



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



EDMUND G. BROWN JR.  
Governor

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

FINAL Analysis Results Report for Task ID. N11-0482

Analyst: \_\_\_\_\_ Analysis Approved By: \_\_\_\_\_ Analysis Approval Date: 05/06/2011

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

<b>Site and Sample Information</b>			
Collector's Name:	Date/Time Collected: 04/20/2011 13:11	Date/Time Received: 04/22/2011 11:02	
Site Name: San Diego / Air	Source Name:		
R Number: R 90622	Sample Type: Air Filter		

<b>Air Filter Information</b>					
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>	
83923.4	04/18/2011 09:30	84279.6	04/20/2011 13:11	356.2	

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0482-001	San Diego	HASL Ga-01-R	Ba-140	-0.0274 ± 0.0386	0.0899	pCi/m3
N11-0482-001	San Diego	HASL Ga-01-R	Ce-141	0.00543 ± 0.00959	0.0279	pCi/m3
N11-0482-001	San Diego	HASL Ga-01-R	Ce-144	-0.00376 ± 0.0467	0.122	pCi/m3
N11-0482-001	San Diego	HASL Ga-01-R	Cs-134	-0.00640 ± 0.0101	0.0244	pCi/m3
N11-0482-001	San Diego	HASL Ga-01-R	Cs-137	0.0129 ± 0.00389	0.0287	pCi/m3
N11-0482-001	San Diego	DOE RP 710	Gross Alpha	0.00200 ± 0.00150	0.00200	pCi/m3
N11-0482-001	San Diego	DOE RP 710	Gross Beta	0.00480 ± 0.00230	0.00360	pCi/m3
N11-0482-001	San Diego	HASL Ga-01-R	I-131	0.00663 ± 0.00833	0.0297	pCi/m3
N11-0482-001	San Diego	HASL Ga-01-R	I-132	0.00206 ± 0.0120	0.0380	pCi/m3
N11-0482-001	San Diego	HASL Ga-01-R	Ru-103	-0.00312 ± 0.0101	0.0273	pCi/m3
N11-0482-001	San Diego	HASL Ga-01-R	Ru-106	-0.237 ± 0.138	0.260	pCi/m3
N11-0482-001	San Diego	HASL Ga-01-R	Te-132	0.0179 ± 0.00953	0.0354	pCi/m3
N11-0482-001	San Diego	HASL Ga-01-R	Zr-95	0.0258 ± 0.0119	0.0546	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0482

N11-0482-002

San Diego

HASL Ga-01-R

Iodine-131

-0.00578 ± 0.0196

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.



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Drinking Water and Radiation Laboratory Branch  
850 Marina Bay Parkway, Richmond, CA 94804

FINAL Analysis Results Report for Task ID. N11-0483

Analyst: \_\_\_\_\_ Analysis Approved By: \_\_\_\_\_ Analysis Approval Date: 05/06/2011

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

<b>Site and Sample Information</b>			
Collector's Name:	Date/Time Collected: 04/21/2011 11:32	Date/Time Received: 04/22/2011 11:06	
Site Name: Humboldt Bay / Air	Source Name:		
R Number: R 90477	Sample Type: Air Filter		

<b>Air Filter Information</b>				
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>
79628.6	04/19/2011 11:50	79972.5	04/21/2011 11:32	343.9

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0483-001	Humboldt Bay NPP	HASL Ga-01-R	Ba-140	-0.0112 ± 0.0443	0.117	pCi/m3
N11-0483-001	Humboldt Bay NPP	HASL Ga-01-R	Ce-141	-0.00958 ± 0.0140	0.0311	pCi/m3
N11-0483-001	Humboldt Bay NPP	HASL Ga-01-R	Ce-144	0.0742 ± 0.0419	0.147	pCi/m3
N11-0483-001	Humboldt Bay NPP	HASL Ga-01-R	Cs-134	-0.00959 ± 0.0139	0.0294	pCi/m3
N11-0483-001	Humboldt Bay NPP	HASL Ga-01-R	Cs-137	0.0148 ± 0.0122	0.0472	pCi/m3
N11-0483-001	Humboldt Bay NPP	DOE RP 710	Gross Alpha	0.000900 ± 0.00110	0.00190	pCi/m3
N11-0483-001	Humboldt Bay NPP	DOE RP 710	Gross Beta	0.0137 ± 0.00270	0.00340	pCi/m3
N11-0483-001	Humboldt Bay NPP	HASL Ga-01-R	I-131	0.00595 ± 0.00874	0.0326	pCi/m3
N11-0483-001	Humboldt Bay NPP	HASL Ga-01-R	I-132	-0.00544 ± 0.0159	0.0416	pCi/m3
N11-0483-001	Humboldt Bay NPP	HASL Ga-01-R	Ru-103	0.0239 ± 0.00527	0.0364	pCi/m3
N11-0483-001	Humboldt Bay NPP	HASL Ga-01-R	Ru-106	-0.0761 ± 0.130	0.325	pCi/m3
N11-0483-001	Humboldt Bay NPP	HASL Ga-01-R	Te-132	0.0164 ± 0.00691	0.0315	pCi/m3
N11-0483-001	Humboldt Bay NPP	HASL Ga-01-R	Zr-95	0.0195 ± 0.0317	0.0710	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0483

N11-0483-002

Humboldt Bay NPP

HASL Ga-01-R

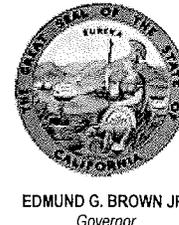
Iodine-131

0.0239 ± 0.0102

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 Sb is the square root of the instrument background count rate.



**Drinking Water and Radiation Laboratory Branch**  
850 Marina Bay Parkway, Richmond, CA 94804

**FINAL Analysis Results Report for Task ID. N11-0484**

Analyst: \_\_\_\_\_ Analysis Approved By: \_\_\_\_\_ Analysis Approval Date: 05/06/2011

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

<b>Site and Sample Information</b>			
Collector's Name:	Date/Time Collected: 04/21/2011 08:51	Date/Time Received: 04/22/2011 11:12	
Site Name: San Luis Obispo / Air	Source Name:		
R Number: R 85057	Sample Type: Air Filter		

<b>Air Filter Information</b>				
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>
69301.2	04/19/2011 10:35	69648.3	04/21/2011 08:51	347.1

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0484-001	San Luis Obispo	HASL Ga-01-R	Ba-140	0.0329 ± 0.0351	0.131	pCi/m3
N11-0484-001	San Luis Obispo	HASL Ga-01-R	Ce-141	0.00905 ± 0.0107	0.0326	pCi/m3
N11-0484-001	San Luis Obispo	HASL Ga-01-R	Ce-144	-0.00590 ± 0.0562	0.137	pCi/m3
N11-0484-001	San Luis Obispo	HASL Ga-01-R	Cs-134	-0.0315 ± 0.0166	0.0291	pCi/m3
N11-0484-001	San Luis Obispo	HASL Ga-01-R	Cs-137	-0.0214 ± 0.0207	0.0394	pCi/m3
N11-0484-001	San Luis Obispo	DOE RP 710	Gross Alpha	0.00100 ± 0.00120	0.00190	pCi/m3
N11-0484-001	San Luis Obispo	DOE RP 710	Gross Beta	0.00720 ± 0.00230	0.00340	pCi/m3
N11-0484-001	San Luis Obispo	HASL Ga-01-R	I-131	0.00990 ± 0.00894	0.0352	pCi/m3
N11-0484-001	San Luis Obispo	HASL Ga-01-R	I-132	-0.00486 ± 0.0142	0.0387	pCi/m3
N11-0484-001	San Luis Obispo	HASL Ga-01-R	Ru-103	-0.00807 ± 0.0121	0.0329	pCi/m3
N11-0484-001	San Luis Obispo	HASL Ga-01-R	Ru-106	-0.110 ± 0.123	0.286	pCi/m3
N11-0484-001	San Luis Obispo	HASL Ga-01-R	Te-132	-0.00779 ± 0.00897	0.0268	pCi/m3
N11-0484-001	San Luis Obispo	HASL Ga-01-R	Zr-95	-0.0113 ± 0.0229	0.0598	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0484

N11-0484-002

San Luis Obispo

HASL Ga-01-R

Iodine-131

-0.0223 ± 0.0198

0.0461

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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EDMUND G. BROWN JR.  
Governor

FINAL Analysis Results Report for Task ID. N11-0485

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/06/2011

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

<b>Site and Sample Information</b>			
Collector's Name:	Date/Time Collected: 04/21/2011 09:22	Date/Time Received: 04/22/2011 11:16	
Site Name: Avila Beach / Air	Source Name:		
R Number: R 85058	Sample Type: Air Filter		

<b>Air Filter Information</b>				
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>
30286.9	04/19/2011 10:08	30630.9	04/21/2011 09:22	344.0

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0485-001	Diablo Canyon NPP	HASL Ga-01-R	Ba-140	-0.0200 ± 0.0466	0.116	pCi/m3
N11-0485-001	Diablo Canyon NPP	HASL Ga-01-R	Ce-141	0.00691 ± 0.0122	0.0372	pCi/m3
N11-0485-001	Diablo Canyon NPP	HASL Ga-01-R	Ce-144	0.0411 ± 0.0499	0.155	pCi/m3
N11-0485-001	Diablo Canyon NPP	HASL Ga-01-R	Cs-134	0.0121 ± 0.00898	0.0346	pCi/m3
N11-0485-001	Diablo Canyon NPP	HASL Ga-01-R	Cs-137	0.0107 ± 0.0114	0.0412	pCi/m3
N11-0485-001	Diablo Canyon NPP	DOE RP 710	Gross Alpha	0.000200 ± 0.000900	0.00190	pCi/m3
N11-0485-001	Diablo Canyon NPP	DOE RP 710	Gross Beta	0.00570 ± 0.00230	0.00340	pCi/m3
N11-0485-001	Diablo Canyon NPP	HASL Ga-01-R	I-131	-0.00266 ± 0.0123	0.0325	pCi/m3
N11-0485-001	Diablo Canyon NPP	HASL Ga-01-R	I-132	0.0188 ± 0.0111	0.0439	pCi/m3
N11-0485-001	Diablo Canyon NPP	HASL Ga-01-R	Ru-103	-0.0139 ± 0.0127	0.0265	pCi/m3
N11-0485-001	Diablo Canyon NPP	HASL Ga-01-R	Ru-106	0.0144 ± 0.0755	0.257	pCi/m3
N11-0485-001	Diablo Canyon NPP	HASL Ga-01-R	Te-132	-0.0150 ± 0.0112	0.0260	pCi/m3
N11-0485-001	Diablo Canyon NPP	HASL Ga-01-R	Zr-95	-0.00752 ± 0.0181	0.0535	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0485

N11-0485-002

Diablo Canyon NPP

HASL Ga-01-R

Iodine-131

0.00603 ± 0.0121

0.0408

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. N11-0486

Analyst: \_\_\_\_\_ Analysis Approved By: \_\_\_\_\_ Analysis Approval Date: 05/06/2011

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

<b>Site and Sample Information</b>		
Collector's Name:	Date/Time Collected: 04/22/2011 10:14	Date/Time Received: 04/22/2011 15:39
Site Name: Livermore / Air	Source Name:	
R Number: R 91058	Sample Type: Air Filter	

<b>Air Filter Information</b>				
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>
37353.4	04/20/2011 12:19	37716.1	04/22/2011 10:14	362.7

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0486-001	Livermore	HASL Ga-01-R	Ba-140	0.000160 ± 0.0504	0.143	pCi/m3
N11-0486-001	Livermore	HASL Ga-01-R	Ce-141	0.0193 ± 0.0125	0.0398	pCi/m3
N11-0486-001	Livermore	HASL Ga-01-R	Ce-144	0.00239 ± 0.0721	0.180	pCi/m3
N11-0486-001	Livermore	HASL Ga-01-R	Cs-134	-0.00162 ± 0.0128	0.0365	pCi/m3
N11-0486-001	Livermore	HASL Ga-01-R	Cs-137	-0.00188 ± 0.0172	0.0478	pCi/m3
N11-0486-001	Livermore	DOE RP 710	Gross Alpha	0.00680 ± 0.00220	0.00180	pCi/m3
N11-0486-001	Livermore	DOE RP 710	Gross Beta	0.0170 ± 0.00270	0.00320	pCi/m3
N11-0486-001	Livermore	HASL Ga-01-R	I-131	-0.00676 ± 0.0123	0.0361	pCi/m3
N11-0486-001	Livermore	HASL Ga-01-R	I-132	-0.0212 ± 0.0172	0.0334	pCi/m3
N11-0486-001	Livermore	HASL Ga-01-R	Ru-103	0.00466 ± 0.0102	0.0340	pCi/m3
N11-0486-001	Livermore	HASL Ga-01-R	Ru-106	0.122 ± 0.0942	0.374	pCi/m3
N11-0486-001	Livermore	HASL Ga-01-R	Te-132	0.0117 ± 0.00732	0.0292	pCi/m3
N11-0486-001	Livermore	HASL Ga-01-R	Zr-95	-0.00158 ± 0.0220	0.0644	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0486

N11-0486-002

Livermore

HASL Ga-01-R

Iodine-131

-0.00103 ± 0.0128

0.0343

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  $S_0$  is the square root of the instrument background count rate.



Howard Backer, MD, MPH  
Interim Director

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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. N11-0487

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/06/2011

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

<b>Site and Sample Information</b>			
Collector's Name	Date/Time Collected: 04/23/2011 08:15	Date/Time Received: 04/23/2011 08:15	
Site Name: Richmond / Air	Source Name:		
R Number: R 91148	Sample Type: Air Filter		

<b>Air Filter Information</b>				
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>
9414.5	04/21/2011 09:00	9735.9	04/23/2011 08:15	321.4

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0487-001	Richmond	HASL Ga-01-R	Ba-140	0.0467 ± 0.0382	0.144	pCi/m3
N11-0487-001	Richmond	HASL Ga-01-R	Ce-141	0.0139 ± 0.0144	0.0423	pCi/m3
N11-0487-001	Richmond	HASL Ga-01-R	Ce-144	-0.0348 ± 0.0653	0.151	pCi/m3
N11-0487-001	Richmond	HASL Ga-01-R	Cs-134	-0.0779 ± 0.0322	0.0568	pCi/m3
N11-0487-001	Richmond	HASL Ga-01-R	Cs-137	0.00956 ± 0.0146	0.0480	pCi/m3
N11-0487-001	Richmond	DOE RP 710	Gross Alpha	0.00110 ± 0.00140	0.00220	pCi/m3
N11-0487-001	Richmond	DOE RP 710	Gross Beta	0.00710 ± 0.00260	0.00390	pCi/m3
N11-0487-001	Richmond	HASL Ga-01-R	I-131	0.00243 ± 0.00749	0.0266	pCi/m3
N11-0487-001	Richmond	HASL Ga-01-R	I-132	0.0171 ± 0.00811	0.0409	pCi/m3
N11-0487-001	Richmond	HASL Ga-01-R	Ru-103	0.0113 ± 0.0103	0.0390	pCi/m3
N11-0487-001	Richmond	HASL Ga-01-R	Ru-106	0.182 ± 0.0899	0.412	pCi/m3
N11-0487-001	Richmond	HASL Ga-01-R	Te-132	0.00902 ± 0.00620	0.0255	pCi/m3
N11-0487-001	Richmond	HASL Ga-01-R	Zr-95	-0.0170 ± 0.0355	0.0698	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0487

N11-0487-002

Richmond

HASL Ga-01-R

Iodine-131

-0.00362 ± 0.0166

0.0435

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.



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



EDMUND G. BROWN JR.  
Governor

Drinking Water and Radiation Laboratory Branch  
850 Marina Bay Parkway, Richmond, CA 94804

FINAL Analysis Results Report for Task ID. N11-0488

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/10/2011

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

<b>Site and Sample Information</b>		
Collector's Name:	Date/Time Collected: 04/23/2011 13:49	Date/Time Received: 04/25/2011 09:37
Site Name: San Luis Obispo / Air	Source Name:	
R Number: R 85059	Sample Type: Air Filter	

<b>Air Filter Information</b>				
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>
69648.3	04/21/2011 08:57	70034.1	04/23/2011 13:49	385.8

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0488-001	San Luis Obispo	HASL Ga-01-R	Ba-140	0.0100 ± 0.0357	0.103	pCi/m3
N11-0488-001	San Luis Obispo	HASL Ga-01-R	Ce-141	-0.0307 ± 0.0148	0.0327	pCi/m3
N11-0488-001	San Luis Obispo	HASL Ga-01-R	Ce-144	-0.0370 ± 0.0560	0.147	pCi/m3
N11-0488-001	San Luis Obispo	HASL Ga-01-R	Cs-134	0.00292 ± 0.00979	0.0326	pCi/m3
N11-0488-001	San Luis Obispo	HASL Ga-01-R	Cs-137	0.0108 ± 0.00974	0.0356	pCi/m3
N11-0488-001	San Luis Obispo	DOE RP 710	Gross Alpha	0.00540 ± 0.00200	0.00190	pCi/m3
N11-0488-001	San Luis Obispo	DOE RP 710	Gross Beta	0.0150 ± 0.00260	0.00330	pCi/m3
N11-0488-001	San Luis Obispo	HASL Ga-01-R	I-131	-0.00317 ± 0.0105	0.0280	pCi/m3
N11-0488-001	San Luis Obispo	HASL Ga-01-R	I-132	0.00535 ± 0.0137	0.0449	pCi/m3
N11-0488-001	San Luis Obispo	HASL Ga-01-R	Ru-103	-0.00810 ± 0.0110	0.0246	pCi/m3
N11-0488-001	San Luis Obispo	HASL Ga-01-R	Ru-106	-0.0145 ± 0.0944	0.294	pCi/m3
N11-0488-001	San Luis Obispo	HASL Ga-01-R	Te-132	-0.0161 ± 0.0129	0.0318	pCi/m3
N11-0488-001	San Luis Obispo	HASL Ga-01-R	Zr-95	-0.0148 ± 0.0197	0.0535	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0488

N11-0488-002

San Luis Obispo

HASL Ga-01-R

Iodine-131

-0.0119 ± 0.0171

0.0440

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.



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. N11-0489

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/10/2011

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

<b>Site and Sample Information</b>				
Collector's Name:	Date/Time Collected: 04/23/2011 14:20	Date/Time Received: 04/25/2011 09:43		
Site Name: Avila Beach / Air	Source Name:			
R Number: R 85060	Sample Type: Air Filter			

<b>Air Filter Information</b>				
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>
30630.9	04/21/2011 09:26	31015.4	04/23/2011 14:20	384.5

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0489-001	Diablo Canyon NPP	HASL Ga-01-R	Ba-140	-0.0224 ± 0.0497	0.120	pCi/m3
N11-0489-001	Diablo Canyon NPP	HASL Ga-01-R	Ce-141	-0.0131 ± 0.0137	0.0283	pCi/m3
N11-0489-001	Diablo Canyon NPP	HASL Ga-01-R	Ce-144	-0.0701 ± 0.0585	0.111	pCi/m3
N11-0489-001	Diablo Canyon NPP	HASL Ga-01-R	Cs-134	-0.0188 ± 0.0133	0.0263	pCi/m3
N11-0489-001	Diablo Canyon NPP	HASL Ga-01-R	Cs-137	-0.00120 ± 0.0128	0.0367	pCi/m3
N11-0489-001	Diablo Canyon NPP	DOE RP 710	Gross Alpha	0.00510 ± 0.00190	0.00190	pCi/m3
N11-0489-001	Diablo Canyon NPP	DOE RP 710	Gross Beta	0.0139 ± 0.00260	0.00330	pCi/m3
N11-0489-001	Diablo Canyon NPP	HASL Ga-01-R	I-131	-0.00521 ± 0.0106	0.0276	pCi/m3
N11-0489-001	Diablo Canyon NPP	HASL Ga-01-R	I-132	0.0142 ± 0.0108	0.0460	pCi/m3
N11-0489-001	Diablo Canyon NPP	HASL Ga-01-R	Ru-103	0.00318 ± 0.00905	0.0293	pCi/m3
N11-0489-001	Diablo Canyon NPP	HASL Ga-01-R	Ru-106	-0.234 ± 0.145	0.281	pCi/m3
N11-0489-001	Diablo Canyon NPP	HASL Ga-01-R	Te-132	-0.000174 ± 0.00748	0.0257	pCi/m3
N11-0489-001	Diablo Canyon NPP	HASL Ga-01-R	Zr-95	-0.0182 ± 0.0218	0.0488	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0489

N11-0489-002

Diablo Canyon NPP

HASL Ga-01-R

Iodine-131

-0.00252 ± 0.0101

0.0300

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

**FINAL Analysis Results Report for Task ID. N11-0490**

Analyst: \_\_\_\_\_ Analysis Approved By: \_\_\_\_\_ Analysis Approval Date: 05/10/2011

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

<b>Site and Sample Information</b>			
Collector's Name:	Date/Time Collected: 04/22/2011 09:55	Date/Time Received: 04/25/2011 09:47	
Site Name: Eureka / Air	Source Name:		
R Number: R 91208	Sample Type: Air Filter		

<b>Air Filter Information</b>				
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>
21553.6	04/20/2011 08:20	21924.6	04/22/2011 09:55	371.0

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0490-001	Eureka	HASL Ga-01-R	Ba-140	0.00964 ± 0.0326	0.0967	pCi/m3
N11-0490-001	Eureka	HASL Ga-01-R	Ce-141	-0.00137 ± 0.00855	0.0255	pCi/m3
N11-0490-001	Eureka	HASL Ga-01-R	Ce-144	0.0309 ± 0.0332	0.111	pCi/m3
N11-0490-001	Eureka	HASL Ga-01-R	Cs-134	-0.00343 ± 0.0108	0.0275	pCi/m3
N11-0490-001	Eureka	HASL Ga-01-R	Cs-137	-0.0190 ± 0.0146	0.0276	pCi/m3
N11-0490-001	Eureka	DOE RP 710	Gross Alpha	0.00100 ± 0.00110	0.00180	pCi/m3
N11-0490-001	Eureka	DOE RP 710	Gross Beta	0.0129 ± 0.00250	0.00310	pCi/m3
N11-0490-001	Eureka	HASL Ga-01-R	I-131	-0.00364 ± 0.0105	0.0279	pCi/m3
N11-0490-001	Eureka	HASL Ga-01-R	I-132	-0.00870 ± 0.0223	0.0560	pCi/m3
N11-0490-001	Eureka	HASL Ga-01-R	Ru-103	0.00702 ± 0.00670	0.0239	pCi/m3
N11-0490-001	Eureka	HASL Ga-01-R	Ru-106	-0.0484 ± 0.109	0.271	pCi/m3
N11-0490-001	Eureka	HASL Ga-01-R	Te-132	-0.00745 ± 0.0125	0.0323	pCi/m3
N11-0490-001	Eureka	HASL Ga-01-R	Zr-95	-0.00732 ± 0.0195	0.0452	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0490

N11-0490-002

Eureka

HASL Ga-01-R

Iodine-131

0.0312 ± 0.0127

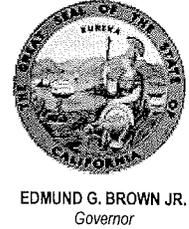
0.0570

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.



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

FINAL Analysis Results Report for Task ID. N11-0491

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/10/2011

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

<b>Site and Sample Information</b>		
Collector's Name:	Date/Time Collected: 04/22/2011 14:54	Date/Time Received: 04/25/2011 10:07
Site Name: San Diego / Air	Source Name:	
R Number: R 90623	Sample Type: Air Filter	

<b>Air Filter Information</b>					
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>	
84279.6	04/20/2011 13:15	84623.6	04/22/2011 14:54	344.0	

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0491-001	San Diego	HASL Ga-01-R	Ba-140	-0.0146 ± 0.0509	0.141	pCi/m3
N11-0491-001	San Diego	HASL Ga-01-R	Ce-141	0.00444 ± 0.0133	0.0354	pCi/m3
N11-0491-001	San Diego	HASL Ga-01-R	Ce-144	0.0226 ± 0.0555	0.152	pCi/m3
N11-0491-001	San Diego	HASL Ga-01-R	Cs-134	0.00504 ± 0.00943	0.0338	pCi/m3
N11-0491-001	San Diego	HASL Ga-01-R	Cs-137	-0.000376 ± 0.0107	0.0320	pCi/m3
N11-0491-001	San Diego	DOE RP 710	Gross Alpha	0.00210 ± 0.00150	0.00190	pCi/m3
N11-0491-001	San Diego	DOE RP 710	Gross Beta	0.00790 ± 0.00240	0.00340	pCi/m3
N11-0491-001	San Diego	HASL Ga-01-R	I-131	-0.000245 ± 0.0122	0.0365	pCi/m3
N11-0491-001	San Diego	HASL Ga-01-R	I-132	0.0338 ± 0.00907	0.0660	pCi/m3
N11-0491-001	San Diego	HASL Ga-01-R	Ru-103	0.00616 ± 0.00794	0.0306	pCi/m3
N11-0491-001	San Diego	HASL Ga-01-R	Ru-106	-0.00164 ± 0.121	0.347	pCi/m3
N11-0491-001	San Diego	HASL Ga-01-R	Te-132	0.0198 ± 0.00985	0.0438	pCi/m3
N11-0491-001	San Diego	HASL Ga-01-R	Zr-95	-0.0207 ± 0.0292	0.0699	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0491

N11-0491-002

San Diego

HASL Ga-01-R

Iodine-131

0.0108 ± 0.0167

0.0558

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

**FINAL Analysis Results Report for Task ID. N11-0492**

Analyst: \_\_\_\_\_ Analysis Approved By: \_\_\_\_\_ Analysis Approval Date: 05/10/2011

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

<b>Site and Sample Information</b>		
Collector's Name:	Date/Time Collected: 04/22/2011 16:30	Date/Time Received: 04/25/2011 10:11
Site Name: San Onofre / Air	Source Name:	
R Number: R 87926	Sample Type: Air Filter	

<b>Air Filter Information</b>					
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>	
11179.4	04/20/2011 17:07	11498.4	04/22/2011 16:30	319.0	

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0492-001	San Onofre	HASL Ga-01-R	Ba-140	0.0162 ± 0.0383	0.126	pCi/m3
N11-0492-001	San Onofre	HASL Ga-01-R	Ce-141	0.0115 ± 0.0107	0.0331	pCi/m3
N11-0492-001	San Onofre	HASL Ga-01-R	Ce-144	0.0465 ± 0.0431	0.134	pCi/m3
N11-0492-001	San Onofre	HASL Ga-01-R	Cs-134	-0.00311 ± 0.0127	0.0347	pCi/m3
N11-0492-001	San Onofre	HASL Ga-01-R	Cs-137	-0.0388 ± 0.0184	0.0293	pCi/m3
N11-0492-001	San Onofre	DOE RP 710	Gross Alpha	0.00570 ± 0.00220	0.00200	pCi/m3
N11-0492-001	San Onofre	DOE RP 710	Gross Beta	0.0113 ± 0.00270	0.00370	pCi/m3
N11-0492-001	San Onofre	HASL Ga-01-R	I-131	0.00328 ± 0.0111	0.0357	pCi/m3
N11-0492-001	San Onofre	HASL Ga-01-R	I-132	0.0231 ± 0.0133	0.0601	pCi/m3
N11-0492-001	San Onofre	HASL Ga-01-R	Ru-103	0.0204 ± 0.00713	0.0347	pCi/m3
N11-0492-001	San Onofre	HASL Ga-01-R	Ru-106	-0.0189 ± 0.0940	0.271	pCi/m3
N11-0492-001	San Onofre	HASL Ga-01-R	Te-132	0.00844 ± 0.0124	0.0409	pCi/m3
N11-0492-001	San Onofre	HASL Ga-01-R	Zr-95	-0.00131 ± 0.0235	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0492

N11-0492-002

San Onofre

HASL Ga-01-R

Iodine-131

-0.0121 ± 0.0225

0.0599

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.



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



EDMUND G. BROWN JR.  
Governor

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

FINAL Analysis Results Report for Task ID. N11-0493

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/10/2011

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

<b>Site and Sample Information</b>			
Collector's Name:	Date/Time Collected: 04/25/2011 11:15	Date/Time Received: 04/25/2011 13:14	
Site Name: Richmond / Air	Source Name:		
R Number: R 91149	Sample Type: Air Filter		

<b>Air Filter Information</b>				
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>
9735.9	04/23/2011 08:15	10088.6	04/25/2011 11:15	352.7

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0493-001	Richmond	HASL Ga-01-R	Ba-140	-0.00937 ± 0.0371	0.104	pCi/m3
N11-0493-001	Richmond	HASL Ga-01-R	Ce-141	0.0170 ± 0.00999	0.0341	pCi/m3
N11-0493-001	Richmond	HASL Ga-01-R	Ce-144	-0.000648 ± 0.0531	0.129	pCi/m3
N11-0493-001	Richmond	HASL Ga-01-R	Cs-134	-0.0952 ± 0.0304	0.0459	pCi/m3
N11-0493-001	Richmond	HASL Ga-01-R	Cs-137	-0.00174 ± 0.0142	0.0425	pCi/m3
N11-0493-001	Richmond	DOE RP 710	Gross Alpha	0.00100 ± 0.00110	0.00160	pCi/m3
N11-0493-001	Richmond	DOE RP 710	Gross Beta	0.00530 ± 0.00210	0.00320	pCi/m3
N11-0493-001	Richmond	HASL Ga-01-R	I-131	-0.000399 ± 0.00884	0.0280	pCi/m3
N11-0493-001	Richmond	HASL Ga-01-R	I-132	0.0214 ± 0.00772	0.0419	pCi/m3
N11-0493-001	Richmond	HASL Ga-01-R	Ru-103	0.00537 ± 0.00895	0.0318	pCi/m3
N11-0493-001	Richmond	HASL Ga-01-R	Ru-106	0.0940 ± 0.0884	0.327	pCi/m3
N11-0493-001	Richmond	HASL Ga-01-R	Te-132	-0.00113 ± 0.00701	0.0233	pCi/m3
N11-0493-001	Richmond	HASL Ga-01-R	Zr-95	0.0297 ± 0.0157	0.0662	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: MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0493

N11-0493-002

Richmond

HASL Ga-01-R

Iodine-131

0.0210 ± 0.00800

0.0344

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. N11-0494

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/10/2011

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

<b>Site and Sample Information</b>			
Collector's Name:	Date/Time Collected: 04/25/2011 09:23	Date/Time Received: 04/25/2011 13:26	
Site Name: Livermore / Air	Source Name:		
R Number: R 91059	Sample Type: Air Filter		

<b>Air Filter Information</b>				
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>
37716.1	04/22/2011 10:15	38253.6	04/25/2011 09:23	537.5

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0494-001	Livermore	HASL Ga-01-R	Ba-140	-0.0272 ± 0.0304	0.0715	pCi/m3
N11-0494-001	Livermore	HASL Ga-01-R	Ce-141	0.0147 ± 0.00686	0.0248	pCi/m3
N11-0494-001	Livermore	HASL Ga-01-R	Ce-144	-0.00207 ± 0.0408	0.103	pCi/m3
N11-0494-001	Livermore	HASL Ga-01-R	Cs-134	-0.00851 ± 0.0110	0.0246	pCi/m3
N11-0494-001	Livermore	HASL Ga-01-R	Cs-137	-0.00722 ± 0.0103	0.0245	pCi/m3
N11-0494-001	Livermore	DOE RP 710	Gross Alpha	0.00210 ± 0.00110	0.00100	pCi/m3
N11-0494-001	Livermore	DOE RP 710	Gross Beta	0.0119 ± 0.00180	0.00210	pCi/m3
N11-0494-001	Livermore	HASL Ga-01-R	I-131	0.00222 ± 0.00651	0.0219	pCi/m3
N11-0494-001	Livermore	HASL Ga-01-R	I-132	0.0130 ± 0.00550	0.0277	pCi/m3
N11-0494-001	Livermore	HASL Ga-01-R	Ru-103	0.00546 ± 0.00577	0.0220	pCi/m3
N11-0494-001	Livermore	HASL Ga-01-R	Ru-106	-0.0565 ± 0.0900	0.221	pCi/m3
N11-0494-001	Livermore	HASL Ga-01-R	Te-132	0.00713 ± 0.00385	0.0166	pCi/m3
N11-0494-001	Livermore	HASL Ga-01-R	Zr-95	-0.00665 ± 0.0179	0.0481	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0494

N11-0494-002

Livermore

HASL Ga-01-R

Iodine-131

-0.00692 ± 0.00721

0.0190

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.



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. N11-0504

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/11/2011

<b>Requestor</b>				
Name:	Organization:			
Address:				
City:	State:	Zip Code:	Phone:	
<b>Site and Sample Information</b>				
Collector's Name:	Date/Time Collected: 04/26/2011 08:10	Date/Time Received: 04/27/2011 09:36		
Site Name: Eureka / Air	Source Name:			
R Number: R 91210	Sample Type: Air Filter			
<b>Air Filter Information</b>				
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>
22282.9	04/24/2011 09:40	22632.4	04/26/2011 08:10	349.5

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0504-001	Eureka	HASL Ga-01-R	Ba-140	0.00654 ± 0.0338	0.107	pCi/m3
N11-0504-001	Eureka	HASL Ga-01-R	Ce-141	-0.00787 ± 0.0152	0.0332	pCi/m3
N11-0504-001	Eureka	HASL Ga-01-R	Ce-144	0.00841 ± 0.0517	0.134	pCi/m3
N11-0504-001	Eureka	HASL Ga-01-R	Cs-134	-0.0512 ± 0.0246	0.0333	pCi/m3
N11-0504-001	Eureka	HASL Ga-01-R	Cs-137	0.0117 ± 0.00817	0.0377	pCi/m3
N11-0504-001	Eureka	DOE RP 710	Gross Alpha	0.000200 ± 0.000800	0.00160	pCi/m3
N11-0504-001	Eureka	DOE RP 710	Gross Beta	0.00640 ± 0.00220	0.00330	pCi/m3
N11-0504-001	Eureka	HASL Ga-01-R	I-131	-0.0117 ± 0.0111	0.0285	pCi/m3
N11-0504-001	Eureka	HASL Ga-01-R	I-132	-0.0120 ± 0.0189	0.0416	pCi/m3
N11-0504-001	Eureka	HASL Ga-01-R	Ru-103	0.00460 ± 0.00801	0.0282	pCi/m3
N11-0504-001	Eureka	HASL Ga-01-R	Ru-106	0.121 ± 0.0784	0.341	pCi/m3
N11-0504-001	Eureka	HASL Ga-01-R	Te-132	0.00920 ± 0.00786	0.0311	pCi/m3
N11-0504-001	Eureka	HASL Ga-01-R	Zr-95	-0.0318 ± 0.0263	0.0532	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0504

N11-0504-002

Eureka

HASL Ga-01-R

Iodine-131

0.00558 ± 0.00866

0.0300

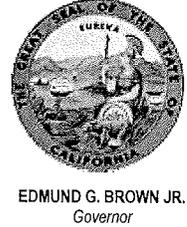
pCi/m3

- 
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



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



FINAL Analysis Results Report for Task ID. N11-0509

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/11/2011

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

<b>Site and Sample Information</b>			
Collector's Name:	Date/Time Collected: 04/28/2011 10:00	Date/Time Received: 04/28/2011 11:21	
Site Name: Richmond / Air	Source Name:		
R Number: R 91150	Sample Type: Air Filter		

<b>Air Filter Information</b>					
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>	
10088.6	04/25/2011 11:15	10569.4	04/28/2011 10:00	480.8	

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA95	Units
N11-0509-001	Richmond	HASL Ga-01-R	Ba-140	0.0247 ± 0.0283	0.0986	pCi/m3
N11-0509-001	Richmond	HASL Ga-01-R	Ce-141	0.000329 ± 0.0109	0.0276	pCi/m3
N11-0509-001	Richmond	HASL Ga-01-R	Ce-144	-0.0180 ± 0.0441	0.101	pCi/m3
N11-0509-001	Richmond	HASL Ga-01-R	Cs-134	-0.0436 ± 0.0172	0.0288	pCi/m3
N11-0509-001	Richmond	HASL Ga-01-R	Cs-137	-0.0175 ± 0.0137	0.0284	pCi/m3
N11-0509-001	Richmond	DOE RP 710	Gross Alpha	0.000600 ± 0.000700	0.00120	pCi/m3
N11-0509-001	Richmond	DOE RP 710	Gross Beta	0.00830 ± 0.00180	0.00240	pCi/m3
N11-0509-001	Richmond	HASL Ga-01-R	I-131	-0.000173 ± 0.00658	0.0206	pCi/m3
N11-0509-001	Richmond	HASL Ga-01-R	I-132	-0.00472 ± 0.0111	0.0294	pCi/m3
N11-0509-001	Richmond	HASL Ga-01-R	Ru-103	-0.0175 ± 0.0102	0.0215	pCi/m3
N11-0509-001	Richmond	HASL Ga-01-R	Ru-106	-0.216 ± 0.147	0.232	pCi/m3
N11-0509-001	Richmond	HASL Ga-01-R	Te-132	0.00319 ± 0.00530	0.0190	pCi/m3
N11-0509-001	Richmond	HASL Ga-01-R	Zr-95	-0.0155 ± 0.0255	0.0427	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.

# FINAL Analysis Results Report for Task ID. N11-0509

N11-0509-002

Richmond

HASL Ga-01-R

Iodine-131

0.00679 ± 0.0110

0.0355

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-800/4-80-032, 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. N11-0514

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/11/2011

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

<b>Site and Sample Information</b>			
Collector's Name:	Date/Time Collected: 04/27/2011 08:13	Date/Time Received: 04/28/2011 14:05	
Site Name: San Luis Obispo / Air	Source Name:		
R Number: R 85063	Sample Type: Air Filter		

<b>Air Filter Information</b>					
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>	
70355.6	04/25/2011 09:52	70700.2	04/27/2011 08:13	344.6	

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0514-001	San Luis Obispo	HASL Ga-01-R	Ba-140	0.0369 ± 0.0370	0.122	pCi/m3
N11-0514-001	San Luis Obispo	HASL Ga-01-R	Ce-141	-0.00683 ± 0.0136	0.0369	pCi/m3
N11-0514-001	San Luis Obispo	HASL Ga-01-R	Ce-144	-0.0374 ± 0.0640	0.171	pCi/m3
N11-0514-001	San Luis Obispo	HASL Ga-01-R	Cs-134	-0.000768 ± 0.0131	0.0395	pCi/m3
N11-0514-001	San Luis Obispo	HASL Ga-01-R	Cs-137	0.0233 ± 0.00950	0.0418	pCi/m3
N11-0514-001	San Luis Obispo	DOE RP 710	Gross Alpha	0.00380 ± 0.00190	0.00210	pCi/m3
N11-0514-001	San Luis Obispo	DOE RP 710	Gross Beta	0.0114 ± 0.00270	0.00370	pCi/m3
N11-0514-001	San Luis Obispo	HASL Ga-01-R	I-131	0.0110 ± 0.0120	0.0375	pCi/m3
N11-0514-001	San Luis Obispo	HASL Ga-01-R	I-132	-0.0185 ± 0.0180	0.0406	pCi/m3
N11-0514-001	San Luis Obispo	HASL Ga-01-R	Ru-103	0.0142 ± 0.00820	0.0312	pCi/m3
N11-0514-001	San Luis Obispo	HASL Ga-01-R	Ru-106	-0.101 ± 0.0937	0.243	pCi/m3
N11-0514-001	San Luis Obispo	HASL Ga-01-R	Te-132	-0.00220 ± 0.0117	0.0330	pCi/m3
N11-0514-001	San Luis Obispo	HASL Ga-01-R	Zr-95	0.0164 ± 0.0237	0.0659	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0514

N11-0514-002

San Luis Obispo

HASL Ga-01-R

Iodine-131

-0.000363 ± 0.00962

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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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

FINAL Analysis Results Report for Task ID. N11-0510

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/11/2011

<b>Requestor</b>				
Name:	Organization:			
Address:				
City:	State:	Zip Code:	Phone:	
<b>Site and Sample Information</b>				
Collector's Name:	Date/Time Collected: 04/27/2011 16:00	Date/Time Received: 04/28/2011 11:32		
Site Name: San Onofre / Air	Source Name:			
R Number: R 87901	Sample Type: Air Filter			
<b>Air Filter Information</b>				
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>
11968.7	04/25/2011 15:45	12293.6	04/27/2011 16:00	324.9

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0510-001	San Onofre	HASL Ga-01-R	Ba-140	-0.0160 ± 0.0460	0.120	pCi/m3
N11-0510-001	San Onofre	HASL Ga-01-R	Ce-141	0.0240 ± 0.0110	0.0375	pCi/m3
N11-0510-001	San Onofre	HASL Ga-01-R	Ce-144	0.100 ± 0.0438	0.152	pCi/m3
N11-0510-001	San Onofre	HASL Ga-01-R	Cs-134	0.0108 ± 0.0113	0.0392	pCi/m3
N11-0510-001	San Onofre	HASL Ga-01-R	Cs-137	0.0122 ± 0.0120	0.0439	pCi/m3
N11-0510-001	San Onofre	DOE RP 710	Gross Alpha	0.0103 ± 0.00290	0.00220	pCi/m3
N11-0510-001	San Onofre	DOE RP 710	Gross Beta	0.0287 ± 0.00350	0.00390	pCi/m3
N11-0510-001	San Onofre	HASL Ga-01-R	I-131	0.00668 ± 0.0103	0.0340	pCi/m3
N11-0510-001	San Onofre	HASL Ga-01-R	I-132	0.0216 ± 0.00819	0.0432	pCi/m3
N11-0510-001	San Onofre	HASL Ga-01-R	Ru-103	-0.0185 ± 0.0155	0.0361	pCi/m3
N11-0510-001	San Onofre	HASL Ga-01-R	Ru-106	-0.0582 ± 0.146	0.342	pCi/m3
N11-0510-001	San Onofre	HASL Ga-01-R	Te-132	-0.0229 ± 0.0128	0.0309	pCi/m3
N11-0510-001	San Onofre	HASL Ga-01-R	Zr-95	-0.00309 ± 0.0251	0.0710	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0510

N11-0510-002

San Onofre

HASL Ga-01-R

Iodine-131

0.0249 ± 0.00938

0.0469

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. N11-0511

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/11/2011

**Requestor**

Name:

Organization:

Address:

City:

State:

Zip Code:

Phone:

**Site and Sample Information**

Collector's Name:

Date/Time Collected: 04/27/2011 11:19

Date/Time Received: 04/28/2011 11:36

Site Name: Humboldt Bay / Air

Source Name:

R Number: R 90480

Sample Type: Air Filter

**Air Filter Information**

Start Volume	Start Date/Time	End Volume (M ) <sup>3</sup>	End Date/Time	Net Air Volume (M ) <sup>3</sup>
80681.1	04/25/2011 15:35	81011.8	04/27/2011 11:19	330.7

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0511-001	Humboldt Bay NPP	HASL Ga-01-R	Ba-140	-0.0900 ± 0.0604	0.114	pCi/m3
N11-0511-001	Humboldt Bay NPP	HASL Ga-01-R	Ce-141	0.0148 ± 0.0125	0.0408	pCi/m3
N11-0511-001	Humboldt Bay NPP	HASL Ga-01-R	Ce-144	0.00286 ± 0.0598	0.173	pCi/m3
N11-0511-001	Humboldt Bay NPP	HASL Ga-01-R	Cs-134	-0.00176 ± 0.0139	0.0407	pCi/m3
N11-0511-001	Humboldt Bay NPP	HASL Ga-01-R	Cs-137	0.00674 ± 0.0124	0.0422	pCi/m3
N11-0511-001	Humboldt Bay NPP	DOE RP 710	Gross Alpha	0.000400 ± 0.00110	0.00220	pCi/m3
N11-0511-001	Humboldt Bay NPP	DOE RP 710	Gross Beta	0.00510 ± 0.00250	0.00380	pCi/m3
N11-0511-001	Humboldt Bay NPP	HASL Ga-01-R	I-131	0.000860 ± 0.0124	0.0349	pCi/m3
N11-0511-001	Humboldt Bay NPP	HASL Ga-01-R	I-132	-0.00340 ± 0.0144	0.0431	pCi/m3
N11-0511-001	Humboldt Bay NPP	HASL Ga-01-R	Ru-103	-0.0186 ± 0.0138	0.0277	pCi/m3
N11-0511-001	Humboldt Bay NPP	HASL Ga-01-R	Ru-106	0.204 ± 0.0795	0.368	pCi/m3
N11-0511-001	Humboldt Bay NPP	HASL Ga-01-R	Te-132	0.0157 ± 0.0102	0.0349	pCi/m3
N11-0511-001	Humboldt Bay NPP	HASL Ga-01-R	Zr-95	0.0180 ± 0.0209	0.0542	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0511

N11-0511-002

Humboldt Bay NPP

HASL Ga-01-R

Iodine-131

-0.0240 ± 0.0210

0.0488

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.



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. N11-0512

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/11/2011

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

<b>Site and Sample Information</b>			
Collector's Name:	Date/Time Collected: 04/27/2011 11:25	Date/Time Received: 04/28/2011 11:42	
Site Name: San Diego / Air	Source Name:		
R Number: R 90645	Sample Type: Air Filter		

<b>Air Filter Information</b>				
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>
85099.3	04/25/2011 12:19	85424.6	04/27/2011 11:25	325.3

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0512-001	San Diego	HASL Ga-01-R	Ba-140	0.0238 ± 0.0372	0.120	pCi/m3
N11-0512-001	San Diego	HASL Ga-01-R	Ce-141	0.00481 ± 0.0104	0.0332	pCi/m3
N11-0512-001	San Diego	HASL Ga-01-R	Ce-144	-0.0635 ± 0.0545	0.143	pCi/m3
N11-0512-001	San Diego	HASL Ga-01-R	Cs-134	0.00351 ± 0.0134	0.0383	pCi/m3
N11-0512-001	San Diego	HASL Ga-01-R	Cs-137	0.00794 ± 0.0116	0.0359	pCi/m3
N11-0512-001	San Diego	DOE RP 710	Gross Alpha	0.0106 ± 0.00290	0.00220	pCi/m3
N11-0512-001	San Diego	DOE RP 710	Gross Beta	0.0155 ± 0.00300	0.00390	pCi/m3
N11-0512-001	San Diego	HASL Ga-01-R	I-131	0.00902 ± 0.00773	0.0278	pCi/m3
N11-0512-001	San Diego	HASL Ga-01-R	I-132	-0.00732 ± 0.0150	0.0364	pCi/m3
N11-0512-001	San Diego	HASL Ga-01-R	Ru-103	0 ± 0.00946	0.0269	pCi/m3
N11-0512-001	San Diego	HASL Ga-01-R	Ru-106	0.0540 ± 0.0981	0.308	pCi/m3
N11-0512-001	San Diego	HASL Ga-01-R	Te-132	0.0117 ± 0.00809	0.0285	pCi/m3
N11-0512-001	San Diego	HASL Ga-01-R	Zr-95	-0.00963 ± 0.0200	0.0485	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0512

N11-0512-002

San Diego

HASL Ga-01-R

Iodine-131

-0.0327 ± 0.0208

0.0438

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. N11-0513

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/11/2011

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

<u>Site and Sample Information</u>			
Collector's Name:	Date/Time Collected: 04/27/2011 08:41	Date/Time Received: 04/28/2011 14:00	
Site Name: Avila Beach / Air	Source Name:		
R Number: R 85064	Sample Type: Air Filter		

<u>Air Filter Information</u>				
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>
31334.3	04/25/2011 10:24	31675.2	04/27/2011 08:41	340.9

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA<sub>95</sub></u>	<u>Units</u>
N11-0513-001	Diablo Canyon NPP	HASL Ga-01-R	Ba-140	0.0126 ± 0.0444	0.135	pCi/m3
N11-0513-001	Diablo Canyon NPP	HASL Ga-01-R	Ce-141	0.0326 ± 0.00826	0.0385	pCi/m3
N11-0513-001	Diablo Canyon NPP	HASL Ga-01-R	Ce-144	-0.106 ± 0.0861	0.148	pCi/m3
N11-0513-001	Diablo Canyon NPP	HASL Ga-01-R	Cs-134	-0.00228 ± 0.0146	0.0406	pCi/m3
N11-0513-001	Diablo Canyon NPP	HASL Ga-01-R	Cs-137	0.0212 ± 0.00569	0.0414	pCi/m3
N11-0513-001	Diablo Canyon NPP	DOE RP 710	Gross Alpha	0.00350 ± 0.00180	0.00210	pCi/m3
N11-0513-001	Diablo Canyon NPP	DOE RP 710	Gross Beta	0.0118 ± 0.00270	0.00370	pCi/m3
N11-0513-001	Diablo Canyon NPP	HASL Ga-01-R	I-131	0.00922 ± 0.00918	0.0358	pCi/m3
N11-0513-001	Diablo Canyon NPP	HASL Ga-01-R	I-132	-0.0122 ± 0.0179	0.0445	pCi/m3
N11-0513-001	Diablo Canyon NPP	HASL Ga-01-R	Ru-103	0.0139 ± 0.00919	0.0369	pCi/m3
N11-0513-001	Diablo Canyon NPP	HASL Ga-01-R	Ru-106	0.0567 ± 0.0999	0.339	pCi/m3
N11-0513-001	Diablo Canyon NPP	HASL Ga-01-R	Te-132	-0.00786 ± 0.0113	0.0341	pCi/m3
N11-0513-001	Diablo Canyon NPP	HASL Ga-01-R	Zr-95	-0.00651 ± 0.0342	0.0789	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0513

N11-0513-002

Diablo Canyon NPP

HASL Ga-01-R

Iodine-131

-0.00573 ± 0.0116

0.0328

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

**FINAL Analysis Results Report for Task ID. N11-0518**

Analyst: \_\_\_\_\_ Analysis Approved By: \_\_\_\_\_ Analysis Approval Date: 05/12/2011

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

<b>Site and Sample Information</b>			
Collector's Name:	Date/Time Collected: 04/22/2011 12:30	Date/Time Received: 04/29/2011 13:39	
Site Name: Los Angeles / Air	Source Name:		
R Number: R 91128	Sample Type: Air Filter		

<b>Air Filter Information</b>						
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>		
90759.9	04/20/2011 13:00	91114.5	04/22/2011 12:30	354.6		

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0518-001	Los Angeles	HASL Ga-01-R	Ba-140	-0.0834 ± 0.0856	0.162	pCi/m3
N11-0518-001	Los Angeles	HASL Ga-01-R	Ce-141	0.0164 ± 0.0119	0.0380	pCi/m3
N11-0518-001	Los Angeles	HASL Ga-01-R	Ce-144	0.116 ± 0.0330	0.148	pCi/m3
N11-0518-001	Los Angeles	HASL Ga-01-R	Cs-134	-0.0247 ± 0.0153	0.0298	pCi/m3
N11-0518-001	Los Angeles	HASL Ga-01-R	Cs-137	-0.0146 ± 0.0165	0.0327	pCi/m3
N11-0518-001	Los Angeles	DOE RP 710	Gross Alpha	0.000500 ± 0.000900	0.00160	pCi/m3
N11-0518-001	Los Angeles	DOE RP 710	Gross Beta	0.00530 ± 0.00210	0.00320	pCi/m3
N11-0518-001	Los Angeles	HASL Ga-01-R	I-131	0.00333 ± 0.0181	0.0608	pCi/m3
N11-0518-001	Los Angeles	HASL Ga-01-R	I-132	0.0287 ± 0.0129	0.100	pCi/m3
N11-0518-001	Los Angeles	HASL Ga-01-R	Ru-103	0.00410 ± 0.00814	0.0298	pCi/m3
N11-0518-001	Los Angeles	HASL Ga-01-R	Ru-106	0.101 ± 0.0641	0.307	pCi/m3
N11-0518-001	Los Angeles	HASL Ga-01-R	Te-132	0.00679 ± 0.0299	0.103	pCi/m3
N11-0518-001	Los Angeles	HASL Ga-01-R	Zr-95	0.00259 ± 0.0195	0.0560	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0518

N11-0518-002

Los Angeles

HASL Ga-01-R

Iodine-131

0.0136 ± 0.0155

0.0549

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.



Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804

FINAL Analysis Results Report for Task ID. N11-0519

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/12/2011

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

<b>Site and Sample Information</b>			
Collector's Name:	Date/Time Collected: 04/27/2011 16:36	Date/Time Received: 04/29/2011 13:45	
Site Name: Livermore / Air	Source Name:		
R Number: R 91060	Sample Type: Air Filter		

<b>Air Filter Information</b>					
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>	
38253.6	04/25/2011 09:25	38675.6	04/27/2011 16:36	422.0	

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0519-001	Livermore	HASL Ga-01-R	Ba-140	0.0444 ± 0.0270	0.101	pCi/m3
N11-0519-001	Livermore	HASL Ga-01-R	Ce-141	-0.00672 ± 0.0117	0.0314	pCi/m3
N11-0519-001	Livermore	HASL Ga-01-R	Ce-144	-0.0482 ± 0.0527	0.131	pCi/m3
N11-0519-001	Livermore	HASL Ga-01-R	Cs-134	-0.0151 ± 0.0112	0.0290	pCi/m3
N11-0519-001	Livermore	HASL Ga-01-R	Cs-137	0.00687 ± 0.00927	0.0326	pCi/m3
N11-0519-001	Livermore	DOE RP 710	Gross Alpha	0.00560 ± 0.00190	0.00170	pCi/m3
N11-0519-001	Livermore	DOE RP 710	Gross Beta	0.0138 ± 0.00240	0.00300	pCi/m3
N11-0519-001	Livermore	HASL Ga-01-R	I-131	0.00801 ± 0.00874	0.0271	pCi/m3
N11-0519-001	Livermore	HASL Ga-01-R	I-132	0.000160 ± 0.0140	0.0421	pCi/m3
N11-0519-001	Livermore	HASL Ga-01-R	Ru-103	0.00763 ± 0.00703	0.0229	pCi/m3
N11-0519-001	Livermore	HASL Ga-01-R	Ru-106	-0.0188 ± 0.0870	0.264	pCi/m3
N11-0519-001	Livermore	HASL Ga-01-R	Te-132	-0.00288 ± 0.0105	0.0293	pCi/m3
N11-0519-001	Livermore	HASL Ga-01-R	Zr-95	0.00686 ± 0.0190	0.0489	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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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. N11-0519

N11-0519-002

Livermore

HASL Ga-01-R

Iodine-131

-0.00911 ± 0.0132

0.0334

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.



Howard Backer, MD, MPH  
Interim Director

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EDMUND G. BROWN JR.  
Governor

FINAL Analysis Results Report for Task ID. N11-0520

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: 05/12/2011

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

<b>Site and Sample Information</b>			
Collector's Name:	Date/Time Collected: 04/29/2011 08:58	Date/Time Received: 04/29/2011 13:54	
Site Name: Livermore / Air	Source Name:		
R Number: R 91061	Sample Type: Air Filter		

<b>Air Filter Information</b>				
<u>Start Volume</u>	<u>Start Date/Time</u>	<u>End Volume (M )<sup>3</sup></u>	<u>End Date/Time</u>	<u>Net Air Volume (M )<sup>3</sup></u>
38675.6	04/27/2011 16:37	38982.0	04/29/2011 08:58	306.4

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA95	Units
N11-0520-001	Livermore	HASL Ga-01-R	Ba-140	-0.0790 ± 0.0598	0.127	pCi/m3
N11-0520-001	Livermore	HASL Ga-01-R	Ce-141	0 ± 0.0139	0.0415	pCi/m3
N11-0520-001	Livermore	HASL Ga-01-R	Ce-144	0.0679 ± 0.0562	0.188	pCi/m3
N11-0520-001	Livermore	HASL Ga-01-R	Cs-134	-0.00294 ± 0.0176	0.0459	pCi/m3
N11-0520-001	Livermore	HASL Ga-01-R	Cs-137	-0.0349 ± 0.0226	0.0445	pCi/m3
N11-0520-001	Livermore	DOE RP 710	Gross Alpha	0.00790 ± 0.00260	0.00180	pCi/m3
N11-0520-001	Livermore	DOE RP 710	Gross Beta	0.0155 ± 0.00300	0.00370	pCi/m3
N11-0520-001	Livermore	HASL Ga-01-R	I-131	-0.0342 ± 0.0168	0.0357	pCi/m3
N11-0520-001	Livermore	HASL Ga-01-R	I-132	-0.00541 ± 0.0164	0.0415	pCi/m3
N11-0520-001	Livermore	HASL Ga-01-R	Ru-103	-0.000428 ± 0.0158	0.0429	pCi/m3
N11-0520-001	Livermore	HASL Ga-01-R	Ru-106	0.0243 ± 0.149	0.415	pCi/m3
N11-0520-001	Livermore	HASL Ga-01-R	Te-132	0.000690 ± 0.0103	0.0288	pCi/m3
N11-0520-001	Livermore	HASL Ga-01-R	Zr-95	-0.0253 ± 0.0320	0.0713	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.

## FINAL Analysis Results Report for Task ID. N11-0520

N11-0520-002

Livermore

HASL Ga-01-R

Iodine-131

-0.0187 ± 0.0184

0.0423

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.



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Interim Director

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California Department of Public Health

Drinking Water and Radiation Laboratory Branch

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EDMUND G. BROWN JR.  
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0536

Analyst: \_\_\_\_\_

Analysis Approved By: \_\_\_\_\_

Analysis Approval Date: \_\_\_\_\_

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

<b>Site and Sample Information</b>			
Collector's Name:	Date/Time Collected: 05/02/2011 07:54	Date/Time Received: 05/03/2011 10:00	
Site Name: Cal Poly Dairy	Source Name:		
R Number: R91105	Sample Type: Milk		

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA <sub>95</sub>	Units
N11-0536-001	Cal Poly Dairy Farm	HASL Ga-01-R	Cs-134	4.55 ± 0.309	1.48	pCi/L
N11-0536-001	Cal Poly Dairy Farm	HASL Ga-01-R	Cs-137	5.11 ± 0.650	2.79	pCi/L
N11-0536-001	Cal Poly Dairy Farm	HASL Ga-01-R	I-131	4.14 ± 0.911	2.80	pCi/L
N11-0536-001	Cal Poly Dairy Farm	HASL Ga-01-R	K-40	1400 ± 32.6	36.0	pCi/L

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. MDA<sub>95</sub> is the sample specific minimum detectable activity at the 95% confidence level, which is the LLD<sub>95</sub> divided by 2.22, the efficiency and the yield, and may include factors for abundance, decay and ingrowth, depending on the particular radionuclide. LLD<sub>95</sub> 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.