



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. N11-0420

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: _____
Address: _____
City: _____ State: CA Zip Code: _____ Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/13/2011 10:00 Date/Time Received: 04/13/2011 11:54
Site Name: Richmond / Air Source Name: _____
R Number: R 91088 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
7775.6	04/11/2011 10:05	8106.0	04/13/2011 10:00	330.4

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0420-001	Richmond	HASL Ga-01-R	Ba-140	0.0219 ± 0.0372	0.124	pCi/m ³
N11-0420-001	Richmond	HASL Ga-01-R	Ce-141	-0.00789 ± 0.0166	0.0388	pCi/m ³
N11-0420-001	Richmond	HASL Ga-01-R	Ce-144	0.104 ± 0.0388	0.156	pCi/m ³
N11-0420-001	Richmond	HASL Ga-01-R	Cs-134	-0.0133 ± 0.0157	0.0391	pCi/m ³
N11-0420-001	Richmond	HASL Ga-01-R	Cs-137	-0.0196 ± 0.0181	0.0351	pCi/m ³
N11-0420-001	Richmond	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0420-001	Richmond	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0420-001	Richmond	HASL Ga-01-R	I-131	0.0212 ± 0.00825	0.0389	pCi/m ³
N11-0420-001	Richmond	HASL Ga-01-R	I-132	0.000710 ± 0.0108	0.0334	pCi/m ³
N11-0420-001	Richmond	HASL Ga-01-R	Ru-103	-0.0125 ± 0.0112	0.0261	pCi/m ³
N11-0420-001	Richmond	HASL Ga-01-R	Ru-106	0.167 ± 0.0752	0.381	pCi/m ³
N11-0420-001	Richmond	HASL Ga-01-R	Te-132	0.000283 ± 0.00730	0.0246	pCi/m ³
N11-0420-001	Richmond	HASL Ga-01-R	Zr-95	0.00995 ± 0.0353	0.0680	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. N11-0420

N11-0420-002

Richmond

HASL Ga-01-R

Iodine-131

0.0167 ± 0.0127

0.0436

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. N11-0421

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: _____
Address: _____
City: _____ State: CA Zip Code: _____ Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/09/2011 11:45 Date/Time Received: 04/13/2011 16:26
Site Name: Eureka / Air Source Name: _____
R Number: R 91202 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
19228.4	04/07/2011 09:45	19599.5	04/09/2011 11:45	371.1

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0421-001	Eureka	HASL Ga-01-R	Ba-140	0.0468 ± 0.0358	0.131	pCi/m ³
N11-0421-001	Eureka	HASL Ga-01-R	Ce-141	0.0127 ± 0.00917	0.0298	pCi/m ³
N11-0421-001	Eureka	HASL Ga-01-R	Ce-144	0.0421 ± 0.0400	0.121	pCi/m ³
N11-0421-001	Eureka	HASL Ga-01-R	Cs-134	0.0207 ± 0.00796	0.0360	pCi/m ³
N11-0421-001	Eureka	HASL Ga-01-R	Cs-137	0.00288 ± 0.0105	0.0326	pCi/m ³
N11-0421-001	Eureka	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0421-001	Eureka	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0421-001	Eureka	HASL Ga-01-R	I-131	0.00664 ± 0.0103	0.0352	pCi/m ³
N11-0421-001	Eureka	HASL Ga-01-R	I-132	0.0179 ± 0.0223	0.0788	pCi/m ³
N11-0421-001	Eureka	HASL Ga-01-R	Ru-103	-0.0120 ± 0.0116	0.0266	pCi/m ³
N11-0421-001	Eureka	HASL Ga-01-R	Ru-106	0.0976 ± 0.0552	0.258	pCi/m ³
N11-0421-001	Eureka	HASL Ga-01-R	Te-132	0.00486 ± 0.0155	0.0477	pCi/m ³
N11-0421-001	Eureka	HASL Ga-01-R	Zr-95	-0.0425 ± 0.0316	0.0495	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. N11-0421

N11-0421-002

Eureka

HASL Ga-01-R

Iodine-131

0.0177 ± 0.0122

0.0504

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. N11-0422

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: _____
Address: _____
City: _____ State: CA Zip Code: _____ Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/13/2011 08:30 Date/Time Received: 04/14/2011 08:58
Site Name: Eureka / Air Source Name: _____
R Number: R 91205 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>
19951.5	04/11/2011 10:50	20295.6	04/13/2011 08:30	344.1

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N11-0422-001	Eureka	HASL Ga-01-R	Ba-140	0.0315 ± 0.0381	0.122	pCi/m3
N11-0422-001	Eureka	HASL Ga-01-R	Ce-141	0.00289 ± 0.0144	0.0418	pCi/m3
N11-0422-001	Eureka	HASL Ga-01-R	Ce-144	0.0425 ± 0.0584	0.180	pCi/m3
N11-0422-001	Eureka	HASL Ga-01-R	Cs-134	0.00615 ± 0.0115	0.0391	pCi/m3
N11-0422-001	Eureka	HASL Ga-01-R	Cs-137	0.0125 ± 0.00845	0.0344	pCi/m3
N11-0422-001	Eureka	DOE RP 710	Gross Alpha	±		pCi/m3
N11-0422-001	Eureka	DOE RP 710	Gross Beta	±		pCi/m3
N11-0422-001	Eureka	HASL Ga-01-R	I-131	-0.0100 ± 0.0131	0.0318	pCi/m3
N11-0422-001	Eureka	HASL Ga-01-R	I-132	-0.00144 ± 0.0122	0.0371	pCi/m3
N11-0422-001	Eureka	HASL Ga-01-R	Ru-103	-0.00845 ± 0.0131	0.0311	pCi/m3
N11-0422-001	Eureka	HASL Ga-01-R	Ru-106	0.0329 ± 0.0851	0.295	pCi/m3
N11-0422-001	Eureka	HASL Ga-01-R	Te-132	-0.00751 ± 0.0116	0.0306	pCi/m3
N11-0422-001	Eureka	HASL Ga-01-R	Zr-95	-0.0249 ± 0.0220	0.0537	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. N11-0422

N11-0422-002

Eureka

HASL Ga-01-R

Iodine-131

0.0105 ± 0.0102

0.0349

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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Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0423

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: Radiologic Health Branch

Address: _____

City: _____ State: CA Zip Code: _____ Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/13/2011 11:50 Date/Time Received: 04/14/2011 09:05

Site Name: Los Angeles / Air Source Name: _____

R Number: R 91124 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
89305.2	04/11/2011 11:30	89625.2	04/13/2011 11:50	320.0

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0423-001	Los Angeles	HASL Ga-01-R	Ba-140	-0.0533 ± 0.0532	0.120	pCi/m ³
N11-0423-001	Los Angeles	HASL Ga-01-R	Ce-141	0.00187 ± 0.0162	0.0391	pCi/m ³
N11-0423-001	Los Angeles	HASL Ga-01-R	Ce-144	-0.0172 ± 0.0594	0.143	pCi/m ³
N11-0423-001	Los Angeles	HASL Ga-01-R	Cs-134	-0.00722 ± 0.0169	0.0404	pCi/m ³
N11-0423-001	Los Angeles	HASL Ga-01-R	Cs-137	0.0157 ± 0.0107	0.0455	pCi/m ³
N11-0423-001	Los Angeles	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0423-001	Los Angeles	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0423-001	Los Angeles	HASL Ga-01-R	I-131	-0.00371 ± 0.0108	0.0332	pCi/m ³
N11-0423-001	Los Angeles	HASL Ga-01-R	I-132	-0.0204 ± 0.0195	0.0440	pCi/m ³
N11-0423-001	Los Angeles	HASL Ga-01-R	Ru-103	0.00909 ± 0.00860	0.0338	pCi/m ³
N11-0423-001	Los Angeles	HASL Ga-01-R	Ru-106	0.0594 ± 0.102	0.361	pCi/m ³
N11-0423-001	Los Angeles	HASL Ga-01-R	Te-132	0.00433 ± 0.00941	0.0333	pCi/m ³
N11-0423-001	Los Angeles	HASL Ga-01-R	Zr-95	-0.0381 ± 0.0407	0.0679	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. N11-0423

N11-0423-002

Los Angeles

HASL Ga-01-R

Iodine-131

0.0209 ± 0.00916

0.0387

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. N11-0424

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: _____
Address: _____
City: _____ State: CA Zip Code: _____ Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/13/2011 14:45 Date/Time Received: 04/14/2011 09:10
Site Name: San Onofre / Air Source Name: _____
R Number: R 87395 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
9741.8	04/11/2011 16:30	10059.0	04/13/2011 14:45	317.2

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0424-001	San Onofre	HASL Ga-01-R	Ba-140	-0.0780 ± 0.0646	0.141	pCi/m ³
N11-0424-001	San Onofre	HASL Ga-01-R	Ce-141	0.0145 ± 0.0176	0.0447	pCi/m ³
N11-0424-001	San Onofre	HASL Ga-01-R	Ce-144	0.0252 ± 0.0589	0.163	pCi/m ³
N11-0424-001	San Onofre	HASL Ga-01-R	Cs-134	-0.0483 ± 0.0263	0.0366	pCi/m ³
N11-0424-001	San Onofre	HASL Ga-01-R	Cs-137	0.0155 ± 0.0146	0.0524	pCi/m ³
N11-0424-001	San Onofre	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0424-001	San Onofre	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0424-001	San Onofre	HASL Ga-01-R	I-131	0.0103 ± 0.00674	0.0308	pCi/m ³
N11-0424-001	San Onofre	HASL Ga-01-R	I-132	0.0240 ± 0.00642	0.0468	pCi/m ³
N11-0424-001	San Onofre	HASL Ga-01-R	Ru-103	-0.00410 ± 0.0134	0.0393	pCi/m ³
N11-0424-001	San Onofre	HASL Ga-01-R	Ru-106	-0.00190 ± 0.121	0.364	pCi/m ³
N11-0424-001	San Onofre	HASL Ga-01-R	Te-132	-0.00302 ± 0.00868	0.0283	pCi/m ³
N11-0424-001	San Onofre	HASL Ga-01-R	Zr-95	-0.00423 ± 0.0339	0.0548	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. N11-0424

N11-0424-002

San Onofre

HASL Ga-01-R

Iodine-131

0.0104 ± 0.0103

0.0369

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. N11-0425

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: Radiologic Health Branch

Address: _____

City: _____ State: CA Zip Code: _____ Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/13/2011 12:13 Date/Time Received: 04/14/2011 10:37

Site Name: San Diego / Air Source Name: _____

R Number: R 90618 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>
82782.1	04/11/2011 08:54	83135.8	04/13/2011 12:13	353.7

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N11-0425-001	San Diego	HASL Ga-01-R	Ba-140	-0.0301 ± 0.0449	0.110	pCi/m ³
N11-0425-001	San Diego	HASL Ga-01-R	Ce-141	0.00227 ± 0.0134	0.0343	pCi/m ³
N11-0425-001	San Diego	HASL Ga-01-R	Ce-144	0.0514 ± 0.0407	0.133	pCi/m ³
N11-0425-001	San Diego	HASL Ga-01-R	Cs-134	-0.0134 ± 0.0131	0.0297	pCi/m ³
N11-0425-001	San Diego	HASL Ga-01-R	Cs-137	-0.00390 ± 0.0136	0.0328	pCi/m ³
N11-0425-001	San Diego	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0425-001	San Diego	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0425-001	San Diego	HASL Ga-01-R	I-131	0.0203 ± 0.00776	0.0370	pCi/m ³
N11-0425-001	San Diego	HASL Ga-01-R	I-132	-0.00276 ± 0.0120	0.0324	pCi/m ³
N11-0425-001	San Diego	HASL Ga-01-R	Ru-103	0.0104 ± 0.00608	0.0288	pCi/m ³
N11-0425-001	San Diego	HASL Ga-01-R	Ru-106	-0.0837 ± 0.122	0.305	pCi/m ³
N11-0425-001	San Diego	HASL Ga-01-R	Te-132	-0.00467 ± 0.00892	0.0266	pCi/m ³
N11-0425-001	San Diego	HASL Ga-01-R	Zr-95	0.0126 ± 0.0163	0.0615	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. N11-0425

N11-0425-002

San Diego

HASL Ga-01-R

Iodine-131

0.0144 ± 0.0126

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.



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Interim Director

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850 Marina Bay Parkway, Richmond, CA 94804



EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0426

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: Radiologic Health Branch

Address: _____

City: _____ State: CA Zip Code: _____ Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/13/2011 12:40 Date/Time Received: 04/14/2011 10:42

Site Name: San Luis Obispo / Air Source Name: _____

R Number: R 85049 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
67893.9	04/11/2011 12:16	68255.7	04/13/2011 12:40	361.8

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0426-001	San Luis Obispo	HASL Ga-01-R	Ba-140	-0.00298 ± 0.0374	0.100	pCi/m ³
N11-0426-001	San Luis Obispo	HASL Ga-01-R	Ce-141	-0.00797 ± 0.0140	0.0370	pCi/m ³
N11-0426-001	San Luis Obispo	HASL Ga-01-R	Ce-144	-0.0277 ± 0.0590	0.157	pCi/m ³
N11-0426-001	San Luis Obispo	HASL Ga-01-R	Cs-134	-0.00837 ± 0.0112	0.0316	pCi/m ³
N11-0426-001	San Luis Obispo	HASL Ga-01-R	Cs-137	-0.0123 ± 0.0134	0.0355	pCi/m ³
N11-0426-001	San Luis Obispo	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0426-001	San Luis Obispo	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0426-001	San Luis Obispo	HASL Ga-01-R	I-131	0.0222 ± 0.0106	0.0374	pCi/m ³
N11-0426-001	San Luis Obispo	HASL Ga-01-R	I-132	-0.00350 ± 0.0131	0.0388	pCi/m ³
N11-0426-001	San Luis Obispo	HASL Ga-01-R	Ru-103	0.00561 ± 0.00888	0.0268	pCi/m ³
N11-0426-001	San Luis Obispo	HASL Ga-01-R	Ru-106	0.00820 ± 0.0717	0.238	pCi/m ³
N11-0426-001	San Luis Obispo	HASL Ga-01-R	Te-132	0.00336 ± 0.00982	0.0294	pCi/m ³
N11-0426-001	San Luis Obispo	HASL Ga-01-R	Zr-95	-0.0140 ± 0.0178	0.0464	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. N11-0426

N11-0426-002

San Luis Obispo

HASL Ga-01-R

Iodine-131

0.00621 ± 0.0135

0.0434

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

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. N11-0427

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: Radiologic Health Branch

Address: _____

City: _____ State: CA Zip Code: _____ Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/13/2011 13:54 Date/Time Received: 04/14/2011 10:49

Site Name: Avila Beach / Air Source Name: _____

R Number: R 85050 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
28888.5	04/11/2011 10:07	29271.1	04/13/2011 13:54	382.6

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0427-001	Diablo Canyon NPP	HASL Ga-01-R	Ba-140	0.0193 ± 0.0218	0.0790	pCi/m ³
N11-0427-001	Diablo Canyon NPP	HASL Ga-01-R	Ce-141	-0.000767 ± 0.00880	0.0262	pCi/m ³
N11-0427-001	Diablo Canyon NPP	HASL Ga-01-R	Ce-144	0.0303 ± 0.0349	0.117	pCi/m ³
N11-0427-001	Diablo Canyon NPP	HASL Ga-01-R	Cs-134	0.00739 ± 0.00862	0.0281	pCi/m ³
N11-0427-001	Diablo Canyon NPP	HASL Ga-01-R	Cs-137	-0.00382 ± 0.0129	0.0332	pCi/m ³
N11-0427-001	Diablo Canyon NPP	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0427-001	Diablo Canyon NPP	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0427-001	Diablo Canyon NPP	HASL Ga-01-R	I-131	0.00496 ± 0.00894	0.0284	pCi/m ³
N11-0427-001	Diablo Canyon NPP	HASL Ga-01-R	I-132	-0.00454 ± 0.0153	0.0391	pCi/m ³
N11-0427-001	Diablo Canyon NPP	HASL Ga-01-R	Ru-103	0.00170 ± 0.00694	0.0212	pCi/m ³
N11-0427-001	Diablo Canyon NPP	HASL Ga-01-R	Ru-106	-0.0390 ± 0.0973	0.239	pCi/m ³
N11-0427-001	Diablo Canyon NPP	HASL Ga-01-R	Te-132	-0.00258 ± 0.00826	0.0229	pCi/m ³
N11-0427-001	Diablo Canyon NPP	HASL Ga-01-R	Zr-95	0.0131 ± 0.0188	0.0540	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. N11-0427

N11-0427-002

Diablo Canyon NPP

HASL Ga-01-R

Iodine-131

-0.0145 ± 0.0180

0.0367

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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Interim Director

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

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EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0428

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: _____
Address: _____
City: _____ State: CA Zip Code: _____ Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/13/2011 13:23 Date/Time Received: 04/14/2011 10:54
Site Name: Humboldt Bay / Air Source Name: _____
R Number: R 90473 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
78258.8	04/11/2011 13:32	78605.0	04/13/2011 13:23	346.2

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0428-001	Humboldt Bay NPP	HASL Ga-01-R	Ba-140	0.00637 ± 0.0339	0.103	pCi/m ³
N11-0428-001	Humboldt Bay NPP	HASL Ga-01-R	Ce-141	0.00500 ± 0.0115	0.0323	pCi/m ³
N11-0428-001	Humboldt Bay NPP	HASL Ga-01-R	Ce-144	0.0276 ± 0.0415	0.122	pCi/m ³
N11-0428-001	Humboldt Bay NPP	HASL Ga-01-R	Cs-134	0.0136 ± 0.0115	0.0395	pCi/m ³
N11-0428-001	Humboldt Bay NPP	HASL Ga-01-R	Cs-137	-0.00401 ± 0.0117	0.0307	pCi/m ³
N11-0428-001	Humboldt Bay NPP	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0428-001	Humboldt Bay NPP	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0428-001	Humboldt Bay NPP	HASL Ga-01-R	I-131	0.00987 ± 0.00813	0.0304	pCi/m ³
N11-0428-001	Humboldt Bay NPP	HASL Ga-01-R	I-132	0.0165 ± 0.00915	0.0402	pCi/m ³
N11-0428-001	Humboldt Bay NPP	HASL Ga-01-R	Ru-103	-0.00721 ± 0.00956	0.0237	pCi/m ³
N11-0428-001	Humboldt Bay NPP	HASL Ga-01-R	Ru-106	-0.0713 ± 0.129	0.284	pCi/m ³
N11-0428-001	Humboldt Bay NPP	HASL Ga-01-R	Te-132	0.0221 ± 0.00720	0.0302	pCi/m ³
N11-0428-001	Humboldt Bay NPP	HASL Ga-01-R	Zr-95	-0.00730 ± 0.0214	0.0522	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. N11-0428

N11-0428-002

Humboldt Bay NPP

HASL Ga-01-R

Iodine-131

0.0380 ± 0.00986

0.0533

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.