



Howard Backer, MD, MPH
Interim Director

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

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



EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0374

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: _____
Address: _____
City: _____ State: CA Zip Code: 95814-5006 Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/01/2011 15:30 Date/Time Received: 04/06/2011 10:29
Site Name: San Onofre / Air Source Name: _____
R Number: R 87390 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
7794.7	03/30/2011 13:30	8139.1	04/01/2011 15:30	344.4

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0374-001	San Onofre	HASL Ga-01-R	Ba-140	-0.0174 ± 0.0380	0.100	pCi/m ³
N11-0374-001	San Onofre	HASL Ga-01-R	Ce-141	0.00789 ± 0.00935	0.0287	pCi/m ³
N11-0374-001	San Onofre	HASL Ga-01-R	Ce-144	-0.00117 ± 0.0461	0.122	pCi/m ³
N11-0374-001	San Onofre	HASL Ga-01-R	Cs-134	0.0143 ± 0.00992	0.0371	pCi/m ³
N11-0374-001	San Onofre	HASL Ga-01-R	Cs-137	0.00500 ± 0.00943	0.0320	pCi/m ³
N11-0374-001	San Onofre	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0374-001	San Onofre	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0374-001	San Onofre	HASL Ga-01-R	I-131	0.0192 ± 0.0127	0.0477	pCi/m ³
N11-0374-001	San Onofre	HASL Ga-01-R	I-132	-0.0198 ± 0.0352	0.0625	pCi/m ³
N11-0374-001	San Onofre	HASL Ga-01-R	Ru-103	0.00938 ± 0.00884	0.0303	pCi/m ³
N11-0374-001	San Onofre	HASL Ga-01-R	Ru-106	-0.0264 ± 0.0741	0.199	pCi/m ³
N11-0374-001	San Onofre	HASL Ga-01-R	Te-132	-0.0300 ± 0.0224	0.0568	pCi/m ³
N11-0374-001	San Onofre	HASL Ga-01-R	Zr-95	0.0211 ± 0.0176	0.0644	pCi/m ³

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

PRELIMINARY Analysis Results Report for Task ID. N11-0374

N11-0374-002

San Onofre

HASL Ga-01-R

Iodine-131

0.123 ± 0.0214

0.107

pCi/m3

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



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EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0375

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: _____
Address: _____
City: _____ State: CA Zip Code: 95814-5006 Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/05/2011 09:27 Date/Time Received: 04/06/2011 13:39
Site Name: Avila Beach / Air Source Name: _____
R Number: R 90445 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
27482.2	04/03/2011 11:01	27821.3	04/05/2011 09:27	339.1

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0375-001	Diablo Canyon NPP	HASL Ga-01-R	Ba-140	0.0377 ± 0.0372	0.123	pCi/m3
N11-0375-001	Diablo Canyon NPP	HASL Ga-01-R	Ce-141	0.000625 ± 0.0144	0.0409	pCi/m3
N11-0375-001	Diablo Canyon NPP	HASL Ga-01-R	Ce-144	0.0220 ± 0.0609	0.180	pCi/m3
N11-0375-001	Diablo Canyon NPP	HASL Ga-01-R	Cs-134	-0.0152 ± 0.0128	0.0342	pCi/m3
N11-0375-001	Diablo Canyon NPP	HASL Ga-01-R	Cs-137	0.0110 ± 0.0137	0.0454	pCi/m3
N11-0375-001	Diablo Canyon NPP	DOE RP 710	Gross Alpha	±		pCi/m3
N11-0375-001	Diablo Canyon NPP	DOE RP 710	Gross Beta	±		pCi/m3
N11-0375-001	Diablo Canyon NPP	HASL Ga-01-R	I-131	0.0208 ± 0.0130	0.0435	pCi/m3
N11-0375-001	Diablo Canyon NPP	HASL Ga-01-R	I-132	-0.0132 ± 0.0178	0.0464	pCi/m3
N11-0375-001	Diablo Canyon NPP	HASL Ga-01-R	Ru-103	0.00456 ± 0.0117	0.0325	pCi/m3
N11-0375-001	Diablo Canyon NPP	HASL Ga-01-R	Ru-106	0.0546 ± 0.0888	0.312	pCi/m3
N11-0375-001	Diablo Canyon NPP	HASL Ga-01-R	Te-132	0.0121 ± 0.00941	0.0318	pCi/m3
N11-0375-001	Diablo Canyon NPP	HASL Ga-01-R	Zr-95	-0.0349 ± 0.0354	0.0561	pCi/m3

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

PRELIMINARY Analysis Results Report for Task ID. N11-0375

N11-0375-002

Diablo Canyon NPP

HASL Ga-01-R

Iodine-131

0.0693 ± 0.0104

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



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EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0377

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: _____
Address: _____
City: _____ State: CA Zip Code: 95814-5006 Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/05/2011 09:59 Date/Time Received: 04/06/2011 13:45
Site Name: San Luis Obispo / Air Source Name: _____
R Number: R 90446 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
66458.8	04/03/2011 10:33	66813.6	04/05/2011 09:59	354.8

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0377-001	San Luis Obispo	HASL Ga-01-R	Ba-140	-0.0494 ± 0.0510	0.114	pCi/m ³
N11-0377-001	San Luis Obispo	HASL Ga-01-R	Ce-141	-0.0130 ± 0.0148	0.0315	pCi/m ³
N11-0377-001	San Luis Obispo	HASL Ga-01-R	Ce-144	0.00235 ± 0.0545	0.132	pCi/m ³
N11-0377-001	San Luis Obispo	HASL Ga-01-R	Cs-134	-0.0122 ± 0.0146	0.0356	pCi/m ³
N11-0377-001	San Luis Obispo	HASL Ga-01-R	Cs-137	0.00510 ± 0.0112	0.0385	pCi/m ³
N11-0377-001	San Luis Obispo	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0377-001	San Luis Obispo	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0377-001	San Luis Obispo	HASL Ga-01-R	I-131	0.0135 ± 0.0120	0.0444	pCi/m ³
N11-0377-001	San Luis Obispo	HASL Ga-01-R	I-132	0.0164 ± 0.00950	0.0452	pCi/m ³
N11-0377-001	San Luis Obispo	HASL Ga-01-R	Ru-103	0.0121 ± 0.00943	0.0354	pCi/m ³
N11-0377-001	San Luis Obispo	HASL Ga-01-R	Ru-106	-0.0959 ± 0.125	0.292	pCi/m ³
N11-0377-001	San Luis Obispo	HASL Ga-01-R	Te-132	-0.00237 ± 0.00953	0.0311	pCi/m ³
N11-0377-001	San Luis Obispo	HASL Ga-01-R	Zr-95	0.0273 ± 0.0232	0.0714	pCi/m ³

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

PRELIMINARY Analysis Results Report for Task ID. N11-0377

N11-0377-002

San Luis Obispo

HASL Ga-01-R

Iodine-131

0.0639 ± 0.0117

0.0559

pCi/m3

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



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EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0379

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: _____
Address: _____
City: _____ State: CA Zip Code: 95814-5006 Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/05/2011 11:40 Date/Time Received: 04/06/2011 13:52
Site Name: Humboldt Bay / Air Source Name: _____
R Number: R 90469 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
76912.5	04/03/2011 18:15	77210.4	04/05/2011 11:40	297.9

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0379-001	Humboldt Bay NPP	HASL Ga-01-R	Ba-140	-0.0179 ± 0.0553	0.148	pCi/m ³
N11-0379-001	Humboldt Bay NPP	HASL Ga-01-R	Ce-141	-0.0165 ± 0.0201	0.0434	pCi/m ³
N11-0379-001	Humboldt Bay NPP	HASL Ga-01-R	Ce-144	-0.0422 ± 0.0716	0.164	pCi/m ³
N11-0379-001	Humboldt Bay NPP	HASL Ga-01-R	Cs-134	-0.0147 ± 0.0169	0.0413	pCi/m ³
N11-0379-001	Humboldt Bay NPP	HASL Ga-01-R	Cs-137	0.00260 ± 0.0131	0.0426	pCi/m ³
N11-0379-001	Humboldt Bay NPP	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0379-001	Humboldt Bay NPP	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0379-001	Humboldt Bay NPP	HASL Ga-01-R	I-131	0.0210 ± 0.00958	0.0440	pCi/m ³
N11-0379-001	Humboldt Bay NPP	HASL Ga-01-R	I-132	-0.0134 ± 0.0194	0.0489	pCi/m ³
N11-0379-001	Humboldt Bay NPP	HASL Ga-01-R	Ru-103	-0.00973 ± 0.0139	0.0374	pCi/m ³
N11-0379-001	Humboldt Bay NPP	HASL Ga-01-R	Ru-106	0.0781 ± 0.112	0.400	pCi/m ³
N11-0379-001	Humboldt Bay NPP	HASL Ga-01-R	Te-132	0.00244 ± 0.00839	0.0301	pCi/m ³
N11-0379-001	Humboldt Bay NPP	HASL Ga-01-R	Zr-95	0.00932 ± 0.00539	0.0438	pCi/m ³

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

PRELIMINARY Analysis Results Report for Task ID. N11-0379

N11-0379-002

Humboldt Bay NPP

HASL Ga-01-R

Iodine-131

0.0506 ± 0.0135

0.0588

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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850 Marina Bay Parkway, Richmond, CA 94804



EDMUND G. BROWN JR.
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PRELIMINARY Analysis Results Report for Task ID. N11-0383

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____

Organization: _____

Address: _____

City: _____

State: CA

Zip Code: 95814-5006

Phone: _____

Site and Sample Information

Collector's Name: _____

Date/Time Collected: 04/05/2011 16:32

Date/Time Received: 04/07/2011 09:49

Site Name: Eureka / Air

Source Name: _____

R Number: R 91200

Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
18154.7	04/01/2011 09:00	18923.7	04/05/2011 16:32	769.0

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0383-001	Eureka	HASL Ga-01-R	Ba-140	0.00917 ± 0.0189	0.0562	pCi/m3
N11-0383-001	Eureka	HASL Ga-01-R	Ce-141	0.00225 ± 0.00671	0.0198	pCi/m3
N11-0383-001	Eureka	HASL Ga-01-R	Ce-144	0.00800 ± 0.0235	0.0686	pCi/m3
N11-0383-001	Eureka	HASL Ga-01-R	Cs-134	0.0160 ± 0.00610	0.0243	pCi/m3
N11-0383-001	Eureka	HASL Ga-01-R	Cs-137	0.0124 ± 0.00451	0.0205	pCi/m3
N11-0383-001	Eureka	DOE RP 710	Gross Alpha	±		pCi/m3
N11-0383-001	Eureka	DOE RP 710	Gross Beta	±		pCi/m3
N11-0383-001	Eureka	HASL Ga-01-R	I-131	0.00588 ± 0.00623	0.0195	pCi/m3
N11-0383-001	Eureka	HASL Ga-01-R	I-132	0.00562 ± 0.00776	0.0261	pCi/m3
N11-0383-001	Eureka	HASL Ga-01-R	Ru-103	-0.00288 ± 0.00595	0.0135	pCi/m3
N11-0383-001	Eureka	HASL Ga-01-R	Ru-106	0.0138 ± 0.0386	0.132	pCi/m3
N11-0383-001	Eureka	HASL Ga-01-R	Te-132	0.00146 ± 0.00621	0.0179	pCi/m3
N11-0383-001	Eureka	HASL Ga-01-R	Zr-95	0.00552 ± 0.00806	0.0286	pCi/m3

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

PRELIMINARY Analysis Results Report for Task ID. N11-0383

N11-0383-002

Eureka

HASL Ga-01-R

Iodine-131

0.0587 ± 0.00689

0.0237

pCi/m3

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



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EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0382

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: _____
Address: _____
City: _____ State: CA Zip Code: 95814-5006 Phone: _____

Site and Sample Information

Collector's Name: Esala Chandrasena Date/Time Collected: 04/06/2011 11:30 Date/Time Received: 04/07/2011 09:41
Site Name: Los Angeles / Air Source Name: CA DHS - Los Angeles
R Number: R 91147 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
88158.5	04/04/2011 11:00	88491.3	04/06/2011 11:30	332.8

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0382-001	Los Angeles	HASL Ga-01-R	Ba-140	0.0691 ± 0.0391	0.135	pCi/m ³
N11-0382-001	Los Angeles	HASL Ga-01-R	Ce-141	-0.0146 ± 0.0155	0.0385	pCi/m ³
N11-0382-001	Los Angeles	HASL Ga-01-R	Ce-144	0.0659 ± 0.0591	0.189	pCi/m ³
N11-0382-001	Los Angeles	HASL Ga-01-R	Cs-134	-0.00468 ± 0.0129	0.0386	pCi/m ³
N11-0382-001	Los Angeles	HASL Ga-01-R	Cs-137	-0.00212 ± 0.0138	0.0406	pCi/m ³
N11-0382-001	Los Angeles	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0382-001	Los Angeles	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0382-001	Los Angeles	HASL Ga-01-R	I-131	0.0187 ± 0.0120	0.0407	pCi/m ³
N11-0382-001	Los Angeles	HASL Ga-01-R	I-132	0.00729 ± 0.0141	0.0465	pCi/m ³
N11-0382-001	Los Angeles	HASL Ga-01-R	Ru-103	0.00391 ± 0.0121	0.0348	pCi/m ³
N11-0382-001	Los Angeles	HASL Ga-01-R	Ru-106	0.0434 ± 0.0800	0.286	pCi/m ³
N11-0382-001	Los Angeles	HASL Ga-01-R	Te-132	-0.0103 ± 0.0123	0.0318	pCi/m ³
N11-0382-001	Los Angeles	HASL Ga-01-R	Zr-95	-0.00601 ± 0.0285	0.0522	pCi/m ³

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

PRELIMINARY Analysis Results Report for Task ID. N11-0382

N11-0382-002

Los Angeles

HASL Ga-01-R

Iodine-131

0.0766 ± 0.00916

0.0229

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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Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804



EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0381

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name:

Organization:

Address:

City:

State: CA Zip Code: 95814-5006

Phone:

Site and Sample Information

Collector's Name:

Date/Time Collected: 04/07/2011 09:00

Date/Time Received: 04/07/2011 09:30

Site Name: Richmond / Air

Source Name:

R Number: R 91076

Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
6810.5	04/05/2011 09:00	7139.8	04/07/2011 09:00	329.3

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0381-001	Richmond	HASL Ga-01-R	Ba-140	-0.0359 ± 0.0459	0.100	pCi/m ³
N11-0381-001	Richmond	HASL Ga-01-R	Ce-141	0.0118 ± 0.0104	0.0321	pCi/m ³
N11-0381-001	Richmond	HASL Ga-01-R	Ce-144	0.0301 ± 0.0470	0.135	pCi/m ³
N11-0381-001	Richmond	HASL Ga-01-R	Cs-134	0.0278 ± 0.0113	0.0447	pCi/m ³
N11-0381-001	Richmond	HASL Ga-01-R	Cs-137	0.0249 ± 0.0147	0.0554	pCi/m ³
N11-0381-001	Richmond	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0381-001	Richmond	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0381-001	Richmond	HASL Ga-01-R	I-131	0.0139 ± 0.00990	0.0356	pCi/m ³
N11-0381-001	Richmond	HASL Ga-01-R	I-132	0.0166 ± 0.0116	0.0429	pCi/m ³
N11-0381-001	Richmond	HASL Ga-01-R	Ru-103	-0.00967 ± 0.0123	0.0285	pCi/m ³
N11-0381-001	Richmond	HASL Ga-01-R	Ru-106	0.0133 ± 0.109	0.306	pCi/m ³
N11-0381-001	Richmond	HASL Ga-01-R	Te-132	-0.00251 ± 0.00863	0.0248	pCi/m ³
N11-0381-001	Richmond	HASL Ga-01-R	Zr-95	-0.0220 ± 0.0259	0.0557	pCi/m ³

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

PRELIMINARY Analysis Results Report for Task ID. N11-0381

N11-0381-002

Richmond

HASL Ga-01-R

Iodine-131

0.0560 ± 0.0136

0.0640

pCi/m3

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



Howard Backer, MD, MPH
Interim Director

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

Drinking Water and Radiation Laboratory Branch

850 Marina Bay Parkway, Richmond, CA 94804



EDMUND G. BROWN JR.
Governor

PRELIMINARY Analysis Results Report for Task ID. N11-0384

Analyst: _____

Analysis Approved By: _____

Analysis Approval Date: _____

Requestor

Name: _____ Organization: _____
Address: _____
City: Sacramento State: CA Zip Code: 95814-5006 Phone: _____

Site and Sample Information

Collector's Name: _____ Date/Time Collected: 04/06/2011 16:30 Date/Time Received: 04/07/2011 10:27
Site Name: San Onofre / Air Source Name: _____
R Number: R 87392 Sample Type: Air Filter

Air Filter Information

Start Volume	Start Date/Time	End Volume (M) ³	End Date/Time	Net Air Volume (M) ³
8553.3	04/04/2011 06:45	8931.5	04/06/2011 16:30	378.2

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA ₉₅	Units
N11-0384-001	San Onofre	HASL Ga-01-R	Ba-140	-0.00707 ± 0.0400	0.114	pCi/m ³
N11-0384-001	San Onofre	HASL Ga-01-R	Ce-141	-0.0115 ± 0.0134	0.0319	pCi/m ³
N11-0384-001	San Onofre	HASL Ga-01-R	Ce-144	0.0163 ± 0.0461	0.127	pCi/m ³
N11-0384-001	San Onofre	HASL Ga-01-R	Cs-134	0.0197 ± 0.0126	0.0424	pCi/m ³
N11-0384-001	San Onofre	HASL Ga-01-R	Cs-137	-0.00251 ± 0.0118	0.0329	pCi/m ³
N11-0384-001	San Onofre	DOE RP 710	Gross Alpha	±		pCi/m ³
N11-0384-001	San Onofre	DOE RP 710	Gross Beta	±		pCi/m ³
N11-0384-001	San Onofre	HASL Ga-01-R	I-131	0.00638 ± 0.00859	0.0293	pCi/m ³
N11-0384-001	San Onofre	HASL Ga-01-R	I-132	0.00665 ± 0.0106	0.0356	pCi/m ³
N11-0384-001	San Onofre	HASL Ga-01-R	Ru-103	-0.00450 ± 0.0107	0.0288	pCi/m ³
N11-0384-001	San Onofre	HASL Ga-01-R	Ru-106	-0.0829 ± 0.110	0.260	pCi/m ³
N11-0384-001	San Onofre	HASL Ga-01-R	Te-132	0.0114 ± 0.00791	0.0278	pCi/m ³
N11-0384-001	San Onofre	HASL Ga-01-R	Zr-95	-0.0148 ± 0.0249	0.0610	pCi/m ³

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

PRELIMINARY Analysis Results Report for Task ID. N11-0384

N11-0384-002

San Onofre

HASL Ga-01-R

Iodine-131

0.0353 ± 0.0104

0.0496

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.