



Howard Backer, MD, MPH
Interim Director

State of California - Health and Human Services Agency
California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804



EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0344

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: Radiologic Health Branch

Address: _____

City: _____ State: CA Zip Code: 95814-5006 Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 03/30/2011 11:00 Date/Time Received: 04/01/2011 10:12

Site Name: Avila Beach / Air Source Name: _____

R Number: R 90440 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
26440.5	03/28/2011 12:22	26782.8	03/30/2011 11:00	342.3

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0344-001	Diablo Canyon NPP	HASL Ga-01-R	Ba-140	0.0115 ± 0.0354	0.110	pCi/m ³
N11-0344-001	Diablo Canyon NPP	HASL Ga-01-R	Ce-141	0.0228 ± 0.00965	0.0333	pCi/m ³
N11-0344-001	Diablo Canyon NPP	HASL Ga-01-R	Ce-144	-0.00710 ± 0.0480	0.125	pCi/m ³
N11-0344-001	Diablo Canyon NPP	HASL Ga-01-R	Cs-134	0.0140 ± 0.00873	0.0342	pCi/m ³
N11-0344-001	Diablo Canyon NPP	HASL Ga-01-R	Cs-137	0.0126 ± 0.00999	0.0391	pCi/m ³
N11-0344-001	Diablo Canyon NPP	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0344-001	Diablo Canyon NPP	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0344-001	Diablo Canyon NPP	HASL Ga-01-R	I-131	0.00859 ± 0.0116	0.0393	pCi/m ³
N11-0344-001	Diablo Canyon NPP	HASL Ga-01-R	I-132	0.0164 ± 0.0118	0.0471	pCi/m ³
N11-0344-001	Diablo Canyon NPP	HASL Ga-01-R	Ru-103	0.00115 ± 0.0110	0.0308	pCi/m ³
N11-0344-001	Diablo Canyon NPP	HASL Ga-01-R	Ru-106	-0.0517 ± 0.0996	0.252	pCi/m ³
N11-0344-001	Diablo Canyon NPP	HASL Ga-01-R	Te-132	0.00205 ± 0.0110	0.0331	pCi/m ³
N11-0344-001	Diablo Canyon NPP	HASL Ga-01-R	Zr-95	0.00561 ± 0.0163	0.0547	pCi/m ³

1. Precision criteria for these methods were determined to be acceptable.
 2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 3. MDA₉₅ is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD₉₅ divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD₉₅ is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

PRELIMINARY Analysis Results Report for Task ID. N11-0344

N11-0344-002

Diablo Canyon NPP

HASL Ga-01-R

Iodine-131

0.105 ± 0.0140

0.0479

pCi/m3

-
1. Precision criteria for these methods were determined to be acceptable.
 2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where S_b is the square root of the instrument background count rate.



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Drinking Water and Radiation Laboratory Branch

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EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0345

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: Radiologic Health Branch

Address: _____

City: Sacramento

State: CA Zip Code: 95814-5006

Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 03/30/2011 10:26 Date/Time Received: 04/01/2011 10:17

Site Name: San Luis Obispo / Air

Source Name: _____

R Number: R 90439

Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
65400.2	03/28/2011 11:29	65750.8	03/30/2011 10:26	350.6

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0345-001	San Luis Obispo	HASL Ga-01-R	Ba-140	0.0183 ± 0.0487	0.156	pCi/m3
N11-0345-001	San Luis Obispo	HASL Ga-01-R	Ce-141	0.0167 ± 0.00982	0.0345	pCi/m3
N11-0345-001	San Luis Obispo	HASL Ga-01-R	Ce-144	0.0223 ± 0.0454	0.129	pCi/m3
N11-0345-001	San Luis Obispo	HASL Ga-01-R	Cs-134	-0.0157 ± 0.0142	0.0300	pCi/m3
N11-0345-001	San Luis Obispo	HASL Ga-01-R	Cs-137	0.0236 ± 0.00592	0.0428	pCi/m3
N11-0345-001	San Luis Obispo	DOE RP 710	Gross Alpha	±		pCi/m3
N11-0345-001	San Luis Obispo	DOE RP 710	Gross Beta	±		pCi/m3
N11-0345-001	San Luis Obispo	HASL Ga-01-R	I-131	0.0213 ± 0.0118	0.0481	pCi/m3
N11-0345-001	San Luis Obispo	HASL Ga-01-R	I-132	-0.0181 ± 0.0221	0.0541	pCi/m3
N11-0345-001	San Luis Obispo	HASL Ga-01-R	Ru-103	0.00941 ± 0.00623	0.0286	pCi/m3
N11-0345-001	San Luis Obispo	HASL Ga-01-R	Ru-106	-0.127 ± 0.133	0.308	pCi/m3
N11-0345-001	San Luis Obispo	HASL Ga-01-R	Te-132	0.00480 ± 0.00824	0.0311	pCi/m3
N11-0345-001	San Luis Obispo	HASL Ga-01-R	Zr-95	-0.0122 ± 0.0263	0.0680	pCi/m3

1. Precision criteria for these methods were determined to be acceptable.
 2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 3. MDA₉₅ is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD₉₅ divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD₉₅ is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

PRELIMINARY Analysis Results Report for Task ID. N11-0345

N11-0345-002

San Luis Obispo

HASL Ga-01-R

Iodine-131

0.101 ± 0.0129

0.0433

pCi/m3

-
1. Precision criteria for these methods were determined to be acceptable.
 2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where S_b is the square root of the instrument background count rate.



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EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0346

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: Radiologic Health Branch

Address: _____

City: Sacramento

State: CA Zip Code: 95814-5006

Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/01/2011 10:48 Date/Time Received: 04/01/2011 10:48

Site Name: Richmond / Air

Source Name: _____

R Number: R 91072

Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
5851.3	03/30/2011 12:30	6166.8	04/01/2011 10:48	315.5

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0346-001	Richmond	HASL Ga-01-R	Ba-140	0.0381 ± 0.0546	0.161	pCi/m3
N11-0346-001	Richmond	HASL Ga-01-R	Ce-141	0.00958 ± 0.0189	0.0545	pCi/m3
N11-0346-001	Richmond	HASL Ga-01-R	Ce-144	-0.0875 ± 0.0886	0.229	pCi/m3
N11-0346-001	Richmond	HASL Ga-01-R	Cs-134	-0.00258 ± 0.00724	0.103	pCi/m3
N11-0346-001	Richmond	HASL Ga-01-R	Cs-137	0.0144 ± 0.0172	0.0583	pCi/m3
N11-0346-001	Richmond	DOE RP 710	Gross Alpha	±		pCi/m3
N11-0346-001	Richmond	DOE RP 710	Gross Beta	±		pCi/m3
N11-0346-001	Richmond	HASL Ga-01-R	I-131	0.0274 ± 0.0140	0.0476	pCi/m3
N11-0346-001	Richmond	HASL Ga-01-R	I-132	0.0287 ± 0.0125	0.0508	pCi/m3
N11-0346-001	Richmond	HASL Ga-01-R	Ru-103	0.0261 ± 0.0126	0.0447	pCi/m3
N11-0346-001	Richmond	HASL Ga-01-R	Ru-106	-0.226 ± 0.140	0.340	pCi/m3
N11-0346-001	Richmond	HASL Ga-01-R	Te-132	0.00915 ± 0.0128	0.0382	pCi/m3
N11-0346-001	Richmond	HASL Ga-01-R	Zr-95	0.0417 ± 0.0398	0.0785	pCi/m3

1. Precision criteria for these methods were determined to be acceptable.
 2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 3. MDA₉₅ is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD₉₅ divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD₉₅ is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

PRELIMINARY Analysis Results Report for Task ID. N11-0346

N11-0346-002

Richmond

HASL Ga-01-R

Iodine-131

0.0541 ± 0.0114

0.0531

pCi/m3

-
1. Precision criteria for these methods were determined to be acceptable.
 2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where S_b is the square root of the instrument background count rate.



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EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0347

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: Radiologic Health Branch

Address: _____

City: Sacramento

State: CA Zip Code: 95814-5006

Phone: _____

Site and Sample Information

Collector's Name: _____

Date/Time Collected: 03/30/2011 16:40

Date/Time Received: 04/01/2011 11:26

Site Name: Eureka / Air

Source Name: _____

R Number: R 93999

Sample Type: Air Filter

Air Filter Information

<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M)³</u>	<u>End Date/Time</u>	<u>Net Air Volume (M)³</u>
17442.3	03/28/2011 10:15	17849.0	03/30/2011 16:40	406.7

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N11-0347-001	Eureka	HASL Ga-01-R	Ba-140	-0.0573 ± 0.0607	0.128	pCi/m3
N11-0347-001	Eureka	HASL Ga-01-R	Ce-141	0.0121 ± 0.00979	0.0310	pCi/m3
N11-0347-001	Eureka	HASL Ga-01-R	Ce-144	0.0512 ± 0.0342	0.117	pCi/m3
N11-0347-001	Eureka	HASL Ga-01-R	Cs-134	0.00546 ± 0.0114	0.0361	pCi/m3
N11-0347-001	Eureka	HASL Ga-01-R	Cs-137	0.00827 ± 0.00995	0.0369	pCi/m3
N11-0347-001	Eureka	DOE RP 710	Gross Alpha	±		pCi/m3
N11-0347-001	Eureka	DOE RP 710	Gross Beta	±		pCi/m3
N11-0347-001	Eureka	HASL Ga-01-R	I-131	-0.00385 ± 0.0119	0.0365	pCi/m3
N11-0347-001	Eureka	HASL Ga-01-R	I-132	-0.0165 ± 0.0187	0.0370	pCi/m3
N11-0347-001	Eureka	HASL Ga-01-R	Ru-103	0.00561 ± 0.00813	0.0292	pCi/m3
N11-0347-001	Eureka	HASL Ga-01-R	Ru-106	-0.0617 ± 0.115	0.284	pCi/m3
N11-0347-001	Eureka	HASL Ga-01-R	Te-132	-0.0163 ± 0.00998	0.0249	pCi/m3
N11-0347-001	Eureka	HASL Ga-01-R	Zr-95	-0.00426 ± 0.0240	0.0627	pCi/m3

1. Precision criteria for these methods were determined to be acceptable.
 2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 3. MDA₉₅ is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD₉₅ divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD₉₅ is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

PRELIMINARY Analysis Results Report for Task ID. N11-0347

N11-0347-002

Eureka

HASL Ga-01-R

Iodine-131

0.142 ± 0.0120

0.0277

pCi/m3

-
1. Precision criteria for these methods were determined to be acceptable.
 2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where S_b is the square root of the instrument background count rate.



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Drinking Water and Radiation Laboratory Branch

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EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0348

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: Radiologic Health Branch

Address: _____

City: Sacramento

State: CA Zip Code: 95814-5006

Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 03/30/2011 13:25 Date/Time Received: 04/01/2011 11:32

Site Name: San Onofre / Air

Source Name: _____

R Number: R 87389

Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
7425.6	03/28/2011 06:45	7794.7	03/30/2011 13:25	369.1

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0348-001	San Onofre	HASL Ga-01-R	Ba-140	-0.0337 ± 0.0500	0.110	pCi/m ³
N11-0348-001	San Onofre	HASL Ga-01-R	Ce-141	-0.0244 ± 0.0168	0.0408	pCi/m ³
N11-0348-001	San Onofre	HASL Ga-01-R	Ce-144	0.0337 ± 0.0544	0.165	pCi/m ³
N11-0348-001	San Onofre	HASL Ga-01-R	Cs-134	0.00337 ± 0.0121	0.0391	pCi/m ³
N11-0348-001	San Onofre	HASL Ga-01-R	Cs-137	-0.00844 ± 0.0127	0.0348	pCi/m ³
N11-0348-001	San Onofre	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0348-001	San Onofre	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0348-001	San Onofre	HASL Ga-01-R	I-131	0.0185 ± 0.0119	0.0404	pCi/m ³
N11-0348-001	San Onofre	HASL Ga-01-R	I-132	0.00545 ± 0.0157	0.0505	pCi/m ³
N11-0348-001	San Onofre	HASL Ga-01-R	Ru-103	-0.0258 ± 0.0147	0.0277	pCi/m ³
N11-0348-001	San Onofre	HASL Ga-01-R	Ru-106	-0.0756 ± 0.102	0.281	pCi/m ³
N11-0348-001	San Onofre	HASL Ga-01-R	Te-132	-0.00696 ± 0.0134	0.0348	pCi/m ³
N11-0348-001	San Onofre	HASL Ga-01-R	Zr-95	0.00101 ± 0.0217	0.0675	pCi/m ³

1. Precision criteria for these methods were determined to be acceptable.
 2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 3. MDA₉₅ is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD₉₅ divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD₉₅ is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

PRELIMINARY Analysis Results Report for Task ID. N11-0348

N11-0348-002

San Onofre

HASL Ga-01-R

Iodine-131

0.193 ± 0.0139

0.0239

pCi/m3

-
1. Precision criteria for these methods were determined to be acceptable.
 2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where S_b is the square root of the instrument background count rate.



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Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804



EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0349

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: Radiologic Health Branch

Address: _____

City: Sacramento

State: CA Zip Code: 95814-5006

Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 03/30/2011 14:04 Date/Time Received: 04/01/2011 11:38

Site Name: Humboldt Bay / Air

Source Name: _____

R Number: R 90466

Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
75838.2	03/28/2011 13:15	76189.6	03/30/2011 14:04	351.4

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0349-001	Humboldt Bay NPP	HASL Ga-01-R	Ba-140	-0.0182 ± 0.0468	0.128	pCi/m ³
N11-0349-001	Humboldt Bay NPP	HASL Ga-01-R	Ce-141	0.0201 ± 0.0106	0.0368	pCi/m ³
N11-0349-001	Humboldt Bay NPP	HASL Ga-01-R	Ce-144	-0.00832 ± 0.0580	0.144	pCi/m ³
N11-0349-001	Humboldt Bay NPP	HASL Ga-01-R	Cs-134	-0.00457 ± 0.0154	0.0433	pCi/m ³
N11-0349-001	Humboldt Bay NPP	HASL Ga-01-R	Cs-137	-0.00405 ± 0.0154	0.0427	pCi/m ³
N11-0349-001	Humboldt Bay NPP	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0349-001	Humboldt Bay NPP	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0349-001	Humboldt Bay NPP	HASL Ga-01-R	I-131	0.0364 ± 0.00888	0.0479	pCi/m ³
N11-0349-001	Humboldt Bay NPP	HASL Ga-01-R	I-132	0.0106 ± 0.0175	0.0570	pCi/m ³
N11-0349-001	Humboldt Bay NPP	HASL Ga-01-R	Ru-103	0.0119 ± 0.00616	0.0304	pCi/m ³
N11-0349-001	Humboldt Bay NPP	HASL Ga-01-R	Ru-106	0.0370 ± 0.0625	0.242	pCi/m ³
N11-0349-001	Humboldt Bay NPP	HASL Ga-01-R	Te-132	-0.0127 ± 0.0113	0.0325	pCi/m ³
N11-0349-001	Humboldt Bay NPP	HASL Ga-01-R	Zr-95	0.00665 ± 0.0202	0.0678	pCi/m ³

1. Precision criteria for these methods were determined to be acceptable.
 2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 3. MDA₉₅ is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD₉₅ divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD₉₅ is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

PRELIMINARY Analysis Results Report for Task ID. N11-0349

N11-0349-002

Humboldt Bay NPP

HASL Ga-01-R

Iodine-131

0.102 ± 0.0115

0.0316

pCi/m3

-
1. Precision criteria for these methods were determined to be acceptable.
 2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where S_b is the square root of the instrument background count rate.



Howard Backer, MD, MPH
Interim Director

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California Department of Public Health

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804



EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0350

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: Radiologic Health Branch

Address: _____

City: Sacramento

State: CA Zip Code: 95814-5006

Phone: _____

Site and Sample Information

Collector's Name: _____

Date/Time Collected: 04/01/2011 09:27

Date/Time Received: 04/01/2011 11:55

Site Name: Livermore / Air

Source Name: _____

R Number: R 91051

Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
33522.7	03/30/2011 12:55	33855.1	04/01/2011 09:27	332.4

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0350-001	Livermore	HASL Ga-01-R	Ba-140	0.0378 ± 0.0460	0.139	pCi/m ³
N11-0350-001	Livermore	HASL Ga-01-R	Ce-141	0.00301 ± 0.0174	0.0497	pCi/m ³
N11-0350-001	Livermore	HASL Ga-01-R	Ce-144	-0.0832 ± 0.0783	0.200	pCi/m ³
N11-0350-001	Livermore	HASL Ga-01-R	Cs-134	-0.0154 ± 0.0171	0.0483	pCi/m ³
N11-0350-001	Livermore	HASL Ga-01-R	Cs-137	-0.000723 ± 0.0159	0.0486	pCi/m ³
N11-0350-001	Livermore	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0350-001	Livermore	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0350-001	Livermore	HASL Ga-01-R	I-131	0.0219 ± 0.0124	0.0417	pCi/m ³
N11-0350-001	Livermore	HASL Ga-01-R	I-132	0.000784 ± 0.0142	0.0432	pCi/m ³
N11-0350-001	Livermore	HASL Ga-01-R	Ru-103	0.00980 ± 0.0129	0.0383	pCi/m ³
N11-0350-001	Livermore	HASL Ga-01-R	Ru-106	-0.0594 ± 0.123	0.356	pCi/m ³
N11-0350-001	Livermore	HASL Ga-01-R	Te-132	-0.000731 ± 0.0114	0.0323	pCi/m ³
N11-0350-001	Livermore	HASL Ga-01-R	Zr-95	0.00379 ± 0.0217	0.0700	pCi/m ³

1. Precision criteria for these methods were determined to be acceptable.
 2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 3. MDA₉₅ is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD₉₅ divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD₉₅ is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where Sb is the square root of the instrument background count rate.

PRELIMINARY Analysis Results Report for Task ID. N11-0350

N11-0350-002

Livermore

HASL Ga-01-R

Iodine-131

0.0462 ± 0.0101

0.0460

pCi/m3

-
1. Precision criteria for these methods were determined to be acceptable.
 2. CE is the counting error at the 95% confidence level as defined in Prescribed Procedures for Measurement of Radioactivity in Drinking Water, EPA-600/4-80-032, August 1980
 3. MDA95 is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD95 divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD95 is defined in section 7020C, Standard Methods for the Examination of Water and Wastewater, American Water Works Association, 21st Ed., 2005, where S_b is the square root of the instrument background count rate.