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CALLAWAY ENERGY CENTER
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Radiation Environmental Operating Report

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Prepared by

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Submitted by

UNION ELECTRIC CO.
dba Ameren Missouri

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Approved : _____

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PREFACE

This Annual Radiological Environmental Operating Report describes the Ameren Missouri, Callaway Energy Center Radiological Environmental Monitoring Program (REMP), and the program results for the calendar year 2014. It is submitted in accordance with section 5.6.2 of the Callaway Energy Center Technical Specifications.

Staff members of the Environmental, Inc., Midwest Laboratory were responsible for the acquisition of data presented in this report. Environmental samples were collected by Ameren Missouri personnel or contractors to Ameren Missouri and shipped to Environmental, Inc. – Midwest Laboratory and Stanford Dosimetry, LLC, for analysis.

The report was prepared by Environmental, Inc., Midwest Laboratory for the Ameren Missouri, Callaway Energy Center.

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1.0 INTRODUCTION

This report presents an analysis of the results of the Radiological Environmental Monitoring Program (REMP) conducted during 2014 for the Union Electric Company (dba Ameren Missouri), Callaway Energy Center.

The objectives of the REMP are to monitor potential critical pathways of radioactive effluent to man and determine the radiological impact on the environment caused by operation of the Callaway Energy Center. The Radiological Environmental Monitoring Program was initiated in April 1982.

The Callaway Energy Center consists of one 3565 MWt pressurized water reactor, which achieved initial criticality on October 2, 1984. The plant is located on a plateau approximately ten miles southeast of the City of Fulton in Callaway County, Missouri and approximately eighty miles west of the St. Louis metropolitan area. The Missouri River flows by the site in an easterly direction approximately five miles south of the site at its closest point.

Tabulation of the individual analyses for the year 2014 is included in Part II of this report.

2.0 SUMMARY

The Radiological Environmental Monitoring Program, as required by the U.S. Nuclear Regulatory Commission (NRC) Technical Specifications for the Callaway Energy Center is herein described. Results for the year 2014 are summarized and discussed.

For the year, the Callaway Energy Center was operated in compliance with Off Site Dose Calculation Manual (ODCM) and Radiological Effluent Controls (REC) requirements. Comparison of results for 2014 show no significant differences to the historical data. Results from the REMP indicate the Callaway Energy Center has had no significant radiological impact on the health and safety of the public or on the environment.

3.0 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

3.1 Program Design and Data Interpretation

The purpose of the Radiological Environmental Monitoring Program at the Callaway Energy Center is to assess the impact of the plant on its environment. For this purpose, samples are collected from waterborne, airborne, ingestion and terrestrial pathways and analyzed for radioactive content. Ambient gamma radiation levels are monitored by thermoluminescent dosimeters (TLDs).

Sources of environmental radiation can include the following:

(1) Natural background radiation arising from cosmic rays and primordial radionuclides;
(2) Fallout from atmospheric nuclear detonations;
(3) Releases from nuclear power plants, planned or accidental; and
(4) Industrial and medical radioactive waste.

In interpreting the data, effects due to operation of the Callaway Energy Center must be distinguished from those due to other sources.

A major interpretive aid in assessment of these effects is the design of the monitoring program at the Callaway Energy Center, based on the indicator-control concept. Most types of samples are collected at indicator locations (nearby, downwind, or downstream) and at control locations (distant, upwind, or upstream). A station effect would be indicated if the radiation level at an indicator location was significantly larger than that at the control location. The difference would have to be greater than could be accounted for by typical fluctuations in radiation levels arising from other sources.

An additional interpretive technique involves analyses for specific radionuclides present in the environmental samples collected from the Callaway site. The monitoring program includes analyses for iodine-131, a fission product, and tritium, which is produced by cosmic rays, atmospheric nuclear detonations, and also by nuclear power plants. Most samples are analyzed for gamma-emitting isotopes, with results for the following groups quantified: zirconium-95, cesium-137, and cerium-144. These three gamma-emitting isotopes are selected as radiological impact indicators because of the different characteristic proportions in which they appear in the fission product mix produced by a nuclear reactor and that produced by a nuclear detonation. Each of the three isotopes is produced in roughly equivalent amounts by a reactor: each constitutes about 10% of the total activity of fission products ten days after reactor shutdown. On the other hand, ten days after a nuclear explosion, the contributions of zirconium-95, cerium-144, and cesium-137 to the activity of the resulting debris are in the approximate ratio 4:1:0.03 (Eisenbud,1963).

The other group quantified consists of niobium-95, ruthenium-103 and -106, cesium-134, barium-lanthanum-140, and cerium-141. These isotopes are released in small quantities by nuclear power plants, but to date their major source of injection into the general environment has been atmospheric nuclear testing. Nuclides of the next group, manganese-54, cobalt-58 and-60, and zinc-65, are activation products and arise from activation of corrosion products. They are typical components of nuclear power plant effluents, but are not produced in significant quantities by nuclear detonation.

Nuclides of the final group, beryllium-7, which is of cosmogenic origin, and potassium-40, a naturally-occurring isotope, were chosen as calibration monitors and should not be considered radiological impact indicators.

Other means of distinguishing sources of environmental radiation can be employed in interpreting the data. Current radiation levels can be compared with previous levels, including pre-operational data. Results of the monitoring program can be related to those obtained in other parts of the world. Finally, results can be related to events known to cause elevated levels of radiation in the environment, e.g., a nuclear accident.

3.2 Program Description

The sampling and analysis schedules for the environmental radiological monitoring program at the Callaway Energy Center are summarized in Tables 5.1 and 5.2 and briefly reviewed below. Table 5.1 identifies sampling locations and specifies as to type (indicator or control) and its distance, direction, and sector relative to the reactor site. The types of samples collected at each location, required analyses and the frequency of collections are presented in Table 5.2.

To monitor the air environment, airborne particulates and airborne iodine samples are collected by continuous pumping, at five locations. The airborne particulates are collected on glass fiber filters and the airborne iodine through an activated charcoal cartridge. Both filters and cartridges are exchanged weekly. Airborne particulates are analyzed for gamma-emitting isotopes. Charcoal cartridges are analyzed for iodine-131.

The ingestion pathway is monitored by sampling of milk (if available), fish and green leafy vegetation.

Milk samples are collected semimonthly when animals are on pasture and monthly the rest of the year. Samples are analyzed for iodine-131 and gamma-emitting isotopes.

Monthly during the growing season, edible green leafy vegetation is collected from both indicator and control locations. Vegetation samples typically consist of mustard greens, turnip greens, cabbage, lettuce, collards, radish greens, Swiss chard, broccoli and poke. Other edible broad leaf vegetation is collected if primary varieties are not available. The samples are analyzed for iodine-131 and other gamma-emitting isotopes.

Feed crops (soybeans, sorghum, corn) are collected from locations FC-1 through FC-4. FC-1, FC-2 and FC-3 are located on Ameren property, traversed by the discharge pipeline. The samples are collected at harvest and analyzed for tritium and gamma emitting isotopes. FC-4 is a control location, beyond the influence of plant operations. Feed crops are grown for animal feed and not for human consumption.

The waterborne pathway is monitored by sampling surface water, groundwater and drinking water, and bottom and shoreline sediments. Water samples are analyzed for tritium and gamma-emitting isotopes, and sediments are analyzed for gamma-emitting isotopes.

The waterborne pathway is also monitored by upstream and downstream semiannual collections of fish. The five most abundant recreational or commercial fish species are collected. Samples are analyzed for gamma-emitting isotopes.

Monthly composite samples of surface water from the Missouri River are collected from one indicator location (S02) and from one control location (S01).

Onsite surface water from ten ponds is analyzed for tritium and gamma-emitting isotopes. The collection frequencies are either semiannually or quarterly.

To monitor possible sources of ground water contamination due to plant operations, non-potable ground water is collected monthly or quarterly from 48 well locations both onsite and along the discharge pipeline. The samples are analyzed for tritium and gamma-emitting isotopes.

Potable well water samples are collected quarterly from the plant drinking water supply, neighboring property owners, and from the town of Portland, MO. Starting in August the sampling frequency was temporarily increased to monthly.

River bottom sediment is collected semiannually at the plant's intake (A) and discharge (C). The samples are taken from water at least 2 meters deep to prevent influence of bank erosion. Shoreline sediments are collected semiannually in the same area as bottom sediment. These samples are collected within two feet of the edge of the water. The samples are analyzed for gamma-emitting isotopes.

3.2 Program Description (continued)

Another pathway considered is direct ambient gamma radiation. This exposure is monitored by thermoluminescent dosimeters (TLDs), at forty-three locations in and around the Callaway site. The TLDs are placed in 16 sectors around the plant as specified in the ODCM-RECS. Three locations are designated as controls (IDM-26, IDM-27 and IDM-60). TLDs are placed at each location and exchanged and analyzed quarterly.

To monitor the terrestrial environment, soil is collected annually from seven indicator locations (F2, PR3, F6, PR7, W2, W3, and W4) and two control locations (M9, W1). The samples are analyzed for gamma-emitting isotopes.

3.3 Program Execution

The program was executed as described in the preceding section with the following exceptions.

(1) Surface Water:

The surface water samples are composites of daily collections by automatic river sampler from two locations, S01 and S02. Sampler down-time at S01 was approximately 155 hours; the sampler at S02 was out-of service approximately 255 hours.

(2) Ground Water:

No ground water samples were available from monitoring well U1MW-28 for the first quarter of 2014. Second and fourth quarter samples were collected and analyzed for tritium and gamma emitting isotopes. A third quarter sample was collected but only contained enough sample to perform tritium analyses. Sampling has been intermittent since installation in 2010. The well is normally dry, since the area is rocky, with only a shallow overburden of clay. U1MW-28 was installed specifically to monitor for leakage from the single vacuum breaker on the discharge pipeline.

A Limited Site Investigation (LSI) was performed for a leak discovered in Manhole 86-2 on the plant liquid radwaste discharge line. A full discussion of the event is provided in the 2014 Annual Radioactive Effluent Release Report. (CAR 201405071).

(3) Milk:

A scheduled bimonthly collection of milk from location M-9 collected 8/12/14 was damaged during shipment and not available for analysis. (CAR 201405419)

(4) Broadleaf Vegetation:

Edible broadleaf vegetation, collected at three of the five area gardens was available for harvest from June through October, 2014. Location V-11 did not produce until May and locations V-9, V-12, V-16 and V-17 didn't start production until June. Missing samples during the periods when the gardens were producing are listed in Table 5.5. (CAR 201402466) & (CAR 201403272)

The growing season is defined as April 1 through November 1 (ref: Hammer, Gregory R.). A vegetation sample unavailable after October 31 is not considered a missed sample.

3.3 Program Execution (continued)

(5) Air Iodine and Particulates
The REMP environmental air sampler was found not running 12/4/14 at location CA-B3. (CAR 201408959)

(6) Direct Radiation:

First quarter TLD's were found missing from locations CA-IDM-21 and CA-IDM-30 (CAR 201402336).

Third quarter TLD's were found missing from locations CA-IDM-17 and CA-IDM-36. (CAR 201406759)

A fourth quarter TLD was found missing from location CA-IDM-36. (CAR 201500130).

A trend analysis was performed under CAR 201406284. There is insufficient data to determine the reason for the missing TLDs however it could be related to vandalism or aging issues with plastic cages. The steel cages were screwed to the wooden power poles and the door was secured with a nylon wire tie to deter vandalism. One of the stations was relocated about 100 meters to a location where it is not visible from the road; however, there is no reasonable way to prevent determined acts of vandalism.

3.4 Laboratory Procedures

The iodine-131 analyses in milk were made using a sensitive radiochemical procedure involving separation of the iodine by ion-exchange, solvent extraction and subsequent beta counting.

Gamma-spectroscopic analyses were performed with HPGe detectors. Levels of iodine-131 in vegetation and concentrations of airborne iodine-131 in charcoal samples were also determined by gamma spectroscopy.

Tritium was measured by liquid scintillation.

Analytical Procedures used by Environmental, Inc. are on file at the laboratory and are available for inspection. Procedures are based on those prescribed by the Health and Safety Laboratory of the U.S. Dep't of Energy, Edition 28, 1997, U.S. Environmental Protection Agency for Measurement of Radioactivity in Drinking Water, 1980, and the U.S. Environmental Protection Agency, EERF, Radiochemical Procedures Manual, 1984.

Environmental, Inc., Midwest Laboratory has a comprehensive quality control/quality assurance program designed to assure the reliability of data obtained. Details of the QA Program are presented elsewhere (Environmental, Inc., Midwest Laboratory, 2012). The QA Program includes participation in Interlaboratory Comparison (crosscheck) Programs. Results obtained through Quality control samples and crosscheck program results are presented in Appendix A.

Environmental TLDs are processed by Stanford Dosimetry, LLC.

3.5 Program Modifications

Temporarily changed drinking water sampling frequency from quarterly to monthly. Effective 09/10/2014 two new drinking water stations, #21 and V16, and one new monitoring well were added to the program.

3.6 Detection and Reporting Limits

Table 5.3 gives the minimum required detection limits for radiological environmental sample analysis. For each sample type, the table lists the detection level for each isotope. The lower limit of detection (LLD) used in this report is described in NRC Regulatory Guide 4.1 Rev. 1, "Program for Monitoring Radioactivity in the Environs of Nuclear Power Plants" and the NRC Radiological Assessment Branch Technical Position, Rev. 1, November 1979, "An Acceptable Radiological Environmental Monitoring Program".

3.7 Land Use Census

The Land Use Census is performed annually during the growing season. In 2014, the survey was conducted within a five mile canvassing radius of the Callaway Energy Center. The location of the nearest resident, milking animal, and broadleaf vegetation garden greater than 50 square meters was identified by contacting residents by phone, mail and/or in field surveys for each of the sixteen meteorological sectors using the midpoint of the two units.

The Land Use Census was completed on October 29, 2014. The results of the census are presented in Table 5.4. The table includes radial direction and distance from the Callaway Energy Center for each location, determined by a Global Positioning System (GPS) receiver.

There are five changes in broadleaf gardens from the 2013 Land Use Census (LUC). A broadleaf vegetation garden was discovered in sector E where there was no broadleaf vegetation garden in the 2013 LUC. Four locations with broadleaf vegetation gardens in the 2013 LUC did not have broadleaf vegetation gardens in the 2014 LUC. There were no changes in the location of the nearest resident in the 2014 LUC. The 2014 LUC did not identify any changes in the broadleaf vegetation sample locations for 2015. There were no milk animal sample locations identified in the 2014 LUC.

During the survey no new well water sources were identified along the Callaway Plant pipeline corridor, however four new well water sources were identified within the five mile radius of the plant. Three of the new wells are in sector Q and one is in sector K.

No irrigation uses of the Missouri river were identified within 10 river miles downstream of the Callaway Energy Center during the survey.

The Missouri Department of Natural Resources was contacted and they confirmed that no new drinking water intakes have been located along the Missouri River within ten (10) miles downstream from the Callaway Plant.

4.0 RESULTS AND DISCUSSION

All collections and analyses were made as scheduled, except for the listing in Table 5.5.

Results are summarized in Table 5.6 as recommended by the Nuclear Regulatory Commission. For each type of analysis and sample medium, the table lists the mean and range of all indicator and control locations, as well as that location with the highest mean and range.

The tabulated results of all measurements are not included in this section, although references to these results will be made in the discussion. A complete tabulation of results for 2014 is contained in Part II of the Annual Report on the Radiological Environmental Monitoring Program for the Callaway Energy Center.

4.1 Atmospheric Nuclear Detonations and Nuclear Accidents

There were no reported accidents involving significant release to the environment at nuclear reactor facilities in 2014. The Fukushima Daiichi nuclear accident occurred March 11, 2011.

There were no reported atmospheric nuclear tests in 2014. The last reported atmospheric test was conducted on October 16, 1980 by the People's Republic of China.

4.2 Program Findings

Results obtained show background levels of radioactivity in environmental samples collected beyond the plant property boundary in 2014. Tritium was identified in some groundwater samples collected within the Plant Protected Area and on Ameren property in the Missouri River alluvial plain. In no instances were REMP threshold reporting levels exceeded.

A Limited Site Investigation (LSI) was performed for a leak discovered in Manhole 86-2 on the plant liquid radwaste discharge line. A full discussion of the event is provided in the 2014 Annual Radioactive Effluent Release Report. (CAR 201405071).

Airborne Particulates

The five air particulate sampling stations (A1, A7, A8, A9, and B3) are indicator locations. Station A-9 is located in Reform, MO, the community with the highest D/Q, station A-7 is on the outskirts of Fulton, Missouri, approximately 9.5 miles from the plant.

Gamma spectroscopic analysis of the air particulate filters yielded similar results for all locations. In 66 of the 259 samples tested, Beryllium-7 measured above an LLD value of 0.16 pCi/m^3, with an average activity of 0.21 pCi/m^3. Beryllium-7 is produced continuously in the upper atmosphere by cosmic radiation. No gamma emitting isotopes of plant origin were identified.

Airborne Iodine

There was no I-131 activity detected in weekly collections of charcoal canister samples. All measurements were below the required lower limit of detection (LLD) of 0.070 pCi/m^3.

4.2 Program Findings (continued)

Direct Radiation (TLDs)

Forty-three TLDs were placed in 16 sectors around the Callaway site. Measurements from forty indicator locations averaged 15.6 mrem/quarter and the three control locations averaged 14.9 mrem/quarter. Readings ranged from 10.4 to 18.4 mrem /quarter, with the highest from the control location CA-IDM-51A, averaging 18.4 mrem/quarter. The differences are statistically insignificant. The TLD readings were consistent with previously accumulated data and no effect from plant operation was identified.

Milk

Iodine-131 results were below the detection limit of 0.5 pCi/L in all samples.

No gamma-emitting isotopes, excepting naturally occurring potassium-40, were detected in milk. Average potassium-40 activity measured 1183 pCi/L and ranged from 1029–1322 pCi/L.

In summary, milk data for 2014 show no radiological effects of plant operation.

Vegetation

There was no I-131 activity detected in broadleaf vegetation samples. Measurements were below an LLD level of 34.7 pCi/kg wet weight in all samples.

Except for naturally-occurring potassium-40, which was observed in all vegetation samples, gamma-emitting isotopes were below detection limits. No effect from plant operation is indicated.

Non-Food Crops

Soybeans samples were collected in September, 2014, and analyzed for tritium and gamma-emitting isotopes.

No tritium activity was measured above a detection level of 157 pCi/L in any of the samples.

Potassium-40 averaged of 5905 pCi/kgwet. All other gamma-emitting isotopes measured below detection limits.

No effect from the plant operation is indicated.

Fish

Edible portions of fish were analyzed by gamma spectroscopy. The potassium-40 averages were comparable at indicator and control locations (2,868 and 2,744 pCi/kg wet, respectively).All other gamma-emitting isotopes measured below detection limits.

No plant effect on the fish population is indicated.

Soil

Cesium-137 activity was detected at both indicator and control locations, at average concentrations of 334 and 123 pCi/kg dry, respectively. The cesium-137 activity is similar to or less than levels observed from 1999 through 2012, these levels are generally attributable to the deposition of fallout from previous decades.

Naturally-occurring potassium-40 averaged 11,938 pCi/kg dry weight.

Analysis results for soil samples in 2014 were consistent with previously accumulated data and no

4.2 Program Findings (continued)

plant operational effects were identified.

Surface Water

Low-level tritium activity above a detection limit of 179 pCi/L was observed in five of the twelve samples collected from the downstream location S-02. The measurements averaged 266 pCi/L.

Gamma-emitting isotopes measured below detection limits and were consistent with previously accumulated data.

Surface Water, Ponds

To monitor possible sources of groundwater contamination due to plant operations, ten onsite surface water locations (SWA) have been included in the permanent REMP. There was no tritium activity measured above a detection level of 157 pCi/L in any of the samples. In previous years, low-level tritium activity detected was believed to be the result of washout from gaseous effluents.

Gamma-emitting isotopes measured below detection limits. No plant operational effects were identified.

Drinking Water Wells (potable water)

In addition to potable ground water from wells D-01 and PW-01, the REMP includes nine additional potable water wells from adjacent properties and one additional potable water well from the town of Portland, MO. The samples were analyzed for tritium and gamma-emitting isotopes.

No tritium activity was measured above a detection level of 150 pCi/L in any of the samples. All gamma-emitting isotopes were below detection limits.

Analysis results for drinking water samples were consistent with previously accumulated data and no plant operational effects were indicated.

Wells (non-potable water)

Ground water from wells F-05 and F-15 was tested for tritium and gamma-emitting isotopes. Both tritium and gamma-emitting isotopes measured below detection levels.

Forty-seven additional indicator ground water locations, on-site and along the discharge pipeline, are included in the REMP. Excluding well U1MW-031, tritium activity (above a detection limit of 165 pCi/L) was detected in 72 of the 284 samples tested, with an average activity of 262 pCi/L. The highest concentrations were measured at GWS (), with an average activity of 319 pCi/L.

Wells OW-4, OW-5, GWS, 936, 937A to 937F, 938, 939, 940 and 941 are located in the Plant Protected Area, adjacent to the powerblock. Tritium in wells OW-4 and OW-5 is believed to be historical tritium due to river water recycle of tritium in liquid effluents. Tritium activity in the remainder of these wells is believed to be the result of washout from gaseous effluents.

The low level tritium activity observed in wells MW-014, MW-018 and MW-019 is due to residual low level contamination of the area down gradient from manholes 5 and 6B. The contamination was caused by moisture carryover during normal operation of air release valves (ARVs) in the now-retired discharge pipeline. The exhaust of the ARV's was secured in 2007, and the pipeline was replaced in 2008. The new discharge pipeline has no ARV's and only a single vacuum breaker, which is completely contained to prevent possible leakage to the ground water. The old pipeline has been abandoned in place. The contamination is being remediated by monitored natural attenuation. There are no active leaks.

4.2 Program Findings (continued)

A Limited Site Investigation (LSI) was performed for a leak discovered in Manhole 86-2 on the plant liquid radwaste discharge line. The leak was discovered following the installation of well U1MW-031. Liquid radwaste discharges were immediately suspended following discovery of the leak and the leak was repaired and the manhole tested with fluorescent dye to ensure there was no leakage. The initial sample from well U1MW-031 was 1.64E6 pCi/L. The concentration declined to a value of 9,476 pCi/L at the end of the first three months and to 7,615 pCi/L at the end of 2014. 7 additional wells were installed to monitor the natural attenuation of the contamination. All contamination is contained on Ameren property. A full discussion of the event is provided in the 2014 Annual Radioactive Effluent Release Report. (CAR 201405071).

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Samples were also analyzed for gamma-emitting isotopes. Cobalt-60 was detected in one sample from well U1MW-031 at a value of 32.8 pCi/L. No gamma- emitting activities were detected above the respective LLDs for the remaining well samples.

Sediments

Bottom sediments were collected in May and November, 2014, and analyzed for gamma-emitting isotopes. Cesium-137 was detected in both of the two indicator samples at a concentration of 32 and 307 pCi/kg dry weight, but measured below detection limits at the control location. Potassium-40 activity ranged from 12,567 to 13,729 pCi/kg dry weight and averaged 13,235 pCi/kg dry weight.

Shoreline sediments were also collected in May and November, 2014. With the exception of Potassium-40 no gamma activity was detected above the LLD at either the indicator or control locations. Potassium-40 activity ranged from 12,998 to 14,011 pCi/kg dry weight and averaged 13,445 pCi/kg dry weight. Potassium-40 is a naturally occurring isotope. All other gamma-emitting isotopes were below detection limits. No effect from the plant operation is indicated.

5.0 TABLES

Table 5.1. Sampling Locations.

Location Code	Distance / Direction [1]	Description	Sample Types [2]
1a	10.8 mi. NW	City of Fulton on Hwy Z, 0.65 mi. E of Bus. 54, W of Campus Apartments.	IDM
3	1.2 mi. NW	0.1 mi. West of Hwy CC on Gravel Rd., 0.8 mi. South Hwy O, Pole No. 18559.	IDM
5	1.3 mi. ENE	Primary Meteorological Tower.	IDM
6	2.0 mi. W	Cty Rd. 428, 1.2 mi. West of Hwy CC, Utility Pole No. 18609.	IDM
7	1.4 mi. S	Cty Rd. 459, 2.6 mi. North of Hwy 94, Utility Pole No. 35097.	IDM
9	3.8 mi. S	NW Side of the Cty Rd. 459 and Hwy 94 Junction, Utility Pole No. 06754.	IDM
10	3.9 mi. SSE	Hwy 94, 1.8 mi. East of Cty Rd. 459, Utility Pole No. 12182.	IDM
11a	4.7 mi. SE	City of Portland, Utility Pole No. 12110.	IDM
14	4.9 mi. ESE	SE Side of Intersection D and 94, Utility Pole No. 11940.	IDM
17	3.8 mi. E	Cty Rd. 4053, 0.3 mi. E of Hwy 94, Kingdom Telephone Co., Pole No. 3X12.	IDM
18a	3.7 mi. ENE	East side of Hwy D, 0.5 mi. South of O, Utility Pole No. 38579.	IDM
20	4.7 mi. NE	City of Readsville, Utility Pole No. 12830.	IDM
21	3.8 mi. NNE	Cty Rd. 155, 1.9 mi. North of Hwy O, Utility Pole No. 19100.	IDM
22a	1.9 mi. NNE	North side of Hwy O, 100 feet East of Cty Rd. 150, Utility Pole No. 31094.	IDM
23	6.6 mi. NNE	City of Yucatan, Utility Pole No. 12670.	IDM
26 [3]	11.7 mi. E	Town of Americus, Utility Pole No. 11159.	IDM
27 [3]	9.3 mi. ESE	Town of Bluffton, Utility Pole No. 11496.	IDM
30a	4.4 mi. SSW	City of Steedman, Utility Pole No. 06557.	IDM
31a	7.8 mi. SW	City of Mokane, Hwy C and Cty Rd. 400, 0.9 mi. North of Hwy 94, Utility Pole.	IDM
32	5.4 mi. WSW	Hwy VV, 0.6 mi.West of Cty Rd. 447, Utility Pole No. 27031.	IDM
32a	5.0 mi. WSW	Cty Rd. 447, Utility Pole No. 06354.	IDM
33	7.4 mi. W	City of Hams Prairie, SE of Hwy C and AD Junction.	IDM
34	9.5 mi. WNW	NE Side of Hwy C and Cty Rd. 408 Junction.	IDM
35	5.8 mi. NNW	City of Toledo, Utility Pole No. 17684.	IDM
36	4.9 mi. N	Cty Rd. 155, 0.8 mi. South of Cty Rd. 132, Utility Pole No. 19137	IDM
37	0.5 mi. SSW	Cty Rd. 459, 0.9 mi. South of Hwy CC, Utility Pole No. 35077.	IDM
38	4.6 mi. NNW	Cty Rd. 133, 1.5 mi. South of Hwy UU, Utility Pole No. 34708.	IDM
39	5.4 mi. NW	Cty Rd. 111, Utility Pole No. 17516.	IDM
39a	5.0 mi. NW	Cty Rd. 111, Utility Pole No. 17526.	IDM
40	4.2 mi. WNW	NE Side of Cty Rd. 112 and Hwy O, Utility Pole No. 18145.	IDM
41	4.9 mi. W	Hwy AD, 2.8 mi. East of Hwy C, Utility Pole No. 18239.	IDM
42	4.4 mi. SW	Cty Rd. 447, 2.6 mi. North of Cty Rd. 463, Utility Pole No. 06326.	IDM
43	0.5 mi. SW	Cty Rd. 459, 0.7 mi. South of Hwy CC, Utility Pole No. 35073.	IDM
44	1.7 mi. WSW	Hwy CC, 1.0 mi. South of Cty Rd. 459, Utility Pole No. 18769.	IDM
45	1.0 mi. WNW	Cty Rd. 428, 0.1 mi. West of Hwy CC, Utility Pole No. 18580.	IDM
46	1.5 mi. NNW	NE Side of Hwy CC and Cty Rd. 466 Intersection, Utility Pole No. 28242.	IDM
47	1.0 mi. N	Cty Rd. 448, 0.9 mi. South of Hwy O, Utility Pole No. 28151.	IDM
48	0.4 mi. NE	Cty Rd. 448, 1.5 mi. South of Hwy O, Plant Security Sign Post.	IDM
49	1.6 mi. E	Cty Rd. 448, Utility Pole No. 06959, Reform Wildlife Mgmt. Parking Area.	IDM
50	0.9 mi. SSE	Cty Rd. 459, 3.3 mi. North of Hwy 94, Utility Pole No. 35086	IDM
51a	0.3 mi. SE	Owner Control Fence, SE of the Water Treatment Plant.	IDM
52	0.4 mi. ESE	Light Pole Near the East Plant Security Fence.	IDM
60 [3]	13.5 mi. SW	Utility Pole No. 43744, just past Tebbetts City sign.	IDM

Table 5.1. Sampling Locations (continued).

Location Code	Distance / Direction [1]	Description	Sample Types [2]
A1	1.3 mi. ENE	Primary Meteorological Tower.	APT, AIO
A7	9.5 mi. NW	C. Bartley Farm, Fulton, MO.	APT, AIO
A8	0.9 mi. NNE	Cty Rd. 448, 0.9 miles South of Hwy 0.	APT, AIO
A9	1.9 mi. NNW	Community of Reform.	APT, AIO
B3	1.8 mi. NNW	0.3 mi. East of the O and CC Junction, Utility Pole No. 50422.	APT, AIO
D01	5.0 mi. SE	Potable water, Riverside Bar and Grill (Portland, MO).	DWA
PW1	Onsite	Potable water, Unit 1 Construction well #3	DWA
F05	0.9 mi. SSE	Offsite Groundwater Monitoring well.	WWA
F15	0.4 mi. NNE	Onsite Groundwater Monitoring well.	WWA
M9 [3]	13 mi. SW	Ferguson Farm, Tebbetts, MO.	MLK, SOL
V9	1.9 mi. WNW	Meehan Farm, Steedman, MO	FPL
V11	3.2 mi. NW	Hickman Farm, Steedman, MO	FPL
V12 [3]	18.7 mi. WSW	Kissock Farm, South of New Bloomfield, MO	FPL
V16	1.6 mi. WSW	Wallendorf Farm, Steedman, MO	FPL, DWA
V17	1.8 mi. NNW	West Residence, Steedman, MO	FPL
A [3,4]	4.9 mi. SSE	0.6 River Miles Upstream of Discharge North Bank.	AQS, AQF
C [4]	4.9 mi. SE	1.0 River Miles Downstream of Discharge North Bank.	AQS, AQF
S01 [3]	4.8 mi. SSE	555 feet Upstream of Discharge North Bank.	SWA
S02	4.9 mi. SE	1.1 River Miles Downstream of Discharge North Bank.	SWA
F2	1.0 mi. SW	Callaway Plant Forest Ecology Plot F2.	SOL
F6	1.6 mi. NE	Callaway Plant Forest Ecology Plot F6.	SOL
PR3	0.95 mi. ESE	Callaway Plant Forest Ecology Plot PR3.	SOL
PR7	0.46 mi. NNW	Callaway Plant Forest Ecology Plot PR7.	SOL
W1 [3]	0.52 mi. SE	Callaway Plant Wetlands, High Ground.	SOL
W2	0.52 mi. SSE	Callaway Plant Wetlands, Inlet Area.	SOL
W3	0.65 mi. SSE	Callaway Plant Wetlands, Discharge Area.	SOL
W4	0.63 mi. SSE	Callaway Plant Wetlands, SW Bank.	SOL
FC1	-	Between discharge pipeline MH-8 and the Katy Trail	FC
FC2	-	Between discharge pipeline MH-5 and MH-3B.	FC
FC3	-	Between Hwy 94 and the barge loading dock access road.	FC
FC4 [3]	-	Location unlikely to be influenced by Plant operations.	FC
3	2.9 mi. SSE	Potable water, County Road 448	DWA
4	2.6 mi. SSE	Potable water, County Road 448	DWA
5	2.5 mi. SSE	Potable water, County Road 448	DWA
6	2.2 mi. SE	Potable water, County Road 448	DWA
7	2.1 mi. ESE	Potable water, County Road 448	DWA
8	3.4 mi. SSW	Potable water, County Road 457	DWA
9	2.9 mi. SSW	Potable water, County Road 457	DWA
10	2.7 mi. SSW	Potable water, County Road 457	DWA
12	3.6 mi. SSE	Potable water, County Road 464	DWA

Table 5.1. Sampling Locations (continued).

Location Code	Distance / Direction [1]	Description	Sample Types [2]
21-	4.8 mi. ESE	Potable water, County Road 469	DWA
22	2.4 mi. SE	Potable water, State Road 94	DWA
V16	1.6 mi. WSW	Potable water, County Hwy CC	DWA

Table 5.1. Sampling Locations, Wells and Ponds /non-potable water.

Location Code	Distance / Direction [1]	Description	Sample Types [2]
OW-4	Inside OCA	UHS Pond Berm	WWA
OW-5	Inside OCA	UHS Pond Berm	WWA
U1MW-001	0.3 mi. NNW	Outside OCA , Groundwater Monitoring Well	WWA
U1MW-002	0.4 mi. SSW	Outside OCA , Groundwater Monitoring Well	WWA
U1MW-004	3.7 mi. SSE	Dillon, Groundwater Monitoring Well	WWA
U1MW-005	3.8 mi. SSE	Brownlee / Hudson, Groundwater Monitoring Well	WWA
U1MW-006	3.0 mi. S	Ward, Groundwater Monitoring Well	WWA
U1MW-010	3.1 mi. S	Pipeline, Groundwater Monitoring Well	WWA
U1MW-012	3.0 mi. S	Ward, Groundwater Monitoring Well	WWA
U1MW-013	0.8 mi. SSE	Pipeline Corridor	WWA
U1MW-014	3.7 mi. S	Pipeline Corridor	WWA
U1MW-015	3.9 mi. SSE	Pipeline Corridor	WWA
U1MW-016	4.5 mi. SSE	Pipeline Corridor	WWA
U1MW-017	3.75 mi. S	Pipeline Corridor	WWA
U1MW-018	3.75 mi. S	Pipeline Corridor	WWA
U1MW-019	3.71 mi. S	Pipeline Corridor	WWA
U1MW-020	3.88 mi. SSE	Pipeline Corridor	WWA
U1MW-021	3.74 mi. S	Down gradient of Pipeline Corridor	WWA
U1MW-022	3.76 mi. S	Down gradient of Pipeline Corridor	WWA
U1MW-023	3.84 mi. S	Down gradient of Pipeline Corridor	WWA
U1MW-024	3.85 mi. S	Down gradient of Pipeline Corridor	WWA
U1MW-025	3.93 mi. S	Down gradient of Pipeline Corridor	WWA
U1MW-026	3.94 mi. S	Down gradient of Pipeline Corridor	WWA
U1MW-027	1.5 mi. S	Pipeline Corridor, downgrade of discharge vacuum breaker	WWA
U1MW-028	3.15 mi. S	Pipeline Corridor, downgrade of MH-9B	WWA
U1MW-029	0.2 mi. E	Down gradient of DMTdischarge piping	WWA
U1MW-030	0.2 mi. ESE	Down gradient of DMTdischarge piping	WWA
U1MW-031	MH86-2	3’ from manhole 86-2	WWA
GWS	Inside OCA	Ground Water Sump, Plant East of containment and SFPB	WWA
936	Inside OCA	Diesel Fuel Remediation Well, Plant SE of SFPB	WWA
937A	Inside OCA	Monitoring Well, Plant, South of the Powerblock area	WWA
937B	Inside OCA	Monitoring Well, Plant, East of the Turbine Bldg.	WWA
937C	Inside OCA	Monitoring Well, Plant, E of Radwaste Bldg Drum Storage.	WWA
937D	Inside OCA	Monitoring Well, Plant, South of Discharge Monitor Tanks.	WWA

Table 5.1. Sampling Locations, Wells and Ponds /non-potable water (continued).

Location Code	Distance / Direction [1]	Description	Sample Types [2]
937E	Inside OCA	Monitoring Well, Plant, West of Auxiliary Bldg.	WWA
937F	Inside OCA	Monitoring Well, Plant, East of the Turbine Bldg.	WWA
MW-938	Inside OCA	Monitoring Well, Plant, East of the Powerblock area	WWA
MW-939R	Inside OCA	Monitoring Well, Plant, West of the Fuel Bldg.	WWA
MW-940	Inside OCA	Monitoring Well, Plant, East of the Radwaste Bldg.	WWA
MW-941	Inside OCA	Monitoring Well, Plant, East of the Radwaste Bldg.	WWA
U2 MW-2S	1.8 mi. N	Groundwater Monitoring Well	WWA
U2 MW-5S	1.1 mi. E	Groundwater Monitoring Well	WWA
U2 MW-8	0.4 mi. N	Groundwater Monitoring Well	WWA
U2 MW-9	0.3 mi. W	Groundwater Monitoring Well	WWA
U2 MW-10	0.4 mi. SSW	Groundwater Monitoring Well	WWA
U2 MW-12	0.5 mi. ENE	Groundwater Monitoring Well	WWA
U2 MW-16	2.9 mi. SSE	Groundwater Monitoring Well	WWA
UHS	Inside OCA	UHS Pond	SWA
POND 01	0.6 mi. W	Fishing Pond	SWA
POND 02	0.7 mi. SW	Fishing Pond	SWA
Outfall 010	0.6 mi. NE	Stormwater Run-Off Pond	SWA
Outfall 011	1.0 mi. ENE	Stormwater Run-Off Pond	SWA
Outfall 012	0.5 mi. S	Stormwater Run-Off Pond	SWA
Outfall 013	0.5 mi. S	Stormwater Run-Off Pond	SWA
Outfall 014	0.6 mi. NNW	Stormwater Run-Off Pond	SWA
Outfall 015	0.7 mi. N	Stormwater Run-Off Pond	SWA
Sludge Lagoon # 4	0.8 mi. SSE	On service Sewage Sludge Lagoon	SWA

[1] Distances are measured from the midpoint of the two reactors as described in Final Safety Analysis Report (FSAR) Sec. 2.1.1.1.
[2] AIO = Air Iodine, APT = Air Particulate, AQF = Fish, AQS = Sediment, FPL = Leafy Green Vegetables, FC = Food Crops, IDM = TLD, MLK = Milk, SOL = Soil, SWA = Surface Water, DWA = Drinking Water, WWA = Ground Water.
[3] Control Location.
[4] The fish collection area for location "A" is between 0.6 and 3.0 river miles upstream of the plant discharge on the north bank. Location "C" is sampled between the discharge area and 1.5 miles downstream of the discharge, on the north bank. The expanded collection areas provide sufficient habitat to collect the required number of species.

Table 5.2. Collection Frequencies and Required Analyses [1] (January 1 through December 31, 2014)

Sample Type	Media Code	Collection Frequency	Required Analyses
Direct radiation	IDM	Quarterly	Deep Dose Equivalent (DDE)
Airborne iodine	AIO	Weekly	^{131}I
Air particulate	APT	Weekly	PGE[5] each sample
Surface water (river)	SWA	Monthly composite	PGE and ^{3}H
Surface water (except UHS and Unit 2 ponds)	SWA	Semiannually	PGE and ^{3}H. If contaminated with gamma emitting nuclides of plant origin, analyze for HTD[6] nuclides.
Surface water (UHS and Unit 2 ponds)	SWA	Semiannually	PGE and ^{3}H
Groundwater (not potable)	WWA	Quarterly	PGE and ^{3}H. If contaminated with gamma emitting nuclides of plant origin, analyze for HTD nuclides.
Well water-potable	DWA	Monthly	PGE and ^{3}H. If contaminated with gamma emitting nuclides of plant origin, analyze for HTD nuclides.
Shoreline sediment	AQS	Semiannually	PGE
Bottom sediment [2]	AQS	Semiannually	PGE
Sludge pond sediment	SOL	Annually	PGE
Soil	SOL	Annually	PGE
Milk animal	MLK	Semimonthly when animals are on pasture, monthly other times [3]	PGE and ^{131}I
Leafy green vegetables	FPL	Monthly when available [4]	PGE and ^{131}I
Inedible crops	FC	At time of harvest	PGE and ^{3}H
Fish	AQF	Semiannually	PGE on edible portion

[1] Samples required by ODCM unless specified otherwise.

[2] Required by NPDES permit.

[3] The grazing season is defined as April 15- December 15, but will vary according to weather conditions.

[4] The growing season is defined as the months April 1- November 1, but will vary according to weather conditions.

[5] Principal Gamma Emitters (PGE) are defined as ^{54}Mn, ^{59}Fe, ^{58}Co, ^{60}Co, ^{65}Zn, $^{95}Zr/Nb$, ^{134}Cs, ^{137}Cs, $^{140}Ba/La$ and other gamma-emitting nuclides that may be identified during the gamma spectroscopy analysis.

[6] Hard to Detect (HTD) nuclides are defined as ^{89}Sr, ^{90}Sr, ^{55}Fe, ^{63}Ni, ^{237}Np, ^{238}Pu, $^{239}/^{240}Pu$, ^{241}Pu, ^{241}Am, ^{242}Cm and $^{243}/^{244}Cm$.

Table 5.3. Minimum Required Detection Capabilities for REMP Sample Analysis[1]

Analysis	Water (pCi/L)	Airborne (pCi/m^3)	Fish (pCi/kg wet)	Milk (pCi/L)	Food Products (pCi/kg wet)	Non-Food Products (pCi/kg wet)	Soil and Sediment (pCi/kg dry)
Gross beta	4	0.01					
H-3	3000/2000 [3]					3000	
Mn-54	15		130				
Fe-59	30		260				
Co-58/60	15		130				
Zn-65	30		260				
Zr-Nb-95 [2]	15						
I-131	1000/1 [3]	0.07		1	60		
Cs-134	15	0.05	130	15	60	60	150
Cs-137	18	0.06	150	18	80	80	180
Ba-La-140 [2]	15			15			

[1] This list does not mean only these nuclides will be detected and reported. Other peaks which are measurable and identifiable will be reported.

[2] Total activity, parent plus daughter activity.

[3] LLDs for Surface and Drinking / Ground water are the same, with the exception of H-3 and I-131. The Drinking / Ground water LLDs for H-3 and I-131 are 2000 and 1 pCi/liter respectively.

Table 5.4 2014 Land Use Census Results

Closest Receptor in Miles

Sector	Residence	Garden [1, 2]	Milk [1]
N(A)	1.83	NI	NI
NNE(B)	2.16	2.40 **	NI
NE(C)	2.27	2.53	NI
ENE(D)	1.66	2.87	NI
E(E)	3.51	3.65	NI
ESE(F)	2.12	4.40	NI
SE(G)	2.22	2.22	NI
SSE(H)	2.51	NI	NI
S(J)	2.68	NI	NI
SSW(K)	2.38	NI	NI
SW(L)	2.64	2.64	NI
WSW(M)	1.20	1.64	NI
W(N)	1.56	NI	NI
WNW(P)	1.93	1.93	NI
NW(Q)	2.07	3.16	NI
NNW(R)	1.82	1.82	NI

[1] NI = None Identified.
[2] Broadleaf Vegetation
* Declined to participate in the program.
* * History as a poor provider, not included in program.

Table 5.5. Missed collections and analyses, Callaway Energy Center.

Sample Type	Analysis	Location(s)	Collection Date or Period	Comments
WWA	H-3, Gamma	U1MW-28	1st Qtr, 2014	Well dry.
WWA	Gamma	U1MW-28	3rd Qtr, 2014	Insufficient sample volume available for Gamma and H-3 analyses..
MI	I-131, Gamma	M-9	8/12/14	Milk sample destroyed during shipment to lab.
VE	Gamma	V-9, V-11 V-12, V-16, V-17	4/10/14	No samples, gardens not producing..
VE	Gamma	V-9, V-12 V-16, V-17	5/13/14	One vegetation sample available at V-11 Other garden locations not producing..
APT, AIO	Gamma, I-131	B-3	12/4/14	No air sample available. Air sampler found not running..
IDM	Direct Radiation	21, 30A	4/4/14	TLD's missing. Theft suspected.
IDM	Direct Radiation	17, 36	10/3/14	TLD's missing. Theft suspected.
IDM	Direct Radiation	36	4/7/15	TLD missing. Theft suspected.

Table 5.6 Radiological Environmental Monitoring Program Summary

Sample Type (Units)	Type and Number of Analyses [a]	LLD [b]	Indicator Locations Mean (F) [c] Range [c]	Location with Highest Annual Mean Location [d]	Location with Highest Annual Mean Mean (F) [c] Range [c]	Control Locations Mean (F) [c] Range [c]	Number Non-Routine Results [e]
Waterborne Pathway							
Surface Water (pCi/L)	H-3 24	179	266 (7/12) (194-343)	SW-02 4.9 mi. SE	266 (7/12) (194-343)	< LLD	0
	GS 24						
	Mn-54	15	< LLD	-	-	< LLD	0
	Fe-59	30	< LLD	-	-	< LLD	0
	Co-58	15	< LLD	-	-	< LLD	0
	Co-60	15	< LLD	-	-	< LLD	0
	Zn-65	30	< LLD	-	-	< LLD	0
	Zr-Nb-95	15	< LLD	-	-	< LLD	0
	I-131	1000	< LLD	-	-	< LLD	0
	Cs-134	15	< LLD	-	-	< LLD	0
	Cs-137	18	< LLD	-	-	< LLD	0
	Ba-La-140	15	< LLD	-	-	< LLD	0
Surface Water, Ponds (pCi/L)	H-3 22	153	< LLD	-	-	none	0
	GS 22						
	Mn-54	15	< LLD	-	-	none	0
	Fe-59	30	< LLD	-	-	none	0
	Co-58	15	< LLD	-	-	none	0
	Co-60	15	< LLD	-	-	none	0
	Zn-65	30	< LLD	-	-	none	0
	Zr-Nb-95	15	< LLD	-	-	none	0
	Cs-134	15	< LLD	-	-	none	0
	Cs-137	18	< LLD	-	-	none	0
	Ba-La-140	15	< LLD	-	-	none	0
Drinking Water, Wells (pCi/L)	H-3 93	179	< LLD	-	-	< LLD	0
	GS 93						
	Mn-54	15	< LLD	-	-	< LLD	0
	Fe-59	30	< LLD	-	-	< LLD	0
	Co-58	15	< LLD	-	-	< LLD	0
	Co-60	15	< LLD	-	-	< LLD	0
	Zn-65	30	< LLD	-	-	< LLD	0
	Zr-Nb-95	15	< LLD	-	-	< LLD	0
	Cs-134	15	< LLD	-	-	< LLD	0
	Cs-137	18	< LLD	-	-	< LLD	0
	Ba-La-140	15	< LLD	-	-	< LLD	0

Table 5.6 Radiological Environmental Monitoring Program Summary

Sample Type (Units)	Type and Number of Analyses [a]	LLD [b]	Indicator Locations Mean (F) [c] Range [c]	Location with Highest Annual Mean Location [d]	Location with Highest Annual Mean Mean (F) [c] Range [c]	Control Locations Mean (F) [c] Range [c]	Number Non-Routine Results [e]
Waterborne Pathway							
Wells, Ponds (non-potable)	H-3 323	185	68604 (91/323) (186-1644880)	U1 MW-31, 3 ' from MH 86-2	183132 (/4) (1477-1644880)	None	0
(pCi/L)	GS 321						
	Mn-54	15	< LLD	-	-	None	0
	Fe-59	30	< LLD	-	-	None	0
	Co-58	15	< LLD	-	-	None	0
	Co-60	15	32.8 (1/321)	U1 MW-31, 3 ' from MH 86-2	-	None	0
	Zn-65	30	< LLD	-	-	None	0
	Zr-Nb-95	15	< LLD	-	-	None	0
	Cs-134	15	< LLD	-	-	None	0
	Cs-137	18	< LLD	-	-	None	0
	Ba-La-140	15	< LLD	-	-	None	0
Sediments	GS 8						
(pCi/kgdry)	K-40	50	13400 (4/4) (12988-13729)	CA-AQS-C 4.9 mi. SE	13400 (4/4) (12988-13729)	12999 (4/4) (12567-14011)	0
	Mn-54	29.1	< LLD	-	-	< LLD	0
	Fe-59	62.4	< LLD	-	-	< LLD	0
	Co-58	28.1	< LLD	-	-	< LLD	0
	Co-60	19.8	< LLD	-	-	< LLD	0
	Zr-Nb-95	59.0	< LLD	-	-	< LLD	0
	Cs-134	22.3	< LLD	-	-	< LLD	0
	Cs-137	35.3	169.3 (2/4) (31.6-306.9)	CA-AQS-C 4.9 mi. SE	169.3 (2/4) (31.6-306.9)	72.3 (1/4) (72.3-72.3)	0
	Ba-La-140	89.7	< LLD	-	-	< LLD	0

Table 5.6 Radiological Environmental Monitoring Program Summary

Sample Type (Units)	Type and Number of Analyses [a]	LLD [b]	Indicator Locations Mean (F) [c] Range [c]	Location with Highest Annual Mean Location [d]	Location with Highest Annual Mean Mean (F) [c] Range [c]	Control Locations Mean (F) [c] Range [c]	Number Non-Routine Results [e]
Ingestion Pathway							
Food Products Leafy Green Vegetables (pCi/kg wet)	GS 51						
	K-40	100	4736 (48/48) (1901-10645)	V-16, Farm	5657 (8/8) (3318-10645)	4090 (3/3) (3138-5080)	0
	Mn-54	22	< LLD	-	-	< LLD	0
	Co-58	22	< LLD	-	-	< LLD	0
	Co-60	24	< LLD	-	-	< LLD	0
	I-131	35	< LLD	-	-	< LLD	0
	Cs-134	22	< LLD	-	-	< LLD	0
	Cs-137	22	< LLD	-	-	< LLD	0
Farm Crop (Soybeans, Sorghum) (pCi/kg wet)	H-3 [f] 11	157	< LLD	-	-	< LLD	0
	GS 10						
	K-40	100	5987 (9/9) (4995-7235)	FC-2, Between MH-5 and MH-3B	6662 (3/3) (5897-7235)	5160 (1/1)	0
	Mn-54	23	< LLD	-	-	< LLD	0
	Co-58	19	< LLD	-	-	< LLD	0
	Co-60	10	< LLD	-	-	< LLD	0
	Cs-134	18	< LLD	-	-	< LLD	0
	Cs-137	18	< LLD	-	-	< LLD	0
Fish (Flesh) (pCi/kg wet)	GS 20						
	K-40	100	2868 (10/10) (2468-3139)	CA-AQF-C 4.9 mi. SE	2868 (10/10) (2468-3139)	2774 (10/10) (2042-3306)	0
		-					
	Mn-54	30	< LLD	-	-	< LLD	0
	Fe-59	66	< LLD	-	-	< LLD	0
	Co-58	29	< LLD	-	-	< LLD	0
	Co-60	26	< LLD	-	-	< LLD	0
	Zn-65	47	< LLD	-	-	< LLD	0
	Cs-134	31	< LLD	-	-	< LLD	0
	Cs-137	30	< LLD	-	-	< LLD	0
Milk (pCi/L)	I-131 18	0.5	none	-	-	< LLD	0
	GS 18						
	K-40	100	none	M-9 (C) 18.7 mi. S	1183 (18/18) (1029-1322)	1183 (18/18) (1029-1322)	0
	Cs-134	15	none	-	-	< LLD	0
	Cs-137	18	none	-	-	< LLD	0
	Ba-140	60	none	-	-	< LLD	0
	La-140	15	none	-	-	< LLD	0

Table 5.6 Radiological Environmental Monitoring Program Summary

Sample Type (Units)	Type and Number of Analyses [a]	LLD [b]	Indicator Locations Mean (F) [c] Range [c]	Location with Highest Annual Mean Location [d]	Location with Highest Annual Mean Mean (F) [c] Range [c]	Control Locations Mean (F) [c] Range [c]	Number Non-Routine Results [e]
Direct Radiation							
(Quarterly TLDs) (mR/90days)	Gamma 167	3.0	15.6 (155/155) (10.4-18.4)	40 4.2 mi. WNW	17.2 (4/4) (16.6-17.9)	14.9 (12/12) (10.9-17.7)	0
Airborne Pathway							
Airborne Particulates (pCi/m^3)	GS 259						
	Be-7	0.17	0.21 (66/259) (0.17-0.30)	B-3, Utility Pole 1.8 mi. NNW	0.22 (11/51) (0.18-0.29)	None	0
	Co-58	0.014	< LLD	-	-	None	0
	Co-60	0.015	< LLD	-	-	None	0
	Zr-Nb-95	0.026	< LLD	-	-	None	0
	Cs-134	0.015	< LLD	-	-	None	0
	Cs-137	0.014	< LLD	-	-	None	0
	Ba-La-140	0.055	< LLD	-	-	None	0
	Ce-144	0.083	< LLD	-	-	None	0
Airborne Iodine (pCi/m^3)	I-131 259	0.070	< LLD	-	-	None	0
Soil							
Soil (pCi/kg dry)	GS 18						
	K-40	50	11342 (14/14) (9205-13834)	M-009, Farm 13 mi. SW	14323 (2/2) (13296-15350)	14023 (4/4) (12653-15350)	0
	Mn-54	39	< LLD	-	-	< LLD	0
	Fe-59	88	< LLD	-	-	< LLD	0
	Co-58	39	< LLD		-	< LLD	0
	Co-60	34	< LLD	-	-	< LLD	0
	Zr-Nb-95	70	< LLD	-	-	< LLD	
	Cs-134	30	< LLD	-	-	< LLD	0
	Cs-137	53	334 (11/14) (61-672)	F-002 1.0 mi. SW	600 (2/2) (528-672)	123 (3/4) (110-152)	0
	Ba-La-140	123	< LLD	-	-	< LLD	0

[a] GS = gamma spectroscopy

[b] LLD = nominal lower limit of detection based on a 4.66 sigma counting error for background sample.

[c] Mean and range are based on detectable measurements only (i.e., >LLD) Fraction of detectable measurements at specified locations is indicated in parentheses (F).

[d] Locations are specified by station code (Table 5.2) and distance (miles) and direction relative to reactor site.

[e] Non-routine results are those which exceed ten times the control station value. If no control station value is available, the result is considered non-routine if it exceeds ten times the preoperational value for the location.

[f] Units: pCi/L.

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APPENDIX A

INTERLABORATORY COMPARISON PROGRAM RESULTS

NOTE: Environmental Inc., Midwest Laboratory participates in intercomparison studies administered by Environmental Resources Associates, and serves as a replacement for studies conducted previously by the U.S. EPA Environmental Monitoring Systems Laboratory, Las Vegas, Nevada. Results are reported in Appendix A. TLD Intercomparison results, in-house spikes, blanks, duplicates and mixed analyte performance evaluation program results are also reported. Appendix A is updated four times a year; the complete Appendix is included in March, June, September and December monthly progress reports only.

January, 2014 through December, 2014

Appendix A

Interlaboratory Comparison Program Results

Environmental, Inc., Midwest Laboratory has participated in interlaboratory comparison (crosscheck) programs since the formulation of it's quality control program in December 1971. These programs are operated by agencies which supply environmental type samples containing concentrations of radionuclides known to the issuing agency but not to participant laboratories. The purpose of such a program is to provide an independent check on a laboratory's analytical procedures and to alert it of any possible problems.

Participant laboratories measure the concentration of specified radionuclides and report them to the issuing agency. Several months later, the agency reports the known values to the participant laboratories and specifies control limits. Results consistently higher or lower than the known values or outside the control limits indicate a need to check the instruments or procedures used.

Results in Table A-1 were obtained through participation in the environmental sample crosscheck program administered by Environmental Resources Associates, serving as a replacement for studies conducted previously by the U.S. EPA Environmental Monitoring Systems Laboratory, Las Vegas, Nevada.

Table A-2 lists results for thermoluminescent dosimeters (TLDs), via International Intercomparison of Environmental Dosimeters, when available, and internal laboratory testing.

Table A-3 lists results of the analyses on in-house "spiked" samples for the past twelve months. All samples are prepared using NIST traceable sources. Data for previous years available upon request.

Table A-4 lists results of the analyses on in-house "blank" samples for the past twelve months. Data for previous years available upon request.

Table A-5 lists REMP specific analytical results from the in-house "duplicate" program for the past twelve months. Acceptance is based on the difference of the results being less than the sum of the errors. Complete analytical data for duplicate analyses is available upon request.

The results in Table A-6 were obtained through participation in the Mixed Analyte Performance Evaluation Program.

Results in Table A-7 were obtained through participation in the environmental sample crosscheck program administered by Environmental Resources Associates, serving as a replacement for studies conducted previously by the Environmental Measurement Laboratory Quality Assessment Program (EML).

Attachment A lists the laboratory precision at the 1 sigma level for various analyses. The acceptance criteria in Table A-3 is set at ± 2 sigma.

Out-of-limit results are explained directly below the result.

Attachment A

ACCEPTANCE CRITERIA FOR "SPIKED" SAMPLES

LABORATORY PRECISION: ONE STANDARD DEVIATION VALUES FOR VARIOUS ANALYSES[a]

Analysis	Level	One standard deviation for single determination
Gamma Emitters	5 to 100 pCi/liter or kg > 100 pCi/liter or kg	5.0 pCi/liter 5% of known value
Strontium-89[b]	5 to 50 pCi/liter or kg > 50 pCi/liter or kg	5.0 pCi/liter 10% of known value
Strontium-90[b]	2 to 30 pCi/liter or kg > 30 pCi/liter or kg	5.0 pCi/liter 10% of known value
Potassium-40	≥ 0.1 g/liter or kg	5% of known value
Gross alpha	≤ 20 pCi/liter > 20 pCi/liter	5.0 pCi/liter 25% of known value
Gross beta	≤ 100 pCi/liter > 100 pCi/liter	5.0 pCi/liter 5% of known value
Tritium	≤ 4,000 pCi/liter > 4,000 pCi/liter	$\pm 1\sigma = 169.85 \times (\text{known})^{0.0933}$ 10% of known value
Radium-226,-228	≥ 0.1 pCi/liter	15% of known value
Plutonium	≥ 0.1 pCi/liter, gram, or sample	10% of known value
Iodine-131, Iodine-129[b]	≤ 55 pCi/liter > 55 pCi/liter	6 pCi/liter 10% of known value
Uranium-238, Nickel-63[b] Technetium-99[b]	≤ 35 pCi/liter > 35 pCi/liter	6 pCi/liter 15% of known value
Iron-55[b]	50 to 100 pCi/liter > 100 pCi/liter	10 pCi/liter 10% of known value
Other Analyses [b]	---	20% of known value

[a] From EPA publication, "Environmental Radioactivity Laboratory Intercomparison Studies Program, Fiscal Year, 1981-1982, EPA-600/4-81-004.

[b] Laboratory limit.

TABLE A-1. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)[a].

Lab Code	Date	Analysis	Concentration (pCi/L) Laboratory Result [b]	ERA Result [c]	Control Limits	Acceptance
ERW-1384	4/7/2014	Sr-89	40.29 ± 5.76	36.70	27.50 ± 43.60	Pass
ERW-1384	4/7/2014	Sr-90	24.08 ± 2.35	26.50	19.20 ± 30.90	Pass
ERW-1385	4/7/2014	Ba-133	78.23 ± 3.93	87.90	74.00 ± 96.70	Pass
ERW-1385	4/7/2014	Co-60	62.75 ± 3.53	64.20	57.80 ± 73.10	Pass
ERW-1385	4/7/2014	Cs-134	44.97 ± 3.99	44.30	35.50 ± 48.70	Pass
ERW-1385	4/7/2014	Cs-137	88.54 ± 4.93	89.10	80.20 ± 101.00	Pass
ERW-1385	4/7/2014	Zn-65	249.1 ± 10.4	235.0	212.0 - 275.0	Pass
ERW-1388	4/7/2014	Gr. Alpha	56.70 ± 2.47	61.00	31.90 ± 75.80	Pass
ERW-1388	4/7/2014	Gr. Beta	32.10 ± 1.20	33.00	21.40 ± 40.70	Pass
ERW-1391	4/7/2014	I-131	25.52 ± 1.12	25.70	21.30 ± 30.30	Pass
ERW-1394	4/7/2014	Ra-226	12.30 ± 0.61	12.40	9.26 ± 14.30	Pass
ERW-1394	4/7/2014	Ra-228	5.08 ± 1.16	4.26	2.46 ± 5.86	Pass
ERW-1394	4/7/2014	Uranium	10.76 ± 0.74	10.20	7.95 ± 11.80	Pass
ERW-1397	4/7/2014	H-3	8982 ± 279	8770	7610 - 9650	Pass
ERW-5382	10/6/2014	Sr-89	29.40 ± 5.32	31.40	22.80 ± 38.10	Pass
ERW-5382	10/6/2014	Sr-90	19.19 ± 1.85	21.80	15.60 ± 25.70	Pass
ERW-5385	10/6/2014	Ba-133	43.54 ± 4.54	49.10	40.30 ± 54.50	Pass
ERW-5385	10/6/2014	Cs-134	81.95 ± 7.49	89.80	73.70 ± 98.80	Pass
ERW-5385	10/6/2014	Cs-137	95.76 ± 5.50	98.80	88.90 ± 111.00	Pass
ERW-5385	10/6/2014	Co-60	90.25 ± 2.77	92.10	82.90 ± 104.00	Pass
ERW-5385	10/6/2014	Zn-65	327.4 ± 23.3	310.0	279.0 - 362.0	Pass
ERW-5388	10/6/2014	Gr. Alpha	30.88 ± 8.05	37.60	19.40 ± 46.10	Pass
ERW-5388	10/6/2014	G. Beta	20.47 ± 4.75	27.40	17.30 ± 35.30	Pass
ERW-5392	10/6/2014	I-131	19.58 ± 2.35	20.30	16.80 ± 24.40	Pass
ERW-5394	10/6/2014	Ra-226	15.10 ± 1.81	14.70	11.00 ± 16.90	Pass
ERW-5394	10/6/2014	Ra-228	4.42 ± 0.86	4.31	2.50 ± 5.92	Pass
ERW-5394	10/6/2014	Uranium	5.51 ± 0.37	5.80	4.34 ± 6.96	Pass
ERW-5397	10/6/2014	H-3	6876 ± 383	6880	5940 - 7570	Pass

[a] Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the crosscheck program for proficiency testing in drinking water conducted by Environmental Resources Associates (ERA).

[b] Unless otherwise indicated, the laboratory result is given as the mean ± standard deviation for three determinations.

[c] Results are presented as the known values, expected laboratory precision (1 sigma, 1 determination) and control limits as provided by ERA.

TABLE A-2. Table has been intentionally omitted.

TABLE A-3. In-House "Spiked" Samples

Lab Code [b]	Date	Concentration (pCi/L)[a] Analysis	Laboratory results 2s, n=1 [c]	Known Activity	Control Limits [d]	Acceptance
SPW-1011	1/13/2014	Ra-228	35.47 ± 2.55	30.85	21.60 - 40.11	Pass
SPAP-103	1/13/2014	Gr. Beta	43.91 ± 0.34	44.82	26.89 - 62.75	Pass
SPAP-105	1/13/2014	Cs-134	2.46 ± 0.67	2.82	1.69 - 3.95	Pass
SPAP-105	1/13/2014	Cs-137	102.4 ± 2.7	99.9	89.9 - 109.9	Pass
SPW-107	1/13/2014	H-3	62,380 ± 707	62,246	49,797 - 74,695	Pass
SPW-129	1/15/2014	Cs-134	69.90 ± 3.71	78.00	68.00 - 88.00	Pass
SPW-129	1/15/2014	Cs-137	84.36 ± 7.06	75.77	65.77 - 85.77	Pass
SPW-129	1/15/2014	Sr-90	39.48 ± 1.52	39.20	31.36 - 47.04	Pass
SPW-130	1/15/2014	Ni-63	255.8 ± 3.8	204.0	142.8 - 265.2	Pass
SPW-133	1/15/2014	C-14	3153 ± 15	4737	2842 - 6632	Pass
SPMI-135	1/15/2014	Cs-134	76.80 ± 4.04	78.00	68.00 - 88.00	Pass
SPMI-135	1/15/2014	Cs-137	80.44 ± 6.63	75.80	65.80 - 85.80	Pass
W-12014	1/20/2014	Gr. Alpha	19.69 ± 0.41	20.00	10.00 - 30.00	Pass
W-12014	1/20/2014	Gr. Beta	30.35 ± 0.33	30.90	20.90 - 40.90	Pass
SPW-297	1/29/2014	Tc-99	104.2 ± 1.7	107.8	75.5 - 140.2	Pass
SPW-657	2/25/2014	Ra-226	15.84 ± 0.45	16.70	11.69 - 21.71	Pass
SPW-1127	3/26/2014	U-238	43.28 ± 2.56	41.72	29.20 - 54.24	Pass
SPW-1917	3/28/2014	Pu-238	27.37 ± 2.13	23.80	14.28 - 33.32	Pass
SPW-1786	4/25/2014	Tc-99	531.1 ± 8.7	539.15	377.41 - 700.90	Pass
SPW-2168	5/21/2014	Cs-134	70.90 ± 5.81	69.50	59.50 - 79.50	Pass
SPW-2168	5/21/2014	Cs-137	79.72 ± 6.49	75.17	65.17 - 85.17	Pass
SPW-2168	5/21/2014	Sr-89	83.35 ± 5.05	72.85	58.28 - 87.42	Pass
SPW-2168	5/21/2014	Sr-90	33.37 ± 1.52	38.87	31.10 - 46.64	Pass
SPMI-2170	5/21/2014	Cs-134	64.15 ± 4.93	69.50	59.50 - 79.50	Pass
SPMI-2170	5/21/2014	Cs-137	76.21 ± 6.91	75.17	65.17 - 85.17	Pass
SPMI-2170	5/21/2014	Sr-89	65.82 ± 4.89	72.85	58.28 - 87.42	Pass
SPMI-2170	5/21/2014	Sr-90	40.90 ± 1.59	38.87	31.10 - 46.64	Pass
SPW-2792	6/18/2014	U-238	44.80 ± 1.54	41.70	29.19 - 54.21	Pass
SPW-2796	6/18/2014	C-14	3495 ± 9	4,737	2,842 - 6632	Pass
WW-2836	6/30/2014	Co-60	131.8 ± 6.9	140.90	126.81 - 154.99	Pass
WW-2836	6/30/2014	Cs-137	143.8 ± 9.1	145.60	131.04 - 160.16	Pass
WW-2836	6/30/2014	H-3	6220 ± 238	6,361	5,089 - 7633	Pass

TABLE A-3. In-House "Spiked" Samples

Lab Code [b]	Date	Concentration (pCi/L)[a] Analysis	Laboratory results 2s, n=1 [c]	Known Activity	Control Limits [d]	Acceptance
SPW-3486	7/17/2014	Fe-55	2211 ± 72	2319	1855 - 2783	Pass
SPW-080714	8/7/2014	Gr. Alpha	18.42 ± 0.40	20.10	10.05 - 30.15	Pass
SPW-080714	8/7/2014	Gr. Beta	31.70 ± 0.40	32.40	22.40 - 42.40	Pass
SPW-081214	8/12/2014	Pu-238	22.59 ± 2.15	22.70	18.16 - 27.24	Pass
SPW-4093	8/13/2014	I-131(G)	59.95 ± 6.17	59.62	49.62 - 69.62	Pass
SPW-4093	8/13/2014	Sr-90	39.46 ± 1.55	38.65	28.65 - 48.65	Pass
SPW-4093	8/13/2014	Sr-89	105.5 ± 4.9	115.0	92.0 - 149.5	Pass
SPMI-4095	8/13/2014	I-131(G)	59.92 ± 6.17	59.62	49.62 - 69.62	Pass
SPMI-4095	8/13/2014	I-131	60.05 ± 0.72	59.62	47.70 - 71.54	Pass
SPW-4104	8/13/2014	Ni-63	200.1 ± 3.4	203.2	142.2 - 264.1	Pass
SPW-4106	8/13/2014	H-3	59,597 ± 695	60,261	48209 - 72313	Pass
SPW-4108	8/13/2014	Cs-134	2.45 ± 0.81	2.32	0.00 - 12.32	Pass
SPW-4108	8/13/2014	Cs-137	90.20 ± 3.74	98.56	88.56 - 108.56	Pass
SPAP-4110	8/13/2014	Gr. Beta	43.65 ± 0.11	44.19	34.19 - 54.19	Pass
SPF-4112	8/13/2014	I-131	2.64 ± 0.38	2.86	0.00 - 12.86	Pass
SPF-4112	8/13/2014	Cs-134	0.91 ± 0.03	1.03	0.00 - 11.03	Pass
SPF-4112	8/13/2014	Cs-137	2.61 ± 0.06	2.39	0.00 - 12.39	Pass
SPW-081414	8/14/2014	H-3	14,663 ± 788	17,700	14160 - 21240	Pass
W081614	8/16/2014	Ra-226	14.30 ± 0.37	16.70	11.69 - 21.71	Pass
W082614	8/26/2014	Ra-228	27.18 ± 2.13	30.49	20.49 - 40.49	Pass
SPW-090414	9/4/2014	Gr. Alpha	17.85 ± 0.39	20.10	10.05 - 30.15	Pass
SPW-090414	9/4/2014	Gr. Beta	30.03 ± 0.33	30.90	20.90 - 40.90	Pass
SPW-5124	9/29/2014	Ra-228	32.93 ± 2.38	31.94	21.94 - 41.94	Pass
W100714	10/7/2014	Gr. Alpha	18.56 ± 0.40	20.10	10.05 - 30.15	Pass
W100714	10/7/2014	Gr. Beta	27.71 ± 0.32	30.90	20.90 - 40.90	Pass
W111014	11/10/2014	Gr. Alpha	17.84 ± 0.38	20.10	10.05 - 30.15	Pass
W111014	11/10/2014	Gr. Beta	30.12 ± 0.33	30.90	20.90 - 40.90	Pass
W112514	11/25/2014	Ra-226	16.63 ± 0.41	16.70	11.69 - 21.71	Pass
W120814	12/8/2014	Gr. Alpha	19.29 ± 0.41	20.10	10.05 - 30.15	Pass
W120814	12/8/2014	Gr. Beta	27.93 ± 0.32	30.90	20.90 - 40.90	Pass
SPW-7149	12/26/2014	Ni-63	217.53 ± 3.25	203.10	142.17 - 264.03	Pass

[a] Liquid sample results are reported in pCi/Liter, air filters(pCi/m3), charcoal (pCi/charcoal canister), and solid samples (pCi/kg).

[b] Laboratory codes : W (Water), MI (milk), AP (air filter), SO (soil), VE (vegetation), CH (charcoal canister), F (fish), U (urine).

[c] Results are based on single determinations.

[d] Control limits are established from the precision values listed in Attachment A of this report, adjusted to ± 2s.

NOTE: For fish, Jello is used for the spike matrix. For vegetation, cabbage is used for the spike matrix.

TABLE A-4. In-House "Blank" Samples

Lab Code	Sample Type	Date	Analysis[b]	Concentration (pCi/L)[a]		
				Laboratory results (4.66σ)		Acceptance
				LLD	Activity[c]	Criteria (4.66 σ)
SPW-1001	Water	1/13/2014	Ra-228	0.74	0.39 ± 0.39	2
SPAP-102	Air Particulate	1/13/2014	Gr. Beta	0.003	0.015 ± 0.003	0.01
SPAP-104	Air Particulate	1/13/2014	Cs-134	0.006	0.005 ± 0.005	0.05
SPAP-104	Air Particulate	1/13/2014	Cs-137	0.004	-0.002 ± 0.005	0.05
SPW-106	Water	1/13/2014	H-3	151.0	115.0 ± 97.0	200
SPW-128	Water	1/15/2014	Cs-134	2.85	0.59 ± 1.46	10
SPW-128	Water	1/15/2014	Cs-137	2.52	0.68 ± 1.64	10
SPW-128	Water	1/15/2014	Sr-90	0.61	0.74 ± 0.36	1
SPW-130	Water	1/15/2014	Ni-63	10.85	1.57 ± 6.60	20
SPW-133	Water	1/15/2014	C-14	13.51	3.10 ± 8.27	200
SPMI-134	Milk	1/15/2014	Cs-134	4.43	0.14 ± 2.46	10
SPMI-134	Milk	1/15/2014	Cs-137	1.92	-2.07 ± 2.48	10
W-12014	Water	1/20/2014	Gr. Alpha	0.48	-0.31 ± 0.31	2
W-12014	Water	1/20/2014	Gr. Beta	0.78	-0.24 ± 0.54	4
SPW-297	Water	1/29/2014	Tc-99	5.63	-4.42 ± 3.34	10
SPW-656	Water	2/25/2014	Ra-226	0.03	0.01 ± 0.02	1
SPW-1126	Water	3/26/2014	U-238	0.13	0.08 ± 0.12	1
SPW-1127	Water	3/26/2014	U-233/234	0.13	0.11 ± 0.13	1
SPW-1127	Water	3/26/2014	U-238	0.00	0.08 ± 0.12	1
SPW-1917	Water	3/28/2014	Pu-238	0.02	0.01 ± 0.01	1
SPW-1785	Water	4/25/2014	Tc-99	5.61	-4.33 ± 3.33	10
SPW-1831	Water	4/30/2014	I-131	0.21	0.07 ± 0.12	0.5
SPW-2167	Water	5/21/2014	Cs-134	2.29	-0.79 ± 1.35	10
SPW-2167	Water	5/21/2014	Cs-137	2.46	0.36 ± 1.48	10
SPW-2167	Water	5/21/2014	I-131(G)	2.77	0.25 ± 1.53	20
SPW-2167	Water	5/21/2014	Sr-89	0.81	0.01 ± 0.62	5
SPW-2167	Water	5/21/2014	Sr-90	0.52	0.03 ± 0.24	1
SPMI-2169	Milk	5/21/2014	Cs-134	4.45	-0.55 ± 2.39	10
SPMI-2169	Milk	5/21/2014	Cs-137	3.91	-0.52 ± 2.60	10
SPMI-2169	Milk	5/21/2014	I-131(G)	4.31	2.57 ± 2.21	20
SPMI-2169	Milk	5/21/2014	Sr-89	0.98	-0.02 ± 0.83	5
SPMI-2169	Milk	5/21/2014	Sr-90	0.61	0.35 ± 0.32	1
SPW-2793	Water	6/18/2014	U-238	0.08	0.02 ± 0.06	1

TABLE A-4. In-House "Blank" Samples

Lab Code	Sample Type	Date	Analysis[b]	Concentration (pCi/L)[a]		
				Laboratory results (4.66σ)		Acceptance
				LLD	Activity[c]	Criteria (4.66 σ)
SPW-3485	Water	7/17/2014	Fe-55	597.6	10.3 ± 363.3	1000
SPW-4092	Water	8/13/2014	I-131(G)	3.59	0.91 ± 1.95	20
SPW-4092	Water	8/13/2014	Cs-134	3.71	-0.31 ± 1.77	10
SPW-4092	Water	8/13/2014	Cs-137	2.71	-2.20 ± 1.98	10
SPW-4092	Water	8/13/2014	Sr-89	0.89	0.11 ± 0.63	5
SPW-4092	Water	8/13/2014	Sr-90	0.52	-0.05 ± 0.23	1
SPMI-4094	Milk	8/13/2014	I-131	0.35	0.03 ± 0.20	0.5
SPMI-4094	Milk	8/13/2014	I-131(G)	4.50	-0.41 ± 2.44	20
SPMI-4094	Milk	8/13/2014	Cs-134	4.30	-0.84 ± 2.02	10
SPMI-4094	Milk	8/13/2014	Cs-137	3.45	0.96 ± 2.51	10
SPMI-4094	Milk	8/13/2014	Sr-89	0.80	-0.19 ± 0.79	5
SPMI-4094	Milk	8/13/2014	Sr-90	0.47	0.71 ± 0.30	1
SPW-4103	Water	8/13/2014	Ni-63	0.12	0.02 ± 0.07	20
SPW-4105	Water	8/13/2014	H-3	138.1	104.1 ± 78.1	200
SPW-4107	Water	8/13/2014	I-131(G)	3.21	-3.68 ± 1.33	20
SPW-4107	Water	8/13/2014	Cs-134	2.72	-0.62 ± 1.49	10
SPW-4107	Water	8/13/2014	Cs-137	2.56	0.75 ± 1.62	10
SPAP-4109	Air Particulate	8/13/2014	Gr. Beta	0.004	-0.003 ± 0.00	0.01
SPF-4111	Fish	8/13/2014	Cs-134	0.01	0.00 ± 0.01	100
SPF-4111	Fish	8/13/2014	Cs-137	0.01	-0.01 ± 0.01	100
SPF-4111	Fish	8/13/2014	Co-60	0.01	0.00 ± 0.01	100
W-081614	Water	8/16/2014	Ra-226	0.04	0.05 ± 0.03	1
W-082614	Water	8/16/2014	Ra-228	0.62	0.29 ± 0.40	2
W-092314	Water	9/23/2014	Ra-226	0.02	0.04 ± 0.02	1
W-5123	Water	9/29/2014	Ra-228	0.70	0.43 ± 0.38	2
W-100714	Water	10/7/2014	Gr. Alpha	0.39	0.04 ± 0.28	2
W-100714	Water	10/7/2014	Gr. Beta	0.76	-0.06 ± 0.53	4
W-111014	Water	11/10/2014	Gr. Alpha	0.39	0.01 ± 0.28	2
W-111014	Water	11/10/2014	Gr. Beta	0.75	-0.25 ± 0.52	4
W-112514	Water	11/25/2014	Ra-226	0.05	0.02 ± 0.03	2
W-120814	Water	12/8/2014	Gr. Alpha	0.42	0.04 ± 0.30	2
W-120814	Water	12/8/2014	Gr. Beta	0.74	-0.42 ± 0.51	4
SPW-7148	Water	12/26/2014	Ni-63	10.80	-1.80 ± 6.50	20

[a] Liquid sample results are reported in pCi/Liter, air filters(pCi/m^3), charcoal (pCi/charcoal canister), and solid samples (pCi/kg).

[b] I-131(G); iodine-131 as analyzed by gamma spectroscopy.

[c] Activity reported is a net activity result.

TABLE A-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
AP-7829, 7830	1/2/2014	Be-7	0.08 ± 0.02	0.06 ± 0.01	0.07 ± 0.01	Pass
AP-7913, 7914	1/2/2014	Be-7	0.07 ± 0.01	0.06 ± 0.01	0.06 ± 0.01	Pass
AP-7871, 7872	1/3/2014	Be-7	0.05 ± 0.02	0.06 ± 0.01	0.06 ± 0.01	Pass
S-43, 44	1/9/2014	K-40	19.28 ± 0.57	19.24 ± 0.57	19.26 ± 0.40	Pass
SG-64, 65	1/9/2014	Gr. Alpha	686.08 ± 69.97	642.46 ± 65.59	664.27 ± 47.95	Pass
SG-64, 65	1/9/2014	Ra-226	97.30 ± 9.78	92.20 ± 9.27	94.75 ± 6.74	Pass
SG-64, 65	1/9/2014	Ra-228	91.90 ± 9.30	97.10 ± 9.87	94.50 ± 6.78	Pass
S-136, 137	1/13/2014	Be-7	14.90 ± 0.39	14.88 ± 0.38	14.89 ± 0.27	Pass
S-136, 137	1/13/2014	K-40	3.29 ± 0.36	3.93 ± 0.36	3.61 ± 0.25	Pass
WW-220, 221	1/13/2014	H-3	231.85 ± 80.45	273.46 ± 82.47	252.66 ± 57.60	Pass
WW-262, 263	1/21/2014	H-3	294.80 ± 89.80	265.00 ± 88.47	279.90 ± 63.03	Pass
WW-346, 347	1/24/2014	H-3	934.97 ± 118.47	965.59 ± 119.52	950.28 ± 84.14	Pass
SWU-367, 368	1/29/2014	Gr. Beta	0.74 ± 0.38	1.31 ± 0.42	1.02 ± 0.28	Pass
F-409, 410	2/2/2014	Cs-137	0.05 ± 0.02	0.05 ± 0.02	0.05 ± 0.01	Pass
F-409, 410	2/2/2014	Gr. Beta	3.60 ± 0.07	3.72 ± 0.07	3.66 ± 0.05	Pass
AP-7829, 7830	1/2/2014	Be-7	0.08 ± 0.02	0.06 ± 0.01	0.07 ± 0.01	Pass
AP-7913, 7914	1/2/2014	Be-7	0.07 ± 0.01	0.06 ± 0.01	0.06 ± 0.01	Pass
AP-7871, 7872	1/3/2014	Be-7	0.05 ± 0.02	0.06 ± 0.01	0.06 ± 0.01	Pass
S-43, 44	1/9/2014	K-40	19.28 ± 0.57	19.24 ± 0.57	19.26 ± 0.40	Pass
SG-64, 65	1/9/2014	Gr. Alpha	686.08 ± 69.97	642.46 ± 65.59	664.27 ± 47.95	Pass
SG-64, 65	1/9/2014	Ra-226	97.30 ± 9.78	92.20 ± 9.27	94.75 ± 6.74	Pass
SG-64, 65	1/9/2014	Ra-228	91.90 ± 9.30	97.10 ± 9.87	94.50 ± 6.78	Pass
S-136, 137	1/13/2014	Be-7	14.90 ± 0.39	14.88 ± 0.38	14.89 ± 0.27	Pass
S-136, 137	1/13/2014	K-40	3.29 ± 0.36	3.93 ± 0.36	3.61 ± 0.25	Pass
WW-220, 221	1/13/2014	H-3	231.85 ± 80.45	273.46 ± 82.47	252.66 ± 57.60	Pass
WW-262, 263	1/21/2014	H-3	294.80 ± 89.80	265.00 ± 88.47	279.90 ± 63.03	Pass
WW-346, 347	1/24/2014	H-3	934.97 ± 118.47	965.59 ± 119.52	950.28 ± 84.14	Pass
SWU-367, 368	1/29/2014	Gr. Beta	0.74 ± 0.38	1.31 ± 0.42	1.02 ± 0.28	Pass
F-409, 410	2/2/2014	Cs-137	0.05 ± 0.02	0.05 ± 0.02	0.05 ± 0.01	Pass
F-409, 410	2/2/2014	Gr. Beta	3.60 ± 0.07	3.72 ± 0.07	3.66 ± 0.05	Pass
WW-491, 492	2/6/2014	H-3	474.00 ± 101.10	583.10 ± 105.30	528.55 ± 72.99	Pass
WW-575, 576	2/13/2014	H-3	196.69 ± 82.94	154.68 ± 80.89	175.69 ± 57.93	Pass
W-617, 618	2/14/2014	H-3	526.29 ± 97.65	579.51 ± 99.77	552.90 ± 69.80	Pass
SWU-743, 744	2/25/2014	Gr. Beta	1.61 ± 0.65	1.73 ± 0.71	1.67 ± 0.48	Pass
S-700, 701	2/26/2014	K-40	21.32 ± 0.64	21.15 ± 0.59	21.24 ± 0.44	Pass
S-806, 807	3/4/2014	K-40	24.79 ± 0.57	24.17 ± 0.59	24.48 ± 0.41	Pass
SG-928, 929	3/11/2014	Ac-228	6.78 ± 0.34	6.94 ± 0.35	6.86 ± 0.24	Pass
SG-928, 929	3/11/2014	Bi-214	5.32 ± 0.20	5.34 ± 0.22	5.33 ± 0.15	Pass
SG-928, 929	3/11/2014	K-40	4.79 ± 0.80	6.24 ± 1.01	5.52 ± 0.64	Pass
SG-928, 929	3/11/2014	Pb-212	2.70 ± 0.09	2.75 ± 0.09	2.73 ± 0.06	Pass
SG-928, 929	3/11/2014	Pb-214	5.39 ± 0.17	5.53 ± 0.17	5.46 ± 0.12	Pass
SG-928, 929	3/11/2014	Th-228	6.10 ± 2.07	4.76 ± 1.93	5.43 ± 1.42	Pass
SG-928, 929	3/11/2014	Tl-208	0.92 ± 0.06	0.91 ± 0.06	0.92 ± 0.04	Pass

TABLE A-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
S-2119, 2120	3/12/2014	Ac-228	0.76 ± 0.20	0.73 ± 0.21	0.75 ± 0.15	Pass
S-2119, 2120	3/12/2014	Cs-137	0.13 ± 0.05	0.11 ± 0.05	0.12 ± 0.04	Pass
S-2119, 2120	3/12/2014	K-40	17.48 ± 1.48	18.39 ± 1.53	17.94 ± 1.06	Pass
S-2119, 2120	3/12/2014	Pb-214	0.73 ± 0.18	0.63 ± 0.12	0.68 ± 0.11	Pass
F-1594, 1595	3/16/2014	Cs-137	0.02 ± 0.01	0.03 ± 0.02	0.03 ± 0.01	Pass
SO-1115, 1116	3/18/2014	Cs-137	0.06 ± 0.01	0.06 ± 0.00	0.06 ± 0.00	Pass
SO-1115, 1116	3/18/2014	Gr. Beta	23.30 ± 2.10	24.40 ± 2.20	23.85 ± 1.52	Pass
SO-1115, 1116	3/18/2014	K-40	12.63 ± 0.18	12.84 ± 0.15	12.74 ± 0.12	Pass
SO-1115, 1116	3/18/2014	U-233/4	0.11 ± 0.02	0.12 ± 0.02	0.12 ± 0.01	Pass
SO-1115, 1116	3/18/2014	U-238	0.13 ± 0.02	0.14 ± 0.02	0.14 ± 0.01	Pass
S-1033, 1034	3/19/2014	Ac-228	0.99 ± 0.20	1.13 ± 0.26	1.06 ± 0.16	Pass
S-1033, 1034	3/19/2014	Bi-214	1.02 ± 0.18	0.98 ± 0.16	1.00 ± 0.12	Pass
S-1033, 1034	3/19/2014	Cs-137	0.15 ± 0.04	0.14 ± 0.04	0.15 ± 0.03	Pass
S-1033, 1034	3/19/2014	K-40	15.39 ± 1.19	15.13 ± 1.19	15.26 ± 0.84	Pass
S-1033, 1034	3/19/2014	Pb-214	1.09 ± 0.13	0.88 ± 0.17	0.99 ± 0.11	Pass
S-1033, 1034	3/19/2014	Tl-208	0.36 ± 0.05	0.31 ± 0.05	0.34 ± 0.04	Pass
W-1094, 1095	3/23/2014	Ra-226	0.30 ± 0.20	0.70 ± 0.20	0.50 ± 0.14	Pass
W-1094, 1095	3/23/2014	Ra-228	1.10 ± 0.79	1.13 ± 0.86	1.12 ± 0.58	Pass
AP-1197, 1198	3/27/2014	Be-7	0.17 ± 0.08	0.14 ± 0.08	0.15 ± 0.05	Pass
AP-1698, 1699	3/31/2014	Be-7	0.06 ± 0.02	0.07 ± 0.02	0.07 ± 0.01	Pass
E-1218, 1219	4/1/2014	Gr. Beta	1.57 ± 0.04	1.57 ± 0.04	1.57 ± 0.03	Pass
E-1218, 1219	4/1/2014	K-40	1.26 ± 0.14	1.31 ± 0.18	1.29 ± 0.11	Pass
SWU-1260, 1261	4/1/2014	Gr. Beta	2.81 ± 0.51	2.94 ± 0.50	2.88 ± 0.36	Pass
AP-1615, 1616	4/1/2014	Be-7	0.07 ± 0.01	0.07 ± 0.02	0.07 ± 0.01	Pass
AP-1657, 1658	4/2/2014	Be-7	0.07 ± 0.01	0.08 ± 0.01	0.07 ± 0.01	Pass
AP-1804, 1805	4/3/2014	Be-7	0.05 ± 0.02	0.06 ± 0.01	0.06 ± 0.01	Pass
P-1489, 1490	4/7/2014	H-3	582.31 ± 101.85	505.07 ± 98.72	543.69 ± 70.92	Pass
BS-1531, 1532	4/16/2014	K-40	0.51 ± 0.19	0.58 ± 0.23	0.54 ± 0.15	Pass
S-1909, 1910	4/22/2014	K-40	14.71 ± 0.54	14.78 ± 0.53	14.75 ± 0.38	Pass
SWU-1867, 1868	4/29/2014	Gr. Beta	2.28 ± 0.40	1.67 ± 0.35	1.98 ± 0.27	Pass
AP-1930, 1931	5/1/2014	Be-7	0.16 ± 0.09	0.19 ± 0.11	0.17 ± 0.07	Pass
SL-1888, 1889	5/1/2014	Be-7	0.80 ± 0.04	0.76 ± 0.08	0.78 ± 0.05	Pass
SL-1888, 1889	5/1/2014	Cs-137	0.01 ± 0.00	0.01 ± 0.00	0.01 ± 0.00	Pass
SL-1888, 1889	5/1/2014	Gr. Beta	11.57 ± 0.72	12.67 ± 0.78	12.12 ± 0.53	Pass
SL-1888, 1889	5/1/2014	K-40	1.04 ± 0.05	1.00 ± 0.09	1.02 ± 0.05	Pass
SO-1972, 1973	5/1/2014	Cs-137	0.12 ± 0.03	0.10 ± 0.02	0.11 ± 0.02	Pass
SO-1972, 1973	5/1/2014	Gr. Alpha	7.51 ± 3.24	9.09 ± 3.63	8.30 ± 2.43	Pass
SO-1972, 1973	5/1/2014	Gr. Beta	29.89 ± 3.25	31.42 ± 3.04	30.66 ± 2.23	Pass
SO-1972, 1973	5/1/2014	K-40	20.45 ± 0.85	20.88 ± 0.76	20.66 ± 0.57	Pass
W-617, 618	5/8/2014	H-3	175.13 ± 83.82	177.17 ± 83.92	176.15 ± 59.31	Pass
AP-2077, 2078	5/8/2014	Be-7	0.23 ± 0.11	0.18 ± 0.11	0.20 ± 0.08	Pass

TABLE A-5. In-House "Duplicate" Samples

Lab Code	Date	Analysis	Concentration (pCi/L)[a] First Result	Second Result	Averaged Result	Acceptance
S-2205, 2206	5/15/2014	Be-7	0.50 ± 0.19	0.70 ± 0.18	0.60 ± 0.13	Pass
S-2205, 2206	5/15/2014	K-40	33.60 ± 0.79	33.52 ± 0.70	33.56 ± 0.53	Pass
VE-2184, 2185	5/19/2014	Be-7	0.62 ± 0.18	0.53 ± 0.17	0.58 ± 0.12	Pass
VE-2184, 2185	5/19/2014	K-40	5.30 ± 0.44	5.14 ± 0.44	5.22 ± 0.31	Pass
DW-50102, 50103	5/20/2014	Ra-226	7.07 ± 0.76	8.31 ± 0.90	7.69 ± 0.59	Pass
DW-50102, 50103	5/20/2014	Ra-228	5.44 ± 0.85	6.02 ± 0.67	5.73 ± 0.54	Pass
SW-2226, 2227	5/21/2014	H-3	14318.00 ± 347.00	14350.00 ± 347.00	14334.00 ± 245.37	Pass
DW-50087, 50088	5/21/2014	Gr. Alpha	1.76 ± 1.09	2.67 ± 1.01	2.22 ± 0.74	Pass
DW-50090, 50091	5/21/2014	Ra-226	0.61 ± 0.09	0.47 ± 0.09	0.54 ± 0.06	Pass
DW-50090, 50091	5/21/2014	Ra-228	0.97 ± 0.41	1.26 ± 0.52	1.12 ± 0.33	Pass
DW-50098, 50099	5/21/2014	Gr. Alpha	13.04 ± 1.36	10.76 ± 1.26	11.90 ± 0.93	Pass
AP-2289, 2290	5/22/2014	Be-7	0.14 ± 0.08	0.24 ± 0.10	0.19 ± 0.06	Pass
PM-3174, 3175	5/28/2014	K-40	30.68 ± 1.30	32.64 ± 1.24	31.66 ± 0.90	Pass
G-2415, 2416	6/2/2014	Be-7	0.73 ± 0.16	0.62 ± 0.28	0.68 ± 0.16	Pass
G-2415, 2416	6/2/2014	Gr. Beta	5.89 ± 0.09	5.90 ± 0.09	5.89 ± 0.06	Pass
G-2415, 2416	6/2/2014	K-40	5.30 ± 0.49	5.19 ± 0.65	5.25 ± 0.41	Pass
WW-2541, 2542	6/4/2014	H-3	5107.00 ± 223.00	5029.00 ± 222.00	5068.00 ± 157.33	Pass
SW-2817, 2818	6/16/2014	H-3	13303.00 ± 336.00	13130.00 ± 334.00	13216.50 ± 236.88	Pass
SS-2943, 2944	6/24/2014	K-40	11.49 ± 0.79	11.81 ± 0.70	11.65 ± 0.53	Pass
S-3048, 3049	6/27/2014	K-40	42.51 ± 1.31	40.04 ± 1.39	41.28 ± 0.95	Pass
SWT-3216, 3217	7/1/2014	Gr. Beta	2.27 ± 0.94	2.53 ± 1.05	2.40 ± 0.70	Pass
AP-3699,3700	7/3/2014	Be-7	0.06 ± 0.01	0.07 ± 0.02	0.07 ± 0.01	Pass
S-3300, 3301	7/8/2014	K-40	4.85 ± 0.97	5.91 ± 1.17	5.38 ± 0.76	Pass
S-3300, 3301	7/8/2014	Ac-228	10.23 ± 0.43	10.18 ± 0.32	10.21 ± 0.27	Pass
S-3300, 3301	7/8/2014	Ra-226	70.14 ± 2.37	72.01 ± 2.38	71.08 ± 1.68	Pass
VE-3237,3238	7/8/2014	K-40	2.54 ± 0.27	2.63 ± 0.24	2.59 ± 0.18	Pass
CF-3384,3385	7/14/2014	K-40	11.10 ± 0.58	10.69 ± 0.60	10.90 ± 0.42	Pass
S-3447,3448	7/16/2014	K-40	19.63 ± 0.64	21.03 ± 0.96	20.33 ± 0.58	Pass
WW-3573,3574	7/18/2014	H-3	381.58 ± 85.76	401.30 ± 86.67	391.44 ± 60.96	Pass
VE-3594,3595	7/22/2014	K-40	3.04 ± 0.19	3.21 ± 0.15	3.13 ± 0.12	Pass
WW-3762,3763	7/25/2014	H-3	315.47 ± 87.02	327.30 ± 87.56	321.39 ± 61.72	Pass
SWT-3867, 3868	7/29/2014	Gr. Beta	1.10 ± 0.53	1.51 ± 0.58	1.31 ± 0.39	Pass
S-3804, 3805	7/30/2014	Ac-228	0.67 ± 0.11	0.61 ± 0.10	0.64 ± 0.07	Pass
S-3804, 3805	7/30/2014	Pb-214	0.56 ± 0.05	0.51 ± 0.04	0.54 ± 0.03	Pass
LW-3931, 3932	7/31/2014	Gr. Beta	1.04 ± 0.40	0.95 ± 0.41	1.00 ± 0.29	Pass

TABLE A-5. In-House "Duplicate" Samples

			Concentration (pCi/L)[a]			
Lab Code	Date	Analysis	First Result	Second Result	Averaged Result	Acceptance
G-3952,3953	8/4/2014	K-40	5.42 ± 0.42	5.35 ± 0.34	5.38 ± 0.27	Pass
G-3952,3953	8/4/2014	Be-7	1.29 ± 0.19	1.24 ± 0.16	1.27 ± 0.13	Pass
G-3952,3953	8/4/2014	Gr. Beta	8.53 ± 0.20	8.63 ± 0.20	8.58 ± 0.14	Pass
G-3952,3953	8/4/2014	H-3	140.16 ± 93.50	127.25 ± 92.99	133.70 ± 65.94	Pass
WW-4036, 4037	8/5/2014	H-3	190.60 ± 82.60	164.70 ± 81.30	177.65 ± 57.95	Pass
VE-4204,4205	8/11/2014	K-40	6.28 ± 0.38	6.60 ± 0.37	6.44 ± 0.27	Pass
WW-4394,4395	8/13/2014	H-3	1540.26 ± 136.52	1499.15 ± 135.43	1519.71 ± 96.15	Pass
VE-4183,4184	8/14/2014	K-40	5.70 ± 0.41	5.73 ± 0.34	5.72 ± 0.27	Pass
AV-4455, 4456	8/22/2014	Be-7	286.67 ± 102.30	251.99 ± 98.94	269.33 ± 71.16	Pass
AV-4455, 4456	8/22/2014	K-40	2547.90 ± 255.70	2201.40 ± 203.90	2374.65 ± 163.52	Pass
WW-4500, 4501	8/26/2014	H-3	347.00 ± 100.00	321.00 ± 98.00	334.00 ± 70.01	Pass
AP-090214A/B	9/2/2014	Gr. Beta	0.03 ± 0.04	0.03 ± 0.04	0.03 ± 0.00	Pass
SG-5089, 5090	9/19/2014	Ac-228	8.26 ± 0.63	9.48 ± 0.68	8.87 ± 0.46	Pass
SG-5089, 5090	9/19/2014	Bi-214	4.71 ± 0.29	4.41 ± 0.31	4.56 ± 0.21	Pass
SG-5194,5	10/1/2014	Gr. Alpha	276.20 ± 9.51	258.60 ± 9.26	267.40 ± 6.64	Pass
SG-5194,5	10/1/2014	Pb-214	43.56 ± 0.73	43.94 ± 0.78	43.75 ± 0.53	Pass
SG-5194,5	10/1/2014	Ac-228	59.90 ± 1.37	62.80 ± 1.73	61.35 ± 1.10	Pass
S-5632,3	10/8/2014	K-40	19.28 ± 0.88	17.94 ± 0.89	18.61 ± 0.63	Pass
S-5632,3	10/8/2014	Cs-137	0.15 ± 0.03	0.13 ± 0.03	0.14 ± 0.02	Pass
S-5632,3	10/8/2014	Tl-208	0.32 ± 0.03	0.34 ± 0.03	0.33 ± 0.02	Pass
S-5632,3	10/8/2014	Pb-212	0.92 ± 0.05	0.92 ± 0.05	0.92 ± 0.03	Pass
S-5632,3	10/8/2014	Pb-214	1.25 ± 0.08	1.09 ± 0.09	1.17 ± 0.06	Pass
S-5632,3	10/8/2014	Bi-212	1.25 ± 0.29	1.34 ± 0.47	1.29 ± 0.27	Pass
S-5632,3	10/8/2014	Ac-228	1.08 ± 0.14	1.10 ± 0.14	1.09 ± 0.10	Pass
DW-50243,4	10/13/2014	Gr. Alpha	2.99 ± 0.94	4.98 ± 1.17	3.99 ± 0.75	Pass
AP-101414A/B	10/14/2014	Gr. Beta	0.02 ± 0.00	0.02 ± 0.00	0.02 ± 0.00	Pass
SG-5590,1	10/15/2014	Pb-214	80.30 ± 8.08	73.40 ± 7.51	76.85 ± 5.52	Pass
SG-5590,1	10/15/2014	Ac-228	64.50 ± 1.87	62.80 ± 1.15	63.65 ± 1.10	Pass
DW-50251,2	10/16/2014	Ra-226	0.55 ± 0.13	0.32 ± 0.10	0.44 ± 0.08	Pass
U-5842,3	10/20/2014	H-3	7376 ± 949	7342 ± 947	7359 ± 670	Pass
CF-6074,5	10/21/2014	H-3	7509 ± 283	7969 ± 291	7739 ± 203	Pass
CF-6074,5	10/21/2014	K-40	3.09 ± 0.31	3.30 ± 0.38	3.20 ± 0.25	Pass

TABLE A-5. In-House "Duplicate" Samples

			Concentration (pCi/L)[a]			
Lab Code	Date	Analysis	First Result	Second Result	Averaged Result	Acceptance
VE-6269,70	11/3/2014	K-40	6.25 ± 0.54	6.56 ± 0.49	6.41 ± 0.36	Pass
VE-6269,70	11/3/2014	Be-7	0.81 ± 0.28	0.74 ± 0.18	0.77 ± 0.17	Pass
SO-6500,1	11/5/2014	Sr-90	0.07 ± 0.03	0.07 ± 0.02	0.07 ± 0.02	Pass
SO-6500,1	11/5/2014	Gr. Alpha	11.77 ± 1.73	12.18 ± 1.62	11.98 ± 1.19	Pass
SO-6500,1	11/5/2014	Gr. Beta	26.69 ± 1.62	24.19 ± 1.13	25.44 ± 0.99	Pass
SO-6500,1	11/5/2014	U-233/4	0.14 ± 0.04	0.14 ± 0.05	0.14 ± 0.03	Pass
SO-6500,1	11/5/2014	U-238	0.18 ± 0.05	0.13 ± 0.04	0.15 ± 0.03	Pass
SO-6500,1	11/5/2014	Th-228	0.47 ± 0.11	0.34 ± 0.06	0.41 ± 0.06	Pass
SO-6500,1	11/5/2014	Th-230	0.38 ± 0.07	0.29 ± 0.05	0.34 ± 0.04	Pass
SO-6500,1	11/5/2014	Th-232	0.41 ± 0.08	0.41 ± 0.06	0.41 ± 0.05	Pass
SO-6500,1	11/5/2014	Bi-214	0.75 ± 0.02	0.78 ± 0.02	0.77 ± 0.01	Pass
SO-6500,1	11/5/2014	Pb-214	0.78 ± 0.08	0.86 ± 0.09	0.82 ± 0.06	Pass
SO-6500,1	11/5/2014	Ac-228	1.02 ± 0.11	1.13 ± 0.13	1.08 ± 0.09	Pass
SO-6500,1	11/5/2014	Cs-137	0.40 ± 0.01	0.39 ± 0.01	0.39 ± 0.01	Pass
DW-50262,3	11/10/2014	Gr. Alpha	8.95 ± 1.26	7.84 ± 1.24	8.40 ± 0.88	Pass
DW-50264,5	11/10/2014	Ra-226	3.89 ± 0.24	3.71 ± 0.20	3.80 ± 0.16	Pass
DW-50264,5	11/10/2014	Ra-228	2.96 ± 0.63	2.33 ± 0.59	2.65 ± 0.43	Pass
AP-120214A/B	12/2/2014	Gr. Beta	0.03 ± 0.00	0.03 ± 0.00	0.03 ± 0.00	Pass
AP-120814A/B	12/8/2014	Gr. Beta	0.03 ± 0.01	0.03 ± 0.01	0.03 ± 0.00	Pass
SG-7068,9	12/19/2014	Pb-214	4.27 ± 0.23	4.38 ± 0.33	4.33 ± 0.20	Pass
SG-7068,9	12/19/2014	Ac-228	2.72 ± 0.36	3.27 ± 0.49	3.00 ± 0.30	Pass
S-7152,3	12/25/2014	K-40	20.83 ± 0.88	20.16 ± 0.62	20.49 ± 0.54	Pass

TABLE A-6. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP).

			Concentration [a]			
Lab Code [b]	Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
MAW-1140	2/1/2014	Gr. Alpha	0.77 ± 0.06	0.85	0.26 - 1.44	Pass
MAW-1140	2/1/2014	Gr. Beta	4.31 ± 0.08	4.19	2.10 - 6.29	Pass
MAW-1142	2/1/2014	I-129	-0.01 ± 8.00	0.00	NA	Pass
MAW-1184	2/1/2014	Fe-55	0.40 ± 3.20	0.00	-0.01 - 2.00	Pass
MAW-1184	2/1/2014	H-3	345.10 ± 10.60	321.00	225.00 - 417.00	Pass
MAW-1184	2/1/2014	Ni-63	32.40 ± 3.20	34.00	23.80 - 44.20	Pass
MAW-1184 [f]	2/1/2014	Pu-238	1.28 ± 0.12	0.83	0.58 - 1.08	Fail
MAW-1184 [f]	2/1/2014	Pu-239/240	0.91 ± 0.10	0.68	0.47 - 0.88	Fail
MAW-1184	2/1/2014	Sr-90	7.00 ± 0.70	8.51	5.96 - 11.06	Pass
MAW-1184	2/1/2014	Tc-99	8.10 ± 0.60	10.30	7.20 - 13.40	Pass
MAW-1184	2/1/2014	U-233/234	0.20 ± 0.07	0.23	0.16 - 0.29	Pass
MAW-1184	2/1/2014	U-238	1.25 ± 0.18	1.45	1.02 - 1.89	Pass
MAW-1184	2/1/2014	Co-57	27.86 ± 0.38	27.50	19.30 - 35.80	Pass
MAW-1184	2/1/2014	Co-60	15.99 ± 0.27	16.00	11.20 - 20.80	Pass
MAW-1184	2/1/2014	Cs-134	21.85 ± 0.54	23.10	16.20 - 30.00	Pass
MAW-1184	2/1/2014	Cs-137	28.74 ± 0.49	28.90	20.20 - 37.60	Pass
MAW-1184	2/1/2014	K-40	1.80 ± 2.00	0.00	0.00 - 10.00	Pass
MAW-1184	2/1/2014	Mn-54	14.06 ± 0.40	13.90	9.70 - 18.10	Pass
MAW-1184	2/1/2014	Zn-65	0.00 ± 0.19	0.00	-0.01 - 0.00	Pass
MAVE-1148	2/1/2014	Co-57	11.63 ± 0.19	10.10	7.10 - 13.10	Pass
MAVE-1148	2/1/2014	Co-60	7.28 ± 0.18	6.93	4.85 - 9.01	Pass
MAVE-1148	2/1/2014	Cs-134	6.29 ± 0.29	6.04	4.23 - 7.85	Pass
MAVE-1148	2/1/2014	Cs-137	5.18 ± 0.20	4.74	3.32 - 6.16	Pass
MAVE-1148	2/1/2014	Mn-54	9.22 ± 0.26	8.62	6.03 - 11.21	Pass
MAVE-1148	2/1/2014	Zn-65	8.59 ± 0.40	7.86	5.50 - 10.22	Pass
MAAP-1151	2/1/2014	Am-241	0.09 ± 0.02	0.09	0.06 - 0.12	Pass
MAAP-1151 [d]	2/1/2014	Co-57	1.60 ± 0.05	0.00	NA	Fail
MAAP-1151	2/1/2014	Co-60	1.38 ± 0.08	1.39	0.97 - 1.81	Pass
MAAP-1151	2/1/2014	Cs-134	1.75 ± 0.11	1.91	1.34 - 2.48	Pass
MAAP-1151	2/1/2014	Cs-137	1.81 ± 0.10	1.76	1.23 - 2.29	Pass
MAAP-1151	2/1/2014	Mn-54	0.01 ± 0.03	0.00	NA	Pass
MAAP-1151 [f]	2/1/2014	Pu-238	0.08 ± 0.02	0.00	NA	Fail
MAAP-1151	2/1/2014	Pu-239/240	0.10 ± 0.02	0.08	0.05 - 0.10	Pass
MAAP-1151	2/1/2014	Zn-65	-0.24 ± 0.09	0.00	-0.50 - 1.00	Pass

TABLE A-6. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP).

			Concentration [a]			
Lab Code [b]	Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
MAAP-1151	2/1/2014	U-233/234	0.03 ± 0.01	0.02	0.01 - 0.03	Pass
MAAP-1151	2/1/2014	U-238	0.13 ± 0.02	0.13	0.09 - 0.17	Pass
MAAP-1151	2/1/2014	Sr-90	1.11 ± 0.14	1.18	0.83 - 1.53	Pass
MAAP-1154	2/1/2014	Gr. Alpha	0.56 ± 0.06	1.77	0.53 - 3.01	Pass
MAAP-1154	2/1/2014	Gr. Beta	0.98 ± 0.06	0.77	0.39 - 1.16	Pass
MASO-1146	2/1/2014	Co-57	1064.50 ± 3.60	966.00	676.00 - 1256.00	Pass
MASO-1146	2/1/2014	Co-60	1.70 ± 0.50	1.22	NA [e]	Pass
MASO-1146 [g]	2/1/2014	Cs-134	6.10 ± 1.80	0.00	NA	Fail
MASO-1146	2/1/2014	Cs-137	1364.30 ± 5.30	1238.00	867.00 - 1609.00	Pass
MASO-1146	2/1/2014	K-40	728.90 ± 15.90	622.00	435.00 - 809.00	Pass
MASO-1146	2/1/2014	Mn-54	1588.00 ± 6.00	1430.00	1001.00 - 1859.00	Pass
MASO-1146	2/1/2014	Zn-65	763.50 ± 6.80	695.00	487.00 - 904.00	Pass
MASO-1146	2/1/2014	Am-241	68.20 ± 9.00	68.00	47.60 - 88.40	Pass
MASO-1146	2/1/2014	Ni-63	4.80 ± 15.30	0.00	NA	Pass
MASO-1146 [f]	2/1/2014	Pu-238	140.60 ± 15.50	96.00	67.00 - 125.00	Fail
MASO-1146 [f]	2/1/2014	Pu-239/240	102.00 ± 13.10	76.80	53.80 - 99.80	Fail
MASO-1146	2/1/2014	Sr-90	1.23 ± 1.37	0.00	NA	Pass
MASO-1146	2/1/2014	Tc-99	-0.30 ± 12.00	0.00	NA	Pass
MASO-1146 [h]	2/1/2014	U-233/234	22.90 ± 3.00	81.00	57.00 - 105.00	Fail
MASO-1146 [h]	2/1/2014	U-238	32.00 ± 3.60	83.00	58.00 - 108.00	Fail
MASO-4439	8/1/2014	Am-241	65.90 ± 6.70	85.50	59.90 - 111.20	Pass
MASO-4439	8/1/2014	Ni-63	771.62 ± 23.29	980.00	686.00 - 1274.00	Pass
MASO-4439	8/1/2014	Pu-239/240	55.63 ± 5.81	58.60	41.00 - 76.20	Pass
MASO-4439	8/1/2014	Sr-90	778.34 ± 17.82	858.00	601.00 - 1115.00	Pass
MASO-4439	8/1/2014	Tc-99	458.20 ± 9.20	589.00	412.00 - 766.00	Pass
MASO-4439	8/1/2014	Cs-134	520.60 ± 7.09	622.00	435.00 - 809.00	Pass
MASO-4439	8/1/2014	Co-57	1135.00 ± 7.40	1116.00	781.00 - 1451.00	Pass
MASO-4439	8/1/2014	Co-60	768.20 ± 7.70	779.00	545.00 - 1013.00	Pass
MASO-4439	8/1/2014	Mn-54	1050.70 ± 12.60	1009.00	706.00 - 1312.00	Pass
MASO-4439	8/1/2014	Zn-65	407.89 ± 15.03	541.00	379.00 - 703.00	Pass
MAW-4431	8/1/2014	Am-241	0.79 ± 0.08	0.88	0.62 - 1.14	Pass
MAW-4431	8/1/2014	Cs-137	18.62 ± 0.54	18.40	12.90 - 23.90	Pass
MAW-4431	8/1/2014	Co-57	24.85 ± 0.42	24.70	17.30 - 32.10	Pass
MAW-4431	8/1/2014	Co-60	12.27 ± 0.38	12.40	8.70 - 16.10	Pass
MAW-4431	8/1/2014	H-3	207.20 ± 10.60	208.00	146.00 - 270.00	Pass
MAW-4431 [i]	8/1/2014	Fe-55	55.10 ± 14.80	31.50	22.10 - 41.00	Fail
MAW-4431	8/1/2014	Mn-54	14.36 ± 0.53	14.00	9.80 - 18.20	Pass
MAW-4431	8/1/2014	Zn-65	11.46 ± 0.78	10.90	7.60 - 14.20	Pass

TABLE A-6. Department of Energy's Mixed Analyte Performance Evaluation Program (MAPEP).

			Concentration [a]			
Lab Code [b]	Date	Analysis	Laboratory result	Known Activity	Control Limits [c]	Acceptance
MAW-4431	8/1/2014	Tc-99	6.10 ± 0.50	6.99	4.89 - 9.09	Pass
MAW-4431	8/1/2014	Pu-238	0.59 ± 0.07	0.62	0.43 - 0.80	Pass
MAW-4431	8/1/2014	U-233/234	0.22 ± 0.04	0.21	0.14 - 0.27	Pass
MAW-4431	8/1/2014	U-238	1.25 ± 0.10	1.42	0.99 - 1.85	Pass
MAW-4493	8/1/2014	Gr. Alpha	0.93 ± 0.07	1.40	0.42 - 2.38	Pass
MAW-4493	8/1/2014	Gr. Beta	6.31 ± 1.35	6.50	3.25 - 9.75	Pass
MAAP-4433	8/1/2014	Am-241	0.06 ± 0.02	0.07	0.05 - 0.09	Pass
MAAP-4433	8/1/2014	Pu-238	0.10 ± 0.03	0.11	0.08 - 0.14	Pass
MAAP-4433	8/1/2014	Pu-239/240	0.04 ± 0.02	0.05	0.03 - 0.06	Pass
MAAP-4433	8/1/2014	Sr-90	0.74 ± 0.10	0.70	0.49 - 0.91	Pass
MAAP-4433	8/1/2014	U-233/234	0.03 ± 0.01	0.04	0.03 - 0.05	Pass
MAAP-4433	8/1/2014	U-238	0.21 ± 0.03	0.25	0.18 - 0.33	Pass
MAAP-4444	8/1/2014	Sr-89	7.82 ± 0.52	9.40	6.60 - 12.20	Pass
MAAP-4444	8/1/2014	Sr-90	0.76 ± 0.10	0.76	0.53 - 0.99	Pass
MAVE-4436	8/1/2014	Cs-134	7.49 ± 0.18	7.38	5.17 - 9.59	Pass
MAVE-4436	8/1/2014	Co-57	11.20 ± 0.19	9.20	6.40 - 12.00	Pass
MAVE-4436	8/1/2014	Co-60	6.84 ± 0.17	6.11	4.28 - 7.94	Pass
MAVE-4436	8/1/2014	Mn-54	8.11 ± 0.26	7.11	4.97 - 9.23	Pass
MAVE-4436	8/1/2014	Zn-65	7.76 ± 0.43	6.42	4.49 - 8.35	Pass

[a] Results are reported in units of Bq/kg (soil), Bq/L (water) or Bq/total sample (filters, vegetation).

[b] Laboratory codes as follows: MAW (water), MAAP (air filter), MASO (soil), MAVE (vegetation).

[c] MAPEP results are presented as the known values and expected laboratory precision (1 sigma, 1 determination) and control limits as defined by the MAPEP. A known value of "zero" indicates an analysis was included in the testing series as a "false positive". MAPEP does not provide control limits.

[d] Interference from Eu-152 resulted in misidentification of Co-57.

[e] Provided in the series for "sensitivity evaluation". MAPEP does not provide control limits.

[f] The high bias on the plutonium crosscheck samples was traced to contamination from a newly purchased standard.

The results of reanalysis with replacement tracer purchased from NIST:

MAW-1184	Pu-238	0.68 ± 0.10	Bq / L
MAW-1184	Pu-239/240	0.66 ± 0.10	Bq / L
MASO-1146	Pu-238	95.15 ± 8.98	Bq / kg
MASO-1146	Pu-239/240	67.21 ± 7.54	Bq / kg

Insufficient sample remained to reanalyze the Air filter sample(MAAP-1151). High bias results due to same contaminated tracer

[g] False positive test. Long sample counting time lead to interference from naturaling occuring Bi-214 in sample matrix with a close spectral energy.

[h] 80% of participating laboratories were outside the acceptable range.

Parallel reanalysis was run on ERA spiked sample with acceptable results.

[i] Result of reanalysis Fe-55 32.63 ± 16.30 Bq / L

TABLE A-7. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)[a].

Lab Code [b]	Concentration (pCi/L) [b]					
	Date	Analysis	Laboratory Result [c]	ERA Result [d]	Control Limits	Acceptance
ERAP-1044	3/17/2014	Am-241	54.2 ± 3.0	59.7	36.8 - 80.8	Pass
ERAP-1044	3/17/2014	Co-60	1177.9 ± 14.3	1120.0	867.0 - 1400.0	Pass
ERAP-1044	3/17/2014	Cs-134	1010.5 ± 15.8	1010.0	643.0 - 1250.0	Pass
ERAP-1044	3/17/2014	Cs-137	938.3 ± 45.7	828.0	622.0 - 1090.0	Pass
ERAP-1044	3/17/2014	Fe-55	142.3 ± 87.3	240.0	74.4 - 469.0	Pass
ERAP-1044	3/17/2014	Gr. Alpha	52.3 ± 0.5	46.0	15.4 - 71.4	Pass
ERAP-1044	3/17/2014	Gr. Beta	64.4 ± 2.6	53.8	34.0 - 78.4	Pass
ERAP-1044	3/17/2014	Mn-54	< 4.9	0.0	NA	Pass
ERAP-1044	3/17/2014	Pu-238	63.0 ± 2.6	56.3	38.6 - 74.0	Pass
ERAP-1044	3/17/2014	Pu-239/240	52.8 ± 1.9	48.6	35.2 - 63.5	Pass
ERAP-1044	3/17/2014	Sr-90	81.4 ± 1.6	78.9	38.6 - 118.0	Pass
ERAP-1044	3/17/2014	U-233/234	30.4 ± 1.7	36.4	22.6 - 54.9	Pass
ERAP-1044	3/17/2014	U-238	30.4 ± 1.4	36.1	23.3 - 49.9	Pass
ERAP-1044	3/17/2014	Uranium	62.0 ± 3.5	74.3	41.1 - 113.0	Pass
ERAP-1044	3/17/2014	Zn-65	852.2 ± 26.1	667.0	478.0 - 921.0	Pass
ERSO-1050	3/17/2014	Am-241	426.6 ± 155.5	399.0	233.0 - 518.0	Pass
ERSO-1050	3/17/2014	Ac-228	1260.0 ± 107.0	1240.0	795.0 - 1720.0	Pass
ERSO-1050	3/17/2014	Bi-212	1331.9 ± 309.7	1240.0	330.0 - 1820.0	Pass
ERSO-1050	3/17/2014	Bi-214	1804.5 ± 50.4	1960.0	1180.0 - 2820.0	Pass
ERSO-1050	3/17/2014	Co-60	6738.8 ± 167.6	6830.0	4620.0 - 9400.0	Pass
ERSO-1050	3/17/2014	Cs-134	3262.9 ± 108.8	3390.0	2220.0 - 4070.0	Pass
ERSO-1050	3/17/2014	Cs-137	8538.6 ± 55.0	8490.0	6510.0 - 10900.0	Pass
ERSO-1050	3/17/2014	K-40	11241.3 ± 296.6	10500.0	7660.0 - 14100.0	Pass
ERSO-1050	3/17/2014	Mn-54	< 21.6	0.0	NA	Pass
ERSO-1050	3/17/2014	Pb-212	1119.6 ± 26.1	1240.0	812.0 - 1730.0	Pass
ERSO-1050	3/17/2014	Pb-214	1861.7 ± 54.9	2070.0	1210.0 - 3090.0	Pass
ERSO-1050 [e]	3/17/2014	Pu-238	1085.5 ± 167.7	578.0	348.0 - 797.0	Fail
ERSO-1050 [e]	3/17/2014	Pu-239/240	681.6 ± 128.6	471.0	308.0 - 651.0	Fail
ERSO-1050	3/17/2014	Sr-90	2338.0 ± 144.0	2780.0	1060.0 - 4390.0	Pass
ERSO-1050	3/17/2014	Th-234	3474.9 ± 226.0	3360.0	1060.0 - 6320.0	Pass
ERSO-1050	3/17/2014	U-233/234	3319.5 ± 250.2	2780.0	1060.0 - 4390.0	Pass
ERSO-1050	3/17/2014	U-238	3375.6 ± 252.6	3360.0	2080.0 - 4260.0	Pass
ERSO-1050	3/17/2014	Uranium	6810.6 ± 551.1	6910.0	3750.0 - 9120.0	Pass
ERSO-1050	3/17/2014	Zn-65	5968.0 ± 226.1	5400.0	4300.0 - 7180.0	Pass

TABLE A-7. Interlaboratory Comparison Crosscheck program, Environmental Resource Associates (ERA)[a].

Lab Code [b]	Date	Analysis	Concentration (pCi/L) [b] Laboratory Result [c]	ERA Result [d]	Control Limits	Acceptance
ERVE-1051	3/17/2014	Am-241	1532.0 ± 149.5	1490.0	911.0 - 1980.0	Pass
ERVE-1051	3/17/2014	Cm-244	519.8 ± 94.6	516.0	253.0 - 804.0	Pass
ERVE-1051	3/17/2014	Co-60	981.2 ± 41.8	926.0	639.0 - 1290.0	Pass
ERVE-1051	3/17/2014	Cs-134	701.4 ± 58.6	646.0	415.0 - 839.0	Pass
ERVE-1051	3/17/2014	Cs-137	961.9 ± 46.3	880.0	638.0 - 1220.0	Pass
ERVE-1051	3/17/2014	K-40	32789.7 ± 758.2	31900.0	23000.0 - 44800.0	Pass
ERVE-1051	3/17/2014	Mn-54	< 25.9	0.0	NA	Pass
ERVE-1051	3/17/2014	Pu-238	2724.1 ± 259.4	2110.0	1260.0 - 2890.0	Pass
ERVE-1051	3/17/2014	Pu-239/240	4361.4 ± 323.4	3740.0	2300.0 - 5150.0	Pass
ERVE-1051	3/17/2014	Sr-90	2405.7 ± 263.2	2580.0	1470.0 - 3420.0	Pass
ERVE-1051	3/17/2014	U-233/234	1612.2 ± 162.0	1760.0	1160.0 - 2260.0	Pass
ERVE-1051	3/17/2014	U-238	1574.3 ± 159.6	1750.0	1170.0 - 2220.0	Pass
ERVE-1051	3/17/2014	Uranium	3255.4 ± 356.7	3580.0	2430.0 - 4460.0	Pass
ERVE-1051	3/17/2014	Zn-65	1124.1 ± 101.2	919.0	663.0 - 1290.0	Pass
ERW-1054	3/17/2014	Am-241	104.6 ± 3.4	114.0	76.8 - 153.0	Pass
ERW-1054	3/17/2014	Co-60	1195.2 ± 18.9	1270.0	1100.0 - 1490.0	Pass
ERW-1054	3/17/2014	Cs-134	1474.9 ± 47.5	1660.0	1220.0 - 1910.0	Pass
ERW-1054	3/17/2014	Cs-137	2591.0 ± 23.4	2690.0	2280.0 - 3220.0	Pass
ERW-1054	3/17/2014	Mn-54	< 4.3	0.0	NA	Pass
ERW-1054	3/17/2014	Pu-238	54.1 ± 3.6	44.1	32.6 - 54.9	Pass
ERW-1054	3/17/2014	Pu-239/240	185.9 ± 17.6	160.0	124.0 - 202.0	Pass
ERW-1054	3/17/2014	U-233/234	74.8 ± 6.3	82.4	61.9 - 106.0	Pass
ERW-1054	3/17/2014	U-238	76.4 ± 7.8	81.8	62.4 - 100.0	Pass
ERW-1054	3/17/2014	Uranium	154.3 ± 14.6	168.0	123.0 - 217.0	Pass
ERW-1054	3/17/2014	Zn-65	1818.5 ± 56.4	1800.0	1500.0 - 2270.0	Pass
ERW-1055 [f]	3/17/2014	Fe-55	636.3 ± 176.0	1200.0	716.0 - 1630.0	Fail
ERW-1055	3/17/2014	Gr. Alpha	120.9 ± 3.5	133.0	47.2 - 206.0	Pass
ERW-1055	3/17/2014	Gr. Beta	141.6 ± 2.3	174.0	99.6 - 258.0	Pass
ERW-1055	3/17/2014	Sr-90	873.9 ± 56.9	890.0	580.0 - 1180.0	Pass
ERW-1060	3/17/2014	H-3	5818.0 ± 230.0	5580.0	3740.0 - 7960.0	Pass

[a] Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the crosscheck program for proficiency testing administered by Environmental Resources Associates, serving as a replacement for studies conducted previously by the Environmental Measurements Laboratory Quality Assessment Program (EML).

[b] Laboratory codes as follows: ERW (water), ERAP (air filter), ERSO (soil), ERVE (vegetation). Results are reported in units of pCi/L, except for air filters (pCi/Filter), vegetation and soil (pCi/kg).

[c] Unless otherwise indicated, the laboratory result is given as the mean ± standard deviation for three determinations.

[d] Results are presented as the known values, expected laboratory precision (1 sigma, 1 determination) and control limits as provided by ERA. A known value of "zero" indicates an analysis was included in the testing series as a "false positive". Control limits are not provided.

[e] The high bias on the plutonium crosscheck samples was traced to contamination from a newly purchased standard. The results of reanalysis with replacement tracer purchased from NIST:

ERSO-1050	Pu-238	634.7 ± 98.50	Bq / kg
ERSO-1050	Pu-239/240	451.8 ± 82.80	Bq / kg

[f] An error in the efficiency calculation was found. The result of recalculation was 932 pCi/L. The sample was repeated, result of reanalysis, 1066 pCi/L.

APPENDIX B. DATA REPORTING CONVENTIONS

Data Reporting Conventions

1.0. All activities, except gross alpha and gross beta, are decay corrected to collection time or the end of the collection period.

2.0. Single Measurements

Each single measurement is reported as follows: $x \pm s$

where: x = value of the measurement;

$s = 2\sigma$ counting uncertainty (corresponding to the 95% confidence level).

In cases where the activity is less than the lower limit of detection L, it is reported as: < L, where L = the lower limit of detection based on 4.66σ uncertainty for a background sample.

3.0. Duplicate analyses

If duplicate analyses are reported, the convention is as follows. :

3.1 Individual results: For two analysis results; $x_1 \pm s_1$ and $x_2 \pm s_2$

Reported result: $x \pm s$; where $x = (1/2)(x_1 + x_2)$ and $s = (1/2)\sqrt{s_1^2 + s_2^2}$

3.2. Individual results: $< L_1$, $< L_2$ Reported result: < L, where L = lower of L_1 and L_2

3.3. Individual results: $x \pm s$, < L Reported result: $x \pm s$ if $x \geq L$; < L otherwise.

4.0. Computation of Averages and Standard Deviations

4.1 Averages and standard deviations listed in the tables are computed from all of the individual measurements over the period averaged; for example, an annual standard deviation would not be the average of quarterly standard deviations. The average $\bar{x}$ and standard deviation "s" of a set of n numbers $x_1, x_2 \ldots x_n$ are defined as follows:

$$\bar{x} = \frac{1}{n} \sum x \qquad s = \sqrt{\frac{\sum (x - \bar{x})^2}{n-1}}$$

4.2 Values below the highest lower limit of detection are not included in the average.

4.3 If all values in the averaging group are less than the highest LLD, the highest LLD is reported.

4.4 If all but one of the values are less than the highest LLD, the single value x and associated two sigma error is reported.

4.5 In rounding off, the following rules are followed:

4.5.1. If the number following those to be retained is less than 5, the number is dropped, and the retained numbers are kept unchanged. As an example, 11.443 is rounded off to 11.44.

4.5.2. If the number following those to be retained is equal to or greater than 5, the number is dropped and the last retained number is raised by 1. As an example, 11.445 is rounded off to 11.45.

Appendix C. NON-RADIOLOGICAL MONITORING PROGRAM

1.0. Introduction

Union Electric Company Callaway Plant, d.b.a. Ameren Missouri Callaway Energy Center, in accordance with federal regulations and a desire to maintain the quality of the local environment around Callaway Plant has implemented an Environmental Protection Plan, (EPP) contained in Appendix B of the Callaway Plant Operating License.

The objective of the EPP is to provide for protection of non-radiological environmental values during operation of the Callaway Plant.

This report describes the conduct of the EPP for the Callaway Plant during 2014.

2.0. Unusual or Important Events

No unusual or important events reportable under the EPP Section 4.1 were identified during 2014.

3.0. EPP Non-compliances

During 2014, there were no non-compliances with the EPP.

4.0. Nonroutine Reports

There were no nonroutine reports submitted in accordance with the EPP, Section 5.4.2 in 2014.

5.0. Plant Design and Operation Environmental Evaluations.

This section lists all changes in the plant design, operation, tests or experiments installed during 2014, which could have involved a potentially significant unreviewed environmental question in accordance with section 3.1 of Appendix B.

During 2014, four plant changes could have involved a potentially significant unreviewed environmental question. The interpretations and conclusions regarding these plant changes along with a description of the change and activity are presented below.

MP 13-0006, MP 13-0009, MP 13-0018 – Construction of the ISFSI Facility Including Excavation, Site Preparation, & Backfill

Description of Change:

Modifications MP 13-0006, MP 13-0009, and MP 13-0018 include excavation, site preparation and backfill of the existing Unit 2 excavation area for installation of an Independent Spent Fuel Storage Installation (ISFSI) facility for spent fuel dry cask storage at Callaway Plant. Holtec International is the contractor for the design and construction of this underground dry cask storage facility. This project includes several Design Change Modification Packages. MP 13-0006 includes the excavation, site preparation and backfill, MP 13-0009 covers the underground storage system HI-STORM UMAX system and concrete pad, and MP 13-0018 includes construction of the heavy haul path from the fuel building.

Major construction activities for this project include:

1) Construction of a heavy equipment haul access road between the Unit 2 excavation area and the site spoils area and “Borrow Area” located just outside of the Owner Controlled Area (OCA) south of the power block

2) Removal of the soft solids down to glacial till at the base of the construction area (Unit 2 excavation area) by mucking out with transport to the permanent spoils placement area

3) Backfill of the excavation with clay removed from the site “Borrow Area” and engineered fill material

4) Construction of an underground water collection network and sump at the base of the excavation to allow intermittent pump out of rainwater to a current NPDES Outfall #010 storm water conveyance as needed

5) Construction of a heavy haul path approximately 24 feet wide from the fuel building rollup door to the new ISFSI facility

6) Construction of the ISFSI support building to be located at the north end of the Unit 2 excavation area

7) Construction of the first concrete pad (approximately 158' by 109') which will contain 48 (8 by 6) in-ground concrete storage compartments to accommodate 48 storage containers with a capacity of 37 fuel assemblies per canister. This design will allow for future construction of two additional concrete pads/storage facilities of similar size to accommodate fuel discharged through the end of plant life if needed.

8) Modification of the security fence including foundations for the new protected area security boundary fences, intrusion detection system, vehicle barriers, and lights and cameras.

Evaluation of Change:

As part of the Final Environmental Evaluation, both the ER and FES-OL were reviewed for any previously evaluated adverse environmental impacts and any adverse environmental impacts not previously evaluated. No adverse environmental impacts were identified. All construction was completed in an area that was previously disturbed during initial plant construction and the ISFSI is located within the OCA. This change does not involve an un-reviewed environmental question. Therefore, NRC approval is not required for this portion of the construction project. However, Ameren use of Generic License ISFSI provisions of Part 72 requires prior NRC approval of the Certificate of Compliance No. 1040 application submitted by Holtec for approval of the HI-STORM UMAX and related MPC-37. The UMAX design was approved by NRC and listed in the Federal Register on March 6, 2015 (effective date April 6, 2015). In addition, a Land Disturbance Permit was required and obtained from the Missouri Department of Natural Resources for the removal and transfer of sediment in the Unit 2 excavation to the spoils area and for transfer of backfill material from plant "Borrow Area" located outside of the OCA to the Unit 2 excavation area. Storm water runoff from these areas outside of the OCA was managed under a new Storm Water Pollution Prevention Plan using best management practices to prevent solids runoff during excavation and settlement movement.

MP 13-0036 – Construction of the New Reactor Head Storage Building

Description of Change:

MP 13-0036 covers the construction of a new storage building located in the contractor parking lot near Stores 2 to temporarily house the new reactor vessel head. Land disturbance for this project included minor work for the construction of a 60' by 80' reinforced concrete building foundation and excavation for a trench 6' wide and 4' deep to connect nearby fire water piping, water piping, and electrical conduit.

Evaluation of Change:

As part of the Final Environmental Evaluation, both the ER and FES-OL were reviewed for any previously evaluated adverse environmental impacts and any adverse environmental impacts not previously evaluated. No adverse environmental impacts were identified. This change does not involve an un-reviewed environmental question. The new building was constructed in an

area that was previously disturbed during the construction of Callaway Unit 1 and is located on Callaway plant property. All storm water runoff from this area flows to one of two permitted construction settling ponds included in the current NPDES Permit (NPDES Permitted Outfalls #12 and #14). Therefore, no additional state permits or approvals were required for this construction.

MP 13-0031 – Soil Preparation for the Fukushima Hardened Storage Facility Foundation

Description of Change:

Modification MP 13-0031 includes only the soil preparation and rock disturbance for the foundation work for the Hardened Storage Facility located at the north end of the Unit 2 excavation area.

Evaluation of Change:

As part of the Final Environmental Evaluation, both the ER and FES-OL were reviewed for any previously evaluated adverse environmental impacts and any adverse environmental impacts not previously evaluated. No adverse environmental impacts were identified. Missouri DNR approval or permits were not required. This modification was completed with no adverse environmental impacts as this area was previously disturbed during plant construction and recently disturbed to construct the ISFSI facility located in the same Unit 2 excavation area and within the OCA. Storm water runoff was routed to current NPDES permitted storm water ponds.

This evaluation concluded that this modification does not involve an un-reviewed environmental question.

MP 13-0031, MP 14-0015, MP 14-0016, MP 14-0017 – Fukushima Hardened Storage Facility Construction (Rev. 1)

Description of Change:

This final environmental evaluation covered the overall construction of the Hardened Storage Facility. This new building will permanently store additional emergency response equipment required to respond to a beyond design basis external event (BDBEE) accident. The hardened storage facility is located at the north end of the Unit 2 excavation area and within the OCA. This area was previously disturbed during plant construction and recently disturbed to begin foundation and backfill work for the ISFSI project. The building foundation is approximately 120’ by 60’ with precast concrete wall panels set on a concrete footer 4’ by 6’, a 2 foot concrete foundation slab and a roof slab also 2 feet thick. Storm water flow in this area is collected and pumped to a NPDES permitted outfall (Outfall 010).

Evaluation of Change:

As part of the Final Environmental Evaluation, both the ER and FES-OL were reviewed for any previously evaluated adverse environmental impacts and any adverse environmental impacts not previously evaluated. No adverse environmental impacts were identified. Missouri DNR approval or permits were not required. This modification was completed with no adverse environmental impacts as this area was previously disturbed during plant construction. Storm water runoff from this area was routed to a current NPDES permitted storm water pond.

This evaluation concluded that this modification does not involve an un-reviewed environmental question.

APPENDIX D

Sampling Location Maps

Figure D-1. REMP Sampling Locations for Air, Drinking Well Water, Milk and Edible Vegetation, Non-Food Crops, Soil, Fish, Sediment and Surface Water

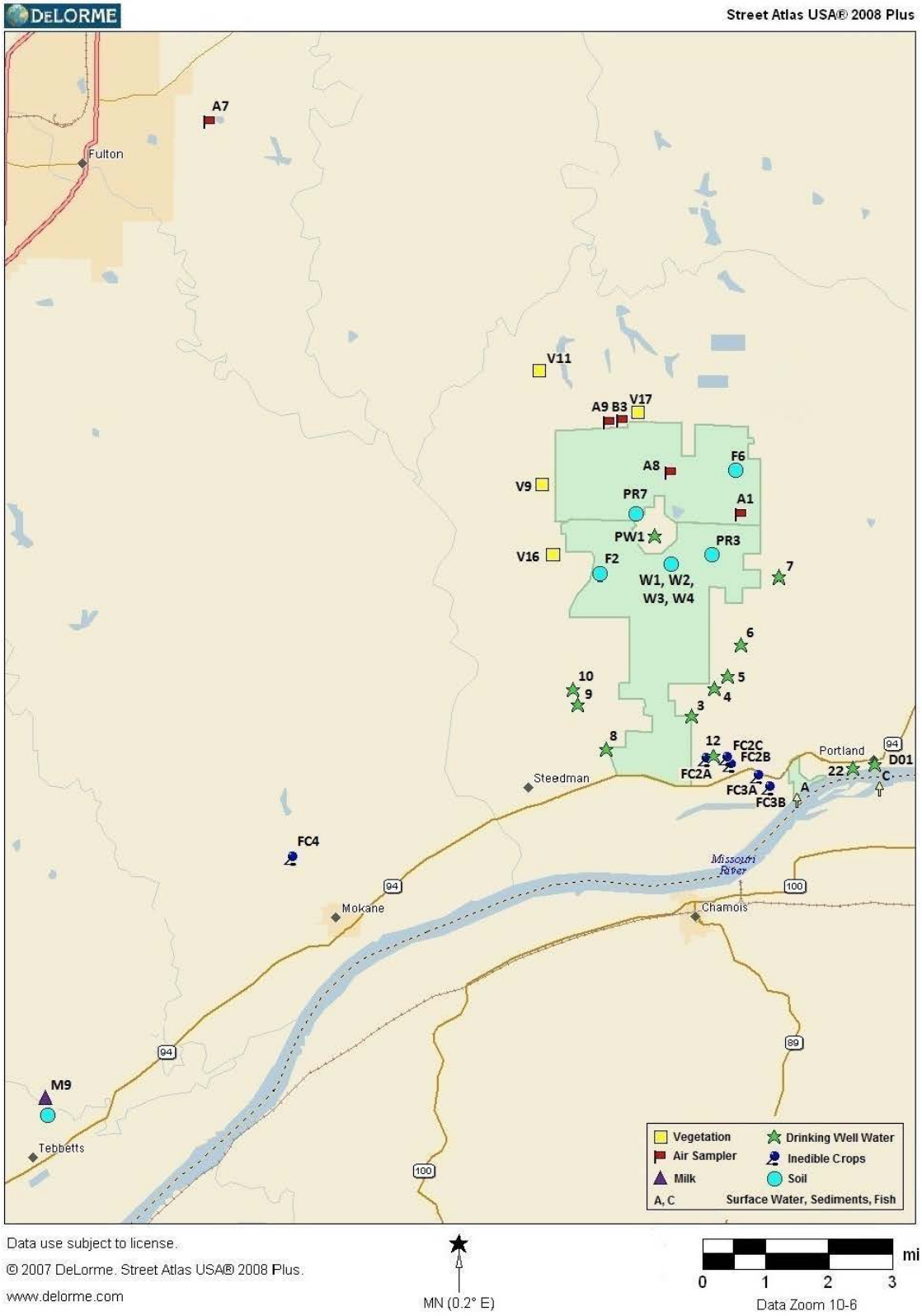


Figure D-.2a. Direct Radiation Monitoring Stations, Inner Ring Locations.

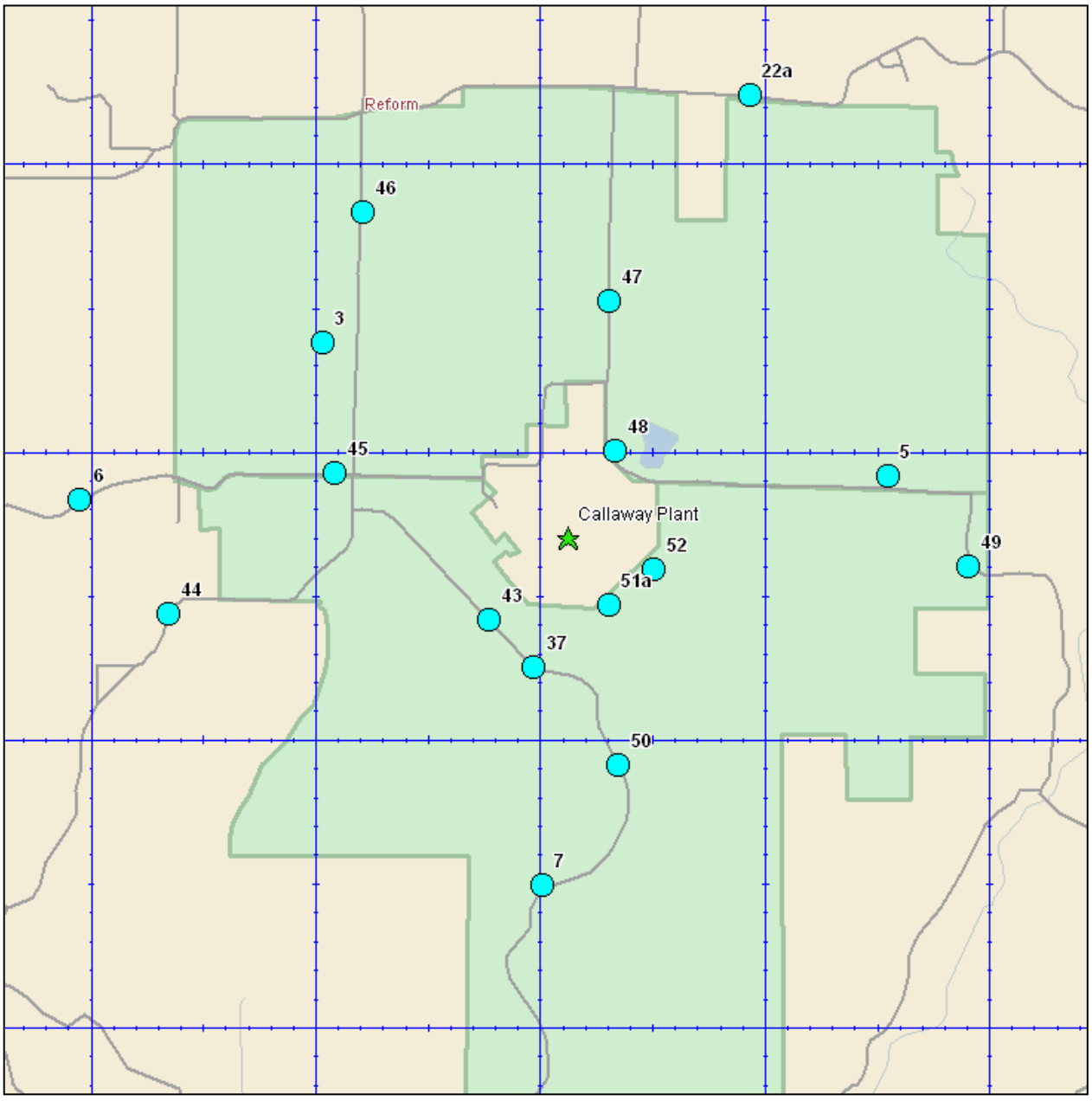


Figure D-2b. Direct Radiation Monitoring, Outer Ring and Special Interest Locations.

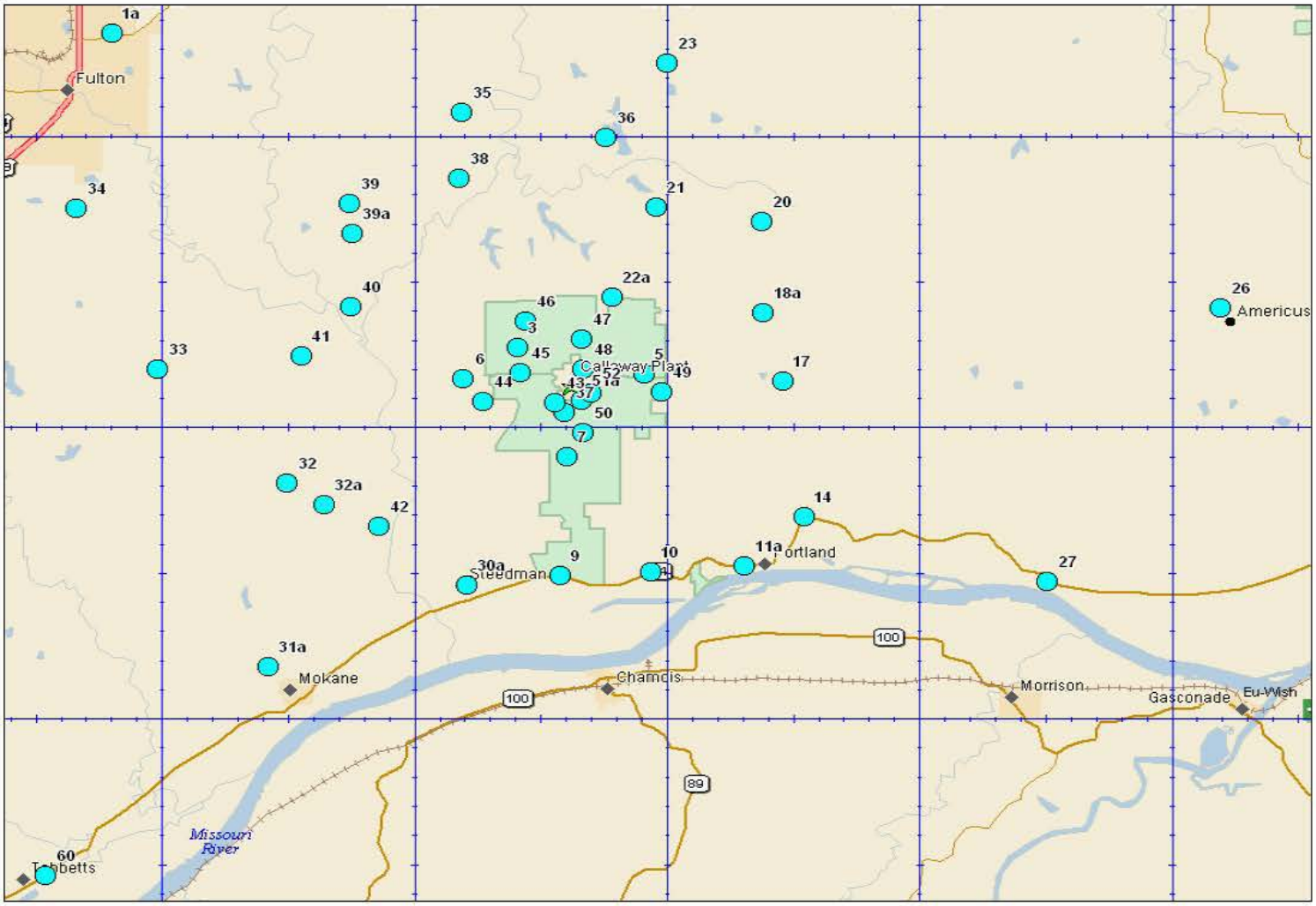
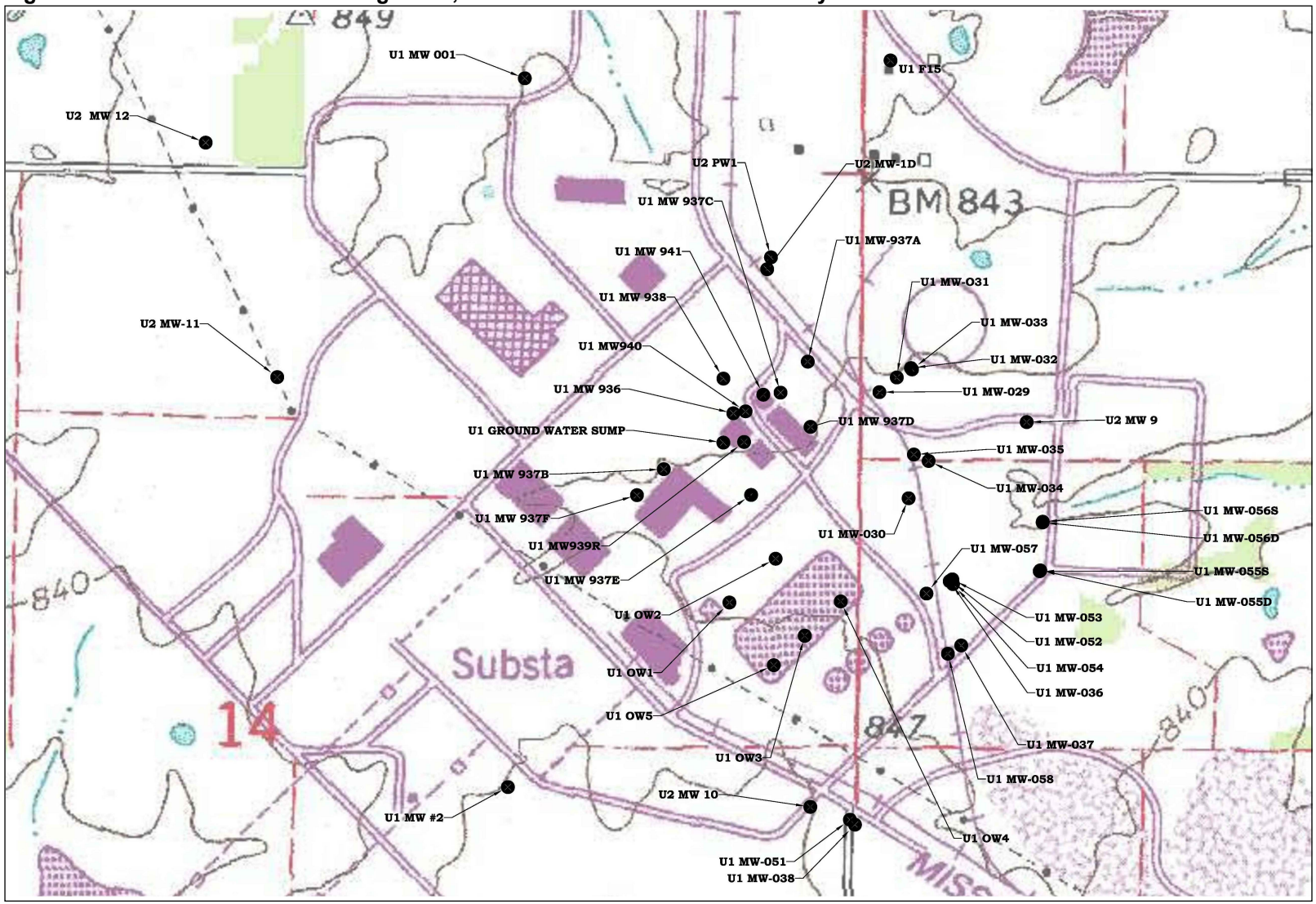


Figure D-3a. Groundwater Monitoring Wells, Owner Controlled Area and Vicinity.



Note: Not all wells shown are included in the REMP. Refer to Table 5.1 for a listing of monitored wells.

Figure D-3b. Groundwater Monitoring Wells, Northern Area.

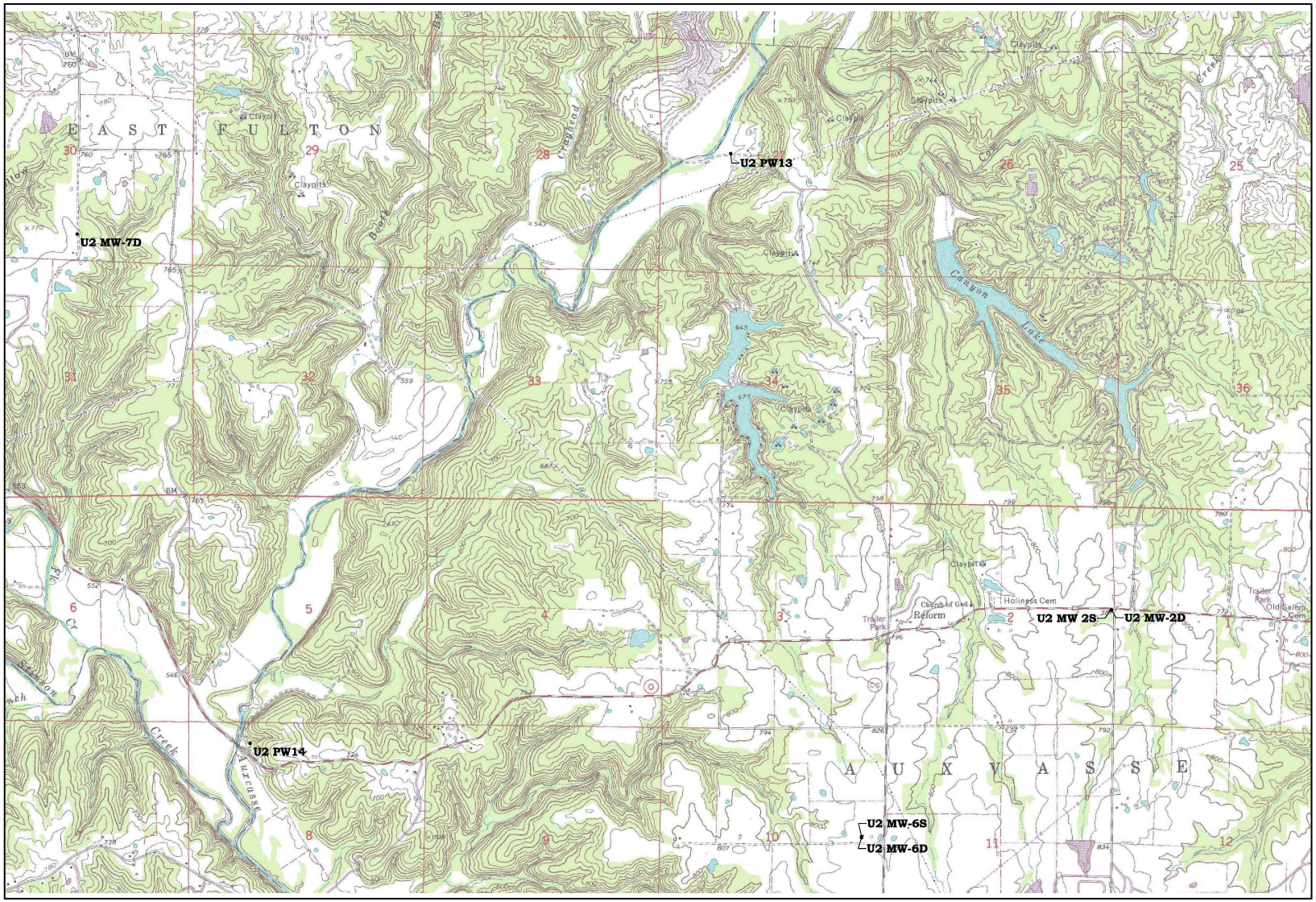


Figure D-3c. Groundwater Monitoring Wells, Central Area.

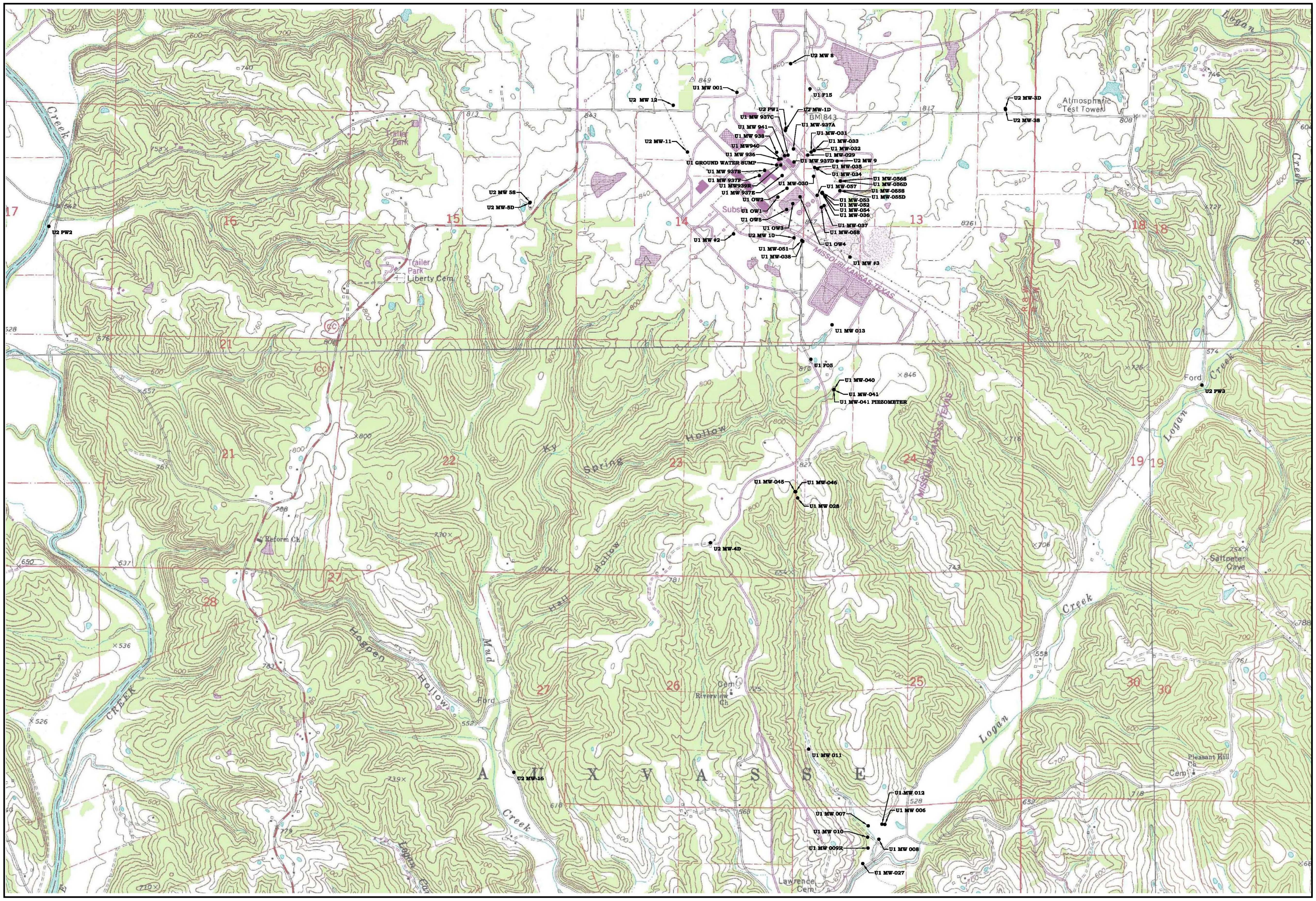


Figure D-3d. Groundwater Monitoring Wells, Alluvial Area.

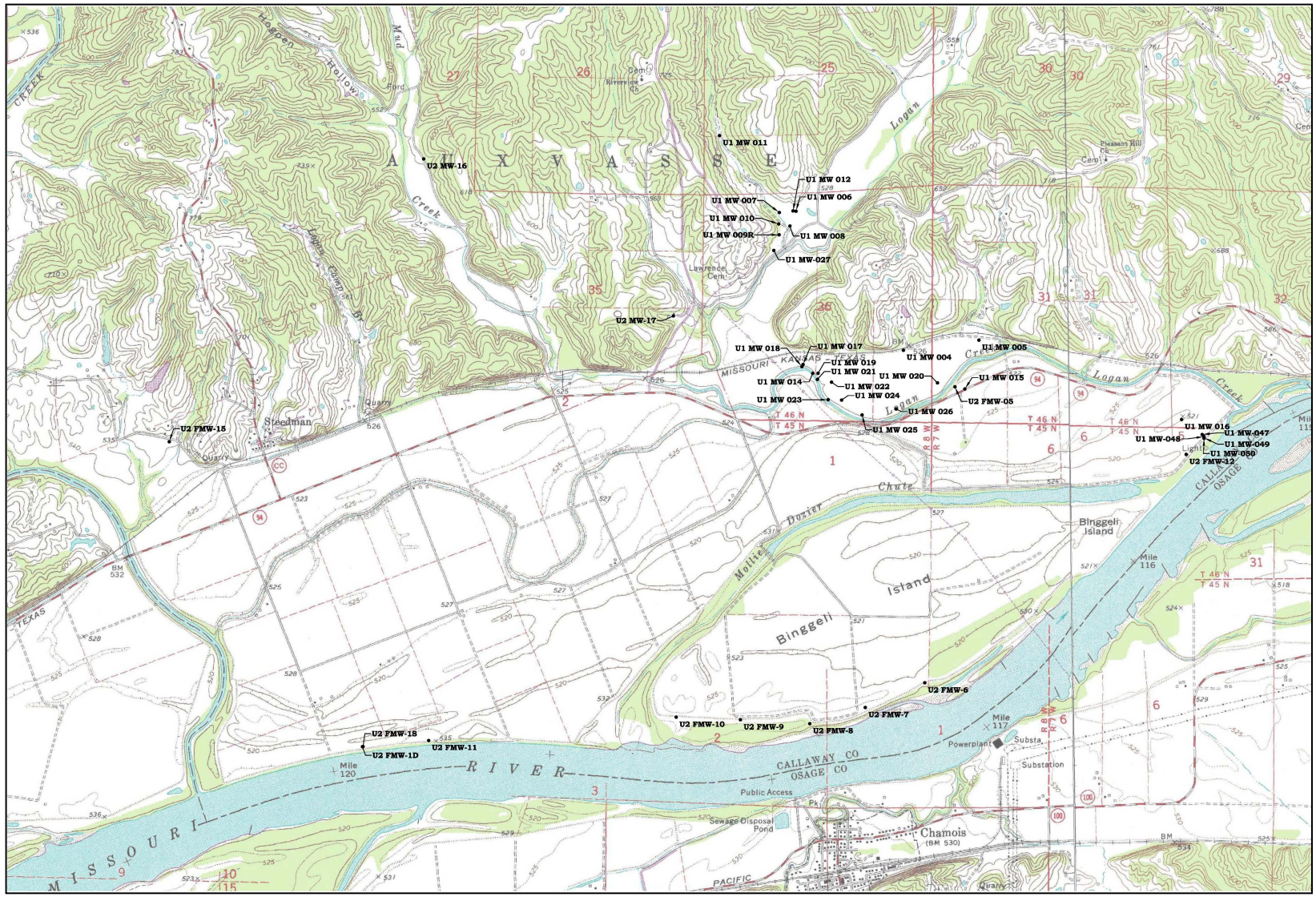
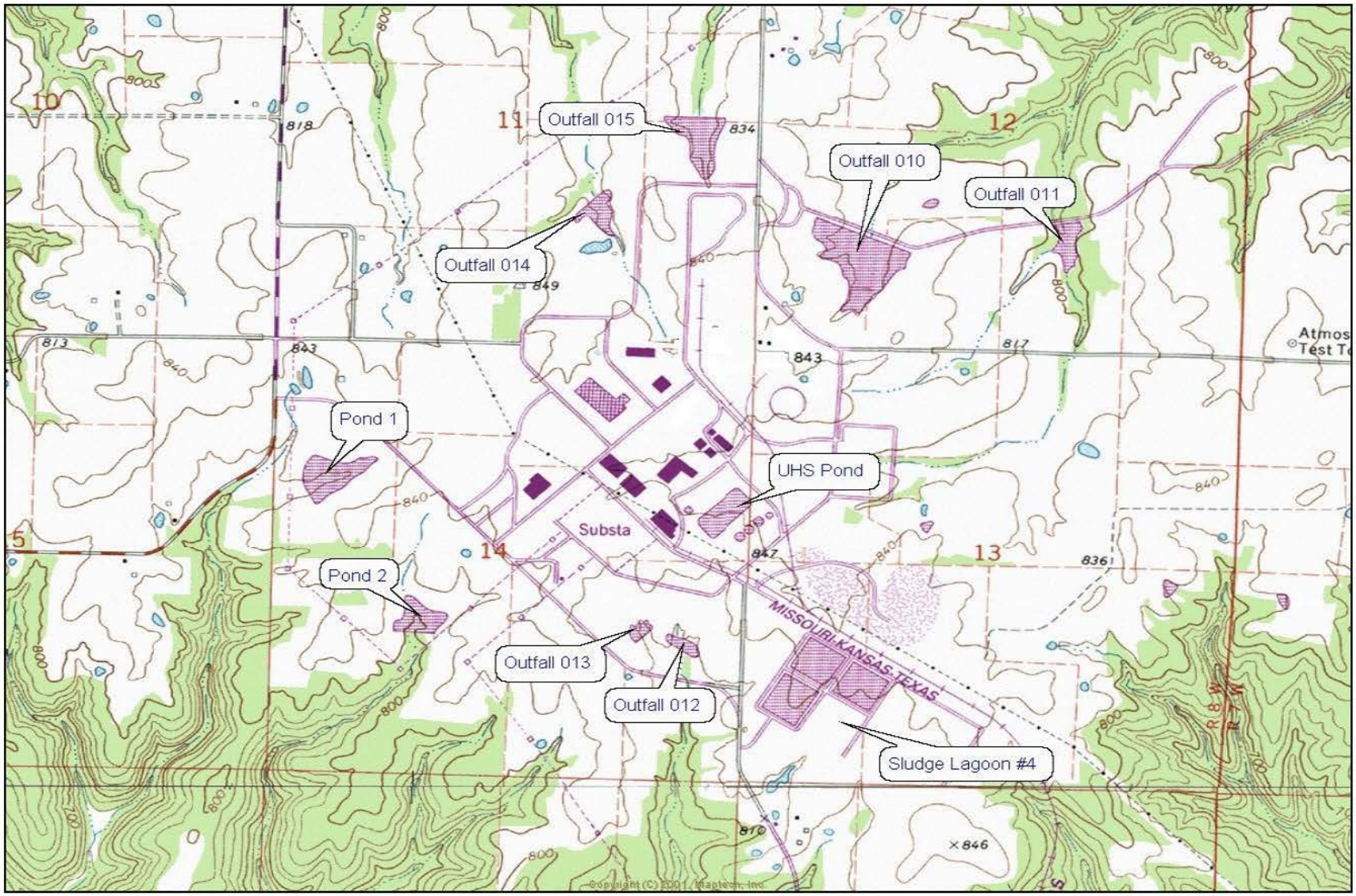


Figure D-3e. Pond sampling locations



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AMEREN MISSOURI,
CALLAWAY ENERGY CENTER
FULTON, MISSOURI
DOCKET NO. 50-483

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM (REMP)

ANNUAL REPORT - PART II
DATA TABULATIONS AND ANALYSES

January 1 to December 31, 2014

Prepared by

ENVIRONMENTAL, Inc.
Midwest Laboratory

Submitted by

Union Electric Co.
dba Ameren Missouri

Project No. 8036

Approved : _____

Bronia Grob, M.S.
Laboratory Manager

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LIST OF TABLES

1.0 INTRODUCTION

The following constitutes a supplement to the Annual Report for the Radiological Environmental Monitoring Program conducted at the Ameren Missouri, Callaway Energy Center, Fulton, Missouri in 2014. Results of completed analyses are presented in the attached tables.

For information regarding sampling locations, type and frequency of collection, and sample codes, refer to Part I, Tables 5.1 - 5.2 and Figures 5.1 through 5.8.

Analyses results from additional sampling may be found in Appendix A.

2.0 DATA TABLES

Table 1. Air particulates and charcoal cartridges, analyses for gamma-emitting isotopes and I-131[a].

Collection: Continuous, weekly exchange.

Units: pCi/m^3

Location		CA-A-001							
		^{7}Be	^{58}Co	^{60}Co	^{95}Zr	^{134}Cs	^{137}Cs	^{140}BaLa	^{144}Ce
Required LLDs		-	-	-	-	0.050	0.060	-	-
Date Collected	Vol.								
01-09-14	275	< 0.10	< 0.008	< 0.007	< 0.019	< 0.008	< 0.007	< 0.009	< 0.030
01-16-14	276	< 0.07	< 0.004	< 0.003	< 0.008	< 0.009	< 0.005	< 0.007	< 0.044
01-23-14	261	< 0.09	< 0.013	< 0.006	< 0.009	< 0.011	< 0.006	< 0.009	< 0.026
01-30-14	263	0.21 ± 0.10	< 0.009	< 0.006	< 0.014	< 0.009	< 0.006	< 0.007	< 0.047
02-06-14	263	< 0.08	< 0.006	< 0.006	< 0.010	< 0.008	< 0.006	< 0.007	< 0.050
02-13-14	265	< 0.11	< 0.010	< 0.009	< 0.017	< 0.010	< 0.008	< 0.015	< 0.050
02-20-14	259	< 0.11	< 0.010	< 0.004	< 0.012	< 0.010	< 0.006	< 0.030	< 0.034
02-27-14	257	< 0.10	< 0.006	< 0.005	< 0.012	< 0.010	< 0.008	< 0.009	< 0.030
03-06-14	270	0.17 ± 0.07	< 0.009	< 0.005	< 0.007	< 0.010	< 0.006	< 0.009	< 0.049
03-14-14	326	< 0.10	< 0.010	< 0.008	< 0.012	< 0.009	< 0.008	< 0.007	< 0.034
03-18-14	240	0.17 ± 0.10	< 0.008	< 0.006	< 0.013	< 0.009	< 0.005	< 0.011	< 0.036
03-27-14	284	0.15 ± 0.07	< 0.004	< 0.009	< 0.009	< 0.008	< 0.005	< 0.009	< 0.041
04-03-14	245	< 0.11	< 0.012	< 0.010	< 0.011	< 0.012	< 0.008	< 0.010	< 0.042
04-10-14	289	0.18 ± 0.09	< 0.008	< 0.007	< 0.012	< 0.008	< 0.006	< 0.005	< 0.040
04-17-14	262	0.25 ± 0.08	< 0.008	< 0.006	< 0.013	< 0.010	< 0.011	< 0.009	< 0.049
04-24-14	270	0.26 ± 0.11	< 0.007	< 0.009	< 0.009	< 0.009	< 0.010	< 0.027	< 0.030
05-01-14	262	< 0.12	< 0.005	< 0.008	< 0.013	< 0.009	< 0.005	< 0.013	< 0.059
05-08-14	276	0.12 ± 0.07	< 0.008	< 0.007	< 0.009	< 0.008	< 0.004	< 0.010	< 0.040
05-15-14	262	< 0.09	< 0.006	< 0.008	< 0.006	< 0.008	< 0.007	< 0.012	< 0.037
05-22-14	261	0.16 ± 0.08	< 0.005	< 0.008	< 0.010	< 0.008	< 0.008	< 0.008	< 0.031
05-29-14	267	0.19 ± 0.09	< 0.005	< 0.010	< 0.010	< 0.010	< 0.007	< 0.010	< 0.036
06-05-14	260	0.21 ± 0.11	< 0.009	< 0.014	< 0.019	< 0.009	< 0.005	< 0.010	< 0.049
06-12-14	285	< 0.08	< 0.010	< 0.008	< 0.007	< 0.009	< 0.006	< 0.007	< 0.032
06-18-14	224	< 0.14	< 0.007	< 0.009	< 0.006	< 0.008	< 0.006	< 0.027	< 0.041
06-25-14	299	0.18 ± 0.10	< 0.009	< 0.007	< 0.016	< 0.008	< 0.007	< 0.009	< 0.029
07-03-14	272	< 0.11	< 0.004	< 0.009	< 0.012	< 0.010	< 0.008	< 0.028	< 0.038
07-09-14	244	0.24 ± 0.14	< 0.006	< 0.009	< 0.018	< 0.009	< 0.010	< 0.022	< 0.050
07-17-14	317	< 0.10	< 0.004	< 0.008	< 0.014	< 0.009	< 0.008	< 0.018	< 0.043
07-24-14	283	0.17 ± 0.09	< 0.006	< 0.010	< 0.021	< 0.010	< 0.007	< 0.031	< 0.043
07-31-14	298	0.19 ± 0.10	< 0.007	< 0.007	< 0.023	< 0.009	< 0.005	< 0.015	< 0.034
08-07-14	276	0.26 ± 0.14	< 0.011	< 0.009	< 0.013	< 0.009	< 0.005	< 0.030	< 0.044
08-14-14	289	< 0.13	< 0.008	< 0.009	< 0.015	< 0.010	< 0.006	< 0.029	< 0.039
08-20-14	245	< 0.12	< 0.006	< 0.011	< 0.023	< 0.011	< 0.013	< 0.023	< 0.049
08-27-14	286	< 0.10	< 0.007	< 0.007	< 0.019	< 0.009	< 0.008	< 0.014	< 0.028
09-04-14	328	0.12 ± 0.07	< 0.009	< 0.007	< 0.018	< 0.008	< 0.005	< 0.009	< 0.037
09-11-14	291	< 0.10	< 0.006	< 0.007	< 0.016	< 0.007	< 0.008	< 0.021	< 0.043
09-18-14	302	< 0.07	< 0.008	< 0.009	< 0.011	< 0.008	< 0.007	< 0.017	< 0.041
09-25-14	302	0.17 ± 0.10	< 0.004	< 0.008	< 0.008	< 0.010	< 0.005	< 0.015	< 0.040
10-02-14	295	< 0.09	< 0.006	< 0.012	< 0.013	< 0.007	< 0.008	< 0.010	< 0.036
10-09-14	296	< 0.10	< 0.008	< 0.004	< 0.018	< 0.008	< 0.005	< 0.030	< 0.051
10-16-14	306	< 0.10	< 0.006	< 0.008	< 0.010	< 0.008	< 0.006	< 0.025	< 0.044

[a] Iodine-131 concentrations are < 0.07 pCi/m^3 unless noted otherwise.

Table 1. Air particulates and charcoal cartridges, analyses for gamma-emitting isotopes and I-131[a].

Collection: Continuous, weekly exchange.

Units: pCi/m^3

Location		CA-A-001 (cont.)							
		^{7}Be	^{58}Co	^{60}Co	^{95}Zr	^{134}Cs	^{137}Cs	$^{140}BaLa$	^{144}Ce
Required LLDs		-	-	-	-	0.050	0.060	-	-
Date Collected	Vol.								
10-23-14	302	< 0.08	< 0.008	< 0.008	< 0.018	< 0.008	< 0.005	< 0.018	< 0.041
10-30-14	301	0.18 ± 0.09	< 0.007	< 0.003	< 0.013	< 0.008	< 0.008	< 0.014	< 0.039
11-06-14	314	< 0.09	< 0.008	< 0.006	< 0.012	< 0.007	< 0.008	< 0.026	< 0.040
11-13-14	303	< 0.11	< 0.011	< 0.006	< 0.006	< 0.007	< 0.006	< 0.020	< 0.041
11-20-14	310	< 0.09	< 0.005	< 0.008	< 0.012	< 0.008	< 0.005	< 0.031	< 0.033
11-26-14	265	< 0.11	< 0.006	< 0.004	< 0.010	< 0.009	< 0.010	< 0.020	< 0.055
12-04-14	361	< 0.07	< 0.004	< 0.007	< 0.008	< 0.006	< 0.004	< 0.021	< 0.023
12-11-14	321	< 0.08	< 0.005	< 0.008	< 0.012	< 0.006	< 0.004	< 0.016	< 0.049
12-18-14	309	< 0.09	< 0.005	< 0.009	< 0.012	< 0.006	< 0.005	< 0.012	< 0.024
12-26-14	353	< 0.06	< 0.007	< 0.004	< 0.007	< 0.006	< 0.005	< 0.006	< 0.021
12-31-14	220	< 0.11	< 0.009	< 0.008	< 0.015	< 0.012	< 0.011	< 0.014	< 0.038

[a] Iodine-131 concentrations are < 0.07 pCi/m^3 unless noted otherwise.

Table 1. Air particulates and charcoal cartridges, analyses for gamma-emitting isotopes and I-131[a].

Collection: Continuous, weekly exchange.

Units: pCi/m^3

Location		CA-A-007							
		^{7}Be	^{58}Co	^{60}Co	^{95}Zr	^{134}Cs	^{137}Cs	$^{140}BaLa$	^{144}Ce
Required LLDs		-	-	-	-	0.050	0.060	-	-
Date Collected	Vol.								
01-09-14	277	0.22 ± 0.10	< 0.005	< 0.005	< 0.014	< 0.010	< 0.006	< 0.006	< 0.043
01-16-14	289	0.11 ± 0.06	< 0.008	< 0.005	< 0.012	< 0.010	< 0.004	< 0.007	< 0.041
01-23-14	278	0.22 ± 0.09	< 0.006	< 0.006	< 0.010	< 0.007	< 0.007	< 0.009	< 0.040
01-30-14	273	< 0.09	< 0.009	< 0.008	< 0.020	< 0.009	< 0.006	< 0.010	< 0.055
02-06-14	276	< 0.09	< 0.007	< 0.005	< 0.008	< 0.011	< 0.008	< 0.007	< 0.028
02-13-14	280	< 0.11	< 0.007	< 0.005	< 0.020	< 0.008	< 0.008	< 0.015	< 0.043
02-20-14	279	0.23 ± 0.09	< 0.005	< 0.005	< 0.011	< 0.007	< 0.006	< 0.009	< 0.038
02-27-14	282	< 0.11	< 0.010	< 0.010	< 0.019	< 0.010	< 0.010	< 0.025	< 0.045
03-06-14	280	< 0.08	< 0.006	< 0.004	< 0.008	< 0.007	< 0.006	< 0.006	< 0.031
03-14-14	327	0.15 ± 0.08	< 0.008	< 0.005	< 0.008	< 0.009	< 0.008	< 0.009	< 0.025
03-18-14	246	0.21 ± 0.10	< 0.005	< 0.005	< 0.015	< 0.008	< 0.005	< 0.007	< 0.037
03-27-14	282	0.17 ± 0.08	< 0.005	< 0.003	< 0.012	< 0.008	< 0.007	< 0.005	< 0.035
04-03-14	289	0.16 ± 0.09	< 0.008	< 0.008	< 0.010	< 0.009	< 0.008	< 0.009	< 0.053
04-10-14	283	< 0.08	< 0.006	< 0.006	< 0.014	< 0.009	< 0.007	< 0.008	< 0.029
04-17-14	281	0.20 ± 0.10	< 0.005	< 0.007	< 0.010	< 0.009	< 0.004	< 0.007	< 0.038
04-24-14	289	0.21 ± 0.10	< 0.010	< 0.007	< 0.014	< 0.009	< 0.009	< 0.014	< 0.047
05-01-14	284	< 0.11	< 0.010	< 0.009	< 0.020	< 0.008	< 0.009	< 0.014	< 0.040
05-08-14	289	0.30 ± 0.10	< 0.004	< 0.007	< 0.009	< 0.008	< 0.007	< 0.010	< 0.035
05-15-14	288	0.09 ± 0.06	< 0.008	< 0.007	< 0.016	< 0.008	< 0.008	< 0.009	< 0.030
05-22-14	288	< 0.10	< 0.005	< 0.007	< 0.006	< 0.008	< 0.004	< 0.007	< 0.021
05-29-14	284	0.13 ± 0.08	< 0.008	< 0.007	< 0.007	< 0.007	< 0.007	< 0.010	< 0.032
06-05-14	288	< 0.11	< 0.010	< 0.009	< 0.008	< 0.007	< 0.006	< 0.014	< 0.035
06-12-14	283	< 0.10	< 0.003	< 0.008	< 0.006	< 0.007	< 0.007	< 0.013	< 0.045
06-18-14	250	< 0.12	< 0.007	< 0.008	< 0.009	< 0.010	< 0.010	< 0.025	< 0.054
06-25-14	333	< 0.09	< 0.006	< 0.008	< 0.014	< 0.007	< 0.007	< 0.006	< 0.029
07-03-14	269	< 0.11	< 0.007	< 0.008	< 0.018	< 0.009	< 0.009	< 0.021	< 0.052
07-09-14	234	< 0.12	< 0.012	< 0.008	< 0.016	< 0.009	< 0.005	< 0.036	< 0.060
07-17-14	316	0.15 ± 0.09	< 0.005	< 0.008	< 0.009	< 0.007	< 0.004	< 0.020	< 0.046
07-24-14	274	0.18 ± 0.10	< 0.005	< 0.007	< 0.012	< 0.008	< 0.007	< 0.019	< 0.045
07-31-14	274	< 0.12	< 0.012	< 0.010	< 0.020	< 0.008	< 0.007	< 0.027	< 0.037
08-07-14	262	< 0.12	< 0.009	< 0.008	< 0.010	< 0.008	< 0.004	< 0.018	< 0.026
08-14-14	277	< 0.13	< 0.013	< 0.013	< 0.025	< 0.012	< 0.007	< 0.051	< 0.049
08-20-14	234	< 0.12	< 0.013	< 0.008	< 0.017	< 0.009	< 0.006	< 0.024	< 0.049
08-27-14	275	0.19 ± 0.10	< 0.006	< 0.009	< 0.010	< 0.006	< 0.006	< 0.028	< 0.052
09-04-14	317	0.19 ± 0.10	< 0.007	< 0.008	< 0.010	< 0.008	< 0.007	< 0.019	< 0.034
09-11-14	280	< 0.09	< 0.008	< 0.008	< 0.011	< 0.008	< 0.007	< 0.016	< 0.030
09-18-14	284	0.16 ± 0.09	< 0.005	< 0.009	< 0.010	< 0.009	< 0.007	< 0.019	< 0.049
09-25-14	282	< 0.09	< 0.007	< 0.010	< 0.010	< 0.010	< 0.009	< 0.015	< 0.034
10-02-14	277	0.16 ± 0.08	< 0.010	< 0.005	< 0.011	< 0.010	< 0.010	< 0.013	< 0.034
10-09-14	275	0.16 ± 0.08	< 0.008	< 0.005	< 0.023	< 0.010	< 0.007	< 0.037	< 0.059
10-16-14	284	< 0.13	< 0.005	< 0.010	< 0.009	< 0.009	< 0.006	< 0.027	< 0.025

[a] Iodine-131 concentrations are < 0.07 pCi/m^3 unless noted otherwise.

Table 1. Air particulates and charcoal cartridges, analyses for gamma-emitting isotopes and I-131[a].

Collection: Continuous, weekly exchange.

Units: pCi/m^3

Location		CA-A-007 (cont.)							
		^{7}Be	^{58}Co	^{60}Co	^{95}Zr	^{134}Cs	^{137}Cs	$^{140}BaLa$	^{144}Ce
Required LLDs		-	-	-	-	0.050	0.060	-	-
Date Collected	Vol.								
10-23-14	280	< 0.08	< 0.006	< 0.008	< 0.010	< 0.008	< 0.006	< 0.022	< 0.029
10-30-14	281	< 0.09	< 0.006	< 0.005	< 0.011	< 0.009	< 0.006	< 0.022	< 0.044
11-06-14	284	< 0.09	< 0.008	< 0.006	< 0.015	< 0.010	< 0.011	< 0.025	< 0.045
11-13-14	280	< 0.12	< 0.011	< 0.003	< 0.016	< 0.008	< 0.008	< 0.026	< 0.045
11-20-14	275	< 0.11	< 0.007	< 0.009	< 0.008	< 0.008	< 0.008	< 0.040	< 0.045
11-26-14	239	< 0.09	< 0.010	< 0.008	< 0.017	< 0.011	< 0.008	< 0.034	< 0.051
12-04-14	326	< 0.08	< 0.007	< 0.007	< 0.014	< 0.006	< 0.008	< 0.023	< 0.039
12-11-14	280	< 0.07	< 0.003	< 0.008	< 0.011	< 0.009	< 0.007	< 0.022	< 0.040
12-18-14	284	< 0.07	< 0.004	< 0.009	< 0.010	< 0.010	< 0.007	< 0.013	< 0.043
12-26-14	315	0.08 ± 0.04	< 0.002	< 0.005	< 0.011	< 0.006	< 0.006	< 0.005	< 0.030
12-31-14	199	< 0.11	< 0.010	< 0.010	< 0.017	< 0.010	< 0.006	< 0.012	< 0.058

[a] Iodine-131 concentrations are < 0.07 pCi/m^3 unless noted otherwise.

Table 1. Air particulates and charcoal cartridges, analyses for gamma-emitting isotopes and I-131[a].

Collection: Continuous, weekly exchange.

Units: pCi/m^3

Location		CA-A-008							
		^{7}Be	^{58}Co	^{60}Co	^{95}Zr	^{134}Cs	^{137}Cs	$^{140}BaLa$	^{144}Ce
Required LLDs		-	-	-	-	0.050	0.060	-	-
Date Collected	Vol.								
01-09-14	314	0.19 ± 0.11	< 0.006	< 0.003	< 0.011	< 0.009	< 0.005	< 0.010	< 0.029
01-16-14	303	0.14 ± 0.07	< 0.004	< 0.007	< 0.009	< 0.009	< 0.005	< 0.006	< 0.032
01-23-14	312	0.18 ± 0.08	< 0.004	< 0.004	< 0.008	< 0.008	< 0.007	< 0.011	< 0.033
01-30-14	311	0.28 ± 0.09	< 0.004	< 0.005	< 0.013	< 0.006	< 0.006	< 0.008	< 0.037
02-06-14	309	0.14 ± 0.08	< 0.006	< 0.003	< 0.011	< 0.009	< 0.004	< 0.007	< 0.039
02-13-14	313	0.11 ± 0.07	< 0.006	< 0.004	< 0.013	< 0.006	< 0.004	< 0.016	< 0.046
02-20-14	307	0.14 ± 0.08	< 0.005	< 0.003	< 0.008	< 0.009	< 0.007	< 0.011	< 0.037
02-27-14	310	0.15 ± 0.09	< 0.008	< 0.004	< 0.009	< 0.008	< 0.009	< 0.009	< 0.034
03-06-14	310	< 0.09	< 0.006	< 0.003	< 0.012	< 0.008	< 0.005	< 0.005	< 0.042
03-14-14	347	0.18 ± 0.10	< 0.006	< 0.005	< 0.011	< 0.008	< 0.007	< 0.006	< 0.045
03-18-14	262	0.13 ± 0.07	< 0.007	< 0.012	< 0.016	< 0.011	< 0.009	< 0.009	< 0.053
03-27-14	312	0.20 ± 0.09	< 0.005	< 0.007	< 0.010	< 0.008	< 0.006	< 0.008	< 0.041
04-03-14	310	0.18 ± 0.09	< 0.006	< 0.004	< 0.012	< 0.009	< 0.005	< 0.008	< 0.027
04-10-14	302	0.21 ± 0.09	< 0.006	< 0.007	< 0.008	< 0.008	< 0.006	< 0.007	< 0.048
04-17-14	302	0.24 ± 0.11	< 0.007	< 0.010	< 0.014	< 0.008	< 0.007	< 0.010	< 0.048
04-24-14	302	0.19 ± 0.10	< 0.007	< 0.006	< 0.009	< 0.009	< 0.007	< 0.015	< 0.045
05-01-14	302	0.16 ± 0.09	< 0.005	< 0.007	< 0.016	< 0.007	< 0.006	< 0.013	< 0.032
05-08-14	299	0.21 ± 0.09	< 0.004	< 0.007	< 0.010	< 0.009	< 0.006	< 0.009	< 0.025
05-15-14	300	< 0.08	< 0.003	< 0.007	< 0.004	< 0.006	< 0.006	< 0.009	< 0.036
05-22-14	304	0.16 ± 0.10	< 0.004	< 0.007	< 0.005	< 0.007	< 0.010	< 0.006	< 0.022
05-29-14	300	< 0.08	< 0.008	< 0.007	< 0.006	< 0.008	< 0.006	< 0.012	< 0.036
06-05-14	267	0.22 ± 0.12	< 0.006	< 0.014	< 0.023	< 0.013	< 0.007	< 0.020	< 0.051
06-12-14	293	< 0.11	< 0.003	< 0.007	< 0.004	< 0.009	< 0.007	< 0.013	< 0.022
06-18-14	251	0.24 ± 0.12	< 0.011	< 0.012	< 0.017	< 0.009	< 0.008	< 0.022	< 0.042
06-25-14	331	< 0.11	< 0.007	< 0.007	< 0.008	< 0.008	< 0.007	< 0.008	< 0.044
07-03-14	289	0.16 ± 0.10	< 0.007	< 0.010	< 0.008	< 0.009	< 0.005	< 0.015	< 0.026
07-09-14	211	< 0.16	< 0.009	< 0.011	< 0.017	< 0.013	< 0.011	< 0.043	< 0.055
07-17-14	269	< 0.13	< 0.005	< 0.007	< 0.009	< 0.010	< 0.005	< 0.021	< 0.025
07-24-14	238	< 0.15	< 0.010	< 0.009	< 0.014	< 0.010	< 0.011	< 0.054	< 0.064
07-31-14	245	< 0.12	< 0.006	< 0.008	< 0.012	< 0.012	< 0.007	< 0.016	< 0.049
08-07-14	227	0.18 ± 0.09	< 0.007	< 0.009	< 0.008	< 0.013	< 0.006	< 0.019	< 0.038
08-14-14	262	< 0.14	< 0.007	< 0.010	< 0.018	< 0.010	< 0.011	< 0.023	< 0.044
08-20-14	203	< 0.16	< 0.013	< 0.015	< 0.018	< 0.012	< 0.007	< 0.044	< 0.053
08-27-14	243	< 0.14	< 0.007	< 0.011	< 0.013	< 0.010	< 0.008	< 0.028	< 0.057
09-04-14	279	< 0.11	< 0.006	< 0.007	< 0.013	< 0.008	< 0.006	< 0.028	< 0.045
09-11-14	240	< 0.08	< 0.007	< 0.005	< 0.020	< 0.011	< 0.009	< 0.027	< 0.046
09-18-14	254	< 0.10	< 0.005	< 0.009	< 0.014	< 0.010	< 0.010	< 0.021	< 0.043
09-25-14	252	< 0.11	< 0.008	< 0.010	< 0.009	< 0.010	< 0.008	< 0.015	< 0.041
10-02-14	246	< 0.11	< 0.011	< 0.005	< 0.016	< 0.011	< 0.009	< 0.015	< 0.045
10-09-14	248	< 0.13	< 0.008	< 0.004	< 0.016	< 0.010	< 0.010	< 0.029	< 0.051
10-16-14	251	< 0.09	< 0.006	< 0.010	< 0.014	< 0.010	< 0.007	< 0.036	< 0.053

[a] Iodine-131 concentrations are < 0.07 pCi/m^3 unless noted otherwise.

Table 1. Air particulates and charcoal cartridges, analyses for gamma-emitting isotopes and I-131[a].

Collection: Continuous, weekly exchange.

Units: pCi/m^3

Location		CA-A-008 (cont.)							
		^{7}Be	^{58}Co	^{60}Co	^{95}Zr	^{134}Cs	^{137}Cs	$^{140}BaLa$	^{144}Ce
Required LLDs		-	-	-	-	0.050	0.060	-	-
Date Collected	Vol.								
10-23-14	243	< 0.11	< 0.011	< 0.004	< 0.012	< 0.011	< 0.009	< 0.020	< 0.033
10-30-14	242	0.20 ± 0.11	< 0.012	< 0.009	< 0.021	< 0.012	< 0.010	< 0.035	< 0.062
11-06-14	250	0.15 ± 0.08	< 0.009	< 0.003	< 0.013	< 0.008	< 0.009	< 0.030	< 0.041
11-13-14	239	< 0.12	< 0.014	< 0.007	< 0.011	< 0.009	< 0.009	< 0.052	< 0.041
11-20-14	239	< 0.15	< 0.007	< 0.004	< 0.026	< 0.014	< 0.010	< 0.031	< 0.035
11-26-14	206	< 0.17	< 0.008	< 0.012	< 0.016	< 0.015	< 0.014	< 0.048	< 0.083
12-04-14	278	< 0.11	< 0.005	< 0.009	< 0.010	< 0.008	< 0.005	< 0.030	< 0.039
12-11-14	245	< 0.09	< 0.004	< 0.010	< 0.011	< 0.012	< 0.006	< 0.021	< 0.041
12-18-14	241	< 0.10	< 0.005	< 0.010	< 0.012	< 0.009	< 0.008	< 0.015	< 0.049
12-26-14	279	< 0.08	< 0.004	< 0.009	< 0.011	< 0.008	< 0.008	< 0.007	< 0.039
12-31-14	173	< 0.12	< 0.011	< 0.011	< 0.019	< 0.013	< 0.008	< 0.014	< 0.039

[a] Iodine-131 concentrations are < 0.07 pCi/m^3 unless noted otherwise.

Table 1. Air particulates and charcoal cartridges, analyses for gamma-emitting isotopes and I-131[a].

Collection: Continuous, weekly exchange.

Units: pCi/m^3

Location		CA-A-009							
		^{7}Be	^{58}Co	^{60}Co	^{95}Zr	^{134}Cs	^{137}Cs	$^{140}BaLa$	^{144}Ce
Required LLDs		-	-	-	-	0.050	0.060	-	-
Date Collected	Vol.								
01-09-14	257	< 0.07	< 0.008	< 0.004	< 0.015	< 0.009	< 0.008	< 0.011	< 0.028
01-16-14	259	< 0.07	< 0.005	< 0.005	< 0.007	< 0.009	< 0.004	< 0.007	< 0.046
01-23-14	256	0.23 ± 0.14	< 0.008	< 0.004	< 0.011	< 0.011	< 0.006	< 0.014	< 0.031
01-30-14	254	< 0.10	< 0.007	< 0.007	< 0.008	< 0.009	< 0.011	< 0.008	< 0.038
02-06-14	251	0.22 ± 0.12	< 0.006	< 0.007	< 0.011	< 0.009	< 0.007	< 0.008	< 0.028
02-13-14	253	0.22 ± 0.13	< 0.010	< 0.004	< 0.012	< 0.011	< 0.007	< 0.019	< 0.046
02-20-14	260	0.16 ± 0.09	< 0.012	< 0.008	< 0.015	< 0.011	< 0.013	< 0.014	< 0.033
02-27-14	269	0.26 ± 0.10	< 0.009	< 0.004	< 0.011	< 0.008	< 0.007	< 0.018	< 0.042
03-06-14	248	0.23 ± 0.12	< 0.006	< 0.009	< 0.023	< 0.010	< 0.009	< 0.021	< 0.063
03-14-14	292	0.17 ± 0.06	< 0.007	< 0.004	< 0.008	< 0.007	< 0.008	< 0.009	< 0.027
03-18-14	213	0.19 ± 0.11	< 0.010	< 0.007	< 0.011	< 0.013	< 0.010	< 0.014	< 0.043
03-27-14	251	0.23 ± 0.13	< 0.007	< 0.006	< 0.014	< 0.011	< 0.010	< 0.008	< 0.054
04-03-14	252	< 0.09	< 0.011	< 0.008	< 0.017	< 0.011	< 0.006	< 0.018	< 0.042
04-10-14	245	0.20 ± 0.12	< 0.008	< 0.005	< 0.018	< 0.009	< 0.010	< 0.012	< 0.051
04-17-14	243	0.15 ± 0.09	< 0.009	< 0.009	< 0.017	< 0.009	< 0.007	< 0.016	< 0.044
04-24-14	247	< 0.14	< 0.006	< 0.008	< 0.014	< 0.010	< 0.007	< 0.023	< 0.035
05-01-14	243	< 0.11	< 0.006	< 0.008	< 0.014	< 0.008	< 0.008	< 0.031	< 0.060
05-08-14	245	0.24 ± 0.11	< 0.007	< 0.008	< 0.009	< 0.011	< 0.008	< 0.011	< 0.028
05-15-14	241	< 0.09	< 0.006	< 0.008	< 0.012	< 0.008	< 0.009	< 0.011	< 0.045
05-22-14	244	0.14 ± 0.08	< 0.010	< 0.008	< 0.006	< 0.009	< 0.008	< 0.008	< 0.053
05-29-14	245	< 0.10	< 0.010	< 0.008	< 0.016	< 0.008	< 0.008	< 0.036	< 0.045
06-05-14	240	< 0.13	< 0.006	< 0.010	< 0.019	< 0.011	< 0.009	< 0.011	< 0.061
06-12-14	244	< 0.12	< 0.007	< 0.008	< 0.011	< 0.009	< 0.013	< 0.033	< 0.061
06-18-14	209	< 0.16	< 0.012	< 0.013	< 0.022	< 0.011	< 0.009	< 0.036	< 0.065
06-25-14	277	< 0.13	< 0.011	< 0.010	< 0.022	< 0.011	< 0.007	< 0.032	< 0.044
07-03-14	290	< 0.09	< 0.006	< 0.007	< 0.015	< 0.007	< 0.007	< 0.020	< 0.049
07-09-14	258	0.25 ± 0.13	< 0.009	< 0.008	< 0.020	< 0.009	< 0.006	< 0.033	< 0.047
07-17-14	352	< 0.10	< 0.003	< 0.006	< 0.009	< 0.006	< 0.004	< 0.018	< 0.021
07-24-14	313	0.21 ± 0.11	< 0.005	< 0.006	< 0.007	< 0.008	< 0.005	< 0.021	< 0.043
07-31-14	366	0.17 ± 0.10	< 0.004	< 0.007	< 0.011	< 0.006	< 0.004	< 0.010	< 0.036
08-07-14	301	0.19 ± 0.09	< 0.005	< 0.007	< 0.007	< 0.008	< 0.007	< 0.014	< 0.048
08-14-14	326	< 0.09	< 0.006	< 0.007	< 0.012	< 0.008	< 0.007	< 0.023	< 0.039
08-20-14	273	< 0.14	< 0.005	< 0.013	< 0.018	< 0.009	< 0.007	< 0.020	< 0.041
08-27-14	320	0.13 ± 0.08	< 0.003	< 0.008	< 0.016	< 0.008	< 0.007	< 0.020	< 0.033
09-04-14	366	0.17 ± 0.09	< 0.007	< 0.002	< 0.011	< 0.007	< 0.006	< 0.017	< 0.032
09-11-14	324	< 0.11	< 0.007	< 0.005	< 0.012	< 0.009	< 0.007	< 0.022	< 0.040
09-18-14	337	< 0.08	< 0.006	< 0.007	< 0.012	< 0.007	< 0.007	< 0.020	< 0.038
09-25-14	334	0.13 ± 0.07	< 0.004	< 0.007	< 0.007	< 0.007	< 0.004	< 0.012	< 0.049
10-02-14	243	0.24 ± 0.12	< 0.011	< 0.006	< 0.018	< 0.013	< 0.009	< 0.023	< 0.041
10-09-14	250	< 0.13	< 0.006	< 0.010	< 0.014	< 0.011	< 0.006	< 0.044	< 0.048
10-16-14	260	< 0.11	< 0.009	< 0.009	< 0.022	< 0.009	< 0.007	< 0.030	< 0.049

[a] Iodine-131 concentrations are < 0.07 pCi/m^3 unless noted otherwise.

Table 1. Air particulates and charcoal cartridges, analyses for gamma-emitting isotopes and I-131[a].

Collection: Continuous, weekly exchange.

Units: pCi/m^3

Location		CA-A-009 (cont.)							
		^{7}Be	^{58}Co	^{60}Co	^{95}Zr	^{134}Cs	^{137}Cs	$^{140}BaLa$	^{144}Ce
Required LLDs		-	-	-	-	0.050	0.060	-	-
Date Collected	Vol.								
10-23-14	255	0.21 ± 0.12	< 0.012	< 0.006	< 0.009	< 0.011	< 0.006	< 0.020	< 0.057
10-30-14	258	< 0.12	< 0.011	< 0.004	< 0.015	< 0.010	< 0.011	< 0.028	< 0.055
11-06-14	272	< 0.14	< 0.010	< 0.005	< 0.007	< 0.011	< 0.008	< 0.047	< 0.030
11-13-14	266	< 0.15	< 0.010	< 0.007	< 0.019	< 0.010	< 0.010	< 0.051	< 0.037
11-20-14	271	< 0.11	< 0.011	< 0.006	< 0.020	< 0.010	< 0.008	< 0.035	< 0.054
11-26-14	243	0.18 ± 0.09	< 0.012	< 0.007	< 0.021	< 0.014	< 0.012	< 0.055	< 0.051
12-04-14	333	0.17 ± 0.08	< 0.007	< 0.007	< 0.008	< 0.006	< 0.007	< 0.020	< 0.043
12-11-14	300	< 0.07	< 0.003	< 0.008	< 0.014	< 0.007	< 0.008	< 0.018	< 0.034
12-18-14	298	< 0.08	< 0.007	< 0.008	< 0.012	< 0.007	< 0.005	< 0.013	< 0.041
12-26-14	343	< 0.06	< 0.004	< 0.004	< 0.005	< 0.006	< 0.006	< 0.005	< 0.031
12-31-14	214	< 0.10	< 0.008	< 0.010	< 0.018	< 0.010	< 0.005	< 0.012	< 0.065

[a] Iodine-131 concentrations are < 0.07 pCi/m^3 unless noted otherwise.

Table 1. Air particulates and charcoal cartridges, analyses for gamma-emitting isotopes and I-131[a].

Collection: Continuous, weekly exchange.

Units: pCi/m^3

Location		CA-B-003							
		^{7}Be	^{58}Co	^{60}Co	^{95}Zr	^{134}Cs	^{137}Cs	$^{140}BaLa$	^{144}Ce
Required LLDs		-	-	-	-	0.050	0.060	-	-
Date Collected	Vol.								
01-09-14	290	0.21 ± 0.12	< 0.005	< 0.003	< 0.009	< 0.010	< 0.006	< 0.010	< 0.050
01-16-14	290	< 0.07	< 0.005	< 0.003	< 0.004	< 0.009	< 0.009	< 0.007	< 0.040
01-23-14	266	< 0.10	< 0.006	< 0.004	< 0.010	< 0.012	< 0.006	< 0.013	< 0.030
01-30-14	268	< 0.09	< 0.007	< 0.010	< 0.020	< 0.010	< 0.010	< 0.006	< 0.064
02-06-14	270	< 0.09	< 0.005	< 0.004	< 0.010	< 0.010	< 0.006	< 0.007	< 0.045
02-13-14	280	< 0.08	< 0.006	< 0.004	< 0.012	< 0.008	< 0.006	< 0.013	< 0.047
02-20-14	278	< 0.11	< 0.006	< 0.008	< 0.007	< 0.010	< 0.008	< 0.013	< 0.042
02-27-14	279	0.14 ± 0.07	< 0.007	< 0.006	< 0.012	< 0.009	< 0.008	< 0.026	< 0.039
03-06-14	283	0.24 ± 0.11	< 0.005	< 0.003	< 0.013	< 0.007	< 0.004	< 0.008	< 0.049
03-14-14	322	< 0.09	< 0.008	< 0.003	< 0.011	< 0.006	< 0.005	< 0.010	< 0.042
03-18-14	236	< 0.11	< 0.008	< 0.008	< 0.013	< 0.009	< 0.008	< 0.017	< 0.054
03-27-14	282	0.18 ± 0.09	< 0.009	< 0.008	< 0.008	< 0.009	< 0.009	< 0.008	< 0.045
04-03-14	283	< 0.08	< 0.007	< 0.009	< 0.007	< 0.010	< 0.006	< 0.009	< 0.039
04-10-14	272	< 0.07	< 0.006	< 0.007	< 0.009	< 0.011	< 0.005	< 0.008	< 0.045
04-17-14	270	0.25 ± 0.13	< 0.006	< 0.008	< 0.018	< 0.010	< 0.008	< 0.013	< 0.053
04-24-14	270	< 0.12	< 0.005	< 0.008	< 0.010	< 0.008	< 0.006	< 0.018	< 0.047
05-01-14	211	< 0.15	< 0.006	< 0.009	< 0.015	< 0.014	< 0.008	< 0.021	< 0.060
05-08-14	290	0.23 ± 0.11	< 0.005	< 0.008	< 0.008	< 0.009	< 0.006	< 0.015	< 0.036
05-15-14	297	0.18 ± 0.08	< 0.005	< 0.007	< 0.011	< 0.008	< 0.006	< 0.009	< 0.052
05-22-14	300	0.18 ± 0.07	< 0.004	< 0.007	< 0.011	< 0.007	< 0.004	< 0.007	< 0.044
05-29-14	302	0.15 ± 0.07	< 0.006	< 0.006	< 0.007	< 0.008	< 0.006	< 0.008	< 0.036
06-05-14	297	< 0.10	< 0.009	< 0.010	< 0.013	< 0.010	< 0.009	< 0.021	< 0.030
06-12-14	309	0.17 ± 0.10	< 0.005	< 0.006	< 0.015	< 0.008	< 0.006	< 0.026	< 0.026
06-18-14	236	< 0.16	< 0.010	< 0.011	< 0.020	< 0.011	< 0.008	< 0.050	< 0.052
06-25-14	320	< 0.11	< 0.009	< 0.008	< 0.015	< 0.009	< 0.006	< 0.023	< 0.027
07-03-14	265	< 0.11	< 0.006	< 0.010	< 0.015	< 0.009	< 0.007	< 0.017	< 0.045
07-09-14	231	< 0.15	< 0.007	< 0.009	< 0.022	< 0.010	< 0.010	< 0.037	< 0.042
07-17-14	311	0.23 ± 0.12	< 0.006	< 0.008	< 0.012	< 0.009	< 0.007	< 0.018	< 0.033
07-24-14	275	0.29 ± 0.17	< 0.011	< 0.009	< 0.023	< 0.009	< 0.012	< 0.039	< 0.045
07-31-14	289	< 0.11	< 0.010	< 0.012	< 0.020	< 0.009	< 0.006	< 0.028	< 0.032
08-07-14	273	0.27 ± 0.14	< 0.009	< 0.010	< 0.017	< 0.008	< 0.006	< 0.022	< 0.038
08-14-14	296	< 0.11	< 0.007	< 0.010	< 0.019	< 0.009	< 0.008	< 0.030	< 0.029
08-20-14	248	< 0.15	< 0.006	< 0.010	< 0.012	< 0.011	< 0.007	< 0.031	< 0.045
08-27-14	300	0.17 ± 0.08	< 0.006	< 0.008	< 0.012	< 0.007	< 0.005	< 0.026	< 0.039
09-04-14	349	0.20 ± 0.11	< 0.006	< 0.005	< 0.008	< 0.007	< 0.005	< 0.023	< 0.047
09-11-14	307	< 0.08	< 0.004	< 0.005	< 0.014	< 0.006	< 0.004	< 0.022	< 0.024
09-18-14	321	< 0.08	< 0.006	< 0.005	< 0.010	< 0.009	< 0.005	< 0.020	< 0.032
09-25-14	319	0.16 ± 0.07	< 0.005	< 0.008	< 0.010	< 0.008	< 0.007	< 0.012	< 0.034
10-02-14	318	< 0.10	< 0.008	< 0.005	< 0.010	< 0.008	< 0.007	< 0.017	< 0.038
10-09-14	316	< 0.09	< 0.004	< 0.009	< 0.012	< 0.008	< 0.005	< 0.035	< 0.039
10-16-14	326	< 0.06	< 0.005	< 0.007	< 0.014	< 0.006	< 0.005	< 0.024	< 0.044

[a] Iodine-131 concentrations are < 0.07 pCi/m^3 unless noted otherwise.

Table 1. Air particulates and charcoal cartridges, analyses for gamma-emitting isotopes and I-131[a].

Collection: Continuous, weekly exchange.

Units: pCi/m^3

Location		CA-B-003 (cont.)							
		^{7}Be	^{58}Co	^{60}Co	^{95}Zr	^{134}Cs	^{137}Cs	^{140}BaLa	^{144}Ce
Required LLDs		-	-	-	-	0.050	0.060	-	-
Date Collected	Vol.								
10-23-14	326	< 0.09	< 0.007	< 0.005	< 0.012	< 0.009	< 0.007	< 0.015	< 0.042
10-30-14	251	< 0.17	< 0.009	< 0.007	< 0.012	< 0.011	< 0.011	< 0.031	< 0.048
11-06-14	260	< 0.12	< 0.009	< 0.005	< 0.014	< 0.010	< 0.010	< 0.031	< 0.037
11-13-14	254	< 0.14	< 0.012	< 0.009	< 0.020	< 0.009	< 0.006	< 0.053	< 0.046
11-20-14	260	< 0.09	< 0.006	< 0.004	< 0.018	< 0.008	< 0.006	< 0.038	< 0.053
11-26-14	222	< 0.13	< 0.012	< 0.013	< 0.017	< 0.009	< 0.009	< 0.045	< 0.060
12-04-14					ND[b]				
12-11-14	298	< 0.07	< 0.005	< 0.008	< 0.010	< 0.007	< 0.005	< 0.018	< 0.046
12-18-14	294	< 0.08	< 0.005	< 0.006	< 0.008	< 0.008	< 0.008	< 0.010	< 0.041
12-26-14	329	< 0.06	< 0.005	< 0.004	< 0.013	< 0.007	< 0.006	< 0.010	< 0.031
12-31-14	202	< 0.09	< 0.008	< 0.010	< 0.017	< 0.013	< 0.006	< 0.012	< 0.062

[a] Iodine-131 concentrations are < 0.07 pCi/m^3 unless noted otherwise.

[b] "ND" = No data; refer to Part I, Table 5.5, Missed Collections and Analyses.

Table 2. Milk, analyses for iodine-131 and gamma-emitting isotopes.

Collection: Semimonthly during grazing season, monthly otherwise.

Units: pCi/L

Location		CA-MLK-M9					
Date	Lab	Concentration (pCi/L)					
Collected	Code	I-131	K-40	Zn-65	Cs-134	Cs-137	Ba-La-140
Required LLDs		1	-	-	15	18	15
01-14-14	CAMI -152	< 0.2	1041 ± 107	< 4.5	< 3.1	< 3.0	< 3.1
02-10-14	CAMI -516	< 0.3	1287 ± 100	< 7.0	< 2.6	< 3.3	< 2.6
03-10-14	CAMI -904	< 0.5	1102 ± 107	< 10.9	< 4.4	< 4.5	< 2.3
04-08-14	CAMI -1422	< 0.3	1207 ± 91	< 6.5	< 2.7	< 3.6	< 1.9
04-21-14	CAMI -1626	< 0.4	1297 ± 105	< 3.7	< 3.3	< 3.4	< 1.7
05-12-14	CAMI -2100	< 0.3	1322 ± 110	< 4.8	< 3.4	< 3.1	< 1.6
05-27-14	CAMI -2363	< 0.5	1299 ± 98	< 4.5	< 3.0	< 2.8	< 2.3
06-08-14	CAMI -2638	< 0.5	1289 ± 110	< 6.1	< 3.2	< 1.8	< 1.4
06-24-14	CAMI -2919	< 0.4	1057 ± 89	< 8.4	< 4.1	< 3.9	< 3.2
07-08-14	CAMI -3234	< 0.2	1117 ± 97	< 11.0	< 4.4	< 4.6	< 2.6
07-22-14	CAMI -3599	< 0.2	1261 ± 110	< 7.4	< 4.0	< 3.7	< 1.3
08-12-14			NS[a]				
08-26-14	CAMI -4475	< 0.5	1173 ± 104	< 7.6	< 3.4	< 3.3	< 2.0
09-10-14	CAMI -4759	< 0.5	1169 ± 112	< 9.4	< 4.2	< 4.6	< 3.3
09-22-14	CAMI -5099	< 0.2	1250 ± 101	< 4.8	< 3.0	< 3.4	< 2.4
10-13-14	CAMI -5659	< 0.4	1109 ± 99	< 6.4	< 4.6	< 3.7	< 2.2
10-27-14	CAMI -6127	< 0.5	1029 ± 107	< 7.2	< 4.4	< 5.4	< 4.9
11-11-14	CAMI -6431	< 0.3	1064 ± 108	< 5.0	< 4.1	< 4.2	< 1.6
12-09-14	CAMI -6971	< 0.2	1222 ± 101	< 7.1	< 3.7	< 3.2	< 1.2

[a] "NS" = No Sample; refer to Part I, Table 5.5, Missed Collections and Analyses.

Table 3. Vegetation, analyses for iodine-131 and gamma-emitting isotopes.

Collection: Monthly, during growing season

Units: pCi/kg wet

Lab Code	Collection Date	Sample Type	Concentration (pCi/kg wet) ^{40}K	^{54}Mn	^{58}Co	^{60}Co	^{131}I	^{134}Cs	^{137}Cs
			Location: CA-FPL-V9						
	4/10/2014			NS[a]					
	5/13/2014			NS[a]					
CAVE- 2661	6/10/2014	Collards	2564 ± 236	< 11.4	< 4.8	< 7.3	< 14.5	< 10.2	< 9.8
CAVE- 2662	6/10/2014	Turnip greens	3982 ± 276	< 10.4	< 7.2	< 8.3	< 9.4	< 8.6	< 4.8
CAVE- 2663	6/10/2014	Cabbage	2490 ± 184	< 4.0	< 3.9	< 4.3	< 10.4	< 4.9	< 5.2
CAVE- 2664	6/10/2014	Swiss Chard	3688 ± 218	< 6.0	< 6.8	< 6.3	< 10.6	< 5.7	< 6.5
CAVE- 2665	6/10/2014	Spinach	6386 ± 143	< 3.3	< 3.7	< 4.3	< 7.7	< 3.2	< 3.9
CAVE- 2666	6/10/2014	Mustard Greens	3058 ± 261	< 12.2	< 6.0	< 9.1	< 13.3	< 8.4	< 9.9
CAVE- 2667	6/10/2014	Lettuce	2612 ± 226	< 5.7	< 7.0	< 5.8	< 15.0	< 7.7	< 7.8
CAVE- 3237	7/8/2014	Cabbage	2634 ± 241	< 7.3	< 4.7	< 7.0	< 16.6	< 7.4	< 7.9
CAVE- 3239	7/8/2014	Swiss Chard	5480 ± 328	< 7.8	< 4.4	< 7.5	< 15.4	< 7.7	< 9.3
CAVE- 4196	8/12/2014	Collards	5704 ± 368	< 10.0	< 10.4	< 4.4	< 17.7	< 11.9	< 11.0
CAVE- 4197	8/12/2014	Swiss Chard	7020 ± 396	< 11.3	< 11.9	< 7.1	< 18.5	< 11.7	< 9.6
CAVE- 4760	9/9/2014	Swiss Chard	5326 ± 313	< 9.2	< 9.8	< 5.3	< 20.5	< 9.1	< 7.5
CAVE- 4761	9/9/2014	Collard Greens	4410 ± 314	< 10.0	< 8.9	< 5.8	< 19.3	< 10.0	< 9.8
CAVE- 5660	10/14/2014	Turnips	3070 ± 240	< 6.8	< 4.5	< 7.1	< 23.4	< 6.6	< 6.7
CAVE- 5661	10/14/2014	Cabbage	2768 ± 224	< 4.7	< 6.1	< 5.7	< 15.5	< 6.0	< 6.9
CAVE- 5662	10/14/2014	Collards	2969 ± 243	< 7.7	< 9.7	< 3.5	< 16.6	< 7.7	< 7.0
CAVE- 5663	10/14/2014	Swiss Chard	3617 ± 230	< 4.2	< 8.2	< 4.2	< 19.2	< 6.8	< 6.0
CAVE- 5664	10/14/2014	Mustard	2637 ± 161	< 4.5	< 4.5	< 3.4	< 18.8	< 4.3	< 4.8
			Location: CA-FPL-V11						
	4/10/2014			NS[a]					
CAVE- 2101	5/12/2014	Spinach	4973 ± 314	< 8.6	< 8.4	< 9.5	< 14.4	< 8.9	< 8.7
CAVE- 2669	6/10/2014	Lettuce	1901 ± 211	< 7.2	< 5.8	< 5.9	< 6.2	< 6.0	< 6.5
CAVE- 2670	6/9/2014	Cabbage	4049 ± 323	< 12.5	< 8.9	< 7.7	< 23.7	< 10.5	< 11.2
CAVE- 3240	7/7/2014	Cabbage	2354 ± 246	< 5.7	< 7.0	< 5.6	< 17.7	< 8.5	< 9.1
CAVE- 3241	7/7/2014	Swiss Chard	6310 ± 288	< 4.9	< 7.4	< 7.0	< 13.8	< 6.5	< 7.8
CAVE- 4198	8/11/2014	Lettuce	6241 ± 404	< 10.5	< 9.7	< 6.9	< 27.4	< 13.5	< 11.0
CAVE- 4199	8/11/2014	Collard greens	3304 ± 231	< 6.4	< 4.7	< 3.0	< 14.5	< 7.8	< 6.4
CAVE- 4200	8/11/2014	Swiss Chard	7435 ± 353	< 6.9	< 5.4	< 7.3	< 17.1	< 10.9	< 10.5
CAVE- 4762	9/8/2014	Collard Greens	3728 ± 277	< 5.6	< 4.9	< 6.3	< 32.8	< 8.2	< 9.2
CAVE- 4763	9/8/2014	Swiss Chard	6101 ± 376	< 8.8	< 7.0	< 10.0	< 30.1	< 8.3	< 9.3
CAVE- 4764	9/8/2014	Cabbage	2615 ± 210	< 6.2	< 4.3	< 5.4	< 14.5	< 6.4	< 6.5
CAVE- 5665	10/13/2014	Swiss Chard	4710 ± 245	< 7.7	< 5.9	< 4.8	< 19.3	< 7.3	< 4.9
CAVE- 5666	10/13/2014	Collards	2996 ± 143	< 5.9	< 3.7	< 4.1	< 15.8	< 5.1	< 4.6

[a] "NS" = No Sample; refer to Part I, Table 5.5, Missed Collections and Analyses.

Table 3. Vegetation, analyses for iodine-131 and gamma-emitting isotopes.

Collection: Monthly, during growing season

Units: pCi/kg wet

Lab Code	Collection Date	Sample Type	Concentration (pCi/kg wet) ^{40}K	^{54}Mn	^{58}Co	^{60}Co	^{131}I	^{134}Cs	^{137}Cs
			Location: CA-FPL-V12						
	4/10/2014			NS[a]					
	5/13/2014			NS[a]					
CAVE- 2671	6/9/2014	Cabbage	3138 ± 240	< 5.3	< 6.9	< 7.4	< 11.0	< 5.5	< 7.5
CAVE- 3242	7/7/2014	Lettuce	5080 ± 349	< 6.3	< 4.8	< 11.3	< 16.9	< 9.7	< 11.1
CAVE- 4201	8/11/2014	Cabbage	4052 ± 302	< 9.1	< 8.0	< 8.6	< 13.4	< 7.9	< 8.1
	9/9/2014			NS[a]					
CAVE- 5667	10/13/2014	Lettuce	3180 ± 266	< 6.5	< 5.4	< 8.4	< 21.5	< 8.7	< 11.0
			Location: CA-FPL-V16						
	4/10/2014			NS[a]					
	5/13/2014			NS[a]					
CAVE- 2672	6/9/2014	Lettuce	3714 ± 524	< 16.1	< 16.1	< 24.3	< 22.6	< 20.5	< 22.0
CAVE- 2673	6/9/2014	Turnip greens	4156 ± 476	< 11.4	< 11.2	< 11.9	< 15.0	< 13.4	< 11.8
CAVE- 2674	6/9/2014	Mustard Greens	3318 ± 355	< 9.5	< 4.8	< 9.3	< 15.2	< 13.3	< 9.3
CAVE- 3243	7/7/2014	Collards	5301 ± 333	< 9.4	< 7.2	< 8.4	< 17.0	< 9.2	< 6.5
CAVE- 4202	8/11/2014	Lettuce	10645 ± 816	< 21.8	< 22.2	< 21.3	< 34.7	< 21.8	< 17.7
CAVE- 4203	8/11/2014	Turnips	5287 ± 436	< 8.6	< 8.2	< 10.6	< 23.4	< 13.8	< 13.3
CAVE- 4204	8/11/2014	Collards	6604 ± 370	< 9.4	< 6.5	< 11.5	< 13.7	< 9.0	< 8.5
CAVE- 4206	8/11/2014	Mustard greens	6229 ± 555	< 22.1	< 13.6	< 21.0	< 28.6	< 21.5	< 18.7
CAVE- 4765	9/8/2014	Collard Greens	3643 ± 313	< 8.4	< 8.3	< 10.4	< 15.0	< 8.8	< 11.7
CAVE- 5668	10/13/2014	Collards	4021 ± 323	< 5.9	< 9.3	< 8.4	< 18.1	< 8.5	< 10.6
CAVE- 5669	10/13/2014	Mustard	5271 ± 382	< 12.7	< 10.0	< 8.5	< 22.0	< 10.2	< 10.8
			Location: CA-FPL-V17						
	4/10/2014			NS[a]					
	5/13/2014			NS[a]					
CAVE- 2675	6/10/2014	Cabbage	2916 ± 213	< 4.7	< 5.8	< 3.6	< 7.4	< 6.8	< 6.7
CAVE- 2676	6/10/2014	Turnip greens	3477 ± 244	< 9.2	< 6.7	< 5.9	< 16.4	< 7.8	< 9.2
CAVE- 3244	7/8/2014	Cabbage	2929 ± 255	< 6.2	< 7.3	< 6.2	< 15.5	< 9.4	< 11.0
CAVE- 3245	7/8/2014	Zucchini	5509 ± 361	< 11.9	< 5.7	< 10.2	< 15.3	< 10.5	< 9.1
CAVE- 3246	7/8/2014	Green Beans	2332 ± 218	< 5.8	< 7.7	< 7.5	< 24.5	< 8.9	< 8.3
CAVE- 4207	8/12/2014	Zucchini	5346 ± 360	< 6.3	< 6.1	< 14.3	< 16.0	< 9.7	< 11.3
CAVE- 4208	8/12/2014	Cucumber	4194 ± 376	< 15.1	< 13.0	< 8.8	< 26.1	< 15.2	< 11.6
CAVE- 4209	8/12/2014	Pumpkin	6639 ± 464	< 15.8	< 8.6	< 15.5	< 20.7	< 13.8	< 13.6
CAVE- 4766	9/9/2014	Radish Greens	3815 ± 321	< 10.0	< 10.3	< 11.0	< 18.2	< 10.7	< 15.4
CAVE- 4767	9/9/2014	Mustard Greens	4347 ± 371	< 12.0	< 9.7	< 11.1	< 24.9	< 11.9	< 14.6
CAVE- 4768	9/9/2014	Turnip Greens	4120 ± 337	< 8.2	< 9.7	< 13.9	< 13.7	< 10.7	< 14.3
CAVE- 4769	9/9/2014	Zucchini Greens	5561 ± 507	< 7.7	< 11.0	< 19.9	< 34.6	< 16.0	< 15.3
CAVE- 5670	10/14/2014	Turnips	3415 ± 295	< 7.7	< 9.5	< 8.7	< 13.8	< 8.8	< 9.5
CAVE- 5671	10/14/2014	Zucchini	4100 ± 273	< 9.0	< 7.0	< 5.4	< 21.8	< 8.2	< 9.6
CAVE- 5672	10/14/2014	Mustard	2578 ± 222	< 7.9	< 6.7	< 9.5	< 18.9	< 7.4	< 6.8

[a] "NS" = No Sample; refer to Part I, Table 5.5, Missed Collections and Analyses.

Table 4. Non-food Crops, analyses for tritium and gamma-emitting isotopes.

Collection: Annually, at harvest

Units: pCi/kg wet

Lab Code	Sample Type	Collection Date	(pCi/L) ^{3}H	Concentration (pCi/kg wet) ^{40}K	^{54}Mn	^{58}Co	^{60}Co	^{134}Cs	^{137}Cs
				Location: CA-FC-1					
CAVE- 5055	1-Soybeans	9/17/2014	< 155	5139 ± 300	< 7.8	< 8.4	< 4.4	< 8.3	< 6.1
CAVE- 5056	2-Soybeans	9/17/2014	< 149	4995 ± 293	< 5.6	< 8.5	< 6.9	< 8.4	< 6.0
CAVE- 5057	3-Soybeans	9/17/2014	< 157	5109 ± 306	< 7.0	< 5.0	< 6.5	< 6.6	< 8.1
				Location: CA-FC-2					
CAVE- 5058	1-Soybeans	9/15/2014	< 149	6855 ± 337	< 9.1	< 8.1	< 6.9	< 7.6	< 10.3
CAVE- 5059	2-Soybeans	9/15/2014	< 149	7235 ± 581	< 22.8	< 18.6	< 9.7	< 17.6	< 18.4
CAVE- 5060	3-Soybeans	9/15/2014	< 155	5897 ± 315	< 8.0	< 9.5	< 10.4	< 8.3	< 7.8
				Location: CA-FC-3					
CAVE- 5061	1-Soybeans	9/15/2014	< 155	5637 ± 337	< 5.3	< 7.2	< 7.1	< 8.1	< 8.8
CAVE- 5062	2-Soybeans	9/16/2014	< 149	6861 ± 351	< 8.7	< 8.5	< 6.6	< 7.3	< 9.9
CAVE- 5063	3-Soybeans	9/16/2014	< 155	6156 ± 314	< 6.2	< 4.8	< 5.6	< 7.4	< 7.1
				Location: CA-FC-4(C)					
CAVE- 5064	Soybeans	9/18/2014	< 149	5160 ± 362	< 10.3	< 7.0	< 10.0	< 12.2	< 9.6

Table 5. Soil, analyses for gamma-emitting isotopes.
Collection: Annually

Lab Code	Collection Date	Concentration (pCi/kg dry) ^{40}K	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{95}ZrNb	^{134}Cs	^{137}Cs	^{140}BaLa
Location: SOL-F-002										
CASO- 6575	11/11/2014	12828 ± 816	< 32.2	< 29.4	< 31.0	< 10.1	< 21.2	< 21.9	672 ± 56	< 40.2
CASO- 6576	11/11/2014	12853 ± 864	< 39.3	< 61.4	< 25.0	< 16.6	< 22.0	< 25.6	528 ± 56	< 50.9
Location: SOL-F-006										
CASO- 6577	11/11/2014	10357 ± 774	< 24.8	< 75.6	< 28.5	< 19.7	< 46.4	< 24.6	512 ± 56	< 86.5
CASO- 6578	11/11/2014	11312 ± 756	< 22.9	< 65.8	< 31.1	< 7.9	< 36.2	< 21.7	601 ± 53	< 45.6
Location: SOL-PR-003										
CASO- 6581	11/11/2014	10146 ± 699	< 28.9	< 74.9	< 21.0	< 6.2	< 31.5	< 25.6	417 ± 46	< 39.6
CASO- 6582	11/11/2014	10833 ± 721	< 28.0	< 25.9	< 27.8	< 9.2	< 25.5	< 27.3	228 ± 48	< 39.7
Location: SOL-PR-007										
CASO- 6583	11/11/2014	10642 ± 728	< 25.3	< 65.2	< 30.0	< 17.6	< 28.7	< 21.0	250 ± 48	< 55.2
CASO- 6584	11/11/2014	11335 ± 837	< 31.5	< 53.3	< 26.2	< 16.7	< 42.3	< 22.3	229 ± 42	< 43.6
Location: SOL-M-009										
CASO- 6579	11/11/2014	13296 ± 810	< 30.6	< 69.5	< 23.1	< 16.5	< 24.8	< 24.0	110 ± 31	< 88.8
CASO- 6580	11/11/2014	15350 ± 892	< 27.2	< 41.0	< 27.5	< 14.7	< 29.7	< 26.2	152 ± 45	< 45.5
Location: SOL-W-001										
CASO- 6586	11/11/2014	14791 ± 818	< 31.7	< 39.5	< 28.1	< 7.9	< 21.0	< 18.3	115 ± 43	< 51.5
CASO- 6587	11/11/2014	12653 ± 702	< 24.7	< 31.3	< 20.6	< 11.3	< 45.7	< 21.8	< 24.9	< 77.5
Location: SOL-W-002										
CASO- 6588	11/11/2014	11621 ± 717	< 26.6	< 49.5	< 23.9	< 7.1	< 30.6	< 19.8	< 25.6	< 65.8
CASO- 6589	11/11/2014	13834 ± 832	< 32.6	< 88.4	< 32.1	< 34.3	< 55.1	< 23.0	93 ± 34	< 101.9
Location: SOL-W-003										
CASO- 6590	11/11/2014	12915 ± 824	< 29.0	< 69.3	< 39.2	< 21.7	< 59.3	< 25.3	82 ± 29	< 94.5
CASO- 6591	11/11/2014	11088 ± 851	< 33.8	< 84.8	< 30.8	< 21.1	< 69.6	< 25.5	61 ± 32	< 93.9
Location: SOL-W-004										
CASO- 6592	11/11/2014	9824 ± 713	< 36.0	< 55.0	< 35.6	< 18.3	< 29.1	< 22.9	< 27.7	< 100.1
CASO- 6593	11/11/2014	9205 ± 857	< 34.9	< 55.8	< 30.5	< 24.0	< 33.2	< 29.6	< 43.5	< 122.8

Table 6. Surface water, analyses for tritium and gamma-emitting isotopes.

Collection: Monthly

Location: CA-SWA-S01 Units: pCi/L

Lab Code	Required	CASW- 343	CASW- 724	CASW- 1182	CASW- 1863
Date Collected	LLD	01-28-14	02-25-14	03-25-14	04-28-14
H-3	3000	< 152	< 138	< 145	< 145
Mn-54	15	< 3.2	< 2.0	< 2.4	< 3.5
Fe-59	30	< 4.6	< 6.5	< 4.4	< 8.1
Co-58	15	< 2.8	< 3.2	< 1.3	< 3.0
Co-60	15	< 1.5	< 1.9	< 1.2	< 3.1
Zn-65	30	< 2.8	< 4.8	< 3.1	< 3.1
Zr-Nb-95	15	< 2.6	< 4.2	< 2.2	< 4.5
I-131	1000	< 5.5	< 11.8	< 3.8	< 6.3
Cs-134	15	< 2.6	< 3.3	< 2.5	< 3.5
Cs-137	18	< 1.7	< 4.2	< 2.4	< 3.9
Ba-La-140	15	< 4.1	< 5.6	< 1.9	< 3.4

Lab Code	Required	CASW- 2370	CASW- 2920	CASW- 3901	CASW- 4536
Date Collected	LLD	05-27-14	06-24-14	07-29-14	08-27-14
H-3	3000	< 143	< 147	< 131	< 177
Mn-54	15	< 3.1	< 3.9	< 2.7	< 1.9
Fe-59	30	< 3.6	< 4.5	< 5.3	< 4.3
Co-58	15	< 2.2	< 4.4	< 2.2	< 2.1
Co-60	15	< 2.0	< 2.8	< 1.9	< 2.5
Zn-65	30	< 3.9	< 3.7	< 2.6	< 3.0
Zr-Nb-95	15	< 3.5	< 4.8	< 4.1	< 4.4
I-131	1000	< 7.4	< 6.9	< 19.7	< 8.4
Cs-134	15	< 4.1	< 4.1	< 3.1	< 3.1
Cs-137	18	< 2.6	< 4.8	< 2.6	< 3.3
Ba-La-140	15	< 3.6	< 4.4	< 5.9	< 3.5

Lab Code	Required	CASW- 5337	CASW- 6222	CASW- 6727	CASW- 7259
Date Collected	LLD	09-30-14	10-28-14	11-25-14	12-31-14
H-3	3000	< 156	< 179	< 178	< 172
Mn-54	15	< 4.9	< 2.1	< 5.1	< 4.0
Fe-59	30	< 5.7	< 5.5	< 4.1	< 6.5
Co-58	15	< 5.2	< 2.5	< 4.7	< 3.2
Co-60	15	< 4.4	< 1.8	< 5.0	< 2.2
Zn-65	30	< 4.4	< 4.9	< 8.7	< 3.2
Zr-Nb-95	15	< 3.2	< 3.4	< 4.5	< 3.8
I-131	1000	< 7.9	< 11.1	< 22.9	< 9.7
Cs-134	15	< 4.6	< 2.6	< 5.1	< 3.5
Cs-137	18	< 4.0	< 2.0	< 3.6	< 3.7
Ba-La-140	15	< 3.4	< 5.1	< 5.9	< 7.0

Table 6. Surface water, analyses for tritium and gamma-emitting isotopes.

Collection: Monthly
Location: CA-SWA-S02 Units: pCi/L

Lab Code Date Collected	Required LLD	CASW- 344 01-28-14	CASW- 725 02-25-14	CASW- 1183 03-25-14	CASW- 1864 04-28-14
H-3	3000	194 ± 89	343 ± 89	261 ± 85	< 145
Mn-54	15	< 2.2	< 1.9	< 1.9	< 3.3
Fe-59	30	< 2.8	< 4.5	< 3.3	< 6.5
Co-58	15	< 1.3	< 2.4	< 2.2	< 1.6
Co-60	15	< 1.6	< 1.6	< 1.5	< 2.2
Zn-65	30	< 2.5	< 3.5	< 5.3	< 4.3
Zr-Nb-95	15	< 1.9	< 2.0	< 2.8	< 1.6
I-131	1000	< 5.6	< 11.8	< 5.2	< 6.8
Cs-134	15	< 2.8	< 2.9	< 2.9	< 4.0
Cs-137	18	< 3.2	< 2.5	< 2.7	< 4.0
Ba-La-140	15	< 3.8	< 4.6	< 2.3	< 3.1

Lab Code Date Collected	Required LLD	CASW- 2371 05-27-14	CASW- 2921 06-24-14	CASW- 3902 07-29-14	CASW- 4537 08-27-14
H-3	3000	242 ± 84	< 147	166 ± 72	240 ± 97
Mn-54	15	< 4.6	< 3.1	< 2.5	< 1.5
Fe-59	30	< 8.3	< 5.8	< 4.9	< 5.6
Co-58	15	< 3.4	< 1.5	< 1.4	< 1.7
Co-60	15	< 4.4	< 2.6	< 1.9	< 2.4
Zn-65	30	< 6.2	< 2.6	< 2.2	< 4.1
Zr-Nb-95	15	< 4.5	< 3.5	< 2.8	< 2.1
I-131	1000	< 11.1	< 8.2	< 15.9	< 12.4
Cs-134	15	< 4.5	< 3.5	< 2.4	< 3.2
Cs-137	18	< 6.2	< 4.0	< 2.1	< 2.8
Ba-La-140	15	< 4.8	< 2.4	< 6.3	< 3.8

Lab Code Date Collected	Required LLD	CASW- 5338 09-30-14	CASW- 6223 10-28-14	CASW- 6728 11-25-14	CASW- 7260 12-31-14
H-3	3000	236 ± 90	343 ± 127	< 178	< 172
Mn-54	15	< 4.1	< 2.3	< 3.9	< 2.2
Fe-59	30	< 4.1	< 5.0	< 5.7	< 4.4
Co-58	15	< 4.1	< 2.8	< 2.4	< 2.5
Co-60	15	< 2.1	< 1.8	< 2.1	< 2.6
Zn-65	30	< 2.9	< 5.4	< 4.7	< 2.2
Zr-Nb-95	15	< 4.4	< 3.0	< 3.3	< 2.3
I-131	1000	< 11.8	< 11.1	< 16.1	< 9.7
Cs-134	15	< 3.9	< 3.1	< 3.1	< 2.7
Cs-137	18	< 2.4	< 2.2	< 3.7	< 2.7
Ba-La-140	15	< 5.9	< 4.4	< 3.2	< 3.9

7. Surface Water (Ponds), analyses for tritium and gamma-emitting isotopes.

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
					Location: CA-SWA-UHS						
CASW- 187	01/14/14	< 145	< 2.8	< 4.5	< 2.2	< 2.7	< 4.4	< 3.8	< 3.0	< 2.1	< 3.5
CASW- 1885	04/29/14	< 145	< 2.2	< 2.6	< 1.8	< 1.6	< 4.8	< 1.9	< 2.3	< 2.0	< 2.4
CASW- 3581	07/18/14	< 137	< 2.4	< 6.2	< 3.3	< 2.5	< 4.4	< 3.4	< 4.0	< 4.0	< 3.5
CASW- 5938	10/21/14	< 149	< 2.9	< 3.3	< 1.9	< 2.9	< 3.0	< 3.9	< 3.8	< 3.7	< 6.9
					Location: CA-SWA-POND 01						
CASW- 864	03/04/14	< 142	< 2.5	< 7.3	< 3.1	< 3.5	< 3.7	< 4.3	< 3.9	< 2.8	< 3.4
CASW- 4727	09/02/14	< 153	< 4.0	< 5.0	< 3.4	< 2.7	< 4.0	< 4.7	< 4.7	< 3.6	< 3.2
					Location: CA-SWA-POND 02						
CASW- 865	03/04/14	< 142	< 3.4	< 6.6	< 4.6	< 3.4	< 7.3	< 3.9	< 3.8	< 2.5	< 4.9
CASW- 4728	09/02/14	< 153	< 1.7	< 2.8	< 2.6	< 2.3	< 1.9	< 3.5	< 2.6	< 2.4	< 3.8
					Location: CA-SWA-SLUDGE LAGOON #4						
CASW- 873	03/04/14	< 142	< 2.2	< 4.7	< 1.1	< 1.7	< 4.0	< 1.9	< 2.6	< 2.2	< 4.9
CASW- 4734	09/02/14	< 153	< 3.1	< 3.5	< 1.6	< 3.0	< 4.9	< 3.4	< 3.2	< 2.7	< 4.7

7. Surface Water (Ponds), analyses for tritium and gamma-emitting isotopes.

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
					Location: CA-SWA-OUTFALL 010						
CASW- 867	03/04/14	< 142	< 3.6	< 6.7	< 5.8	< 3.5	< 9.4	< 4.6	< 5.2	< 6.0	< 4.4
CASW- 4753	09/02/14	< 147	< 1.6	< 6.6	< 2.3	< 1.5	< 4.6	< 4.0	< 3.3	< 3.6	< 4.5
					Location: CA-SWA-OUTFALL 011						
CASW- 868	03/04/14	< 142	< 3.9	< 7.5	< 3.9	< 1.9	< 5.1	< 2.8	< 3.5	< 3.1	< 2.9
CASW- 4729	09/02/14	< 153	< 2.9	< 7.2	< 3.7	< 4.2	< 4.8	< 3.0	< 4.3	< 3.9	< 6.8
					Location: CA-SWA-OUTFALL 012						
CASW- 869	03/04/14	< 142	< 5.3	< 9.9	< 3.2	< 5.0	< 9.9	< 4.0	< 6.0	< 3.3	< 4.5
CASW- 4730	09/02/14	< 153	< 1.3	< 2.8	< 2.8	< 2.6	< 3.6	< 2.2	< 2.5	< 2.4	< 4.5
					Location: CA-SWA-OUTFALL 013						
CASW- 870	03/04/14	< 142	< 1.6	< 6.4	< 2.5	< 1.4	< 5.0	< 4.2	< 2.6	< 2.3	< 5.4
CASW- 4755	09/02/14	< 147	< 3.0	< 2.6	< 2.8	< 2.8	< 3.3	< 3.8	< 3.1	< 1.8	< 3.1
					Location: CA-SWA-OUTFALL 014						
CASW- 871	03/04/14	< 142	< 2.0	< 3.0	< 2.1	< 1.6	< 4.5	< 2.7	< 2.3	< 2.4	< 4.4
CASW- 4731	09/02/14	< 153	< 2.5	< 2.7	< 2.2	< 2.1	< 5.3	< 2.2	< 3.0	< 2.7	< 3.4
					Location: CA-SWA-OUTFALL 015						
CASW- 872	03/04/14	< 142	< 2.5	< 3.3	< 1.7	< 1.6	< 3.8	< 2.2	< 2.4	< 1.9	< 3.0
CASW- 4732	09/02/14	< 153	< 2.5	< 4.9	< 3.1	< 2.8	< 2.8	< 3.3	< 3.2	< 3.4	< 2.6

Table 8. Drinking Water Wells, analysis for tritium and gamma-emitting isotopes.

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
					CA-DWA-003 (Ward)						
CADW- 773	2/26/2014	< 142	< 2.1	< 4.1	< 2.9	< 1.7	< 2.6	< 3.8	< 3.3	< 2.9	< 5.8
CADW- 2449	5/27/2014	< 142	< 1.6	< 5.8	< 3.3	< 1.9	< 3.8	< 2.6	< 1.8	< 2.5	< 4.7
CADW- 4461	8/26/2014	< 155	< 2.6	< 4.5	< 3.0	< 2.6	< 3.4	< 2.5	< 3.2	< 3.4	< 2.8
CADW- 5339	9/30/2014	< 178	< 2.4	< 8.1	< 3.2	< 1.5	< 2.5	< 3.7	< 2.4	< 1.9	< 5.5
CADW- 6224	10/29/2014	< 170	< 2.6	< 7.1	< 1.9	< 1.0	< 2.2	< 3.8	< 2.6	< 2.5	< 4.5
CADW- 6853	11/24/2014	< 177	< 3.0	< 6.2	< 2.7	< 1.7	< 2.1	< 5.5	< 3.3	< 3.4	< 6.6
CADW- 7300	12/30/2014	< 179	< 3.1	< 8.7	< 5.0	< 2.4	< 4.0	< 3.5	< 4.1	< 4.1	< 4.8
					CA-DWA-004 (Miller)						
CADW- 774	2/26/2014	< 142	< 2.0	< 4.5	< 1.8	< 2.0	< 3.8	< 3.0	< 2.2	< 2.4	< 5.9
CADW- 2450	5/28/2014	< 142	< 2.6	< 5.0	< 2.5	< 2.5	< 2.2	< 2.3	< 2.8	< 3.1	< 5.2
CADW- 4462	8/26/2014	< 155	< 5.0	< 5.0	< 4.2	< 3.4	< 2.8	< 5.9	< 4.7	< 4.3	< 6.3
CADW- 5340	9/30/2014	< 178	< 2.7	< 4.6	< 3.9	< 2.4	< 2.9	< 3.9	< 3.0	< 3.7	< 6.6
CADW- 6225	10/29/2014	< 170	< 2.4	< 3.0	< 3.0	< 1.6	< 1.7	< 2.8	< 2.7	< 2.0	< 3.7
CADW- 7302	12/30/2014	< 179	< 3.9	< 8.6	< 5.9	< 2.4	< 4.3	< 3.6	< 6.1	< 4.4	< 10.2
					CA-DWA-005 (Hux)						
CADW- 775	2/26/2014	< 142	< 1.7	< 5.0	< 2.5	< 2.3	< 3.2	< 2.2	< 2.5	< 3.0	< 6.7
CADW- 2451	5/28/2014	< 142	< 3.2	< 2.4	< 3.9	< 4.3	< 2.9	< 4.5	< 4.7	< 4.4	< 12.1
CADW- 4463	8/26/2014	< 155	< 1.8	< 2.7	< 2.1	< 3.1	< 3.8	< 3.3	< 2.3	< 2.1	< 6.3
CADW- 5341	9/30/2014	< 178	< 3.6	< 9.3	< 3.8	< 1.7	< 6.7	< 4.6	< 3.8	< 2.5	< 3.9
CADW- 6226	10/29/2014	< 170	< 3.2	< 4.3	< 2.1	< 2.2	< 2.3	< 2.4	< 2.9	< 3.7	< 1.7
CADW- 6854	11/24/2014	< 177	< 1.9	< 5.4	< 2.7	< 1.2	< 2.9	< 2.5	< 2.6	< 1.8	< 7.3
CADW- 7303	12/30/2014	< 179	< 4.0	< 8.1	< 4.4	< 2.5	< 6.5	< 5.6	< 4.7	< 2.2	< 8.4
					CA-DWA-006 (Lindeman)						
CADW- 776	2/26/2014	< 142	< 1.8	< 3.5	< 2.1	< 1.0	< 3.6	< 1.9	< 2.6	< 2.3	< 5.3
CADW- 2452	5/28/2014	< 142	< 1.9	< 3.8	< 1.5	< 1.6	< 2.6	< 3.7	< 2.3	< 2.6	< 3.6
CADW- 4464	8/26/2014	< 155	< 2.0	< 4.8	< 2.3	< 2.0	< 3.0	< 2.9	< 2.6	< 2.9	< 3.2
CADW- 5343	9/30/2014	< 178	< 2.1	< 2.9	< 3.0	< 1.5	< 3.3	< 3.6	< 2.3	< 3.1	< 5.1
CADW- 6228	10/29/2014	< 170	< 2.7	< 3.1	< 1.9	< 1.7	< 5.4	< 2.2	< 2.6	< 2.0	< 3.7
CADW- 6855	11/24/2014	< 177	< 1.8	< 3.5	< 3.4	< 2.7	< 5.9	< 3.7	< 3.2	< 3.3	< 6.0
CADW- 7304	12/30/2014	< 179	< 2.1	< 3.2	< 2.5	< 1.6	< 3.4	< 2.7	< 2.6	< 2.6	< 2.9
					CA-DWA-007 (Kriete)						
CADW- 777	2/26/2014	< 142	< 1.9	< 3.5	< 2.3	< 1.5	< 2.5	< 3.1	< 2.3	< 2.1	< 4.5
CADW- 2453	5/28/2014	< 142	< 3.0	< 4.8	< 2.0	< 1.8	< 4.9	< 2.8	< 3.2	< 3.5	< 8.6
CADW- 4465	8/26/2014	< 155	< 1.7	< 3.6	< 1.4	< 1.7	< 4.8	< 2.7	< 2.6	< 1.5	< 3.8
CADW- 5344	9/30/2014	< 178	< 4.0	< 5.0	< 2.7	< 4.0	< 4.7	< 4.5	< 3.9	< 3.7	< 1.8
CADW- 6229	10/29/2014	< 170	< 2.6	< 3.0	< 1.7	< 1.5	< 4.0	< 2.0	< 2.4	< 2.9	< 2.7
CADW- 6856	11/24/2014	< 177	< 2.1	< 4.5	< 3.0	< 1.2	< 3.6	< 3.7	< 2.8	< 2.7	< 8.4
CADW- 7305	12/30/2014	< 179	< 3.2	< 4.2	< 2.1	< 2.7	< 6.7	< 2.4	< 3.8	< 1.6	< 5.5
					CA-DWA-008 (Brandt)						
CADW- 778	2/26/2014	< 142	< 1.2	< 3.4	< 2.0	< 2.0	< 3.9	< 2.0	< 2.0	< 2.0	< 4.2
CADW- 2454	5/28/2014	< 142	< 2.5	< 4.0	< 2.6	< 2.3	< 2.0	< 4.3	< 2.5	< 2.7	< 6.4
CADW- 4466	8/26/2014	< 155	< 1.9	< 4.9	< 3.6	< 2.4	< 5.2	< 3.1	< 3.8	< 2.8	< 2.4
CADW- 5345	9/30/2014	< 178	< 2.3	< 2.8	< 3.6	< 2.4	< 3.7	< 2.2	< 3.8	< 3.3	< 3.4
CADW- 6230	10/29/2014	< 170	< 2.2	< 5.4	< 2.1	< 1.5	< 5.9	< 3.1	< 2.7	< 2.6	< 2.6
CADW- 6857	11/24/2014	< 177	< 2.3	< 3.6	< 1.5	< 2.2	< 3.1	< 3.8	< 2.4	< 2.5	< 6.4
CADW- 7306	12/30/2014	< 179	< 4.0	< 6.6	< 3.9	< 1.7	< 3.8	< 3.6	< 4.4	< 3.3	< 6.6

Table 8. Drinking Water Wells, analysis for tritium and gamma-emitting isotopes.

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
					CA-DWA-009 (Clardy)						
CADW- 779	2/26/2014	< 142	< 2.8	< 4.6	< 1.6	< 2.1	< 4.1	< 3.0	< 3.1	< 3.0	< 4.7
CADW- 2455	5/28/2014	< 142	< 2.9	< 3.9	< 2.3	< 3.1	< 4.3	< 3.3	< 2.7	< 2.2	< 5.0
CADW- 4467	8/26/2014	< 155	< 1.4	< 2.7	< 2.9	< 2.4	< 3.1	< 2.9	< 3.2	< 2.1	< 4.0
CADW- 5346	9/30/2014	< 178	< 2.0	< 4.7	< 2.2	< 1.0	< 3.1	< 2.8	< 2.5	< 3.7	< 3.0
CADW- 6231	10/29/2014	< 170	< 3.4	< 6.1	< 2.2	< 2.2	< 4.6	< 5.0	< 3.4	< 3.4	< 4.5
CADW- 6859	11/24/2014	< 177	< 2.5	< 5.3	< 2.8	< 1.2	< 3.2	< 3.0	< 2.6	< 2.7	< 5.9
CADW- 7307	12/30/2014	< 179	< 3.3	< 9.7	< 4.2	< 3.8	< 6.1	< 5.9	< 4.2	< 2.7	< 11.3
					CA-DWA-010 (Dillon, Susan)						
CADW- 780	2/26/2014	< 142	< 1.8	< 4.3	< 1.7	< 2.1	< 3.3	< 2.7	< 2.5	< 2.1	< 4.5
CADW- 2456	5/28/2014	< 142	< 2.4	< 9.4	< 2.0	< 2.6	< 5.8	< 3.8	< 4.6	< 5.8	< 3.4
CADW- 4468	8/26/2014	< 155	< 2.7	< 3.1	< 1.7	< 2.4	< 5.3	< 2.3	< 3.0	< 2.4	< 2.6
CADW- 5347	9/30/2014	< 178	< 4.0	< 7.1	< 2.1	< 2.6	< 3.0	< 2.7	< 4.0	< 2.9	< 4.3
CADW- 6232	10/29/2014	< 170	< 1.5	< 4.4	< 2.3	< 2.1	< 1.3	< 2.2	< 3.0	< 2.1	< 3.4
CADW- 6860	11/24/2014	< 177	< 2.5	< 4.9	< 2.2	< 1.9	< 2.1	< 2.5	< 2.1	< 2.1	< 9.1
CADW- 7308	12/30/2014	< 179	< 4.3	< 8.2	< 2.6	< 2.7	< 2.4	< 5.3	< 4.1	< 4.3	< 6.4
					CA-DWA-012 (Dillon, Joe)						
CADW- 781	2/26/2014	< 142	< 2.3	< 3.3	< 2.6	< 2.3	< 3.9	< 2.9	< 2.2	< 1.9	< 4.1
CADW- 2457	5/30/2014	< 142	< 4.0	< 9.3	< 3.3	< 4.4	< 7.1	< 5.2	< 6.2	< 5.9	< 5.8
CADW- 4469	8/26/2014	< 155	< 1.8	< 3.2	< 2.9	< 2.1	< 6.8	< 3.1	< 3.8	< 2.4	< 3.2
CADW- 5348	9/30/2014	< 178	< 2.9	< 9.5	< 4.1	< 2.2	< 5.8	< 5.2	< 3.3	< 4.0	< 12.7
CADW- 6233	10/29/2014	< 179	< 3.5	< 7.8	< 2.5	< 4.3	< 3.9	< 4.2	< 4.3	< 4.2	< 6.3
CADW- 6861	11/24/2014	< 177	< 2.0	< 5.3	< 2.6	< 1.4	< 3.7	< 3.0	< 2.3	< 2.6	< 3.7
CADW- 7309	12/30/2014	< 179	< 1.6	< 6.6	< 3.3	< 2.7	< 4.5	< 3.5	< 3.2	< 2.9	< 4.2
					CA-DWA-022 (Plummer)						
CADW- 782	2/26/2014	< 142	< 1.9	< 3.5	< 1.3	< 1.6	< 3.5	< 3.2	< 2.6	< 2.2	< 3.2
CADW- 2459	5/28/2014	< 142	< 2.4	< 4.2	< 2.2	< 1.9	< 3.2	< 4.0	< 2.6	< 2.3	< 6.3
CADW- 4470	8/26/2014	< 155	< 2.0	< 6.2	< 3.3	< 2.7	< 2.7	< 3.2	< 3.0	< 3.6	< 5.0
CADW- 5350	9/30/2014	< 178	< 2.1	< 4.6	< 2.6	< 1.8	< 4.1	< 3.0	< 2.6	< 2.6	< 3.6
CADW- 6235	10/29/2014	< 179	< 2.1	< 3.5	< 2.4	< 1.5	< 4.4	< 3.3	< 2.1	< 2.9	< 5.8
CADW- 6863	11/24/2014	< 177	< 2.7	< 8.2	< 1.9	< 2.2	< 2.9	< 2.8	< 3.1	< 3.2	< 3.3
CADW- 7311	12/30/2014	< 179	< 2.1	< 6.1	< 3.1	< 1.7	< 2.7	< 3.7	< 3.1	< 2.0	< 5.3
					CA-DWA-D01 (Portland Bar/Grill)						
CADW- 783	2/26/2014	< 142	< 2.6	< 5.3	< 1.7	< 1.4	< 2.4	< 2.2	< 2.0	< 3.0	< 4.6
CADW- 2460	5/28/2014	< 142	< 2.9	< 3.5	< 3.1	< 2.3	< 4.2	< 4.5	< 3.3	< 3.8	< 9.2
CADW- 4471	8/25/2014	< 155	< 2.5	< 7.6	< 2.5	< 1.7	< 5.8	< 4.0	< 4.5	< 3.9	< 2.3
CADW- 5352	9/30/2014	< 156	< 2.3	< 8.3	< 3.0	< 0.8	< 6.4	< 3.5	< 2.8	< 1.7	< 10.4
CADW- 6237	10/29/2014	< 179	< 2.1	< 5.7	< 1.8	< 2.5	< 4.9	< 4.1	< 3.1	< 2.6	< 2.9
CADW- 6865	11/24/2014	< 177	< 2.4	< 6.0	< 2.0	< 0.9	< 2.1	< 4.1	< 2.6	< 2.5	< 8.8
CADW- 7313	12/30/2014	< 179	< 4.0	< 11.8	< 3.8	< 3.6	< 4.1	< 5.4	< 4.3	< 4.4	< 5.1

Table 8. Drinking Water Wells, analysis for tritium and gamma-emitting isotopes.

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
					CA-DWA-PW1 (Plant Cafeteria)						
CADW- 784	2/26/2014	< 142	< 1.5	< 4.3	< 2.1	< 1.5	< 4.3	< 3.1	< 2.3	< 2.7	< 6.9
CADW- 2461	5/30/2014	< 142	< 4.0	< 11.1	< 4.0	< 4.6	< 3.3	< 6.4	< 6.3	< 5.8	< 6.2
CADW- 4474	8/27/2014	< 155	< 3.2	< 6.2	< 3.4	< 2.4	< 3.3	< 4.5	< 4.8	< 5.0	< 5.3
CADW- 5353	9/30/2014	< 156	< 2.6	< 4.0	< 3.4	< 1.6	< 2.7	< 3.8	< 2.7	< 2.1	< 4.4
CADW- 6238	10/29/2014	< 179	< 2.4	< 6.0	< 3.8	< 1.4	< 4.5	< 4.5	< 2.8	< 3.0	< 8.4
CADW- 6866	11/25/2014	< 177	< 3.6	< 3.6	< 4.2	< 2.3	< 4.5	< 3.4	< 3.3	< 3.2	< 8.6
CADW- 7314	12/31/2014	< 179	< 2.1	< 7.5	< 3.0	< 2.3	< 4.2	< 2.3	< 3.1	< 1.8	< 5.1
					CA-DWA-21						
CADW- 4472	8/25/2014	< 155	< 5.2	< 7.6	< 7.3	< 4.6	< 10.8	< 6.2	< 6.1	< 6.8	< 9.7
CADW- 5349	9/30/2014	< 178	< 2.5	< 5.4	< 2.5	< 1.7	< 3.0	< 4.4	< 2.4	< 2.3	< 8.3
CADW- 6234	10/29/2014	< 179	< 2.1	< 4.0	< 1.9	< 2.7	< 3.8	< 2.9	< 2.1	< 1.8	< 4.5
CADW- 6862	11/24/2014	< 177	< 1.7	< 5.1	< 2.6	< 1.4	< 4.8	< 2.4	< 2.7	< 1.8	< 7.9
CADW- 7310	12/30/2014	< 179	< 3.3	< 8.4	< 5.6	< 1.9	< 8.0	< 6.2	< 6.0	< 4.9	< 8.9
					CA-DWA-V16						
CADW- 4473	8/26/2014	< 155	< 3.1	< 3.1	< 1.6	< 3.4	< 3.5	< 4.3	< 3.8	< 2.6	< 3.6
CADW- 5351	9/30/2014	< 178	< 1.9	< 5.3	< 3.0	< 2.4	< 6.0	< 3.7	< 2.7	< 2.6	< 6.4
CADW- 6236	10/29/2014	< 179	< 3.2	< 6.5	< 3.3	< 1.8	< 4.2	< 4.1	< 3.5	< 3.6	< 6.1
CADW- 6864	11/24/2014	< 177	< 2.3	< 5.5	< 1.4	< 1.9	< 2.9	< 3.3	< 2.3	< 2.8	< 7.2
CADW- 7312	12/30/2014	< 179	< 2.6	< 1.8	< 1.4	< 2.3	< 5.2	< 2.7	< 2.5	< 2.7	< 4.1

Table 9. Wells and Ponds (non-potable), analyses for tritium and gamma-emitting isotopes.

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
					Location: CA-WWA-936						
CAWW- 175	1/13/2014	253 ± 86	< 5.1	< 6.6	< 4.3	< 5.2	< 7.0	< 4.4	< 5.2	< 5.7	< 8.2
CAWW- 568	2/13/2014	< 176	< 1.8	< 5.2	< 1.3	< 2.0	< 3.8	< 2.6	< 2.5	< 2.6	< 2.5
CAWW- 985	3/13/2014	225 ± 97	< 4.9	< 9.9	< 4.1	< 3.3	< 12.1	< 7.0	< 4.9	< 4.9	< 6.9
CAWW- 1572	4/16/2014	225 ± 82	< 2.8	< 6.4	< 1.5	< 2.4	< 4.4	< 2.2	< 3.1	< 2.4	< 2.7
CAWW- 2124	5/16/2014	< 144	< 5.1	< 5.1	< 3.7	< 5.6	< 5.1	< 5.9	< 5.6	< 4.6	< 8.0
CAWW- 2743	6/13/2014	157 ± 79	< 6.8	< 6.5	< 4.8	< 3.3	< 5.6	< 4.4	< 5.8	< 5.3	< 5.9
CAWW- 3573	7/18/2014	401 ± 87	< 2.0	< 4.2	< 3.6	< 3.4	< 4.3	< 4.3	< 3.8	< 2.3	< 3.7
CAWW- 4230	8/14/2014	388 ± 92	< 2.7	< 1.9	< 2.4	< 2.0	< 2.4	< 2.9	< 2.4	< 2.4	< 5.3
CAWW- 4770	9/9/2014	< 152	< 4.4	< 4.7	< 2.7	< 2.0	< 1.8	< 5.8	< 4.2	< 2.6	< 9.1
CAWW- 5489	10/7/2014	< 159	< 1.0	< 1.6	< 1.6	< 0.9	< 2.2	< 1.5	< 1.3	< 1.6	< 4.2
CAWW- 6405	11/11/2014	261 ± 110	< 2.7	< 3.4	< 3.5	< 2.1	< 5.2	< 4.4	< 4.1	< 2.2	< 2.1
CAWW- 7078	12/18/2014	287 ± 113	< 3.7	< 3.8	< 3.1	< 2.4	< 7.4	< 3.4	< 4.1	< 4.0	< 5.9
					Location: CA-WWA-937A						
CAWW- 176	1/13/2014	< 145	< 2.9	< 3.6	< 1.9	< 1.6	< 4.8	< 2.8	< 3.5	< 3.6	< 2.4
CAWW- 569	2/14/2014	< 147	< 3.0	< 4.4	< 2.0	< 2.0	< 3.8	< 3.6	< 3.1	< 3.5	< 4.2
CAWW- 986	3/12/2014	< 143	< 2.6	< 5.2	< 2.4	< 2.5	< 6.0	< 3.1	< 3.4	< 2.4	< 3.1
CAWW- 1573	4/16/2014	< 146	< 2.0	< 3.1	< 2.2	< 1.3	< 4.7	< 1.9	< 2.5	< 2.4	< 3.3
CAWW- 2125	5/16/2014	< 144	< 1.7	< 3.0	< 2.5	< 2.1	< 4.5	< 3.0	< 3.0	< 3.0	< 1.8
CAWW- 2744	6/13/2014	< 141	< 3.4	< 7.7	< 2.2	< 3.1	< 6.0	< 3.1	< 4.0	< 4.2	< 4.3
CAWW- 3575	7/18/2014	< 137	< 2.6	< 5.7	< 2.8	< 1.5	< 3.4	< 2.8	< 2.9	< 2.9	< 4.2
CAWW- 4231	8/15/2014	156 ± 81	< 2.6	< 3.1	< 3.9	< 2.1	< 4.2	< 4.2	< 2.4	< 1.8	< 4.7
CAWW- 4771	9/9/2014	< 152	< 3.1	< 5.3	< 3.4	< 1.6	< 3.2	< 3.1	< 3.3	< 2.7	< 4.3
CAWW- 5490	10/8/2014	< 152	< 1.7	< 4.2	< 1.5	< 1.4	< 1.5	< 2.0	< 1.6	< 1.9	< 5.8
CAWW- 6451	11/13/2014	< 185	< 3.9	< 5.1	< 5.1	< 4.9	< 6.4	< 7.2	< 5.0	< 3.9	< 8.2
CAWW- 7079	12/18/2014	< 183	< 2.7	< 2.1	< 2.2	< 1.1	< 2.8	< 3.0	< 2.5	< 2.7	< 4.1
					Location: CA-WWA-937B						
CAWW- 117	1/10/2014	< 150	< 3.7	< 10.1	< 4.7	< 5.1	< 6.1	< 6.0	< 5.9	< 4.3	< 2.5
CAWW- 640	2/19/2014	< 147	< 1.8	< 4.8	< 2.4	< 2.9	< 5.5	< 3.2	< 3.7	< 3.0	< 3.8
CAWW- 987	3/13/2014	< 143	< 1.3	< 3.0	< 1.5	< 2.3	< 4.7	< 2.2	< 2.2	< 2.5	< 3.7
CAWW- 1575	4/15/2014	< 146	< 2.6	< 2.6	< 2.0	< 1.6	< 3.6	< 2.8	< 3.0	< 2.3	< 2.7
CAWW- 2126	5/16/2014	< 146	< 2.9	< 3.5	< 1.8	< 1.7	< 6.0	< 2.6	< 4.0	< 3.3	< 2.8
CAWW- 2745	6/13/2014	< 141	< 2.5	< 3.6	< 2.0	< 3.3	< 2.2	< 4.7	< 4.2	< 3.1	< 5.8
CAWW- 3576	7/18/2014	< 137	< 1.8	< 2.2	< 3.7	< 2.3	< 3.6	< 2.6	< 3.0	< 2.2	< 5.1
CAWW- 4232	8/14/2014	< 138	< 2.4	< 6.7	< 1.2	< 1.9	< 3.7	< 3.9	< 3.1	< 2.7	< 8.5
CAWW- 4772	9/9/2014	< 152	< 2.1	< 3.4	< 1.8	< 1.4	< 3.2	< 3.4	< 2.6	< 2.6	< 4.4
CAWW- 5491	10/7/2014	< 152	< 1.1	< 3.0	< 1.6	< 1.1	< 2.1	< 1.9	< 1.2	< 1.3	< 3.8
CAWW- 6406	11/11/2014	< 180	< 1.7	< 3.4	< 3.1	< 2.0	< 3.0	< 2.9	< 3.1	< 2.5	< 4.1
CAWW- 7080	12/18/2014	< 183	< 3.0	< 5.4	< 2.6	< 2.1	< 3.7	< 4.0	< 2.9	< 2.1	< 3.6

Table 9. Wells and Ponds (non-potable), analyses for tritium and gamma-emitting isotopes.

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
		Location: CA-WWA-937C									
CAWW- 177	1/13/2014	276 ± 90	< 3.7	< 4.7	< 4.1	< 2.0	< 5.1	< 3.8	< 3.2	< 3.6	< 5.3
CAWW- 570	2/13/2014	< 176	< 2.4	< 6.0	< 2.5	< 2.1	< 2.8	< 2.7	< 2.9	< 2.2	< 3.6
CAWW- 988	3/13/2014	217 ± 96	< 2.0	< 3.4	< 1.2	< 0.8	< 4.3	< 2.7	< 2.4	< 2.8	< 3.3
CAWW- 1576	4/15/2014	265 ± 84	< 2.0	< 4.0	< 1.6	< 1.7	< 6.3	< 2.4	< 2.5	< 3.6	< 3.8
CAWW- 2127	5/15/2014	193 ± 81	< 1.8	< 4.8	< 3.2	< 3.0	< 3.3	< 3.2	< 3.0	< 3.2	< 5.3
CAWW- 2746	6/13/2014	224 ± 82	< 2.1	< 4.2	< 2.4	< 2.3	< 2.2	< 3.1	< 3.0	< 2.9	< 5.4
CAWW- 3475	7/14/2014	218 ± 79	< 2.4	< 4.0	< 3.6	< 1.9	< 2.2	< 3.3	< 2.5	< 3.9	< 8.7
CAWW- 4233	8/14/2014	141 ± 81	< 2.2	< 3.5	< 1.8	< 2.4	< 3.7	< 3.5	< 2.8	< 2.1	< 6.2
CAWW- 4773	9/9/2014	167 ± 89	< 3.7	< 5.4	< 3.4	< 3.8	< 6.4	< 7.3	< 3.9	< 2.8	< 9.9
CAWW- 5492	10/7/2014	< 152	< 1.7	< 5.0	< 1.5	< 1.8	< 2.2	< 3.9	< 3.1	< 2.9	< 1.9
CAWW- 6407	11/11/2014	195 ± 106	< 5.1	< 7.5	< 2.8	< 5.0	< 7.6	< 3.9	< 5.0	< 6.1	< 4.0
CAWW- 7081	12/18/2014	204 ± 108	< 5.1	< 5.3	< 3.5	< 3.7	< 5.3	< 4.5	< 5.4	< 3.6	< 4.2
		Location: CA-WWA-937D									
CAWW- 178	1/13/2014	349 ± 93	< 3.8	< 6.2	< 2.7	< 4.7	< 7.3	< 4.3	< 4.0	< 3.8	< 3.4
CAWW- 571	2/13/2014	303 ± 88	< 2.1	< 5.8	< 1.9	< 2.4	< 3.9	< 2.9	< 3.4	< 2.8	< 5.7
CAWW- 989	3/13/2014	279 ± 99	< 3.4	< 7.6	< 3.4	< 3.3	< 6.5	< 3.8	< 4.0	< 3.9	< 3.1
CAWW- 1577	4/15/2014	205 ± 81	< 1.5	< 5.0	< 3.0	< 1.4	< 4.4	< 3.7	< 2.5	< 2.1	< 5.4
CAWW- 2128	5/15/2014	279 ± 86	< 3.2	< 4.4	< 3.7	< 2.6	< 6.1	< 2.4	< 4.2	< 4.8	< 3.3
CAWW- 2747	6/13/2014	224 ± 82	< 3.3	< 2.5	< 2.4	< 1.4	< 4.2	< 4.2	< 3.3	< 2.4	< 4.8
CAWW- 3476	7/14/2014	383 ± 87	< 2.4	< 3.1	< 2.2	< 2.6	< 2.6	< 3.2	< 2.2	< 2.1	< 7.4
CAWW- 4234	8/14/2014	382 ± 91	< 1.8	< 4.6	< 2.3	< 2.0	< 4.9	< 3.6	< 3.0	< 1.8	< 6.6
CAWW- 4774	9/9/2014	482 ± 104	< 2.7	< 7.3	< 3.1	< 3.1	< 4.8	< 3.2	< 4.4	< 3.8	< 2.5
CAWW- 5493	10/7/2014	228 ± 88	< 2.8	< 5.2	< 2.9	< 2.4	< 4.6	< 3.2	< 3.4	< 3.3	< 8.7
CAWW- 6408	11/11/2014	282 ± 111	< 2.6	< 3.0	< 1.3	< 2.5	< 5.4	< 4.2	< 3.3	< 2.9	< 6.0
CAWW- 7082	12/18/2014	479 ± 123	< 6.3	< 4.1	< 7.8	< 6.3	< 13.6	< 6.8	< 6.9	< 4.1	< 7.3
		Location: CA-WWA-937E									
CAWW- 180	1/14/2014	155 ± 84	< 2.8	< 6.3	< 3.8	< 2.7	< 5.9	< 2.7	< 4.4	< 1.8	< 6.2
CAWW- 572	2/12/2014	< 147	< 2.6	< 3.4	< 1.5	< 2.0	< 3.3	< 2.0	< 3.1	< 2.8	< 4.0
CAWW- 990	3/13/2014	154 ± 94	< 2.5	< 3.2	< 3.3	< 1.9	< 2.4	< 2.3	< 2.8	< 2.4	< 3.7
CAWW- 1578	4/15/2014	< 146	< 1.9	< 4.9	< 3.2	< 1.5	< 2.1	< 1.7	< 3.1	< 2.8	< 2.6
CAWW- 2129	5/15/2014	< 144	< 4.2	< 5.4	< 4.8	< 4.0	< 8.8	< 4.9	< 5.3	< 4.1	< 7.5
CAWW- 2748	6/13/2014	181 ± 80	< 4.5	< 5.0	< 3.4	< 3.7	< 4.2	< 4.8	< 4.7	< 5.1	< 3.7
CAWW- 3577	7/18/2014	171 ± 75	< 2.4	< 4.7	< 2.8	< 3.1	< 2.8	< 3.5	< 3.2	< 2.6	< 6.1
CAWW- 4235	8/14/2014	151 ± 81	< 3.3	< 3.9	< 2.8	< 1.8	< 2.1	< 2.7	< 2.4	< 1.7	< 5.0
CAWW- 4776	9/9/2014	< 156	< 2.8	< 3.6	< 2.3	< 2.7	< 5.5	< 2.7	< 2.9	< 2.4	< 4.1
CAWW- 5494	10/7/2014	157 ± 84	< 2.8	< 5.3	< 2.5	< 2.9	< 4.2	< 3.9	< 2.7	< 2.8	< 5.7
CAWW- 6409	11/11/2014	204 ± 107	< 2.0	< 4.7	< 2.0	< 1.9	< 4.6	< 2.4	< 2.9	< 3.5	< 3.4
CAWW- 7083	12/18/2014	< 183	< 3.6	< 5.5	< 2.4	< 3.1	< 3.6	< 4.0	< 3.2	< 3.2	< 4.4

Table 9. Wells and Ponds (non-potable), analyses for tritium and gamma-emitting isotopes.

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
					Location: CA-WWA-937F						
CAWW- 118	1/10/2014	< 150	< 1.9	< 4.4	< 2.7	< 2.4	< 3.3	< 3.4	< 3.1	< 3.0	< 3.5
CAWW- 573	2/13/2014	< 147	< 2.0	< 3.0	< 2.2	< 1.2	< 3.3	< 2.9	< 2.4	< 2.7	< 4.4
CAWW- 991	3/14/2014	< 143	< 3.9	< 5.1	< 1.7	< 2.3	< 5.1	< 5.0	< 3.7	< 3.6	< 2.3
CAWW- 1579	4/15/2014	< 146	< 1.7	< 4.1	< 1.5	< 1.8	< 4.7	< 3.7	< 3.0	< 2.8	< 6.1
CAWW- 2130	5/16/2014	< 144	< 2.5	< 2.3	< 2.0	< 1.9	< 4.3	< 3.4	< 3.1	< 2.6	< 1.8
CAWW- 2749	6/13/2014	< 141	< 2.6	< 3.9	< 1.2	< 1.4	< 4.7	< 2.1	< 2.9	< 2.9	< 4.0
CAWW- 3578	7/18/2014	161 ± 75	< 2.8	< 6.9	< 2.1	< 3.9	< 4.4	< 2.8	< 3.2	< 2.6	< 5.3
CAWW- 4236	8/14/2014	< 138	< 3.0	< 6.4	< 2.7	< 1.6	< 2.4	< 4.0	< 2.8	< 2.8	< 4.7
CAWW- 4777	9/9/2014	< 152	< 2.2	< 4.0	< 2.1	< 2.3	< 4.0	< 3.5	< 2.8	< 2.3	< 10.1
CAWW- 5495	10/7/2014	< 152	< 3.0	< 2.8	< 3.1	< 1.6	< 4.7	< 3.8	< 2.8	< 2.9	< 5.7
CAWW- 6410	11/11/2014	< 180	< 3.7	< 3.3	< 3.1	< 2.8	< 4.5	< 2.7	< 3.8	< 3.6	< 3.2
CAWW- 7084	12/18/2014	< 183	< 2.5	< 3.8	< 2.5	< 2.2	< 4.8	< 2.7	< 2.6	< 3.6	< 2.8
					Location: CA-WWA-938						
CAWW- 181	1/14/2014	< 145	< 2.9	< 4.1	< 3.4	< 3.2	< 6.5	< 3.5	< 3.4	< 3.1	< 6.2
CAWW- 574	2/12/2014	< 147	< 1.9	< 3.5	< 2.0	< 2.1	< 4.7	< 2.3	< 2.4	< 2.2	< 4.1
CAWW- 993	3/13/2014	< 143	< 2.2	< 5.4	< 1.9	< 1.4	< 5.6	< 4.2	< 2.6	< 2.8	< 2.6
CAWW- 1580	4/15/2014	< 146	< 3.1	< 5.4	< 1.4	< 3.0	< 1.5	< 2.9	< 3.1	< 2.5	< 5.9
CAWW- 2131	5/15/2014	< 144	< 1.8	< 4.5	< 3.0	< 2.1	< 4.3	< 2.9	< 3.8	< 4.6	< 2.8
CAWW- 2750	6/13/2014	< 141	< 3.0	< 3.2	< 1.7	< 1.5	< 2.8	< 3.1	< 2.6	< 2.4	< 4.9
CAWW- 3477	7/14/2014	< 137	< 1.3	< 1.9	< 3.9	< 2.7	< 3.8	< 3.6	< 3.0	< 3.2	< 6.3
CAWW- 4237	8/14/2014	< 139	< 1.1	< 5.8	< 1.9	< 2.7	< 3.5	< 2.8	< 2.6	< 1.9	< 6.6
CAWW- 4778	9/9/2014	< 152	< 2.9	< 5.3	< 2.0	< 1.9	< 4.2	< 4.1	< 2.6	< 2.8	< 4.9
CAWW- 5496	10/7/2014	< 152	< 2.2	< 7.1	< 3.6	< 2.1	< 4.0	< 2.7	< 2.8	< 3.1	< 9.3
CAWW- 6411	11/11/2014	< 180	< 1.2	< 2.0	< 0.9	< 1.1	< 2.6	< 1.8	< 1.2	< 0.8	< 1.9
CAWW- 7085	12/18/2014	< 183	< 3.3	< 5.3	< 2.8	< 3.1	< 4.9	< 3.9	< 4.1	< 4.4	< 4.6
					Location: CA-WWA-939R						
CAWW- 182	1/13/2014	286 ± 90	< 4.4	< 8.0	< 2.2	< 2.9	< 4.3	< 3.0	< 4.7	< 3.6	< 6.4
CAWW- 575	2/13/2014	197 ± 83	< 2.7	< 3.8	< 1.7	< 2.2	< 4.5	< 3.0	< 2.3	< 2.9	< 3.0
CAWW- 994	3/13/2014	257 ± 98	< 3.1	< 3.9	< 3.1	< 1.4	< 3.3	< 2.2	< 2.7	< 3.6	< 2.1
CAWW- 1581	4/16/2014	273 ± 84	< 2.8	< 2.7	< 2.9	< 2.1	< 5.0	< 4.3	< 2.7	< 2.1	< 3.9
CAWW- 2132	5/15/2014	356 ± 89	< 3.0	< 5.5	< 2.3	< 1.6	< 7.7	< 2.8	< 4.3	< 3.1	< 6.1
CAWW- 2751	6/13/2014	275 ± 84	< 2.0	< 4.0	< 1.8	< 2.0	< 2.8	< 3.5	< 3.4	< 2.5	< 6.1
CAWW- 3579	7/18/2014	401 ± 87	< 2.3	< 5.1	< 3.1	< 2.0	< 3.7	< 3.0	< 2.7	< 3.2	< 6.7
CAWW- 4238	8/14/2014	312 ± 88	< 2.5	< 5.8	< 2.6	< 2.4	< 2.2	< 3.1	< 2.5	< 2.4	< 5.6
CAWW- 4779	9/9/2014	303 ± 96	< 2.2	< 5.5	< 2.3	< 1.6	< 3.3	< 3.4	< 2.7	< 2.6	< 5.9
CAWW- 5497	10/7/2014	353 ± 94	< 1.2	< 1.9	< 1.1	< 0.9	< 2.0	< 1.8	< 1.1	< 1.1	< 3.3
CAWW- 6412	11/11/2014	309 ± 112	< 2.0	< 6.3	< 1.8	< 2.2	< 3.9	< 2.5	< 3.1	< 1.8	< 6.2
CAWW- 7086	12/18/2014	299 ± 113	< 3.7	< 4.8	< 2.1	< 2.1	< 6.6	< 3.9	< 3.7	< 4.3	< 2.4

Table 9. Wells and Ponds (non-potable), analyses for tritium and gamma-emitting isotopes.

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
					Location: CA-WWA-940						
CAWW- 183	1/14/2014	< 145	< 2.4	< 4.2	< 2.2	< 2.0	< 4.3	< 3.4	< 3.4	< 2.6	< 3.4
CAWW- 577	2/12/2014	< 147	< 2.0	< 3.7	< 1.6	< 1.8	< 1.8	< 2.7	< 2.5	< 2.2	< 2.5
CAWW- 995	3/13/2014	< 143	< 3.3	< 7.6	< 3.6	< 2.7	< 8.4	< 4.1	< 3.7	< 3.4	< 6.0
CAWW- 1582	4/16/2014	< 146	< 2.9	< 3.9	< 1.7	< 2.0	< 3.8	< 2.5	< 2.7	< 2.9	< 3.7
CAWW- 2133	5/15/2014	< 144	< 2.1	< 4.0	< 2.0	< 2.5	< 3.0	< 4.7	< 3.2	< 3.6	< 4.2
CAWW- 2752	6/13/2014	< 141	< 3.7	< 4.3	< 2.6	< 4.6	< 5.5	< 3.6	< 4.5	< 3.7	< 5.1
CAWW- 3478	7/14/2014	< 136	< 2.3	< 4.1	< 2.7	< 2.9	< 3.5	< 4.1	< 3.0	< 2.0	< 8.3
CAWW- 4239	8/14/2014	< 138	< 2.8	< 3.5	< 2.8	< 1.9	< 5.0	< 3.3	< 2.5	< 1.6	< 2.4
CAWW- 4780	9/9/2014	< 152	< 3.1	< 7.2	< 3.6	< 4.5	< 8.6	< 5.3	< 5.0	< 5.5	< 6.0
CAWW- 5498	10/7/2014	< 152	< 1.1	< 2.0	< 1.3	< 1.0	< 2.0	< 2.3	< 1.3	< 1.5	< 2.7
CAWW- 6413	11/11/2014	< 180	< 1.2	< 1.8	< 1.1	< 0.5	< 2.5	< 1.7	< 1.1	< 1.5	< 1.3
CAWW- 7087	12/18/2014	< 183	< 3.5	< 4.7	< 2.5	< 3.1	< 6.9	< 3.8	< 3.6	< 4.0	< 2.3
					Location: CA-WWA-941						
CAWW- 184	1/13/2014	< 145	< 2.4	< 5.5	< 3.3	< 3.0	< 3.6	< 4.0	< 3.5	< 2.9	< 6.1
CAWW- 578	2/12/2014	< 147	< 2.1	< 4.0	< 1.5	< 1.1	< 1.8	< 3.0	< 2.7	< 2.4	< 2.1
CAWW- 996	3/13/2014	< 143	< 2.3	< 3.8	< 2.2	< 1.3	< 2.4	< 2.8	< 3.0	< 2.9	< 3.1
CAWW- 1583	4/15/2014	< 146	< 2.2	< 4.4	< 1.8	< 1.7	< 2.6	< 2.8	< 2.6	< 3.0	< 3.0
CAWW- 2134	5/15/2014	< 144	< 5.1	< 10.9	< 4.4	< 4.2	< 9.0	< 5.8	< 4.8	< 4.8	< 6.7
CAWW- 2753	6/13/2014	< 141	< 2.5	< 5.5	< 1.7	< 3.0	< 1.6	< 2.8	< 2.6	< 2.3	< 6.3
CAWW- 3479	7/14/2014	< 136	< 2.6	< 4.6	< 3.5	< 2.3	< 4.3	< 3.2	< 2.9	< 3.1	< 5.1
CAWW- 4240	8/14/2014	< 138	< 2.8	< 5.2	< 1.4	< 2.1	< 4.2	< 3.4	< 2.4	< 1.8	< 7.3
CAWW- 4781	9/9/2014	< 152	< 2.5	< 5.9	< 2.1	< 2.3	< 4.7	< 3.8	< 2.4	< 2.2	< 3.4
CAWW- 5499	10/7/2014	< 152	< 1.4	< 3.0	< 1.4	< 1.4	< 2.9	< 2.3	< 1.3	< 1.4	< 4.7
CAWW- 6414	11/11/2014	< 180	< 2.1	< 4.6	< 1.6	< 1.5	< 3.8	< 1.6	< 2.0	< 2.2	< 2.5
CAWW- 7088	12/18/2014	< 183	< 5.9	< 7.1	< 4.2	< 5.1	< 7.6	< 5.2	< 5.0	< 3.5	< 3.5
					Location: CA-WWA-GWS						
CAWW- 185	1/13/2014	< 142	< 1.8	< 2.9	< 2.5	< 2.0	< 2.8	< 3.3	< 3.6	< 3.3	< 2.0
CAWW- 579	2/13/2014	425 ± 93	< 1.9	< 5.1	< 1.8	< 2.1	< 2.8	< 3.1	< 2.4	< 2.6	< 6.0
CAWW- 997	3/14/2014	562 ± 110	< 8.0	< 9.3	< 5.4	< 6.6	< 7.8	< 6.3	< 7.4	< 6.9	< 7.4
CAWW- 1584	4/16/2014	193 ± 80	< 2.5	< 2.8	< 2.2	< 1.2	< 3.2	< 3.0	< 2.9	< 2.5	< 2.3
CAWW- 2135	5/16/2014	< 144	< 4.3	< 6.1	< 4.3	< 1.2	< 5.0	< 3.4	< 4.3	< 3.6	< 5.8
CAWW- 2754	6/13/2014	155 ± 78	< 3.0	< 9.8	< 5.5	< 3.7	< 4.2	< 7.0	< 4.9	< 4.6	< 7.8
CAWW- 3582	7/18/2014	< 137	< 2.4	< 4.0	< 2.5	< 2.5	< 2.7	< 3.4	< 3.0	< 2.8	< 5.6
CAWW- 4241	8/14/2014	< 138	< 5.9	< 6.6	< 5.6	< 4.3	< 8.4	< 5.3	< 6.0	< 4.1	< 13.7
CAWW- 4782	9/9/2014	< 152	< 2.4	< 6.9	< 3.2	< 1.6	< 4.5	< 3.9	< 2.6	< 2.1	< 6.2
CAWW- 5500	10/7/2014	< 152	< 1.2	< 3.4	< 1.6	< 1.1	< 2.7	< 2.1	< 1.2	< 1.3	< 4.1
CAWW- 6415	11/11/2014	261 ± 110	< 2.1	< 2.4	< 2.0	< 1.2	< 2.9	< 4.1	< 2.4	< 1.7	< 5.5
CAWW- 7090	12/18/2014	< 183	< 3.8	< 6.0	< 3.5	< 3.4	< 4.8	< 6.1	< 4.2	< 3.5	< 3.0

Table 9. Wells and Ponds (non-potable), analyses for tritium and gamma-emitting isotopes.

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
					Location: CA-WWA-OW-4						
CAWW- 186	1/14/2014	318 ± 91	< 1.7	< 8.5	< 1.4	< 2.4	< 6.5	< 3.2	< 3.3	< 3.0	< 4.2
CAWW- 1874	4/30/2014	172 ± 79	< 3.2	< 2.9	< 3.2	< 1.3	< 5.9	< 3.9	< 3.0	< 3.0	< 2.8
CAWW- 3580	7/18/2014	176 ± 76	< 2.5	< 4.5	< 2.7	< 2.4	< 2.7	< 5.0	< 2.7	< 3.3	< 7.3
CAWW- 5926	10/22/2014	292 ± 90	< 3.4	< 6.0	< 2.5	< 3.5	< 5.4	< 4.1	< 3.6	< 4.0	< 2.9
					Location: CA-WWA-OW-5						
CAWW- 156	1/10/2014	275 ± 87	< 2.7	< 5.3	< 1.6	< 2.3	< 4.7	< 5.1	< 3.5	< 3.8	< 6.3
CAWW- 1875	4/29/2014	314 ± 86	< 3.9	< 6.8	< 3.6	< 3.8	< 9.5	< 6.3	< 5.2	< 4.9	< 4.1
CAWW- 3762	7/25/2014	327 ± 88	< 2.6	< 4.5	< 1.8	< 1.5	< 3.3	< 3.8	< 2.5	< 1.8	< 5.1
CAWW- 5928	10/21/2014	308 ± 91	< 3.3	< 8.0	< 5.4	< 3.6	< 12.2	< 7.8	< 4.9	< 4.7	< 8.1
					Location: CA-WWA-U1MW-001						
CAWW- 252	1/17/2014	< 151	< 5.9	< 11.4	< 3.2	< 5.3	< 8.5	< 6.7	< 7.1	< 6.8	< 6.2
CAWW- 1622	4/22/2014	< 146	< 2.9	< 5.8	< 3.8	< 2.1	< 6.4	< 3.4	< 3.2	< 3.3	< 5.3
CAWW- 3345	7/11/2014	< 136	< 1.8	< 3.3	< 2.7	< 2.6	< 2.5	< 3.0	< 2.2	< 2.3	< 4.9
CAWW- 5484	10/6/2014	< 152	< 3.4	< 3.2	< 5.7	< 6.1	< 5.2	< 4.6	< 5.9	< 4.7	< 7.3
					Location: CA-WWA-U1MW-002						
CAWW- 257	1/17/2014	< 151	< 2.5	< 3.2	< 0.8	< 1.8	< 4.1	< 3.5	< 2.9	< 3.0	< 4.2
CAWW- 1876	4/29/2014	< 145	< 3.3	< 4.2	< 2.6	< 1.8	< 4.3	< 3.8	< 3.9	< 3.6	< 2.8
CAWW- 3859	7/29/2014	< 138	< 2.8	< 3.3	< 1.5	< 1.5	< 5.2	< 2.3	< 2.8	< 2.3	< 4.1
CAWW- 5934	10/22/2014	< 149	< 2.1	< 3.8	< 2.5	< 1.8	< 4.0	< 3.6	< 2.5	< 2.7	< 2.7
					Location: CA-WWA-U1MW-004						
CAWW- 119	1/9/2014	< 150	< 2.2	< 3.6	< 2.4	< 2.0	< 5.2	< 3.2	< 3.1	< 3.4	< 3.5
CAWW- 1495	4/11/2014	< 140	< 2.6	< 5.2	< 2.2	< 2.1	< 3.0	< 3.5	< 2.8	< 3.4	< 2.9
CAWW- 3342	7/10/2014	< 136	< 2.0	< 3.5	< 1.7	< 2.3	< 2.8	< 2.6	< 2.8	< 2.6	< 4.4
CAWW- 5475	10/2/2014	< 152	< 2.4	< 3.2	< 1.3	< 1.7	< 4.6	< 2.9	< 2.5	< 3.1	< 4.4
					Location: CA-WWA-U1MW-005						
CAWW- 160	1/6/2014	< 148	< 4.6	< 4.5	< 3.3	< 2.0	< 5.9	< 4.6	< 3.9	< 2.1	< 3.7
CAWW- 1492	4/11/2014	< 140	< 2.0	< 4.9	< 2.1	< 1.5	< 5.2	< 2.3	< 2.8	< 3.5	< 3.0
CAWW- 3344	7/10/2014	< 136	< 2.1	< 4.0	< 1.7	< 1.9	< 4.7	< 4.0	< 3.2	< 2.7	< 3.9
CAWW- 5476	10/2/2014	< 152	< 1.5	< 4.2	< 1.7	< 1.1	< 4.6	< 3.1	< 2.5	< 2.2	< 3.7
					Location: CA-WWA-U1MW-006						
CAWW- 254	1/17/2014	< 151	< 2.6	< 3.0	< 1.2	< 1.2	< 5.2	< 3.1	< 2.7	< 3.6	< 3.4
CAWW- 1878	4/30/2014	< 145	< 2.2	< 6.0	< 2.0	< 2.2	< 7.5	< 4.2	< 3.2	< 2.5	< 1.9
CAWW- 3860	7/29/2014	< 138	< 3.1	< 4.0	< 2.5	< 2.4	< 6.6	< 4.2	< 4.0	< 3.4	< 10.4
CAWW- 5936	10/23/2014	< 149	< 2.6	< 4.5	< 2.3	< 1.6	< 5.5	< 2.9	< 2.8	< 2.9	< 6.0

Table 9. Wells and Ponds (non-potable), analyses for tritium and gamma-emitting isotopes.

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
					Location: CA-WWA-U1MW-010						
CAWW- 255	1/17/2014	< 151	< 3.2	< 7.7	< 2.5	< 2.2	< 3.1	< 2.1	< 3.7	< 3.0	< 4.5
CAWW- 1884	4/28/2014	< 145	< 1.6	< 2.8	< 1.1	< 1.2	< 3.6	< 2.4	< 2.4	< 2.8	< 4.3
CAWW- 3861	7/29/2014	< 138	< 2.6	< 2.6	< 2.6	< 1.8	< 3.6	< 3.2	< 3.1	< 2.2	< 3.3
CAWW- 5472	10/3/2014	< 152	< 3.1	< 5.4	< 2.8	< 2.0	< 3.7	< 3.1	< 3.5	< 3.8	< 6.8
					Location: CA-WWA-U1MW-012						
CAWW- 253	1/17/2014	< 151	< 2.2	< 4.4	< 1.7	< 2.4	< 4.8	< 3.1	< 2.5	< 2.9	< 3.9
CAWW- 1880	4/30/2014	< 145	< 2.8	< 4.8	< 1.3	< 1.9	< 4.4	< 2.1	< 3.2	< 3.0	< 3.2
CAWW- 3862	7/29/2014	< 138	< 4.9	< 3.9	< 4.1	< 4.2	< 4.7	< 4.1	< 5.4	< 4.3	< 9.5
CAWW- 5935	10/23/2014	< 149	< 3.7	< 7.6	< 3.9	< 1.8	< 5.8	< 3.9	< 3.8	< 4.0	< 4.4
					Location: CA-WWA-U1MW-013						
CAWW- 167	1/8/2014	< 148	< 2.6	< 3.3	< 1.7	< 1.5	< 2.3	< 3.7	< 2.9	< 3.5	< 3.3
CAWW- 1623	4/22/2014	< 146	< 2.2	< 6.5	< 1.8	< 2.3	< 2.8	< 3.2	< 3.2	< 2.0	< 1.8
CAWW- 3346	7/11/2014	< 136	< 2.1	< 3.1	< 1.5	< 2.1	< 3.3	< 3.5	< 2.3	< 2.0	< 7.7
CAWW- 5790	10/16/2014	< 179	< 2.3	< 4.4	< 1.8	< 2.0	< 5.1	< 2.9	< 2.6	< 2.9	< 4.8
					Location: CA-WWA-U1MW-014						
CAWW- 161	1/7/2014	241 ± 85	< 2.0	< 3.6	< 2.4	< 2.0	< 4.8	< 2.7	< 2.8	< 3.4	< 3.4
CAWW- 1450	4/9/2014	< 143	< 2.8	< 2.9	< 2.0	< 1.7	< 2.9	< 2.6	< 3.0	< 3.1	< 3.0
CAWW- 3281	7/9/2014	226 ± 83	< 5.4	< 5.7	< 3.9	< 4.2	< 9.9	< 4.3	< 5.8	< 5.1	< 5.7
CAWW- 5479	10/1/2014	< 159	< 2.5	< 6.3	< 3.1	< 2.5	< 5.4	< 4.6	< 2.5	< 2.7	< 7.3
					Location: CA-WWA-U1MW-015						
CAWW- 159	1/6/2014	< 148	< 2.0	< 2.9	< 2.4	< 1.3	< 4.0	< 3.4	< 2.5	< 2.5	< 4.5
CAWW- 1493	4/11/2014	< 140	< 2.9	< 5.2	< 2.1	< 2.0	< 4.8	< 2.4	< 3.6	< 4.8	< 2.3
CAWW- 3728	7/24/2014	< 136	< 1.7	< 3.9	< 2.4	< 2.5	< 1.7	< 2.0	< 3.0	< 2.7	< 3.7
CAWW- 5485	10/6/2014	< 152	< 2.0	< 4.1	< 2.5	< 3.0	< 4.9	< 2.8	< 3.1	< 1.8	< 2.1
					Location: CA-WWA-U1MW-016						
CAWW- 94	1/3/2014	< 150	< 3.7	< 6.6	< 3.0	< 2.8	< 4.5	< 4.9	< 3.7	< 3.7	< 5.0
CAWW- 1624	4/18/2014	< 146	< 2.6	< 3.8	< 2.7	< 1.6	< 3.4	< 2.5	< 3.5	< 4.2	< 5.7
CAWW- 3347	7/11/2014	< 136	< 4.9	< 6.7	< 4.1	< 4.3	< 4.0	< 5.4	< 6.2	< 5.4	< 4.2
CAWW- 5473	10/3/2014	< 152	< 2.0	< 5.2	< 2.6	< 1.0	< 2.0	< 3.8	< 3.1	< 2.3	< 6.9
					Location: CA-WWA-U1MW-017						
CAWW- 91	1/3/2014	< 150	< 3.0	< 6.5	< 2.3	< 1.4	< 3.8	< 1.9	< 2.9	< 3.5	< 2.2
CAWW- 1448	4/9/2014	< 143	< 4.2	< 5.6	< 4.3	< 3.2	< 3.8	< 1.9	< 4.0	< 2.6	< 3.6
CAWW- 3278	7/9/2014	< 143	< 2.4	< 1.9	< 2.9	< 2.7	< 3.1	< 3.4	< 2.6	< 2.3	< 3.1
CAWW- 5482	10/1/2014	< 152	< 1.9	< 7.0	< 1.8	< 2.2	< 4.4	< 3.8	< 2.7	< 3.1	< 8.5
					Location: CA-WWA-U1MW-18						
CAWW- 92	1/3/2014	190 ± 84	< 3.2	< 6.1	< 4.0	< 4.2	< 11.6	< 8.8	< 5.3	< 5.9	< 5.3
CAWW- 1449	4/9/2014	186 ± 85	< 2.6	< 4.5	< 2.3	< 2.7	< 4.4	< 3.2	< 4.1	< 1.9	< 2.9
CAWW- 3279	7/9/2014	< 143	< 1.6	< 7.7	< 1.6	< 3.0	< 6.2	< 1.7	< 2.9	< 2.7	< 4.1
CAWW- 5481	10/1/2014	< 152	< 3.9	< 5.5	< 3.6	< 3.2	< 5.4	< 4.2	< 4.5	< 5.0	< 2.4

Table 9. Wells and Ponds (non-potable), analyses for tritium and gamma-emitting isotopes.

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
		Location: CA-WWA-U1MW-19									
CAWW- 162	1/7/2014	343 ± 86	< 2.8	< 2.0	< 2.5	< 1.8	< 1.9	< 2.1	< 2.9	< 2.5	< 2.4
CAWW- 1496	4/9/2014	292 ± 85	< 2.2	< 3.5	< 2.8	< 2.2	< 3.9	< 2.7	< 2.6	< 2.6	< 1.8
CAWW- 3284	7/9/2014	190 ± 81	< 2.4	< 4.0	< 1.8	< 2.8	< 2.8	< 2.0	< 2.9	< 2.9	< 6.9
CAWW- 5478	10/1/2014	184 ± 86	< 2.1	< 5.2	< 3.4	< 1.8	< 3.0	< 4.4	< 3.4	< 2.0	< 6.0
		Location: CA-WWA-U1MW-20									
CAWW- 154	1/8/2014	< 148	< 3.4	< 6.1	< 2.8	< 2.1	< 5.0	< 4.3	< 3.8	< 2.8	< 6.7
CAWW- 1494	4/10/2014	< 140	< 2.8	< 4.6	< 1.9	< 2.0	< 3.6	< 3.4	< 3.5	< 3.0	< 3.4
CAWW- 3732	7/24/2014	< 136	< 1.4	< 2.4	< 2.1	< 2.3	< 5.0	< 3.1	< 2.4	< 1.8	< 5.4
CAWW- 5933	10/22/2014	< 149	< 2.1	< 3.3	< 2.4	< 2.1	< 4.4	< 2.9	< 2.0	< 1.9	< 6.4
		Location: CA-WWA-U1MW-021									
CAWW- 163	1/7/2014	< 148	< 2.5	< 5.7	< 1.8	< 1.5	< 1.7	< 2.6	< 3.0	< 2.9	< 4.5
CAWW- 1497	4/9/2014	< 140	< 3.1	< 6.3	< 2.7	< 2.6	< 5.0	< 3.9	< 3.1	< 3.4	< 4.3
CAWW- 3283	7/9/2014	< 143	< 3.0	< 5.2	< 2.9	< 3.0	< 6.2	< 3.9	< 3.6	< 2.7	< 2.4
CAWW- 5477	10/1/2014	< 152	< 3.0	< 9.3	< 2.5	< 3.6	< 7.0	< 6.5	< 4.4	< 4.4	< 5.9
		Location: CA-WWA-U1MW-022									
CAWW- 164	1/7/2014	< 148	< 1.9	< 3.0	< 2.3	< 1.3	< 3.7	< 2.7	< 2.3	< 2.6	< 1.5
CAWW- 1625	4/18/2014	< 146	< 2.8	< 3.9	< 2.3	< 2.6	< 5.6	< 2.5	< 2.9	< 2.7	< 5.4
CAWW- 3282	7/9/2014	< 143	< 5.0	< 4.8	< 3.4	< 4.9	< 5.7	< 6.5	< 6.8	< 7.4	< 5.6
CAWW- 5480	10/1/2014	< 152	< 2.3	< 5.8	< 2.2	< 2.0	< 3.1	< 4.7	< 2.8	< 3.2	< 12.3
		Location: CA-WWA-U1MW-023									
CAWW- 165	1/7/2014	< 148	< 2.3	< 3.2	< 3.1	< 1.8	< 2.6	< 3.9	< 2.4	< 3.0	< 4.0
CAWW- 1444	4/7/2014	< 143	< 3.4	< 6.6	< 2.1	< 2.7	< 1.8	< 2.9	< 4.4	< 4.1	< 4.9
CAWW- 3348	7/11/2014	< 136	< 3.1	< 4.1	< 2.4	< 1.6	< 4.3	< 3.4	< 4.1	< 3.6	< 5.5
CAWW- 5929	10/21/2014	< 149	< 4.3	< 4.8	< 3.8	< 5.1	< 6.2	< 5.6	< 4.5	< 3.2	< 4.5
		Location: CA-WWA-U1MW-024									
CAWW- 166	1/7/2014	< 148	< 2.7	< 3.7	< 1.2	< 2.4	< 5.2	< 2.3	< 3.1	< 3.4	< 3.6
CAWW- 1445	4/7/2014	< 143	< 3.2	< 3.7	< 2.8	< 2.2	< 4.1	< 4.1	< 3.1	< 2.6	< 3.0
CAWW- 3731	7/24/2014	< 136	< 2.9	< 6.4	< 2.5	< 1.4	< 5.4	< 4.6	< 2.4	< 2.1	< 2.6
CAWW- 5930	10/21/2014	< 149	< 2.0	< 4.7	< 2.4	< 1.7	< 2.0	< 3.8	< 2.4	< 3.0	< 5.1
		Location: CA-WWA-U1MW-025									
CAWW- 169	1/8/2014	< 142	< 2.7	< 2.0	< 1.9	< 2.6	< 5.5	< 1.7	< 2.9	< 3.3	< 2.2
CAWW- 1446	4/7/2014	< 143	< 2.5	< 6.0	< 3.3	< 2.2	< 5.5	< 5.5	< 4.3	< 4.3	< 3.0
CAWW- 3730	7/24/2014	< 136	< 2.0	< 5.2	< 1.8	< 1.9	< 4.8	< 4.7	< 3.4	< 2.7	< 4.0
CAWW- 5931	10/22/2014	< 149	< 2.1	< 2.4	< 2.5	< 2.3	< 3.5	< 2.3	< 2.7	< 2.1	< 4.9

Table 9. Wells and Ponds (non-potable), analyses for tritium and gamma-emitting isotopes.

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
		Location: CA-WWA-U1MW-26									
CAWW- 153	1/8/2014	< 148	< 2.7	< 4.5	< 1.2	< 1.7	< 3.3	< 3.5	< 2.7	< 2.5	< 3.1
CAWW- 1499	4/10/2014	< 140	< 2.9	< 3.6	< 2.9	< 2.9	< 3.2	< 2.4	< 2.9	< 3.5	< 1.7
CAWW- 3729	7/24/2014	< 136	< 2.7	< 6.1	< 1.6	< 3.5	< 4.4	< 3.0	< 3.5	< 2.6	< 3.5
CAWW- 5932	10/22/2014	< 149	< 2.3	< 5.3	< 3.4	< 1.5	< 4.3	< 4.8	< 3.0	< 3.3	< 5.6
		Location: CA-WWA-U1MW-27									
CAWW- 157	1/6/2014	< 148	< 2.4	< 4.8	< 3.5	< 3.6	< 4.9	< 3.7	< 3.2	< 2.7	< 3.2
CAWW- 1883	4/28/2014	< 145	< 3.0	< 5.5	< 3.0	< 1.6	< 6.0	< 4.0	< 3.2	< 3.0	< 2.7
CAWW- 3863	7/29/2014	< 138	< 2.5	< 3.9	< 2.4	< 2.0	< 4.3	< 2.1	< 2.9	< 3.2	< 8.7
CAWW- 5474	10/3/2014	< 152	< 5.2	< 7.4	< 5.1	< 6.4	< 6.4	< 4.1	< 4.7	< 4.4	< 4.6
		Location: CA-WWA-U1MW-28									
	1/8/2014					NS[a]					
CAWW- 1879	4/30/2014	< 143	< 3.8	< 5.5	< 1.8	< 2.1	< 3.4	< 2.6	< 3.7	< 3.4	< 3.1
CAWW- 3864	7/29/2014	< 138					NS[a]				
CAWW- 5488	10/6/2014	< 152	< 1.5	< 3.1	< 1.5	< 1.3	< 2.7	< 2.5	< 1.5	< 1.6	< 5.7
		Location: CA-WWA-U1MW-29									
CAWW- 155	1/9/2014	< 148	< 2.3	< 6.6	< 2.3	< 1.2	< 4.0	< 3.4	< 3.4	< 4.1	< 4.2
CAWW- 1882	4/30/2014	< 145	< 2.5	< 4.1	< 1.4	< 1.9	< 4.5	< 3.0	< 2.7	< 2.6	< 2.6
CAWW- 3765	7/25/2014	< 136	< 2.0	< 5.8	< 2.9	< 3.2	< 6.4	< 2.6	< 2.8	< 3.6	< 6.9
CAWW- 3898	8/1/2014	< 138	< 2.1	< 4.1	< 2.1	< 1.7	< 3.5	< 3.0	< 2.9	< 2.8	< 4.0
CAWW- 5794	10/17/2014	< 150	< 2.0	< 4.2	< 1.9	< 1.8	< 2.8	< 5.0	< 2.6	< 1.9	< 5.0
		Location: CA-WWA-U1MW-30									
CAWW- 250	1/16/2014	< 152	< 4.9	< 5.2	< 4.3	< 5.4	< 6.5	< 2.8	< 5.2	< 4.4	< 4.5
CAWW- 1621	4/22/2014	< 146	< 1.8	< 3.6	< 1.9	< 1.7	< 3.5	< 4.0	< 3.2	< 2.7	< 3.8
CAWW- 3724	7/23/2014	< 136	< 1.8	< 4.0	< 2.4	< 2.9	< 5.4	< 2.9	< 3.7	< 2.6	< 3.4
CAWW- 3899	8/1/2014	< 138	< 2.2	< 3.8	< 2.7	< 1.5	< 4.1	< 3.4	< 2.5	< 2.1	< 3.8
CAWW- 5793	10/17/2014	< 150	< 2.8	< 5.5	< 2.2	< 2.9	< 4.8	< 3.4	< 2.6	< 2.5	< 5.6
		Location: CA-WWA-U1MW-31									
CAWW- 3766	7/25/2014	1569566 ± 6054	< 3.0	< 5.6	< 2.3	12.3±3.2	< 2.3	< 3.3	< 3.8	< 2.9	< 3.5
CAWW- 3858	7/25/2014	1644880 ± 6322	< 2.8	< 5.6	< 3.0	32.8±5.5	< 4.8	< 4.0	< 3.9	< 3.6	< 2.4
CAWW- 3900	8/1/2014	296323 ± 1452	< 2.3	< 6.2	< 2.9	< 2.4	< 4.6	< 3.6	< 4.0	< 4.5	< 2.4
CAWW- 4044	8/8/2014	110120 ± 939	< 1.9	< 3.3	< 1.9	< 2.3	< 7.2	< 3.6	< 4.4	< 3.0	< 3.0
CAWW- 4062	8/11/2014	111262 ± 1267	< 2.9	< 5.1	< 2.1	< 1.8	< 4.0	< 2.0	< 2.8	< 3.3	< 1.1
CAWW- 4153	8/13/2014	102716 ± 1213	< 2.8	< 4.6	< 2.2	< 3.2	< 4.6	< 1.7	< 2.9	< 3.4	< 2.3
CAWW- 4229	8/15/2014	100448 ± 899	< 1.9	< 4.5	< 2.5	< 2.5	< 6.1	< 4.4	< 3.7	< 2.5	< 1.1
CAWW- 4255	8/16/2014	105979 ± 924	< 3.0	< 3.5	< 2.3	< 1.8	< 2.7	< 1.8	< 2.9	< 2.6	< 2.2
CAWW- 4326	8/20/2014	142203 ± 1069	< 2.2	< 4.9	< 3.4	< 2.3	< 3.1	< 3.5	< 4.1	< 4.4	< 2.3
CAWW- 4333	8/21/2014	155603 ± 1502	< 3.7	< 4.3	< 3.6	< 3.2	< 9.0	< 5.0	< 4.3	< 3.5	< 3.3
CAWW- 4347	8/22/2014	157542 ± 1511	< 3.6	< 5.2	< 3.1	< 2.2	< 7.7	< 4.7	< 4.4	< 4.9	< 5.1
CAWW- 4348	8/23/2014	154238 ± 1495	< 1.4	< 4.1	< 2.9	< 3.3	< 3.4	< 2.1	< 2.6	< 2.1	< 3.9
CAWW- 4398	8/24/2014	157665 ± 1131	< 3.9	< 6.9	< 3.5	12.3±3.4	< 7.2	< 3.8	< 4.0	< 4.9	< 1.3
CAWW- 4399	8/25/2014	165440 ± 1158	< 2.5	< 2.6	< 2.0	< 2.7	< 3.9	< 2.0	< 2.4	< 2.2	< 1.9
CAWW- 4425	8/26/2014	163544 ± 1077	< 2.7	< 2.6	< 3.8	< 3.2	< 7.3	< 3.6	< 3.9	< 3.0	< 2.7
CAWW- 4449	8/27/2014	159459 ± 1063	< 3.2	< 5.6	< 2.5	< 1.8	< 4.1	< 4.2	< 3.1	< 3.1	< 3.1
CAWW- 4509	8/28/2014	171980 ± 1275	< 2.0	< 5.6	< 2.4	< 2.2	< 5.0	< 3.0	< 2.8	< 2.6	< 6.2
CAWW- 4560	9/2/2014	189259 ± 3600	< 1.9	< 1.9	< 2.8	< 1.9	< 3.5	< 2.9	< 3.3	< 2.5	< 3.8
CAWW- 4783	9/9/2014	213378 ± 1393	< 3.9	< 7.6	< 2.7	< 4.2	< 10.1	< 4.3	< 5.9	< 7.1	< 5.3

[a] "NS" = No Sample; refer to Part I, Table 5.5, Missed Collections and Analyses.

Table 9. Wells and Ponds (non-potable), analyses for tritium and gamma-emitting isotopes.

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
		Location: CA-WWA-U1MW-31 (continued)									
CAWW- 4869	9/16/2014	121001 ± 1057	< 6.5	< 11.2	< 2.5	< 4.9	< 3.9	< 5.8	< 6.6	< 6.8	< 2.9
CAWW- 5035	9/23/2014	88573 ± 900	< 8.8	< 8.3	< 6.2	< 7.5	< 5.0	< 7.5	< 7.5	< 5.7	< 6.4
CAWW- 5139	9/30/2014	43326 ± 582	< 8.0	< 11.9	< 3.9	< 5.0	< 11.5	< 7.4	< 6.8	< 8.8	< 4.7
CAWW- 5354	10/7/2014	29693 ± 528	< 7.1	< 6.6	< 4.2	< 7.8	< 8.4	< 4.8	< 5.8	< 7.5	< 4.9
CAWW- 5592	10/14/2014	9125 ± 295	< 5.6	< 9.0	< 3.2	14.3±4.3	< 6.0	< 5.0	< 7.7	< 5.9	< 5.1
CAWW- 5868	10/21/2014	7927 ± 277	< 8.3	< 17.2	< 5.3	< 7.4	< 16.8	< 11.0	< 9.3	< 7.5	< 5.1
CAWW- 6042	10/28/2014	5703 ± 239	< 4.6	< 4.9	< 4.6	< 4.8	< 7.4	< 6.8	< 4.8	< 6.2	< 2.9
CAWW- 6122	10/30/2014	9476 ± 303	< 4.7	< 10.5	< 4.6	< 6.7	< 3.5	< 4.2	< 8.1	< 5.5	< 10.0
CAWW- 6253	11/4/2014	9024 ± 347	< 3.8	< 4.2	< 3.6	< 3.2	< 7.5	< 3.1	< 3.5	< 4.6	< 5.9
CAWW- 6386	11/11/2014	9233 ± 271	< 7.5	< 10.8	< 4.7	< 8.5	< 14.6	< 5.4	< 8.6	< 7.9	< 4.2
CAWW- 6507	11/18/2014	2435 ± 197	< 5.4	< 8.9	< 6.3	< 7.6	< 8.5	< 6.7	< 8.7	< 6.4	< 8.5
CAWW- 6621	11/24/2014	1477 ± 162	< 3.6	< 7.2	< 2.2	< 3.5	< 7.0	< 4.3	< 4.0	< 3.9	< 4.0
CAWW- 6799	12/3/2014	3782 ± 228	< 6.1	< 12.6	< 3.9	< 7.6	< 12.0	< 9.0	< 7.6	< 6.3	< 9.0
CAWW- 6914	12/8/2014	6507 ± 301	< 2.9	< 5.1	< 2.3	< 2.2	< 5.7	< 4.5	< 2.9	< 2.9	< 3.8
CAWW- 7111	12/22/2014	7615 ± 317	< 3.1	< 3.0	< 2.9	< 1.6	< 3.7	< 2.4	< 2.7	< 2.7	< 3.2

Table 9. Wells and Ponds (non-potable), analyses for tritium and gamma-emitting isotopes.

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
					Location: CA-WWA-U2MW-2S						
CAWW- 90	1/3/2014	< 150	< 3.5	< 7.0	< 2.9	< 1.7	< 5.8	< 5.1	< 3.5	< 2.7	< 6.4
CAWW- 1500	4/10/2014	< 140	< 3.0	< 6.4	< 4.2	< 2.7	< 9.3	< 7.2	< 4.8	< 4.3	< 5.2
CAWW- 3276	7/7/2014	< 143	< 4.9	< 7.0	< 3.5	< 4.5	< 18.4	< 8.5	< 6.0	< 5.0	< 6.4
CAWW- 5483	10/6/2014	< 152	< 1.8	< 2.5	< 4.4	< 2.2	< 5.1	< 6.1	< 3.1	< 3.0	< 6.6
					Location: CA-WWA-U2MW-5S						
CAWW- 168	1/8/2014	< 148	< 2.7	< 3.5	< 3.0	< 2.4	< 3.3	< 3.6	< 3.1	< 2.9	< 4.7
CAWW- 1498	4/10/2014	< 140	< 3.6	< 9.1	< 4.2	< 3.7	< 4.9	< 3.9	< 4.2	< 4.5	< 2.7
CAWW- 3725	7/23/2014	< 136	< 2.2	< 5.1	< 2.6	< 1.8	< 3.1	< 5.1	< 3.9	< 3.3	< 2.8
CAWW- 5788	10/16/2014	< 150	< 2.2	< 4.5	< 3.8	< 1.7	< 6.0	< 3.0	< 3.4	< 3.0	< 5.8
					Location: CA-WWA-U2MW-8						
CAWW- 249	1/16/2014	< 152	< 2.2	< 7.3	< 1.8	< 1.6	< 4.6	< 4.0	< 3.0	< 2.2	< 3.2
CAWW- 1881	4/30/2014	< 145	< 2.3	< 4.9	< 3.9	< 2.4	< 6.8	< 5.4	< 3.9	< 4.5	< 5.2
CAWW- 3726	7/23/2014	< 136	< 2.0	< 6.2	< 2.4	< 1.2	< 5.7	< 6.6	< 4.5	< 2.4	< 5.2
CAWW- 5791	10/16/2014	< 150	< 1.8	< 7.2	< 2.6	< 2.2	< 4.1	< 3.7	< 2.6	< 3.5	< 3.6
					Location: CA-WWA-U2MW-9						
CAWW- 120	1/9/2014	< 150	< 3.6	< 4.9	< 2.0	< 1.7	< 5.7	< 5.6	< 3.3	< 3.4	< 4.1
CAWW- 1620	4/21/2014	< 146	< 2.2	< 4.4	< 1.7	< 2.5	< 4.7	< 3.9	< 3.1	< 3.1	< 4.1
CAWW- 3727	7/24/2014	< 136	< 2.3	< 3.8	< 3.2	< 2.3	< 3.7	< 4.1	< 3.1	< 3.4	< 5.0
CAWW- 5792	10/17/2014	< 150	< 1.6	< 3.5	< 1.9	< 1.8	< 5.3	< 4.2	< 2.6	< 2.2	< 5.2
					Location: CA-WWA-U2MW-10						
CAWW- 256	1/17/2014	< 151	< 3.9	< 4.7	< 4.4	< 2.9	< 7.8	< 3.9	< 4.4	< 2.7	< 4.2
CAWW- 2032	5/5/2014	< 145	< 1.3	< 3.1	< 2.3	< 1.9	< 4.2	< 1.6	< 2.7	< 2.7	< 5.0
CAWW- 3865	7/29/2014	< 138	< 2.0	< 6.0	< 3.0	< 2.6	< 2.4	< 3.2	< 2.9	< 2.9	< 6.7
CAWW- 5789	10/16/2014	< 150	< 2.5	< 4.7	< 2.0	< 1.3	< 3.6	< 3.6	< 2.7	< 2.6	< 6.2
					Location: CA-WWA-U2MW-12						
CAWW- 251	1/16/2014	< 152	< 2.8	< 4.0	< 1.9	< 1.6	< 4.5	< 2.5	< 2.8	< 2.2	< 3.8
CAWW- 1501	4/10/2014	< 140	< 1.6	< 5.2	< 3.3	< 1.9	< 2.4	< 2.5	< 3.0	< 3.2	< 3.2
CAWW- 3764	7/25/2014	< 136	< 2.6	< 5.7	< 2.4	< 2.0	< 2.9	< 3.8	< 2.7	< 2.8	< 5.6
CAWW- 5937	10/22/2014	< 149	< 2.2	< 4.9	< 4.1	< 1.8	< 5.8	< 2.7	< 3.5	< 3.4	< 3.4
					Location: CA-WWA-U2MW-16						
CAWW- 93	1/3/2014	< 150	< 2.9	< 6.3	< 1.8	< 2.0	< 3.0	< 4.8	< 3.5	< 2.6	< 5.5
CAWW- 1877	4/30/2014	< 145	< 2.7	< 4.0	< 1.9	< 2.7	< 5.0	< 1.9	< 2.9	< 2.1	< 2.4
CAWW- 3277	7/8/2014	< 143	< 2.2	< 5.2	< 1.5	< 2.3	< 3.1	< 3.4	< 3.1	< 1.9	< 4.5
CAWW- 5487	10/6/2014	< 152	< 2.6	< 2.9	< 1.8	< 1.8	< 2.7	< 3.7	< 2.9	< 3.3	< 3.4
					Location: CA-WWA-F-005						
CAWW- 198	1/14/2014	< 145	< 3.0	< 3.2	< 2.2	< 2.2	< 5.1	< 2.5	< 2.7	< 2.0	< 4.3
CAWW- 1243	3/31/2014	< 143	< 3.6	< 6.5	< 2.4	< 3.2	< 4.8	< 2.7	< 4.0	< 4.6	< 5.6
CAWW- 3605	7/22/2014	< 138	< 2.6	< 4.5	< 2.4	< 2.1	< 4.4	< 3.0	< 3.0	< 1.8	< 2.6
CAWW- 5838	10/17/2014	< 150	< 2.3	< 4.6	< 3.4	< 1.6	< 2.6	< 4.0	< 2.8	< 3.3	< 3.8
					Location: CA-WWA-F-015						
CAWW- 199	1/14/2014	< 145	< 3.5	< 6.3	< 3.6	< 6.1	< 4.7	< 3.3	< 5.5	< 4.0	< 5.0
CAWW- 1244	3/31/2014	< 143	< 2.9	< 6.9	< 2.7	< 2.7	< 3.5	< 1.7	< 3.6	< 3.2	< 2.8
CAWW- 3146	7/2/2014	< 134	< 3.9	< 4.9	< 2.6	< 3.6	< 2.8	< 4.2	< 4.5	< 3.5	< 4.1
CAWW- 5839	10/17/2014	< 150	< 2.2	< 2.2	< 2.9	< 0.8	< 3.9	< 2.6	< 2.4	< 2.4	< 5.7

Table 10a. Bottom sediments, analyses for gamma-emitting isotopes.

Collection: Semiannually

Units: pCi/kg dry

Location		CA-AQS-A	
Lab Code	Req. LLD	CABS- 1960	CABS- 6448
Date Collected	-	05-01-14	11-07-14
K-40	-	12567 ± 747	13103 ± 689
Mn-54	-	< 25.7	< 23.3
Fe-59	-	< 26.4	< 52.7
Co-58	-	< 23.5	< 23.1
Co-60	-	< 12.2	< 16.2
Zr-Nb-95	-	< 33.3	< 34.7
Cs-134	150	< 16.0	< 18.0
Cs-137	180	< 23.9	< 20.9
Ba-La-140	-	< 58.7	< 58.5

Location		CA-AQS-C	
Lab Code	Req. LLD	CABS- 1961	CABS- 6449
Date Collected	-	05-01-14	11-07-14
K-40	-	13729 ± 677	13542 ± 702
Mn-54	-	< 23.0	< 24.1
Fe-59	-	< 24.1	< 25.4
Co-58	-	< 21.6	< 28.1
Co-60	-	< 3.8	< 19.8
Zr-Nb-95	-	< 23.3	< 59.0
Cs-134	150	< 16.2	< 22.3
Cs-137	180	32 ± 15.8	307 ± 35.3
Ba-La-140	-	< 31.0	< 89.7

Table 10b. Shoreline sediments, analyses for gamma-emitting isotopes.

Collection: Semiannually

Units: pCi/kg dry

Location		CA-AQS-A	
Lab Code	Req. LLD	CASS- 1958	CASS- 6446
Date Collected	-	05-01-14	11-07-14
K-40	-	13442 ± 757	14011 ± 687
Mn-54	-	< 29.1	< 20.5
Fe-59	-	< 61.1	< 35.4
Co-58	-	< 23.7	< 25.4
Co-60	-	< 19.6	< 14.6
Zr-Nb-95	-	< 29.7	< 25.1
Cs-134	150	< 17.9	< 18.9
Cs-137	180	< 28.5	72 ± 22.4
Ba-La-140	-	< 71.5	< 45.0

Location		CA-AQS-C	
Lab Code	Req. LLD	CASS- 1959	CASS- 6447
Date Collected	-	05-01-14	11-07-14
K-40	-	12988 ± 697	13339 ± 646
Mn-54	-	< 24.9	< 22.2
Fe-59	-	< 62.4	< 49.3
Co-58	-	< 21.5	< 19.7
Co-60	-	< 8.7	< 14.6
Zr-Nb-95	-	< 31.3	< 45.5
Cs-134	150	< 16.6	< 15.5
Cs-137	180	< 18.8	< 20.1
Ba-La-140	-	< 32.6	< 78.3

Table 11. Fish, analyses for gamma-emitting isotopes.
Collection: Semiannually
Units: pCi/kg wet

Location		CA-AQF-A				
Lab Code	Req. LLD	CAF- 1947	CAF- 1948	CAF- 1949	CAF- 1950	CAF- 1951
Date Collected		05-01-14	05-01-14	05-01-14	05-01-14	05-01-14
Sample Type		Freshwater Drum	Silver Carp	River Carpsucker	Common Carp	Bigmouth Buffalo
K-40	-	2042 ± 554	2733 ± 370	2622 ± 373	2629 ± 385	2800 ± 359
Mn-54	130	< 22.4	< 11.3	< 20.0	< 11.6	< 10.2
Fe-59	260	< 30.3	< 26.6	< 38.2	< 22.9	< 36.8
Co-58	130	< 22.6	< 8.5	< 19.8	< 10.7	< 9.2
Co-60	130	< 24.0	< 11.5	< 14.8	< 9.7	< 10.7
Zn-65	260	< 28.5	< 12.4	< 33.4	< 9.8	< 9.9
Cs-134	130	< 30.7	< 12.5	< 16.6	< 11.7	< 14.0
Cs-137	150	< 20.3	< 10.9	< 19.2	< 8.0	< 9.4
Lab Code	Req. LLD	CAF- 6435	CAF- 6436	CAF- 6438	CAF- 6439	CAF- 6440
Date Collected		11-07-14	11-07-14	11-07-14	11-07-14	11-07-14
Sample Type		Freshwater Drum	Common Carp	River Carpsucker	Silver Carp	Channel Catfish
K-40	-	2388 ± 369	3125 ± 394	3059 ± 385	3034 ± 411	3306 ± 413
Mn-54	130	< 10.8	< 13.7	< 13.4	< 16.6	< 11.2
Fe-59	260	< 64.2	< 50.5	< 37.9	< 65.6	< 33.4
Co-58	130	< 14.0	< 16.5	< 10.8	< 17.5	< 19.5
Co-60	130	< 13.8	< 14.0	< 14.2	< 16.0	< 13.7
Zn-65	260	< 17.7	< 17.9	< 8.9	< 19.2	< 25.6
Cs-134	130	< 19.1	< 16.4	< 16.0	< 18.1	< 14.7
Cs-137	150	< 9.6	< 11.7	< 11.5	< 22.0	< 15.6

Table 11. Fish, analyses for gamma-emitting isotopes.
Collection: Semiannually
Units: pCi/kg wet

Location		CA-AQF-C				
Lab Code	Req. LLD	CAF- 1953	CAF- 1954	CAF- 1955	CAF- 1956	CAF- 1957
Date Collected		05-01-14	05-01-14	05-01-14	05-01-14	05-01-14
Sample Type		Freshwater Drum	Silver Carp	River Carpsucker	Common Carp	Bigmouth Buffalo
K-40	-	2847 ± 513	2749 ± 382	3024 ± 392	3139 ± 419	2970 ± 385
Mn-54	130	< 30.5	< 14.8	< 16.5	< 13.0	< 11.1
Fe-59	260	< 39.8	< 36.1	< 34.5	< 32.5	< 25.3
Co-58	130	< 29.0	< 6.5	< 7.9	< 21.9	< 9.0
Co-60	130	< 25.8	< 11.5	< 13.7	< 15.0	< 10.6
Zn-65	260	< 27.0	< 27.1	< 15.7	< 22.6	< 13.0
Cs-134	130	< 26.6	< 13.4	< 12.6	< 16.4	< 17.1
Cs-137	150	< 30.1	< 8.0	< 18.3	< 15.5	< 10.4

Lab Code	Req. LLD	CAF- 6441	CAF- 6442	CAF- 6443	CAF- 6444	CAF- 6445
Date Collected		11-07-14	11-07-14	11-07-14	11-07-14	11-07-14
Sample Type		Freshwater Drum	Common Carp	River Carpsucker	Silver Carp	Channel Catfish
K-40	-	2468 ± 374	2982 ± 425	2698 ± 370	3048 ± 377	2752 ± 382
Mn-54	130	< 19.1	< 12.8	< 14.2	< 12.9	< 17.1
Fe-59	260	< 46.2	< 29.3	< 42.5	< 46.4	< 49.7
Co-58	130	< 23.8	< 12.3	< 12.5	< 15.4	< 23.8
Co-60	130	< 8.8	< 13.3	< 15.3	< 14.8	< 16.8
Zn-65	260	< 47.0	< 24.4	< 19.5	< 25.4	< 23.2
Cs-134	130	< 18.7	< 15.5	< 15.4	< 10.6	< 18.8
Cs-137	150	< 15.7	< 12.9	< 12.2	< 12.0	< 17.4

Table 12. Direct Radiation (quarterly exposure)

Location	Gamma Dose (mrem/90 days)			
	QTR 1	QTR 2	QTR 3	QTR 4
CA-IDM-1A	15.28	14.97	16.39	16.64
CA-IDM-3	15.78	15.45	17.03	16.75
CA-IDM-5	13.09	14.27	14.58	14.93
CA-IDM-6	15.12	15.05	16.67	17.19
CA-IDM-7	15.59	18.17	15.20	16.49
CA-IDM-9	15.83	14.43	14.86	15.84
CA-IDM-10	16.01	15.98	17.29	17.59
CA-IDM-11A	16.24	16.32	16.97	17.48
CA-IDM-14	14.85	14.84	16.25	16.11
CA-IDM-17	15.91	15.14	ND[a]	15.71
CA-IDM-18A	14.97	14.59	16.62	16.84
CA-IDM-20	15.92	15.40	16.78	16.11
CA-IDM-21	ND[a]	15.01	16.02	16.14
CA-IDM-22A	12.14	12.45	12.85	13.10
CA-IDM-23	16.37	15.67	16.86	16.70
CA-IDM-26 (C)	11.75	10.88	11.80	12.18
CA-IDM-27 (C)	16.84	16.55	17.26	17.72
CA-IDM-30A	ND[a]	15.10	16.82	16.13
CA-IDM-31A	16.52	15.59	16.98	16.95
CA-IDM-32	16.70	15.53	17.18	16.55
CA-IDM-32A	15.13	14.63	15.85	15.99
CA-IDM-33	14.60	15.07	15.96	15.94
CA-IDM-34	15.26	15.05	17.20	16.17
CA-IDM-35	13.93	14.38	15.37	15.08
CA-IDM-36	14.37	14.45	ND[a]	ND[a]
CA-IDM-37	14.98	14.47	15.94	16.46
CA-IDM-38	10.48	10.44	10.84	11.47
CA-IDM-39	14.96	15.29	16.49	16.56
CA-IDM-39A	15.44	15.41	16.58	16.75
CA-IDM-40	16.75	16.57	17.89	17.56
CA-IDM-41	14.76	14.95	15.88	16.62
CA-IDM-42	13.53	12.87	14.51	13.89
CA-IDM-43	15.27	14.93	16.96	15.68
CA-IDM-44	15.10	15.20	16.00	16.40
CA-IDM-45	14.12	13.46	14.76	14.98
CA-IDM-46	15.28	15.96	16.94	16.80
CA-IDM-47	14.14	14.95	14.89	15.36
CA-IDM-48	15.79	15.63	16.24	16.77
CA-IDM-49	14.13	14.65	15.18	15.71
CA-IDM-50	15.74	15.86	17.09	17.00
CA-IDM-51A	16.26	16.56	17.27	18.36
CA-IDM-52	16.42	16.25	17.23	17.00
CA-IDM-60 (C)	15.29	15.55	17.02	16.45

[a] "ND" =No data. TLD and holder missing from assigned location refer to Part I, Table 5.5, Missed Collections and Analyses.

Appendix A

Supplemental Analyses

A-1. Supplemental Analyses

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
					Manhole-86-2						
CAWW- 5841	10/17/2014	< 150	< 5.5	< 7.8	< 4.4	< 3.6	< 9.8	< 7.7	< 5.2	< 6.6	< 6.7
CAWW- 6455	11/13/2014	< 176	< 8.5	< 5.0	< 4.3	< 6.7	< 19.0	< 6.3	< 8.8	< 10.2	< 4.7
CAWW- 6657	11/23/2014	< 179	< 2.1	< 3.6	< 2.8	< 2.7	< 5.0	< 2.3	< 2.3	< 3.0	< 3.3
CAWW- 6993	12/10/2014	< 190					NA[a]				
					Manhole-86-4						
CAWW- 6454	11/13/2014	3577 ± 232	< 2.8	< 3.2	< 3.7	< 3.2	< 5.9	< 2.8	< 3.2	< 3.3	< 3.8
					Manhole-86-5						
CAWW- 6706	11/25/2014	6247 ± 293	< 1.8	< 7.7	< 1.9	< 1.7	< 2.0	< 4.2	< 3.3	< 3.4	< 4.6
					Manhole-86-6						
CAWW- 6705	11/25/2014	< 173	< 3.5	< 6.7	< 2.6	< 3.4	< 3.7	< 3.7	< 3.9	< 2.9	< 5.9
					Manhole-11						
CAWW- 6704	11/25/2014	< 173	< 4.4	< 7.7	< 4.3	< 5.4	< 6.4	< 3.9	< 5.0	< 3.7	< 5.5
					CA-U1MW-32						
CAWW- 6423	11/13/2014	< 179	< 5.2	< 8.1	< 4.5	< 4.3	< 11.5	< 3.4	< 5.1	< 5.0	< 4.8
					CA-U1MW-33						
CAWW- 6424	11/13/2014	< 179	< 3.0	< 6.5	< 3.2	< 3.3	< 4.4	< 3.0	< 3.3	< 2.2	< 2.5
					CA-U1MW-34						
CAWW- 6043	10/28/2014	10451 ± 365	< 2.9	< 3.2	< 2.9	< 1.4	< 2.8	< 2.6	< 3.4	< 1.8	< 4.1
CAWW- 6119	10/30/2014	10304 ± 312	< 1.9	< 3.9	< 2.2	< 1.6	< 2.3	< 2.7	< 2.3	< 2.3	< 4.2
CAWW- 6251	11/4/2014	11086 ± 379	< 2.6	< 5.1	< 2.4	< 1.5	< 2.3	< 2.0	< 2.4	< 2.4	< 4.2
CAWW- 6387	11/11/2014	11727 ± 301	< 4.3	< 8.4	< 5.2	< 4.7	< 3.0	< 2.8	< 5.0	< 3.9	< 2.5
CAWW- 6508	11/18/2014	9968 ± 360	< 5.7	< 9.0	< 4.7	< 6.6	< 7.4	< 4.6	< 5.3	< 4.0	< 4.6
CAWW- 6622	11/24/2014	9902 ± 356	< 2.4	< 4.7	< 3.7	< 0.9	< 4.9	< 2.6	< 2.8	< 2.5	< 3.5
CAWW- 6800	12/3/2014	8318 ± 325	< 4.9	< 3.8	< 3.9	< 3.4	< 4.5	< 3.0	< 4.5	< 4.2	< 6.2
CAWW- 6915	12/8/2014	8226 ± 333	< 2.4	< 5.6	< 3.0	< 2.6	< 3.5	< 3.3	< 2.7	< 2.6	< 7.4
CAWW- 7112	12/22/2014	8950 ± 341	< 3.0	< 3.1	< 3.1	< 1.9	< 4.5	< 4.1	< 3.3	< 3.2	< 2.3
					CA-U1MW-35						
CAWW- 6044	10/28/2014	< 174	< 2.4	< 5.7	< 2.4	< 2.3	< 3.7	< 2.7	< 3.0	< 3.2	< 4.4
CAWW- 6118	10/30/2014	229 ± 94	< 2.1	< 4.8	< 1.8	< 1.9	< 3.1	< 3.6	< 2.8	< 2.9	< 3.3
CAWW- 6252	11/4/2014	< 175	< 4.1	< 7.0	< 3.7	< 4.6	< 4.4	< 4.1	< 4.3	< 4.9	< 5.6
					CA-U1MW-36						
CAWW- 6045	10/28/2014	18674 ± 480	< 2.8	< 6.5	< 2.8	< 2.2	< 3.8	< 3.5	< 2.8	< 2.9	< 4.2
CAWW- 6120	10/30/2014	18195 ± 409	< 3.0	< 7.4	< 1.9	< 2.1	< 3.6	< 3.2	< 4.1	< 3.2	< 4.5
CAWW- 6342	11/7/2014	18577 ± 485	< 1.7	< 6.0	< 2.5	< 1.8	< 5.9	< 2.8	< 3.3	< 3.5	< 4.5
CAWW- 6388	11/11/2014	18698 ± 374	< 2.8	< 3.7	< 2.4	< 1.9	< 5.9	< 4.5	< 4.1	< 3.8	< 2.2
CAWW- 6509	11/18/2014	17697 ± 472	< 4.4	< 8.5	< 3.6	< 3.4	< 6.3	< 3.4	< 4.8	< 3.6	< 3.2
CAWW- 6623	11/24/2014	17222 ± 463	< 2.5	< 5.8	< 2.9	< 3.0	< 3.1	< 2.8	< 2.5	< 3.0	< 2.5
CAWW- 6801	12/3/2014	16094 ± 444	< 1.0	< 1.6	< 1.2	< 0.9	< 2.6	< 2.2	< 1.2	< 1.4	< 5.6
CAWW- 6916	12/8/2014	15143 ± 440	< 3.4	< 4.1	< 2.3	< 2.1	< 4.2	< 4.7	< 2.7	< 3.5	< 5.6
CAWW- 7113	12/22/2014	13849 ± 419	< 3.7	< 4.6	< 4.4	< 5.2	< 3.7	< 4.8	< 5.3	< 4.3	< 2.7

A-1. Supplemental Analyses

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
					CA-U1MW-37						
CAWW- 6046	10/28/2014	< 174	< 4.5	< 12.1	< 4.7	< 4.4	< 6.1	< 3.6	< 4.4	< 5.2	< 5.5
CAWW- 6121	10/30/2014	< 136	< 2.2	< 2.0	< 1.9	< 1.7	< 5.1	< 3.1	< 2.3	< 2.7	< 4.3
					CA-U1MW-38						
CAWW- 6254	11/4/2014	< 181					NA[a]				
					CA-U1MW-39						
CAWW- 6133	10/31/2014	< 167	< 2.1	< 5.9	< 1.7	< 1.7	< 4.5	< 3.7	< 2.7	< 3.0	< 2.9
					CA-U1MW-40						
CAWW- 6134	10/31/2014	< 167	< 3.1	< 8.1	< 1.8	< 2.7	< 5.4	< 2.7	< 3.2	< 2.9	< 3.7
					CA-U1MW-41						
CAWW- 6260	11/4/2014	< 181	< 5.7	< 2.3	< 4.5	< 4.8	< 7.5	< 4.6	< 5.4	< 4.1	< 8.1
					CA-U1MW-45						
CAWW- 6255	11/4/2014	< 181	< 1.5	< 4.9	< 1.7	< 1.8	< 5.0	< 2.4	< 1.9	< 1.7	< 4.2
					CA-U1MW-46						
CAWW- 6261	11/4/2014	< 181	< 3.6	< 6.1	< 4.1	< 4.1	< 5.3	< 2.9	< 3.7	< 3.5	< 2.5
					CA-U1MW-47						
CAWW- 6256	11/4/2014	5152 ± 272	< 1.5	< 2.9	< 2.2	< 2.3	< 3.1	< 2.4	< 2.4	< 2.7	< 1.9
CAWW- 6389	11/11/2014	4374 ± 197	< 1.6	< 2.4	< 2.3	< 1.9	< 5.1	< 2.1	< 3.2	< 3.1	< 5.8
CAWW- 6510	11/18/2014	4415 ± 250	< 2.3	< 2.3	< 1.4	< 2.0	< 2.3	< 2.7	< 2.7	< 2.8	< 5.5
CAWW- 6624	11/24/2014	4846 ± 258	< 3.0	< 3.8	< 3.0	< 2.6	< 6.8	< 3.3	< 3.2	< 3.3	< 4.2
CAWW- 6802	12/3/2014	5491 ± 269	< 1.4	< 2.2	< 1.9	< 1.0	< 3.6	< 2.0	< 1.5	< 1.9	< 4.2
CAWW- 6917	12/8/2014	5051 ± 270	< 3.5	< 5.9	< 2.5	< 1.8	< 5.8	< 4.0	< 3.4	< 3.3	< 6.1
					CA-U1MW-48						
CAWW- 6257	11/4/2014	< 181	< 3.7	< 4.8	< 1.6	< 2.7	< 4.7	< 4.2	< 3.5	< 3.6	< 3.2
					CA-U1MW-49						
CAWW- 6258	11/4/2014	< 181	< 2.5	< 4.1	< 2.5	< 2.1	< 3.1	< 3.2	< 3.8	< 2.3	< 4.9
					CA-U1MW-50						
CAWW- 6259	11/4/2014	240 ± 122	< 2.4	< 3.2	< 2.2	< 1.3	< 6.0	< 3.4	< 3.2	< 2.2	< 5.2
					CA-U1MW-51						
CAWW- 6262	11/4/2014	< 181	< 1.8	< 3.1	< 3.1	< 2.1	< 3.6	< 3.8	< 3.4	< 3.3	< 2.0
					CA-U1MW-52						
CAWW- 6485	11/14/2014	< 185	< 2.0	< 4.5	< 3.0	< 1.5	< 2.6	< 3.3	< 2.9	< 2.6	< 5.5
					CA-U1MW-52 (12-15)						
CAWW- 6340	11/6/2014	18369 ± 483	< 3.6	< 5.8	< 2.5	< 0.9	< 4.6	< 2.6	< 2.7	< 2.3	< 2.8
					CA-U1MW-52 (30-32)						
CAWW- 6339	11/7/2014	17917 ± 477	< 2.6	< 9.1	< 3.7	< 3.2	< 6.9	< 2.6	< 4.2	< 3.1	< 2.7

A-1. Supplemental Analyses

Lab Code	Collection Date	Concentration (pCi/L) ^{3}H	^{54}Mn	^{59}Fe	^{58}Co	^{60}Co	^{65}Zn	$^{95}ZrNb$	^{134}Cs	^{137}Cs	$^{140}BaLa$
					CA-U1MW-53						
CAWW- 6390	11/11/2014	< 171	< 3.4	< 3.8	< 3.9	< 2.3	< 4.7	< 3.5	< 3.3	< 2.7	< 6.3
					CA-U1MW-54						
CAWW- 6404	11/12/2014	< 184	< 2.6	< 4.8	< 2.3	< 1.6	< 5.0	< 2.3	< 3.9	< 2.5	< 1.7
					CA-U1MW-55S						
CAWW- 6626	11/24/2014	< 177	< 4.5	< 5.8	< 3.8	< 3.6	< 15.1	< 7.3	< 6.0	< 5.3	< 2.6
					CA-U1MW-55D						
CAWW- 6633	11/20/2014	< 177	< 2.0	< 4.7	< 2.0	< 2.0	< 2.9	< 3.2	< 3.0	< 3.3	< 2.4
					CA-U1MW-56S						
CADW- 6655	11/24/2014	< 179	< 2.5	< 3.8	< 2.9	< 0.9	< 4.4	< 2.2	< 2.6	< 2.1	< 5.2
					CA-U1MW-56D						
CADW- 6656	11/24/2014	< 179	< 1.8	< 6.1	< 3.3	< 2.9	< 5.0	< 4.7	< 3.0	< 1.9	< 7.3
					CA-U1MW-57						
CADW- 6625	11/21/2014	< 177	< 2.7	< 4.2	< 1.6	< 2.1	< 5.6	< 2.9	< 3.6	< 4.1	< 2.1
					CA-U1MW-58						
CAWW- 6707	11/25/2014	5721 ± 282	< 2.3	< 6.6	< 2.3	< 3.0	< 3.6	< 3.7	< 2.9	< 2.3	< 4.9
CAWW- 7114	12/22/2014	8512 ± 333	< 1.8	< 3.4	< 1.8	< 1.7	< 4.9	< 2.8	< 2.5	< 2.8	< 4.4
					CA-U1MW-59						
CAWW- 6996	12/11/2014	< 190					NA[a]				
					CA-U1MW-60						
CAWW- 6995	12/10/2014	< 190					NA[a]				
					Gate Valve HDPE Pipeline						
CAWW- 4897	9/18/2014	4128 ± 213					NA[a]				
CAWW- 5650	10/12/2014	540 ± 108					NA[a]				
CAWW- 6511	11/18/2014	349 ± 116	< 2.0	< 4.7	< 2.2	< 1.1	< 2.1	< 2.4	< 2.2	< 2.5	< 3.0
					Gate Valve Vault Abandoned Pipeline						
CAWW- 6726	11/26/2014	355 ± 110	< 2.2	< 2.7	< 3.4	< 1.4	< 3.9	< 2.3	< 2.5	< 2.8	< 7.1
					Abandoned Discharge Line Upper Exposed Section						
CAWW- 6994	12/9/2014	1761 ± 176					NA[a]				
					CA-008 (Brandt Seep Grab)						
CAWW- 6343	11/7/2014	< 176	< 2.8	< 3.9	< 2.7	< 0.9	< 5.2	< 4.1	< 3.4	< 3.2	< 2.0
					(Lawrence School Grab)						
CAWW- 6341	11/7/2014	< 176	< 2.1	< 6.3	< 3.5	< 1.8	< 3.7	< 2.3	< 3.1	< 2.4	< 2.6

[a] "NA" = Analysis not performed.