



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. N11-0995

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: Wayne Dossett

Date/Time Collected: 10/20/2011 13:26 Date/Time Received: 10/24/2011 09:30

Site Name: San Onofre NPP

Source Name: SONGS F / 4th Qtr 2011

R Number: R 92530

Sample Type: Sediment

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N11-0995-001	Sediment	HASL Ga-01-R	Dry Wt./Wet Wt.	0.767 ±		
N11-0995-001	Sediment	HASL Ga-01-R	K-40	14.7 ± 0.356	0.451	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)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <i>10/24/11</i>	Lab No. (Leave Blank) <i>N11-0995</i>
	Date & Time Sampled <i>10/20/11 13:26</i>	Serial Number <i>R 92530</i>
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 / 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): _____
 Net (M³) _____ 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 <i>10/24/11</i>	Name (Print) <i>VIA</i>	Signature <i>[Signature]</i>	Date _____
	Time Custody Received <i>9:30</i>	Organization <i>DWR L B</i>	Signature <i>[Signature]</i>	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 UR/HR

0.01 UR/HR



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EDMUND G. BROWN JR.
Governor

FINAL Analysis Results Report for Task ID. N11-0997

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 11/16/2011

Requestor

Name: Wayne Dossett

Organization: Radiologic Health Branch

Address:

City: SONGS

State: CA

Zip Code:

Phone: 714-850-4830

Site and Sample Information

Collector's Name: Wayne Dossett

Date/Time Collected: 10/20/2011 12:44 Date/Time Received: 10/24/2011 09:30

Site Name: San Onofre NPP

Source Name: SONGS B / 4th Qtr 2011

R Number: R 92532

Sample Type: Sediment

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N11-0997-001	Sediment	HASL Ga-01-R	Dry Wt./Wet Wt.	0.816 ±		
N11-0997-001	Sediment	HASL Ga-01-R	K-40	15.5 ± 0.344	0.199	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)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 10/24/11	Lab No. (Leave Blank) N11-0997
	Date & Time Sampled 10/20/11 12:44	Serial Number R 92532
Collector Information Name: Dept./Branch: Address: Telephone No.:	Reporting Information Name: Dept./Branch: Address: Telephone No.:	
Sample Information System Name / Facility: Soup B 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) N11-0997	

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): _____
 - Net (M³) _____ _____ 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) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
2.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
3.	Date 10/24/11	Name (Print) JA	_____	Date _____
	Time Custody Received 9:30	Organization DWRLB	Signature [Signature]	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. N11-0994

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: Wayne Dossett

Date/Time Collected: 10/20/2011 11:34 Date/Time Received: 10/24/2011 09:30

Site Name: San Onofre NPP

Source Name: Unit 3 Outfall / 4th Qtr 2011

R Number: R 92529

Sample Type: Sediment

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N11-0994-001	Sediment	HASL Ga-01-R	Dry Wt./Wet Wt.	0.777 ±		
N11-0994-001	Sediment	HASL Ga-01-R	K-40	16.5 ± 0.361	0.265	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)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 10/24/11	Lab No. (Leave Blank) N11-0994
	Date & Time Sampled 10/20/11 11:34	Serial Number R 92529
Collector Information Name: Dept./Branch: Address: Telephone No.:	Reporting Information Name: Dept./Branch: Address: Telephone No.:	
Sample Information System Name / Facility: Sampling Point (s): Unit 3 Outfall 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)

- | | | | |
|--|--|--|---|
| <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 / Peroxizone / Fluoridated / Coagulated / pH Adjusted | | | |
| <input type="checkbox"/> Air Filters | <input type="checkbox"/> Seawater | <input type="checkbox"/> Sludge (Semi-solid Samples) | |
| Finishing: _____ Date/Time _____ | <input type="checkbox"/> Milk | <input checked="" type="checkbox"/> Soil/Sediment | |
| Starting: _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ | |
| Net (M ³): _____ | <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 checked="" 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 (³ 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 _____
2.	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
	Date _____	Name (Print) _____	Signature _____	Date _____
3.	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
	Date VA	Name (Print) VA	Signature <i>[Signature]</i>	Date _____
	Time Custody Received 9:30	Organization DWR/LB	Signature _____	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 | |
- < 0.01 MR/HR**
- 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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Director

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California Department of Public Health

Drinking Water and Radiation Laboratory Branch

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EDMUND G. BROWN JR.
Governor

FINAL Analysis Results Report for Task ID. N11-0996

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: Wayne Dossett

Date/Time Collected: 10/20/2011 10:48 Date/Time Received: 10/24/2011 09:30

Site Name: San Onofre NPP

Source Name: SONGS C / 4th Qtr 2011

R Number: R 92531

Sample Type: Sediment

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA95</u>	<u>Units</u>
N11-0996-001	Sediment	HASL Ga-01-R	Dry Wt./Wet Wt.	0.754 ±		
N11-0996-001	Sediment	HASL Ga-01-R	K-40	15.5 ± 0.349	0.334	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)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <i>10/24/11</i>	Lab No. (Leave Blank) <i>M11-09916</i>
	Date & Time Sampled <i>10/20/11 10:30</i>	Serial Number R 92531
Collector Information Name: Dept./Branch: Address: Telephone No.:	Reporting Information Name: Dept./Branch: Address: Telephone No.:	
Sample Information System Name / Facility: <i>Soups</i> 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 / 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): _____
 Net (M³) _____ 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 <i>10/24/11</i>	Name (Print) <i>VIA</i>	Signature <i>Victoria M. de</i>	Date _____
	Time Custody Received <i>9:30</i>	Organization <i>DWR/LB</i>	Signature _____	Time Custody Released _____

LABORATORY REMARKS (Leave Blank)

4.001 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



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. N11-0953

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: Robert Moore

Date/Time Collected: 10/10/2011 08:45 Date/Time Received: 10/13/2011 14:22

Site Name: San Onofre NPP

Source Name: Sediment / 4th Qtr 2011

R Number: R 92517

Sample Type: Sediment

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N11-0953-001	Sediment	HASL Ga-01-R	Dry Wt./Wet Wt.	0.776 ±		
N11-0953-001	Sediment	HASL Ga-01-R	K-40	18.1 ± 0.401	0.222	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)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received <u>10/13/11</u>	Lab No. (Leave Blank) <u>N11-0953</u>
	Date & Time Sampled <u>10/10/11 8:45</u>	Serial Number <u>R 92517</u>
Collector Information Name: _____ Dept./Branch: <u>33155</u> Address: _____ Telephone No.: _____	Reporting Information Name: _____ Dept./Branch: _____ Address: _____ Telephone No.: _____	
Sample Information System Name / Facility: <u>Laguna Beach</u> 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)

- | | | | |
|---|--|--|---|
| <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 checked="" type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | _____ | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> 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)

- | | | |
|---|--|--|
| <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 (³ 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 <u>4.25.7</u>	Name (Print) _____	Date _____	
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
2.	Date <u>2.15.25</u>	Name (Print) _____	Date _____	
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
3.	Date <u>10/13/11</u>	Name (Print) <u>UA</u>	Date _____	
	Date <u>9:30</u>	Organization <u>DWR/LB</u>	Signature <u>[Signature]</u>	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 |
|---|--|------------------------------------|---|



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. N11-1003

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 11/16/2011

Requestor

Name: Noel Hansen

Organization: Radiologic Health Branch

Address: Southern California Edison, Songs

City: State: CA Zip Code: Phone: 949 368 3123

Site and Sample Information

Collector's Name: Noel Hansen

Date/Time Collected: 09/30/2011 10:00 Date/Time Received: 10/25/2011 14:30

Site Name: San Onofre NPP

Source Name: Biota / SONGS / 4th Qtr 2011

R Number: R 92964

Sample Type: Soil

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N11-1003-001	Camp San Onofre, #1	HASL Ga-01-R	Dry Wt./Wet Wt.	0.992 ±		
N11-1003-001	Camp San Onofre, #1	HASL Ga-01-R	K-40	20.4 ± 0.454	0.260	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)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 10-25-11	Lab No. (Leave Blank) N11-1003
	Date & Time Sampled 9-30-11 / 1000	Serial Number RV8296402
Collector Information Name: Noel A Hansen Dept./Branch: SONGS Address: Telephone No.: 949 368-3123	Reporting Information Name: Noel A. Hansen Dept./Branch: SONGS Address: Telephone No.:	
Sample Information System Name / Facility: Camp San Onofre Sampling Point (s): System No.: #1	Billing Agency <input type="checkbox"/> DWFOB () <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input checked="" 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): _____
 - Net (M³) _____ 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: 9-30-11	Name (Print): Noel A Hansen	Signature: [Signature]	Date: 10-19-2011
	Time Custody Received: 1000	Organization: SONGS		Date: 1200
2.	Date: _____	Name (Print): _____	Signature: _____	Date: _____
	Time Custody Received: _____	Organization: _____		Date: _____
3.	Date: 10-25-11	Name (Print): UA	Signature: [Signature]	Date: _____
	Date: 2:30	Organization: DWRLB	Signature: [Signature]	Date: _____
	Time Custody Received: _____	Organization: _____		Date: _____

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. N11-1002

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 11/16/2011

Requestor			
Name: Noel Hansen	Organization: Radiologic Health Branch		
Address: Southern California Edison, Songs			
City:	State: CA	Zip Code:	Phone: 949 368 3123

Site and Sample Information			
Collector's Name: Noel Hansen	Date/Time Collected: 09/30/2011 10:30	Date/Time Received: 10/25/2011 14:30	
Site Name: San Onofre NPP	Source Name: Biota / SONGS / 4th Qtr 2011		
R Number: R 92962	Sample Type: Soil		

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N11-1002-001	Visitor Center, #5	HASL Ga-01-R	Dry Wt./Wet Wt.	0.983 ±		
N11-1002-001	Visitor Center, #5	HASL Ga-01-R	K-40	17.0 ± 0.376	0.293	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)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 10/25/11	Lab No. (Leave Blank) NII-1002
	Date & Time Sampled 9-30-2011/1030	Serial Number R 92962
Collector Information Name: Noel A. Hansen Dept./Branch: SONGS Address: Telephone No.: 949 368-3123	Reporting Information Name: Noel A. Hansen Dept./Branch: SONGS Address: Telephone No.:	
Sample Information System Name / Facility: Visitor Center Sampling Point (s): System No.: #5	Billing Agency <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 checked="" type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input checked="" type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | _____ | <input type="checkbox"/> Radon Canister | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Air Charcoal Cartridge | | | |

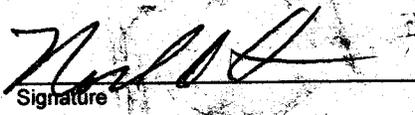
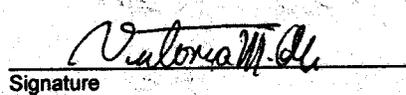
COMMENTS: (Cautions, etc.): _____

- 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 checked="" 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 (³ 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: 9-30-2011	Name (Print): Noel A. Hansen	Signature: 	Date: 10-19-2011
Time Custody Received: 1030	Organization: SONGS		Time Custody Released: 1200
2. Date: _____	Name (Print): _____	Signature: _____	Date: _____
Time Custody Received: _____	Organization: _____	Signature: _____	Time Custody Released: _____
3. Date: 10/25/11	Name (Print): DWRLB	Signature: 	Date: _____
Time Custody Received: 2:00pm	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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Director

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California Department of Public Health

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EDMUND G. BROWN JR.
Governor

FINAL Analysis Results Report for Task ID. N11-1001

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 11/16/2011

Requestor

Name: Noel Hansen

Organization: Radiologic Health Branch

Address: Southern California Edison, Songs

City: State: CA Zip Code: Phone: 949 368 3123

Site and Sample Information

Collector's Name: Noel Hansen

Date/Time Collected: 09/30/2011 09:40 Date/Time Received: 10/25/2011 14:30

Site Name: San Onofre NPP

Source Name: Biota / SONGS / 4th Qtr 2011

R Number: 92961

Sample Type: Soil

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N11-1001-001	C PEN Basilone Rd., #3	HASL Ga-01-R	Dry Wt./Wet Wt.	0.985 ±		
N11-1001-001	C PEN Basilone Rd., #3	HASL Ga-01-R	K-40	20.8 ± 0.495	0.556	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)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 10-25-11	Lab No. (Leave Blank) N11-1001
	Date & Time Sampled 9-30-2011 / 0940	Serial Number R 92961
Collector Information Name: Noel A. Hansen Dept./Branch: southern California Edison Address: SONGS Telephone No.: 949 368-3123	Reporting Information Name: Noel A. Hansen Dept./Branch: SONGS Address: SONGS Telephone No.:	
Sample Information System Name / Facility: C PEN Basilone RD Sampling Point (s): System No.: #3	Billing Agency <input type="checkbox"/> DWFOB () <input type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input checked="" type="checkbox"/> FDB <input type="checkbox"/> DWB <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 checked="" type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³): _____ | _____ | <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 checked="" 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 (³ 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 checked="" 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: 9-30-2011	Name (Print): Noel A. Hansen	Signature: <i>Noel A. Hansen</i>	Date: 10-19-2011
	Time Custody Received: 0940	Organization: SONGS		Time Custody Released: 1200
2.	Date: _____	Name (Print): _____	Signature: _____	Date: _____
	Time Custody Received: _____	Organization: _____		Time Custody Released: _____
3.	Date: 10-25-11	Name (Print): UA	Signature: <i>Victoria M. ...</i>	Date: _____
	Time Custody Received: 2:30 PM	Organization: DWRIB		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 checked="" type="checkbox"/> 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. N11-1000

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 11/16/2011

Requestor

Name: Noel Hansen

Organization: Radiologic Health Branch

Address: Southern California Edison, Songs

City: State: CA Zip Code: Phone: 949 368 3123

Site and Sample Information

Collector's Name: Noel Hansen

Date/Time Collected: 09/30/2011 09:00 Date/Time Received: 10/25/2011 14:30

Site Name: San Onofre NPP

Source Name: Biota / SONGS /4th Qtr 2011

R Number: R 92960

Sample Type: Sediment

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N11-1000-001	Old El Camino Reel, #2	HASL Ga-01-R	Dry Wt./Wet Wt.	0.980 ±		
N11-1000-001	Old El Camino Reel, #2	HASL Ga-01-R	K-40	7.94 ± 0.195	0.280	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)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 10-25-11	Lab No. (Leave Blank) N11-1000
	Date & Time Sampled 9-30-2011 0900	Serial Number R 92960
Collector Information Name: Noel A. Hansen Dept./Branch: Southern California Edison Address: SONGS Telephone No.: 949 368-3123	Reporting Information Name: Noel A. Hansen Dept./Branch: SONGS Address: SONGS Telephone No.: 949 368-3123	
Sample Information System Name / Facility: Old El Camino Reel Sampling Point (s): #2 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 / Chloraminated / Chlorine Dioxide / Ozonated / Peroxzone / Fluoridated / Coagulated / pH Adjusted

Air Filters Date/Time _____ Seawater Sludge (Semi-solid Samples)
 Finishing: _____ Milk Soil/Sediment
 Starting: _____ Wipes Blota (Type): _____
 Net (M³) _____ 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 9-30-2011	Name (Print) Noel A. Hansen	Signature <i>Noel A. Hansen</i>	Date 10-19-2011
Time Custody Received 0900	Organization SONGS		Time Custody Released 1200
2. Date	Name (Print)	Signature	Date
Time Custody Received	Organization		Time Custody Released
3. Date 10-25-11	Name (Print) VA	Signature <i>Victoria M. Ali</i>	Date
Time Custody Received 2:30 pm	Organization DWRLB		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

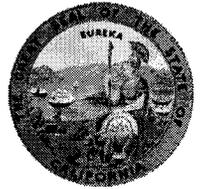


RON CHAPMAN, MD, MPH
Director

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. N11-1004

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 11/16/2011

Requestor

Name: Noel Hansen Organization: Radiologic Health Branch
Address: Southern California Edison, Songs
City: State: CA Zip Code: Phone: 949 368 3123

Site and Sample Information

Collector's Name: Noel Hansen Date/Time Collected: 09/28/2011 13:20 Date/Time Received: 10/25/2011 14:30
Site Name: San Onofre NPP Source Name: Biota / SONGS / 4th Qtr 2011
R Number: R 92965 Sample Type: Soil

Sample ID	Sampling Point	Method	Parameter	Result ± CE	MDA95	Units
N11-1004-001	Prince of Peace Abbey, #7	HASL Ga-01-R	Dry Wt./Wet Wt.	0.981 ±		
N11-1004-001	Prince of Peace Abbey, #7	HASL Ga-01-R	K-40	2.57 ± 0.0888	0.199	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)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 10-25-11	Lab No. (Leave Blank) M11-1004
	Date & Time Sampled 9-28-2011 / 1320	Serial Number R 92965
Collector Information Name: Noel A. Hansen Dept./Branch: SONGS Address: Telephone No.: 949-368-3123	Reporting Information Name: Noel A. Hansen Dept./Branch: SONGS Address: Telephone No.:	
Sample Information System Name / Facility: Prince of Peace Hosp Sampling Point (s): #7 System No.:	Billing Agency <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 checked="" type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³): _____ | _____ | <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 checked="" 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 (3H) | <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 checked="" 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 9-28-2011	Name (Print) Noel A. Hansen	Signature <i>Noel A. Hansen</i>	Date 10-19-2011
	Time Custody Received 1320	Organization SONGS		Time Custody Released 1200
2.	Date	Name (Print)	Signature	Date
	Time Custody Received	Organization		Time Custody Released
3.	Date 10-25-11	Name (Print) UA	Signature <i>Victoria M. O'Leary</i>	Date
	Time Custody Received 2:30 pm	Organization DWRLB		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 |
|---|--|------------------------------------|---|



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



EDMUND G. BROWN JR.
Governor

FINAL Analysis Results Report for Task ID. N11-0506

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 08/18/2011

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: RHM

Date/Time Collected: 04/21/2011 09:30 Date/Time Received: 04/26/2011 11:00

Site Name: San Onofre NPP

Source Name: SONGS / 2nd Qtr 2011

R Number: R91179

Sample Type: Sediment

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA95</u>	<u>Units</u>
N11-0506-001	Unit 2 Outfall	HASL Ga-01-R	Dry Wt./Wet Wt.	0.760 ±		
N11-0506-001	Unit 2 Outfall	HASL Ga-01-R	K-40	16.9 ± 0.390	0.426	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)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 4/26/11	Lab No. (Leave Blank) N11-0506
	Date & Time Sampled 4/21/11 9:30	Serial Number R 91179
Collector Information Name: Dept./Branch: RHM Address: SONGS Telephone No.:	Reporting Information Name: Dept./Branch: Address: Telephone No.:	
Sample Information System Name / Facility: Sampling Point (s): Unit 2 Outfall System No.:	Billing Agency <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 / Peroxizone / Fluoridated / Coagulated / pH Adjusted
-
- Air Filters Date/Time Seawater Sludge (Semi-solid Samples)
 - Finishing: _____ _____ Milk Soil/Sediment
 - Starting: _____ _____ Wipes Biota (Type): _____
 - Net (M³) _____ _____ 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 4/26/11	Name (Print) A TAN	Signature Angela Tan	Date _____
	Time Custody Received 11:00	Organization DWRS	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

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EDMUND G. BROWN JR.
Governor

FINAL Analysis Results Report for Task ID. N11-0505

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 08/18/2011

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: RHM

Date/Time Collected: 04/21/2011 11:45 Date/Time Received: 04/26/2011 11:00

Site Name: San Onofre NPP

Source Name: SONGS / 2nd Qtr 2011

R Number: R91178

Sample Type: Sediment

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA95</u>	<u>Units</u>
N11-0505-001	Unit 1 Outfall	HASL Ga-01-R	Dry Wt./Wet Wt.	0.800 ±		
N11-0505-001	Unit 1 Outfall	HASL Ga-01-R	K-40	16.4 ± 0.373	0.388	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)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 4/26/11	Lab No. (Leave Blank) N11-0505
	Date & Time Sampled 4/21/11 11:45	Serial Number R 91178
Collector Information Name: Dept./Branch: RHM SONGS Address: Telephone No.:	Reporting Information Name: Dept./Branch: Address: Telephone No.:	
Sample Information System Name / Facility: Unit 1 Outfall Sampling Point (s): System No.:	Billing Agency <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 / Peroxizone / Fluoridated / Coagulated / pH Adjusted

Air Filters Date/Time _____ Seawater Sludge (Semi-solid Samples)
 Finishing: _____ Milk Soil/Sediment
 Starting: _____ Wipes Biota (Type): _____
 Net (M³) _____ 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 _____		Time Custody Released _____
2.	Date _____	Name (Print) _____	Signature _____	Date _____
	Time Custody Received _____	Organization _____		Time Custody Released _____
3.	Date 4/26/11	Name (Print) A. TANAN	Signature <i>Angela Tan</i>	Date _____
	Time Custody Received 11:00	Organization DWRLB		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

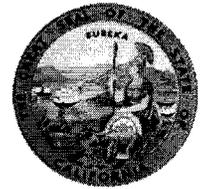


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California Department of Public Health

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EDMUND G. BROWN JR.
Governor

FINAL Analysis Results Report for Task ID. N11-0507

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 09/19/2011

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: RHM

Date/Time Collected: 04/21/2011 10:23 Date/Time Received: 04/26/2011 11:00

Site Name: San Onofre NPP

Source Name: Biota / SONGS / 2nd Qtr 2011

R Number: R91180

Sample Type: Sediment

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N11-0507-001	Sediment	HASL Ga-01-R	Dry Wt./Wet Wt.	0.909 ±		
N11-0507-001	Sediment	HASL Ga-01-R	K-40	16.4 ± 0.356	0.259	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)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 4/26/11	Lab No. (Leave Blank) N11-0507
	Date & Time Sampled 4/21/11 10:23	Serial Number R 91180
Collector Information Name: Dept./Branch: RHM Address: Telephone No.: SONGS	Reporting Information Name: Dept./Branch: Address: Telephone No.:	
Sample Information System Name / Facility: Sampling Point (s): Unit 3 Outfall System No.:	Billing Agency <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 checked="" type="checkbox"/> Soil/Sediment |
| Starting: _____ | _____ | <input type="checkbox"/> Wipes | <input type="checkbox"/> Biota (Type): _____ |
| Net (M ³) _____ | | <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 (³ 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) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
2.	Date _____	Name (Print) _____	_____	Date _____
	Time Custody Received _____	Organization _____	Signature _____	Time Custody Released _____
3.	Date 4/26/11	Name (Print) _____	_____	Date _____
	Time Custody Received 11:00	Organization _____	Signature Angelita Jan	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 |
|---|--|------------------------------------|---|

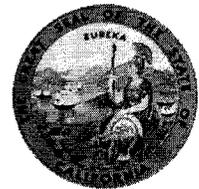


RON CHAPMAN, MD, MPH
Director

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California Department of Public Health

Drinking Water and Radiation Laboratory Branch

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EDMUND G. BROWN JR.
Governor

FINAL Analysis Results Report for Task ID. N11-0508

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 09/19/2011

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: RHM

Date/Time Collected: 04/21/2011 14:03 Date/Time Received: 04/26/2011 11:00

Site Name: San Onofre NPP

Source Name: Biota / SONGS / 2nd Qtr 2011

R Number: R91181

Sample Type: Sediment

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N11-0508-001	Sediment	HASL Ga-01-R	Dry Wt./Wet Wt.	0.723 ±		
N11-0508-001	Sediment	HASL Ga-01-R	K-40	16.6 ± 0.371	0.254	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)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 4/26/11	Lab No. (Leave Blank) N11-0508
	Date & Time Sampled 4/21/11 14:03	Serial Number R 91181
Collector Information Name: RHM Dept./Branch: SONGS Address: Telephone No.:	Reporting Information Name: Dept./Branch: Address: Telephone No.:	
Sample Information System Name / Facility: Sampling Point (s): SONGS Upstate System No.:	Billing Agency <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): _____
 Net (M³) _____ 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 4/26/11	Name (Print) _____	Signature <i>Angela T...</i>	Date _____
	Time Custody Received 14:03	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. N11-0419

Analyst: Angela Tan

Analysis Approved By: Shiyamalie Ruberu

Analysis Approval Date: 08/18/2011

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: RHM

Date/Time Collected: 04/11/2011 08:40 Date/Time Received: 04/13/2011 10:30

Site Name: SONGS E / Laguna Beach

Source Name: Biota / 2nd Qtr 2011

R Number: R91087

Sample Type: Sediment

<u>Sample ID</u>	<u>Sampling Point</u>	<u>Method</u>	<u>Parameter</u>	<u>Result ± CE</u>	<u>MDA₉₅</u>	<u>Units</u>
N11-0419-001	Sediment	HASL Ga-01-R	Dry Wt./Wet Wt.	0.773 ±		
N11-0419-001	Sediment	HASL Ga-01-R	K-40	19.6 ± 0.441	0.239	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)

Sanitation and Radiation Laboratories Branch 850 Marina Bay Parkway, G164 Richmond, CA 94804 510-620-2911	Date Received 4/13/11	Lab No. (Leave Blank) N11-0419
	Date & Time Sampled 4/11/11 8:40	Serial Number R 91087
Collector Information Name: Dept./Branch: RHM Address: Telephone No.:	Reporting Information Name: Dept./Branch: Address: Telephone No.:	
Sample Information System Name / Facility: SONGS E Sampling Point (s): Laguna Beach System No.:	Billing Agency <input type="checkbox"/> DWFOB () <input checked="" type="checkbox"/> RHB <input type="checkbox"/> RWQCB () <input type="checkbox"/> DTSC <input type="checkbox"/> DWTPB <input checked="" 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): _____
 - Net (M³) _____ 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 4/18/11	Name (Print) S. Crabben	Signature S. Crabben	Date _____
	Time Custody Received 10:30	Organization DWR/DOH	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