		49	1	BALTIMORE CITY
CAMPYLOBACTER JEJUNI				
F		42	1	BALTIMORE
F		33	1	BALTIMORE
F		23	1	BALTIMORE
M		38	3	BALTIMORE
M		33	1	BALTIMORE
M		8	1	BALTIMORE
F		1	1	BALTIMORE CITY
U		34	1	CECIL
F		21	2	CHARLES
M		63	1	CHARLES
U		0	1	OUT OF STATE
F		63	1	OUT OF STATE
F		61	1	OUT OF STATE
M		0	1	OUT OF STATE
M		26	3	OUT OF STATE
M		35	1	TALBOT
CAMPYLOBACTER LARI				
M		44	1	OUT OF STATE
F		55	1	OUT OF STATE

ESCHERICHIA COLI
 FINAL CDC REPORT - EVIDENCE OF STEC
 F 15 1 BALTIMORE
 F 0 1 BALTIMORE
 F 3 3 BALTIMORE
 M 38 1 BALTIMORE
 SALMONELLA
 F 74 1 BALTIMORE CITY
 F 50 1 BALTIMORE CITY
 F 1 1 CALVERT
 F 90 1 FREDERICK
 F 28 1 FREDERICK
 F 57 2 OUT OF STATE
 F 3 1 OUT OF STATE
 F 90 1 WASHINGTON
 SALMONELLA SER. 4,12:I:-
 F 28 1 BALTIMORE
 SALMONELLA SER. 4,5,12:I:-
 M 21 1 ANNE ARUNDEL
 F 89 1 BALTIMORE
 SALMONELLA SER. ANATUM
 F 65 1 BALTIMORE CITY
 M 44 1 BALTIMORE CITY
 F 22 1 BALTIMORE CITY
 SALMONELLA SER. DERBY
 M 20 1 BALTIMORE
 SALMONELLA SER. ENTERITIDIS
 M 66 1 ALLEGANY
 M 63 1 ALLEGANY
 M 50 1 ALLEGANY
 M 31 1 ALLEGANY
 U 0 1 ANNE ARUNDEL
 F 52 1 ANNE ARUNDEL
 F 63 1 BALTIMORE
 F 54 1 BALTIMORE
 F 0 1 BALTIMORE
 M 53 1 BALTIMORE
 U 18 1 BALTIMORE CITY
 U 17 1 BALTIMORE CITY
 U 2 1 BALTIMORE CITY
 F 61 1 BALTIMORE CITY
 F 50 1 BALTIMORE CITY
 F 3 1 BALTIMORE CITY
 F 0 1 BALTIMORE CITY
 M 73 1 BALTIMORE CITY
 M 53 1 BALTIMORE CITY
 M 51 1 BALTIMORE CITY
 M 44 1 BALTIMORE CITY
 M 18 1 BALTIMORE CITY
 M 1 1 BALTIMORE CITY
 F 51 1 CALVERT
 M 0 1 MONTGOMERY
 F 61 1 OUT OF STATE
 F 40 1 OUT OF STATE
 M 25 1 OUT OF STATE
 M 18 1 OUT OF STATE
 M 6 1 OUT OF STATE
 M 1 1 OUT OF STATE
 M 33 1 TALBOT
 SALMONELLA SER. HEIDELBERG
 F 41 1 OUT OF STATE
 SALMONELLA SER. INFANTIS
 U 67 1 CARROLL
 F 69 1 FREDERICK
 M 78 1 FREDERICK
 M 75 1 FREDERICK

M 59 1 FREDERICK
 M 58 1 OUT OF STATE
 F 57 1 OUT OF STATE
 F 19 1 OUT OF STATE
 SALMONELLA SER. NESSZIONA
 M 88 1 BALTIMORE
 SALMONELLA SER. NEWPORT
 F 2 1 OUT OF STATE
 F 1 1 OUT OF STATE
 F 2 1 OUT OF STATE
 M 33 1 OUT OF STATE
 SALMONELLA SER. SANDIEGO
 M 0 1 ANNE ARUNDEL
 M 25 2 BALTIMORE CITY
 SALMONELLA SER. TYPHI
 F 53 1 CHARLES
 F 21 1 CHARLES
 M 2 1 FREDERICK
 M 2 1 OUT OF STATE
 SALMONELLA SER. TYPHIMURIUM
 U 43 1 BALTIMORE
 F 1 1 BALTIMORE CITY
 U 43 1 HARFORD
 SALMONELLA UNTYPABLE,
 SENT TO CDC FOR IDENTIFICATION.
 F 27 1 BALTIMORE CITY
 F 37 1 OUT OF STATE
 SHIGELLA FLEXNERI
 M 22 1 BALTIMORE CITY
 U 27 1 MONTGOMERY
 F 34 1 OUT OF STATE
 M 22 1 OUT OF STATE
 SHIGELLA SONNEI
 M 39 1 BALTIMORE CITY
 M 6 1 OUT OF STATE
 YERSINIA ENTEROCOLITICA
 F 68 1 BALTIMORE CITY
 F 5 1 BALTIMORE CITY
TOTAL 118

ISOLATES - REFERENCE

GENUS SPECIES
 SOURCE # JURISDICTION
 ENTEROCOCCUS FAECIUM
 URINE 1 WICOMICO
TOTAL 1

ISOLATES - MISCELLANEOUS

GENUS SPECIES
 SOURCE # JURISDICTION
 BACILLUS SPECIES
 OTHER 1 CARROLL
 CLOSTRIDIUM PERFRINGENS
 BLOOD 1 BALTIMORE CITY
 ENTEROBACTER CLOACAE
 ARM 1 CARROLL

ENTEROCOCCUS FAECIUM
 CSF 1 BALTIMORE CITY
 ESCHERICHIA COLI
 BLOOD 1 BALTIMORE CITY
 GARDNERELLA VAGINALIS
 VAGINAL 4 PRINCE GEORGE'S
 KLEBSIELLA PNEUMONIAE
 BLOOD 1 BALTIMORE CITY
 LUNG 1 BALTIMORE CITY
 MOLD
 OTHER 1 CARROLL
 PROTEUS MIRABILIS
 OTHER 1 CARROLL
 PROTEUS SPECIES
 BLOOD 1 BALTIMORE CITY
 PSEUDOMONAS AERUGINOSA
 BLOOD 1 BALTIMORE CITY
 WOUND 1 WASHINGTON
 STAPHYLOCOCCUS AUREUS
 BLOOD 1 BALTIMORE CITY
 CSF 1 BALTIMORE CITY
 LUNG 1 BALTIMORE CITY
 WOUND 1 BALTIMORE CITY
 OTHER 1 CARROLL
 WOUND 2 CARROLL
 WOUND 1 MONTGOMERY
 VAGINAL 2 PRINCE GEORGE'S
 WOUND 1 PRINCE GEORGE'S
 VAGINAL 1 SOMERSET
 STAPHYLOCOCCUS,
 COAGULASE NEGATIVE
 BLOOD 2 BALTIMORE CITY
 HIP 1 CARROLL
 THIGH 1 CARROLL
 STREPTOCOCCUS,
 BETA HEMOLYTIC GROUP A
 THROAT 1 MONTGOMERY
 THROAT 3 ALLEGANY
 STREPTOCOCCUS,
 BETA HEMOLYTIC NON-GROUP A
 THROAT 7 ALLEGANY
 STREPTOCOCCUS,
 BETA HEMOLYTIC GROUP B
 VAGINAL 2 ANNE ARUNDEL
 BLOOD 1 BALTIMORE CITY
 VAGINAL 5 PRINCE GEORGE'S
 STREPTOCOCCUS
 SALIVARIUS SS SALIVARIUS
 BLOOD 1 BALTIMORE CITY
 STREPTOCOCCUS, VIRIDANS GROUP
 BLOOD 1 BALTIMORE CITY
 BLOOD 1 BALTIMORE CITY
TOTAL 44

SEXUALLY TRANSMITTED DISEASES

GENUS SPECIES
 SEX # JURISDICTION
 SYPHILIS SEROLOGY
 M 1 ALLEGANY
 F 3 ANNE ARUNDEL
 M 3 ANNE ARUNDEL
 F 3 BALTIMORE
 M 8 BALTIMORE
 F 12 BALTIMORE CITY
 M 27 BALTIMORE CITY

M	2	CAROLINE
U	1	CAROLINE
F	1	CHARLES
F	1	HARFORD
M	2	HOWARD
F	5	MONTGOMERY
M	10	MONTGOMERY
F	7	PRINCE GEORGE'S
M	31	PRINCE GEORGE'S
U	1	PRINCE GEORGE'S
F	1	SAINT MARY'S
M	1	SOMERSET
F	1	UNKNOWN
M	1	WASHINGTON
F	1	WICOMICO
M	1	WICOMICO

TOTAL 124

CHLAMYDIA TRACHOMATIS

F	6	ALLEGANY
M	5	ALLEGANY
F	29	ANNE ARUNDEL
M	12	ANNE ARUNDEL
F	20	BALTIMORE
M	16	BALTIMORE
F	18	BALTIMORE CITY
M	13	BALTIMORE CITY
U	4	BALTIMORE CITY
F	5	CALVERT
F	2	CAROLINE
M	1	CAROLINE
F	4	CECIL
M	2	CECIL
F	14	CHARLES
M	7	CHARLES
F	1	DORCHESTER
F	5	FREDERICK
M	5	FREDERICK
F	1	GARRETT
M	2	GARRETT
F	6	HARFORD
M	7	HARFORD
F	4	HOWARD
M	2	HOWARD
F	3	KENT
M	1	KENT
F	15	MONTGOMERY
M	7	MONTGOMERY
F	52	PRINCE GEORGE'S
M	36	PRINCE GEORGE'S
F	1	QUEEN ANNE'S
M	2	QUEEN ANNE'S
F	7	SAINT MARY'S
M	1	SAINT MARY'S
U	1	SAINT MARY'S
F	3	SOMERSET
M	2	SOMERSET
F	1	TALBOT
F	11	WASHINGTON
M	11	WASHINGTON
F	26	WICOMICO
M	20	WICOMICO
F	4	WORCESTER
M	3	WORCESTER

TOTAL 398

NEISSERIA GONORRHOEAE			
M	1	BALTIMORE CITY	
M	4	MONTGOMERY	
F	11	PRINCE GEORGE'S	
M	13	PRINCE GEORGE'S	
F	1	WICOMICO	
M	1	WICOMICO	

TOTAL 31

MYCOBACTERIOLOGY

ISOLATE
SEX AGE # JURISDICTION

MYCOBACTERIUM ABSCESSUS			
M	72	1	BALTIMORE
M	72	2	BALTIMORE CITY
MYCOBACTERIUM AVIUM			
F	80	1	MONTGOMERY
MYCOBACTERIUM AVIUM COMPLEX			
F	58	1	ALLEGANY
F	71	2	ALLEGANY
F	51	1	BALTIMORE
F	56	1	BALTIMORE
F	65	1	BALTIMORE
F	81	1	BALTIMORE
F	91	1	BALTIMORE
M	61	1	BALTIMORE
M	62	6	BALTIMORE
M	64	1	BALTIMORE
M	87	1	BALTIMORE
U	56	1	BALTIMORE
F	20	1	BALTIMORE CITY
F	27	1	BALTIMORE CITY
F	47	2	BALTIMORE CITY
F	75	1	BALTIMORE CITY
M	46	1	BALTIMORE CITY
M	55	1	BALTIMORE CITY
M	52	1	CARROLL
F	85	1	FREDERICK
M	53	3	HARFORD
M	65	1	TALBOT
M	23	1	WICOMICO
M	65	1	WICOMICO
MYCOBACTERIUM CHELONAE			
M	34	1	BALTIMORE CITY
MYCOBACTERIUM FORTUITUM			
M	82	1	BALTIMORE
M	85	1	BALTIMORE
MYCOBACTERIUM FORTUITUM COMPLEX			
M	85	1	BALTIMORE
U	0	1	BALTIMORE CITY
F	14	1	BALTIMORE CITY
F	51	1	PRINCE GEORGE'S
MYCOBACTERIUM GORDONAE			
M	51	1	BALTIMORE
F	62	1	BALTIMORE CITY
F	66	1	BALTIMORE CITY
F	89	2	BALTIMORE CITY
M	58	2	BALTIMORE CITY
M	65	1	CALVERT
M	25	1	CECIL
F	45	1	PRINCE GEORGE'S

MYCOBACTERIUM KANSASII			
M	57	1	BALTIMORE CITY
M	64	1	BALTIMORE CITY
M	68	1	BALTIMORE CITY
MYCOBACTERIUM MARINUM			
M	42	2	ANNE ARUNDEL
M	61	1	ANNE ARUNDEL
M	62	1	ANNE ARUNDEL
MYCOBACTERIUM TUBERCULOSIS			
F	37	1	ANNE ARUNDEL
M	39	1	BALTIMORE
M	64	1	BALTIMORE
M	34	1	BALTIMORE CITY
M	39	1	BALTIMORE CITY
U	53	1	BALTIMORE CITY
M	31	1	MONTGOMERY
F	30	1	OUT OF STATE
F	50	1	OUT OF STATE
F	51	1	OUT OF STATE
M	21	1	OUT OF STATE
M	22	1	OUT OF STATE
M	29	1	OUT OF STATE
M	35	1	OUT OF STATE
M	48	1	OUT OF STATE
M	59	1	OUT OF STATE
F	46	1	PRINCE GEORGE'S
M	33	1	PRINCE GEORGE'S

MYCOBACTERIUM TUBERCULOSIS COMPLEX			
F	37	2	ANNE ARUNDEL
F	66	5	BALTIMORE
M	35	1	BALTIMORE
M	39	5	BALTIMORE
M	64	2	BALTIMORE
M	68	1	BALTIMORE
F	29	2	BALTIMORE CITY
M	34	1	BALTIMORE CITY
M	39	5	BALTIMORE CITY
M	59	1	HARFORD
M	39	7	HOWARD
F	31	1	MONTGOMERY
F	63	2	MONTGOMERY
M	31	4	MONTGOMERY
F	84	1	OUT OF STATE
M	35	1	OUT OF STATE
M	59	2	OUT OF STATE
M	62	1	OUT OF STATE
M	87	1	OUT OF STATE
M	91	1	OUT OF STATE
F	46	5	PRINCE GEORGE'S
M	18	2	PRINCE GEORGE'S
M	24	2	PRINCE GEORGE'S
M	33	3	PRINCE GEORGE'S
M	35	1	PRINCE GEORGE'S
M	64	3	PRINCE GEORGE'S
M	45	2	WICOMICO

NON-PHOTOCHROMOGENIC MYCOBACTERIA			
F	69	1	ALLEGANY
F	75	1	BALTIMORE
PHOTOCHROMOGENIC MYCOBACTERIA			
M	81	1	BALTIMORE CITY
SCOTOCHROMOGENIC MYCOBACTERIA			
M	77	1	BALTIMORE
M	74	1	WICOMICO

TOTAL 148

MYCOBACTERIUM SUSCEPTIBILITY RESULTS

23 ISOLATES IDENTIFIED

5 DRUG RESISTANT STRAINS FOUND

#	JURISDICTION	DRUG(S)
1 ^C	BALTIMORE CITY	ISONIAZID, PYRAZINAMIDE, RIFAMPIN, ETHAMBUTOL
1	MONTGOMERY	ISONIAZID
1	PRINCE GEORGE'S	ISONIAZID
1	PRINCE GEORGE'S	ISONIAZID, STREPTOMYCIN
1	OUT OF STATE	ISONIAZID

^A TWO ISOLATES FROM THE SAME PATIENT

^B PROBABLE FOR M. BOVIS

^C MEETS CASE DEFINITION OF MULTI-DRUG TUBERCULOSIS (MDRTB)

Mycobacterium tuberculosis complex consists of:

<i>M. tuberculosis</i>	<i>M. africanum</i>
<i>M. bovis</i>	<i>M. microti</i>
<i>M. bovis, BCG</i>	<i>M. canettii</i>

PARASITOLOGY

GENUS/SPECIES	#	JURISDICTION
DIENTAMOEBIA FRAGILIS		
1 PRINCE GEORGE'S		
1 HOWARD		
1 PRINCE GEORGE'S		
1 HOWARD		
ENDOLIMAX NANA		
3 HARFORD		
1 MONTGOMERY		
1 PRINCE GEORGE'S		
3 HOWARD		
ENTAMOEBIA COLI		
1 HARFORD		
1 PRINCE GEORGE'S		
2 MONTGOMERY		
4 PRINCE GEORGE'S		
1 PRINCE GEORGE'S		
ENTAMOEBIA HARTMANNI		
2 BALTIMORE CITY		
1 MONTGOMERY		
1 PRINCE GEORGE'S		
GIARDIA LAMBLIA		
2 ANNE ARUNDEL		
IODAMOEBIA BÜTSCHLI		
3 MONTGOMERY		
1 MONTGOMERY		
TOTAL	31	

WATER MICROBIOLOGY

	# TESTED	# NON-COMPLIANT
COMMUNITY	2	0
NON-COMMUNITY	375	65
TOTAL	377	65

FOOD PROTECTION

TOTALS

FOOD

SAMPLES TESTED* 41

NOTABLE PATHOGENS:

CAMPYLOBACTER SP.

LISTERIA SPP.

SALMONELLA SPP.

EHEC/STEC

OTHER

CRABMEAT

SAMPLES TESTED 0

EXCEEDING STANDARDS¹ 0

NOTABLE PATHOGENS:

LISTERIA SPP.

SHELLFISH

SAMPLES TESTED 0

EXCEEDING STANDARDS² 0

SHELLFISH GROWING WATERS

NUMBER OF SAMPLES 315

OTHER

CLOSTRIDIUM BOTULINUM

*RETAIL MEAT TEST DATA NOT INCLUDED

STANDARDS

¹CRABMEAT FRESH

ESCHERICHIA COLI AT < 36 MPN/100 GRAMS

STANDARD PLATE COUNT AT < 100

²SHELLFISH

FECAL COLIFORMS AT < 230 MPN/100 GRAMS

STANDARD PLATE COUNT AT < 500,000 PER GRAM

VIRUS ISOLATION

ISOLATE
SEX AGE # JURISDICTION

HERPES SIMPLEX VIRUS TYPE 1

M 21 1 WICOMICO

U 21 1 BALTIMORE CITY

INFLUENZA A VIRUS

U 26 1 CHARLES

F 44 1 HARFORD

M 56 1 BALTIMORE CITY

INFLUENZA B VIRUS

M 91 1 ANNE ARUNDEL

F 49 1 CALVERT

F 36 1 CHARLES
PARAINFLUENZA VIRUS 3
F 3 1 ALLEGANY
RESPIRATORY SYNCYTIAL VIRUS
F 1 1 TALBOT

TOTAL 10

VIRAL POLYMERASE CHAIN REACTION (PCR)

ISOLATE
SEX AGE # JURISDICTION

HERPES SIMPLEX VIRUS TYPE 1

U 23 1 ALLEGANY

U 26 1 ALLEGANY

F 22 1 BALTIMORE

U 48 1 BALTIMORE CITY

F 18 1 BALTIMORE CITY

F 19 2 BALTIMORE CITY

F 21 1 BALTIMORE CITY

F 22 1 BALTIMORE CITY

M 23 1 BALTIMORE CITY

F 20 1 CARROLL

F 21 1 CARROLL

F 17 1 CHARLES

M 27 1 CHARLES

F 19 1 PRINCE GEORGE'S

F 20 1 PRINCE GEORGE'S

F 24 1 PRINCE GEORGE'S

F 29 1 PRINCE GEORGE'S

M 21 1 PRINCE GEORGE'S

F 23 1 QUEEN ANNE'S

HERPES SIMPLEX VIRUS TYPE 2

F 19 1 ALLEGANY

F 25 1 ANNE ARUNDEL

M 28 1 ANNE ARUNDEL

F 21 1 BALTIMORE

M 22 1 BALTIMORE

U 24 1 BALTIMORE CITY

U 26 1 BALTIMORE CITY

U 31 1 BALTIMORE CITY

F 16 1 BALTIMORE CITY

F 17 1 BALTIMORE CITY

F 18 1 BALTIMORE CITY

F 20 1 BALTIMORE CITY

F 21 1 BALTIMORE CITY

F 24 1 BALTIMORE CITY

F 26 1 BALTIMORE CITY

F 27 1 BALTIMORE CITY

F 28 2 BALTIMORE CITY

F 29 1 BALTIMORE CITY

F 31 1 BALTIMORE CITY

F 33 1 BALTIMORE CITY

M 0 1 BALTIMORE CITY

M 20 1 BALTIMORE CITY

M 22 1 BALTIMORE CITY

M 34 1 BALTIMORE CITY

M 37 1 BALTIMORE CITY

M 38 1 BALTIMORE CITY

M 47 1 BALTIMORE CITY

M 48 1 BALTIMORE CITY

M 51 1 BALTIMORE CITY

F 39 1 CARROLL

M 25 1 CARROLL

F 31 1 CECIL

M 29 1 CECIL

F	41	1	FREDERICK
F	25	1	HOWARD
F	24	1	MONTGOMERY
F	26	1	MONTGOMERY
F	38	1	MONTGOMERY
M	19	1	MONTGOMERY
M	36	1	MONTGOMERY
F	0	1	PRINCE GEORGE'S
F	16	1	PRINCE GEORGE'S
F	19	1	PRINCE GEORGE'S
F	25	1	PRINCE GEORGE'S
F	31	1	PRINCE GEORGE'S
M	21	1	PRINCE GEORGE'S
M	26	1	WICOMICO
M	32	1	WICOMICO

INFLUENZA 2009 A/H1

F	42	1	ALLEGANY
M	15	1	ALLEGANY
U	1	1	BALTIMORE CITY
U	42	1	BALTIMORE CITY
U	50	1	BALTIMORE CITY
F	21	1	BALTIMORE CITY
M	48	1	BALTIMORE CITY
F	21	1	BALTIMORE CITY
M	54	1	BALTIMORE CITY

INFLUENZA A(H3)

M	2	1	BALTIMORE
M	72	1	BALTIMORE
U	50	1	BALTIMORE CITY
F	0	1	BALTIMORE CITY
F	48	1	BALTIMORE CITY
F	53	1	BALTIMORE CITY
F	81	1	BALTIMORE CITY
M	61	1	BALTIMORE CITY
M	70	1	BALTIMORE CITY
M	82	1	BALTIMORE CITY
M	55	1	CALVERT
F	87	1	CHARLES
F	3	1	HARFORD
F	44	1	HARFORD
M	4	1	HARFORD
M	67	1	MONTGOMERY
F	0	1	PRINCE GEORGE'S
F	16	1	PRINCE GEORGE'S
F	4	1	PRINCE GEORGE'S
F	41	1	PRINCE GEORGE'S

INFLUENZA B VIRUS

M	66	1	ALLEGANY
F	86	1	ANNE ARUNDEL
F	91	1	ANNE ARUNDEL
M	91	1	ANNE ARUNDEL
U	8	1	BALTIMORE
M	90	1	BALTIMORE
U	8	1	BALTIMORE CITY
F	1	1	BALTIMORE CITY
F	38	1	BALTIMORE CITY
F	73	1	BALTIMORE CITY
M	3	1	BALTIMORE CITY
M	45	1	BALTIMORE CITY
M	6	2	BALTIMORE CITY
U	11	1	CECIL
U	42	1	CECIL
F	0	1	CECIL
F	1	1	CECIL
F	20	1	CECIL
M	73	1	CECIL
F	36	1	CHARLES
M	1	1	CHARLES

M	5	1	CHARLES
U	2	1	HARFORD
F	10	1	HARFORD
F	18	1	HARFORD
F	9	1	HARFORD
F	0	1	PRINCE GEORGE'S
F	2	1	PRINCE GEORGE'S
F	23	1	PRINCE GEORGE'S
F	24	1	PRINCE GEORGE'S
F	44	1	PRINCE GEORGE'S
F	64	1	PRINCE GEORGE'S
M	30	1	PRINCE GEORGE'S
F	5	1	TALBOT

TOTAL 133

VIRAL HEPATITIS

ORGANISM	# SPECIMENS	# POSITIVES	JURISDICTION
HEPATITIS A	2	0	BALTIMORE
SUBTOTAL	2	0	
HEPATITIS B	62	2	ALLEGANY
	143	1	ANNE ARUNDEL
	48	0	BALTIMORE
	319	6	BALTIMORE CITY
	5	0	CALVERT
	18	0	CARROLL
	205	0	CECIL
	3	0	CHARLES
	2	0	DORCHESTER
	29	0	FREDERICK
	17	0	GARRETT
	39	1	HARFORD
	27	1	HOWARD
	1	0	KENT
	306	3	MONTGOMERY
	350	5	PRINCE GEORGE'S
	2	0	QUEEN ANNE'S
	7	0	SAINT MARY'S
	2	0	SOMERSET
	3	0	TALBOT
	1	0	UNKNOWN
	43	0	WASHINGTON
	59	0	WICOMICO
SUBTOTAL	1,691	19	
HEPATITIS C	53	4	ALLEGANY
	175	27	ANNE ARUNDEL
	42	4	BALTIMORE
	199	51	BALTIMORE CITY
	5	0	CALVERT
	19	2	CARROLL
	93	8	CECIL
	1	0	CHARLES
	2	0	DORCHESTER
	28	4	FREDERICK
	19	0	GARRETT
	49	2	HARFORD
	13	1	HOWARD

1	0	KENT
105	1	MONTGOMERY
219	3	PRINCE GEORGE'S
2	0	QUEEN ANNE'S
7	1	SAINT MARY'S
1	0	SOMERSET
3	0	TALBOT
1	0	UNKNOWN
14	3	WASHINGTON
9	1	WICOMICO

SUBTOTAL 1,060 112

TOTALS 2,753 131

RABIES

SOURCE	#	JURISDICTION
BAT	1	BALTIMORE CITY
	1	KENT
DOG	1	CHARLES
FOX	1	HARFORD
	1	MONTGOMERY
	1	PRINCE GEORGE'S
GROUND HOG	1	MONTGOMERY
RACCOON	1	ANNE ARUNDEL
	1	BALTIMORE
	1	BALTIMORE CITY
	1	CARROLL
	2	CHARLES
	1	DORCHESTER
	1	FREDERICK
	1	GARRETT
	3	HARFORD
	3	HOWARD
	3	MONTGOMERY
	1	PRINCE GEORGE'S
	1	QUEEN ANNE'S
	1	SAINT MARY'S
	2	TALBOT
	1	WASHINGTON
	2	WORCESTER

TOTAL POSITIVES 31

TOTAL SPECIMENS 220

CHLAMYDIOPHILIA PSITTACI (CHLAMYDIA)

REPORTED QUARTERLY
NO REPORT THIS MONTH

CD4 FLOW CYTOMETRY WORKLOAD

REPORTED QUARTERLY
NO REPORT THIS MONTH

**NEWBORN & CHILDHOOD SCREENING
PRESUMPTIVE POSITIVES**

DISORDERS	#
PHENYLKETONURIA (PKU)	1
MAPLE SYRUP URINE DISEASE (MSUD)	3
HOMOCYSTINURIA	12
TYROSINEMIA	7
ARGININEMIA	0
CITRULLINEMIA	0
GALACTOSEMIA	3
BIOTINIDASE DEFICIENCY	1
HYPOTHYROIDISM	62
HEMOGLOBIN -DISEASE	14
HEMOGLOBIN -BENIGN	423
CONGENITAL ADRENAL HYPERPLASIA (CAH)	9
CYSTIC FIBROSIS	7
FATTY ACID OXIDATIONS	11
ORGANIC ACIDEMIAS	10
ACYLCARNITINE - BORDERLINE	9
ACYLCARNITINE - OTHERS	0
MONTHLY TOTALS	
# OF SPECIMENS SCREENED	11,923
NUMBER OF TESTS	726,574
% UNSATISFACTORY SPECIMENS	1.8

2011 YEAR-TO-DATE CONFIRMED CASES

CONDITIONS	# CONFIRMED
MEDIUM CHAIN ACYL-CoA DEHYDROGENASE DEFICIENCY (MCAD)	1
SHORT CHAIN ACYL-CoA DEHYDROGENASE DEFICIENCY (SCAD)	2
VERY LONG-CHAIN ACY-Co-A DEHYDROGENASE DEFICIENCY(VLCAD)	2
CARNITINE DEFICIENCY (MATERNAL)	1
CITRULLINEMIA (CIT)	1
TYROSINEMIA III	1
CLASSICAL PHENYLKETONURIA (PKU)	1
HYPOTHYROIDISM - PRIMARY	12
OTHER HYPOTHYROIDISM	3
TBG DEFICIENCY	3
CONGENITAL ADRENAL HYPERPLASIA - SALT WASTING	1
BIOTINIDASE DEFICIENCY - CARRIER	1
BIOTINIDASE DEFICIENCY - PARTIAL	1
CYSTIC FIBROSIS	3
GALACTOSEMIA - VARIANT -DG	1
GALACTOSEMIA - VARIANT -DN	1
SICKLE CELL DISEASE -SS	5
SICKLE CELL DISEASE -SC	3

ENVIRONMENTAL CHEMISTRY

SAMPLE TYPES	# NON-COMPLIANT	# TESTED
ASBESTOS		
AIR	0	0
BULK	5	23
AIR QUALITY		
PM 2.5	0	302
RADIATION		
AIR/CHARCOAL FILTERS	0	70
MILK	0	2
WIPES	0	163
RAW WATER	0	27
VEGETATION	0	0
OTHER	0	1
DRINKING WATER		
METALS		
COMMUNITY	6	23
NON-COMMUNITY	1	15
PRIVATE WELLS	18	176
PESTICIDES & PCBs		
COMMUNITY	7	48
NON-COMMUNITY	1	15
PRIVATE WELLS	0	11
VOLATILE ORGANIC COMPOUNDS		
COMMUNITY	3	135
NON-COMMUNITY	0	54
PRIVATE WELLS	0	45
RADIATION		
COMMUNITY	3	53
NON-COMMUNITY	0	0
PRIVATE WELLS	0	18
INORGANICS		
COMMUNITY	0	8
NON-COMMUNITY	9	196
PRIVATE WELLS	2	147
FOOD CHEMISTRY		
SUSPECTED TAMPERING	0	0
MICROSCOPIC FILTH	0	0
LABELING	0	0
SURVEILLANCE	0	0
CHEMICAL CONTAMINATION	0	0
TOTAL	55	1,532

VIRAL LOAD SPECIMENS					
HIV-1 RNA COPIES/ML	<10 ³	10 ³ —10 ⁴	10 ⁴ —10 ⁵	>10 ⁵	TOTALS
ALLEGANY	16	1	2	0	19
CARROLL	2	0	0	0	2
FREDERICK	1	0	2	0	3
MONTGOMERY	70	11	7	0	88
PRINCE GEORGE'S	142	15	14	7	178
SOMERSET	1	0	0	0	1
WASHINGTON	4	0	1	0	5
WICOMICO	2	2	2	0	6
SUBTOTALS	238	29	28	7	302
DEPT. OF CORRECTIONS	10	0	2	0	12
TOTALS	248	29	30	7	314

HIV ANTIBODY SCREENING					
SUBMITTER	TOTAL SPECIMENS	# EIA POSITIVE	% EIA POSITIVE	# WB POSITIVE	% WB POSITIVE
CORRECTION FACILITY JUVENILE	79	1	1.27%	0	0.00%
CORRECTIONAL INSTITUTIONS	202	3	1.49%	2	66.67%
FAMILY PLANNING (NON-GOVERNMENT)	46	0	0.00%	0	0.00%
HEALTH CENTERS (NON-GOVERNMENT)	380	24	6.32%	23	95.83%
HLTH DEPT, NON-STD, FAMILY PLAN	385	0	0.00%	0	0.00%
HLTH DEPT, NON-STD, OB/GYN	32	0	0.00%	0	0.00%
HLTH DEPT, NON-STD, OTHER	561	71	12.66%	68	95.77%
HLTH DEPT, STD CLINICS	1,079	16	1.48%	13	81.25%
HOSPITAL, OTHER	113	14	12.39%	12	85.71%
HOSPITAL, PUBLIC	35	0	0.00%	0	0.00%
LABORATORIES (NON-HOSPITAL)	335	9	2.69%	5	55.56%
PEDIATRIC - CHILD HEALTH	6	0	0.00%	0	0.00%
PRIVATE STUDENT HEALTH CTRS	41	0	0.00%	0	0.00%
PUBLIC STUDENT HEALTH CTRS	215	0	0.00%	0	0.00%
UNKNOWN, NOT SPECIFIED	1	0	0.00%	0	0.00%
TOTALS	3,510	138	3.93%	123	89.13%



MAILING LABEL

Critical Link
 c/o Georgia Corso, Room L-15
 J. Mehsen Joseph Public Health Laboratory
 Department of Health & Mental Hygiene
 201 West Preston Street
 Baltimore, Maryland 21201

