



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

FINAL Analysis Results Report for Task ID. N11-0495

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: 05/13/2011

Requestor

Name:

Organization:

Address:

City:

State:

Zip Code:

Phone:

Site and Sample Information

Collector's Name:

Date/Time Collected: 04/25/2011 13:00

Date/Time Received: 04/26/2011 11:38

Site Name: Los Angeles / Air

Source Name:

R Number: R 91129

Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
91114.5	04/22/2011 12:30	91581.3	04/25/2011 13:00	466.8

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0495-001	Los Angeles	HASL Ga-01-R	Ba-140	0.0268 ± 0.0160	0.0796	pCi/m ³
N11-0495-001	Los Angeles	HASL Ga-01-R	Ce-141	-0.0167 ± 0.0123	0.0225	pCi/m ³
N11-0495-001	Los Angeles	HASL Ga-01-R	Ce-144	-0.136 ± 0.0580	0.0817	pCi/m ³
N11-0495-001	Los Angeles	HASL Ga-01-R	Cs-134	0.00751 ± 0.00706	0.0270	pCi/m ³
N11-0495-001	Los Angeles	HASL Ga-01-R	Cs-137	0.0106 ± 0.00660	0.0303	pCi/m ³
N11-0495-001	Los Angeles	DOE RP 710	Gross Alpha	0.00210 ± 0.00110	0.00120	pCi/m ³
N11-0495-001	Los Angeles	DOE RP 710	Gross Beta	0.0112 ± 0.00200	0.00240	pCi/m ³
N11-0495-001	Los Angeles	HASL Ga-01-R	I-131	-0.000331 ± 0.00760	0.0245	pCi/m ³
N11-0495-001	Los Angeles	HASL Ga-01-R	I-132	-0.00283 ± 0.0104	0.0293	pCi/m ³
N11-0495-001	Los Angeles	HASL Ga-01-R	Ru-103	-0.00868 ± 0.00919	0.0225	pCi/m ³
N11-0495-001	Los Angeles	HASL Ga-01-R	Ru-106	-0.175 ± 0.117	0.213	pCi/m ³
N11-0495-001	Los Angeles	HASL Ga-01-R	Te-132	-0.00745 ± 0.00678	0.0198	pCi/m ³
N11-0495-001	Los Angeles	HASL Ga-01-R	Zr-95	-0.0251 ± 0.0252	0.0446	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.

FINAL Analysis Results Report for Task ID. N11-0495

N11-0495-002

Los Angeles

HASL Ga-01-R

Iodine-131

0.00795 ± 0.00944

0.0329

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

FINAL Analysis Results Report for Task ID. N11-0496

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: 05/13/2011

Requestor

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

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/25/2011 15:45 Date/Time Received: 04/26/2011 11:42
Site Name: San Onofre / Air Source Name: _____
R Number: R 87400 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
11498.4	04/22/2011 16:30	11968.7	04/25/2011 15:45	470.3

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0496-001	San Onofre	HASL Ga-01-R	Ba-140	0.0398 ± 0.0272	0.0991	pCi/m ³
N11-0496-001	San Onofre	HASL Ga-01-R	Ce-141	0.0104 ± 0.00759	0.0240	pCi/m ³
N11-0496-001	San Onofre	HASL Ga-01-R	Ce-144	0.0165 ± 0.0354	0.0998	pCi/m ³
N11-0496-001	San Onofre	HASL Ga-01-R	Cs-134	-0.000207 ± 0.00730	0.0214	pCi/m ³
N11-0496-001	San Onofre	HASL Ga-01-R	Cs-137	0.00774 ± 0.00850	0.0303	pCi/m ³
N11-0496-001	San Onofre	DOE RP 710	Gross Alpha	0.00380 ± 0.00150	0.00120	pCi/m ³
N11-0496-001	San Onofre	DOE RP 710	Gross Beta	0.0124 ± 0.00200	0.00240	pCi/m ³
N11-0496-001	San Onofre	HASL Ga-01-R	I-131	-0.00287 ± 0.00696	0.0202	pCi/m ³
N11-0496-001	San Onofre	HASL Ga-01-R	I-132	-0.00429 ± 0.0108	0.0293	pCi/m ³
N11-0496-001	San Onofre	HASL Ga-01-R	Ru-103	-0.00135 ± 0.00838	0.0231	pCi/m ³
N11-0496-001	San Onofre	HASL Ga-01-R	Ru-106	-0.115 ± 0.0977	0.220	pCi/m ³
N11-0496-001	San Onofre	HASL Ga-01-R	Te-132	-0.00575 ± 0.00714	0.0194	pCi/m ³
N11-0496-001	San Onofre	HASL Ga-01-R	Zr-95	0.00989 ± 0.0134	0.0465	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.

FINAL Analysis Results Report for Task ID. N11-0496

N11-0496-002

San Onofre

HASL Ga-01-R

Iodine-131

0.0201 ± 0.00906

0.0377

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

FINAL Analysis Results Report for Task ID. N11-0497

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: 05/13/2011

Requestor

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

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/25/2011 09:46 Date/Time Received: 04/26/2011 11:46
Site Name: San Luis Obispo / Air Source Name: _____
R Number: R 85061 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
70034.1	04/23/2011 13:55	70355.6	04/24/2011 09:46	321.5

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0497-001	San Luis Obispo	HASL Ga-01-R	Ba-140	0.0215 ± 0.0386	0.116	pCi/m ³
N11-0497-001	San Luis Obispo	HASL Ga-01-R	Ce-141	-0.000273 ± 0.0157	0.0440	pCi/m ³
N11-0497-001	San Luis Obispo	HASL Ga-01-R	Ce-144	-0.0107 ± 0.0686	0.189	pCi/m ³
N11-0497-001	San Luis Obispo	HASL Ga-01-R	Cs-134	0.0118 ± 0.0107	0.0395	pCi/m ³
N11-0497-001	San Luis Obispo	HASL Ga-01-R	Cs-137	0.00598 ± 0.0144	0.0434	pCi/m ³
N11-0497-001	San Luis Obispo	DOE RP 710	Gross Alpha	0.00410 ± 0.00190	0.00170	pCi/m ³
N11-0497-001	San Luis Obispo	DOE RP 710	Gross Beta	0.0100 ± 0.00260	0.00350	pCi/m ³
N11-0497-001	San Luis Obispo	HASL Ga-01-R	I-131	0.0172 ± 0.00993	0.0362	pCi/m ³
N11-0497-001	San Luis Obispo	HASL Ga-01-R	I-132	-0.0216 ± 0.0186	0.0451	pCi/m ³
N11-0497-001	San Luis Obispo	HASL Ga-01-R	Ru-103	-0.00591 ± 0.0124	0.0286	pCi/m ³
N11-0497-001	San Luis Obispo	HASL Ga-01-R	Ru-106	0.0193 ± 0.0989	0.329	pCi/m ³
N11-0497-001	San Luis Obispo	HASL Ga-01-R	Te-132	-0.0328 ± 0.0147	0.0320	pCi/m ³
N11-0497-001	San Luis Obispo	HASL Ga-01-R	Zr-95	-0.0193 ± 0.0211	0.0541	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.

FINAL Analysis Results Report for Task ID. N11-0497

N11-0497-002

San Luis Obispo

HASL Ga-01-R

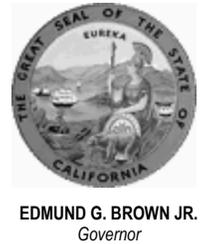
Iodine-131

0.00338 ± 0.0167

0.0513

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.



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804
 Phone: (510) 620-2911 Fax: (510) 620-2940

FINAL Analysis Results Report for Task ID. N11-0498

Analyst: _____ Analysis Approved By: _____ Analysis Approval Date: 05/13/2011

<u>Requestor</u>			
Name:	Organization:		
Address:			
City:	State:	Zip Code:	Phone:

<u>Site and Sample Information</u>			
Collector's Name:	Date/Time Collected: 04/25/2011 10:19	Date/Time Received: 04/26/2011 13:39	
Site Name: Avila Beach / Air	Source Name:		
R Number: R 85062	Sample Type: Air Filter		

<u>Air Filter Information</u>				
<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>
31015.4	04/23/2011 14:25	31334.3	04/25/2011 10:19	318.9

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N11-0498-001	Diablo Canyon NPP	HASL Ga-01-R	Ba-140	0.0144 ± 0.0511	0.161	pCi/m ³
N11-0498-001	Diablo Canyon NPP	HASL Ga-01-R	Ce-141	-0.00552 ± 0.0154	0.0368	pCi/m ³
N11-0498-001	Diablo Canyon NPP	HASL Ga-01-R	Ce-144	-0.119 ± 0.0766	0.137	pCi/m ³
N11-0498-001	Diablo Canyon NPP	HASL Ga-01-R	Cs-134	-0.0168 ± 0.0187	0.0460	pCi/m ³
N11-0498-001	Diablo Canyon NPP	HASL Ga-01-R	Cs-137	-0.0269 ± 0.0179	0.0326	pCi/m ³
N11-0498-001	Diablo Canyon NPP	DOE RP 710	Gross Alpha	0.00420 ± 0.00190	0.00180	pCi/m ³
N11-0498-001	Diablo Canyon NPP	DOE RP 710	Gross Beta	0.00980 ± 0.00260	0.00360	pCi/m ³
N11-0498-001	Diablo Canyon NPP	HASL Ga-01-R	I-131	-0.00165 ± 0.0124	0.0386	pCi/m ³
N11-0498-001	Diablo Canyon NPP	HASL Ga-01-R	I-132	0.00248 ± 0.0147	0.0446	pCi/m ³
N11-0498-001	Diablo Canyon NPP	HASL Ga-01-R	Ru-103	0.00557 ± 0.00767	0.0299	pCi/m ³
N11-0498-001	Diablo Canyon NPP	HASL Ga-01-R	Ru-106	0.0729 ± 0.104	0.374	pCi/m ³
N11-0498-001	Diablo Canyon NPP	HASL Ga-01-R	Te-132	-0.00796 ± 0.00907	0.0263	pCi/m ³
N11-0498-001	Diablo Canyon NPP	HASL Ga-01-R	Zr-95	-0.0101 ± 0.0327	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.

FINAL Analysis Results Report for Task ID. N11-0498

N11-0498-002

Diablo Canyon NPP

HASL Ga-01-R

Iodine-131

0.00964 ± 0.0169

0.0555

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

FINAL Analysis Results Report for Task ID. N11-0499

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: 05/13/2011

Requestor

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

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/24/2011 09:40 Date/Time Received: 04/26/2011 13:44
Site Name: Eureka / Air Source Name: _____
R Number: R 91209 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
21924.6	04/22/2011 09:55	22282.9	04/24/2011 09:40	358.3

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0499-001	Eureka	HASL Ga-01-R	Ba-140	0.0679 ± 0.0249	0.122	pCi/m ³
N11-0499-001	Eureka	HASL Ga-01-R	Ce-141	0.00996 ± 0.00925	0.0289	pCi/m ³
N11-0499-001	Eureka	HASL Ga-01-R	Ce-144	0.0607 ± 0.0355	0.120	pCi/m ³
N11-0499-001	Eureka	HASL Ga-01-R	Cs-134	-0.00620 ± 0.0115	0.0302	pCi/m ³
N11-0499-001	Eureka	HASL Ga-01-R	Cs-137	-0.00291 ± 0.0121	0.0337	pCi/m ³
N11-0499-001	Eureka	DOE RP 710	Gross Alpha	0.00100 ± 0.00100	0.00160	pCi/m ³
N11-0499-001	Eureka	DOE RP 710	Gross Beta	0.0117 ± 0.00240	0.00320	pCi/m ³
N11-0499-001	Eureka	HASL Ga-01-R	I-131	0.00849 ± 0.00749	0.0287	pCi/m ³
N11-0499-001	Eureka	HASL Ga-01-R	I-132	-0.00699 ± 0.0164	0.0429	pCi/m ³
N11-0499-001	Eureka	HASL Ga-01-R	Ru-103	0.00112 ± 0.00747	0.0234	pCi/m ³
N11-0499-001	Eureka	HASL Ga-01-R	Ru-106	0.150 ± 0.0589	0.304	pCi/m ³
N11-0499-001	Eureka	HASL Ga-01-R	Te-132	0.0131 ± 0.00782	0.0292	pCi/m ³
N11-0499-001	Eureka	HASL Ga-01-R	Zr-95	0.0244 ± 0.0171	0.0502	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.

FINAL Analysis Results Report for Task ID. N11-0499

N11-0499-002

Eureka

HASL Ga-01-R

Iodine-131

0.0126 ± 0.0152

0.0523

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

FINAL Analysis Results Report for Task ID. N11-0500

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: 05/13/2011

Requestor

Name:

Organization:

Address:

City:

State:

Zip Code:

Phone:

Site and Sample Information

Collector's Name:

Date/Time Collected: 04/23/2011 15:35

Date/Time Received: 04/26/2011 13:48

Site Name: Humboldt Bay / Air

Source Name:

R Number: R 90478

Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
79972.5	04/21/2011 11:32	80349.5	04/23/2011 15:35	377.0

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0500-001	Humboldt Bay NPP	HASL Ga-01-R	Ba-140	-0.0700 ± 0.0511	0.102	pCi/m ³
N11-0500-001	Humboldt Bay NPP	HASL Ga-01-R	Ce-141	0.0128 ± 0.00884	0.0315	pCi/m ³
N11-0500-001	Humboldt Bay NPP	HASL Ga-01-R	Ce-144	-0.00827 ± 0.0397	0.117	pCi/m ³
N11-0500-001	Humboldt Bay NPP	HASL Ga-01-R	Cs-134	0.00813 ± 0.00731	0.0260	pCi/m ³
N11-0500-001	Humboldt Bay NPP	HASL Ga-01-R	Cs-137	0.0154 ± 0.00387	0.0280	pCi/m ³
N11-0500-001	Humboldt Bay NPP	DOE RP 710	Gross Alpha	0.000200 ± 0.000700	0.00150	pCi/m ³
N11-0500-001	Humboldt Bay NPP	DOE RP 710	Gross Beta	0.00910 ± 0.00220	0.00300	pCi/m ³
N11-0500-001	Humboldt Bay NPP	HASL Ga-01-R	I-131	0.000866 ± 0.00962	0.0283	pCi/m ³
N11-0500-001	Humboldt Bay NPP	HASL Ga-01-R	I-132	-0.0118 ± 0.0211	0.0471	pCi/m ³
N11-0500-001	Humboldt Bay NPP	HASL Ga-01-R	Ru-103	-0.00667 ± 0.0100	0.0245	pCi/m ³
N11-0500-001	Humboldt Bay NPP	HASL Ga-01-R	Ru-106	0.00776 ± 0.0933	0.261	pCi/m ³
N11-0500-001	Humboldt Bay NPP	HASL Ga-01-R	Te-132	0.0109 ± 0.0106	0.0352	pCi/m ³
N11-0500-001	Humboldt Bay NPP	HASL Ga-01-R	Zr-95	0.0293 ± 0.00786	0.0461	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.

FINAL Analysis Results Report for Task ID. N11-0500

N11-0500-002

Humboldt Bay NPP

HASL Ga-01-R

Iodine-131

0.00641 ± 0.0163

0.0495

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

FINAL Analysis Results Report for Task ID. N11-0501

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: 05/13/2011

Requestor

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

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/25/2011 13:25 Date/Time Received: 04/26/2011 13:52
Site Name: Humboldt Bay / Air Source Name: _____
R Number: R 90479 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
80349.5	04/23/2011 15:35	80681.1	04/25/2011 13:25	331.6

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0501-001	Humboldt Bay NPP	HASL Ga-01-R	Ba-140	0.00210 ± 0.0534	0.157	pCi/m ³
N11-0501-001	Humboldt Bay NPP	HASL Ga-01-R	Ce-141	0.00812 ± 0.0117	0.0345	pCi/m ³
N11-0501-001	Humboldt Bay NPP	HASL Ga-01-R	Ce-144	-0.0539 ± 0.0720	0.160	pCi/m ³
N11-0501-001	Humboldt Bay NPP	HASL Ga-01-R	Cs-134	-0.0337 ± 0.0207	0.0350	pCi/m ³
N11-0501-001	Humboldt Bay NPP	HASL Ga-01-R	Cs-137	-0.0162 ± 0.0182	0.0426	pCi/m ³
N11-0501-001	Humboldt Bay NPP	DOE RP 710	Gross Alpha	0.00110 ± 0.00110	0.00170	pCi/m ³
N11-0501-001	Humboldt Bay NPP	DOE RP 710	Gross Beta	0.0108 ± 0.00260	0.00340	pCi/m ³
N11-0501-001	Humboldt Bay NPP	HASL Ga-01-R	I-131	0.0209 ± 0.00648	0.0361	pCi/m ³
N11-0501-001	Humboldt Bay NPP	HASL Ga-01-R	I-132	0.0124 ± 0.0134	0.0497	pCi/m ³
N11-0501-001	Humboldt Bay NPP	HASL Ga-01-R	Ru-103	-0.00281 ± 0.0129	0.0386	pCi/m ³
N11-0501-001	Humboldt Bay NPP	HASL Ga-01-R	Ru-106	-0.0291 ± 0.136	0.348	pCi/m ³
N11-0501-001	Humboldt Bay NPP	HASL Ga-01-R	Te-132	-0.0145 ± 0.0102	0.0264	pCi/m ³
N11-0501-001	Humboldt Bay NPP	HASL Ga-01-R	Zr-95	-0.00167 ± 0.0248	0.0595	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.

FINAL Analysis Results Report for Task ID. N11-0501

N11-0501-002

Humboldt Bay NPP

HASL Ga-01-R

Iodine-131

0.0181 ± 0.0147

0.0539

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

FINAL Analysis Results Report for Task ID. N11-0502

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: 05/13/2011

Requestor			
Name:	Organization:		
Address:			
City:	State:	Zip Code:	Phone:

Site and Sample Information			
Collector's Name:	Date/Time Collected: 04/25/2011 12:13	Date/Time Received: 04/26/2011 13:56	
Site Name: San Diego / Air	Source Name:		
R Number: R 90624	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>
84626.6	04/22/2011 14:59	85099.3	04/25/2011 12:13	472.7

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0502-001	San Diego	HASL Ga-01-R	Ba-140	0.0138 ± 0.0293	0.0875	pCi/m ³
N11-0502-001	San Diego	HASL Ga-01-R	Ce-141	-0.00284 ± 0.0101	0.0279	pCi/m ³
N11-0502-001	San Diego	HASL Ga-01-R	Ce-144	0.0212 ± 0.0384	0.116	pCi/m ³
N11-0502-001	San Diego	HASL Ga-01-R	Cs-134	0.00921 ± 0.00694	0.0266	pCi/m ³
N11-0502-001	San Diego	HASL Ga-01-R	Cs-137	0.000329 ± 0.00722	0.0228	pCi/m ³
N11-0502-001	San Diego	DOE RP 710	Gross Alpha	0.00150 ± 0.00100	0.00120	pCi/m ³
N11-0502-001	San Diego	DOE RP 710	Gross Beta	0.0114 ± 0.00200	0.00240	pCi/m ³
N11-0502-001	San Diego	HASL Ga-01-R	I-131	0.00397 ± 0.00895	0.0263	pCi/m ³
N11-0502-001	San Diego	HASL Ga-01-R	I-132	0.00672 ± 0.00702	0.0270	pCi/m ³
N11-0502-001	San Diego	HASL Ga-01-R	Ru-103	-0.00348 ± 0.00882	0.0213	pCi/m ³
N11-0502-001	San Diego	HASL Ga-01-R	Ru-106	-0.104 ± 0.0861	0.223	pCi/m ³
N11-0502-001	San Diego	HASL Ga-01-R	Te-132	0.00892 ± 0.00614	0.0212	pCi/m ³
N11-0502-001	San Diego	HASL Ga-01-R	Zr-95	-0.00135 ± 0.0154	0.0470	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.

FINAL Analysis Results Report for Task ID. N11-0502

N11-0502-002

San Diego

HASL Ga-01-R

Iodine-131

-0.00567 ± 0.0126

0.0325

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.