



RON CHAPMAN, MD, MPH  
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  
Phone: (510) 620-2911 Fax: (510) 620-2940



EDMUND G. BROWN JR.  
Governor

FINAL Analysis Results Report for Task ID. N11-0965

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 11/16/2011

**Requestor**

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information**

Collector's Name: SS/JNS

Date/Time Collected: 10/17/2011 15:14 Date/Time Received: 10/19/2011 09:35

Site Name: San Onofre NPP

Source Name: Biota / SONGS F / 4th Qtr 2011

R Number: R 92521

Sample Type: Vegetation

<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>
N11-0965-001	Dana Point Kelp	HASL Ga-01-R	Dry Wt./Wet Wt.	0.153 ±		
N11-0965-001	Dana Point Kelp	HASL Ga-01-R	K-40	73.6 ± 1.67	1.76	pCi/g dry wt

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.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 10/19/11	Lab No. (Leave Blank) M11-0965
	Date & Time Sampled 10/17/11 15:14	Serial Number R 92521
Collector Information Name: Dept./Branch: Address: Telephone No.:	Reporting Information Name: Dept./Branch: Address: Telephone No.:	
Sample Information System Name / Facility: Sampling Point (s): System No.:	Billing Agency <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- Drinking Water  Groundwater  Surface Water  Wastewater  
 Raw  Water Treatment Plant (WTP)  Distribution System  Point of Use (POU)  
 Treated (circle one): Chlorinated / Chloramine / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted  
 Air Filters  Seawater  Sludge (Semi-solid Samples)  
 Finishing: \_\_\_\_\_ Date/Time \_\_\_\_\_  Milk  Soil/Sediment  
 Starting: \_\_\_\_\_  Wipes  Biota (Type): Kelp  
 Net (M<sup>3</sup>) \_\_\_\_\_  Radon Canister  Other: \_\_\_\_\_  
 Air Charcoal Cartridge

COMMENTS: (Cautions, etc.):

- Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
 Field Measurement: \_\_\_\_\_ mR/hr  Radionuclide(s), if known: \_\_\_\_\_  
 Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- Gross Alpha  Gross Beta  Gamma Scan  
 Total Uranium  Total Beta (LSC)  NORM (Gamma)  
 Total Radium  Tritium (<sup>3</sup>H)  Isotopic Americium / Curium  
 Radium-226  Carbon-14  Isotopic Plutonium  
 Radium-228  Iodine-131  Isotopic Thorium  
 Radon-222  Strontium-89, 90  Isotopic Uranium  
 Other (Specify): \_\_\_\_\_  Nickel-63  Iron-55

CHAIN OF CUSTODY

1.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____
2.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____
3.	Date <u>10/19/11</u>	Name (Print) <u>JA</u>	Signature <u>[Signature]</u>	Date _____
	Time Custody Received <u>9:50</u>	Organization <u>DWRLB</u>		Time Custody Released _____

LABORATORY REMARKS (Leave Blank)

- A. Condition at Time of Receipt: < 0.01 MR/HR  
 Acceptable  Broken Container  Leaked in Transit  Improper Container  
 Holding Time Exceeded  Sample Not Cooled  Insufficient Sample  
 B. Preservatives/Carriers:  
 Added While Sampling  Added in Laboratory  Not Added  Not Applicable



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EDMUND G. BROWN JR.  
Governor

## FINAL Analysis Results Report for Task ID. N11-0966

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 11/16/2011

#### Requestor

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

#### Site and Sample Information

Collector's Name: SS/JNS

Date/Time Collected: 10/17/2011 14:56 Date/Time Received: 10/19/2011 09:35

Site Name: San Onofre NPP

Source Name: Biota / SONGS G / 4th Qtr 2011

R Number: R 92523

Sample Type: Vegetation

<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>
N11-0966-001	Kelp	HASL Ga-01-R	Dry Wt./Wet Wt.	0.206 ±		
N11-0966-001	Kelp	HASL Ga-01-R	K-40	52.7 ± 1.23	1.02	pCi/g dry wt

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.

**REQUEST FOR SAMPLE ANALYSIS (Radiochemical)**

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 10/19/11	Lab No. (Leave Blank) 111-0966
	Date & Time Sampled 10/17/11 14:56	Serial Number R 92523
<b>Collector Information</b> Name: Dept./Branch: Address: Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address: Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s): System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

**TYPE OF SAMPLE (Check all applicable boxes)**

Drinking Water     Groundwater     Surface Water     Wastewater  
 Raw     Water Treatment Plant (WTP)     Distribution System     Point of Use (POU)

Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

Air Filters    Date/Time \_\_\_\_\_     Seawater     Sludge (Semi-solid Samples)  
 Finishing: \_\_\_\_\_     Milk     Soil/Sediment  
 Starting: \_\_\_\_\_     Wipes     Biota (Type): Kelp  
 Net (M<sup>3</sup>) \_\_\_\_\_     Radon Canister     Other: \_\_\_\_\_

Air Charcoal Cartridge

**COMMENTS: (Cautions, etc.):** \_\_\_\_\_

Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
 Field Measurement: \_\_\_\_\_ mR/hr     Radionuclide(s), if known: \_\_\_\_\_  
 Rush/Priority (should be prearranged and have supervisory approval)

**ANALYSIS REQUESTED (For questions, please call 510-620-2911)**

Gross Alpha     Gross Beta     Gamma Scan  
 Total Uranium     Total Beta (LSC)     NORM (Gamma)  
 Total Radium     Tritium (³H)     Isotopic Americium / Curium  
 Radium-226     Carbon-14     Isotopic Plutonium  
 Radium-228     Iodine-131     Isotopic Thorium  
 Radon-222     Strontium-89, 90     Isotopic Uranium  
 Other (Specify): \_\_\_\_\_     Nickel-63     Iron-55

**CHAIN OF CUSTODY**

1.	Date _____	Name (Print) _____	Signature _____	Date <u>Kelp</u>
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
2.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
3.	Date <u>10/19/11</u>	Name (Print) <u>VA</u>	Signature <u>[Signature]</u>	Date _____
	Time Custody Received <u>9:30</u>	Organization <u>DWRLB</u>	Signature <u>[Signature]</u>	Time Custody Released _____

**LABORATORY REMARKS (Leave Blank)**

**A. Condition at Time of Receipt:**  
 Acceptable     Broken Container     Leaked in Transit     Improper Container  
 Holding Time Exceeded     Sample Not Cooled     Insufficient Sample

**B. Preservatives/Carriers:**  
 Added While Sampling     Added in Laboratory     Not Added     Not Applicable



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EDMUND G. BROWN JR.  
Governor

FINAL Analysis Results Report for Task ID. N11-0970

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 12/02/2011

**Requestor**

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information**

Collector's Name: SS/JNS

Date/Time Collected: 10/17/2011 11:11 Date/Time Received: 10/19/2011 09:35

Site Name: San Onofre NPP

Source Name: SONGS C / 4th Qtr 2011

R Number: R 92526

Sample Type: Vegetation

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA95</u>	<u>Units</u>
N11-0970-001	Barn Kelp	HASL Ga-01-R	Dry Wt./Wet Wt.	0.172 ±		
N11-0970-001	Barn Kelp	HASL Ga-01-R	K-40	55.9 ± 1.35	1.95	pCi/g dry wt

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.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 10/19/11	Lab No. (Leave Blank) N11-0970
	Date & Time Sampled 10/17/11 11:11	Serial Number R 92526
<b>Collector Information</b> Name: Dept./Branch: Jeffrey Dennis Address: Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address: Telephone No.:	
<b>Sample Information</b> System Name / Facility: SONGS CH Sampling Point (s): Barn Kelp System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- Drinking Water     Groundwater     Surface Water     Wastewater
  - Raw     Water Treatment Plant (WTP)     Distribution System     Point of Use (POU)
  - Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted
- 
- Air Filters    Date/Time     Seawater     Sludge (Semi-solid Samples)
  - Finishing: \_\_\_\_\_     Milk     Soil/Sediment
  - Starting: \_\_\_\_\_     Wipes     Biota (Type): Kelp
  - Net (M<sup>3</sup>) \_\_\_\_\_     Radon Canister     Other: Kelp
  - Air Charcoal Cartridge

COMMENTS: (Cautions, etc.):

- Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_
- Field Measurement: \_\_\_\_\_ mR/hr     Radionuclide(s), if known: \_\_\_\_\_
- Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- Gross Alpha     Gross Beta     Gamma Scan
- Total Uranium     Total Beta (LSC)     NORM (Gamma)
- Total Radium     Tritium (<sup>3</sup>H)     Isotopic Americium / Curium
- Radium-226     Carbon-14     Isotopic Plutonium
- Radium-228     Iodine-131     Isotopic Thorium
- Radon-222     Strontium-89, 90     Isotopic Uranium
- Other (Specify): \_\_\_\_\_     Nickel-63     Iron-55

CHAIN OF CUSTODY

1.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
2.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
3.	Date 10/19/11	Name (Print) VA	Signature [Signature]	Date _____
	Time Custody Received 9:30	Organization DWRLB	Signature [Signature]	Time Custody Released _____

LABORATORY REMARKS (Leave Blank)

- L 0.01 MR/HR
- A. Condition at Time of Receipt:
    - Acceptable     Broken Container     Leaked in Transit     Improper Container
    - Holding Time Exceeded     Sample Not Cooled     Insufficient Sample
  - B. Preservatives/Carriers:
    - Added While Sampling     Added in Laboratory     Not Added     Not Applicable



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Director

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

Drinking Water and Radiation Laboratory Branch

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EDMUND G. BROWN JR.  
Governor

FINAL Analysis Results Report for Task ID. N11-1045

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 12/02/2011

**Requestor**

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information**

Collector's Name: SS/JNS

Date/Time Collected: 10/17/2011 10:47 Date/Time Received: 10/19/2011 09:30

Site Name: San Onofre NPP

Source Name: Biota / 4th Qtr 2011

R Number: R 92522

Sample Type: Vegetation

<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>
N11-1045-001	Kelp	HASL Ga-01-R	Dry Wt./Wet Wt.	0.189 ±		
N11-1045-001	Kelp	HASL Ga-01-R	K-40	47.9 ± 1.08	0.989	pCi/g dry wt

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.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>10/19/11</u>	Lab No. (Leave Blank) <u>NH 1045</u> <del>VA 0965</del> VA
	Date & Time Sampled <u>10/17/11 10:43</u>	Serial Number <u>R 92522</u>
Collector Information Name: Dept./Branch: Address: Telephone No.:	Reporting Information Name: Dept./Branch: Address: Telephone No.:	
Sample Information System Name / Facility: Sampling Point (s): System No.:	Billing Agency <input type="checkbox"/> DWFCB <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTHB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

Drinking Water  Groundwater  Surface Water  Wastewater  
 Raw  Water Treatment Plant (WTP)  Distribution System  Point of Use (POU)  
 Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

Air Filters  Seawater  Sludge (Semi-solid Samples)  
 Finishing: \_\_\_\_\_ Date/Time \_\_\_\_\_  Milk  Soil/Sediment  
 Starting: \_\_\_\_\_  Wipes  Biota (Type): Kelp  
 Net (M<sup>3</sup>) \_\_\_\_\_  Radon Canister  Other: \_\_\_\_\_

Air Charcoal Cartridge

COMMENTS: (Cautions, etc.):

Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
 Field Measurement: \_\_\_\_\_ mR/hr  Radionuclide(s), if known: \_\_\_\_\_  
 Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

Gross Alpha  Gross Beta  Gamma Scan  
 Total Uranium  Total Beta (LSC)  NORM (Gamma)  
 Total Radium  Tritium (<sup>3</sup>H)  Isotopic Americium / Curium Kelp  
 Radium-226  Carbon-14  Isotopic Plutonium  
 Radium-228  Iodine-131  Isotopic Thorium  
 Radon-222  Strontium-89, 90  Isotopic Uranium  
 Other (Specify): \_\_\_\_\_  Nickel-63  Iron-55

CHAIN OF CUSTODY

1.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
2.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
3.	Date <u>10/19/11</u>	Name (Print) <u>VA</u>	Signature <u>Victoria M. [unclear]</u>	Date _____
	Time Custody Received <u>9:30</u>	Organization <u>DWRLB</u>	Signature _____	Time Custody Released _____

LABORATORY REMARKS (Leave Blank)

A. Condition at Time of Receipt:  
 Acceptable  Broken Container  Leaked in Transit  Improper Container  
 Holding Time Exceeded  Sample Not Cooled  Insufficient Sample

B. Preservatives/Carriers:  
 Added While Sampling  Added in Laboratory  Not Added  Not Applicable

0.01 MR/HR  
DWRLB  
Victoria M. [unclear]



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Director

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Drinking Water and Radiation Laboratory Branch

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EDMUND G. BROWN JR.  
Governor

FINAL Analysis Results Report for Task ID. N11-0972

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 12/02/2011

**Requestor**

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information**

Collector's Name: SS/JNS

Date/Time Collected: 10/17/2011 10:27 Date/Time Received: 10/19/2011 09:35

Site Name: San Onofre NPP

Source Name: SONGS B / 4th Qtr 2011

R Number: R 92528

Sample Type: Vegetation

<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>
N11-0972-001	San Mateo Kelp	HASL Ga-01-R	Dry Wt./Wet Wt.	0.214 ±		
N11-0972-001	San Mateo Kelp	HASL Ga-01-R	K-40	42.2 ± 1.01	0.975	pCi/g dry wt

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.

**REQUEST FOR SAMPLE ANALYSIS (Radiochemical)**

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 10/19/11	Lab No. (Leave Blank) N11-0972
	Date & Time Sampled 10/17/11 10:27	Serial Number R 92528
<b>Collector Information</b> Name: Dept./Branch: Address:  Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address:  Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s):  System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

**TYPE OF SAMPLE (Check all applicable boxes)**

Drinking Water     Groundwater     Surface Water     Wastewater  
 Raw     Water Treatment Plant (WTP)     Distribution System     Point of Use (POU)  
 Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

Air Filters    \_\_\_\_\_ Date/Time     Seawater     Sludge (Semi-solid Samples)  
 Finishing: \_\_\_\_\_     Milk     Soil/Sediment  
 Starting: \_\_\_\_\_     Wipes     Biota (Type): Kelp  
 Net (M<sup>3</sup>): \_\_\_\_\_     Radon Canister     Other: \_\_\_\_\_  
 Air Charcoal Cartridge

**COMMENTS: (Cautions, etc.):** \_\_\_\_\_

Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
 Field Measurement: \_\_\_\_\_ mR/hr     Radionuclide(s), if known: \_\_\_\_\_  
 Rush/Priority (should be prearranged and have supervisory approval)

**ANALYSIS REQUESTED (For questions, please call 510-620-2911)**

Gross Alpha     Gross Beta     Gamma Scan  
 Total Uranium     Total Beta (LSC)     NORM (Gamma)  
 Total Radium     Tritium (<sup>3</sup>H)     Isotopic Americium / Curium  
 Radium-226     Carbon-14     Isotopic Plutonium  
 Radium-228     Iodine-131     Isotopic Thorium  
 Radon-222     Strontium-89, 90     Isotopic Uranium  
 Other (Specify): \_\_\_\_\_     Nickel-63     Iron-55

**CHAIN OF CUSTODY**

1.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
2.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
3.	Date <u>10/19/11</u>	Name (Print) <u>UA</u>	Signature <u>[Signature]</u>	Date _____
	Time Custody Received <u>9:30</u>	Organization <u>DWRLB</u>	Signature _____	Time Custody Released _____

**LABORATORY REMARKS (Leave Blank)**

**A. Condition at Time of Receipt:**  
 Acceptable     Broken Container     Leaked in Transit     Improper Container  
 Holding Time Exceeded     Sample Not Cooled     Insufficient Sample

**B. Preservatives/Carriers:**  
 Added While Sampling     Added in Laboratory     Not Added     Not Applicable



RON CHAPMAN, MD, MPH  
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  
Phone: (510) 620-2911 Fax: (510) 620-2940



EDMUND G. BROWN JR.  
Governor

FINAL Analysis Results Report for Task ID. N11-0971

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 12/02/2011

**Requestor**

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information**

Collector's Name: SS/JNS

Date/Time Collected: 10/17/2011 10:05 Date/Time Received: 10/19/2011 09:35

Site Name: San Onofre NPP

Source Name: Wheeler North Art Reef / 4th Qtr 2011

R Number: R 92527

Sample Type: Vegetation

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA95</u>	<u>Units</u>
N11-0971-001	Kelp	HASL Ga-01-R	Dry Wt./Wet Wt.	0.156 ±		
N11-0971-001	Kelp	HASL Ga-01-R	K-40	58.7 ± 1.36	1.37	pCi/g dry wt

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.

**REQUEST FOR SAMPLE ANALYSIS (Radiochemical)**

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>10/19/11</u>	Lab No. (Leave Blank) <u>N11-0971</u>
	Date & Time Sampled <u>10/17/11 1005</u>	Serial Number <u>R 92527</u>
<b>Collector Information</b> Name: Dept./Branch: Address:  Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address:  Telephone No.:	
<b>Sample Information</b> System Name / Facility: <u>Songs 1</u> Sampling Point (s): <u>Wheeler North Art. Reef</u>  System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

**TYPE OF SAMPLE (Check all applicable boxes)**

Drinking Water     Groundwater     Surface Water     Wastewater  
 Raw     Water Treatment Plant (WTP)     Distribution System     Point of Use (POU)  
 Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

Air Filters    Date/Time \_\_\_\_\_     Seawater     Sludge (Semi-solid Samples)  
 Finishing: \_\_\_\_\_     Milk     Soil/Sediment  
 Starting: \_\_\_\_\_     Wipes     Biota (Type): Kelp  
 Net (M<sup>3</sup>) \_\_\_\_\_     Radon Canister     Other: \_\_\_\_\_

Air Charcoal Cartridge

**COMMENTS: (Cautions, etc.):** \_\_\_\_\_

Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
 Field Measurement: \_\_\_\_\_ mR/hr     Radionuclide(s), if known: \_\_\_\_\_  
 Rush/Priority (should be prearranged and have supervisory approval)

**ANALYSIS REQUESTED (For questions, please call 510-620-2911)**

Gross Alpha     Gross Beta     Gamma Scan  
 Total Uranium     Total Beta (LSC)     NORM (Gamma)  
 Total Radium     Tritium (3H)     Isotopic Americium / Curium  
 Radium-226     Carbon-14     Isotopic Plutonium  
 Radium-228     Iodine-131     Isotopic Thorium  
 Radon-222     Strontium-89, 90     Isotopic Uranium  
 Other (Specify): \_\_\_\_\_     Nickel-63     Iron-55

**CHAIN OF CUSTODY**

1.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
2.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
3.	Date <u>10/19/11</u>	Name (Print) <u>VIA</u>	Signature <u>[Signature]</u>	Date _____
	Time Custody Received <u>4:30</u>	Organization <u>DWRLB</u>	Signature _____	Time Custody Released _____

**LABORATORY REMARKS (Leave Blank)**

**A. Condition at Time of Receipt:**  
 Acceptable     Broken Container     Leaked in Transit     Improper Container  
 Holding Time Exceeded     Sample Not Cooled     Insufficient Sample

**B. Preservatives/Carriers:**  
 Added While Sampling     Added in Laboratory     Not Added     Not Applicable



RON CHAPMAN, MD, MPH  
Director

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

Drinking Water and Radiation Laboratory Branch

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EDMUND G. BROWN JR.  
Governor

FINAL Analysis Results Report for Task ID. N11-0969

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 12/02/2011

**Requestor**

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information**

Collector's Name: SS/JNS

Date/Time Collected: 10/17/2011 09:39 Date/Time Received: 10/19/2011 09:35

Site Name: San Onofre NPP

Source Name: SONGS H / Saint Clemente Pier Reef

R Number: R 92525

Sample Type: Vegetation

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA95</u>	<u>Units</u>
N11-0969-001	Kelp	HASL Ga-01-R	Dry Wt./Wet Wt.	0.221 ±		
N11-0969-001	Kelp	HASL Ga-01-R	K-40	47.3 ± 1.13	1.28	pCi/g dry wt

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.

**REQUEST FOR SAMPLE ANALYSIS (Radiochemical)**

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <b>10/19/11</b>	Lab No. (Leave Blank) <b>NI-0969</b>
	Date & Time Sampled <b>10/17/11 9:39</b>	Serial Number <b>R 92525</b>
<b>Collector Information</b> Name: Dept./Branch: Address:  Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address:  Telephone No.:	
<b>Sample Information</b> System Name / Facility: <b>Songs H, Saint</b> Sampling Point (s): <b>Clemente Pier Reef</b>  System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

**TYPE OF SAMPLE (Check all applicable boxes)**

- |   |  |  |   |
|---|--|--|---|
| <input type="checkbox"/> Drinking Water   | <input type="checkbox"/> Groundwater                 | <input type="checkbox"/> Surface Water       | <input type="checkbox"/> Wastewater                           |
| <input type="checkbox"/> Raw  | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU)                   |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted |  |  |   |
| <input type="checkbox"/> Air Filters  | Date/Time  | <input type="checkbox"/> Seawater            | <input type="checkbox"/> Sludge (Semi-solid Samples)          |
| Finishing: _____  | _____  | <input type="checkbox"/> Milk                | <input type="checkbox"/> Soil/Sediment                        |
| Starting: _____   | _____  | <input type="checkbox"/> Wipes               | <input checked="" type="checkbox"/> Biota (Type): <b>Kelp</b> |
| Net (M <sup>3</sup> ) _____   |  | <input type="checkbox"/> Radon Canister      | <input type="checkbox"/> Other: _____                         |
| <input type="checkbox"/> Air Charcoal Cartridge   |  |  |   |

**COMMENTS: (Cautions, etc.):** \_\_\_\_\_

- Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_
- Field Measurement: \_\_\_\_\_ mR/hr     Radionuclide(s), if known: \_\_\_\_\_
- Rush/Priority (should be prearranged and have supervisory approval)

**ANALYSIS REQUESTED (For questions, please call 510-620-2911)**

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Gross Alpha            | <input type="checkbox"/> Gross Beta                | <input type="checkbox"/> Gamma Scan                  |
| <input type="checkbox"/> Total Uranium          | <input type="checkbox"/> Total Beta (LSC)          | <input type="checkbox"/> NORM (Gamma)                |
| <input type="checkbox"/> Total Radium           | <input type="checkbox"/> Tritium ( <sup>3</sup> H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226             | <input type="checkbox"/> Carbon-14                 | <input type="checkbox"/> Isotopic Plutonium          |
| <input type="checkbox"/> Radium-228             | <input type="checkbox"/> Iodine-131                | <input type="checkbox"/> Isotopic Thorium            |
| <input type="checkbox"/> Radon-222              | <input type="checkbox"/> Strontium-89, 90          | <input type="checkbox"/> Isotopic Uranium            |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63                 | <input type="checkbox"/> Iron-55                     |

**CHAIN OF CUSTODY**

1.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____
2.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____
3.	Date <b>10/19/11</b>	Name (Print) <b>UA</b>	Signature <b>[Signature]</b>	Date _____
	Time Custody Received <b>9:30</b>	Organization <b>DWRLB</b>		Time Custody Released _____

**LABORATORY REMARKS (Leave Blank)**

- A. Condition at Time of Receipt:**
- |  |  |  |   |
|--|--|--|---|
| <input type="checkbox"/> Acceptable            | <input type="checkbox"/> Broken Container  | <input type="checkbox"/> Leaked in Transit   | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample |   |
- B. Preservatives/Carriers:**
- |   |  |                                    |   |
|---|--|------------------------------------|---|
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
|---|--|------------------------------------|---|
- L 0.01 MR/HR**



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Director

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

Drinking Water and Radiation Laboratory Branch

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EDMUND G. BROWN JR.  
Governor

FINAL Analysis Results Report for Task ID. N11-0968

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 11/16/2011

**Requestor**

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information**

Collector's Name: SS/JNS

Date/Time Collected:

10/17/2011  
08:33

Date/Time Received: 10/19/2011 09:35

Site Name: San Onofre NPP

Source Name: Biota / SONGS E / 4th Qtr 2011

R Number: R 92524

Sample Type: Vegetation

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA95</u>	<u>Units</u>
N11-0968-001	Salt Creek Kelp	HASL Ga-01-R	Dry Wt./Wet Wt.	0.113 ±		
N11-0968-001	Salt Creek Kelp	HASL Ga-01-R	K-40	134 ± 2.99	1.26	pCi/g dry wt

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.

**REQUEST FOR SAMPLE ANALYSIS (Radiochemical)**

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 10/19/11	Lab No. (Leave Blank) NM-09681
	Date & Time Sampled 10/17/11 8:33	Serial Number R 92524
<b>Collector Information</b> Name: Dept./Branch: Address:  Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address:  Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s):  System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

System Name / Facility: Soups E /  
 Sampling Point (s): Salt Creek Kelp  
 System No.:

**TYPE OF SAMPLE** (Check all applicable boxes)

Drinking Water     Groundwater     Surface Water     Wastewater  
 Raw     Water Treatment Plant (WTP)     Distribution System     Point of Use (POU)  
 Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

Air Filters    \_\_\_\_\_    Date/Time    \_\_\_\_\_     Seawater     Sludge (Semi-solid Samples)  
 Finishing: \_\_\_\_\_    \_\_\_\_\_     Milk     Soil/Sediment  
 Starting: \_\_\_\_\_    \_\_\_\_\_     Wipes     Biota (Type): Kelp  
 Net (M<sup>3</sup>) \_\_\_\_\_    \_\_\_\_\_     Radon Canister     Other: \_\_\_\_\_  
 Air Charcoal Cartridge

**COMMENTS:** (Cautions, etc.): \_\_\_\_\_

Field Treatment: Preservatives added: \_\_\_\_\_    Iced/Frozen: \_\_\_\_\_    Other: \_\_\_\_\_  
 Field Measurement: \_\_\_\_\_ mR/hr     Radionuclide(s), if known: \_\_\_\_\_  
 Rush/Priority (should be prearranged and have supervisory approval)

**ANALYSIS REQUESTED** (For questions, please call 510-620-2911)

Gross Alpha     Gross Beta     Gamma Scan  
 Total Uranium     Total Beta (LSC)     NORM (Gamma)  
 Total Radium     Tritium (<sup>3</sup>H)     Isotopic Americium / Curium  
 Radium-226     Carbon-14     Isotopic Plutonium  
 Radium-228     Iodine-131     Isotopic Thorium  
 Radon-222     Strontium-89, 90     Isotopic Uranium  
 Other (Specify): \_\_\_\_\_     Nickel-63     Iron-55

**CHAIN OF CUSTODY**

1.	Date	Name (Print)	Signature	Date
	Time Custody Received	Organization		Time Custody Released
2.	Date	Name (Print)	Signature	Date
	Time Custody Received	Organization		Time Custody Released
3.	Date <u>10/19/11</u>	Name (Print) <u>VA</u>	Signature <u>Victoria Malt</u>	Date
	Time Custody Received <u>9:20</u>	Organization <u>DWRLB</u>		Time Custody Released

**LABORATORY REMARKS** (Leave Blank)

A. Condition at Time of Receipt: < 0.01 MR/HR

Acceptable     Broken Container     Leaked in Transit     Improper Container  
 Holding Time Exceeded     Sample Not Cooled     Insufficient Sample

B. Preservatives/Carriers:

Added While Sampling     Added in Laboratory     Not Added     Not Applicable



RON CHAPMAN, MD, MPH  
Director

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

**Drinking Water and Radiation Laboratory Branch**

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EDMUND G. BROWN JR.  
Governor

**FINAL Analysis Results Report for Task ID. N11-0460**

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 09/01/2011

**Requestor**

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information**

Collector's Name: Jenny Smith

Date/Time Collected: 04/18/2011 11:54 Date/Time Received: 04/20/2011 10:30

Site Name: San Onofre Kelp

Source Name: SONGS / 2nd Qtr 2011

R Number: R91176

Sample Type: Vegetation

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA95</u>	<u>Units</u>
N11-0460-001	Kelp	HASL Ga-01-R	Dry Wt./Wet Wt.	0.153 ±		
N11-0460-001	Kelp	HASL Ga-01-R	K-40	66.4 ± 1.56	1.63	pCi/g dry wt

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.

REQUEST FOR SAMPLE ANALYSIS (Radiochemical)

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 4/20/11	Lab No. (Leave Blank) N11-0460
	Date & Time Sampled 4/18/11 11:54	Serial Number R 91176
<b>Collector Information</b> Name: Jenny Smith Dept./Branch: SONGS Address: Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address: Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s): San Onofre Keep System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

TYPE OF SAMPLE (Check all applicable boxes)

- Drinking Water       Groundwater       Surface Water       Wastewater
  - Raw       Water Treatment Plant (WTP)       Distribution System       Point of Use (POU)
  - Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted
- 
- Air Filters      Date/Time       Seawater       Sludge (Semi-solid Samples)
  - Finishing: \_\_\_\_\_       Milk       Soil/Sediment
  - Starting: \_\_\_\_\_       Wipes       Biota (Type): Keep
  - Net (M<sup>3</sup>) \_\_\_\_\_       Radon Canister       Other: \_\_\_\_\_
  - Air Charcoal Cartridge

COMMENTS: (Cautions, etc.):

- Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_
- Field Measurement: \_\_\_\_\_ mR/hr       Radionuclide(s), if known: \_\_\_\_\_
- Rush/Priority (should be prearranged and have supervisory approval)

ANALYSIS REQUESTED (For questions, please call 510-620-2911)

- Gross Alpha       Gross Beta       Gamma Scan
- Total Uranium       Total Beta (LSC)       NORM (Gamma)
- Total Radium       Tritium (<sup>3</sup>H)       Isotopic Americium / Curium
- Radium-226       Carbon-14       Isotopic Plutonium
- Radium-228       Iodine-131       Isotopic Thorium
- Radon-222       Strontium-89, 90       Isotopic Uranium
- Other (Specify): \_\_\_\_\_       Nickel-63       Iron-55

CHAIN OF CUSTODY

1.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
2.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
3.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____

LABORATORY REMARKS (Leave Blank)

- A. Condition at Time of Receipt:
- Acceptable       Broken Container       Leaked in Transit       Improper Container
  - Holding Time Exceeded       Sample Not Cooled       Insufficient Sample
- B. Preservatives/Carriers:
- Added While Sampling       Added in Laboratory       Not Added       Not Applicable

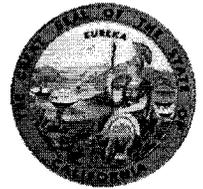


RON CHAPMAN, MD, MPH  
Director

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  
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EDMUND G. BROWN JR.  
Governor

FINAL Analysis Results Report for Task ID. N11-0456

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 08/24/2011

**Requestor**

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information**

Collector's Name: Jenny Smith

Date/Time Collected: 04/18/2011 11:17 Date/Time Received: 04/20/2011 10:30

Site Name: San Mateo Kelp

Source Name: SONGS / 2nd Qtr 2011

R Number: R 91172

Sample Type: Vegetation

<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>
N11-0456-001	Kelp	HASL Ga-01-R	Dry Wt./Wet Wt.	0.173 ±		
N11-0456-001	Kelp	HASL Ga-01-R	K-40	57.6 ± 1.29	1.22	pCi/g dry wt

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.

**REQUEST FOR SAMPLE ANALYSIS (Radiochemical)**

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received	Lab No. (Leave Blank) <b>N11-0456</b>
	Date & Time Sampled <b>4/18/11 11:17</b>	Serial Number <b>R 91172</b>
<b>Collector Information</b> Name: <b>Jeaney Smith</b> Dept./Branch: <b>SONGS</b> Address: Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address: Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s): <b>San Mateo Kelp</b> System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

**TYPE OF SAMPLE (Check all applicable boxes)**

Drinking Water     Groundwater     Surface Water     Wastewater  
 Raw     Water Treatment Plant (WTP)     Distribution System     Point of Use (POU)  
 Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

Air Filters    \_\_\_\_\_ Date/Time     Seawater     Sludge (Semi-solid Samples)  
 Finishing: \_\_\_\_\_     Milk     Soil/Sediment  
 Starting: \_\_\_\_\_     Wipes     Biota (Type): **Kelp**  
 Net (M<sup>3</sup>): \_\_\_\_\_     Radon Canister     Other: \_\_\_\_\_  
 Air Charcoal Cartridge

**COMMENTS: (Cautions, etc.):** \_\_\_\_\_

Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
 Field Measurement: \_\_\_\_\_ mR/hr     Radionuclide(s), if known: \_\_\_\_\_  
 Rush/Priority (should be prearranged and have supervisory approval)

**ANALYSIS REQUESTED (For questions, please call 510-620-2911)**

Gross Alpha     Gross Beta     Gamma Scan  
 Total Uranium     Total Beta (LSC)     NORM (Gamma)  
 Total Radium     Tritium (<sup>3</sup>H)     Isotopic Americium / Curium  
 Radium-226     Carbon-14     Isotopic Plutonium  
 Radium-228     Iodine-131     Isotopic Thorium  
 Radon-222     Strontium-89, 90     Isotopic Uranium  
 Other (Specify): \_\_\_\_\_     Nickel-63     Iron-55

**CHAIN OF CUSTODY**

1.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
2.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
3.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____

**LABORATORY REMARKS (Leave Blank)**

**A. Condition at Time of Receipt:**  
 Acceptable     Broken Container     Leaked in Transit     Improper Container  
 Holding Time Exceeded     Sample Not Cooled     Insufficient Sample

**B. Preservatives/Carriers:**  
 Added While Sampling     Added in Laboratory     Not Added     Not Applicable



RON CHAPMAN, MD, MPH  
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  
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EDMUND G. BROWN JR.  
Governor

FINAL Analysis Results Report for Task ID. N11-0455

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 08/24/2011

**Requestor**

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information**

Collector's Name: Jenny Smith

Date/Time Collected: 04/18/2011 10:54 Date/Time Received: 04/20/2011 10:30

Site Name: San Clemente Pier Reef

Source Name: SONGS / 2nd Qtr 2011

R Number: R91171

Sample Type: Vegetation

<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>
N11-0455-001	Kelp	HASL Ga-01-R	Dry Wt./Wet Wt.	0.143 ±		
N11-0455-001	Kelp	HASL Ga-01-R	K-40	54.8 ± 1.34	1.68	pCi/g dry wt

See N11-0459 :

This report is probably for SONGS I : Wheeler N

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.

**REQUEST FOR SAMPLE ANALYSIS (Radiochemical)**

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received	Lab No. (Leave Blank) <b>N11-0455</b>
	Date & Time Sampled <b>4/18/11 10:54</b>	Serial Number <b>R 91171</b>
<b>Collector Information</b> Name: Dept./Branch: <b>SONGS</b> Address: <b>Jenny Smith</b> Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address: Telephone No.:	
<b>Sample Information</b> System Name / Facility: <b>San Clemente</b> Sampling Point (s): <b>Pier Reef</b> System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

**TYPE OF SAMPLE (Check all applicable boxes)**

Drinking Water     Groundwater     Surface Water     Wastewater  
 Raw     Water Treatment Plant (WTP)     Distribution System     Point of Use (POU)  
 Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

Air Filters    Date/Time \_\_\_\_\_     Seawater     Sludge (Semi-solid Samples)  
 Finishing: \_\_\_\_\_     Milk     Soil/Sediment  
 Starting: \_\_\_\_\_     Wipes     Biota (Type): **Kelp**  
 Net (M<sup>3</sup>) \_\_\_\_\_     Radon Canister    (  Other: \_\_\_\_\_  
 Air Charcoal Cartridge

**COMMENTS: (Cautions, etc.):** \_\_\_\_\_

Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
 Field Measurement: \_\_\_\_\_ mR/hr     Radionuclide(s), if known: \_\_\_\_\_  
 Rush/Priority (should be prearranged and have supervisory approval)

**ANALYSIS REQUESTED (For questions, please call 510-620-2911)**

Gross Alpha     Gross Beta     Gamma Scan  
 Total Uranium     Total Beta (LSC)     NORM (Gamma)  
 Total Radium     Tritium (<sup>3</sup>H)     Isotopic Americium / Curium  
 Radium-226     Carbon-14     Isotopic Plutonium  
 Radium-228     Iodine-131     Isotopic Thorium  
 Radon-222     Strontium-89, 90     Isotopic Uranium  
 Other (Specify): \_\_\_\_\_     Nickel-63     Iron-55

**CHAIN OF CUSTODY**

1.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
2.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
3.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____

**LABORATORY REMARKS (Leave Blank)**

**A. Condition at Time of Receipt:**  
 Acceptable     Broken Container     Leaked in Transit     Improper Container  
 Holding Time Exceeded     Sample Not Cooled     Insufficient Sample

**B. Preservatives/Carriers:**  
 Added While Sampling     Added in Laboratory     Not Added     Not Applicable



RON CHAPMAN, MD, MPH  
Director

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

Drinking Water and Radiation Laboratory Branch

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EDMUND G. BROWN JR.  
Governor

**FINAL Analysis Results Report for Task ID. N11-0459**

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 09/01/2011

**Requestor**

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information**

Collector's Name: Jenny Smith

Date/Time Collected: 04/18/2011 10:40 Date/Time Received: 04/20/2011 10:30

Site Name: San Clemente Pier Reef

Source Name: SONGS / 2nd Qtr 2011

R Number: R91175

Sample Type: Vegetation

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA95</u>	<u>Units</u>
N11-0459-001	Kelp	HASL Ga-01-R	Dry Wt./Wet Wt.	0.121 ±		
N11-0459-001	Kelp	HASL Ga-01-R	K-40	83.6 ± 1.89	1.73	pCi/g dry wt

- Precision criteria for these methods were determined to be acceptable.
- 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
- 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.

**REQUEST FOR SAMPLE ANALYSIS (Radiochemical)**

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 4/20/11	Lab No. (Leave Blank) N11-0459
	Date & Time Sampled 4/18/11 10:40	Serial Number R 91175
<b>Collector Information</b> Name: Jenny Smith Dept./Branch: SONGS Address: Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address: Telephone No.:	
<b>Sample Information</b> System Name / Facility: San Clemente Sampling Point (s): Pier Reef System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

**TYPE OF SAMPLE (Check all applicable boxes)**

- Drinking Water       Groundwater       Surface Water       Wastewater
  - Raw       Water Treatment Plant (WTP)       Distribution System       Point of Use (POU)
  - Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted
- 
- Air Filters      \_\_\_\_\_ Date/Time       Seawater       Sludge (Semi-solid Samples)
  - Finishing: \_\_\_\_\_       Milk       Soil/Sediment
  - Starting: \_\_\_\_\_       Wipes       Biota (Type): kelp
  - Net (M<sup>3</sup>) \_\_\_\_\_       Radon Canister       Other: \_\_\_\_\_
  - Air Charcoal Cartridge

**COMMENTS: (Cautions, etc.):** \_\_\_\_\_

- Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_
- Field Measurement: \_\_\_\_\_ mR/hr       Radionuclide(s), if known: \_\_\_\_\_
- Rush/Priority (should be prearranged and have supervisory approval)

**ANALYSIS REQUESTED (For questions, please call 510-620-2911)**

- Gross Alpha       Gross Beta       Gamma Scan
- Total Uranium       Total Beta (LSC)       NORM (Gamma)
- Total Radium       Tritium (<sup>3</sup>H)       Isotopic Americium / Curium
- Radium-226       Carbon-14       Isotopic Plutonium
- Radium-228       Iodine-131       Isotopic Thorium
- Radon-222       Strontium-89, 90       Isotopic Uranium
- Other (Specify); \_\_\_\_\_       Nickel-63       Iron-55

**CHAIN OF CUSTODY**

1.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
2.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
3.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____

**LABORATORY REMARKS (Leave Blank)**

- A. Condition at Time of Receipt:**
- Acceptable       Broken Container       Leaked in Transit       Improper Container
  - Holding Time Exceeded       Sample Not Cooled       Insufficient Sample
- B. Preservatives/Carriers:**
- Added While Sampling       Added in Laboratory       Not Added       Not Applicable



RON CHAPMAN, MD, MPH  
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  
Phone: (510) 620-2911 Fax: (510) 620-2940



EDMUND G. BROWN JR.  
Governor

FINAL Analysis Results Report for Task ID. N11-0458

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 08/24/2011

**Requestor**

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information**

Collector's Name: Jenny Smith

Date/Time Collected: 04/18/2011 10:15 Date/Time Received: 04/20/2011 10:30

Site Name: Capistrano Beach Reef

Source Name: SONGS / 2nd Qtr 2011

R Number: R91174

Sample Type: Vegetation

<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>
N11-0458-001	Kelp	HASL Ga-01-R	Dry Wt./Wet Wt.	0.129 ±		
N11-0458-001	Kelp	HASL Ga-01-R	K-40	92.1 ± 2.03	1.68	pCi/g dry wt

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.

**REQUEST FOR SAMPLE ANALYSIS (Radiochemical)**

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 4/20/11	Lab No. (Leave Blank) N11-0458
	Date & Time Sampled 4/18/11 10:15	Serial Number R 91174
<b>Collector Information</b> Name: <u>Jenny Smith</u> Dept./Branch: <u>SONGS</u> Address: Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address: Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s): <u>Capistrano Beach Reef</u> System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

**TYPE OF SAMPLE (Check all applicable boxes)**

- Drinking Water                       Groundwater                       Surface Water                       Wastewater
  - Raw     Water Treatment Plant (WTP)     Distribution System               Point of Use (POU)
  - Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted
- 
- Air Filters    Date/Time     Seawater     Sludge (Semi-solid Samples)
  - Finishing: \_\_\_\_\_                          \_\_\_\_\_     Milk     Soil/Sediment
  - Starting: \_\_\_\_\_                                  \_\_\_\_\_     Wipes     Biota (Type): keep
  - Net (M<sup>3</sup>) \_\_\_\_\_                                  \_\_\_\_\_     Radon Canister                                   Other: \_\_\_\_\_
  - Air Charcoal Cartridge

**COMMENTS: (Cautions, etc.):** \_\_\_\_\_

- Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_
- Field Measurement: \_\_\_\_\_ mR/hr                       Radionuclide(s), if known: \_\_\_\_\_
- Rush/Priority (should be prearranged and have supervisory approval)

**ANALYSIS REQUESTED (For questions, please call 510-620-2911)**

- Gross Alpha     Gross Beta     Gamma Scan
- Total Uranium     Total Beta (LSC)                                   NORM (Gamma)
- Total Radium     Tritium (<sup>3</sup>H)     Isotopic Americium / Curium
- Radium-226     Carbon-14     Isotopic Plutonium
- Radium-228     Iodine-131     Isotopic Thorium
- Radon-222     Strontium-89, 90                                   Isotopic Uranium
- Other (Specify): \_\_\_\_\_                       Nickel-63     Iron-55

**CHAIN OF CUSTODY**

1.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
2.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
3.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____

**LABORATORY REMARKS (Leave Blank)**

- A. Condition at Time of Receipt:**
- Acceptable     Broken Container                                   Leaked in Transit                                   Improper Container
  - Holding Time Exceeded                           Sample Not Cooled                                   Insufficient Sample
- B. Preservatives/Carriers:**
- Added While Sampling                           Added in Laboratory                                   Not Added     Not Applicable

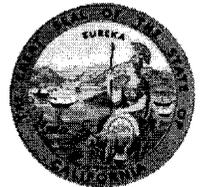


RON CHAPMAN, MD, MPH  
Director

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  
Phone: (510) 620-2911 Fax: (510) 620-2940



EDMUND G. BROWN JR.  
Governor

FINAL Analysis Results Report for Task ID. N11-0457

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 08/24/2011

**Requestor**

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information**

Collector's Name: Jenny Smith

Date/Time Collected: 04/18/2011 10:01 Date/Time Received: 04/20/2011 10:30

Site Name: Dana Point Kelp

Source Name: SONGS / 2nd Qtr 2011

R Number: R91173

Sample Type: Vegetation

<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>
N11-0457-001	Kelp	HASL Ga-01-R	Dry Wt./Wet Wt.	0.154 ±		
N11-0457-001	Kelp	HASL Ga-01-R	K-40	68.0 ± 1.54	1.67	pCi/g dry wt

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.

**REQUEST FOR SAMPLE ANALYSIS (Radiochemical)**

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <b>4/20/11</b>	Lab No. (Leave Blank) <b>N11-0457</b>
	Date & Time Sampled <b>4/18/11 10:01</b>	Serial Number <b>R 91173</b>
<b>Collector Information</b> Name: <b>Jenny Smith</b> Dept./Branch: <b>SONETS</b> Address: Telephone No.:	<b>Reporting Information</b> Name: Dept./Branch: Address: Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s): <b>Dana Point Keep</b> System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

**TYPE OF SAMPLE (Check all applicable boxes)**

Drinking Water     Groundwater     Surface Water     Wastewater  
 Raw     Water Treatment Plant (WTP)     Distribution System     Point of Use (POU)

Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

<input type="checkbox"/> Air Filters Finishing: _____ Starting: _____ Net (M <sup>3</sup> ): _____	Date/Time _____	<input type="checkbox"/> Seawater <input type="checkbox"/> Milk <input type="checkbox"/> Wipes <input type="checkbox"/> Radon Canister	<input type="checkbox"/> Sludge (Semi-solid Samples) <input type="checkbox"/> Soil/Sediment <input checked="" type="checkbox"/> Biota (Type): <b>Keep</b> <input type="checkbox"/> Other: _____
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Air Charcoal Cartridge

**COMMENTS: (Cautions, etc.):** \_\_\_\_\_

Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_  
 Field Measurement: \_\_\_\_\_ mR/hr     Radionuclide(s), if known: \_\_\_\_\_  
 Rush/Priority (should be prearranged and have supervisory approval)

**ANALYSIS REQUESTED (For questions, please call 510-620-2911)**

<input type="checkbox"/> Gross Alpha	<input type="checkbox"/> Gross Beta	<input type="checkbox"/> Gamma Scan
<input type="checkbox"/> Total Uranium	<input type="checkbox"/> Total Beta (LSC)	<input type="checkbox"/> NORM (Gamma)
<input type="checkbox"/> Total Radium	<input type="checkbox"/> Tritium ( <sup>3</sup> H)	<input type="checkbox"/> Isotopic Americium / Curium
<input type="checkbox"/> Radium-226	<input type="checkbox"/> Carbon-14	<input type="checkbox"/> Isotopic Plutonium
<input type="checkbox"/> Radium-228	<input type="checkbox"/> Iodine-131	<input type="checkbox"/> Isotopic Thorium
<input type="checkbox"/> Radon-222	<input type="checkbox"/> Strontium-89, 90	<input type="checkbox"/> Isotopic Uranium
<input type="checkbox"/> Other (Specify): _____	<input type="checkbox"/> Nickel-63	<input type="checkbox"/> Iron-55

**CHAIN OF CUSTODY**

1.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____
2.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____
3.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____

**LABORATORY REMARKS (Leave Blank)**

**A. Condition at Time of Receipt:**

<input type="checkbox"/> Acceptable	<input type="checkbox"/> Broken Container	<input type="checkbox"/> Leaked in Transit	<input type="checkbox"/> Improper Container
<input type="checkbox"/> Holding Time Exceeded	<input type="checkbox"/> Sample Not Cooled	<input type="checkbox"/> Insufficient Sample	

**B. Preservatives/Carriers:**

<input type="checkbox"/> Added While Sampling	<input type="checkbox"/> Added in Laboratory	<input type="checkbox"/> Not Added	<input type="checkbox"/> Not Applicable
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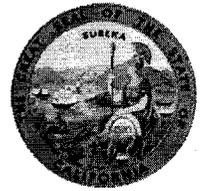


RON CHAPMAN, MD, MPH  
Director

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  
Phone: (510) 620-2911 Fax: (510) 620-2940



EDMUND G. BROWN JR.  
Governor

FINAL Analysis Results Report for Task ID. N11-0461

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 09/22/2011

**Requestor**

Name: Steve Hsu

Organization: Radiologic Health Branch

Address: MS 7610, 1500 Capitol Avenue

City: Sacramento

State: CA

Zip Code: 95814-5006 Phone: 916-440-7940

**Site and Sample Information**

Collector's Name: Jenny Smith

Date/Time Collected: 04/18/2011 09:10 Date/Time Received: 04/20/2011 10:30

Site Name: Salt Creek Kelp (Control)

Source Name: SONGS / 2nd Qtr 2011

R Number: R91177

Sample Type: Vegetation

<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>
N11-0461-001	Kelp	HASL Ga-01-R	Dry Wt./Wet Wt.	0.146 ±		
N11-0461-001	Kelp	HASL Ga-01-R	K-40	94.7 ± 2.10	2.00	pCi/g dry wt

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.

**REQUEST FOR SAMPLE ANALYSIS (Radiochemical)**

<b>Sanitation and Radiation Laboratories Branch</b> 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <b>4/20/11</b>	Lab No. (Leave Blank) <b>N11-0461</b>
	Date & Time Sampled <b>4/18/11 9:10</b>	Serial Number <b>R 91177</b>
<b>Collector Information</b> Name: Dept./Branch: <b>Jenny Smith</b> Address: Telephone No.: <b>SONG</b>	<b>Reporting Information</b> Name: Dept./Branch: Address: Telephone No.:	
<b>Sample Information</b> System Name / Facility: Sampling Point (s): <b>Salt Creek Kelp</b> System No.:	<b>Billing Agency</b> <input type="checkbox"/> DWFOB ( ) <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB ( ) <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input type="checkbox"/> FDB <input type="checkbox"/> DWR <input type="checkbox"/> CDFG <input type="checkbox"/> EMB <input type="checkbox"/> Other (Specify) _____	

**TYPE OF SAMPLE (Check all applicable boxes)**

- |   |  |  |   |
|---|--|--|---|
| <input type="checkbox"/> Drinking Water   | <input type="checkbox"/> Groundwater                 | <input type="checkbox"/> Surface Water       | <input type="checkbox"/> Wastewater                           |
| <input type="checkbox"/> Raw  | <input type="checkbox"/> Water Treatment Plant (WTP) | <input type="checkbox"/> Distribution System | <input type="checkbox"/> Point of Use (POU)                   |
| <input type="checkbox"/> Treated (circle one): Chlorinated / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted |  |  |   |
| <input type="checkbox"/> Air Filters  | Date/Time  | <input type="checkbox"/> Seawater            | <input type="checkbox"/> Sludge (Semi-solid Samples)          |
| Finishing: _____  | _____  | <input type="checkbox"/> Milk                | <input type="checkbox"/> Soil/Sediment                        |
| Starting: _____   | _____  | <input type="checkbox"/> Wipes               | <input checked="" type="checkbox"/> Biota (Type): <b>Kelp</b> |
| Net (M <sup>3</sup> ) _____   |  | <input type="checkbox"/> Radon Canister      | <input type="checkbox"/> Other: _____                         |
| <input type="checkbox"/> Air Charcoal Cartridge   |  |  |   |

**COMMENTS: (Cautions, etc.):** \_\_\_\_\_

- Field Treatment: Preservatives added: \_\_\_\_\_ Iced/Frozen: \_\_\_\_\_ Other: \_\_\_\_\_
- Field Measurement: \_\_\_\_\_ mR/hr     Radionuclide(s), if known: \_\_\_\_\_
- Rush/Priority (should be prearranged and have supervisory approval)

**ANALYSIS REQUESTED (For questions, please call 510-620-2911)**

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Gross Alpha            | <input type="checkbox"/> Gross Beta                | <input type="checkbox"/> Gamma Scan                  |
| <input type="checkbox"/> Total Uranium          | <input type="checkbox"/> Total Beta (LSC)          | <input type="checkbox"/> NORM (Gamma)                |
| <input type="checkbox"/> Total Radium           | <input type="checkbox"/> Tritium ( <sup>3</sup> H) | <input type="checkbox"/> Isotopic Americium / Curium |
| <input type="checkbox"/> Radium-226             | <input type="checkbox"/> Carbon-14                 | <input type="checkbox"/> Isotopic Plutonium          |
| <input type="checkbox"/> Radium-228             | <input type="checkbox"/> Iodine-131                | <input type="checkbox"/> Isotopic Thorium            |
| <input type="checkbox"/> Radon-222              | <input type="checkbox"/> Strontium-89, 90          | <input type="checkbox"/> Isotopic Uranium            |
| <input type="checkbox"/> Other (Specify): _____ | <input type="checkbox"/> Nickel-63                 | <input type="checkbox"/> Iron-55                     |

**CHAIN OF CUSTODY**

1.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____
2.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____
3.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____

**LABORATORY REMARKS (Leave Blank)**

- A. Condition at Time of Receipt:**
- |  |  |  |   |
|--|--|--|---|
| <input type="checkbox"/> Acceptable            | <input type="checkbox"/> Broken Container  | <input type="checkbox"/> Leaked in Transit   | <input type="checkbox"/> Improper Container |
| <input type="checkbox"/> Holding Time Exceeded | <input type="checkbox"/> Sample Not Cooled | <input type="checkbox"/> Insufficient Sample |   |
- B. Preservatives/Carriers:**
- |   |  |                                    |   |
|---|--|------------------------------------|---|
| <input type="checkbox"/> Added While Sampling | <input type="checkbox"/> Added in Laboratory | <input type="checkbox"/> Not Added | <input type="checkbox"/> Not Applicable |
|---|--|------------------------------------|---|