Entergy

**Entergy Nuclear Operations, Inc.**
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PNP 2011-043

May 13, 2011

10 CFR 50, Appendix I
Technical Specification 5.6.2

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: 2010 Radiological Environmental Operating Report

Palisades Nuclear Plant
Docket 50-255
License No. DPR-20

Dear Sir or Madam:

Entergy Nuclear Operations, Inc. is submitting the enclosed Radiological Environmental Operating Report for the Palisades Nuclear Plant. This report was prepared in accordance with the requirements of 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, IV.C, and Technical Specification 5.6.2. The period covered by the enclosed report is January 1, 2010, through December 31, 2010.

This letter contains no new commitments and no revision to existing commitments.

Sincerely,

pka/bed

Attachment: Radiological Environmental Operating Report, January 1 2010, Through December 31, 2010

CC Administrator, Region III, USNRC
Project Manager, Palisades, USNRC
Resident Inspector, Palisades, USNRC

IE25
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**ENCLOSURE**

**RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT**
**JANUARY 1, 2009, THROUGH DECEMBER 31, 2009**

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## I. INTRODUCTION

The Radiological Environmental Operating Report provides a summary and data interpretation of the Palisades Nuclear Plant (PNP) Radiological Environmental Monitoring Program as conducted during the 2010 reporting period. This report was prepared in accordance with the requirements of 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, IV.C, and Technical Specification 5.6.2.

## II. NON-ROUTINE REPORTS

No reportable events occurred during this reporting period.

## III. DISCUSSION AND INTERPRETATION OF RESULTS

### A. Air Samples

There were 259 air samples collected and analyzed for gross beta and I-131. Air iodine/particulate samples are collected weekly from five air sampling locations. Air is metered into the sampling unit at an approximate one cubic foot per minute flow rate through a 47-mm air filter (air particulate) and an air iodine cartridge. Both filters are in-line with each other and housed within the same filter holder. Weekly samples were sent to GEL Laboratories for analysis.

Analysis of the airborne particulate sample data, between the four near-site indicator locations and the control location, demonstrated no statistical difference. The average concentration of gross beta for both indicator and control locations were 0.046 $pCi/m^3$. The indicator location 5PR had the highest average concentration of 0.050 $pCi/m^3$.

All I-131 activity results were below the minimum detectable concentration (MDC) levels.

### B. Lake Water (Surface Water)

Palisades Lake-In (Indicator) and Ludington (Control) lake water samples were collected daily and combined into monthly composite samples. One gallon each of Palisades Lake-In and Ludington Control composites were sent to GEL Laboratories for monthly analysis for gross beta and tritium. No treatment of the water samples with preservative is required.

Palisades Indicator samples had no detectable gross beta concentration. Two Ludington Control samples had an average gross beta concentration of 4.05 pCi/L. Tritium was not detected in any indicator or control samples. There is no Offsite Dose Calculation Manual (ODCM) reporting

criterion for gross beta. If gross beta activity is >10 pCi/L, then a gamma analysis is done. Sample results are slightly higher in 2009 and 2010 than in previous years, due to a change in vendors performing the analyses and how positive results are determined, when each activity is compared to its listed minimum detectable concentration.

C. Drinking Water

Palisades' Domestic Water and South Haven Municipal Raw Water (Indicators) and Ludington (Control) water samples were collected daily and combined into monthly composite samples. One gallon each of these composites were sent to GEL Laboratories for analysis and analyzed for gross beta and tritium. No treatment of the water samples with preservative is required.

Three Domestic Water samples, one South Haven Raw Water sample and two Ludington Control samples had gross beta concentration greater than MDC. The average gross beta concentrations for Domestic Water and Ludington Control samples were 3.47 pCi/L and 4.05 pCi/L and the South Haven Raw Water concentration was 2.70 pCi/L. Tritium was not detected in any Indicator or Control samples. There is no ODCM reporting level for gross beta. If gross beta activity is >10 pCi/L, then a gamma analysis is performed. Sample results are slightly higher in 2009 and 2010 than in previous years, due to a change in vendors performing the analyses and how positive results are determined, when each activity is compared to its listed minimum detectable concentration.

D. Milk

There are no dairy farms meeting the sampling criteria of being within eight kilometers (km) of PNP. Because of a lack of dairy farms, PNP analyzes broad leaf vegetation samples as a substitute for milk sampling.

E. Thermoluminescent Dosimeters (TLD) - Gamma Dose

Environmental gamma doses are measured quarterly by placement of TLDs at each designated location. Sensitivity for the TLDs is 10 millirem, with a linear response of 0.1 millirem to 1000 rem.

The PNP direct radiation monitoring program consists of TLDs placed at 23 locations. There are ten inner ring TLDs, one on-site TLD, nine outer ring TLDs and three control TLDs located in Grand Rapid, Kalamazoo and Dowagiac.

Ninety TLDs were collected and analyzed during 2010. Two 2nd quarter indicator TLDs were found missing, and the entire set of 4th quarter TLD readings are invalid due to TLDs not being read until late April 2011, which added approximately four months of background dose. However, comparing doses for the Inner and Outer ring and Control TLDs reveals that average doses are similar: Inner Ring 39.7 mrem, Outer Ring 40.2 mrem and Control 40.0 mrem. See Attachment 1, Sample Collection Anomalies. The on-site TLD is included with the inner ring (site boundary) TLDs for evaluating any dose effect that could be attributed to PNP.

The TLD data evaluations were performed by comparing the inner ring TLDs and the outer ring TLDs against the control TLDs.

The quarterly average gamma readings in mrem were:

| | |
|---|---|
| Inner Ring | 19.0 |
| Outer Ring | 21.1 |
| Control | 21.6 |

The highest average reading was observed at outer ring location number 2 with a value of 24.3 mrem and a maximum reading of 25 mrem.

The average control dose, 26.1 mrem, plus 2 standard deviations, was 26.5 mrem. No Indicator reading exceeded this amount. This demonstrates that there was no direct radiation effect due to PNP operations.

Note: TLD readings are higher in 2009 and 2010 than in previous years. This is due to the TLDs being analyzed by a different vendor who does not subtract transit dose. However, it should be noted that the critical aspect of environmental TLD monitoring is the comparison between Indicator and Control TLD reads in the same monitoring period – more so than the comparison from one year to the next.

F. Crops

Two principal area crops, apples and blueberries, were collected. Approximately 1 kg of sample is placed in a plastic bag for shipment to the vendor for analysis. No special treatment of the samples with a preservative is necessary.

Blueberries and apples were collected at indicator station 4-JS (3.5 miles SE). There was no activity detected in the crop samples except for naturally occurring K-40 in both blueberry and apple samples.

G. Sediment

Sediment samples are collected semi-annually from a location ½ mile north of the plant along the waterline. No treatment of the samples with a preservative is necessary prior to shipment to the vendor for analysis.

One sediment sample had a Cs-137 concentration of 44.4 pCi/kg (Control samples are not required for sediment). The quantity of Cs-137 released in liquid form from PNP in 2010 was 0.208 mCi. Additionally, other radionuclides in greater quantities that were released from PNP, e.g. Co-58 and Co-60 were not detected. The lower limit of detection (LLD) for Cs-137 in sediment is 180 pCi/kg. The Cs-137 concentration in the sediment sample is well below the LLD for Cs-137.

H. Fish

Fish samples are collected semi-annually. Samples consist of species of commercially and/or recreational important species near the plant discharge area. Control samples are obtained in an area not influenced by plant discharge. Each one-liter quantity of fish sample is frozen for preservation for shipment to GEL Laboratories.

Five fish samples were collected in the vicinity of PNP, and four control samples were collected from Ludington Pumped Storage Facility. Cs-137 was detected in four Palisades samples with an average concentration of 7.2 pCi/kg, and in three Ludington samples, with an average concentration of 23.0 pCi/kg. The reporting level for Cs-137 in fish is 2000 pCi/kg.

I. Broad Leaf Vegetation

Three different kinds of broad leaf vegetation in the South and SSE sectors along the site boundary are sampled monthly during the growing season. Three similar broad leaf vegetation samples are obtained in the NE sector approximately 9 to 18 miles distant from the plant. Sample sizes are 1 kg per sample. There are nine samples total per month. Samples are sent to GEL Laboratories for gamma isotopic and Iodine-131 analyses. No treatment of the samples with a preservative is necessary.

This sampling was completed for the months of May through September. Forty-five samples were obtained. Cs-137 was detected in 15 of the 45 Indicator samples. The average Cs-137 concentration was 62.1 pCi/kg. The reporting level for Cs-137 is 2000 pCi/kg. No activity was detected in the Control broad leaf samples.

The Cs-137 gaseous activity released from PNP during 2010 was 0.011 µCi. This amount would be undetectable in the environment when considering the dilution that occurs. Additionally, shorter-lived isotopes, e.g., Co-58 and Co-60, which were released in higher quantities than Cs-137, were not detected. The lower limit of detection (LLD) for Cs-137 in food products (i.e. broad leaf vegetation) is 80 pCi/kg. The average Cs-137 concentration of 15 (showing activity) out of 45 samples was 62.1 pCi/kg which is below the LLD for Cs-137. The highest concentration of Cs-137 was 467.0 pCi/kg for all indicators, which is below the reporting level of 2000 pCi/kg for Cs-137.

J. Non-Routine Samples

One liquid sample was taken from well water at the Palisades Park housing subdivision south of PNP. Tritium results were less than minimum detectable activity.

K. Gaseous and Liquid Radwaste Effluent Composite Samples

Gaseous and liquid radwaste effluent composite samples are collected and analyzed on site and by GEL Laboratories. No special sample treatment with a preservative is required prior to laboratory analysis. The monthly liquid effluent composite sample is produced from samples collected from each batch release. The gaseous radwaste effluent weekly composite sample results are based on analyzing weekly stack gas filters.

Although not a direct reporting component in the PNP Annual Radiological Environmental Operating Report, results of the gaseous and liquid monthly radwaste effluent composite samples are evaluated against overall environmental trending data. This evaluation is the basis for determining isotopic dispersion and deposition patterns within the surrounding environs of PNP. All gaseous and liquid effluent results are compared to the PNP ODCM, Appendix A, reporting levels.

## IV. ASSESSMENT OF PALISADES OPERATION ENVIRONMENTAL IMPACT

In reviewing the 2010 PNP radiological environmental monitoring data, and comparing it to previous operational and pre-operational data, all trending parameters continue to indicate that the operation of PNP has minimal environmental impact. Most isotopic activity is at environmental background levels. Evidence of an overall environmental isotopic buildup (attributable to plant effluents) remains negligible as well.

**Palisades Nuclear Plant, Van Buren County, MI Docket 50-255**
**Annual Radiological Environmental Operating Report**
January 1, 2010, to December 31, 2010
Table 10.4-1 Sampling and Analysis Summary

| Medium | Collection Description | Location | Number of Samples Collected | Type of Analysis | Frequency of Analysis |
|---|---|---|---|---|---|
| Air | Continuous at appx 1 cfm | Stations 4, 5, 8, 9 and 10 | 259 | Gross Beta, I-131 | Weekly |
| Lake Water | 1 gallon composite | Lake Intake | 12 | Gross Beta, Tritium | Monthly |
| Lake Water - Control | 1 gallon composite | Ludington Lake In | 12 | Gross Beta, Tritium | Monthly |
| Drinking Water | 1 gallon composite | South Haven Municipal (treated) and South Haven Raw | 24 | Gross Beta, Tritium | Monthly |
| TLD | Continuous | Inner Ring, Outer Ring, Controls | 90 | Gamma dose | Quarterly |
| Food Products | 1 kg grab | 4-JS, 3.5 miles SE | 2 | Gamma isotopic and I-131 | At time of harvest |
| Sediment | 1 L grab | Discharge 1/2 mile north of Palisades | 2 | Gamma isotopic | Semiannually |
| Fish | 1 L grab | Discharge and Control | 9 | Gamma isotopic | Semiannually |
| Broad leaf Vegetation | 1 kg grab | Plant boundary – S and SSE sectors, Control 9 to 18 miles NNE of plant | 45 | Gamma isotopic and I-131 | Monthly during growing season |

**Palisades Nuclear Plant, Van Buren County, MI Docket 50-255**
**Annual Radiological Environmental Operating Report**
January 1, 2010, to December 31, 2010
Table 10.4-2 Sample Data Summary

| Medium or Pathway Sampled (Unit of Measure) | Type/Total Number of Analyses Performed | Lower Limit of Detection[a] (MDC) | All Indicator Locations Mean (f)[b] Range[b] | Greatest Mean Name Distance & Direction | Greatest Mean Mean (f)[b] Range[b] | Control Locations Mean (f)[b] Range[b] | Number of Reportable Occurrences |
|---|---|---|---|---|---|---|---|
| Air Particulates ($pCi/m^3$) | I-131 / 259 | 0.07 | < MDC (0/207) | NA | < MDC (0/259) | < MDC (0/52) | 0 |
| | Gross beta / 259 | 0.01 | 0.046 (207/207) 0.028 - 0.089 | 5PR 3.5 mi ESE | 0.050 (51/51) 0.028 – 0.089 | 0.046 (52/52) 0.014 – 0.089 | 0 |
| Lake Water (pCi/L) | Gross beta / 24 | 4.0 | < MDC (0/12) | Ludington 125 mi N | 4.05 (2/12) 3.56 – 4.53 | 4.05 (2/12) 3.56 – 4.53 | 0 |
| | Tritium / 24 | 2000 | < MDC (0/12) | NA | < MDC (0/24) | < MDC (0/12) | 0 |
| Drinking Water (pCi/L) | Gross beta / 36 | 4.0 | 3.28 (4/24) 2.70 – 4.11 | Ludington 125 mi N | 4.05 (2/12) 3.56 – 4.53 | 4.05 (2/12) 3.56 – 4.53 | 0 |
| | Tritium / 36 | 2000 | < MDC (0/24) | NA | < MDC (0/36) | < MDC (0/12) | 0 |
| Inner Ring TLD (Gamma mR) | Gamma Dose / 54 | 10.0 | 19.0 (42/42) 15 – 23 | Station # 11 Kalamazoo 40 mi E | 22.7 (4/4) 20 – 25 | 21.6 (12/12) 17 – 25 | 0 |
| Outer Ring (Gamma mR) | Gamma Dose / 48 | 10.0 | 21.1 (36/36) 16 – 25 | Station # 2 5.58 miles S | 24.3 (4/4) 23 – 25 | 21.6 (12/12) 17 – 25 | 0 |
| Food Crops (pCi/kg wet) | I-131 / 2 | 60 | < MDC (0/2) | NA | < MDC (0/2) | Control sample not required | 0 |
| | Cs-134 / 2 | 60 | < MDC (0/2) | NA | < MDC (0/2) | Control sample not required | 0 |
| | Cs-137 / 2 | 80 | < MDC (0/2) | NA | < MDC (0/2) | Control sample not required | 0 |

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|---|---|---|---|---|---|---|---|
| Sediment (pCi/kg dry) | Cs-134 / 2 | 150 | < MDC (0/2) | NA | < MDC (0/2) | Control sample not required | 0 |
| | Cs-137 / 2 | 180 | 44.4 (1/2) 44.1 – 44.1 | 44.4 Beach Half mile N | 44.4 (1/2) 44.1 – 44.1 | Control sample not required | 0 |
| Fish (pCi/kg wet) | Mn-54 / 9 | 130 | < MDC (0/5) | NA | < MDC (0/9) | < MDC (0/4) | 0 |
| | Fe-59 / 9 | 260 | < MDC (0/5) | NA | < MDC (0/9) | < MDC (0/4) | 0 |
| | Co-58 / 9 | 130 | < MDC (0/5) | NA | < MDC (0/9) | < MDC (0/4) | 0 |
| | Co-60 / 9 | 130 | < MDC (0/5) | NA | < MDC (0/9) | < MDC (0/4) | 0 |
| | Zn-65 / 9 | 260 | < MDC (0/5) | NA | < MDC (0/9) | < MDC (0/4) | 0 |
| | Cs-134 / 9 | 130 | < MDC (0/5) | NA | < MDC (0/9) | < MDC (0/4) | 0 |
| | Cs-137 / 9 | 150 | 7.2 (4/5) 4.7 – 9.3 | Ludington 125 mi N | 23.0 (3/4) 6.9 – 33.8 | 23.0 (3/4) 6.9 – 33.8 | 0 |
| Broad Leaf Vegetation (pCi/kg wet) | I-131 / 45 | 60 | < MDC (0/30) | NA | < MDC (0/45) | < MDC (0/15) | 0 |
| | Cs-134 / 45 | 60 | < MDC (0/30) | NA | < MDC (0/45) | < MDC (0/15) | 0 |
| | Cs-137 / 45 | 80 | 62.1 (15/45) 7.8 – 467.0 | BV22 0.43 miles S | 201.1 (4/5) 18.2 – 467 | < MDC (0/15) | 0 |

a Nominal Lower Limit of Detection (LLD) as defined in table notation c of ODCM Appendix A Table E-3
b Mean and range based on detectable measurements only.
f Fraction of detectable measurements at specific locations is indicated in parenthesis

Table HP 10.4-3
Greatest Mean Sampling Location

| **Medium or Pathway Sampled (unit of measurement)** | **Type of Analysis** | **Location** | **High** | **Low** | **Mean** |
|---|---|---|---|---|---|
| Air (pCi/m3) | I-131 | NA | < MDC | < MDC | < MDC |
| | Gross Beta | 5PR | 0.089 | 0.028 | 0.050 |
| Lake Water (pCi/L) | Gross Beta | Ludington Control | 4.53 | 3.56 | 4.05 |
| | Tritium | NA | < MDC | < MDC | < MDC |
| Drinking Water (pCi/L) | Gross Beta | Ludington Control | 4.53 | 3.56 | 4.05 |
| | Tritium | NA | < MDC | < MDC | < MDC |
| Inner Ring TLD (gamma mR) | Quarterly | #11 (Kalamazoo) | 25 | 20 | 22.7 |
| Outer Ring TLD (gamma mR) | Quarterly | # 2 5.58 miles S | 25 | 23 | 24.3 |
| Crops (pCi/kg wet) | I-131 | NA | < MDC | < MDC | < MDC |
| | Other Gamma | NA | < MDC | < MDC | < MDC |
| Sediment (pCi/kg dry) | Gamma Emitters | Palisades ½ north | 44.4 | 44.4 | 44.4 |
| Fish (pCi/gm wet) | Gamma Emitters | Ludington Control | 33.8 | < MDC | 23.0 |
| Broad leaf vegetation (pCi/kg wet) | Gamma Emitters | Site Boundary South | 467 | < MDC | 201.1 |

# ATTACHMENT 1
# SAMPLE COLLECTION ANOMOLIES

| Sample Affected | Location | Date | Problem | Evaluation |
|---|---|---|---|---|
| Air Sample | Control – Station #10 | 1/22/10 | Particulate filter installed off-center | Filter was analyzed. (CR-PLP-2010-0307) |
| Environmental TLDs | Locations # 16 & 18 | 4/5/2010 (1st Qtr) | TLDs missing | Dose could not be determined. (CR-PLP-2010-1397) |
| Air Sample | Station #5 | 5/10/2010 | Pump found not running | Filter was analyzed. Volume of air was 141.58 $m^3$. Required LLD was met. (CR-PLP-2010-1938) |
| Air Sample | Station #8 | 5/25/10 | Pump found not running | Filter was analyzed. Volume of air was 308.64 $m^3$. Required LLD was met. (CR-PLP-2010-2117) |
| Air Sample | Station #5 | 6/14/10 | Pump found not running | Filter was analyzed. Volume of air was 220.86 $m^3$. Required LLD was met. (CR-PLP-2010-2362) |
| Air Sample | Station #5 | 6/21/10 | Pump found not running | Sample had insufficient volume to be analyzed. Pump at station number 5 was replaced and its outlet was replaced with a non-GFCI type receptacle. Additionally, outlet at station number 8 was replaced with a non-GFCI receptacle. (CR-PLP-2010-2434) |
| Environmental TLDs | All locations | 4th Qtr | TLDs processed late by vendor | Vendor did not process (read) the TLDs until late April. This resulted in the TLDs accumulating almost 4 months of background dose; making the readings invalid. (CR-PLP-2011-2159) |

**ATTACHMENT 2**
**2010 PNP LAND USE CENSUS**

The tables below are the results of the PNP Land Use Census conducted on October 28, 2010. Table 1 references the distance from PNP to the nearest residence, garden (greater than 500 square feet), beef cattle, dairy cow and goat per meteorological sector. Table 2 identifies the locations of the nearest residence, garden, beef cattle, dairy cow and goats within a five mile radius of PNP per meteorological sector. Table 3 lists the critical receptor locations used to calculate offsite doses by the GASPAR computer program.

**Closest Receptor by Sector**
**Table 1**

| Sector | Residence | Garden | Beef Cattle | Dairy Cow | Goat |
|---|---|---|---|---|---|
| NNE | 1.68 | 1.75 | > 5 | > 5 | > 5 |
| NE | 1.14 | 1.67 | > 5 | > 5 | > 5 |
| ENE | 1.19 | 2.3 | > 5 | > 5 | > 5 |
| E | 1.7 | 2.1 | > 5 | > 5 | > 5 |
| ESE | 0.99 | 1.78 | > 5 | > 5 | > 5 |
| SE | 0.90 | 2.44 | > 5 | > 5 | > 5 |
| SSE | 0.80 | > 5 | > 5 | > 5 | > 5 |
| S | 0.72 | 1.40 | > 5 | > 5 | > 5 |
| SSW | 0.49 | 4.82 | > 5 | > 5 | > 5 |

(Distance is in miles)
Note: remaining seven sectors are over Lake Michigan

## 2010 PNP LAND USE CENSUS RESULTS

### Table 2 – Critical Receptors

| Sector | Location Description | Item | Distance from Plant (miles) |
|---|---|---|---|
| NNE | 22514 Oak St | Residence | 1.68 |
| | | | |
| NNE | SW corner of 20th and O fire lane | Garden | 1.75 |
| | | | |
| NE | Ruggles Road, State Park Manager | Residence | 1.14 |
| | | | |
| NE | 21175 Blue Star Hwy | Garden | 1.67 |
| | | | |
| ENE | 24th Ave, at dead end next to I-196 | Residence | 1.19 |
| | | | |
| E | 26263 76th Street | Residence | 1.7 |
| | | | |
| E | 25100 75th Street | Garden | 2.1 |
| | | | |
| ESE | 77555 28th Ave | Residence | 0.99 |
| | | | |
| ESE | 28594 76th Street | Garden | 1.78 |
| | | | |
| SE | 28563 29th Ave | Residence | 0.90 |
| | | | |
| SE | 76566 34th Ave | Garden | 2.44 |
| | | | |
| SSE | 29th Avenue, Palisades Park | Residence | 0.80 |
| | | | |
| S | 29th Avenue, Palisades Park | Residence | 0.72 |
| | | | |
| S | 31881 Blue Star Hwy | Garden | 1.40 |
| | | | |
| SSW | 29th Ave, Palisades Park, on beach | Residence | 0.49 |
| | | | |
| SSW | Corner of 82nd and Blue Star Hwy | Garden | 4.82 |

### Table 3 – Critical Receptors

| Sector | Item | Distance (miles) | X/Q (sec/$m^3$) | D/Q ($1/m^2$) |
|---|---|---|---|---|
| SSE | Site Boundary | 0.48 | 2.43E-6 | 2.07E-8 |
| SSW | Residence | 0.49 | 1.19E-6 | 5.64E-9 |
| S | Garden | 1.40 | 3.12E-7 | 1.35E-9 |

There are no dairy cows, beef cattle or goats within a 5 mile radius of PNP.

**Based on PNP 5-year composite meteorological data, 2004 - 2008**

**ATTACHMENT 3**

**CHEMISTRY PROCEDURE CH 6.10**
**"RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM"**

31 Pages Follow

**Procedure No CH 6.10**
**Revision 4**
**Effective Date 2/2/10**

**PALISADES NUCLEAR PLANT**
**HEALTH PHYSICS PROCEDURE**

# TITLE: RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

**Approved:** JBBurnett / 2/1/10
**Procedure Sponsor** **Date**

**Process Applicability Exclusion** ☒

New Procedure/Revision Summary:

**Specific Changes**

Revision 4 - DRN-10-00168
Added an additional map showing Control sample locations.
Added requirement that air sample pumps should be changed out every three years.

# TITLE: RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

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# TITLE: RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

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## ATTACHMENTS

# TITLE: RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

| REFERENCE USE |
| --- |
| • **Procedure and Procedure Precautions and Limitations are at the work location for reference.**<br>• **Review and understand segments before performing any steps.**<br>• **Signoff steps are completed, when included, before starting the next step.**<br>• **Place keep in accordance with EN-HU-102, "Human Performance Tools."**<br>• **Review the Procedure to verify segments have been completed.** |

## 1.0 PURPOSE

This procedure provides instructions for collection of environmental samples in support of the Radiological Environmental Monitoring Program (REMP) as required by the Offsite Dose Calculation Manual (ODCM). In addition to the ODCM required samples, additional required sampling is listed.

## 2.0 REFERENCES

## 2.1 SOURCE DOCUMENTS

2.1.1 Reg Guide 4.15(7)

2.1.2 10CFR50, Appendix I

2.1.3 Offsite Dose Calculation Manual (ODCM)

2.1.4 Branch Technical Position (Revision 4, 1979), "Radiological Portion of the Environmental Monitoring Program"

2.1.5 NRC IE Bulletin 80-10, "Contamination of Nonradioactive System and Resulting Potential for Unmonitored, Uncontrolled Release of Radioactivity to Environment"

## 2.2 REFERENCE DOCUMENTS

2.2.1 Palisades ODCM, Appendix A, Sections III.J, IV.C, and Tables E-1 and E-2

2.2.2 Entergy Procedure EN-AD-103, "Document Control and Records Management Programs"

2.2.3 Entergy Procedure EN-HU-102, "Human Performance Tools"

## 2.3 COMMITMENTS

2.3.1 CMT 022011097, IE Bulletin 80-10 Response - "Contamination of Nonradioactive System and Resulting Potential for Unmonitored, Uncontrolled Release of Radioactivity to Environment"

2.3.2 CMT 032011144, IE Bulletin 80-10 Response - "Contamination of Nonradioactive System and Resulting Potential for Unmonitored, Uncontrolled Release of Radioactivity to Environment"

## 3.0 PREREQUISITES

None

## 4.0 PRECAUTIONS AND LIMITATIONS

4.1 Any revisions to this procedure shall be reviewed against Palisades ODCM Specifications to verify compliance to all requirements.

4.2 Deviations from the required sampling schedule shall be documented in the Annual Radiological Environmental Operating Report.

4.3 Every effort shall be made to complete corrective action on malfunctioning sampling equipment prior to the end of the next sampling period.

4.4 If it is not possible to obtain the required samples, suitable alternative media and locations shall be substituted within 30 days.

4.5 Samples shall be collected, prepared, and shipped for analysis in a timely manner to ensure detection requirements are met. Other specific handling precautions for sample media are indicated in Section 5.0 as required.

4.6 Any deviation in the Radiological Environmental Monitoring Program including missing samples, unusual analytical results, elevated LLDs, etc, shall be investigated, evaluated, corrected, and documented.

4.7 If an air sampling unit is discovered not operating, attempt to find the cause and repair. If this cannot be done, replace applicable component and document on air sample collection data sheet.

4.8 Calibrate airflow meters annually.

4.9 Change out airflow meters prior to the expiration of calibration dates.

4.10 Change out air sample pumps every three years.

4.11 Ensure trees and bushes in the vicinity of air sampler locations are removed, along with any branches extending over the top of the sampler. The goal is to keep every station away from the drip line (with the exception of station 9, which has an existing canopy 50 feet above the station).

4.12 In the event that the Radiological Environmental Monitoring Programs sampling are not substantially conducted as described in Palisades ODCM Appendix A, Specification III.J, or an unusual or important event occurs from Plant operation that causes a significant environmental impact or affects a potential environmental impact, a report shall be submitted to the NRC within 30 days.

## 5.0 PROCEDURE

| REFERENCE USE |
|---|
| • **Procedure and Procedure Precautions and Limitations are at the work location for reference.**<br>• **Review and understand segments before performing any steps.**<br>• **Signoff steps are completed, when included, before starting the next step.**<br>• **Place keep in accordance with EN-HU-102, "Human Performance Tools."**<br>• **Review the Procedure to verify segments have been completed.** |

## 5.1 LAKE-IN WATER SAMPLE COLLECTION – DAILY CMT 032011144

5.1.1 Fill a 500 ml sample bottle from water downstream of “bio-box” located in the screen house.

5.1.2 Add the sample to the composite container (carboy).

5.1.3 At end of the month obtain a 1-gallon sample from carboy.

5.1.4 Package and ship sample per Attachment 4.

## 5.2 DRINKING WATER SAMPLE COLLECTION – DAILY

5.2.1 Obtain a 500 ml sample from any potable water sink.

5.2.2 Add the sample to the monthly sample container (carboy).

5.2.3 At end of the month obtain a 1-gallon sample from carboy.

5.2.4 Package and ship sample per Attachment 4.

## 5.3 ENVIRONMENTAL AIR SAMPLE COLLECTION – WEEKLY

5.3.1 Open cover at air sample station.

5.3.2 Determine "As Found Leakage" by blocking air flow and checking air flow meter for movement.

a. If no leakage, then mark N in As Found Leakage column on Air Sample Data Sheet.

b. If leakage is indicated, then mark Y in As Found Leakage column, determine cause and repair.

5.3.3 Remove old sampler assembly.

5.3.4 Remove protective cover from new sampler assembly and place on old sampler assembly.

5.3.5 Install new sampler assembly.

5.3.6 Determine "As Left Leakage" by blocking air flow and checking air flow meter for movement.

a. If no leakage, then mark N in As Left Leakage column.

b. If leakage is indicated, then determine cause and repair.

5.3.7 Record the Flow Meter Cal Due Date, Removed Date, Removed Time, Removed Meter Reading ($ft^3$) and Pump Replacement Date.

5.3.8 Close and latch the air sample station cover.

5.3.9 Proceed to the next station and continue process.

5.3.10 After completing air sample change out, complete the following for each sampler assembly:

a. Remove particulate filter and place in glassine envelope.

b. Place filter envelope and charcoal cartridge in labeled zip-lock bag

c. Clean out any residue or moisture buildup in sampler head.

d. Check condition of O-rings, replace if necessary.

5.3.11 Place new particulate filter (fuzzy side out) and charcoal cartridge in sampler assembly and screw on cap.

5.3.12 Place protective cover on sampler assembly.

5.3.13 Prepare new air sample packages for following week.

5.3.14 Transfer data to vendor Chain of Custody sample data sheet.

a. If volume is less than 150 $m^3$, then notify REMP/RETS analyst.

5.3.15 When control air sample is obtained, then package and ship samples per Attachment 4.

## 5.4 SOUTH HAVEN RAW WATER SAMPLE COLLECTION – MONTHLY

| | |
|---|---|
| ***NOTE:*** | Water treatment plant personnel add approximately 125 ml of raw water per day to sample containers. |

5.4.1 Prepare a 1-gallon container labeled "SHRAW," "PAL," month and year.

5.4.2 Drop off container at the South Haven Municipal Water Treatment Plant.

5.4.3 Pick up previous month's container.

5.4.4 Package and ship samples per Attachment 4.

## 5.5 BROADLEAF VEGETATION SAMPLE COLLECTION – MONTHLY

5.5.1 Obtain 1 kg (2.2 lbs) samples of three different kinds of broadleaf vegetation in both the South and SSE sectors.

5.5.2 Obtain 1 kg (2.2 lbs) samples of the similar broadleaf vegetation 15 – 30 km (9.3 to 18.6 miles) distant in the NNE sector.

5.5.3 Obtain samples monthly during growing season.

5.5.4 Package and ship samples per Attachment 4.

## 5.6 ENVIRONMENTAL TLD COLLECTION – QUARTERLY

5.6.1 Upon receipt of TLDs from the laboratory contractor, inventory all TLDs and place in lead cave.

| | |
|---|---|
| ***NOTE:*** | Remove field TLDs from the lead cave only for delivery to their proper locations. All control TLDs remain in the lead cave throughout the entire exposure period. |

5.6.2 Change-out TLDs at each sample location.

5.6.3 For any missing TLDs, then:

a. Search immediate area.

b. If lost TLD is found, collect it and perform standard change out procedure.

c. If lost TLD is not found, post the new TLD in proper location.

5.6.4 Store collected field TLDs in lead cave along with control TLDs until ready for mailing to laboratory contractor.

5.6.5 Package and ship samples per Attachment 4.

## 5.7 PLANT AIR SAMPLE COLLECTION – QUARTERLY

5.7.1 Obtain 1-liter air samples from Air Receiver Tanks T-8A, 8B and 8C.
CMT 0220011097

5.7.2 Count samples for 2000 seconds on MCA.

## 5.8 SEPTIC SYSTEM SAMPLE COLLECTION – QUARTERLY

5.8.1 Obtain a 1 liter liquid sample from sanitary system septic tank.

5.8.2 Count sample for 2000 seconds on MCA.

5.8.3 Package and ship samples per Attachment 4.

## 5.9 FISH SAMPLE COLLECTION – IN SEASON

5.9.1 Precautions

a. At least one individual in the collection party is required to have Michigan Department of Environmental Quality (MDEQ) Cultural and Scientific Fish Collectors Permit if gill net is used.

b. If logistical problems prevent use of a boat to set gill nets from the lake side of Palisades, then the nets can be set offshore from the site boundary (by wading). Notify Security prior to using offshore wading method for beach access.

5.9.2 Notify district MDEQ Fisheries biologist prior to sample collection

5.9.3 Collect samples twice during the season of greatest abundance (typically May through October) as follows:

a. Collect at least two species of commercially and/or recreationally important fish in the vicinity of the Plant discharge area and the same species in an area not influenced by the Plant discharge (eg, Ludington Pump Storage Plant). One liter of flesh should be collected for each species caught for analysis accuracy.

b. Normally fish will be collected first from the vicinity of the discharge, then the same species at Ludington control station.

5.9.4 Label all containers with sample type, location, and date.

5.9.5 Package and ship samples per Attachment 4.

## 5.10 SEDIMENT SAMPLE COLLECTION - SEMIANNUALLY

5.10.1 Collect a 1-liter sediment sample semiannually 1/2 mile north of discharge.

5.10.2 Label containers with sample type, location, and date.

5.10.3 Package and ship samples per Attachment 4.

## 5.11 FOOD PRODUCT SAMPLE COLLECTION – YEARLY

5.11.1 Obtain one sample each of approximately 1 kg each of blueberries and apples from the Arrellanos' store.

5.11.2 Label containers with sample type, location, and date.

5.11.3 Package and ship samples per Attachment 4.

## 5.12 MISCELLANEOUS SAMPLES

5.12.1 Ludington - Control Lake-In daily composite samples are collected daily and shipped to Palisades monthly.

5.12.2 Package and ship samples per Attachment 4.

## 5.13 MONTHLY SAMPLE COLLECTION VERIFICATION

5.13.1 Attachment 6, "REMP Sample Collection Checklist," may be used to track collection and shipment of Environmental Samples.

5.13.2 Verify that the indicated number and type of samples required by the ODCM were collected.

a. Document any unusual collection conditions or missing samples.

5.13.3 Verify that a minimum of 150 $m^3$ of air sample volume was obtained to ensure that analytical Lower Limit of Detection (LLD) requirements are met.

a. Evaluate, correct and document any significant deviations.

5.13.4 Identify new locations for obtaining replacement samples and add them to the Radiological Environmental Monitoring Program (REMP) within thirty (30) days if milk or fresh leafy vegetable samples become unavailable from one or more of the sample locations. The specific locations from which samples were unavailable may then be deleted from the monitoring program. Identify the cause(s) of sample unavailability and list the new location(s) for obtaining replacement samples in the next Annual Radiological Environmental Operating Report.

## 5.14 REVIEW OF SAMPLE ANALYSIS RESULTS

5.14.1 The sample analysis results should be reviewed by the REMP/RETS Analyst upon receipt of the analyses from the laboratory contractor.

5.14.2 Compare the monthly analytical results to the appropriate ODCM requirements (Attachment 7) to verify the following:

a. The required analyses were performed.

b. Any results exceeding the action level shall be checked against ODCM Specification reporting requirements.

c. LLD sensitivity levels were reached. If sample LLDs are not reached, evaluate and document contributing factors.

d. The action taken if either isotopic action levels and/or NRC reporting levels are exceeded.

e. Any specific types of evaluation required.

f. Any action related to unusual or missing sample results.

## 5.15 SPECIAL REPORT

5.15.1 Prepare and submit to the NRC (within 30 days) a special report identifying the following, if the level of radioactivity as a result of Plant effluents in an environmental sampling medium at a specified location exceeds Palisades ODCM, Appendix A, Table E-2, reporting levels when averaged over any calendar quarter.

a. The cause(s) for exceeding the limit(s).

b. Corrective action(s) taken to reduce radioactive effluents.

5.15.2 The NRC Special Report shall be submitted if more than one (1) of the radionuclides listed in the specifications (Palisades ODCM, Appendix A, Table E-2) are detected in an environmental sample medium and:

$$\frac{\text{Concentration (1)}}{\text{Reporting Level (1)}} + \frac{\text{Concentration (2)}}{\text{Reporting Level (2)}} + \ldots \geq 1.0$$

The quarterly sum of fractions calculation shall be completed within 90 days of end of quarter.

5.15.3 If radionuclides other than those listed in the specifications (Palisades ODCM, Appendix A, Table E-2) are detected and are the result of Plant effluents, the NRC Special Report shall be submitted if the potential annual dose to a member of the public is equal to or greater than the calendar year limits specifications (Palisades ODCM, Appendix A, III.H, III.C, and III.D). An NRC Special Report is not required if the measured level of radioactivity is not the result of Plant effluents. The condition shall be described in the Annual Radiological Environmental Operating Report.

Under all conditions, any radiological environmental surveillance sample possessing sufficient isotopic activity above the action level where an action level is listed in Attachment 2 but still below ODCM reporting requirements shall be evaluated. If no action level is listed in Attachment 2, any isotopic activity trending up shall be evaluated.

## 6.0 ATTACHMENTS AND RECORDS

## 6.1 ATTACHMENTS

6.1.1 Attachment 1, "Environmental Sample Collection Schedule"

6.1.2 Attachment 2, "REMP Sample Locations"

6.1.3 Attachment 3, "Sample Shipment Identification"

6.1.4 Attachment 4, "Sample Packaging and Shipment"

6.1.5 Attachment 5, "Environmental Air Sample Data Sheet"

6.1.6 Attachment 6, "REMP Sample Collection Checklist"

6.1.7 Attachment 7, "REMP Analytical Requirements"

6.1.8 Attachment 8, "Environmental Monitoring Locations"

## 6.2 RECORDS

6.2.1 Records generated by this procedure shall be filed in accordance with Entergy Procedure EN-AD-103, "Document Control and Records Management Programs."

## 7.0 SPECIAL REVIEWS

None

# ENVIRONMENTAL SAMPLE COLLECTION SCHEDULE

| Sample | Number of Samples and Locations | Sample Type | Collection/Analysis Frequency |
|---|---|---|---|
| Airborne Particulates and Iodines | 4 within a 10 km radius<br>1 at 25 – 89 km distant | Continuous at approximately 1 cfm | Weekly |
| Drinking Water | 1 – South Haven Municipal – Raw | Daily 125 sample collection to obtain a one-gallon composite | Monthly |
| Drinking Water | 1 – Plant drinking water | Daily 500 sample collection to obtain a one-gallon composite | Monthly |
| Lake Surface | 1 – Lake In, Screen-house downstream of "bio-box" | Daily 500 sample collection to obtain a one-gallon composite | Monthly |
| Lake Surface | 1 – Control at Ludington | Daily composite to obtain one-gallon sample | Monthly |
| Sediment | Sediment – ½ mile north of plant | One-liter grab | Semi-annually |
| Food Products | 1 sample each of blueberries and apples | 1 kg grab sample | At time of harvest |
| Food Products | 1 sample each of three different kinds of broadleaf vegetation in two sectors near plant boundary<br>1 – sample of each of similar broadleaf vegetation 15 – 30 km distant (9 to 18 miles) | 1 kg grab samples | Monthly during growing season |
| Fish | 2 – location in vicinity of plant discharge<br>2 – Ludington Control | One-liter of fish flesh from two different species. Obtain same species from control location (if available) | Sample in season or semiannually if they are not seasonal |

## ENVIRONMENTAL SAMPLE COLLECTION SCHEDULE

| Sample | Number of Samples and Locations | Sample Type | Collection/Analysis Frequency |
|---|---|---|---|
| TLD | 9 – General vicinity of Site Boundary<br>9 – Within 12 km radius<br>3 – Control Stations | Continuous | Quarterly |
| Waste Water | 1 – septic system | 1 liter grab | Quarterly |
| Plant Air | 3 – T-8A, B & C | 1 liter grab | Quarterly |

# REMP SAMPLE LOCATIONS

| Station | Code | | Location | Air Part. and Iodine | Lake Water | Milk | Food Products | Sediment | TLD | Fish |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ST | Palisades Nuclear Plant | Onsite, on tree near nw corner of bag crew bldg. | | X | | | | X | |
| 1 | ST | Palisades Nuclear Plant | Plant discharge area | | | | | | | X |
| 2 | TH | RR 3<br>Coloma, MI<br>5.6 miles S | TLD located on Becht Road, west side on post, 50 yards south of 48th Ave. | | | | | | X | |
| 3 | HS | 76182 48th Ave<br>Covert, MI<br>5.8 miles SSE | Along 48th Ave, 1/4 mile west of 76th St. In barnyard 50 yds off north side of road. | | | | | | X | |
| 4 | JS | 36197 M-140 Hwy<br>Covert, MI<br>3-1/2 miles SE | Just north of Arellannos fruit stand, in grape arbor. | | | | X | | X | |
| 4 | JS | 36th Avenue, ½ miles east of M-140 | South side of road | X | | | | | | |
| 5 | PR | 72723 CR 378<br>Covert, MI<br>3-1/2 miles ESE | Along CR 378, 3/4 mile east of M-140, 30 ft off north side of road. TLD located at Paul Rood residence; on tree in back yard just past driveway. | X | | | | | X | |
| 6 | RB | RR 3 South Haven, MI<br>4-1/2 miles NE | Along 12th Ave (CR 384), turn nw past maple grove, go 1/4 mile located in orchard on north side of road. | | | | | | X | |
| 7a | SN21 | Emergency Siren 21<br>4.1 miles NNE | On Monroe Blvd, at corner of 76th and 11th Street. | | | | | | X | |
| 8 | SP | State Park 1 mile N | Onsite along the dump road, north of Plant. One mile from main gate. Near State Park boundary, on side of road as road turns west. | X | | | | | X | |
| 9 | TP | Covert Township Park<br>1.5 miles SSW | Along 32nd Ave, 1/4 mile west of Blue Star Hwy. 5 ft off south side of road. TLD located at end of road, at entrance to residence on beach, attached to emergency siren SN38. | X | | | | | X | |
| 10 | GR | Grand Rapids, MI<br>55 miles NNE | Grand Rapids Service Center, in storage area. Air sample on west side near shed. Control TLD 100 feet north of air sample station. | X | | | | | X | |

## REMP SAMPLE LOCATIONS

| Station | Code | | Location | Air Part. and Iodine | Lake Water | Milk | Food Products | Sediment | TLD | Fish |
|---|---|---|---|---|---|---|---|---|---|---|
| 11 | KZ | Kalamazoo, MI35 miles E | Kalamazoo Service Center, in parking area on post in SE corner Control TLD. | | | | | | X | |
| 12 | DG | 58399 Wilbur Road, Dowagiac, MI30 miles SSE | TLD located on pole appx 20 yards from road, NE of house. | | | | | | X | |
| 13 | ST | Perimeter of Palisades NNE | Past #8 along dirt road. Proceed west up dune path at right of containment test structure. At first crest, turn north and proceed up adjacent hill to #13 at top (approx 50 yds from crest). Near State Park fence line. | | | | | | X | |
| 14 | ST | Perimeter of Palisades NE | 25 yards of east of Station #34 between State Park and DFS Building. | | | | | | X | |
| 15 | ST | Perimeter of Palisades E | North along Blue Star Hwy, 0.75 miles from access road, 10 ft off west side of road. | | | | | | X | |
| 16 | ST | Perimeter of Palisades E | North along Blue Star Hwy, 0.4 miles from access road, 50 ft off west side of road. | | | | | | X | |
| 17 | ST | Perimeter of Palisades ESE | Along access road, 25 yds south of southern power line, 15 yds off east side of road. | | | | | | X | |
| 18 | ST | Perimeter of Palisades SE | 20 yds from access road along south road. 40 yds off south road. | | | | | | X | |
| 19 | ST | Perimeter of Palisades SSE | 0.2 miles along south road from access road, 30 ft off north side of road. | | | | | | X | |
| 20 | ST | Perimeter of Palisades S | 0.4 miles along south road from access road, 20 ft off south side of road. | | | | | | X | |
| 21 | ST | Perimeter of Palisades SSW | 0.7 miles along south road from access road, just past top of hill. Near Lake Michigan Bluff. | | | | | | X | |
| 22 | PW | Palisades Warehouse | Control TLD in lead cave. | | | | | | X | |
| 23 | SN19 | Emergency Siren 19 3 miles ENE | On CR 380. | | | | | | X | |

## REMP SAMPLE LOCATIONS

| Station | Code | | Location | Air Part. and Iodine | Lake Water | Milk | Food Products | Sediment | TLD | Fish |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 | SN26 | Emergency Siren 26 6 miles E | On 67th Street. | | | | | | X | |
| 25 | SH | South Haven, MI 5-1/2 miles NNE | South Haven Water Treatment Plant. | | X | | | | | |
| 30 | STN | 1/2 mile N of discharge | | | | | | X | | |
| 32 | LP | Ludington Pumped Storage 125 Miles N | | | X | | | | | X |
| 45 | CV | Alternate Control Air Sample Station | 10 miles NNE of Plant | X | | | | | | |

# SAMPLE SHIPMENT IDENTIFICATION

## Palisades

| Location | Type | Date | Amount | Remarks |
|---|---|---|---|---|
| South Haven | Raw Water | Monthly Composite - | 1 Gallon | |
| Lake In | Lake Water | Monthly Composite - | 1 Gallon | |
| Plant Drinking Water | Domestic Water | Monthly Composite - | 1 Gallon | |
| Ludington - Lake | Control Sample | Monthly Composite - | 1 Gallon | |
| ½ mile N of Plant | Sediment | | 1 Liter | |
| Sanitary Wastewater | Wastewater | | 1 liter | |
| Palisades Perimeter | Vegetation | | 6 kg | |
| Control | Vegetation | | 3 kg | |
| Arellannos Market | Blueberries | | 1 kg | |
| Arellannos Market | Apples | | 1 kg | |
| Palisades | Fish | | 1 kg | |
| Control | Fish | | 1 kg | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

# SAMPLE PACKAGING AND SHIPMENT

1. Label samples clearly as to their contents.

2. Seal liquid sample containers with tape to prevent leakage.

3. Use sufficient packing material to avoid sample container damage during shipment.

4. Package air filters in glassine or plastic envelopes.

5. For TLD shipments, ensure that vendor's shipment instructions are followed.

6. Ship samples to vendor laboratory with minimal delay after collection so as to avoid elevated analytical levels of detection.

7. Record sample information on Attachment 3, "Sample Shipment Identification," or Attachment 5, "Environmental Air Sample Data Sheet," or per vendor's instructions as applicable. Include applicable form with shipment.

# ENVIRONMENTAL AIR SAMPLE DATA SHEET

## PALISADES

| A/S Station | As Found Leakage (Y / N) | As Left Leakage (Y / N) | Removed Date | Removed Time | Flow Meter Reading ($ft^3$) | Flow Meter Cal Due Date | Pump Replacement Date |
|---|---|---|---|---|---|---|---|
| 8SP | | | | | | | |
| 9TP | | | | | | | |
| 4JS | | | | | | | |
| 5PR | | | | | | | |

Comments _____

Completed By _____ Date _____

Reviewed By _____ Date _____

# REMP SAMPLE COLLECTION CHECKLIST

Month _____ Year _____

| | Collected | Shipped |
|---|---|---|
| WEEKLY<br>Air Samples<br>Week 1 | _____ | _____ |
| Week 2 | _____ | _____ |
| Week 3 | _____ | _____ |
| Week 4 | _____ | _____ |
| Week 5 | _____ | _____ |
| MONTHLY<br>Broadleaf Veg | _____ | _____ |
| Lake In | _____ | _____ |
| Drinking Water | _____ | _____ |
| SHRAW | _____ | _____ |
| Ludington Ctrl | _____ | _____ |

# REMP SAMPLE COLLECTION CHECKLIST

Year _____

| | Collected | Shipped |
|---|---|---|
| QUARTERLY | | |
| TLDs | | |
| 1Q | _____ | _____ |
| 2Q | _____ | _____ |
| 3Q | _____ | _____ |
| 4Q | _____ | _____ |
| Sanitary Wastewater | | |
| 1Q | _____ | _____ |
| 2Q | _____ | _____ |
| 3Q | _____ | _____ |
| 4Q | _____ | _____ |
| Plant Air | | |
| 1Q | _____ | |
| 2Q | _____ | |
| 3Q | _____ | |
| 4Q | _____ | |
| SEMI-ANNUAL | | |
| Sediment | | |
| 1 | _____ | _____ |
| 2 | _____ | _____ |
| Fish – Indicator | | |
| 1 | _____ | _____ |
| 2 | _____ | _____ |
| Fish – Control | | |
| 1 | _____ | _____ |
| 2 | _____ | _____ |
| ANNUAL | | |
| Blueberries | _____ | _____ |
| Apples | _____ | _____ |

This form is not required to be retained as a quality record.

## REMP ANALYTICAL REQUIREMENTS

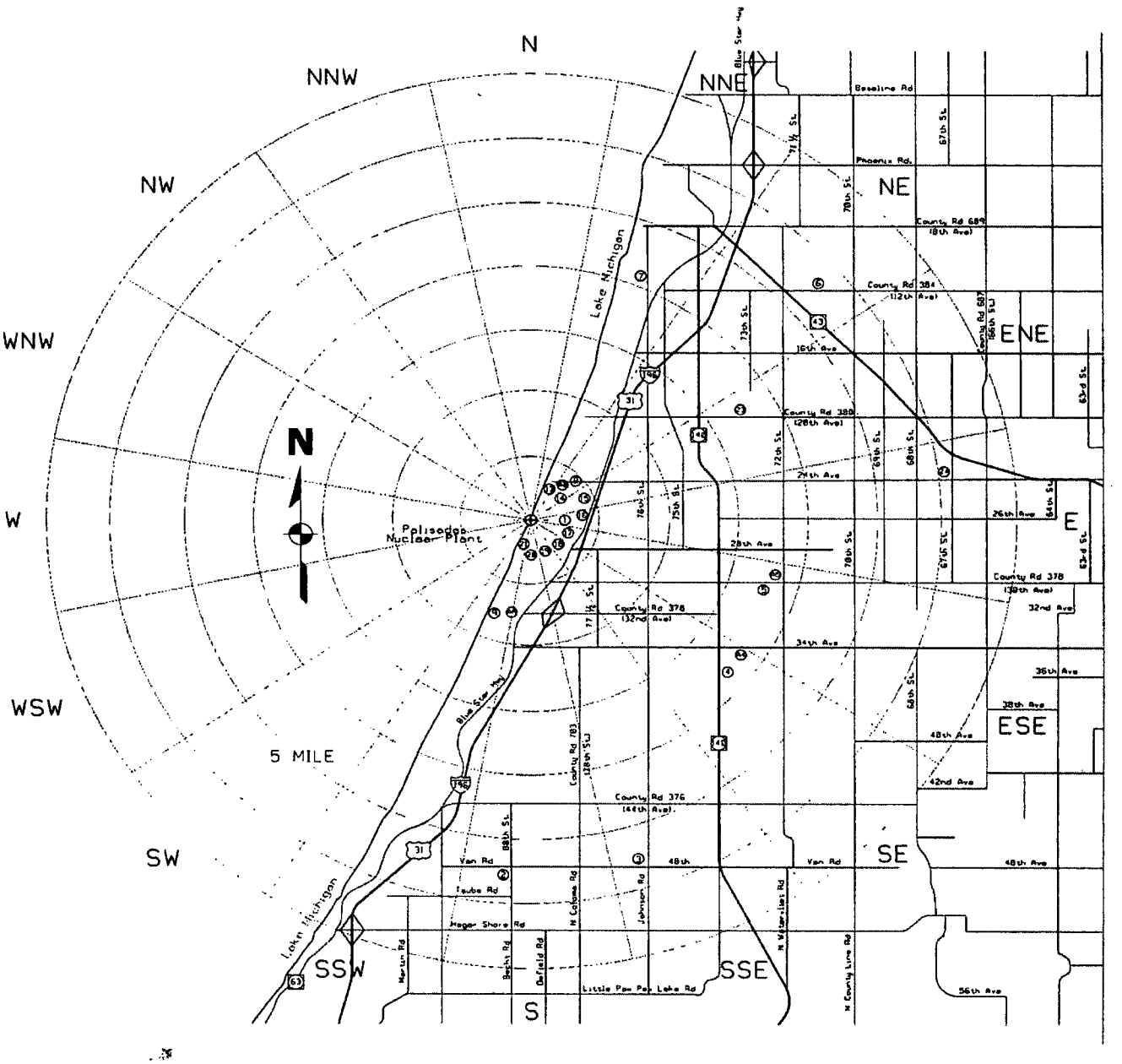
| Media | Sampling Interval | Required Analysis | LLD | NRC[f] Reporting Levels | Unusual Results[h] | |
|---|---|---|---|---|---|---|
| | | | | | Action Level | Action Required |
| Direct by TLD | Quarterly | Gamma Dose | 10 mR | | | |
| Air Gaseous | Weekly | I-131 | 0.07 pCi/$m^3$ | 0.9 pCi/$m^3$ | 0.2 pCi/$m^3$ | Notify |
| Air Particulate | Weekly | Gross Beta | 0.01 pCi/$m^3$ | | See note g | Notify and perform gamma isotopic. |
| | | Gamma[a,j] | | | | |
| | | Cs-134 | 0.05 pCi/$m^3$ | 10 pCi/$m^3$ | 5 pCi/$m^3$ | |
| | | Cs-137 | 0.06 pCi/$m^3$ | 20 pCi/$m^3$ | 5 pCi/$m^3$ | |
| Water | Monthly | H-3[i] | 2000 pCi/L | 20,000 pCi/L | 1000 pCi/L | Notify |
| Surface | | Gross Beta | 4 pCi/L | | 10 pCi/L | Notify within 24 h if beta ≥10 pCi/L. Perform gamma analysis. |
| Drinking | | Gamma[a,j] | | 1000 pCi/L | | |
| | | Mn-54 | 15 pCi/L | 400 pCi/L | | |
| | | Fe-59 | 30 pCi/L | 1000 pCi/L | | |
| | | Co-58 | 15 pCi/L | 300 pCi/L | | |
| | | Co-60 | 15 pCi/L | 300 pCi/L | | |
| | | Zn-65 | 30 pCi/L | 400 pCi/L | Any gamma ≥30 pCi/L | Notify |
| | | Zr-95 | 15 pCi/L | 400 pCi/L | | |
| | | Nb-95 | 15 pCi/L | 30 pCi/L | | |
| | | Cs-134 | 15 pCi/L | 50 pCi/L | | |
| | | Cs-137 | 18 pCi/L | 200 pCi/L | | |
| | | BaLa-140 | 15 pCi/L | 2 pCi/L | | |
| | | I-131 | 1 pCi/L | | 2 pCi/L | Notify |
| Sediment | Semiannual | Gamma[j] | | | Any gamma ≥1 pCi/g | Notify |
| | | Cs-134 | 150 pCi/g | | | |
| | | Cs-137 | 180 pCi/g | | | |

## REMP ANALYTICAL REQUIREMENTS

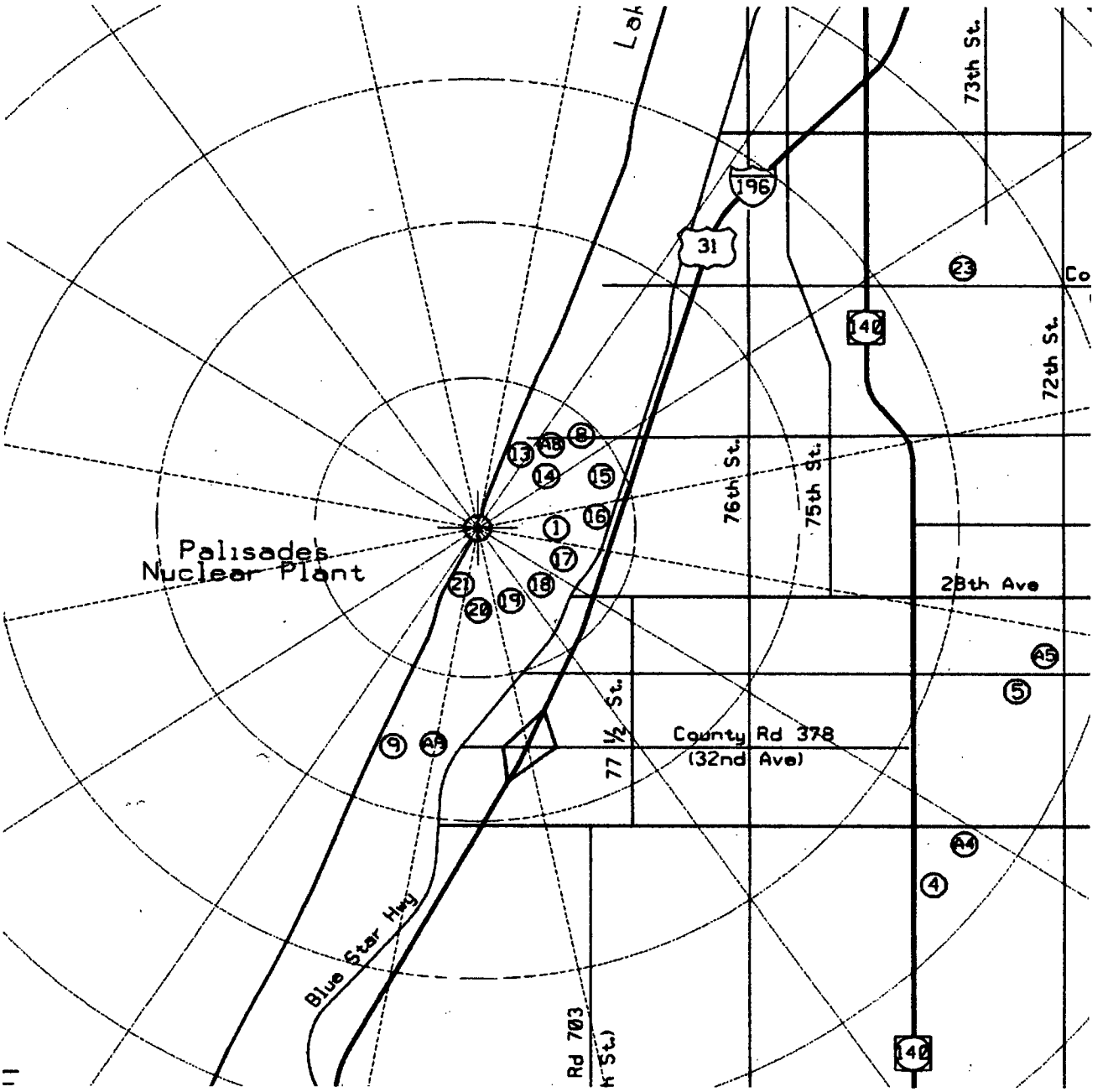
| Media | Sampling Interval | Required Analysis | LLD | NRC[f] Reporting Levels | Unusual Results[h] | |
|---|---|---|---|---|---|---|
| | | | | | Action Level | Action Required |
| Fish | Semiannual | Gamma[j] | | | Any gamma | Notify |
| | | Mn-54 | 0.13 pCi/g | 30 pCi/g | ≥1 pCi/g | |
| | | Fe-59 | 0.26 pCi/g | 10 pCi/g | | |
| | | Co-58 | 0.13 pCi/g | 30 pCi/g | | |
| | | Co-60 | 0.13 pCi/g | 10 pCi/g | | |
| | | Zn-65 | 0.26 pCi/g | 20 pCi/g | | |
| | | Cs-134 | 0.13 pCi/g | 1 pCi/g | | |
| | | Cs-137 | 0.15 pCi/g | 2 pCi/g | | |
| Broad Leaf Vegetation | Monthly when available | I-131 | 0.06 pCi/g | 0.1 pCi/g | 0.1 pCi/g | Notify |
| | | Gamma[j] | | | Any gamma | Notify |
| | | Cs-134 | 0.08 pCi/g | 1 pCi/g | ≥1 pCi/g | |
| | | Cs-137 | 0.08 pCi/g | 2 pCi/g | | |
| Food Products | At time of harvest | Gamma[j] | | | Any gamma | Notify |
| | | Cs-134 | 0.08 pCi/g | 1 pCi/g | ≥1 pCi/g | |
| | | Cs-137 | 0.08 pCi/g | 2 pCi/g | | |

[a]Supplementary analysis only.
[d]Radioactivity levels may cause LLD levels to be exceeded.
[e]Monthly composite of weekly filters.
[f]Reporting levels per ODCM, Appendix A, Section III.J and Table E-2.
[g]If gross beta activity is greater than or equal to 1 pCi/$m^3$ or greater than or equal to ten times last years mean of control samples, perform gamma analysis on the individual samples.
[h]Whenever the Unusual Results Action Level is reached or exceeded, the word "Notify" under the Action Required column signifies that the Contract Laboratory performing the analysis is required to notify Palisades.
[i]Not required for South Haven raw water sample.
[j]Gamma isotopic analysis means the identification and quantification of gamma emitting radionuclides that may be attributable to the effluents from the facility.

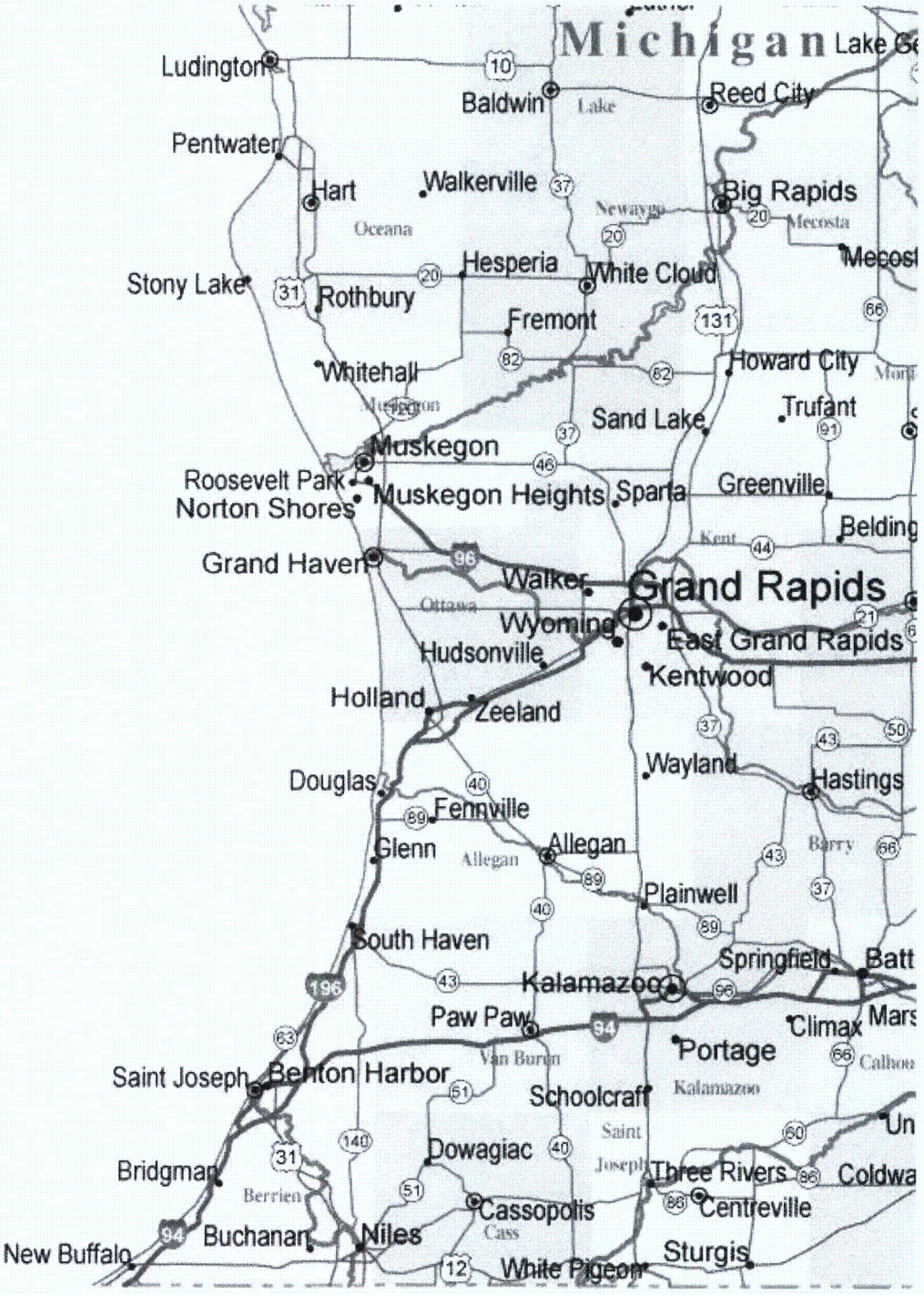
# ENVIRONMENTAL MONITORING LOCATIONS



# ENVIRONMENTAL MONITORING LOCATIONS



# ENVIRONMENTAL MONITORING LOCATIONS



# ENVIRONMENTAL MONITORING LOCATIONS

**TLDs**

| Location | Coordinates | Distance (mi) | Degrees | Sector |
|---|---|---|---|---|
| Stack | N 42 19 23.5<br>W 86 18 51.6 | | | |
| 1 | N 42 19 20.7<br>W 86 18 36.1 | 0.507 | 96.09 | E |
| Inner Ring | | | | |
| 13 | N 42 19 47.2<br>W 86 18 34.1 | 0.518 | 28.62 | NNE |
| 8 | N 42 19 46.8<br>W 86 18 24.0 | 0.594 | 41.21 | NE |
| 14 | N 42 19 41.1<br>W 86 18 21.2 | 0.548 | 51.93 | NE |
| 15 | N 42 19 42.3<br>W 86 17 58.1 | 0.838 | 64.94 | ENE |
| 16 | N 42 19 28.0<br>W 86 17 54.6 | 0.814 | 83.9 | E |
| 17 | N 42 19 10.5<br>W 86 18 13.9 | 0.590 | 114.98 | ESE |
| 18 | N 42 19 4.2<br>W 86 18 28.9 | 0.491 | 138.96 | SE |
| 19 | N 42 19 0.9<br>W 86 18 39.7 | 0.465 | 158.69 | SSE |
| 20 | N 42 19 1.1<br>W 86 18 48.8 | 0.432 | 174.42 | S |
| 21 | N 42 19 3.4<br>W 86 18 58.4 | 0.397 | 194.02 | SSW |
| Outer Ring | | | | |
| 7 | N 42 22 40.8<br>W 86 17 0.4 | 4.102 | 22.6 | NNE |
| 6 | N 42 22 30.6<br>W 86 14 15.9 | 5.309 | 47.42 | NE |
| 23 | N 42 20 44.7<br>W 86 15 35.3 | 3.191 | 60.75 | ENE |
| 24 | N 42 19 59.4<br>W 86 11 49.4 | 6.029 | 83.4 | E |
| 5 | N 42 18 27.6<br>W 86 14 57.5 | 3.491 | 107.87 | ESE |
| 4 | N 42 17 10.8<br>W 86 15 43.5 | 3.690 | 133.63 | SE |
| 3 | N 42 14 38.0<br>W 86 16 59.7 | 5.704 | 163.82 | SSE |
| 2 | N 42 14 33.4<br>W 86 19 16.4 | 5.578 | 183.62 | S |

## ENVIRONMENTAL MONITORING LOCATIONS

| | | | | |
|---|---|---|---|---|
| 9 | N 42 18 1.6<br>W 86 19 34.6 | 1.686 | 201.22 | SSW |
| Control TLDs | | | | |
| 10 | N 42 53 16.5<br>W 85 40 36.1 | 50.727 | 39.51 | NE |
| 11 | N 42 15 24.4<br>W 85 32 49.4 | 39.749 | 96.42 | E |
| 12 | N 41 56 54.3<br>W 86 6 24.5 | 27.989 | 157.61 | SSE |

TLD # 10 is located within the Consumers Energy Grand Rapids service facility attached to a pole located adjacent to the south fence.

TLD # 11 is located within the Consumers Energy Kalamazoo service facility attached to a pole in the far NE corner of the facility – past the employee parking lot.

TLD # 12 is located approximately 30 yards from the road, NE and next to a private residence located at 58399 Wilbur Road, Dowagiac, MI.

**Air Sample Stations**

| Location | Coordinates | Distance (mi) | Degrees | Sector |
|---|---|---|---|---|
| A8 (State Park) | N 42 19 46.8<br>W 86 18 24.8 | 0.587 | 40.38 | NE |
| A9 (Township Park) | N 42 18 4.6<br>W 86 19 11.2 | 1.539 | 190.40 | S |
| A4 (Covert) | N 42 17 12.1<br>W 86 15 21.7 | 3.903 | 130.22 | SE |
| A5 (Rood) | N 42 18 30.5<br>W 86 14 47.8 | 5.804 | 106.36 | ESE |
| A10 (Grand Rapids) | N 42 53 16.5<br>W 85 40 36.1 | 50.727 | 39.51 | NE |

Air Sample Station # 10 is located within the Consumers Energy Grand Rapids service facility, south side, next to a small service building and due East of TLD # 10.

Control fish and water samples are obtained from the Consumers Energy Pump Storage Facility located in Ludington, MI

**ATTACHMENT 4**

# YEAR-END REPORT FOR PALISADES RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM (REMP) AS PROVIDED BY GEL LABORATORIES, LLC

29 Pages Follow

# REMP Year End Report for PALI for 2010
## Palisades REMP

AC

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| 10GR(244992010) - AC | 2-Jan-10 | Iodine-131 | 1.29E-03 | 1.64E-02 | 2.75E-02 | 7.00E-02 | 1.64E-02 | pCi/m3 |
| 10GR(245591010) - AC | 9-Jan-10 | Iodine-131 | 3.57E-03 | 2.30E-02 | 3.97E-02 | 7.00E-02 | 2.30E-02 | pCi/m3 |
| 10GR(246174010) - AC | 16-Jan-10 | Iodine-131 | -7.01E-03 | 2.68E-02 | 4.42E-02 | 7.00E-02 | 2.68E-02 | pCi/m3 |
| 10GR(246515010) - AC | 23-Jan-10 | Iodine-131 | -1.24E-02 | 1.61E-02 | 2.42E-02 | 7.00E-02 | 1.61E-02 | pCi/m3 |
| 10GR(247059010) - AC | 31-Jan-10 | Iodine-131 | -6.11E-03 | 1.85E-02 | 2.98E-02 | 7.00E-02 | 1.85E-02 | pCi/m3 |
| 10GR(247978010) - AC | 7-Feb-10 | Iodine-131 | 4.16E-02 | 3.53E-02 | 6.08E-02 | 7.00E-02 | 3.53E-02 | pCi/m3 |
| 10GR(248279010) - AC | 14-Feb-10 | Iodine-131 | -4.84E-03 | 3.41E-02 | 5.72E-02 | 7.00E-02 | 3.41E-02 | pCi/m3 |
| 10GR(248639010) - AC | 20-Feb-10 | Iodine-131 | 4.22E-03 | 2.99E-02 | 5.13E-02 | 7.00E-02 | 2.99E-02 | pCi/m3 |
| 10GR(249587010) - AC | 27-Feb-10 | Iodine-131 | 2.17E-02 | 3.26E-02 | 5.82E-02 | 7.00E-02 | 3.26E-02 | pCi/m3 |
| 10GR(249893010) - AC | 7-Mar-10 | Iodine-131 | -7.43E-03 | 3.70E-02 | 5.84E-02 | 7.00E-02 | 3.70E-02 | pCi/m3 |
| 10GR(250216010) - AC | 13-Mar-10 | Iodine-131 | 1.28E-02 | 3.22E-02 | 5.64E-02 | 7.00E-02 | 3.22E-02 | pCi/m3 |
| 10GR(250516010) - AC | 20-Mar-10 | Iodine-131 | -8.36E-03 | 3.14E-02 | 4.83E-02 | 7.00E-02 | 3.14E-02 | pCi/m3 |
| 10GR(251549010) - AC | 4-Apr-10 | Iodine-131 | -3.70E-03 | 2.40E-02 | 3.94E-02 | 7.00E-02 | 2.40E-02 | pCi/m3 |
| 10GR(251663010) - AC | 10-Apr-10 | Iodine-131 | 4.71E-03 | 2.76E-02 | 4.69E-02 | 7.00E-02 | 2.76E-02 | pCi/m3 |
| 10GR(252115010) - AC | 17-Apr-10 | Iodine-131 | 6.60E-03 | 1.73E-02 | 3.12E-02 | 7.00E-02 | 1.73E-02 | pCi/m3 |
| 10GR(252610010) - AC | 25-Apr-10 | Iodine-131 | -1.31E-02 | 2.32E-02 | 3.36E-02 | 7.00E-02 | 2.32E-02 | pCi/m3 |
| 10GR(253073010) - AC | 1-May-10 | Iodine-131 | -6.98E-03 | 2.56E-02 | 4.09E-02 | 7.00E-02 | 2.56E-02 | pCi/m3 |
| 10GR(253471010) - AC | 9-May-10 | Iodine-131 | -8.40E-03 | 1.44E-02 | 2.15E-02 | 7.00E-02 | 1.44E-02 | pCi/m3 |
| 10GR(253666010) - AC | 16-May-10 | Iodine-131 | -2.92E-03 | 2.02E-02 | 3.29E-02 | 7.00E-02 | 2.02E-02 | pCi/m3 |
| 10GR(254465010) - AC | 23-May-10 | Iodine-131 | 2.19E-02 | 2.97E-02 | 5.75E-02 | 7.00E-02 | 2.97E-02 | pCi/m3 |
| 10GR(254695010) - AC | 31-May-10 | Iodine-131 | 1.97E-02 | 1.74E-02 | 3.44E-02 | 7.00E-02 | 1.74E-02 | pCi/m3 |
| 10GR(254969010) - AC | 7-Jun-10 | Iodine-131 | 2.84E-03 | 1.44E-02 | 2.50E-02 | 7.00E-02 | 1.44E-02 | pCi/m3 |
| 10GR(256088011) - AC | 14-Jun-10 | Iodine-131 | -4.95E-03 | 3.57E-02 | 5.82E-02 | 7.00E-02 | 3.57E-02 | pCi/m3 |
| 10GR(256088012) - AC | 21-Jun-10 | Iodine-131 | 1.20E-03 | 2.64E-02 | 4.47E-02 | 7.00E-02 | 2.64E-02 | pCi/m3 |
| 10GR(256312010) - AC | 28-Jun-10 | Iodine-131 | -7.83E-03 | 1.95E-02 | 3.05E-02 | 7.00E-02 | 1.95E-02 | pCi/m3 |
| 10GR(256734010) - AC | 9-Jul-10 | Iodine-131 | -5.41E-03 | 1.43E-02 | 2.29E-02 | 7.00E-02 | 1.43E-02 | pCi/m3 |
| 10GR(257081010) - AC | 11-Jul-10 | Iodine-131 | 2.19E-02 | 2.88E-02 | 5.48E-02 | 7.00E-02 | 2.88E-02 | pCi/m3 |
| 10GR(257685010) - AC | 17-Jul-10 | Iodine-131 | 3.72E-03 | 2.41E-02 | 4.14E-02 | 7.00E-02 | 2.41E-02 | pCi/m3 |
| 10GR(258001010) - AC | 24-Jul-10 | Iodine-131 | 7.09E-03 | 1.94E-02 | 3.43E-02 | 7.00E-02 | 1.94E-02 | pCi/m3 |
| 10GR(258875010) - AC | 31-Jul-10 | Iodine-131 | 1.82E-02 | 1.87E-02 | 3.61E-02 | 7.00E-02 | 1.87E-02 | pCi/m3 |
| 10GR(259582010) - AC | 8-Aug-10 | Iodine-131 | -6.34E-03 | 2.71E-02 | 4.41E-02 | 7.00E-02 | 2.71E-02 | pCi/m3 |
| 10GR(259808010) - AC | 15-Aug-10 | Iodine-131 | -5.40E-03 | 2.65E-02 | 4.40E-02 | 7.00E-02 | 2.65E-02 | pCi/m3 |
| 10GR(260516010) - AC | 21-Aug-10 | Iodine-131 | -7.60E-03 | 3.72E-02 | 6.17E-02 | 7.00E-02 | 3.72E-02 | pCi/m3 |
| 10GR(260983010) - AC | 29-Aug-10 | Iodine-131 | 1.62E-02 | 3.52E-02 | 6.25E-02 | 7.00E-02 | 3.52E-02 | pCi/m3 |
| 10GR(261561010) - AC | 6-Sep-10 | Iodine-131 | 1.42E-02 | 3.91E-02 | 6.77E-02 | 7.00E-02 | 3.91E-02 | pCi/m3 |
| 10GR(261565010) - AC | 12-Sep-10 | Iodine-131 | 1.20E-02 | 2.39E-02 | 4.26E-02 | 7.00E-02 | 2.39E-02 | pCi/m3 |
| 10GR(261861010) - AC | 19-Sep-10 | Iodine-131 | -1.27E-03 | 1.55E-02 | 2.55E-02 | 7.00E-02 | 1.55E-02 | pCi/m3 |
| 10GR(264418010) - AC | 26-Sep-10 | Iodine-131 | -8.43E-03 | 1.80E-02 | 2.93E-02 | 7.00E-02 | 1.80E-02 | pCi/m3 |
| 10GR(264754010) - AC | 4-Oct-10 | Iodine-131 | 9.86E-04 | 1.23E-02 | 2.07E-02 | 7.00E-02 | 1.23E-02 | pCi/m3 |
| 10GR(265234010) - AC | 10-Oct-10 | Iodine-131 | 1.81E-03 | 1.70E-02 | 2.88E-02 | 7.00E-02 | 1.70E-02 | pCi/m3 |
| 10GR(265785010) - AC | 16-Oct-10 | Iodine-131 | -1.25E-03 | 2.84E-02 | 4.78E-02 | 7.00E-02 | 2.84E-02 | pCi/m3 |
| 10GR(266420010) - AC | 22-Oct-10 | Iodine-131 | 8.10E-03 | 1.95E-02 | 3.46E-02 | 7.00E-02 | 1.95E-02 | pCi/m3 |
| 10GR(267269010) - AC | 30-Oct-10 | Iodine-131 | -5.63E-03 | 1.64E-02 | 2.68E-02 | 7.00E-02 | 1.64E-02 | pCi/m3 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 10GR(267722010) - AC | 7-Nov-10 | Iodine-131 | -2.80E-02 | 3.37E-02 | 5.10E-02 | 7.00E-02 | 3.37E-02 | pCi/m3 |
| 10GR(267723010) - AC | 12-Nov-10 | Iodine-131 | 1.06E-02 | 3.19E-02 | 5.57E-02 | 7.00E-02 | 3.19E-02 | pCi/m3 |
| 10GR(268031010) - AC | 19-Nov-10 | Iodine-131 | 9.13E-04 | 2.72E-02 | 4.62E-02 | 7.00E-02 | 2.72E-02 | pCi/m3 |
| 10GR(268558010) - AC | 27-Nov-10 | Iodine-131 | -7.09E-03 | 3.38E-02 | 5.40E-02 | 7.00E-02 | 3.38E-02 | pCi/m3 |
| 10GR(268939010) - AC | 5-Dec-10 | Iodine-131 | -1.04E-02 | 4.31E-02 | 6.83E-02 | 7.00E-02 | 4.31E-02 | pCi/m3 |
| 10GR(269155010) - AC | 12-Dec-10 | Iodine-131 | 1.82E-02 | 3.29E-02 | 6.27E-02 | 7.00E-02 | 3.29E-02 | pCi/m3 |
| 10GR(270067010) - AC | 18-Dec-10 | Iodine-131 | 6.60E-03 | 3.89E-02 | 6.52E-02 | 7.00E-02 | 3.89E-02 | pCi/m3 |
| 10GR(270069010) - AC | 24-Dec-10 | Iodine-131 | 2.80E-03 | 2.79E-02 | 4.67E-02 | 7.00E-02 | 2.79E-02 | pCi/m3 |

10GR
AP

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| 10GR(244992005) - AP | 2-Jan-10 | BETA | 3.78E-02 | 5.01E-03 | 2.09E-03 | 1.00E-02 | 5.04E-03 | pCi/m3 |
| 10GR(245591005) - AP | 9-Jan-10 | BETA | 1.37E-02 | 3.43E-03 | 2.87E-03 | 1.00E-02 | 3.44E-03 | pCi/m3 |
| 10GR(246174005) - AP | 16-Jan-10 | BETA | 8.87E-02 | 7.69E-03 | 1.71E-03 | 1.00E-02 | 7.82E-03 | pCi/m3 |
| 10GR(246515005) - AP | 23-Jan-10 | BETA | 4.41E-02 | 5.39E-03 | 1.76E-03 | 1.00E-02 | 5.44E-03 | pCi/m3 |
| 10GR(247059005) - AP | 31-Jan-10 | BETA | 5.15E-02 | 5.51E-03 | 1.67E-03 | 1.00E-02 | 5.57E-03 | pCi/m3 |
| 10GR(247978005) - AP | 7-Feb-10 | BETA | 4.15E-02 | 5.16E-03 | 1.60E-03 | 1.00E-02 | 5.20E-03 | pCi/m3 |
| 10GR(248279005) - AP | 14-Feb-10 | BETA | 3.71E-02 | 5.39E-03 | 1.91E-03 | 1.00E-02 | 5.43E-03 | pCi/m3 |
| 10GR(248639005) - AP | 20-Feb-10 | BETA | 4.58E-02 | 5.90E-03 | 2.03E-03 | 1.00E-02 | 5.94E-03 | pCi/m3 |
| 10GR(249587005) - AP | 27-Feb-10 | BETA | 3.91E-02 | 4.80E-03 | 1.50E-03 | 1.00E-02 | 4.84E-03 | pCi/m3 |
| 10GR(249893005) - AP | 7-Mar-10 | BETA | 5.53E-02 | 6.23E-03 | 1.78E-03 | 1.00E-02 | 6.30E-03 | pCi/m3 |
| 10GR(250216005) - AP | 13-Mar-10 | BETA | 3.75E-02 | 5.16E-03 | 2.37E-03 | 1.00E-02 | 5.19E-03 | pCi/m3 |
| 10GR(250516005) - AP | 20-Mar-10 | BETA | 4.65E-02 | 5.66E-03 | 2.32E-03 | 1.00E-02 | 5.71E-03 | pCi/m3 |
| 10GR(250666005) - AP | 27-Mar-10 | BETA | 4.40E-02 | 5.59E-03 | 2.39E-03 | 1.00E-02 | 5.64E-03 | pCi/m3 |
| 10GR(251549005) - AP | 4-Apr-10 | BETA | 5.17E-02 | 6.04E-03 | 2.26E-03 | 1.00E-02 | 6.09E-03 | pCi/m3 |
| 10GR(251663005) - AP | 10-Apr-10 | BETA | 3.42E-02 | 5.09E-03 | 2.49E-03 | 1.00E-02 | 5.11E-03 | pCi/m3 |
| 10GR(252115005) - AP | 17-Apr-10 | BETA | 4.55E-02 | 5.59E-03 | 2.24E-03 | 1.00E-02 | 5.64E-03 | pCi/m3 |
| 10GR(252610005) - AP | 25-Apr-10 | BETA | 4.11E-02 | 5.46E-03 | 2.40E-03 | 1.00E-02 | 5.50E-03 | pCi/m3 |
| 10GR(253073005) - AP | 1-May-10 | BETA | 3.92E-02 | 5.35E-03 | 2.46E-03 | 1.00E-02 | 5.38E-03 | pCi/m3 |
| 10GR(253471005) - AP | 9-May-10 | BETA | 2.67E-02 | 3.88E-03 | 1.78E-03 | 1.00E-02 | 3.90E-03 | pCi/m3 |
| 10GR(253666005) - AP | 16-May-10 | BETA | 4.69E-02 | 6.96E-03 | 3.14E-03 | 1.00E-02 | 7.00E-03 | pCi/m3 |
| 10GR(254465005) - AP | 23-May-10 | BETA | 4.22E-02 | 5.11E-03 | 2.07E-03 | 1.00E-02 | 5.15E-03 | pCi/m3 |
| 10GR(254695005) - AP | 31-May-10 | BETA | 2.07E-02 | 3.75E-03 | 2.12E-03 | 1.00E-02 | 3.77E-03 | pCi/m3 |
| 10GR(254969005) - AP | 7-Jun-10 | BETA | 3.84E-02 | 5.23E-03 | 1.78E-03 | 1.00E-02 | 5.27E-03 | pCi/m3 |
| 10GR(256088005) - AP | 14-Jun-10 | BETA | 3.38E-02 | 4.62E-03 | 1.66E-03 | 1.00E-02 | 4.66E-03 | pCi/m3 |
| 10GR(256088006) - AP | 21-Jun-10 | BETA | 3.38E-02 | 5.65E-03 | 3.93E-03 | 1.00E-02 | 5.68E-03 | pCi/m3 |
| 10GR(256312005) - AP | 28-Jun-10 | BETA | 3.60E-02 | 5.13E-03 | 2.02E-03 | 1.00E-02 | 5.17E-03 | pCi/m3 |
| 10GR(256734005) - AP | 9-Jul-10 | BETA | 4.91E-02 | 5.77E-03 | 2.82E-03 | 1.00E-02 | 5.83E-03 | pCi/m3 |
| 10GR(257081005) - AP | 11-Jul-10 | BETA | 6.45E-02 | 9.05E-03 | 5.34E-03 | 1.00E-02 | 9.11E-03 | pCi/m3 |
| 10GR(257685005) - AP | 17-Jul-10 | BETA | 5.39E-02 | 5.64E-03 | 1.52E-03 | 1.00E-02 | 5.71E-03 | pCi/m3 |
| 10GR(258001005) - AP | 24-Jul-10 | BETA | 4.45E-02 | 6.28E-03 | 3.28E-03 | 1.00E-02 | 6.32E-03 | pCi/m3 |
| 10GR(258875005) - AP | 31-Jul-10 | BETA | 5.56E-02 | 6.02E-03 | 2.53E-03 | 1.00E-02 | 6.09E-03 | pCi/m3 |
| 10GR(259582005) - AP | 8-Aug-10 | BETA | 5.74E-02 | 6.04E-03 | 2.54E-03 | 1.00E-02 | 6.11E-03 | pCi/m3 |
| 10GR(259808005) - AP | 15-Aug-10 | BETA | 5.12E-02 | 6.44E-03 | 2.16E-03 | 1.00E-02 | 6.49E-03 | pCi/m3 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 10GR(260516005) - AP | 21-Aug-10 | BETA | 6.01E-02 | 6.58E-03 | 1.88E-03 | 1.00E-02 | 6.65E-03 | pCi/m3 |
| 10GR(260983005) - AP | 29-Aug-10 | BETA | 5.19E-02 | 5.58E-03 | 1.87E-03 | 1.00E-02 | 5.64E-03 | pCi/m3 |
| 10GR(261561005) - AP | 6-Sep-10 | BETA | 5.79E-02 | 6.64E-03 | 1.84E-03 | 1.00E-02 | 6.71E-03 | pCi/m3 |
| 10GR(261565005) - AP | 12-Sep-10 | BETA | 3.63E-02 | 5.30E-03 | 2.11E-03 | 1.00E-02 | 5.33E-03 | pCi/m3 |
| 10GR(261861005) - AP | 19-Sep-10 | BETA | 5.01E-02 | 5.48E-03 | 1.51E-03 | 1.00E-02 | 5.54E-03 | pCi/m3 |
| 10GR(264418005) - AP | 26-Sep-10 | BETA | 4.46E-02 | 5.62E-03 | 2.38E-03 | 1.00E-02 | 5.67E-03 | pCi/m3 |
| 10GR(264754005) - AP | 4-Oct-10 | BETA | 3.59E-02 | 4.81E-03 | 1.62E-03 | 1.00E-02 | 4.85E-03 | pCi/m3 |
| 10GR(265234005) - AP | 10-Oct-10 | BETA | 7.39E-02 | 7.83E-03 | 2.67E-03 | 1.00E-02 | 7.92E-03 | pCi/m3 |
| 10GR(265785005) - AP | 16-Oct-10 | BETA | 4.38E-02 | 5.96E-03 | 2.14E-03 | 1.00E-02 | 6.00E-03 | pCi/m3 |
| 10GR(266420005) - AP | 22-Oct-10 | BETA | 5.90E-02 | 6.35E-03 | 2.43E-03 | 1.00E-02 | 6.42E-03 | pCi/m3 |
| 10GR(267269005) - AP | 30-Oct-10 | BETA | 2.83E-02 | 3.97E-03 | 1.47E-03 | 1.00E-02 | 4.00E-03 | pCi/m3 |
| 10GR(267722005) - AP | 7-Nov-10 | BETA | 5.62E-02 | 6.84E-03 | 3.21E-03 | 1.00E-02 | 6.90E-03 | pCi/m3 |
| 10GR(267723005) - AP | 12-Nov-10 | BETA | 6.93E-02 | 8.15E-03 | 2.74E-03 | 1.00E-02 | 8.22E-03 | pCi/m3 |
| 10GR(268031005) - AP | 19-Nov-10 | BETA | 6.61E-02 | 6.29E-03 | 1.66E-03 | 1.00E-02 | 6.38E-03 | pCi/m3 |
| 10GR(268558005) - AP | 27-Nov-10 | BETA | 5.08E-02 | 5.53E-03 | 1.83E-03 | 1.00E-02 | 5.59E-03 | pCi/m3 |
| 10GR(268939005) - AP | 5-Dec-10 | BETA | 3.44E-02 | 4.53E-03 | 1.75E-03 | 1.00E-02 | 4.56E-03 | pCi/m3 |
| 10GR(269155005) - AP | 12-Dec-10 | BETA | 6.05E-02 | 6.34E-03 | 1.91E-03 | 1.00E-02 | 6.42E-03 | pCi/m3 |
| 10GR(270067005) - AP | 18-Dec-10 | BETA | 5.55E-02 | 7.48E-03 | 3.02E-03 | 1.00E-02 | 7.54E-03 | pCi/m3 |
| 10GR(270069005) - AP | 24-Dec-10 | BETA | 3.01E-02 | 4.62E-03 | 2.10E-03 | 1.00E-02 | 4.64E-03 | pCi/m3 |
| 10GR(251155005) - AP | 6-Feb-10 | Beryllium-7 | 1.29E-01 | 1.72E-02 | 8.77E-03 | | 1.74E-02 | pCi/m3 |
| 10GR(257264005) - AP | 9-May-10 | Beryllium-7 | 6.57E-02 | 1.17E-02 | 8.06E-03 | | 1.18E-02 | pCi/m3 |
| 10GR(265561005) - AP | 9-Aug-10 | Beryllium-7 | 1.27E-01 | 3.76E-02 | 2.33E-02 | | 3.77E-02 | pCi/m3 |
| 10GR(271358005) - AP | 6-Nov-10 | Beryllium-7 | 1.25E-01 | 2.48E-02 | 2.28E-02 | | 2.49E-02 | pCi/m3 |
| 10GR(251155005) - AP | 6-Feb-10 | Cesium-134 | -4.97E-05 | 4.36E-04 | 7.18E-04 | 5.00E-02 | 4.36E-04 | pCi/m3 |
| 10GR(257264005) - AP | 9-May-10 | Cesium-134 | -1.12E-04 | 2.44E-04 | 3.75E-04 | 5.00E-02 | 2.44E-04 | pCi/m3 |
| 10GR(265561005) - AP | 9-Aug-10 | Cesium-134 | -8.65E-05 | 7.64E-04 | 1.24E-03 | 5.00E-02 | 7.64E-04 | pCi/m3 |
| 10GR(271358005) - AP | 6-Nov-10 | Cesium-134 | 1.86E-04 | 5.26E-04 | 9.60E-04 | 5.00E-02 | 5.33E-04 | pCi/m3 |
| 10GR(251155005) - AP | 6-Feb-10 | Cesium-137 | 1.95E-04 | 3.10E-04 | 5.71E-04 | 6.00E-02 | 3.10E-04 | pCi/m3 |
| 10GR(257264005) - AP | 9-May-10 | Cesium-137 | 3.54E-05 | 1.84E-04 | 3.19E-04 | 6.00E-02 | 1.84E-04 | pCi/m3 |
| 10GR(265561005) - AP | 9-Aug-10 | Cesium-137 | 2.37E-04 | 6.02E-04 | 1.08E-03 | 6.00E-02 | 6.02E-04 | pCi/m3 |
| 10GR(271358005) - AP | 6-Nov-10 | Cesium-137 | -1.94E-04 | 4.01E-04 | 5.93E-04 | 6.00E-02 | 4.10E-04 | pCi/m3 |

4JS
AC

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| 4JS(244368008) - AC | 1-Jan-10 | Iodine-131 | -1.51E-04 | 1.62E-02 | 2.68E-02 | 7.00E-02 | 1.62E-02 | pCi/m3 |
| 4JS(244992008) - AC | 8-Jan-10 | Iodine-131 | -2.71E-04 | 1.65E-02 | 2.82E-02 | 7.00E-02 | 1.65E-02 | pCi/m3 |
| 4JS(245591008) - AC | 14-Jan-10 | Iodine-131 | 6.45E-03 | 1.72E-02 | 3.08E-02 | 7.00E-02 | 1.72E-02 | pCi/m3 |
| 4JS(246174008) - AC | 21-Jan-10 | Iodine-131 | 2.94E-03 | 1.34E-02 | 2.34E-02 | 7.00E-02 | 1.34E-02 | pCi/m3 |
| 4JS(246515008) - AC | 28-Jan-10 | Iodine-131 | -6.63E-03 | 1.08E-02 | 1.54E-02 | 7.00E-02 | 1.08E-02 | pCi/m3 |
| 4JS(247059008) - AC | 4-Feb-10 | Iodine-131 | -4.49E-03 | 1.18E-02 | 1.85E-02 | 7.00E-02 | 1.18E-02 | pCi/m3 |
| 4JS(247978008) - AC | 12-Feb-10 | Iodine-131 | 2.44E-03 | 2.44E-02 | 4.18E-02 | 7.00E-02 | 2.44E-02 | pCi/m3 |
| 4JS(248279008) - AC | 19-Feb-10 | Iodine-131 | 2.56E-02 | 2.55E-02 | 4.09E-02 | 7.00E-02 | 2.55E-02 | pCi/m3 |
| 4JS(248639008) - AC | 25-Feb-10 | Iodine-131 | 2.29E-03 | 1.20E-02 | 2.08E-02 | 7.00E-02 | 1.20E-02 | pCi/m3 |
| 4JS(249587008) - AC | 5-Mar-10 | Iodine-131 | 3.37E-04 | 2.85E-02 | 4.84E-02 | 7.00E-02 | 2.85E-02 | pCi/m3 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4JS(249893008) - AC | 12-Mar-10 | Iodine-131 | -1.54E-02 | 2.99E-02 | 4.68E-02 | 7.00E-02 | 2.99E-02 | pCi/m3 |
| 4JS(250216008) - AC | 18-Mar-10 | Iodine-131 | -6.60E-03 | 2.62E-02 | 4.31E-02 | 7.00E-02 | 2.62E-02 | pCi/m3 |
| 4JS(250516008) - AC | 25-Mar-10 | Iodine-131 | 9.19E-03 | 3.15E-02 | 5.41E-02 | 7.00E-02 | 3.15E-02 | pCi/m3 |
| 4JS(250666008) - AC | 1-Apr-10 | Iodine-131 | -1.89E-03 | 8.09E-03 | 1.30E-02 | 7.00E-02 | 8.09E-03 | pCi/m3 |
| 4JS(251549008) - AC | 8-Apr-10 | Iodine-131 | 5.43E-03 | 1.95E-02 | 3.45E-02 | 7.00E-02 | 1.95E-02 | pCi/m3 |
| 4JS(251663008) - AC | 15-Apr-10 | Iodine-131 | 9.53E-04 | 1.29E-02 | 2.17E-02 | 7.00E-02 | 1.29E-02 | pCi/m3 |
| 4JS(252115008) - AC | 22-Apr-10 | Iodine-131 | -2.48E-03 | 1.23E-02 | 2.03E-02 | 7.00E-02 | 1.23E-02 | pCi/m3 |
| 4JS(252610008) - AC | 29-Apr-10 | Iodine-131 | 9.17E-03 | 1.19E-02 | 2.24E-02 | 7.00E-02 | 1.20E-02 | pCi/m3 |
| 4JS(253073008) - AC | 6-May-10 | Iodine-131 | 1.06E-03 | 1.60E-02 | 2.67E-02 | 7.00E-02 | 1.60E-02 | pCi/m3 |
| 4JS(253471008) - AC | 13-May-10 | Iodine-131 | -4.16E-03 | 1.11E-02 | 1.75E-02 | 7.00E-02 | 1.11E-02 | pCi/m3 |
| 4JS(253666008) - AC | 21-May-10 | Iodine-131 | 3.05E-03 | 8.45E-03 | 1.49E-02 | 7.00E-02 | 8.45E-03 | pCi/m3 |
| 4JS(254465008) - AC | 28-May-10 | Iodine-131 | -4.33E-03 | 1.53E-02 | 2.49E-02 | 7.00E-02 | 1.53E-02 | pCi/m3 |
| 4JS(254695008) - AC | 4-Jun-10 | Iodine-131 | 5.77E-03 | 1.22E-02 | 2.21E-02 | 7.00E-02 | 1.22E-02 | pCi/m3 |
| 4JS(254969008) - AC | 11-Jun-10 | Iodine-131 | 9.47E-03 | 1.17E-02 | 2.16E-02 | 7.00E-02 | 1.17E-02 | pCi/m3 |
| 4JS(255590006) - AC | 17-Jun-10 | Iodine-131 | 6.07E-03 | 1.84E-02 | 3.24E-02 | 7.00E-02 | 1.84E-02 | pCi/m3 |
| 4JS(256088009) - AC | 24-Jun-10 | Iodine-131 | 3.28E-03 | 1.20E-02 | 2.14E-02 | 7.00E-02 | 1.20E-02 | pCi/m3 |
| 4JS(256312008) - AC | 2-Jul-10 | Iodine-131 | -3.01E-03 | 1.11E-02 | 1.79E-02 | 7.00E-02 | 1.11E-02 | pCi/m3 |
| 4JS(256734008) - AC | 9-Jul-10 | Iodine-131 | 7.04E-03 | 1.45E-02 | 2.64E-02 | 7.00E-02 | 1.45E-02 | pCi/m3 |
| 4JS(257081008) - AC | 16-Jul-10 | Iodine-131 | 8.63E-03 | 1.13E-02 | 2.09E-02 | 7.00E-02 | 1.13E-02 | pCi/m3 |
| 4JS(257685008) - AC | 23-Jul-10 | Iodine-131 | 3.48E-03 | 1.26E-02 | 2.15E-02 | 7.00E-02 | 1.26E-02 | pCi/m3 |
| 4JS(258001008) - AC | 30-Jul-10 | Iodine-131 | -3.10E-03 | 9.42E-03 | 1.50E-02 | 7.00E-02 | 9.42E-03 | pCi/m3 |
| 4JS(258875008) - AC | 6-Aug-10 | Iodine-131 | -1.34E-03 | 9.69E-03 | 1.62E-02 | 7.00E-02 | 9.69E-03 | pCi/m3 |
| 4JS(259582008) - AC | 12-Aug-10 | Iodine-131 | 1.84E-02 | 1.71E-02 | 3.31E-02 | 7.00E-02 | 1.71E-02 | pCi/m3 |
| 4JS(259808008) - AC | 19-Aug-10 | Iodine-131 | 4.29E-03 | 1.09E-02 | 1.96E-02 | 7.00E-02 | 1.09E-02 | pCi/m3 |
| 4JS(260516008) - AC | 27-Aug-10 | Iodine-131 | 3.59E-03 | 1.51E-02 | 2.68E-02 | 7.00E-02 | 1.51E-02 | pCi/m3 |
| 4JS(260983008) - AC | 3-Sep-10 | Iodine-131 | 4.19E-03 | 1.19E-02 | 2.15E-02 | 7.00E-02 | 1.19E-02 | pCi/m3 |
| 4JS(261561008) - AC | 10-Sep-10 | Iodine-131 | -1.51E-03 | 2.68E-02 | 4.43E-02 | 7.00E-02 | 2.68E-02 | pCi/m3 |
| 4JS(261565008) - AC | 16-Sep-10 | Iodine-131 | -6.88E-03 | 1.40E-02 | 2.25E-02 | 7.00E-02 | 1.40E-02 | pCi/m3 |
| 4JS(261861008) - AC | 24-Sep-10 | Iodine-131 | 4.76E-03 | 8.25E-03 | 1.51E-02 | 7.00E-02 | 8.25E-03 | pCi/m3 |
| 4JS(264418008) - AC | 1-Oct-10 | Iodine-131 | 1.37E-02 | 1.30E-02 | 2.49E-02 | 7.00E-02 | 1.30E-02 | pCi/m3 |
| 4JS(264754008) - AC | 8-Oct-10 | Iodine-131 | 6.50E-03 | 1.03E-02 | 1.90E-02 | 7.00E-02 | 1.03E-02 | pCi/m3 |
| 4JS(265234008) - AC | 15-Oct-10 | Iodine-131 | 1.79E-03 | 9.97E-03 | 1.77E-02 | 7.00E-02 | 9.97E-03 | pCi/m3 |
| 4JS(265785008) - AC | 22-Oct-10 | Iodine-131 | 5.44E-03 | 1.83E-02 | 3.20E-02 | 7.00E-02 | 1.83E-02 | pCi/m3 |
| 4JS(266420008) - AC | 29-Oct-10 | Iodine-131 | 2.98E-04 | 8.03E-03 | 1.39E-02 | 7.00E-02 | 8.03E-03 | pCi/m3 |
| 4JS(267269008) - AC | 6-Nov-10 | Iodine-131 | 1.09E-04 | 9.52E-03 | 1.63E-02 | 7.00E-02 | 9.52E-03 | pCi/m3 |
| 4JS(267722008) - AC | 13-Nov-10 | Iodine-131 | -4.49E-04 | 2.03E-02 | 3.37E-02 | 7.00E-02 | 2.03E-02 | pCi/m3 |
| 4JS(267723008) - AC | 19-Nov-10 | Iodine-131 | 7.41E-03 | 1.47E-02 | 2.62E-02 | 7.00E-02 | 1.47E-02 | pCi/m3 |
| 4JS(268031008) - AC | 26-Nov-10 | Iodine-131 | 2.73E-03 | 1.62E-02 | 2.94E-02 | 7.00E-02 | 1.62E-02 | pCi/m3 |
| 4JS(268558008) - AC | 3-Dec-10 | Iodine-131 | 2.69E-02 | 1.97E-02 | 4.67E-02 | 7.00E-02 | 1.98E-02 | pCi/m3 |
| 4JS(268939008) - AC | 9-Dec-10 | Iodine-131 | 2.03E-02 | 2.53E-02 | 5.30E-02 | 7.00E-02 | 2.53E-02 | pCi/m3 |
| 4JS(269155008) - AC | 16-Dec-10 | Iodine-131 | 7.00E-04 | 1.59E-02 | 2.67E-02 | 7.00E-02 | 1.59E-02 | pCi/m3 |
| 4JS(270067008) - AC | 23-Dec-10 | Iodine-131 | 3.59E-04 | 2.53E-02 | 4.17E-02 | 7.00E-02 | 2.53E-02 | pCi/m3 |

4JS
AP

# REMP Year End Report for PALI for 2010
## Palisades REMP

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| 4JS(244368003) - AP | 1-Jan-10 | BETA | 3.97E-02 | 4.63E-03 | 2.64E-03 | 1.00E-02 | 4.67E-03 | pCi/m3 |
| 4JS(244992003) - AP | 8-Jan-10 | BETA | 4.55E-02 | 5.73E-03 | 3.32E-03 | 1.00E-02 | 5.78E-03 | pCi/m3 |
| 4JS(245591003) - AP | 14-Jan-10 | BETA | 8.91E-02 | 7.08E-03 | 1.66E-03 | 1.00E-02 | 7.22E-03 | pCi/m3 |
| 4JS(246174003) - AP | 21-Jan-10 | BETA | 5.25E-02 | 5.48E-03 | 1.66E-03 | 1.00E-02 | 5.54E-03 | pCi/m3 |
| 4JS(246515003) - AP | 28-Jan-10 | BETA | 4.39E-02 | 4.97E-03 | 1.40E-03 | 1.00E-02 | 5.02E-03 | pCi/m3 |
| 4JS(247059003) - AP | 4-Feb-10 | BETA | 5.85E-02 | 5.64E-03 | 1.54E-03 | 1.00E-02 | 5.72E-03 | pCi/m3 |
| 4JS(247978003) - AP | 12-Feb-10 | BETA | 3.57E-02 | 4.36E-03 | 1.61E-03 | 1.00E-02 | 4.40E-03 | pCi/m3 |
| 4JS(248279003) - AP | 19-Feb-10 | BETA | 4.28E-02 | 5.32E-03 | 1.69E-03 | 1.00E-02 | 5.36E-03 | pCi/m3 |
| 4JS(248639003) - AP | 25-Feb-10 | BETA | 4.07E-02 | 5.09E-03 | 2.42E-03 | 1.00E-02 | 5.13E-03 | pCi/m3 |
| 4JS(249587003) - AP | 5-Mar-10 | BETA | 4.35E-02 | 4.89E-03 | 1.36E-03 | 1.00E-02 | 4.94E-03 | pCi/m3 |
| 4JS(249893003) - AP | 12-Mar-10 | BETA | 4.44E-02 | 5.20E-03 | 1.68E-03 | 1.00E-02 | 5.25E-03 | pCi/m3 |
| 4JS(250216003) - AP | 18-Mar-10 | BETA | 4.06E-02 | 4.90E-03 | 1.66E-03 | 1.00E-02 | 4.95E-03 | pCi/m3 |
| 4JS(250516003) - AP | 25-Mar-10 | BETA | 4.07E-02 | 5.07E-03 | 1.76E-03 | 1.00E-02 | 5.11E-03 | pCi/m3 |
| 4JS(250666003) - AP | 1-Apr-10 | BETA | 4.47E-02 | 5.16E-03 | 1.67E-03 | 1.00E-02 | 5.20E-03 | pCi/m3 |
| 4JS(251549003) - AP | 8-Apr-10 | BETA | 3.78E-02 | 4.88E-03 | 1.70E-03 | 1.00E-02 | 4.91E-03 | pCi/m3 |
| 4JS(251663003) - AP | 15-Apr-10 | BETA | 3.83E-02 | 4.83E-03 | 1.85E-03 | 1.00E-02 | 4.87E-03 | pCi/m3 |
| 4JS(252115003) - AP | 22-Apr-10 | BETA | 3.94E-02 | 4.98E-03 | 1.75E-03 | 1.00E-02 | 5.02E-03 | pCi/m3 |
| 4JS(252610003) - AP | 29-Apr-10 | BETA | 3.85E-02 | 4.89E-03 | 1.77E-03 | 1.00E-02 | 4.93E-03 | pCi/m3 |
| 4JS(253073003) - AP | 6-May-10 | BETA | 3.25E-02 | 4.50E-03 | 1.86E-03 | 1.00E-02 | 4.53E-03 | pCi/m3 |
| 4JS(253471003) - AP | 13-May-10 | BETA | 2.89E-02 | 4.23E-03 | 1.92E-03 | 1.00E-02 | 4.25E-03 | pCi/m3 |
| 4JS(253666003) - AP | 21-May-10 | BETA | 3.79E-02 | 4.98E-03 | 2.08E-03 | 1.00E-02 | 5.01E-03 | pCi/m3 |
| 4JS(254465003) - AP | 28-May-10 | BETA | 3.87E-02 | 4.70E-03 | 1.94E-03 | 1.00E-02 | 4.74E-03 | pCi/m3 |
| 4JS(254695003) - AP | 4-Jun-10 | BETA | 3.78E-02 | 5.01E-03 | 2.25E-03 | 1.00E-02 | 5.05E-03 | pCi/m3 |
| 4JS(254969003) - AP | 11-Jun-10 | BETA | 3.41E-02 | 5.03E-03 | 2.33E-03 | 1.00E-02 | 5.06E-03 | pCi/m3 |
| 4JS(255590003) - AP | 17-Jun-10 | BETA | 3.41E-02 | 4.67E-03 | 2.05E-03 | 1.00E-02 | 4.71E-03 | pCi/m3 |
| 4JS(256088003) - AP | 24-Jun-10 | BETA | 3.64E-02 | 4.72E-03 | 1.53E-03 | 1.00E-02 | 4.76E-03 | pCi/m3 |
| 4JS(256312003) - AP | 2-Jul-10 | BETA | 3.33E-02 | 4.28E-03 | 1.38E-03 | 1.00E-02 | 4.31E-03 | pCi/m3 |
| 4JS(256734003) - AP | 9-Jul-10 | BETA | 4.93E-02 | 5.66E-03 | 2.28E-03 | 1.00E-02 | 5.71E-03 | pCi/m3 |
| 4JS(257081003) - AP | 16-Jul-10 | BETA | 5.61E-02 | 6.43E-03 | 2.18E-03 | 1.00E-02 | 6.49E-03 | pCi/m3 |
| 4JS(257685003) - AP | 23-Jul-10 | BETA | 4.00E-02 | 5.05E-03 | 1.92E-03 | 1.00E-02 | 5.09E-03 | pCi/m3 |
| 4JS(258001003) - AP | 30-Jul-10 | BETA | 5.08E-02 | 5.78E-03 | 2.34E-03 | 1.00E-02 | 5.83E-03 | pCi/m3 |
| 4JS(258875003) - AP | 6-Aug-10 | BETA | 5.54E-02 | 6.04E-03 | 2.80E-03 | 1.00E-02 | 6.10E-03 | pCi/m3 |
| 4JS(259582003) - AP | 12-Aug-10 | BETA | 5.04E-02 | 5.73E-03 | 1.87E-03 | 1.00E-02 | 5.79E-03 | pCi/m3 |
| 4JS(259808003) - AP | 19-Aug-10 | BETA | 5.67E-02 | 5.84E-03 | 1.74E-03 | 1.00E-02 | 5.91E-03 | pCi/m3 |
| 4JS(260516003) - AP | 27-Aug-10 | BETA | 4.38E-02 | 5.14E-03 | 1.44E-03 | 1.00E-02 | 5.18E-03 | pCi/m3 |
| 4JS(260983003) - AP | 3-Sep-10 | BETA | 4.26E-02 | 4.75E-03 | 1.34E-03 | 1.00E-02 | 4.80E-03 | pCi/m3 |
| 4JS(261561003) - AP | 10-Sep-10 | BETA | 3.43E-02 | 4.88E-03 | 1.54E-03 | 1.00E-02 | 4.91E-03 | pCi/m3 |
| 4JS(261565003) - AP | 16-Sep-10 | BETA | 3.49E-02 | 4.62E-03 | 1.50E-03 | 1.00E-02 | 4.65E-03 | pCi/m3 |
| 4JS(261861003) - AP | 24-Sep-10 | BETA | 4.83E-02 | 5.29E-03 | 1.35E-03 | 1.00E-02 | 5.35E-03 | pCi/m3 |
| 4JS(264418003) - AP | 1-Oct-10 | BETA | 3.27E-02 | 4.11E-03 | 1.30E-03 | 1.00E-02 | 4.15E-03 | pCi/m3 |
| 4JS(264754003) - AP | 8-Oct-10 | BETA | 6.81E-02 | 6.92E-03 | 2.00E-03 | 1.00E-02 | 7.00E-03 | pCi/m3 |
| 4JS(265234003) - AP | 15-Oct-10 | BETA | 5.00E-02 | 5.39E-03 | 1.27E-03 | 1.00E-02 | 5.45E-03 | pCi/m3 |
| 4JS(265785003) - AP | 22-Oct-10 | BETA | 4.54E-02 | 5.30E-03 | 1.71E-03 | 1.00E-02 | 5.35E-03 | pCi/m3 |
| 4JS(266420003) - AP | 29-Oct-10 | BETA | 3.74E-02 | 4.49E-03 | 1.49E-03 | 1.00E-02 | 4.53E-03 | pCi/m3 |

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|---|---|---|---|---|---|---|---|---|
| 4JS(267269003) - AP | 6-Nov-10 | BETA | 4.39E-02 | 4.74E-03 | 1.18E-03 | 1.00E-02 | 4.79E-03 | pCi/m3 |
| 4JS(267722003) - AP | 13-Nov-10 | BETA | 7.95E-02 | 7.29E-03 | 2.11E-03 | 1.00E-02 | 7.40E-03 | pCi/m3 |
| 4JS(267723003) - AP | 19-Nov-10 | BETA | 6.62E-02 | 6.60E-03 | 1.64E-03 | 1.00E-02 | 6.68E-03 | pCi/m3 |
| 4JS(268031003) - AP | 26-Nov-10 | BETA | 5.01E-02 | 5.39E-03 | 1.63E-03 | 1.00E-02 | 5.45E-03 | pCi/m3 |
| 4JS(268558003) - AP | 3-Dec-10 | BETA | 4.78E-02 | 5.36E-03 | 1.65E-03 | 1.00E-02 | 5.41E-03 | pCi/m3 |
| 4JS(268939003) - AP | 9-Dec-10 | BETA | 6.14E-02 | 5.83E-03 | 1.56E-03 | 1.00E-02 | 5.92E-03 | pCi/m3 |
| 4JS(269155003) - AP | 16-Dec-10 | BETA | 4.54E-02 | 5.19E-03 | 1.68E-03 | 1.00E-02 | 5.24E-03 | pCi/m3 |
| 4JS(270067003) - AP | 23-Dec-10 | BETA | 3.29E-02 | 4.41E-03 | 1.88E-03 | 1.00E-02 | 4.44E-03 | pCi/m3 |
| 4JS(251155003) - AP | 11-Feb-10 | Beryllium-7 | 1.35E-01 | 1.81E-02 | 8.11E-03 | | 1.83E-02 | pCi/m3 |
| 4JS(257264003) - AP | 13-May-10 | Beryllium-7 | 6.67E-02 | 1.16E-02 | 6.81E-03 | | 1.17E-02 | pCi/m3 |
| 4JS(265561003) - AP | 13-Aug-10 | Beryllium-7 | 1.64E-01 | 3.62E-02 | 1.73E-02 | | 3.64E-02 | pCi/m3 |
| 4JS(271358003) - AP | 12-Nov-10 | Beryllium-7 | 1.15E-01 | 2.72E-02 | 1.80E-02 | | 2.73E-02 | pCi/m3 |
| 4JS(251155003) - AP | 11-Feb-10 | Cesium-134 | -6.97E-05 | 3.09E-04 | 4.95E-04 | 5.00E-02 | 3.09E-04 | pCi/m3 |
| 4JS(257264003) - AP | 13-May-10 | Cesium-134 | 7.18E-05 | 2.30E-04 | 4.05E-04 | 5.00E-02 | 2.30E-04 | pCi/m3 |
| 4JS(265561003) - AP | 13-Aug-10 | Cesium-134 | 3.13E-04 | 4.76E-04 | 9.41E-04 | 5.00E-02 | 4.76E-04 | pCi/m3 |
| 4JS(271358003) - AP | 12-Nov-10 | Cesium-134 | 2.49E-04 | 5.17E-04 | 9.55E-04 | 5.00E-02 | 5.29E-04 | pCi/m3 |
| 4JS(251155003) - AP | 11-Feb-10 | Cesium-137 | 1.41E-04 | 2.56E-04 | 4.69E-04 | 6.00E-02 | 2.56E-04 | pCi/m3 |
| 4JS(257264003) - AP | 13-May-10 | Cesium-137 | 1.10E-04 | 1.63E-04 | 3.02E-04 | 6.00E-02 | 1.63E-04 | pCi/m3 |
| 4JS(265561003) - AP | 13-Aug-10 | Cesium-137 | -4.79E-04 | 4.09E-04 | 4.50E-04 | 6.00E-02 | 4.09E-04 | pCi/m3 |
| 4JS(271358003) - AP | 12-Nov-10 | Cesium-137 | 3.06E-05 | 3.88E-04 | 6.68E-04 | 6.00E-02 | 3.88E-04 | pCi/m3 |

5PR
AC

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| 5PR(244368009) - AC | 1-Jan-10 | Iodine-131 | 3.76E-03 | 1.20E-02 | 2.15E-02 | 7.00E-02 | 1.20E-02 | pCi/m3 |
| 5PR(244992009) - AC | 8-Jan-10 | Iodine-131 | 7.93E-03 | 1.39E-02 | 2.54E-02 | 7.00E-02 | 1.39E-02 | pCi/m3 |
| 5PR(245591009) - AC | 14-Jan-10 | Iodine-131 | -1.35E-02 | 1.53E-02 | 2.16E-02 | 7.00E-02 | 1.53E-02 | pCi/m3 |
| 5PR(246174009) - AC | 21-Jan-10 | Iodine-131 | -9.50E-03 | 1.37E-02 | 1.84E-02 | 7.00E-02 | 1.37E-02 | pCi/m3 |
| 5PR(246515009) - AC | 28-Jan-10 | Iodine-131 | -7.02E-04 | 1.48E-02 | 2.49E-02 | 7.00E-02 | 1.48E-02 | pCi/m3 |
| 5PR(247059009) - AC | 4-Feb-10 | Iodine-131 | -1.05E-02 | 1.39E-02 | 2.09E-02 | 7.00E-02 | 1.39E-02 | pCi/m3 |
| 5PR(247978009) - AC | 12-Feb-10 | Iodine-131 | 3.22E-03 | 2.87E-02 | 4.93E-02 | 7.00E-02 | 2.87E-02 | pCi/m3 |
| 5PR(248279009) - AC | 19-Feb-10 | Iodine-131 | 1.97E-02 | 2.57E-02 | 4.71E-02 | 7.00E-02 | 2.57E-02 | pCi/m3 |
| 5PR(248639009) - AC | 25-Feb-10 | Iodine-131 | -6.27E-03 | 1.07E-02 | 1.67E-02 | 7.00E-02 | 1.07E-02 | pCi/m3 |
| 5PR(249587009) - AC | 5-Mar-10 | Iodine-131 | -1.10E-02 | 3.06E-02 | 4.97E-02 | 7.00E-02 | 3.06E-02 | pCi/m3 |
| 5PR(249893009) - AC | 12-Mar-10 | Iodine-131 | 8.66E-04 | 3.65E-02 | 6.14E-02 | 7.00E-02 | 3.65E-02 | pCi/m3 |
| 5PR(250216009) - AC | 18-Mar-10 | Iodine-131 | 8.85E-03 | 2.97E-02 | 5.21E-02 | 7.00E-02 | 2.97E-02 | pCi/m3 |
| 5PR(250516009) - AC | 25-Mar-10 | Iodine-131 | 1.49E-03 | 3.89E-02 | 6.15E-02 | 7.00E-02 | 3.89E-02 | pCi/m3 |
| 5PR(250666009) - AC | 1-Apr-10 | Iodine-131 | 5.65E-03 | 7.40E-03 | 1.42E-02 | 7.00E-02 | 7.41E-03 | pCi/m3 |
| 5PR(251549009) - AC | 9-Apr-10 | Iodine-131 | 1.25E-03 | 2.06E-02 | 3.40E-02 | 7.00E-02 | 2.06E-02 | pCi/m3 |
| 5PR(251663009) - AC | 15-Apr-10 | Iodine-131 | -2.85E-03 | 1.22E-02 | 1.96E-02 | 7.00E-02 | 1.22E-02 | pCi/m3 |
| 5PR(252115009) - AC | 22-Apr-10 | Iodine-131 | 6.44E-03 | 1.81E-02 | 3.24E-02 | 7.00E-02 | 1.81E-02 | pCi/m3 |
| 5PR(252610009) - AC | 29-Apr-10 | Iodine-131 | -2.73E-03 | 1.77E-02 | 2.86E-02 | 7.00E-02 | 1.77E-02 | pCi/m3 |
| 5PR(253073009) - AC | 6-May-10 | Iodine-131 | -1.08E-02 | 2.83E-02 | 5.04E-02 | 7.00E-02 | 2.83E-02 | pCi/m3 |
| 5PR(253471009) - AC | 13-May-10 | Iodine-131 | 1.00E-02 | 1.78E-02 | 3.20E-02 | 7.00E-02 | 1.78E-02 | pCi/m3 |
| 5PR(253666009) - AC | 21-May-10 | Iodine-131 | 3.69E-03 | 1.03E-02 | 1.77E-02 | 7.00E-02 | 1.03E-02 | pCi/m3 |

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|---|---|---|---|---|---|---|---|---|
| 5PR(254465009) - AC | 28-May-10 | Iodine-131 | -1.94E-03 | 1.70E-02 | 2.88E-02 | 7.00E-02 | 1.70E-02 | pCi/m3 |
| 5PR(254695009) - AC | 4-Jun-10 | Iodine-131 | 1.52E-02 | 2.26E-02 | 4.11E-02 | 7.00E-02 | 2.26E-02 | pCi/m3 |
| 5PR(254969009) - AC | 11-Jun-10 | Iodine-131 | -2.25E-03 | 1.24E-02 | 1.99E-02 | 7.00E-02 | 1.24E-02 | pCi/m3 |
| 5PR(256088010) - AC | 24-Jun-10 | Iodine-131 | 1.18E-03 | 1.98E-02 | 3.32E-02 | 7.00E-02 | 1.98E-02 | pCi/m3 |
| 5PR(256312009) - AC | 2-Jul-10 | Iodine-131 | 5.35E-04 | 1.56E-02 | 2.60E-02 | 7.00E-02 | 1.56E-02 | pCi/m3 |
| 5PR(256734009) - AC | 9-Jul-10 | Iodine-131 | -2.72E-03 | 1.24E-02 | 1.97E-02 | 7.00E-02 | 1.24E-02 | pCi/m3 |
| 5PR(257081009) - AC | 16-Jul-10 | Iodine-131 | 1.65E-02 | 1.59E-02 | 3.04E-02 | 7.00E-02 | 1.59E-02 | pCi/m3 |
| 5PR(257685009) - AC | 23-Jul-10 | Iodine-131 | -1.23E-02 | 2.00E-02 | 2.98E-02 | 7.00E-02 | 2.00E-02 | pCi/m3 |
| 5PR(258001009) - AC | 30-Jul-10 | Iodine-131 | -3.59E-03 | 1.88E-02 | 3.04E-02 | 7.00E-02 | 1.88E-02 | pCi/m3 |
| 5PR(258875009) - AC | 6-Aug-10 | Iodine-131 | -1.24E-04 | 1.69E-02 | 2.85E-02 | 7.00E-02 | 1.69E-02 | pCi/m3 |
| 5PR(259582009) - AC | 12-Aug-10 | Iodine-131 | -1.34E-03 | 2.18E-02 | 3.67E-02 | 7.00E-02 | 2.18E-02 | pCi/m3 |
| 5PR(259808009) - AC | 19-Aug-10 | Iodine-131 | -1.41E-03 | 2.37E-02 | 3.98E-02 | 7.00E-02 | 2.37E-02 | pCi/m3 |
| 5PR(260516009) - AC | 27-Aug-10 | Iodine-131 | -6.32E-03 | 2.80E-02 | 4.56E-02 | 7.00E-02 | 2.80E-02 | pCi/m3 |
| 5PR(260983009) - AC | 3-Sep-10 | Iodine-131 | 8.52E-03 | 1.92E-02 | 3.48E-02 | 7.00E-02 | 1.92E-02 | pCi/m3 |
| 5PR(261561009) - AC | 10-Sep-10 | Iodine-131 | 7.39E-03 | 3.19E-02 | 5.59E-02 | 7.00E-02 | 3.19E-02 | pCi/m3 |
| 5PR(261565009) - AC | 17-Sep-10 | Iodine-131 | 5.34E-03 | 1.38E-02 | 2.50E-02 | 7.00E-02 | 1.38E-02 | pCi/m3 |
| 5PR(261861009) - AC | 24-Sep-10 | Iodine-131 | -3.65E-03 | 1.17E-02 | 1.83E-02 | 7.00E-02 | 1.17E-02 | pCi/m3 |
| 5PR(264418009) - AC | 1-Oct-10 | Iodine-131 | -5.29E-03 | 1.11E-02 | 1.75E-02 | 7.00E-02 | 1.11E-02 | pCi/m3 |
| 5PR(264754009) - AC | 8-Oct-10 | Iodine-131 | -1.28E-02 | 1.74E-02 | 2.56E-02 | 7.00E-02 | 1.74E-02 | pCi/m3 |
| 5PR(265234009) - AC | 15-Oct-10 | Iodine-131 | -1.86E-03 | 1.01E-02 | 1.57E-02 | 7.00E-02 | 1.01E-02 | pCi/m3 |
| 5PR(265785009) - AC | 22-Oct-10 | Iodine-131 | 5.75E-04 | 1.60E-02 | 2.75E-02 | 7.00E-02 | 1.60E-02 | pCi/m3 |
| 5PR(266420009) - AC | 29-Oct-10 | Iodine-131 | -1.04E-03 | 8.04E-03 | 1.35E-02 | 7.00E-02 | 8.04E-03 | pCi/m3 |
| 5PR(267269009) - AC | 6-Nov-10 | Iodine-131 | -6.19E-03 | 9.46E-03 | 1.40E-02 | 7.00E-02 | 9.46E-03 | pCi/m3 |
| 5PR(267722009) - AC | 13-Nov-10 | Iodine-131 | -1.67E-02 | 2.69E-02 | 4.29E-02 | 7.00E-02 | 2.69E-02 | pCi/m3 |
| 5PR(267723009) - AC | 19-Nov-10 | Iodine-131 | -8.37E-04 | 1.70E-02 | 2.75E-02 | 7.00E-02 | 1.70E-02 | pCi/m3 |
| 5PR(268031009) - AC | 26-Nov-10 | Iodine-131 | -7.15E-04 | 1.82E-02 | 2.97E-02 | 7.00E-02 | 1.82E-02 | pCi/m3 |
| 5PR(268558009) - AC | 3-Dec-10 | Iodine-131 | -3.58E-02 | 2.98E-02 | 3.05E-02 | 7.00E-02 | 2.98E-02 | pCi/m3 |
| 5PR(268939009) - AC | 9-Dec-10 | Iodine-131 | -7.25E-03 | 2.09E-02 | 3.33E-02 | 7.00E-02 | 2.09E-02 | pCi/m3 |
| 5PR(269155009) - AC | 16-Dec-10 | Iodine-131 | -3.12E-03 | 2.20E-02 | 3.50E-02 | 7.00E-02 | 2.20E-02 | pCi/m3 |
| 5PR(270067009) - AC | 23-Dec-10 | Iodine-131 | 1.12E-02 | 2.77E-02 | 4.92E-02 | 7.00E-02 | 2.77E-02 | pCi/m3 |

5PR
AP

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| 5PR(244368004) - AP | 1-Jan-10 | BETA | 3.84E-02 | 4.85E-03 | 1.74E-03 | 1.00E-02 | 4.89E-03 | pCi/m3 |
| 5PR(244992004) - AP | 8-Jan-10 | BETA | 4.41E-02 | 5.46E-03 | 1.90E-03 | 1.00E-02 | 5.50E-03 | pCi/m3 |
| 5PR(245591004) - AP | 14-Jan-10 | BETA | 8.39E-02 | 7.68E-03 | 2.04E-03 | 1.00E-02 | 7.79E-03 | pCi/m3 |
| 5PR(246174004) - AP | 21-Jan-10 | BETA | 5.01E-02 | 5.33E-03 | 1.78E-03 | 1.00E-02 | 5.39E-03 | pCi/m3 |
| 5PR(246515004) - AP | 28-Jan-10 | BETA | 4.23E-02 | 5.42E-03 | 1.86E-03 | 1.00E-02 | 5.46E-03 | pCi/m3 |
| 5PR(247059004) - AP | 4-Feb-10 | BETA | 5.76E-02 | 5.69E-03 | 1.71E-03 | 1.00E-02 | 5.76E-03 | pCi/m3 |
| 5PR(247978004) - AP | 12-Feb-10 | BETA | 3.34E-02 | 4.71E-03 | 2.52E-03 | 1.00E-02 | 4.74E-03 | pCi/m3 |
| 5PR(248279004) - AP | 19-Feb-10 | BETA | 4.25E-02 | 5.32E-03 | 1.79E-03 | 1.00E-02 | 5.36E-03 | pCi/m3 |
| 5PR(248639004) - AP | 25-Feb-10 | BETA | 4.45E-02 | 5.53E-03 | 1.78E-03 | 1.00E-02 | 5.58E-03 | pCi/m3 |
| 5PR(249587004) - AP | 5-Mar-10 | BETA | 4.32E-02 | 4.89E-03 | 1.54E-03 | 1.00E-02 | 4.94E-03 | pCi/m3 |
| 5PR(249893004) - AP | 12-Mar-10 | BETA | 4.89E-02 | 6.00E-03 | 2.06E-03 | 1.00E-02 | 6.05E-03 | pCi/m3 |

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|---|---|---|---|---|---|---|---|---|
| 5PR(250216004) - AP | 18-Mar-10 | BETA | 3.78E-02 | 5.23E-03 | 2.21E-03 | 1.00E-02 | 5.26E-03 | pCi/m3 |
| 5PR(250516004) - AP | 25-Mar-10 | BETA | 4.62E-02 | 6.33E-03 | 2.68E-03 | 1.00E-02 | 6.38E-03 | pCi/m3 |
| 5PR(250666004) - AP | 1-Apr-10 | BETA | 5.17E-02 | 6.20E-03 | 2.32E-03 | 1.00E-02 | 6.26E-03 | pCi/m3 |
| 5PR(251549004) - AP | 9-Apr-10 | BETA | 3.94E-02 | 5.87E-03 | 2.25E-03 | 1.00E-02 | 5.91E-03 | pCi/m3 |
| 5PR(251663004) - AP | 15-Apr-10 | BETA | 4.45E-02 | 5.67E-03 | 1.85E-03 | 1.00E-02 | 5.71E-03 | pCi/m3 |
| 5PR(252115004) - AP | 22-Apr-10 | BETA | 4.28E-02 | 6.17E-03 | 2.40E-03 | 1.00E-02 | 6.20E-03 | pCi/m3 |
| 5PR(252610004) - AP | 29-Apr-10 | BETA | 4.05E-02 | 5.48E-03 | 1.93E-03 | 1.00E-02 | 5.52E-03 | pCi/m3 |
| 5PR(253073004) - AP | 6-May-10 | BETA | 4.83E-02 | 8.70E-03 | 5.09E-03 | 1.00E-02 | 8.74E-03 | pCi/m3 |
| 5PR(253471004) - AP | 13-May-10 | BETA | 2.83E-02 | 4.52E-03 | 1.80E-03 | 1.00E-02 | 4.54E-03 | pCi/m3 |
| 5PR(253666004) - AP | 21-May-10 | BETA | 3.84E-02 | 5.96E-03 | 2.85E-03 | 1.00E-02 | 5.99E-03 | pCi/m3 |
| 5PR(254465004) - AP | 28-May-10 | BETA | 4.37E-02 | 5.36E-03 | 1.74E-03 | 1.00E-02 | 5.40E-03 | pCi/m3 |
| 5PR(254695004) - AP | 4-Jun-10 | BETA | 3.82E-02 | 5.90E-03 | 2.54E-03 | 1.00E-02 | 5.93E-03 | pCi/m3 |
| 5PR(254969004) - AP | 11-Jun-10 | BETA | 3.30E-02 | 5.58E-03 | 2.71E-03 | 1.00E-02 | 5.60E-03 | pCi/m3 |
| 5PR(256088004) - AP | 24-Jun-10 | BETA | 3.75E-02 | 4.90E-03 | 2.07E-03 | 1.00E-02 | 4.93E-03 | pCi/m3 |
| 5PR(256312004) - AP | 2-Jul-10 | BETA | 3.54E-02 | 5.04E-03 | 2.55E-03 | 1.00E-02 | 5.08E-03 | pCi/m3 |
| 5PR(256734004) - AP | 9-Jul-10 | BETA | 5.03E-02 | 5.66E-03 | 1.82E-03 | 1.00E-02 | 5.72E-03 | pCi/m3 |
| 5PR(257081004) - AP | 16-Jul-10 | BETA | 6.15E-02 | 7.49E-03 | 3.55E-03 | 1.00E-02 | 7.56E-03 | pCi/m3 |
| 5PR(257685004) - AP | 23-Jul-10 | BETA | 4.40E-02 | 6.01E-03 | 3.07E-03 | 1.00E-02 | 6.05E-03 | pCi/m3 |
| 5PR(258001004) - AP | 30-Jul-10 | BETA | 5.12E-02 | 6.79E-03 | 2.71E-03 | 1.00E-02 | 6.84E-03 | pCi/m3 |
| 5PR(258875004) - AP | 6-Aug-10 | BETA | 5.97E-02 | 6.91E-03 | 2.39E-03 | 1.00E-02 | 6.98E-03 | pCi/m3 |
| 5PR(259582004) - AP | 12-Aug-10 | BETA | 5.63E-02 | 7.11E-03 | 2.45E-03 | 1.00E-02 | 7.17E-03 | pCi/m3 |
| 5PR(259808004) - AP | 19-Aug-10 | BETA | 6.71E-02 | 7.35E-03 | 3.38E-03 | 1.00E-02 | 7.43E-03 | pCi/m3 |
| 5PR(260516004) - AP | 27-Aug-10 | BETA | 5.38E-02 | 6.45E-03 | 1.98E-03 | 1.00E-02 | 6.50E-03 | pCi/m3 |
| 5PR(260983004) - AP | 3-Sep-10 | BETA | 4.68E-02 | 5.66E-03 | 1.84E-03 | 1.00E-02 | 5.71E-03 | pCi/m3 |
| 5PR(261561004) - AP | 10-Sep-10 | BETA | 4.07E-02 | 6.12E-03 | 2.47E-03 | 1.00E-02 | 6.15E-03 | pCi/m3 |
| 5PR(261565004) - AP | 17-Sep-10 | BETA | 4.34E-02 | 5.87E-03 | 1.89E-03 | 1.00E-02 | 5.91E-03 | pCi/m3 |
| 5PR(261861004) - AP | 24-Sep-10 | BETA | 5.19E-02 | 6.23E-03 | 2.02E-03 | 1.00E-02 | 6.29E-03 | pCi/m3 |
| 5PR(264418004) - AP | 1-Oct-10 | BETA | 4.39E-02 | 5.50E-03 | 2.13E-03 | 1.00E-02 | 5.55E-03 | pCi/m3 |
| 5PR(264754004) - AP | 8-Oct-10 | BETA | 8.27E-02 | 8.31E-03 | 2.01E-03 | 1.00E-02 | 8.41E-03 | pCi/m3 |
| 5PR(265234004) - AP | 15-Oct-10 | BETA | 5.72E-02 | 6.69E-03 | 2.45E-03 | 1.00E-02 | 6.75E-03 | pCi/m3 |
| 5PR(265785004) - AP | 22-Oct-10 | BETA | 6.28E-02 | 6.95E-03 | 2.10E-03 | 1.00E-02 | 7.03E-03 | pCi/m3 |
| 5PR(266420004) - AP | 29-Oct-10 | BETA | 3.85E-02 | 5.20E-03 | 1.89E-03 | 1.00E-02 | 5.24E-03 | pCi/m3 |
| 5PR(267269004) - AP | 6-Nov-10 | BETA | 5.87E-02 | 6.30E-03 | 2.19E-03 | 1.00E-02 | 6.37E-03 | pCi/m3 |
| 5PR(267722004) - AP | 13-Nov-10 | BETA | 8.87E-02 | 8.71E-03 | 2.22E-03 | 1.00E-02 | 8.82E-03 | pCi/m3 |
| 5PR(267723004) - AP | 19-Nov-10 | BETA | 7.36E-02 | 8.07E-03 | 3.30E-03 | 1.00E-02 | 8.15E-03 | pCi/m3 |
| 5PR(268031004) - AP | 26-Nov-10 | BETA | 6.78E-02 | 7.10E-03 | 2.08E-03 | 1.00E-02 | 7.18E-03 | pCi/m3 |
| 5PR(268558004) - AP | 3-Dec-10 | BETA | 5.12E-02 | 6.28E-03 | 2.26E-03 | 1.00E-02 | 6.33E-03 | pCi/m3 |
| 5PR(268939004) - AP | 9-Dec-10 | BETA | 5.75E-02 | 5.57E-03 | 1.69E-03 | 1.00E-02 | 5.64E-03 | pCi/m3 |
| 5PR(269155004) - AP | 16-Dec-10 | BETA | 5.07E-02 | 6.13E-03 | 2.20E-03 | 1.00E-02 | 6.19E-03 | pCi/m3 |
| 5PR(270067004) - AP | 23-Dec-10 | BETA | 4.44E-02 | 5.75E-03 | 2.19E-03 | 1.00E-02 | 5.80E-03 | pCi/m3 |
| 5PR(251155004) - AP | 11-Feb-10 | Beryllium-7 | 1.33E-01 | 1.93E-02 | 1.00E-02 | | 1.95E-02 | pCi/m3 |
| 5PR(257264004) - AP | 13-May-10 | Beryllium-7 | 7.37E-02 | 1.37E-02 | 1.16E-02 | | 1.38E-02 | pCi/m3 |
| 5PR(265561004) - AP | 13-Aug-10 | Beryllium-7 | 1.84E-01 | 3.70E-02 | 3.47E-02 | | 3.71E-02 | pCi/m3 |
| 5PR(271358004) - AP | 12-Nov-10 | Beryllium-7 | 1.41E-01 | 2.74E-02 | 2.35E-02 | | 2.75E-02 | pCi/m3 |
| 5PR(251155004) - AP | 11-Feb-10 | Cesium-134 | -1.44E-04 | 4.85E-04 | 7.76E-04 | 5.00E-02 | 4.85E-04 | pCi/m3 |

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|---|---|---|---|---|---|---|---|---|
| 5PR(257264004) - AP | 13-May-10 | Cesium-134 | 2.53E-04 | 3.01E-04 | 5.69E-04 | 5.00E-02 | 3.01E-04 | pCi/m3 |
| 5PR(265561004) - AP | 13-Aug-10 | Cesium-134 | 7.92E-05 | 5.75E-04 | 1.00E-03 | 5.00E-02 | 5.75E-04 | pCi/m3 |
| 5PR(271358004) - AP | 12-Nov-10 | Cesium-134 | 6.45E-04 | 8.24E-04 | 1.56E-03 | 5.00E-02 | 8.74E-04 | pCi/m3 |
| 5PR(251155004) - AP | 11-Feb-10 | Cesium-137 | -1.95E-04 | 4.23E-04 | 6.31E-04 | 6.00E-02 | 4.23E-04 | pCi/m3 |
| 5PR(257264004) - AP | 13-May-10 | Cesium-137 | 9.25E-05 | 2.46E-04 | 4.36E-04 | 6.00E-02 | 2.46E-04 | pCi/m3 |
| 5PR(265561004) - AP | 13-Aug-10 | Cesium-137 | -3.37E-04 | 6.44E-04 | 9.67E-04 | 6.00E-02 | 6.44E-04 | pCi/m3 |
| 5PR(271358004) - AP | 12-Nov-10 | Cesium-137 | 1.53E-04 | 5.45E-04 | 9.67E-04 | 6.00E-02 | 5.49E-04 | pCi/m3 |
| 5PR(251155004) - AP | 11-Feb-10 | Lead-210 | 2.20E-02 | 5.08E-03 | 3.45E-03 | | 5.10E-03 | pCi/m3 |

8SP

AC

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| 8SP(244368006) - AC | 1-Jan-10 | Iodine-131 | -4.55E-03 | 9.77E-03 | 1.51E-02 | 7.00E-02 | 9.77E-03 | pCi/m3 |
| 8SP(244992006) - AC | 8-Jan-10 | Iodine-131 | -9.35E-03 | 1.57E-02 | 2.40E-02 | 7.00E-02 | 1.57E-02 | pCi/m3 |
| 8SP(245591006) - AC | 14-Jan-10 | Iodine-131 | 7.50E-04 | 1.36E-02 | 2.28E-02 | 7.00E-02 | 1.36E-02 | pCi/m3 |
| 8SP(246174006) - AC | 21-Jan-10 | Iodine-131 | 1.17E-02 | 1.54E-02 | 2.82E-02 | 7.00E-02 | 1.54E-02 | pCi/m3 |
| 8SP(246515006) - AC | 28-Jan-10 | Iodine-131 | 1.14E-02 | 1.45E-02 | 2.69E-02 | 7.00E-02 | 1.45E-02 | pCi/m3 |
| 8SP(247059006) - AC | 4-Feb-10 | Iodine-131 | 1.36E-02 | 1.36E-02 | 2.57E-02 | 7.00E-02 | 1.36E-02 | pCi/m3 |
| 8SP(247978006) - AC | 12-Feb-10 | Iodine-131 | -1.20E-02 | 2.21E-02 | 3.47E-02 | 7.00E-02 | 2.21E-02 | pCi/m3 |
| 8SP(248279006) - AC | 19-Feb-10 | Iodine-131 | 5.31E-03 | 2.40E-02 | 4.17E-02 | 7.00E-02 | 2.40E-02 | pCi/m3 |
| 8SP(248639006) - AC | 25-Feb-10 | Iodine-131 | 1.10E-05 | 1.10E-02 | 1.85E-02 | 7.00E-02 | 1.10E-02 | pCi/m3 |
| 8SP(249587006) - AC | 4-Mar-10 | Iodine-131 | 1.58E-02 | 2.67E-02 | 4.86E-02 | 7.00E-02 | 2.68E-02 | pCi/m3 |
| 8SP(249893006) - AC | 11-Mar-10 | Iodine-131 | -1.69E-02 | 2.83E-02 | 4.35E-02 | 7.00E-02 | 2.83E-02 | pCi/m3 |
| 8SP(250216006) - AC | 18-Mar-10 | Iodine-131 | 6.92E-03 | 2.51E-02 | 4.39E-02 | 7.00E-02 | 2.51E-02 | pCi/m3 |
| 8SP(250516006) - AC | 25-Mar-10 | Iodine-131 | 8.03E-03 | 2.66E-02 | 4.56E-02 | 7.00E-02 | 2.66E-02 | pCi/m3 |
| 8SP(250666006) - AC | 1-Apr-10 | Iodine-131 | 4.28E-03 | 6.80E-03 | 1.28E-02 | 7.00E-02 | 6.80E-03 | pCi/m3 |
| 8SP(251549006) - AC | 8-Apr-10 | Iodine-131 | 8.97E-03 | 1.56E-02 | 2.88E-02 | 7.00E-02 | 1.56E-02 | pCi/m3 |
| 8SP(251663006) - AC | 15-Apr-10 | Iodine-131 | -2.88E-03 | 1.21E-02 | 1.96E-02 | 7.00E-02 | 1.21E-02 | pCi/m3 |
| 8SP(252115006) - AC | 22-Apr-10 | Iodine-131 | -1.68E-03 | 1.27E-02 | 2.13E-02 | 7.00E-02 | 1.27E-02 | pCi/m3 |
| 8SP(252610006) - AC | 29-Apr-10 | Iodine-131 | 9.55E-03 | 1.41E-02 | 2.60E-02 | 7.00E-02 | 1.41E-02 | pCi/m3 |
| 8SP(253073006) - AC | 6-May-10 | Iodine-131 | 4.63E-03 | 1.69E-02 | 2.94E-02 | 7.00E-02 | 1.69E-02 | pCi/m3 |
| 8SP(253471006) - AC | 13-May-10 | Iodine-131 | -8.15E-03 | 1.19E-02 | 1.78E-02 | 7.00E-02 | 1.19E-02 | pCi/m3 |
| 8SP(253666006) - AC | 20-May-10 | Iodine-131 | -4.30E-03 | 7.49E-03 | 1.08E-02 | 7.00E-02 | 7.49E-03 | pCi/m3 |
| 8SP(254465006) - AC | 28-May-10 | Iodine-131 | -9.35E-03 | 2.11E-02 | 3.30E-02 | 7.00E-02 | 2.11E-02 | pCi/m3 |
| 8SP(254695006) - AC | 4-Jun-10 | Iodine-131 | -1.36E-03 | 2.06E-02 | 3.45E-02 | 7.00E-02 | 2.06E-02 | pCi/m3 |
| 8SP(254969006) - AC | 11-Jun-10 | Iodine-131 | -6.79E-03 | 1.23E-02 | 1.87E-02 | 7.00E-02 | 1.23E-02 | pCi/m3 |
| 8SP(255590004) - AC | 17-Jun-10 | Iodine-131 | 1.76E-02 | 2.30E-02 | 4.21E-02 | 7.00E-02 | 2.30E-02 | pCi/m3 |
| 8SP(256088007) - AC | 24-Jun-10 | Iodine-131 | 5.71E-03 | 2.19E-02 | 3.79E-02 | 7.00E-02 | 2.19E-02 | pCi/m3 |
| 8SP(256312006) - AC | 2-Jul-10 | Iodine-131 | 1.52E-02 | 2.07E-02 | 3.80E-02 | 7.00E-02 | 2.07E-02 | pCi/m3 |
| 8SP(256734006) - AC | 9-Jul-10 | Iodine-131 | -6.62E-03 | 1.60E-02 | 2.48E-02 | 7.00E-02 | 1.60E-02 | pCi/m3 |
| 8SP(257081006) - AC | 16-Jul-10 | Iodine-131 | 7.90E-03 | 1.61E-02 | 2.87E-02 | 7.00E-02 | 1.61E-02 | pCi/m3 |
| 8SP(257685006) - AC | 23-Jul-10 | Iodine-131 | 4.68E-03 | 1.17E-02 | 2.04E-02 | 7.00E-02 | 1.17E-02 | pCi/m3 |
| 8SP(258001006) - AC | 30-Jul-10 | Iodine-131 | 7.30E-03 | 1.54E-02 | 2.71E-02 | 7.00E-02 | 1.54E-02 | pCi/m3 |
| 8SP(258875006) - AC | 6-Aug-10 | Iodine-131 | -7.12E-03 | 1.16E-02 | 1.53E-02 | 7.00E-02 | 1.16E-02 | pCi/m3 |
| 8SP(259582006) - AC | 12-Aug-10 | Iodine-131 | 2.55E-03 | 2.15E-02 | 3.61E-02 | 7.00E-02 | 2.15E-02 | pCi/m3 |

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|---|---|---|---|---|---|---|---|---|
| 8SP(259808006) - AC | 19-Aug-10 | Iodine-131 | 7.43E-03 | 1.61E-02 | 2.86E-02 | 7.00E-02 | 1.61E-02 | pCi/m3 |
| 8SP(260516006) - AC | 26-Aug-10 | Iodine-131 | -4.71E-03 | 1.98E-02 | 3.17E-02 | 7.00E-02 | 1.98E-02 | pCi/m3 |
| 8SP(260983006) - AC | 3-Sep-10 | Iodine-131 | 9.23E-04 | 1.62E-02 | 2.67E-02 | 7.00E-02 | 1.62E-02 | pCi/m3 |
| 8SP(261561006) - AC | 10-Sep-10 | Iodine-131 | -4.70E-02 | 3.10E-02 | 3.48E-02 | 7.00E-02 | 3.10E-02 | pCi/m3 |
| 8SP(261565006) - AC | 16-Sep-10 | Iodine-131 | -6.86E-03 | 1.32E-02 | 2.13E-02 | 7.00E-02 | 1.32E-02 | pCi/m3 |
| 8SP(261861006) - AC | 24-Sep-10 | Iodine-131 | 3.40E-03 | 1.12E-02 | 1.97E-02 | 7.00E-02 | 1.12E-02 | pCi/m3 |
| 8SP(264418006) - AC | 1-Oct-10 | Iodine-131 | -1.14E-02 | 1.24E-02 | 1.78E-02 | 7.00E-02 | 1.24E-02 | pCi/m3 |
| 8SP(264754006) - AC | 8-Oct-10 | Iodine-131 | 2.31E-03 | 1.09E-02 | 1.88E-02 | 7.00E-02 | 1.09E-02 | pCi/m3 |
| 8SP(265234006) - AC | 15-Oct-10 | Iodine-131 | 1.45E-02 | 1.37E-02 | 2.57E-02 | 7.00E-02 | 1.37E-02 | pCi/m3 |
| 8SP(265785006) - AC | 22-Oct-10 | Iodine-131 | -4.97E-03 | 1.68E-02 | 2.71E-02 | 7.00E-02 | 1.68E-02 | pCi/m3 |
| 8SP(266420006) - AC | 29-Oct-10 | Iodine-131 | 1.92E-03 | 9.92E-03 | 1.67E-02 | 7.00E-02 | 9.92E-03 | pCi/m3 |
| 8SP(267269006) - AC | 6-Nov-10 | Iodine-131 | -1.09E-02 | 1.12E-02 | 1.71E-02 | 7.00E-02 | 1.12E-02 | pCi/m3 |
| 8SP(267722006) - AC | 13-Nov-10 | Iodine-131 | 7.20E-04 | 2.41E-02 | 4.04E-02 | 7.00E-02 | 2.41E-02 | pCi/m3 |
| 8SP(267723006) - AC | 19-Nov-10 | Iodine-131 | 4.11E-03 | 1.76E-02 | 3.06E-02 | 7.00E-02 | 1.76E-02 | pCi/m3 |
| 8SP(268031006) - AC | 26-Nov-10 | Iodine-131 | 2.94E-03 | 2.17E-02 | 3.76E-02 | 7.00E-02 | 2.17E-02 | pCi/m3 |
| 8SP(268558006) - AC | 2-Dec-10 | Iodine-131 | 3.31E-03 | 2.08E-02 | 3.81E-02 | 7.00E-02 | 2.08E-02 | pCi/m3 |
| 8SP(268939006) - AC | 9-Dec-10 | Iodine-131 | -8.92E-03 | 2.71E-02 | 3.94E-02 | 7.00E-02 | 2.71E-02 | pCi/m3 |
| 8SP(269155006) - AC | 16-Dec-10 | Iodine-131 | 1.56E-02 | 2.18E-02 | 4.31E-02 | 7.00E-02 | 2.18E-02 | pCi/m3 |
| 8SP(270067006) - AC | 23-Dec-10 | Iodine-131 | -6.60E-04 | 2.12E-02 | 3.49E-02 | 7.00E-02 | 2.12E-02 | pCi/m3 |

8SP
AP

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| 8SP(244368001) - AP | 1-Jan-10 | BETA | 3.55E-02 | 4.38E-03 | 1.98E-03 | 1.00E-02 | 4.41E-03 | pCi/m3 |
| 8SP(244992001) - AP | 8-Jan-10 | BETA | 5.03E-02 | 6.00E-03 | 2.89E-03 | 1.00E-02 | 6.05E-03 | pCi/m3 |
| 8SP(245591001) - AP | 14-Jan-10 | BETA | 8.06E-02 | 7.07E-03 | 2.63E-03 | 1.00E-02 | 7.18E-03 | pCi/m3 |
| 8SP(246174001) - AP | 21-Jan-10 | BETA | 4.98E-02 | 5.39E-03 | 1.77E-03 | 1.00E-02 | 5.45E-03 | pCi/m3 |
| 8SP(246515001) - AP | 28-Jan-10 | BETA | 4.00E-02 | 4.95E-03 | 2.22E-03 | 1.00E-02 | 4.99E-03 | pCi/m3 |
| 8SP(247059001) - AP | 4-Feb-10 | BETA | 5.41E-02 | 5.61E-03 | 2.19E-03 | 1.00E-02 | 5.68E-03 | pCi/m3 |
| 8SP(247978001) - AP | 12-Feb-10 | BETA | 3.33E-02 | 4.34E-03 | 2.18E-03 | 1.00E-02 | 4.37E-03 | pCi/m3 |
| 8SP(248279001) - AP | 19-Feb-10 | BETA | 4.09E-02 | 5.37E-03 | 2.64E-03 | 1.00E-02 | 5.41E-03 | pCi/m3 |
| 8SP(248639001) - AP | 25-Feb-10 | BETA | 4.96E-02 | 5.44E-03 | 1.73E-03 | 1.00E-02 | 5.50E-03 | pCi/m3 |
| 8SP(249587001) - AP | 4-Mar-10 | BETA | 4.07E-02 | 4.96E-03 | 2.39E-03 | 1.00E-02 | 5.00E-03 | pCi/m3 |
| 8SP(249893001) - AP | 11-Mar-10 | BETA | 4.26E-02 | 5.36E-03 | 2.50E-03 | 1.00E-02 | 5.40E-03 | pCi/m3 |
| 8SP(250216001) - AP | 18-Mar-10 | BETA | 3.67E-02 | 4.72E-03 | 2.00E-03 | 1.00E-02 | 4.76E-03 | pCi/m3 |
| 8SP(250516001) - AP | 25-Mar-10 | BETA | 3.34E-02 | 4.62E-03 | 2.09E-03 | 1.00E-02 | 4.65E-03 | pCi/m3 |
| 8SP(250666001) - AP | 1-Apr-10 | BETA | 5.08E-02 | 5.56E-03 | 1.72E-03 | 1.00E-02 | 5.62E-03 | pCi/m3 |
| 8SP(251549001) - AP | 8-Apr-10 | BETA | 3.41E-02 | 4.76E-03 | 2.27E-03 | 1.00E-02 | 4.79E-03 | pCi/m3 |
| 8SP(251663001) - AP | 15-Apr-10 | BETA | 4.22E-02 | 5.20E-03 | 2.47E-03 | 1.00E-02 | 5.24E-03 | pCi/m3 |
| 8SP(252115001) - AP | 22-Apr-10 | BETA | 4.51E-02 | 5.47E-03 | 2.46E-03 | 1.00E-02 | 5.51E-03 | pCi/m3 |
| 8SP(252610001) - AP | 29-Apr-10 | BETA | 3.33E-02 | 4.64E-03 | 2.39E-03 | 1.00E-02 | 4.67E-03 | pCi/m3 |
| 8SP(253073001) - AP | 6-May-10 | BETA | 2.96E-02 | 4.39E-03 | 1.93E-03 | 1.00E-02 | 4.41E-03 | pCi/m3 |
| 8SP(253471001) - AP | 13-May-10 | BETA | 2.85E-02 | 4.23E-03 | 2.03E-03 | 1.00E-02 | 4.25E-03 | pCi/m3 |
| 8SP(253666001) - AP | 20-May-10 | BETA | 4.16E-02 | 5.29E-03 | 2.13E-03 | 1.00E-02 | 5.33E-03 | pCi/m3 |
| 8SP(254465001) - AP | 28-May-10 | BETA | 4.80E-02 | 5.70E-03 | 2.26E-03 | 1.00E-02 | 5.75E-03 | pCi/m3 |

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|---|---|---|---|---|---|---|---|---|
| 8SP(254695001) - AP | 4-Jun-10 | BETA | 3.50E-02 | 5.43E-03 | 2.87E-03 | 1.00E-02 | 5.45E-03 | pCi/m3 |
| 8SP(254969001) - AP | 11-Jun-10 | BETA | 3.21E-02 | 5.63E-03 | 3.72E-03 | 1.00E-02 | 5.66E-03 | pCi/m3 |
| 8SP(255590001) - AP | 17-Jun-10 | BETA | 3.09E-02 | 5.34E-03 | 3.79E-03 | 1.00E-02 | 5.36E-03 | pCi/m3 |
| 8SP(256088001) - AP | 24-Jun-10 | BETA | 3.79E-02 | 5.29E-03 | 1.94E-03 | 1.00E-02 | 5.33E-03 | pCi/m3 |
| 8SP(256312001) - AP | 2-Jul-10 | BETA | 3.72E-02 | 5.36E-03 | 3.19E-03 | 1.00E-02 | 5.39E-03 | pCi/m3 |
| 8SP(256734001) - AP | 9-Jul-10 | BETA | 5.05E-02 | 6.48E-03 | 3.40E-03 | 1.00E-02 | 6.53E-03 | pCi/m3 |
| 8SP(257081001) - AP | 16-Jul-10 | BETA | 5.83E-02 | 7.12E-03 | 2.34E-03 | 1.00E-02 | 7.19E-03 | pCi/m3 |
| 8SP(257685001) - AP | 23-Jul-10 | BETA | 3.77E-02 | 5.25E-03 | 1.84E-03 | 1.00E-02 | 5.28E-03 | pCi/m3 |
| 8SP(258001001) - AP | 30-Jul-10 | BETA | 4.65E-02 | 6.07E-03 | 3.26E-03 | 1.00E-02 | 6.11E-03 | pCi/m3 |
| 8SP(258875001) - AP | 6-Aug-10 | BETA | 6.14E-02 | 6.69E-03 | 2.83E-03 | 1.00E-02 | 6.76E-03 | pCi/m3 |
| 8SP(259582001) - AP | 12-Aug-10 | BETA | 5.60E-02 | 6.49E-03 | 2.97E-03 | 1.00E-02 | 6.55E-03 | pCi/m3 |
| 8SP(259808001) - AP | 19-Aug-10 | BETA | 5.36E-02 | 6.26E-03 | 2.89E-03 | 1.00E-02 | 6.32E-03 | pCi/m3 |
| 8SP(260516001) - AP | 26-Aug-10 | BETA | 5.04E-02 | 6.02E-03 | 2.04E-03 | 1.00E-02 | 6.08E-03 | pCi/m3 |
| 8SP(260983001) - AP | 3-Sep-10 | BETA | 4.25E-02 | 5.05E-03 | 1.86E-03 | 1.00E-02 | 5.10E-03 | pCi/m3 |
| 8SP(261561001) - AP | 10-Sep-10 | BETA | 3.85E-02 | 5.77E-03 | 2.61E-03 | 1.00E-02 | 5.80E-03 | pCi/m3 |
| 8SP(261565001) - AP | 16-Sep-10 | BETA | 4.53E-02 | 5.49E-03 | 1.49E-03 | 1.00E-02 | 5.54E-03 | pCi/m3 |
| 8SP(261861001) - AP | 24-Sep-10 | BETA | 4.71E-02 | 5.74E-03 | 2.03E-03 | 1.00E-02 | 5.79E-03 | pCi/m3 |
| 8SP(264418001) - AP | 1-Oct-10 | BETA | 3.38E-02 | 4.39E-03 | 1.59E-03 | 1.00E-02 | 4.42E-03 | pCi/m3 |
| 8SP(264754001) - AP | 8-Oct-10 | BETA | 7.98E-02 | 8.43E-03 | 2.31E-03 | 1.00E-02 | 8.52E-03 | pCi/m3 |
| 8SP(265234001) - AP | 15-Oct-10 | BETA | 4.97E-02 | 5.89E-03 | 2.01E-03 | 1.00E-02 | 5.94E-03 | pCi/m3 |
| 8SP(265785001) - AP | 22-Oct-10 | BETA | 5.48E-02 | 6.16E-03 | 1.85E-03 | 1.00E-02 | 6.22E-03 | pCi/m3 |
| 8SP(266420001) - AP | 29-Oct-10 | BETA | 3.58E-02 | 4.66E-03 | 1.60E-03 | 1.00E-02 | 4.69E-03 | pCi/m3 |
| 8SP(267269001) - AP | 6-Nov-10 | BETA | 4.64E-02 | 5.26E-03 | 2.10E-03 | 1.00E-02 | 5.31E-03 | pCi/m3 |
| 8SP(267722001) - AP | 13-Nov-10 | BETA | 7.96E-02 | 7.94E-03 | 2.47E-03 | 1.00E-02 | 8.05E-03 | pCi/m3 |
| 8SP(267723001) - AP | 19-Nov-10 | BETA | 7.14E-02 | 7.48E-03 | 2.66E-03 | 1.00E-02 | 7.56E-03 | pCi/m3 |
| 8SP(268031001) - AP | 26-Nov-10 | BETA | 6.17E-02 | 6.47E-03 | 2.54E-03 | 1.00E-02 | 6.54E-03 | pCi/m3 |
| 8SP(268558001) - AP | 2-Dec-10 | BETA | 4.68E-02 | 5.81E-03 | 2.74E-03 | 1.00E-02 | 5.86E-03 | pCi/m3 |
| 8SP(268939001) - AP | 9-Dec-10 | BETA | 6.17E-02 | 6.46E-03 | 2.24E-03 | 1.00E-02 | 6.53E-03 | pCi/m3 |
| 8SP(269155001) - AP | 16-Dec-10 | BETA | 4.28E-02 | 5.31E-03 | 1.80E-03 | 1.00E-02 | 5.35E-03 | pCi/m3 |
| 8SP(270067001) - AP | 23-Dec-10 | BETA | 3.14E-02 | 4.60E-03 | 1.96E-03 | 1.00E-02 | 4.62E-03 | pCi/m3 |
| 8SP(251155001) - AP | 11-Feb-10 | Beryllium-7 | 1.41E-01 | 1.76E-02 | 7.71E-03 | | 1.78E-02 | pCi/m3 |
| 8SP(257264001) - AP | 13-May-10 | Beryllium-7 | 6.75E-02 | 1.28E-02 | 9.03E-03 | | 1.28E-02 | pCi/m3 |
| 8SP(265561001) - AP | 13-Aug-10 | Beryllium-7 | 1.68E-01 | 3.83E-02 | 2.38E-02 | | 3.85E-02 | pCi/m3 |
| 8SP(271358001) - AP | 12-Nov-10 | Beryllium-7 | 1.14E-01 | 2.95E-02 | 1.47E-02 | | 2.96E-02 | pCi/m3 |
| 8SP(251155001) - AP | 11-Feb-10 | Cesium-134 | 1.06E-04 | 3.02E-04 | 5.30E-04 | 5.00E-02 | 3.02E-04 | pCi/m3 |
| 8SP(257264001) - AP | 13-May-10 | Cesium-134 | 1.45E-04 | 2.44E-04 | 4.50E-04 | 5.00E-02 | 2.44E-04 | pCi/m3 |
| 8SP(265561001) - AP | 13-Aug-10 | Cesium-134 | 3.74E-04 | 5.70E-04 | 1.14E-03 | 5.00E-02 | 5.70E-04 | pCi/m3 |
| 8SP(271358001) - AP | 12-Nov-10 | Cesium-134 | 3.71E-04 | 5.24E-04 | 1.04E-03 | 5.00E-02 | 5.50E-04 | pCi/m3 |
| 8SP(251155001) - AP | 11-Feb-10 | Cesium-137 | 3.79E-05 | 2.81E-04 | 4.77E-04 | 6.00E-02 | 2.81E-04 | pCi/m3 |
| 8SP(257264001) - AP | 13-May-10 | Cesium-137 | 8.95E-05 | 2.07E-04 | 3.74E-04 | 6.00E-02 | 2.07E-04 | pCi/m3 |
| 8SP(265561001) - AP | 13-Aug-10 | Cesium-137 | 1.19E-04 | 6.71E-04 | 1.27E-03 | 6.00E-02 | 6.71E-04 | pCi/m3 |
| 8SP(271358001) - AP | 12-Nov-10 | Cesium-137 | -2.97E-04 | 5.42E-04 | 9.10E-04 | 6.00E-02 | 5.59E-04 | pCi/m3 |

9TP
AC

# REMP Year End Report for PALI for 2010
## Palisades REMP

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| 9TP(244368007) - AC | 1-Jan-10 | Iodine-131 | -5.07E-04 | 9.65E-03 | 1.65E-02 | 7.00E-02 | 9.65E-03 | pCi/m3 |
| 9TP(244992007) - AC | 8-Jan-10 | Iodine-131 | 2.33E-03 | 1.45E-02 | 2.54E-02 | 7.00E-02 | 1.45E-02 | pCi/m3 |
| 9TP(245591007) - AC | 14-Jan-10 | Iodine-131 | -5.86E-03 | 2.20E-02 | 3.53E-02 | 7.00E-02 | 2.20E-02 | pCi/m3 |
| 9TP(246174007) - AC | 21-Jan-10 | Iodine-131 | 3.84E-03 | 1.16E-02 | 2.08E-02 | 7.00E-02 | 1.16E-02 | pCi/m3 |
| 9TP(246515007) - AC | 28-Jan-10 | Iodine-131 | -2.54E-03 | 1.53E-02 | 2.55E-02 | 7.00E-02 | 1.53E-02 | pCi/m3 |
| 9TP(247059007) - AC | 4-Feb-10 | Iodine-131 | 5.90E-03 | 1.24E-02 | 2.24E-02 | 7.00E-02 | 1.24E-02 | pCi/m3 |
| 9TP(247978007) - AC | 12-Feb-10 | Iodine-131 | 1.68E-02 | 2.36E-02 | 4.30E-02 | 7.00E-02 | 2.36E-02 | pCi/m3 |
| 9TP(248279007) - AC | 19-Feb-10 | Iodine-131 | -1.33E-02 | 2.45E-02 | 3.86E-02 | 7.00E-02 | 2.45E-02 | pCi/m3 |
| 9TP(248639007) - AC | 25-Feb-10 | Iodine-131 | 1.12E-03 | 8.49E-03 | 1.48E-02 | 7.00E-02 | 8.49E-03 | pCi/m3 |
| 9TP(249587007) - AC | 5-Mar-10 | Iodine-131 | -1.07E-02 | 2.86E-02 | 4.62E-02 | 7.00E-02 | 2.86E-02 | pCi/m3 |
| 9TP(249893007) - AC | 12-Mar-10 | Iodine-131 | -7.96E-04 | 3.04E-02 | 5.08E-02 | 7.00E-02 | 3.04E-02 | pCi/m3 |
| 9TP(250216007) - AC | 18-Mar-10 | Iodine-131 | 5.81E-03 | 2.35E-02 | 4.11E-02 | 7.00E-02 | 2.35E-02 | pCi/m3 |
| 9TP(250516007) - AC | 25-Mar-10 | Iodine-131 | 1.04E-02 | 2.61E-02 | 4.52E-02 | 7.00E-02 | 2.61E-02 | pCi/m3 |
| 9TP(250666007) - AC | 1-Apr-10 | Iodine-131 | 5.16E-04 | 8.58E-03 | 1.44E-02 | 7.00E-02 | 8.58E-03 | pCi/m3 |
| 9TP(251549007) - AC | 8-Apr-10 | Iodine-131 | 2.69E-03 | 1.82E-02 | 3.18E-02 | 7.00E-02 | 1.82E-02 | pCi/m3 |
| 9TP(251663007) - AC | 15-Apr-10 | Iodine-131 | -1.93E-03 | 1.03E-02 | 1.69E-02 | 7.00E-02 | 1.03E-02 | pCi/m3 |
| 9TP(252115007) - AC | 22-Apr-10 | Iodine-131 | 1.61E-02 | 1.50E-02 | 2.84E-02 | 7.00E-02 | 1.50E-02 | pCi/m3 |
| 9TP(252610007) - AC | 29-Apr-10 | Iodine-131 | -1.08E-02 | 1.75E-02 | 2.72E-02 | 7.00E-02 | 1.75E-02 | pCi/m3 |
| 9TP(253073007) - AC | 6-May-10 | Iodine-131 | 6.93E-03 | 1.46E-02 | 2.60E-02 | 7.00E-02 | 1.46E-02 | pCi/m3 |
| 9TP(253471007) - AC | 13-May-10 | Iodine-131 | -1.48E-02 | 1.53E-02 | 2.16E-02 | 7.00E-02 | 1.53E-02 | pCi/m3 |
| 9TP(253666007) - AC | 21-May-10 | Iodine-131 | 1.59E-03 | 6.77E-03 | 1.15E-02 | 7.00E-02 | 6.77E-03 | pCi/m3 |
| 9TP(254465007) - AC | 28-May-10 | Iodine-131 | 6.12E-03 | 1.62E-02 | 2.79E-02 | 7.00E-02 | 1.62E-02 | pCi/m3 |
| 9TP(254695007) - AC | 4-Jun-10 | Iodine-131 | -6.60E-03 | 1.41E-02 | 2.13E-02 | 7.00E-02 | 1.41E-02 | pCi/m3 |
| 9TP(254969007) - AC | 11-Jun-10 | Iodine-131 | -1.82E-03 | 8.30E-03 | 1.39E-02 | 7.00E-02 | 8.30E-03 | pCi/m3 |
| 9TP(255590005) - AC | 17-Jun-10 | Iodine-131 | -1.63E-02 | 2.06E-02 | 3.10E-02 | 7.00E-02 | 2.06E-02 | pCi/m3 |
| 9TP(256088008) - AC | 24-Jun-10 | Iodine-131 | 7.81E-04 | 1.87E-02 | 3.12E-02 | 7.00E-02 | 1.87E-02 | pCi/m3 |
| 9TP(256312007) - AC | 2-Jul-10 | Iodine-131 | 4.44E-03 | 1.21E-02 | 2.14E-02 | 7.00E-02 | 1.21E-02 | pCi/m3 |
| 9TP(256734007) - AC | 9-Jul-10 | Iodine-131 | -3.17E-03 | 1.41E-02 | 2.31E-02 | 7.00E-02 | 1.41E-02 | pCi/m3 |
| 9TP(257081007) - AC | 16-Jul-10 | Iodine-131 | -1.60E-04 | 8.97E-03 | 1.49E-02 | 7.00E-02 | 8.97E-03 | pCi/m3 |
| 9TP(257685007) - AC | 23-Jul-10 | Iodine-131 | -8.59E-03 | 1.40E-02 | 2.10E-02 | 7.00E-02 | 1.40E-02 | pCi/m3 |
| 9TP(258001007) - AC | 30-Jul-10 | Iodine-131 | -6.36E-03 | 1.30E-02 | 2.06E-02 | 7.00E-02 | 1.30E-02 | pCi/m3 |
| 9TP(258875007) - AC | 6-Aug-10 | Iodine-131 | 4.13E-03 | 1.43E-02 | 2.56E-02 | 7.00E-02 | 1.43E-02 | pCi/m3 |
| 9TP(259582007) - AC | 12-Aug-10 | Iodine-131 | 2.96E-03 | 1.41E-02 | 2.49E-02 | 7.00E-02 | 1.41E-02 | pCi/m3 |
| 9TP(259808007) - AC | 19-Aug-10 | Iodine-131 | 2.98E-03 | 1.76E-02 | 2.99E-02 | 7.00E-02 | 1.76E-02 | pCi/m3 |
| 9TP(260516007) - AC | 27-Aug-10 | Iodine-131 | 1.92E-03 | 1.91E-02 | 3.26E-02 | 7.00E-02 | 1.91E-02 | pCi/m3 |
| 9TP(260983007) - AC | 3-Sep-10 | Iodine-131 | 6.27E-03 | 1.56E-02 | 2.82E-02 | 7.00E-02 | 1.56E-02 | pCi/m3 |
| 9TP(261561007) - AC | 10-Sep-10 | Iodine-131 | -3.42E-02 | 2.63E-02 | 3.42E-02 | 7.00E-02 | 2.63E-02 | pCi/m3 |
| 9TP(261565007) - AC | 16-Sep-10 | Iodine-131 | 3.63E-03 | 1.30E-02 | 2.25E-02 | 7.00E-02 | 1.30E-02 | pCi/m3 |
| 9TP(261861007) - AC | 24-Sep-10 | Iodine-131 | 3.39E-03 | 1.05E-02 | 1.84E-02 | 7.00E-02 | 1.05E-02 | pCi/m3 |
| 9TP(264418007) - AC | 1-Oct-10 | Iodine-131 | 1.22E-03 | 8.56E-03 | 1.42E-02 | 7.00E-02 | 8.56E-03 | pCi/m3 |
| 9TP(264754007) - AC | 8-Oct-10 | Iodine-131 | -6.72E-03 | 1.14E-02 | 1.74E-02 | 7.00E-02 | 1.14E-02 | pCi/m3 |
| 9TP(265234007) - AC | 15-Oct-10 | Iodine-131 | -3.95E-03 | 1.35E-02 | 2.19E-02 | 7.00E-02 | 1.35E-02 | pCi/m3 |
| 9TP(265785007) - AC | 22-Oct-10 | Iodine-131 | -1.58E-02 | 1.11E-02 | 1.26E-02 | 7.00E-02 | 1.11E-02 | pCi/m3 |
| 9TP(266420007) - AC | 29-Oct-10 | Iodine-131 | 2.86E-03 | 6.30E-03 | 1.13E-02 | 7.00E-02 | 6.30E-03 | pCi/m3 |

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|---|---|---|---|---|---|---|---|---|
| 9TP(267269007) - AC | 6-Nov-10 | Iodine-131 | -1.50E-03 | 8.84E-03 | 1.45E-02 | 7.00E-02 | 8.84E-03 | pCi/m3 |
| 9TP(267722007) - AC | 13-Nov-10 | Iodine-131 | 3.06E-03 | 2.21E-02 | 3.75E-02 | 7.00E-02 | 2.21E-02 | pCi/m3 |
| 9TP(267723007) - AC | 19-Nov-10 | Iodine-131 | -7.58E-03 | 1.29E-02 | 1.94E-02 | 7.00E-02 | 1.29E-02 | pCi/m3 |
| 9TP(268031007) - AC | 26-Nov-10 | Iodine-131 | -4.41E-04 | 1.78E-02 | 2.96E-02 | 7.00E-02 | 1.78E-02 | pCi/m3 |
| 9TP(268558007) - AC | 3-Dec-10 | Iodine-131 | 1.86E-04 | 3.39E-02 | 5.64E-02 | 7.00E-02 | 3.39E-02 | pCi/m3 |
| 9TP(268939007) - AC | 9-Dec-10 | Iodine-131 | -1.87E-03 | 2.31E-02 | 3.85E-02 | 7.00E-02 | 2.31E-02 | pCi/m3 |
| 9TP(269155007) - AC | 16-Dec-10 | Iodine-131 | -2.14E-04 | 1.31E-02 | 2.24E-02 | 7.00E-02 | 1.31E-02 | pCi/m3 |
| 9TP(270067007) - AC | 23-Dec-10 | Iodine-131 | -2.13E-03 | 1.71E-02 | 2.78E-02 | 7.00E-02 | 1.71E-02 | pCi/m3 |

9TP
AP

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| 9TP(244368002) - AP | 1-Jan-10 | BETA | 3.50E-02 | 4.29E-03 | 2.30E-03 | 1.00E-02 | 4.33E-03 | pCi/m3 |
| 9TP(244992002) - AP | 8-Jan-10 | BETA | 4.50E-02 | 5.70E-03 | 3.29E-03 | 1.00E-02 | 5.74E-03 | pCi/m3 |
| 9TP(245591002) - AP | 14-Jan-10 | BETA | 8.41E-02 | 7.09E-03 | 3.10E-03 | 1.00E-02 | 7.21E-03 | pCi/m3 |
| 9TP(246174002) - AP | 21-Jan-10 | BETA | 5.10E-02 | 5.30E-03 | 1.53E-03 | 1.00E-02 | 5.36E-03 | pCi/m3 |
| 9TP(246515002) - AP | 28-Jan-10 | BETA | 4.45E-02 | 4.97E-03 | 1.27E-03 | 1.00E-02 | 5.02E-03 | pCi/m3 |
| 9TP(247059002) - AP | 4-Feb-10 | BETA | 5.41E-02 | 5.42E-03 | 1.41E-03 | 1.00E-02 | 5.49E-03 | pCi/m3 |
| 9TP(247978002) - AP | 12-Feb-10 | BETA | 3.58E-02 | 4.23E-03 | 1.25E-03 | 1.00E-02 | 4.27E-03 | pCi/m3 |
| 9TP(248279002) - AP | 19-Feb-10 | BETA | 4.83E-02 | 5.59E-03 | 1.58E-03 | 1.00E-02 | 5.65E-03 | pCi/m3 |
| 9TP(248639002) - AP | 25-Feb-10 | BETA | 4.65E-02 | 5.26E-03 | 1.83E-03 | 1.00E-02 | 5.32E-03 | pCi/m3 |
| 9TP(249587002) - AP | 5-Mar-10 | BETA | 4.06E-02 | 4.71E-03 | 1.33E-03 | 1.00E-02 | 4.75E-03 | pCi/m3 |
| 9TP(249893002) - AP | 12-Mar-10 | BETA | 3.86E-02 | 4.82E-03 | 1.56E-03 | 1.00E-02 | 4.86E-03 | pCi/m3 |
| 9TP(250216002) - AP | 18-Mar-10 | BETA | 3.56E-02 | 4.61E-03 | 1.73E-03 | 1.00E-02 | 4.65E-03 | pCi/m3 |
| 9TP(250516002) - AP | 25-Mar-10 | BETA | 4.20E-02 | 5.05E-03 | 1.77E-03 | 1.00E-02 | 5.09E-03 | pCi/m3 |
| 9TP(250666002) - AP | 1-Apr-10 | BETA | 5.12E-02 | 5.55E-03 | 1.77E-03 | 1.00E-02 | 5.61E-03 | pCi/m3 |
| 9TP(251549002) - AP | 8-Apr-10 | BETA | 3.67E-02 | 4.66E-03 | 1.47E-03 | 1.00E-02 | 4.69E-03 | pCi/m3 |
| 9TP(251663002) - AP | 15-Apr-10 | BETA | 3.76E-02 | 4.63E-03 | 1.41E-03 | 1.00E-02 | 4.67E-03 | pCi/m3 |
| 9TP(252115002) - AP | 22-Apr-10 | BETA | 3.19E-02 | 4.36E-03 | 1.49E-03 | 1.00E-02 | 4.38E-03 | pCi/m3 |
| 9TP(252610002) - AP | 29-Apr-10 | BETA | 3.39E-02 | 4.47E-03 | 1.37E-03 | 1.00E-02 | 4.50E-03 | pCi/m3 |
| 9TP(253073002) - AP | 6-May-10 | BETA | 2.76E-02 | 4.06E-03 | 1.40E-03 | 1.00E-02 | 4.08E-03 | pCi/m3 |
| 9TP(253471002) - AP | 13-May-10 | BETA | 2.75E-02 | 4.04E-03 | 1.82E-03 | 1.00E-02 | 4.07E-03 | pCi/m3 |
| 9TP(253666002) - AP | 21-May-10 | BETA | 3.54E-02 | 4.67E-03 | 1.60E-03 | 1.00E-02 | 4.71E-03 | pCi/m3 |
| 9TP(254465002) - AP | 28-May-10 | BETA | 3.63E-02 | 4.41E-03 | 1.40E-03 | 1.00E-02 | 4.45E-03 | pCi/m3 |
| 9TP(254695002) - AP | 4-Jun-10 | BETA | 3.72E-02 | 4.76E-03 | 1.63E-03 | 1.00E-02 | 4.80E-03 | pCi/m3 |
| 9TP(254969002) - AP | 11-Jun-10 | BETA | 3.05E-02 | 4.61E-03 | 1.92E-03 | 1.00E-02 | 4.64E-03 | pCi/m3 |
| 9TP(255590002) - AP | 17-Jun-10 | BETA | 3.33E-02 | 4.53E-03 | 1.57E-03 | 1.00E-02 | 4.56E-03 | pCi/m3 |
| 9TP(256088002) - AP | 24-Jun-10 | BETA | 3.69E-02 | 4.98E-03 | 2.25E-03 | 1.00E-02 | 5.02E-03 | pCi/m3 |
| 9TP(256312002) - AP | 2-Jul-10 | BETA | 4.24E-02 | 5.06E-03 | 2.64E-03 | 1.00E-02 | 5.11E-03 | pCi/m3 |
| 9TP(256734002) - AP | 9-Jul-10 | BETA | 5.17E-02 | 5.58E-03 | 1.52E-03 | 1.00E-02 | 5.64E-03 | pCi/m3 |
| 9TP(257081002) - AP | 16-Jul-10 | BETA | 5.81E-02 | 6.58E-03 | 2.76E-03 | 1.00E-02 | 6.65E-03 | pCi/m3 |
| 9TP(257685002) - AP | 23-Jul-10 | BETA | 3.81E-02 | 4.95E-03 | 2.26E-03 | 1.00E-02 | 4.99E-03 | pCi/m3 |
| 9TP(258001002) - AP | 30-Jul-10 | BETA | 4.53E-02 | 5.21E-03 | 1.54E-03 | 1.00E-02 | 5.26E-03 | pCi/m3 |
| 9TP(258875002) - AP | 6-Aug-10 | BETA | 5.62E-02 | 5.81E-03 | 1.57E-03 | 1.00E-02 | 5.88E-03 | pCi/m3 |
| 9TP(259582002) - AP | 12-Aug-10 | BETA | 5.25E-02 | 5.88E-03 | 2.75E-03 | 1.00E-02 | 5.93E-03 | pCi/m3 |

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|---|---|---|---|---|---|---|---|---|
| 9TP(259808002) - AP | 19-Aug-10 | BETA | 5.01E-02 | 5.44E-03 | 1.48E-03 | 1.00E-02 | 5.50E-03 | pCi/m3 |
| 9TP(260516002) - AP | 27-Aug-10 | BETA | 3.70E-02 | 4.71E-03 | 1.84E-03 | 1.00E-02 | 4.75E-03 | pCi/m3 |
| 9TP(260983002) - AP | 3-Sep-10 | BETA | 3.90E-02 | 4.56E-03 | 1.37E-03 | 1.00E-02 | 4.60E-03 | pCi/m3 |
| 9TP(261561002) - AP | 10-Sep-10 | BETA | 3.28E-02 | 4.84E-03 | 2.17E-03 | 1.00E-02 | 4.87E-03 | pCi/m3 |
| 9TP(261565002) - AP | 16-Sep-10 | BETA | 3.35E-02 | 4.56E-03 | 1.68E-03 | 1.00E-02 | 4.59E-03 | pCi/m3 |
| 9TP(261861002) - AP | 24-Sep-10 | BETA | 4.74E-02 | 5.25E-03 | 1.87E-03 | 1.00E-02 | 5.30E-03 | pCi/m3 |
| 9TP(264418002) - AP | 1-Oct-10 | BETA | 3.45E-02 | 4.18E-03 | 1.20E-03 | 1.00E-02 | 4.21E-03 | pCi/m3 |
| 9TP(264754002) - AP | 8-Oct-10 | BETA | 7.09E-02 | 6.96E-03 | 1.79E-03 | 1.00E-02 | 7.05E-03 | pCi/m3 |
| 9TP(265234002) - AP | 15-Oct-10 | BETA | 4.56E-02 | 5.14E-03 | 1.58E-03 | 1.00E-02 | 5.19E-03 | pCi/m3 |
| 9TP(265785002) - AP | 22-Oct-10 | BETA | 5.08E-02 | 5.55E-03 | 1.72E-03 | 1.00E-02 | 5.61E-03 | pCi/m3 |
| 9TP(266420002) - AP | 29-Oct-10 | BETA | 3.30E-02 | 4.20E-03 | 1.49E-03 | 1.00E-02 | 4.23E-03 | pCi/m3 |
| 9TP(267269002) - AP | 6-Nov-10 | BETA | 4.26E-02 | 4.66E-03 | 1.42E-03 | 1.00E-02 | 4.71E-03 | pCi/m3 |
| 9TP(267722002) - AP | 13-Nov-10 | BETA | 7.87E-02 | 7.29E-03 | 2.41E-03 | 1.00E-02 | 7.39E-03 | pCi/m3 |
| 9TP(267723002) - AP | 19-Nov-10 | BETA | 7.14E-02 | 6.87E-03 | 1.87E-03 | 1.00E-02 | 6.96E-03 | pCi/m3 |
| 9TP(268031002) - AP | 26-Nov-10 | BETA | 5.00E-02 | 5.33E-03 | 1.65E-03 | 1.00E-02 | 5.39E-03 | pCi/m3 |
| 9TP(268558002) - AP | 3-Dec-10 | BETA | 4.26E-02 | 5.02E-03 | 1.82E-03 | 1.00E-02 | 5.07E-03 | pCi/m3 |
| 9TP(268939002) - AP | 9-Dec-10 | BETA | 6.48E-02 | 6.00E-03 | 1.66E-03 | 1.00E-02 | 6.09E-03 | pCi/m3 |
| 9TP(269155002) - AP | 16-Dec-10 | BETA | 4.43E-02 | 5.01E-03 | 1.61E-03 | 1.00E-02 | 5.06E-03 | pCi/m3 |
| 9TP(270067002) - AP | 23-Dec-10 | BETA | 3.80E-02 | 4.63E-03 | 1.52E-03 | 1.00E-02 | 4.67E-03 | pCi/m3 |
| 9TP(251155002) - AP | 11-Feb-10 | Beryllium-7 | 1.44E-01 | 1.83E-02 | 6.43E-03 | | 1.85E-02 | pCi/m3 |
| 9TP(257264002) - AP | 13-May-10 | Beryllium-7 | 6.45E-02 | 9.90E-03 | 7.10E-03 | | 9.98E-03 | pCi/m3 |
| 9TP(265561002) - AP | 13-Aug-10 | Beryllium-7 | 1.67E-01 | 3.54E-02 | 2.41E-02 | | 3.55E-02 | pCi/m3 |
| 9TP(271358002) - AP | 12-Nov-10 | Beryllium-7 | 1.18E-01 | 2.85E-02 | 1.90E-02 | | 2.86E-02 | pCi/m3 |
| 9TP(251155002) - AP | 11-Feb-10 | Cesium-134 | -8.68E-06 | 3.97E-04 | 6.65E-04 | 5.00E-02 | 3.97E-04 | pCi/m3 |
| 9TP(257264002) - AP | 13-May-10 | Cesium-134 | -7.62E-05 | 2.30E-04 | 3.38E-04 | 5.00E-02 | 2.30E-04 | pCi/m3 |
| 9TP(265561002) - AP | 13-Aug-10 | Cesium-134 | -1.40E-04 | 7.04E-04 | 1.11E-03 | 5.00E-02 | 7.04E-04 | pCi/m3 |
| 9TP(271358002) - AP | 12-Nov-10 | Cesium-134 | 3.00E-04 | 5.80E-04 | 1.08E-03 | 5.00E-02 | 5.95E-04 | pCi/m3 |
| 9TP(251155002) - AP | 11-Feb-10 | Cesium-137 | -6.03E-04 | 4.02E-04 | 6.78E-04 | 6.00E-02 | 4.02E-04 | pCi/m3 |
| 9TP(257264002) - AP | 13-May-10 | Cesium-137 | 6.62E-06 | 1.64E-04 | 2.77E-04 | 6.00E-02 | 1.64E-04 | pCi/m3 |
| 9TP(265561002) - AP | 13-Aug-10 | Cesium-137 | -1.38E-06 | 4.91E-04 | 8.27E-04 | 6.00E-02 | 4.91E-04 | pCi/m3 |
| 9TP(271358002) - AP | 12-Nov-10 | Cesium-137 | 4.39E-06 | 4.77E-04 | 8.06E-04 | 6.00E-02 | 4.77E-04 | pCi/m3 |
| 9TP(251155002) - AP | 11-Feb-10 | Lead-210 | 1.56E-02 | 4.59E-03 | 2.67E-03 | | 4.60E-03 | pCi/m3 |

Apples
VG

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Apples(261558004) - VG | 22-Sep-10 | Cesium-134 | 4.91E+00 | 4.77E+00 | 8.50E+00 | 6.00E+01 | 4.77E+00 | pCi/kg |
| Apples(261558004) - VG | 22-Sep-10 | Cesium-137 | 7.46E-01 | 3.95E+00 | 6.72E+00 | 8.00E+01 | 3.95E+00 | pCi/kg |
| Apples(261558004) - VG | 22-Sep-10 | Iodine-131 | -4.32E+00 | 7.73E+00 | 1.22E+01 | 6.00E+01 | 7.73E+00 | pCi/kg |
| Apples(261558004) - VG | 22-Sep-10 | Potassium-40 | 1.17E+03 | 1.57E+02 | 7.15E+01 | | 1.57E+02 | pCi/kg |

Blueberries
VG

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Blueberries(257083001) - VG | 19-Jul-10 | Cesium-134 | 6.98E-02 | 3.61E+00 | 4.46E+00 | 6.00E+01 | 3.61E+00 | pCi/kg |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Blueberries(257083001) - VG | 19-Jul-10 | Cesium-137 | 2.86E+00 | 3.64E+00 | 5.23E+00 | 8.00E+01 | 3.64E+00 | pCi/kg |
| Blueberries(257083001) - VG | 19-Jul-10 | Iodine-131 | 1.49E+00 | 3.80E+00 | 6.52E+00 | 6.00E+01 | 3.80E+00 | pCi/kg |
| Blueberries(257083001) - VG | 19-Jul-10 | Potassium-40 | 6.61E+02 | 1.03E+02 | 3.72E+01 | | 1.03E+02 | pCi/kg |

Broadleaf Vegetation BV11
VG

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Broadleaf Vegetation BV11(255444007) - VG | 17-Jun-10 | Beryllium-7 | 6.07E+02 | 9.52E+01 | 6.31E+01 | | 9.52E+01 | pCi/kg |
| Broadleaf Vegetation BV11(257686001) - VG | 28-Jul-10 | Beryllium-7 | 1.64E+03 | 2.13E+02 | 9.35E+01 | | 2.13E+02 | pCi/kg |
| Broadleaf Vegetation BV11(259380001) - VG | 17-Aug-10 | Beryllium-7 | 1.43E+03 | 1.97E+02 | 1.06E+02 | | 1.97E+02 | pCi/kg |
| Broadleaf Vegetation BV11(261316001) - VG | 17-Sep-10 | Beryllium-7 | 2.48E+03 | 2.47E+02 | 5.67E+01 | | 2.47E+02 | pCi/kg |
| Broadleaf Vegetation BV11(254303001) - VG | 28-May-10 | Cesium-134 | 4.28E+00 | 8.02E+00 | 1.39E+01 | 6.00E+01 | 8.02E+00 | pCi/kg |
| Broadleaf Vegetation BV11(255444007) - VG | 17-Jun-10 | Cesium-134 | 7.92E-01 | 5.24E+00 | 8.81E+00 | 6.00E+01 | 5.24E+00 | pCi/kg |
| Broadleaf Vegetation BV11(257686001) - VG | 28-Jul-10 | Cesium-134 | 2.83E+00 | 8.79E+00 | 1.52E+01 | 6.00E+01 | 8.79E+00 | pCi/kg |
| Broadleaf Vegetation BV11(259380001) - VG | 17-Aug-10 | Cesium-134 | -1.08E-01 | 9.07E+00 | 1.53E+01 | 6.00E+01 | 9.07E+00 | pCi/kg |
| Broadleaf Vegetation BV11(261316001) - VG | 17-Sep-10 | Cesium-134 | 1.41E+00 | 5.20E+00 | 8.80E+00 | 6.00E+01 | 5.20E+00 | pCi/kg |
| Broadleaf Vegetation BV11(254303001) - VG | 28-May-10 | Cesium-137 | -4.58E+00 | 9.41E+00 | 1.24E+01 | 8.00E+01 | 9.41E+00 | pCi/kg |
| Broadleaf Vegetation BV11(255444007) - VG | 17-Jun-10 | Cesium-137 | 3.88E+00 | 4.46E+00 | 7.82E+00 | 8.00E+01 | 4.46E+00 | pCi/kg |
| Broadleaf Vegetation BV11(257686001) - VG | 28-Jul-10 | Cesium-137 | -2.68E-01 | 1.06E+01 | 1.52E+01 | 8.00E+01 | 1.06E+01 | pCi/kg |
| Broadleaf Vegetation BV11(259380001) - VG | 17-Aug-10 | Cesium-137 | 2.98E+00 | 7.79E+00 | 1.36E+01 | 8.00E+01 | 7.79E+00 | pCi/kg |
| Broadleaf Vegetation BV11(261316001) - VG | 17-Sep-10 | Cesium-137 | 7.84E+00 | 4.34E+00 | 7.82E+00 | 8.00E+01 | 4.34E+00 | pCi/kg |
| Broadleaf Vegetation BV11(254303001) - VG | 28-May-10 | Iodine-131 | -1.93E+01 | 3.82E+01 | 6.30E+01 | 6.00E+01 | 3.82E+01 | pCi/kg |
| Broadleaf Vegetation BV11(255444007) - VG | 17-Jun-10 | Iodine-131 | 3.31E+00 | 1.48E+01 | 2.49E+01 | 6.00E+01 | 1.48E+01 | pCi/kg |
| Broadleaf Vegetation BV11(257686001) - VG | 28-Jul-10 | Iodine-131 | 1.25E+00 | 1.26E+01 | 2.14E+01 | 6.00E+01 | 1.26E+01 | pCi/kg |
| Broadleaf Vegetation BV11(259380001) - VG | 17-Aug-10 | Iodine-131 | 5.63E+00 | 1.32E+01 | 2.26E+01 | 6.00E+01 | 1.32E+01 | pCi/kg |
| Broadleaf Vegetation BV11(261316001) - VG | 17-Sep-10 | Iodine-131 | 2.61E+00 | 6.90E+00 | 1.17E+01 | 6.00E+01 | 6.90E+00 | pCi/kg |
| Broadleaf Vegetation BV11(254303001) - VG | 28-May-10 | Potassium-40 | 3.26E+03 | 3.49E+02 | 9.70E+01 | | 3.49E+02 | pCi/kg |
| Broadleaf Vegetation BV11(255444007) - VG | 17-Jun-10 | Potassium-40 | 3.11E+03 | 3.36E+02 | 6.49E+01 | | 3.36E+02 | pCi/kg |
| Broadleaf Vegetation BV11(257686001) - VG | 28-Jul-10 | Potassium-40 | 5.08E+03 | 5.81E+02 | 1.44E+02 | | 5.81E+02 | pCi/kg |
| Broadleaf Vegetation BV11(259380001) - VG | 17-Aug-10 | Potassium-40 | 4.76E+03 | 5.23E+02 | 1.30E+02 | | 5.23E+02 | pCi/kg |
| Broadleaf Vegetation BV11(261316001) - VG | 17-Sep-10 | Potassium-40 | 6.98E+03 | 6.67E+02 | 6.47E+01 | | 6.67E+02 | pCi/kg |

Broadleaf Vegetation BV12
VG

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Broadleaf Vegetation BV12(261316002) - VG | 17-Sep-10 | Actinium-228 | 1.96E+02 | 4.94E+01 | 3.55E+01 | | 4.94E+01 | pCi/kg |
| Broadleaf Vegetation BV12(254303002) - VG | 28-May-10 | Beryllium-7 | 4.80E+02 | 1.17E+02 | 9.44E+01 | | 1.17E+02 | pCi/kg |
| Broadleaf Vegetation BV12(255444008) - VG | 17-Jun-10 | Beryllium-7 | 1.74E+03 | 1.95E+02 | 9.23E+01 | | 1.95E+02 | pCi/kg |
| Broadleaf Vegetation BV12(257686002) - VG | 28-Jul-10 | Beryllium-7 | 3.46E+03 | 3.68E+02 | 9.22E+01 | | 3.68E+02 | pCi/kg |
| Broadleaf Vegetation BV12(259380002) - VG | 17-Aug-10 | Beryllium-7 | 8.62E+02 | 1.36E+02 | 8.46E+01 | | 1.36E+02 | pCi/kg |
| Broadleaf Vegetation BV12(261316002) - VG | 17-Sep-10 | Beryllium-7 | 2.90E+03 | 2.95E+02 | 7.80E+01 | | 2.95E+02 | pCi/kg |
| Broadleaf Vegetation BV12(254303002) - VG | 28-May-10 | Cesium-134 | -4.65E-01 | 7.67E+00 | 1.29E+01 | 6.00E+01 | 7.67E+00 | pCi/kg |
| Broadleaf Vegetation BV12(255444008) - VG | 17-Jun-10 | Cesium-134 | 4.60E+00 | 8.17E+00 | 1.40E+01 | 6.00E+01 | 8.17E+00 | pCi/kg |
| Broadleaf Vegetation BV12(257686002) - VG | 28-Jul-10 | Cesium-134 | 7.71E+00 | 8.37E+00 | 1.45E+01 | 6.00E+01 | 8.37E+00 | pCi/kg |
| Broadleaf Vegetation BV12(259380002) - VG | 17-Aug-10 | Cesium-134 | 7.82E+00 | 9.36E+00 | 1.33E+01 | 6.00E+01 | 9.36E+00 | pCi/kg |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Broadleaf Vegetation BV12(261316002) - VG | 17-Sep-10 | Cesium-134 | *1.24E+01 | 1.08E+01 | 1.23E+01 | 6.00E+01 | 1.08E+01 | pCi/kg |
| Broadleaf Vegetation BV12(254303002) - VG | 28-May-10 | Cesium-137 | 2.40E+01 | 1.41E+01 | 9.43E+00 | 8.00E+01 | 1.41E+01 | pCi/kg |
| Broadleaf Vegetation BV12(255444008) - VG | 17-Jun-10 | Cesium-137 | 2.83E+01 | 1.02E+01 | 1.07E+01 | 8.00E+01 | 1.02E+01 | pCi/kg |
| Broadleaf Vegetation BV12(257686002) - VG | 28-Jul-10 | Cesium-137 | 4.97E+01 | 1.45E+01 | 9.73E+00 | 8.00E+01 | 1.45E+01 | pCi/kg |
| Broadleaf Vegetation BV12(259380002) - VG | 17-Aug-10 | Cesium-137 | 4.65E-01 | 7.59E+00 | 1.05E+01 | 8.00E+01 | 7.59E+00 | pCi/kg |
| Broadleaf Vegetation BV12(261316002) - VG | 17-Sep-10 | Cesium-137 | 3.50E+01 | 9.64E+00 | 9.61E+00 | 8.00E+01 | 9.64E+00 | pCi/kg |
| Broadleaf Vegetation BV12(254303002) - VG | 28-May-10 | Iodine-131 | 2.86E+01 | 3.27E+01 | 5.72E+01 | 6.00E+01 | 3.27E+01 | pCi/kg |
| Broadleaf Vegetation BV12(255444008) - VG | 17-Jun-10 | Iodine-131 | -6.50E+00 | 2.10E+01 | 3.49E+01 | 6.00E+01 | 2.10E+01 | pCi/kg |
| Broadleaf Vegetation BV12(257686002) - VG | 28-Jul-10 | Iodine-131 | -5.23E+00 | 1.01E+01 | 1.68E+01 | 6.00E+01 | 1.01E+01 | pCi/kg |
| Broadleaf Vegetation BV12(259380002) - VG | 17-Aug-10 | Iodine-131 | -3.07E+00 | 9.99E+00 | 1.64E+01 | 6.00E+01 | 9.99E+00 | pCi/kg |
| Broadleaf Vegetation BV12(261316002) - VG | 17-Sep-10 | Iodine-131 | -1.20E+01 | 9.94E+00 | 1.56E+01 | 6.00E+01 | 9.94E+00 | pCi/kg |
| Broadleaf Vegetation BV12(254303002) - VG | 28-May-10 | Potassium-40 | 4.84E+03 | 5.21E+02 | 8.81E+01 | | 5.21E+02 | pCi/kg |
| Broadleaf Vegetation BV12(255444008) - VG | 17-Jun-10 | Potassium-40 | 4.66E+03 | 5.22E+02 | 1.05E+02 | | 5.22E+02 | pCi/kg |
| Broadleaf Vegetation BV12(257686002) - VG | 28-Jul-10 | Potassium-40 | 3.98E+03 | 4.12E+02 | 1.11E+02 | | 4.12E+02 | pCi/kg |
| Broadleaf Vegetation BV12(259380002) - VG | 17-Aug-10 | Potassium-40 | 2.26E+03 | 2.95E+02 | 9.81E+01 | | 2.95E+02 | pCi/kg |
| Broadleaf Vegetation BV12(261316002) - VG | 17-Sep-10 | Potassium-40 | 4.10E+03 | 4.51E+02 | 8.52E+01 | | 4.51E+02 | pCi/kg |
| Broadleaf Vegetation BV12(261316002) - VG | 17-Sep-10 | Radium-228 | 1.96E+02 | 4.94E+01 | 3.55E+01 | | 4.94E+01 | pCi/kg |
| Broadleaf Vegetation BV12(261316002) - VG | 17-Sep-10 | Thorium-232 | 1.96E+02 | 4.94E+01 | 3.55E+01 | | 4.94E+01 | pCi/kg |

* Not a valid positive result

Broadleaf Vegetation BV13

VG

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Broadleaf Vegetation BV13(254303003) - VG | 28-May-10 | Beryllium-7 | 7.16E+02 | 1.66E+02 | 1.18E+02 | | 1.66E+02 | pCi/kg |
| Broadleaf Vegetation BV13(255444009) - VG | 17-Jun-10 | Beryllium-7 | 6.21E+02 | 7.92E+01 | 4.95E+01 | | 7.92E+01 | pCi/kg |
| Broadleaf Vegetation BV13(257686003) - VG | 28-Jul-10 | Beryllium-7 | 9.64E+02 | 1.65E+02 | 9.42E+01 | | 1.65E+02 | pCi/kg |
| Broadleaf Vegetation BV13(259380003) - VG | 17-Aug-10 | Beryllium-7 | 3.34E+03 | 3.64E+02 | 1.34E+02 | | 3.64E+02 | pCi/kg |
| Broadleaf Vegetation BV13(261316003) - VG | 17-Sep-10 | Beryllium-7 | 1.32E+03 | 1.49E+02 | 6.24E+01 | | 1.49E+02 | pCi/kg |
| Broadleaf Vegetation BV13(254303003) - VG | 28-May-10 | Cesium-134 | -5.25E+00 | 1.26E+01 | 1.40E+01 | 6.00E+01 | 1.26E+01 | pCi/kg |
| Broadleaf Vegetation BV13(255444009) - VG | 17-Jun-10 | Cesium-134 | 1.35E+00 | 4.22E+00 | 7.11E+00 | 6.00E+01 | 4.22E+00 | pCi/kg |
| Broadleaf Vegetation BV13(257686003) - VG | 28-Jul-10 | Cesium-134 | 1.15E+01 | 9.56E+00 | 1.77E+01 | 6.00E+01 | 9.56E+00 | pCi/kg |
| Broadleaf Vegetation BV13(259380003) - VG | 17-Aug-10 | Cesium-134 | -7.50E+00 | 1.17E+01 | 1.86E+01 | 6.00E+01 | 1.17E+01 | pCi/kg |
| Broadleaf Vegetation BV13(261316003) - VG | 17-Sep-10 | Cesium-134 | 3.26E+00 | 5.49E+00 | 9.42E+00 | 6.00E+01 | 5.49E+00 | pCi/kg |
| Broadleaf Vegetation BV13(254303003) - VG | 28-May-10 | Cesium-137 | 3.35E+01 | 1.57E+01 | 1.22E+01 | 8.00E+01 | 1.57E+01 | pCi/kg |
| Broadleaf Vegetation BV13(255444009) - VG | 17-Jun-10 | Cesium-137 | 2.05E-01 | 3.52E+00 | 5.92E+00 | 8.00E+01 | 3.52E+00 | pCi/kg |
| Broadleaf Vegetation BV13(257686003) - VG | 28-Jul-10 | Cesium-137 | -6.34E-01 | 8.58E+00 | 1.40E+01 | 8.00E+01 | 8.58E+00 | pCi/kg |
| Broadleaf Vegetation BV13(259380003) - VG | 17-Aug-10 | Cesium-137 | 1.92E+01 | 1.78E+01 | 1.62E+01 | 8.00E+01 | 1.78E+01 | pCi/kg |
| Broadleaf Vegetation BV13(261316003) - VG | 17-Sep-10 | Cesium-137 | 3.22E+00 | 4.70E+00 | 8.17E+00 | 8.00E+01 | 4.70E+00 | pCi/kg |
| Broadleaf Vegetation BV13(254303003) - VG | 28-May-10 | Iodine-131 | 9.75E+00 | 4.32E+01 | 7.26E+01 | 6.00E+01 | 4.32E+01 | pCi/kg |
| Broadleaf Vegetation BV13(255444009) - VG | 17-Jun-10 | Iodine-131 | -5.69E+00 | 1.16E+01 | 1.86E+01 | 6.00E+01 | 1.16E+01 | pCi/kg |
| Broadleaf Vegetation BV13(257686003) - VG | 28-Jul-10 | Iodine-131 | -9.54E+00 | 1.11E+01 | 1.80E+01 | 6.00E+01 | 1.11E+01 | pCi/kg |
| Broadleaf Vegetation BV13(259380003) - VG | 17-Aug-10 | Iodine-131 | -1.52E+01 | 1.88E+01 | 3.04E+01 | 6.00E+01 | 1.88E+01 | pCi/kg |
| Broadleaf Vegetation BV13(261316003) - VG | 17-Sep-10 | Iodine-131 | 1.25E+00 | 7.72E+00 | 1.29E+01 | 6.00E+01 | 7.72E+00 | pCi/kg |
| Broadleaf Vegetation BV13(254303003) - VG | 28-May-10 | Potassium-40 | 2.76E+03 | 3.40E+02 | 1.21E+02 | | 3.40E+02 | pCi/kg |
| Broadleaf Vegetation BV13(255444009) - VG | 17-Jun-10 | Potassium-40 | 6.85E+03 | 6.20E+02 | 5.14E+01 | | 6.20E+02 | pCi/kg |
| Broadleaf Vegetation BV13(257686003) - VG | 28-Jul-10 | Potassium-40 | 2.55E+03 | 3.28E+02 | 1.27E+02 | | 3.28E+02 | pCi/kg |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Broadleaf Vegetation BV13(259380003) - VG | 17-Aug-10 | Potassium-40 | 5.88E+03 | 7.12E+02 | 1.69E+02 | | 7.12E+02 | pCi/kg |
| Broadleaf Vegetation BV13(261316003) - VG | 17-Sep-10 | Potassium-40 | 2.26E+03 | 2.67E+02 | 8.46E+01 | | 2.67E+02 | pCi/kg |

Broadleaf Vegetation BV21
VG

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Broadleaf Vegetation BV21(257686004) - VG | 28-Jul-10 | Beryllium-7 | 2.65E+03 | 2.71E+02 | 7.10E+01 | | 2.71E+02 | pCi/kg |
| Broadleaf Vegetation BV21(259380004) - VG | 17-Aug-10 | Beryllium-7 | 9.17E+02 | 1.32E+02 | 8.53E+01 | | 1.32E+02 | pCi/kg |
| Broadleaf Vegetation BV21(261316004) - VG | 17-Sep-10 | Beryllium-7 | 8.57E+03 | 8.15E+02 | 6.40E+01 | | 8.15E+02 | pCi/kg |
| Broadleaf Vegetation BV21(254303004) - VG | 28-May-10 | Cesium-134 | 5.95E+00 | 7.21E+00 | 1.27E+01 | 6.00E+01 | 7.21E+00 | pCi/kg |
| Broadleaf Vegetation BV21(255444004) - VG | 17-Jun-10 | Cesium-134 | -4.12E-02 | 5.74E+00 | 9.77E+00 | 6.00E+01 | 5.74E+00 | pCi/kg |
| Broadleaf Vegetation BV21(257686004) - VG | 28-Jul-10 | Cesium-134 | 1.44E+00 | 6.00E+00 | 1.01E+01 | 6.00E+01 | 6.00E+00 | pCi/kg |
| Broadleaf Vegetation BV21(259380004) - VG | 17-Aug-10 | Cesium-134 | 1.13E+00 | 6.90E+00 | 1.16E+01 | 6.00E+01 | 6.90E+00 | pCi/kg |
| Broadleaf Vegetation BV21(261316004) - VG | 17-Sep-10 | Cesium-134 | -8.64E-01 | 5.22E+00 | 8.46E+00 | 6.00E+01 | 5.22E+00 | pCi/kg |
| Broadleaf Vegetation BV21(254303004) - VG | 28-May-10 | Cesium-137 | 4.43E-01 | 6.04E+00 | 1.03E+01 | 8.00E+01 | 6.04E+00 | pCi/kg |
| Broadleaf Vegetation BV21(255444004) - VG | 17-Jun-10 | Cesium-137 | 8.62E-01 | 4.84E+00 | 8.40E+00 | 8.00E+01 | 4.84E+00 | pCi/kg |
| Broadleaf Vegetation BV21(257686004) - VG | 28-Jul-10 | Cesium-137 | 2.08E+01 | 1.06E+01 | 8.69E+00 | 8.00E+01 | 1.06E+01 | pCi/kg |
| Broadleaf Vegetation BV21(259380004) - VG | 17-Aug-10 | Cesium-137 | 8.55E+00 | 6.46E+00 | 1.17E+01 | 8.00E+01 | 6.46E+00 | pCi/kg |
| Broadleaf Vegetation BV21(261316004) - VG | 17-Sep-10 | Cesium-137 | 1.26E+01 | 7.56E+00 | 6.82E+00 | 8.00E+01 | 7.56E+00 | pCi/kg |
| Broadleaf Vegetation BV21(254303004) - VG | 28-May-10 | Iodine-131 | 1.53E+01 | 3.43E+01 | 5.83E+01 | 6.00E+01 | 3.43E+01 | pCi/kg |
| Broadleaf Vegetation BV21(255444004) - VG | 17-Jun-10 | Iodine-131 | -1.96E+01 | 2.31E+01 | 3.75E+01 | 6.00E+01 | 2.31E+01 | pCi/kg |
| Broadleaf Vegetation BV21(257686004) - VG | 28-Jul-10 | Iodine-131 | 2.39E+00 | 8.19E+00 | 1.36E+01 | 6.00E+01 | 8.19E+00 | pCi/kg |
| Broadleaf Vegetation BV21(259380004) - VG | 17-Aug-10 | Iodine-131 | -6.36E+00 | 1.14E+01 | 1.83E+01 | 6.00E+01 | 1.14E+01 | pCi/kg |
| Broadleaf Vegetation BV21(261316004) - VG | 17-Sep-10 | Iodine-131 | -4.12E+00 | 8.21E+00 | 1.30E+01 | 6.00E+01 | 8.21E+00 | pCi/kg |
| Broadleaf Vegetation BV21(254303004) - VG | 28-May-10 | Potassium-40 | 2.87E+03 | 3.33E+02 | 8.95E+01 | | 3.33E+02 | pCi/kg |
| Broadleaf Vegetation BV21(257686004) - VG | 28-Jul-10 | Potassium-40 | 6.89E+03 | 6.58E+02 | 8.51E+01 | | 6.58E+02 | pCi/kg |
| Broadleaf Vegetation BV21(259380004) - VG | 17-Aug-10 | Potassium-40 | 1.78E+03 | 2.69E+02 | 9.53E+01 | | 2.69E+02 | pCi/kg |
| Broadleaf Vegetation BV21(261316004) - VG | 17-Sep-10 | Potassium-40 | 1.77E+03 | 2.27E+02 | 6.69E+01 | | 2.27E+02 | pCi/kg |

Broadleaf Vegetation BV22
VG

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Broadleaf Vegetation BV22(254303005) - VG | 28-May-10 | Beryllium-7 | 1.15E+03 | 1.56E+02 | 8.46E+01 | | 1.56E+02 | pCi/kg |
| Broadleaf Vegetation BV22(255444005) - VG | 17-Jun-10 | Beryllium-7 | 3.49E+03 | 3.61E+02 | 1.04E+02 | | 3.61E+02 | pCi/kg |
| Broadleaf Vegetation BV22(257686005) - VG | 28-Jul-10 | Beryllium-7 | 2.40E+03 | 2.60E+02 | 7.73E+01 | | 2.60E+02 | pCi/kg |
| Broadleaf Vegetation BV22(259380005) - VG | 17-Aug-10 | Beryllium-7 | 1.82E+03 | 2.33E+02 | 1.09E+02 | | 2.33E+02 | pCi/kg |
| Broadleaf Vegetation BV22(261316005) - VG | 17-Sep-10 | Beryllium-7 | 2.05E+03 | 2.36E+02 | 9.78E+01 | | 2.36E+02 | pCi/kg |
| Broadleaf Vegetation BV22(254303005) - VG | 28-May-10 | Cesium-134 | -5.67E-01 | 5.79E+00 | 9.70E+00 | 6.00E+01 | 5.79E+00 | pCi/kg |
| Broadleaf Vegetation BV22(255444005) - VG | 17-Jun-10 | Cesium-134 | 2.25E+00 | 7.78E+00 | 1.31E+01 | 6.00E+01 | 7.78E+00 | pCi/kg |
| Broadleaf Vegetation BV22(257686005) - VG | 28-Jul-10 | Cesium-134 | 4.33E+00 | 7.26E+00 | 1.26E+01 | 6.00E+01 | 7.26E+00 | pCi/kg |
| Broadleaf Vegetation BV22(259380005) - VG | 17-Aug-10 | Cesium-134 | 4.39E+00 | 9.11E+00 | 1.59E+01 | 6.00E+01 | 9.11E+00 | pCi/kg |
| Broadleaf Vegetation BV22(261316005) - VG | 17-Sep-10 | Cesium-134 | 5.39E+00 | 7.25E+00 | 1.24E+01 | 6.00E+01 | 7.25E+00 | pCi/kg |
| Broadleaf Vegetation BV22(254303005) - VG | 28-May-10 | Cesium-137 | 1.18E+02 | 1.56E+01 | 8.40E+00 | 8.00E+01 | 1.56E+01 | pCi/kg |
| Broadleaf Vegetation BV22(255444005) - VG | 17-Jun-10 | Cesium-137 | 1.02E+01 | 6.89E+00 | 1.23E+01 | 8.00E+01 | 6.89E+00 | pCi/kg |
| Broadleaf Vegetation BV22(257686005) - VG | 28-Jul-10 | Cesium-137 | 1.82E+01 | 1.08E+01 | 1.02E+01 | 8.00E+01 | 1.08E+01 | pCi/kg |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Broadleaf Vegetation BV22(259380005) - VG | 17-Aug-10 | Cesium-137 | 2.80E+00 | 7.20E+00 | 1.26E+01 | 8.00E+01 | 7.20E+00 | pCi/kg |
| Broadleaf Vegetation BV22(261316005) - VG | 17-Sep-10 | Cesium-137 | 4.67E+02 | 4.91E+01 | 1.07E+01 | 8.00E+01 | 4.91E+01 | pCi/kg |
| Broadleaf Vegetation BV22(254303005) - VG | 28-May-10 | Iodine-131 | -1.85E+01 | 3.00E+01 | 4.90E+01 | 6.00E+01 | 3.00E+01 | pCi/kg |
| Broadleaf Vegetation BV22(255444005) - VG | 17-Jun-10 | Iodine-131 | -9.48E+00 | 2.34E+01 | 3.81E+01 | 6.00E+01 | 2.34E+01 | pCi/kg |
| Broadleaf Vegetation BV22(257686005) - VG | 28-Jul-10 | Iodine-131 | 1.02E+01 | 1.01E+01 | 1.76E+01 | 6.00E+01 | 1.01E+01 | pCi/kg |
| Broadleaf Vegetation BV22(259380005) - VG | 17-Aug-10 | Iodine-131 | 3.93E-01 | 1.35E+01 | 2.28E+01 | 6.00E+01 | 1.35E+01 | pCi/kg |
| Broadleaf Vegetation BV22(261316005) - VG | 17-Sep-10 | Iodine-131 | 4.94E+00 | 1.05E+01 | 1.81E+01 | 6.00E+01 | 1.05E+01 | pCi/kg |
| Broadleaf Vegetation BV22(254303005) - VG | 28-May-10 | Potassium-40 | 2.52E+03 | 2.92E+02 | 7.56E+01 | | 2.92E+02 | pCi/kg |
| Broadleaf Vegetation BV22(255444005) - VG | 17-Jun-10 | Potassium-40 | 6.76E+03 | 7.00E+02 | 1.02E+02 | | 7.00E+02 | pCi/kg |
| Broadleaf Vegetation BV22(257686005) - VG | 28-Jul-10 | Potassium-40 | 4.98E+03 | 5.20E+02 | 8.64E+01 | | 5.20E+02 | pCi/kg |
| Broadleaf Vegetation BV22(259380005) - VG | 17-Aug-10 | Potassium-40 | 3.64E+03 | 4.36E+02 | 1.22E+02 | | 4.36E+02 | pCi/kg |
| Broadleaf Vegetation BV22(261316005) - VG | 17-Sep-10 | Potassium-40 | 4.63E+03 | 4.69E+02 | 9.23E+01 | | 4.69E+02 | pCi/kg |

Broadleaf Vegetation BV23
VG

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Broadleaf Vegetation BV23(259380006) - VG | 17-Aug-10 | Actinium-228 | 1.62E+02 | 5.77E+01 | 4.11E+01 | | 5.77E+01 | pCi/kg |
| Broadleaf Vegetation BV23(254303006) - VG | 28-May-10 | Beryllium-7 | 5.98E+02 | 1.16E+02 | 9.58E+01 | | 1.16E+02 | pCi/kg |
| Broadleaf Vegetation BV23(255444006) - VG | 17-Jun-10 | Beryllium-7 | 4.51E+02 | 1.07E+02 | 7.46E+01 | | 1.07E+02 | pCi/kg |
| Broadleaf Vegetation BV23(257686006) - VG | 28-Jul-10 | Beryllium-7 | 1.67E+03 | 2.15E+02 | 9.67E+01 | | 2.15E+02 | pCi/kg |
| Broadleaf Vegetation BV23(259380006) - VG | 17-Aug-10 | Beryllium-7 | 3.12E+03 | 3.38E+02 | 8.99E+01 | | 3.38E+02 | pCi/kg |
| Broadleaf Vegetation BV23(261316006) - VG | 17-Sep-10 | Beryllium-7 | 2.85E+03 | 3.18E+02 | 8.17E+01 | | 3.18E+02 | pCi/kg |
| Broadleaf Vegetation BV23(254303006) - VG | 28-May-10 | Cesium-134 | 4.31E+00 | 6.99E+00 | 1.21E+01 | 6.00E+01 | 6.99E+00 | pCi/kg |
| Broadleaf Vegetation BV23(255444006) - VG | 17-Jun-10 | Cesium-134 | -1.95E+00 | 6.08E+00 | 1.01E+01 | 6.00E+01 | 6.08E+00 | pCi/kg |
| Broadleaf Vegetation BV23(257686006) - VG | 28-Jul-10 | Cesium-134 | 3.88E+00 | 8.78E+00 | 1.53E+01 | 6.00E+01 | 8.78E+00 | pCi/kg |
| Broadleaf Vegetation BV23(259380006) - VG | 17-Aug-10 | Cesium-134 | 1.14E+01 | 9.48E+00 | 1.67E+01 | 6.00E+01 | 9.48E+00 | pCi/kg |
| Broadleaf Vegetation BV23(261316006) - VG | 17-Sep-10 | Cesium-134 | 3.48E-01 | 8.10E+00 | 1.39E+01 | 6.00E+01 | 8.10E+00 | pCi/kg |
| Broadleaf Vegetation BV23(254303006) - VG | 28-May-10 | Cesium-137 | 1.40E+01 | 8.01E+00 | 1.02E+01 | 8.00E+01 | 8.01E+00 | pCi/kg |
| Broadleaf Vegetation BV23(255444006) - VG | 17-Jun-10 | Cesium-137 | -1.53E+00 | 4.95E+00 | 8.33E+00 | 8.00E+01 | 4.95E+00 | pCi/kg |
| Broadleaf Vegetation BV23(257686006) - VG | 28-Jul-10 | Cesium-137 | -1.83E+00 | 8.78E+00 | 1.26E+01 | 8.00E+01 | 8.78E+00 | pCi/kg |
| Broadleaf Vegetation BV23(259380006) - VG | 17-Aug-10 | Cesium-137 | 5.89E+01 | 1.61E+01 | 1.13E+01 | 8.00E+01 | 1.61E+01 | pCi/kg |
| Broadleaf Vegetation BV23(261316006) - VG | 17-Sep-10 | Cesium-137 | 2.38E+01 | 1.35E+01 | 1.11E+01 | 8.00E+01 | 1.35E+01 | pCi/kg |
| Broadleaf Vegetation BV23(254303006) - VG | 28-May-10 | Iodine-131 | 1.06E+01 | 3.12E+01 | 5.27E+01 | 6.00E+01 | 3.12E+01 | pCi/kg |
| Broadleaf Vegetation BV23(255444006) - VG | 17-Jun-10 | Iodine-131 | 1.81E+01 | 1.72E+01 | 2.99E+01 | 6.00E+01 | 1.72E+01 | pCi/kg |
| Broadleaf Vegetation BV23(257686006) - VG | 28-Jul-10 | Iodine-131 | 3.21E+00 | 1.28E+01 | 2.18E+01 | 6.00E+01 | 1.28E+01 | pCi/kg |
| Broadleaf Vegetation BV23(259380006) - VG | 17-Aug-10 | Iodine-131 | -8.74E+00 | 1.39E+01 | 2.17E+01 | 6.00E+01 | 1.39E+01 | pCi/kg |
| Broadleaf Vegetation BV23(261316006) - VG | 17-Sep-10 | Iodine-131 | -3.19E+00 | 9.80E+00 | 1.65E+01 | 6.00E+01 | 9.80E+00 | pCi/kg |
| Broadleaf Vegetation BV23(254303006) - VG | 28-May-10 | Potassium-40 | 4.79E+03 | 4.93E+02 | 8.95E+01 | | 4.93E+02 | pCi/kg |
| Broadleaf Vegetation BV23(255444006) - VG | 17-Jun-10 | Potassium-40 | 4.60E+03 | 4.67E+02 | 7.55E+01 | | 4.67E+02 | pCi/kg |
| Broadleaf Vegetation BV23(257686006) - VG | 28-Jul-10 | Potassium-40 | 4.54E+03 | 5.13E+02 | 1.17E+02 | | 5.13E+02 | pCi/kg |
| Broadleaf Vegetation BV23(259380006) - VG | 17-Aug-10 | Potassium-40 | 4.31E+03 | 4.72E+02 | 1.23E+02 | | 4.72E+02 | pCi/kg |
| Broadleaf Vegetation BV23(261316006) - VG | 17-Sep-10 | Potassium-40 | 2.75E+03 | 3.16E+02 | 1.16E+02 | | 3.16E+02 | pCi/kg |

Broadleaf Vegetation Control BVC1
VG

# REMP Year End Report for PALI for 2010
## Palisades REMP

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Broadleaf Vegetation Control BVC1(254303007) - VG | 28-May-10 | Beryllium-7 | 6.35E+02 | 9.78E+01 | 5.71E+01 | | 9.78E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC1(255444001) - VG | 17-Jun-10 | Beryllium-7 | 9.83E+02 | 1.07E+02 | 4.63E+01 | | 1.07E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC1(257686007) - VG | 28-Jul-10 | Beryllium-7 | 2.10E+03 | 2.89E+02 | 1.35E+02 | | 2.89E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC1(259380007) - VG | 17-Aug-10 | Beryllium-7 | 3.54E+03 | 3.48E+02 | 7.04E+01 | | 3.48E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC1(261558001) - VG | 20-Sep-10 | Beryllium-7 | 1.56E+03 | 1.99E+02 | 1.09E+02 | | 1.99E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC1(254303007) - VG | 28-May-10 | Cesium-134 | 5.86E+00 | 4.69E+00 | 8.49E+00 | 6.00E+01 | 4.69E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC1(255444001) - VG | 17-Jun-10 | Cesium-134 | -4.63E-01 | 3.94E+00 | 6.56E+00 | 6.00E+01 | 3.94E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC1(257686007) - VG | 28-Jul-10 | Cesium-134 | 8.83E+00 | 1.23E+01 | 2.21E+01 | 6.00E+01 | 1.23E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC1(259380007) - VG | 17-Aug-10 | Cesium-134 | 3.71E+00 | 8.20E+00 | 1.16E+01 | 6.00E+01 | 8.20E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC1(261558001) - VG | 20-Sep-10 | Cesium-134 | -3.13E+00 | 8.64E+00 | 1.43E+01 | 6.00E+01 | 8.64E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC1(254303007) - VG | 28-May-10 | Cesium-137 | 2.67E+00 | 3.64E+00 | 6.26E+00 | 8.00E+01 | 3.64E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC1(255444001) - VG | 17-Jun-10 | Cesium-137 | -7.35E-01 | 3.21E+00 | 5.39E+00 | 8.00E+01 | 3.21E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC1(257686007) - VG | 28-Jul-10 | Cesium-137 | 1.73E+01 | 1.09E+01 | 1.96E+01 | 8.00E+01 | 1.09E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC1(259380007) - VG | 17-Aug-10 | Cesium-137 | -2.56E+00 | 6.66E+00 | 9.21E+00 | 8.00E+01 | 6.66E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC1(261558001) - VG | 20-Sep-10 | Cesium-137 | -1.35E+00 | 7.65E+00 | 1.30E+01 | 8.00E+01 | 7.65E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC1(254303007) - VG | 28-May-10 | Iodine-131 | -3.10E+00 | 1.96E+01 | 3.37E+01 | 6.00E+01 | 1.96E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC1(255444001) - VG | 17-Jun-10 | Iodine-131 | -1.89E+00 | 1.03E+01 | 1.71E+01 | 6.00E+01 | 1.03E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC1(257686007) - VG | 28-Jul-10 | Iodine-131 | 8.18E+00 | 1.64E+01 | 2.87E+01 | 6.00E+01 | 1.64E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC1(259380007) - VG | 17-Aug-10 | Iodine-131 | 6.50E+00 | 9.51E+00 | 1.63E+01 | 6.00E+01 | 9.51E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC1(261558001) - VG | 20-Sep-10 | Iodine-131 | -3.51E+00 | 1.58E+01 | 2.64E+01 | 6.00E+01 | 1.58E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC1(254303007) - VG | 28-May-10 | Potassium-40 | 7.50E+03 | 6.85E+02 | 5.16E+01 | | 6.85E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC1(255444001) - VG | 17-Jun-10 | Potassium-40 | 5.40E+03 | 4.93E+02 | 5.00E+01 | | 4.93E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC1(257686007) - VG | 28-Jul-10 | Potassium-40 | 7.42E+03 | 7.78E+02 | 1.73E+02 | | 7.78E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC1(259380007) - VG | 17-Aug-10 | Potassium-40 | 6.41E+03 | 6.30E+02 | 7.71E+01 | | 6.30E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC1(261558001) - VG | 20-Sep-10 | Potassium-40 | 3.00E+03 | 3.67E+02 | 9.78E+01 | | 3.67E+02 | pCi/kg |

Broadleaf Vegetation Control BVC2
VG

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Broadleaf Vegetation Control BVC2(254303008) - VG | 28-May-10 | Beryllium-7 | 9.14E+02 | 1.42E+02 | 8.44E+01 | | 1.42E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC2(255444002) - VG | 17-Jun-10 | Beryllium-7 | 1.39E+03 | 1.54E+02 | 6.04E+01 | | 1.54E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC2(257686008) - VG | 28-Jul-10 | Beryllium-7 | 1.03E+03 | 1.46E+02 | 8.13E+01 | | 1.46E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC2(259380008) - VG | 17-Aug-10 | Beryllium-7 | 2.03E+03 | 2.41E+02 | 8.90E+01 | | 2.41E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC2(261558002) - VG | 20-Sep-10 | Beryllium-7 | 1.75E+03 | 2.32E+02 | 9.55E+01 | | 2.32E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC2(254303008) - VG | 28-May-10 | Cesium-134 | 5.00E+00 | 7.45E+00 | 1.32E+01 | 6.00E+01 | 7.45E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC2(255444002) - VG | 17-Jun-10 | Cesium-134 | -4.68E+00 | 8.08E+00 | 8.33E+00 | 6.00E+01 | 8.08E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC2(257686008) - VG | 28-Jul-10 | Cesium-134 | -4.59E-02 | 7.67E+00 | 1.30E+01 | 6.00E+01 | 7.67E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC2(259380008) - VG | 17-Aug-10 | Cesium-134 | 3.33E+00 | 8.12E+00 | 1.38E+01 | 6.00E+01 | 8.12E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC2(261558002) - VG | 20-Sep-10 | Cesium-134 | 6.24E+00 | 8.48E+00 | 1.53E+01 | 6.00E+01 | 8.48E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC2(254303008) - VG | 28-May-10 | Cesium-137 | 6.07E+00 | 5.87E+00 | 1.02E+01 | 8.00E+01 | 5.87E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC2(255444002) - VG | 17-Jun-10 | Cesium-137 | -6.66E-01 | 6.15E+00 | 7.24E+00 | 8.00E+01 | 6.15E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC2(257686008) - VG | 28-Jul-10 | Cesium-137 | -6.09E+00 | 1.11E+01 | 1.69E+01 | 8.00E+01 | 1.11E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC2(259380008) - VG | 17-Aug-10 | Cesium-137 | -3.94E+00 | 6.81E+00 | 1.09E+01 | 8.00E+01 | 6.81E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC2(261558002) - VG | 20-Sep-10 | Cesium-137 | 5.67E+00 | 7.71E+00 | 1.33E+01 | 8.00E+01 | 7.71E+00 | pCi/kg |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Broadleaf Vegetation Control BVC2(254303008) - VG | 28-May-10 | Iodine-131 | 1.88E-01 | 2.68E+01 | 4.58E+01 | 6.00E+01 | 2.68E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC2(255444002) - VG | 17-Jun-10 | Iodine-131 | 6.46E-01 | 1.44E+01 | 2.34E+01 | 6.00E+01 | 1.44E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC2(257686008) - VG | 28-Jul-10 | Iodine-131 | 6.53E-01 | 1.02E+01 | 1.76E+01 | 6.00E+01 | 1.02E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC2(259380008) - VG | 17-Aug-10 | Iodine-131 | 4.17E+00 | 1.14E+01 | 1.97E+01 | 6.00E+01 | 1.14E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC2(261558002) - VG | 20-Sep-10 | Iodine-131 | 2.31E-01 | 1.24E+01 | 2.12E+01 | 6.00E+01 | 1.24E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC2(254303008) - VG | 28-May-10 | Potassium-40 | 4.49E+03 | 4.53E+02 | 9.75E+01 | | 4.53E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC2(255444002) - VG | 17-Jun-10 | Potassium-40 | 4.35E+03 | 4.22E+02 | 5.93E+01 | | 4.22E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC2(257686008) - VG | 28-Jul-10 | Potassium-40 | 3.19E+03 | 3.68E+02 | 9.37E+01 | | 3.68E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC2(259380008) - VG | 17-Aug-10 | Potassium-40 | 3.41E+03 | 3.85E+02 | 8.11E+01 | | 3.85E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC2(261558002) - VG | 20-Sep-10 | Potassium-40 | 1.87E+03 | 2.75E+02 | 1.30E+02 | | 2.75E+02 | pCi/kg |

Broadleaf Vegetation Control BVC3
VG

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Broadleaf Vegetation Control BVC3(254303009) - VG | 28-May-10 | Beryllium-7 | 1.12E+03 | 1.52E+02 | 8.18E+01 | | 1.52E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC3(255444003) - VG | 17-Jun-10 | Beryllium-7 | 2.52E+03 | 2.78E+02 | 7.13E+01 | | 2.78E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC3(257686009) - VG | 28-Jul-10 | Beryllium-7 | 1.79E+03 | 2.61E+02 | 1.43E+02 | | 2.61E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC3(259380009) - VG | 17-Aug-10 | Beryllium-7 | 1.77E+03 | 1.99E+02 | 6.61E+01 | | 1.99E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC3(261558003) - VG | 20-Sep-10 | Beryllium-7 | 2.31E+03 | 2.74E+02 | 8.77E+01 | | 2.74E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC3(254303009) - VG | 28-May-10 | Cesium-134 | 3.85E+00 | 6.50E+00 | 1.13E+01 | 6.00E+01 | 6.50E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC3(255444003) - VG | 17-Jun-10 | Cesium-134 | 4.82E+00 | 5.91E+00 | 1.05E+01 | 6.00E+01 | 5.91E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC3(257686009) - VG | 28-Jul-10 | Cesium-134 | -5.99E-01 | 1.21E+01 | 2.04E+01 | 6.00E+01 | 1.21E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC3(259380009) - VG | 17-Aug-10 | Cesium-134 | -1.98E+00 | 5.13E+00 | 8.60E+00 | 6.00E+01 | 5.13E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC3(261558003) - VG | 20-Sep-10 | Cesium-134 | -1.50E+00 | 7.92E+00 | 1.33E+01 | 6.00E+01 | 7.92E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC3(254303009) - VG | 28-May-10 | Cesium-137 | -7.46E+00 | 1.15E+01 | 1.43E+01 | 8.00E+01 | 1.15E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC3(255444003) - VG | 17-Jun-10 | Cesium-137 | -5.40E+00 | 6.96E+00 | 8.62E+00 | 8.00E+01 | 6.96E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC3(257686009) - VG | 28-Jul-10 | Cesium-137 | -2.16E+00 | 1.02E+01 | 1.71E+01 | 8.00E+01 | 1.02E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC3(259380009) - VG | 17-Aug-10 | Cesium-137 | -3.09E-01 | 4.54E+00 | 7.46E+00 | 8.00E+01 | 4.54E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC3(261558003) - VG | 20-Sep-10 | Cesium-137 | 4.88E+00 | 7.06E+00 | 1.21E+01 | 8.00E+01 | 7.06E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC3(254303009) - VG | 28-May-10 | Iodine-131 | 1.70E+01 | 2.74E+01 | 4.79E+01 | 6.00E+01 | 2.74E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC3(255444003) - VG | 17-Jun-10 | Iodine-131 | 6.69E+00 | 1.46E+01 | 2.53E+01 | 6.00E+01 | 1.46E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC3(257686009) - VG | 28-Jul-10 | Iodine-131 | 2.65E-01 | 1.93E+01 | 3.21E+01 | 6.00E+01 | 1.93E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC3(259380009) - VG | 17-Aug-10 | Iodine-131 | 4.70E+00 | 8.27E+00 | 1.46E+01 | 6.00E+01 | 8.27E+00 | pCi/kg |
| Broadleaf Vegetation Control BVC3(261558003) - VG | 20-Sep-10 | Iodine-131 | 9.03E+00 | 1.27E+01 | 2.24E+01 | 6.00E+01 | 1.27E+01 | pCi/kg |
| Broadleaf Vegetation Control BVC3(255444003) - VG | 17-Jun-10 | Lead-210 | 5.69E+02 | 1.72E+02 | 1.03E+02 | | 1.72E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC3(254303009) - VG | 28-May-10 | Potassium-40 | 4.70E+03 | 4.78E+02 | 8.58E+01 | | 4.78E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC3(255444003) - VG | 17-Jun-10 | Potassium-40 | 4.51E+03 | 4.39E+02 | 7.84E+01 | | 4.39E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC3(257686009) - VG | 28-Jul-10 | Potassium-40 | 3.81E+03 | 5.53E+02 | 1.70E+02 | | 5.53E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC3(259380009) - VG | 17-Aug-10 | Potassium-40 | 5.07E+03 | 4.97E+02 | 6.49E+01 | | 4.97E+02 | pCi/kg |
| Broadleaf Vegetation Control BVC3(261558003) - VG | 20-Sep-10 | Potassium-40 | 4.49E+03 | 4.81E+02 | 1.09E+02 | | 4.81E+02 | pCi/kg |

Domestic Water - DW
DW

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Domestic Water - DW(245006004) - DW | 1-Jan-10 | BETA | 4.22E-01 | 1.94E+00 | 3.11E+00 | 4.00E+00 | 1.94E+00 | pCi/L |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Domestic Water - DW(246524003) - DW | 1-Feb-10 | BETA | 1.54E+00 | 2.33E+00 | 3.53E+00 | 4.00E+00 | 2.34E+00 | pCi/L |
| Domestic Water - DW(249724003) - DW | 1-Mar-10 | BETA | 3.50E+00 | 2.36E+00 | 3.13E+00 | 4.00E+00 | 2.43E+00 | pCi/L |
| Domestic Water - DW(250886003) - DW | 1-Apr-10 | BETA | 1.90E-01 | 1.63E+00 | 2.66E+00 | 4.00E+00 | 1.63E+00 | pCi/L |
| Domestic Water - DW(252613003) - DW | 30-Apr-10 | BETA | 1.94E+00 | 2.24E+00 | 3.32E+00 | 4.00E+00 | 2.27E+00 | pCi/L |
| Domestic Water - DW(254304003) - DW | 31-May-10 | BETA | 1.20E+00 | 2.04E+00 | 3.07E+00 | 4.00E+00 | 2.05E+00 | pCi/L |
| Domestic Water - DW(256985003) - DW | 30-Jun-10 | BETA | 4.11E+00 | 2.20E+00 | 3.17E+00 | 4.00E+00 | 2.30E+00 | pCi/L |
| Domestic Water - DW(258297003) - DW | 15-Jul-10 | BETA | 8.59E-01 | 2.09E+00 | 3.31E+00 | 4.00E+00 | 2.10E+00 | pCi/L |
| Domestic Water - DW(260845003) - DW | 15-Aug-10 | BETA | 1.10E+00 | 1.48E+00 | 2.10E+00 | 4.00E+00 | 1.49E+00 | pCi/L |
| Domestic Water - DW(262033003) - DW | 15-Sep-10 | BETA | 1.28E+00 | 1.94E+00 | 2.85E+00 | 4.00E+00 | 1.95E+00 | pCi/L |
| Domestic Water - DW(267302003) - DW | 15-Oct-10 | BETA | 8.67E-01 | 2.39E+00 | 3.92E+00 | 4.00E+00 | 2.39E+00 | pCi/L |
| Domestic Water - DW(268898003) - DW | 15-Nov-10 | BETA | 2.80E+00 | 1.95E+00 | 2.53E+00 | 4.00E+00 | 2.00E+00 | pCi/L |
| Domestic Water - DW(270296003) - DW | 15-Dec-10 | BETA | 2.39E+00 | 2.22E+00 | 3.01E+00 | 4.00E+00 | 2.25E+00 | pCi/L |
| Domestic Water - DW(245006004) - DW | 1-Jan-10 | Tritium | 1.39E+02 | 2.79E+02 | 4.48E+02 | 2.00E+03 | 2.81E+02 | pCi/L |
| Domestic Water - DW(246524003) - DW | 1-Feb-10 | Tritium | 1.27E+02 | 2.69E+02 | 4.32E+02 | 2.00E+03 | 2.70E+02 | pCi/L |
| Domestic Water - DW(249724003) - DW | 1-Mar-10 | Tritium | 3.80E+01 | 2.52E+02 | 4.16E+02 | 2.00E+03 | 2.52E+02 | pCi/L |
| Domestic Water - DW(250886003) - DW | 1-Apr-10 | Tritium | 1.52E+02 | 2.90E+02 | 4.65E+02 | 2.00E+03 | 2.91E+02 | pCi/L |
| Domestic Water - DW(252613003) - DW | 30-Apr-10 | Tritium | -2.56E+02 | 2.79E+02 | 5.00E+02 | 2.00E+03 | 2.79E+02 | pCi/L |
| Domestic Water - DW(254304003) - DW | 31-May-10 | Tritium | 2.55E+02 | 2.72E+02 | 4.17E+02 | 2.00E+03 | 2.77E+02 | pCi/L |
| Domestic Water - DW(256985003) - DW | 30-Jun-10 | Tritium | 4.83E+01 | 1.05E+02 | 1.68E+02 | 2.00E+03 | 1.06E+02 | pCi/L |
| Domestic Water - DW(258297003) - DW | 15-Jul-10 | Tritium | -1.67E+01 | 3.09E+02 | 5.21E+02 | 2.00E+03 | 3.09E+02 | pCi/L |
| Domestic Water - DW(260845003) - DW | 15-Aug-10 | Tritium | -3.32E+01 | 2.70E+02 | 4.58E+02 | 2.00E+03 | 2.70E+02 | pCi/L |
| Domestic Water - DW(262033003) - DW | 15-Sep-10 | Tritium | -8.45E+01 | 3.56E+02 | 6.08E+02 | 2.00E+03 | 3.56E+02 | pCi/L |
| Domestic Water - DW(267302003) - DW | 15-Oct-10 | Tritium | -1.52E+02 | 2.82E+02 | 4.97E+02 | 2.00E+03 | 2.82E+02 | pCi/L |
| Domestic Water - DW(268898003) - DW | 15-Nov-10 | Tritium | 2.12E+02 | 1.58E+02 | 2.49E+02 | 2.00E+03 | 1.63E+02 | pCi/L |
| Domestic Water - DW(270296003) - DW | 15-Dec-10 | Tritium | 9.07E+01 | 2.52E+02 | 4.10E+02 | 2.00E+03 | 2.53E+02 | pCi/L |

Fish Control Gizzard Shad
FH

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Fish Control Gizzard Shad(265790002) - FH | 14-Oct-10 | Americium-241 | 1.02E+00 | 3.42E+00 | 5.62E+00 | | 3.42E+00 | pCi/kg |
| Fish Control Gizzard Shad(265790002) - FH | 14-Oct-10 | Cesium-134 | 1.50E+00 | 3.13E+00 | 5.47E+00 | 1.30E+02 | 3.13E+00 | pCi/kg |
| Fish Control Gizzard Shad(265790002) - FH | 14-Oct-10 | Cesium-137 | 6.91E+00 | 6.62E+00 | 4.29E+00 | 1.50E+02 | 6.62E+00 | pCi/kg |
| Fish Control Gizzard Shad(265790002) - FH | 14-Oct-10 | Cobalt-58 | 6.61E-02 | 3.04E+00 | 5.15E+00 | 1.30E+02 | 3.04E+00 | pCi/kg |
| Fish Control Gizzard Shad(265790002) - FH | 14-Oct-10 | Cobalt-60 | 5.44E-01 | 2.80E+00 | 4.82E+00 | 1.30E+02 | 2.80E+00 | pCi/kg |
| Fish Control Gizzard Shad(265790002) - FH | 14-Oct-10 | Iodine-131 | -1.15E+01 | 1.54E+01 | 2.53E+01 | 6.00E+01 | 1.54E+01 | pCi/kg |
| Fish Control Gizzard Shad(265790002) - FH | 14-Oct-10 | Iron-59 | -1.59E+00 | 8.14E+00 | 1.32E+01 | 2.60E+02 | 8.14E+00 | pCi/kg |
| Fish Control Gizzard Shad(265790002) - FH | 14-Oct-10 | Manganese-54 | 7.66E-01 | 2.78E+00 | 4.78E+00 | 1.30E+02 | 2.78E+00 | pCi/kg |
| Fish Control Gizzard Shad(265790002) - FH | 14-Oct-10 | Zinc-65 | 4.99E-01 | 8.55E+00 | 1.22E+01 | 2.60E+02 | 8.55E+00 | pCi/kg |

Fish Control Lake Trout
FH

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Fish Control Lake Trout(265790003) - FH | 14-Oct-10 | Americium-241 | 1.18E+01 | 1.16E+01 | 2.11E+01 | | 1.16E+01 | pCi/kg |
| Fish Control Lake Trout(265790003) - FH | 14-Oct-10 | Cesium-134 | 1.15E+01 | 1.13E+01 | 2.26E+01 | 1.30E+02 | 1.13E+01 | pCi/kg |
| Fish Control Lake Trout(265790003) - FH | 14-Oct-10 | Cesium-137 | 2.83E+01 | 1.50E+01 | 1.21E+01 | 1.50E+02 | 1.50E+01 | pCi/kg |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Fish Control Lake Trout(265790003) - FH | 14-Oct-10 | Cobalt-58 | -5.62E+00 | 1.03E+01 | 1.54E+01 | 1.30E+02 | 1.03E+01 | pCi/kg |
| Fish Control Lake Trout(265790003) - FH | 14-Oct-10 | Cobalt-60 | 8.97E-01 | 7.57E+00 | 1.35E+01 | 1.30E+02 | 7.57E+00 | pCi/kg |
| Fish Control Lake Trout(265790003) - FH | 14-Oct-10 | Iodine-131 | -4.03E+01 | 5.59E+01 | 8.43E+01 | 6.00E+01 | 5.59E+01 | pCi/kg |
| Fish Control Lake Trout(265790003) - FH | 14-Oct-10 | Iron-59 | -1.58E+01 | 2.98E+01 | 4.38E+01 | 2.60E+02 | 2.98E+01 | pCi/kg |
| Fish Control Lake Trout(265790003) - FH | 14-Oct-10 | Manganese-54 | 2.30E+00 | 8.69E+00 | 1.56E+01 | 1.30E+02 | 8.69E+00 | pCi/kg |
| Fish Control Lake Trout(265790003) - FH | 14-Oct-10 | Zinc-65 | -1.26E+01 | 2.45E+01 | 3.62E+01 | 2.60E+02 | 2.45E+01 | pCi/kg |

Fish Control Suckers
FH

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Fish Control Suckers(265790001) - FH | 14-Oct-10 | Americium-241 | -1.64E+01 | 3.06E+01 | 4.94E+01 | | 3.06E+01 | pCi/kg |
| Fish Control Suckers(265790001) - FH | 14-Oct-10 | Cesium-134 | 8.23E+00 | 1.07E+01 | 1.97E+01 | 1.30E+02 | 1.07E+01 | pCi/kg |
| Fish Control Suckers(265790001) - FH | 14-Oct-10 | Cesium-137 | 4.29E+00 | 8.90E+00 | 1.58E+01 | 1.50E+02 | 8.90E+00 | pCi/kg |
| Fish Control Suckers(265790001) - FH | 14-Oct-10 | Cobalt-58 | -6.65E+00 | 1.00E+01 | 1.44E+01 | 1.30E+02 | 1.00E+01 | pCi/kg |
| Fish Control Suckers(265790001) - FH | 14-Oct-10 | Cobalt-60 | 1.02E+00 | 8.70E+00 | 1.50E+01 | 1.30E+02 | 8.70E+00 | pCi/kg |
| Fish Control Suckers(265790001) - FH | 14-Oct-10 | Iodine-131 | 4.35E+00 | 5.85E+01 | 1.00E+02 | 6.00E+01 | 5.85E+01 | pCi/kg |
| Fish Control Suckers(265790001) - FH | 14-Oct-10 | Iron-59 | 1.14E+01 | 2.42E+01 | 4.42E+01 | 2.60E+02 | 2.42E+01 | pCi/kg |
| Fish Control Suckers(265790001) - FH | 14-Oct-10 | Manganese-54 | -5.88E-01 | 8.47E+00 | 1.38E+01 | 1.30E+02 | 8.47E+00 | pCi/kg |
| Fish Control Suckers(265790001) - FH | 14-Oct-10 | Zinc-65 | -1.05E+01 | 2.06E+01 | 3.19E+01 | 2.60E+02 | 2.06E+01 | pCi/kg |

Fish Control Lake Trout
FH

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Fish Control Lake Trout(269232002) - FH | 2-Nov-10 | Cesium-134 | 3.01E+00 | 2.64E+00 | 4.63E+00 | 1.30E+02 | 2.64E+00 | pCi/kg |
| Fish Control Lake Trout(269232002) - FH | 2-Nov-10 | Cesium-137 | 3.38E+01 | 4.83E+00 | 3.62E+00 | 1.50E+02 | 4.83E+00 | pCi/kg |
| Fish Control Lake Trout(269232002) - FH | 2-Nov-10 | Cobalt-58 | 3.18E+00 | 3.73E+00 | 6.44E+00 | 1.30E+02 | 3.73E+00 | pCi/kg |
| Fish Control Lake Trout(269232002) - FH | 2-Nov-10 | Cobalt-60 | 1.37E+00 | 2.49E+00 | 4.29E+00 | 1.30E+02 | 2.49E+00 | pCi/kg |
| Fish Control Lake Trout(269232002) - FH | 2-Nov-10 | Iodine-131 | 2.99E+02 | 4.21E+02 | 7.15E+02 | 6.00E+01 | 4.21E+02 | pCi/kg |
| Fish Control Lake Trout(269232002) - FH | 2-Nov-10 | Iron-59 | 5.65E+00 | 1.18E+01 | 2.04E+01 | 2.60E+02 | 1.18E+01 | pCi/kg |
| Fish Control Lake Trout(269232002) - FH | 2-Nov-10 | Manganese-54 | 1.08E+00 | 2.44E+00 | 4.12E+00 | 1.30E+02 | 2.44E+00 | pCi/kg |
| Fish Control Lake Trout(269232002) - FH | 2-Nov-10 | Potassium-40 | 2.58E+03 | 2.48E+02 | 3.25E+01 | 5.00E+02 | 2.48E+02 | pCi/kg |
| Fish Control Lake Trout(269232002) - FH | 2-Nov-10 | Zinc-65 | -1.03E+01 | 6.77E+00 | 1.06E+01 | 2.60E+02 | 6.77E+00 | pCi/kg |

Fish FSH1
FH

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Fish FSH1(260850001) - FH | 30-Jun-10 | Cesium-134 | -4.64E+00 | 7.97E+00 | 1.21E+01 | 1.30E+02 | 7.97E+00 | pCi/kg |
| Fish FSH1(260850001) - FH | 30-Jun-10 | Cesium-137 | 2.96E+00 | 6.28E+00 | 1.10E+01 | 1.50E+02 | 6.28E+00 | pCi/kg |
| Fish FSH1(260850001) - FH | 30-Jun-10 | Cobalt-58 | -1.12E-01 | 1.34E+01 | 2.20E+01 | 1.30E+02 | 1.34E+01 | pCi/kg |
| Fish FSH1(260850001) - FH | 30-Jun-10 | Cobalt-60 | 1.39E+00 | 6.43E+00 | 1.12E+01 | 1.30E+02 | 6.43E+00 | pCi/kg |
| Fish FSH1(260850001) - FH | 30-Jun-10 | Iodine-131 | 0.00E+00 | 8.53E+03 | 0.00E+00 | 6.00E+01 | 8.53E+03 | pCi/kg |
| Fish FSH1(260850001) - FH | 30-Jun-10 | Iron-59 | 3.22E+01 | 4.88E+01 | 8.90E+01 | 2.60E+02 | 4.88E+01 | pCi/kg |
| Fish FSH1(260850001) - FH | 30-Jun-10 | Manganese-54 | 3.24E+00 | 6.75E+00 | 1.18E+01 | 1.30E+02 | 6.75E+00 | pCi/kg |
| Fish FSH1(260850001) - FH | 30-Jun-10 | Potassium-40 | 3.18E+03 | 3.85E+02 | 7.52E+01 | 5.00E+02 | 3.85E+02 | pCi/kg |
| Fish FSH1(260850001) - FH | 30-Jun-10 | Zinc-65 | -4.95E+00 | 2.04E+01 | 3.37E+01 | 2.60E+02 | 2.04E+01 | pCi/kg |

# REMP Year End Report for PALI for 2010
# Palisades REMP

Fish Palisades Gizzard Shad
FH

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Fish Palisades Gizzard Shad(265790004) - FH | 22-Sep-10 | Americium-241 | 8.83E+00 | 1.11E+01 | 1.75E+01 | | 1.11E+01 | pCi/kg |
| Fish Palisades Gizzard Shad(265790004) - FH | 22-Sep-10 | Cesium-134 | -1.21E+00 | 3.17E+00 | 5.13E+00 | 1.30E+02 | 3.17E+00 | pCi/kg |
| Fish Palisades Gizzard Shad(265790004) - FH | 22-Sep-10 | Cesium-137 | 6.86E+00 | 3.14E+00 | 4.12E+00 | 1.50E+02 | 3.14E+00 | pCi/kg |
| Fish Palisades Gizzard Shad(265790004) - FH | 22-Sep-10 | Cobalt-58 | 1.16E-01 | 3.74E+00 | 6.22E+00 | 1.30E+02 | 3.74E+00 | pCi/kg |
| Fish Palisades Gizzard Shad(265790004) - FH | 22-Sep-10 | Cobalt-60 | 3.55E+00 | 2.98E+00 | 5.47E+00 | 1.30E+02 | 2.98E+00 | pCi/kg |
| Fish Palisades Gizzard Shad(265790004) - FH | 22-Sep-10 | Iodine-131 | -2.36E+01 | 1.15E+02 | 1.85E+02 | 6.00E+01 | 1.15E+02 | pCi/kg |
| Fish Palisades Gizzard Shad(265790004) - FH | 22-Sep-10 | Iron-59 | 7.76E+00 | 1.09E+01 | 1.94E+01 | 2.60E+02 | 1.09E+01 | pCi/kg |
| Fish Palisades Gizzard Shad(265790004) - FH | 22-Sep-10 | Manganese-54 | -1.71E+00 | 2.94E+00 | 4.68E+00 | 1.30E+02 | 2.94E+00 | pCi/kg |
| Fish Palisades Gizzard Shad(265790004) - FH | 22-Sep-10 | Zinc-65 | -1.16E+01 | 8.12E+00 | 1.26E+01 | 2.60E+02 | 8.12E+00 | pCi/kg |

Fish Palisades Lake Trout
FH

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Fish Palisades Lake Trout(265790006) - FH | 22-Sep-10 | Americium-241 | 9.45E-01 | 3.86E+00 | 6.78E+00 | | 3.86E+00 | pCi/kg |
| Fish Palisades Lake Trout(265790006) - FH | 22-Sep-10 | Cesium-134 | 1.86E+00 | 3.95E+00 | 6.94E+00 | 1.30E+02 | 3.95E+00 | pCi/kg |
| Fish Palisades Lake Trout(265790006) - FH | 22-Sep-10 | Cesium-137 | 9.32E+00 | 5.67E+00 | 5.25E+00 | 1.50E+02 | 5.67E+00 | pCi/kg |
| Fish Palisades Lake Trout(265790006) - FH | 22-Sep-10 | Cobalt-58 | -5.30E-01 | 4.54E+00 | 7.67E+00 | 1.30E+02 | 4.54E+00 | pCi/kg |
| Fish Palisades Lake Trout(265790006) - FH | 22-Sep-10 | Cobalt-60 | -3.52E+00 | 3.18E+00 | 4.80E+00 | 1.30E+02 | 3.18E+00 | pCi/kg |
| Fish Palisades Lake Trout(265790006) - FH | 22-Sep-10 | Iodine-131 | -5.60E+01 | 1.18E+02 | 1.96E+02 | 6.00E+01 | 1.18E+02 | pCi/kg |
| Fish Palisades Lake Trout(265790006) - FH | 22-Sep-10 | Iron-59 | -1.02E+01 | 1.42E+01 | 2.22E+01 | 2.60E+02 | 1.42E+01 | pCi/kg |
| Fish Palisades Lake Trout(265790006) - FH | 22-Sep-10 | Manganese-54 | -2.08E+00 | 3.20E+00 | 5.18E+00 | 1.30E+02 | 3.20E+00 | pCi/kg |
| Fish Palisades Lake Trout(265790006) - FH | 22-Sep-10 | Zinc-65 | -1.31E+01 | 9.40E+00 | 1.39E+01 | 2.60E+02 | 9.40E+00 | pCi/kg |

Fish Palisades Steelhead
FH

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Fish Palisades Steelhead(269232001) - FH | 30-Nov-10 | Cesium-134 | -2.14E-02 | 2.24E+00 | 3.65E+00 | 1.30E+02 | 2.24E+00 | pCi/kg |
| Fish Palisades Steelhead(269232001) - FH | 30-Nov-10 | Cesium-137 | 4.74E+00 | 4.38E+00 | 2.80E+00 | 1.50E+02 | 4.38E+00 | pCi/kg |
| Fish Palisades Steelhead(269232001) - FH | 30-Nov-10 | Cobalt-58 | -7.78E-01 | 2.27E+00 | 3.84E+00 | 1.30E+02 | 2.27E+00 | pCi/kg |
| Fish Palisades Steelhead(269232001) - FH | 30-Nov-10 | Cobalt-60 | -1.18E+00 | 2.29E+00 | 3.64E+00 | 1.30E+02 | 2.29E+00 | pCi/kg |
| Fish Palisades Steelhead(269232001) - FH | 30-Nov-10 | Iodine-131 | 8.05E-01 | 2.92E+01 | 5.06E+01 | 6.00E+01 | 2.92E+01 | pCi/kg |
| Fish Palisades Steelhead(269232001) - FH | 30-Nov-10 | Iron-59 | -8.58E-01 | 7.09E+00 | 1.19E+01 | 2.60E+02 | 7.09E+00 | pCi/kg |
| Fish Palisades Steelhead(269232001) - FH | 30-Nov-10 | Manganese-54 | -1.63E-01 | 1.87E+00 | 3.21E+00 | 1.30E+02 | 1.87E+00 | pCi/kg |
| Fish Palisades Steelhead(269232001) - FH | 30-Nov-10 | Potassium-40 | 2.78E+03 | 2.75E+02 | 2.66E+01 | 5.00E+02 | 2.75E+02 | pCi/kg |
| Fish Palisades Steelhead(269232001) - FH | 30-Nov-10 | Zinc-65 | -2.56E+00 | 5.33E+00 | 8.73E+00 | 2.60E+02 | 5.33E+00 | pCi/kg |

Fish Palisades Suckers
FH

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Fish Palisades Suckers(265790005) - FH | 22-Sep-10 | Americium-241 | -3.83E+00 | 1.28E+01 | 1.58E+01 | | 1.28E+01 | pCi/kg |
| Fish Palisades Suckers(265790005) - FH | 22-Sep-10 | Cesium-134 | 3.45E-01 | 3.22E+00 | 5.34E+00 | 1.30E+02 | 3.22E+00 | pCi/kg |
| Fish Palisades Suckers(265790005) - FH | 22-Sep-10 | Cesium-137 | 7.89E+00 | 4.68E+00 | 4.26E+00 | 1.50E+02 | 4.68E+00 | pCi/kg |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Fish Palisades Suckers(265790005) - FH | 22-Sep-10 | Cobalt-58 | -1.30E+00 | 3.62E+00 | 5.80E+00 | 1.30E+02 | 3.62E+00 | pCi/kg |
| Fish Palisades Suckers(265790005) - FH | 22-Sep-10 | Cobalt-60 | 4.33E-01 | 3.04E+00 | 5.17E+00 | 1.30E+02 | 3.04E+00 | pCi/kg |
| Fish Palisades Suckers(265790005) - FH | 22-Sep-10 | Iodine-131 | 4.41E+01 | 1.09E+02 | 1.88E+02 | 6.00E+01 | 1.09E+02 | pCi/kg |
| Fish Palisades Suckers(265790005) - FH | 22-Sep-10 | Iron-59 | -3.06E+00 | 1.20E+01 | 2.00E+01 | 2.60E+02 | 1.20E+01 | pCi/kg |
| Fish Palisades Suckers(265790005) - FH | 22-Sep-10 | Manganese-54 | -1.07E-01 | 2.93E+00 | 4.81E+00 | 1.30E+02 | 2.93E+00 | pCi/kg |
| Fish Palisades Suckers(265790005) - FH | 22-Sep-10 | Zinc-65 | -1.02E+01 | 7.92E+00 | 1.24E+01 | 2.60E+02 | 7.92E+00 | pCi/kg |

Lake In - LKIN
SW

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Lake In - LKIN(245006002) - SW | 1-Jan-10 | BETA | 1.81E+00 | 2.05E+00 | 2.90E+00 | 4.00E+00 | 2.08E+00 | pCi/L |
| Lake In - LKIN(246524001) - SW | 1-Feb-10 | BETA | -4.52E-01 | 1.86E+00 | 3.26E+00 | 4.00E+00 | 1.86E+00 | pCi/L |
| Lake In - LKIN(249724001) - SW | 1-Mar-10 | BETA | 8.76E-01 | 2.05E+00 | 3.22E+00 | 4.00E+00 | 2.06E+00 | pCi/L |
| Lake In - LKIN(250886001) - SW | 1-Apr-10 | BETA | 2.11E+00 | 2.13E+00 | 2.93E+00 | 4.00E+00 | 2.15E+00 | pCi/L |
| Lake In - LKIN(252613001) - SW | 30-Apr-10 | BETA | 4.84E-01 | 2.07E+00 | 3.33E+00 | 4.00E+00 | 2.07E+00 | pCi/L |
| Lake In - LKIN(254304001) - SW | 31-May-10 | BETA | -1.41E+00 | 1.82E+00 | 3.43E+00 | 4.00E+00 | 1.82E+00 | pCi/L |
| Lake In - LKIN(256985001) - SW | 30-Jun-10 | BETA | 2.47E+00 | 1.88E+00 | 2.80E+00 | 4.00E+00 | 1.92E+00 | pCi/L |
| Lake In - LKIN(258297001) - SW | 15-Jul-10 | BETA | 8.22E-01 | 1.54E+00 | 2.32E+00 | 4.00E+00 | 1.54E+00 | pCi/L |
| Lake In - LKIN(260845001) - SW | 15-Aug-10 | BETA | 8.39E-01 | 1.99E+00 | 3.13E+00 | 4.00E+00 | 1.99E+00 | pCi/L |
| Lake In - LKIN(262033001) - SW | 15-Sep-10 | BETA | 1.49E+00 | 2.26E+00 | 3.37E+00 | 4.00E+00 | 2.28E+00 | pCi/L |
| Lake In - LKIN(267302001) - SW | 15-Oct-10 | BETA | 2.09E+00 | 2.13E+00 | 3.33E+00 | 4.00E+00 | 2.16E+00 | pCi/L |
| Lake In - LKIN(268898001) - SW | 15-Nov-10 | BETA | 1.82E+00 | 1.73E+00 | 2.34E+00 | 4.00E+00 | 1.75E+00 | pCi/L |
| Lake In - LKIN(270296001) - SW | 15-Dec-10 | BETA | 2.45E+00 | 2.17E+00 | 2.88E+00 | 4.00E+00 | 2.21E+00 | pCi/L |
| Lake In - LKIN(245006002) - SW | 1-Jan-10 | Tritium | -5.11E+01 | 2.62E+02 | 4.48E+02 | 2.00E+03 | 2.62E+02 | pCi/L |
| Lake In - LKIN(246524001) - SW | 1-Feb-10 | Tritium | 2.75E+02 | 2.70E+02 | 4.03E+02 | 2.00E+03 | 2.75E+02 | pCi/L |
| Lake In - LKIN(249724001) - SW | 1-Mar-10 | Tritium | 1.90E+02 | 2.66E+02 | 4.17E+02 | 2.00E+03 | 2.69E+02 | pCi/L |
| Lake In - LKIN(250886001) - SW | 1-Apr-10 | Tritium | -1.14E+01 | 2.75E+02 | 4.63E+02 | 2.00E+03 | 2.75E+02 | pCi/L |
| Lake In - LKIN(252613001) - SW | 30-Apr-10 | Tritium | -5.64E+01 | 2.93E+02 | 4.99E+02 | 2.00E+03 | 2.93E+02 | pCi/L |
| Lake In - LKIN(254304001) - SW | 31-May-10 | Tritium | 3.83E+01 | 2.52E+02 | 4.16E+02 | 2.00E+03 | 2.52E+02 | pCi/L |
| Lake In - LKIN(256985001) - SW | 30-Jun-10 | Tritium | -7.80E+01 | 9.21E+01 | 1.69E+02 | 2.00E+03 | 9.21E+01 | pCi/L |
| Lake In - LKIN(258297001) - SW | 15-Jul-10 | Tritium | 1.65E+02 | 3.28E+02 | 5.24E+02 | 2.00E+03 | 3.29E+02 | pCi/L |
| Lake In - LKIN(260845001) - SW | 15-Aug-10 | Tritium | -2.29E+02 | 2.62E+02 | 4.71E+02 | 2.00E+03 | 2.62E+02 | pCi/L |
| Lake In - LKIN(262033001) - SW | 15-Sep-10 | Tritium | -1.12E+02 | 3.54E+02 | 6.09E+02 | 2.00E+03 | 3.54E+02 | pCi/L |
| Lake In - LKIN(267302001) - SW | 15-Oct-10 | Tritium | -6.89E+01 | 2.90E+02 | 4.97E+02 | 2.00E+03 | 2.90E+02 | pCi/L |
| Lake In - LKIN(268898001) - SW | 15-Nov-10 | Tritium | 1.83E+01 | 1.48E+02 | 2.48E+02 | 2.00E+03 | 1.48E+02 | pCi/L |
| Lake In - LKIN(270296001) - SW | 15-Dec-10 | Tritium | 0.00E+00 | 2.44E+02 | 4.09E+02 | 2.00E+03 | 2.44E+02 | pCi/L |

Ludington Control
SW

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Ludington Control(245006001) - SW | 1-Jan-10 | BETA | 8.33E-01 | 1.81E+00 | 2.75E+00 | 4.00E+00 | 1.82E+00 | pCi/L |
| Ludington Control(246524004) - SW | 1-Feb-10 | BETA | 2.65E+00 | 2.11E+00 | 2.77E+00 | 4.00E+00 | 2.16E+00 | pCi/L |
| Ludington Control(249724004) - SW | 1-Mar-10 | BETA | 1.81E+00 | 2.20E+00 | 3.23E+00 | 4.00E+00 | 2.22E+00 | pCi/L |
| Ludington Control(250886005) - SW | 1-Apr-10 | BETA | 2.17E+00 | 2.08E+00 | 2.85E+00 | 4.00E+00 | 2.11E+00 | pCi/L |
| Ludington Control(252613004) - SW | 30-Apr-10 | BETA | 1.24E+00 | 1.80E+00 | 2.60E+00 | 4.00E+00 | 1.81E+00 | pCi/L |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Ludington Control(254304004) - SW | 31-May-10 | BETA | -1.78E-02 | 2.07E+00 | 3.43E+00 | 4.00E+00 | 2.07E+00 | pCi/L |
| Ludington Control(256985004) - SW | 30-Jun-10 | BETA | 1.83E+00 | 2.08E+00 | 3.25E+00 | 4.00E+00 | 2.10E+00 | pCi/L |
| Ludington Control(258297004) - SW | 15-Jul-10 | BETA | -5.14E-02 | 2.07E+00 | 3.47E+00 | 4.00E+00 | 2.07E+00 | pCi/L |
| Ludington Control(260845004) - SW | 15-Aug-10 | BETA | 1.21E+00 | 1.59E+00 | 2.30E+00 | 4.00E+00 | 1.61E+00 | pCi/L |
| Ludington Control(264413001) - SW | 15-Sep-10 | BETA | 3.56E+00 | 2.09E+00 | 2.57E+00 | 4.00E+00 | 2.17E+00 | pCi/L |
| Ludington Control(267302004) - SW | 15-Oct-10 | BETA | 4.53E+00 | 2.07E+00 | 2.92E+00 | 4.00E+00 | 2.21E+00 | pCi/L |
| Ludington Control(268898005) - SW | 15-Nov-10 | BETA | 7.01E-01 | 1.67E+00 | 2.58E+00 | 4.00E+00 | 1.67E+00 | pCi/L |
| Ludington Control(270296004) - SW | 15-Dec-10 | BETA | 1.61E+00 | 2.40E+00 | 3.62E+00 | 4.00E+00 | 2.42E+00 | pCi/L |
| Ludington Control(245006001) - SW | 1-Jan-10 | Tritium | -7.15E+01 | 3.09E+02 | 5.29E+02 | 2.00E+03 | 3.09E+02 | pCi/L |
| Ludington Control(246524004) - SW | 1-Feb-10 | Tritium | -9.84E+01 | 3.31E+02 | 5.71E+02 | 2.00E+03 | 3.31E+02 | pCi/L |
| Ludington Control(249724004) - SW | 1-Mar-10 | Tritium | 1.40E+02 | 2.60E+02 | 4.14E+02 | 2.00E+03 | 2.62E+02 | pCi/L |
| Ludington Control(250886005) - SW | 1-Apr-10 | Tritium | 3.82E+01 | 2.82E+02 | 4.67E+02 | 2.00E+03 | 2.82E+02 | pCi/L |
| Ludington Control(252613004) - SW | 30-Apr-10 | Tritium | -1.30E+02 | 2.82E+02 | 4.89E+02 | 2.00E+03 | 2.82E+02 | pCi/L |
| Ludington Control(254304004) - SW | 31-May-10 | Tritium | 1.92E+02 | 2.67E+02 | 4.17E+02 | 2.00E+03 | 2.69E+02 | pCi/L |
| Ludington Control(256985004) - SW | 30-Jun-10 | Tritium | -4.63E+01 | 9.69E+01 | 1.71E+02 | 2.00E+03 | 9.69E+01 | pCi/L |
| Ludington Control(258297004) - SW | 15-Jul-10 | Tritium | 0.00E+00 | 3.04E+02 | 5.11E+02 | 2.00E+03 | 3.04E+02 | pCi/L |
| Ludington Control(260845004) - SW | 15-Aug-10 | Tritium | -6.79E+01 | 2.73E+02 | 4.68E+02 | 2.00E+03 | 2.73E+02 | pCi/L |
| Ludington Control(264413001) - SW | 15-Sep-10 | Tritium | 2.22E+02 | 3.07E+02 | 4.82E+02 | 2.00E+03 | 3.10E+02 | pCi/L |
| Ludington Control(267302004) - SW | 15-Oct-10 | Tritium | 1.46E+01 | 2.97E+02 | 4.97E+02 | 2.00E+03 | 2.97E+02 | pCi/L |
| Ludington Control(268898005) - SW | 15-Nov-10 | Tritium | 3.35E+01 | 1.50E+02 | 2.48E+02 | 2.00E+03 | 1.50E+02 | pCi/L |
| Ludington Control(270296004) - SW | 15-Dec-10 | Tritium | 7.79E+01 | 2.48E+02 | 4.05E+02 | 2.00E+03 | 2.48E+02 | pCi/L |

Palisades Park Well Water
DW

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Palisades Park Well Water(250886004) - DW | 7-Apr-10 | Tritium | -2.41E+02 | 2.56E+02 | 4.66E+02 | 2.00E+03 | 2.56E+02 | pCi/L |

Sanitary Wastewater - SWWL
WW

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Sanitary Wastewater - SWWL(256988002) - WW | 16-Jun-10 | Barium-140 | 7.68E+00 | 6.44E+01 | 1.09E+02 | 1.50E+01 | 6.44E+01 | pCi/L |
| Sanitary Wastewater - SWWL(261316008) - WW | 16-Sep-10 | Barium-140 | 4.97E+00 | 8.22E+00 | 1.36E+01 | 1.50E+01 | 8.23E+00 | pCi/L |
| Sanitary Wastewater - SWWL(268898004) - WW | 13-Dec-10 | Barium-140 | -8.15E-01 | 3.25E+00 | 5.42E+00 | 1.50E+01 | 3.25E+00 | pCi/L |
| Sanitary Wastewater - SWWL(256988002) - WW | 16-Jun-10 | Cesium-134 | 1.06E+00 | 1.94E+00 | 3.44E+00 | 1.50E+01 | 1.94E+00 | pCi/L |
| Sanitary Wastewater - SWWL(261316008) - WW | 16-Sep-10 | Cesium-134 | -6.01E-01 | 1.83E+00 | 3.05E+00 | 1.50E+01 | 1.83E+00 | pCi/L |
| Sanitary Wastewater - SWWL(268898004) - WW | 13-Dec-10 | Cesium-134 | -1.91E+00 | 2.38E+00 | 3.78E+00 | 1.50E+01 | 2.38E+00 | pCi/L |
| Sanitary Wastewater - SWWL(256988002) - WW | 16-Jun-10 | Cesium-137 | 1.01E+00 | 1.71E+00 | 2.90E+00 | 1.80E+01 | 1.71E+00 | pCi/L |
| Sanitary Wastewater - SWWL(261316008) - WW | 16-Sep-10 | Cesium-137 | 6.57E-01 | 1.51E+00 | 2.64E+00 | 1.80E+01 | 1.51E+00 | pCi/L |
| Sanitary Wastewater - SWWL(268898004) - WW | 13-Dec-10 | Cesium-137 | 8.38E-01 | 1.93E+00 | 3.33E+00 | 1.80E+01 | 1.93E+00 | pCi/L |
| Sanitary Wastewater - SWWL(256988002) - WW | 16-Jun-10 | Cobalt-58 | -2.90E-01 | 2.23E+00 | 3.80E+00 | 1.50E+01 | 2.23E+00 | pCi/L |
| Sanitary Wastewater - SWWL(261316008) - WW | 16-Sep-10 | Cobalt-58 | -4.06E-01 | 1.50E+00 | 2.51E+00 | 1.50E+01 | 1.50E+00 | pCi/L |
| Sanitary Wastewater - SWWL(268898004) - WW | 13-Dec-10 | Cobalt-58 | -3.43E-01 | 2.01E+00 | 3.31E+00 | 1.50E+01 | 2.01E+00 | pCi/L |
| Sanitary Wastewater - SWWL(256988002) - WW | 16-Jun-10 | Cobalt-60 | 1.41E-01 | 1.63E+00 | 2.71E+00 | 1.50E+01 | 1.63E+00 | pCi/L |
| Sanitary Wastewater - SWWL(261316008) - WW | 16-Sep-10 | Cobalt-60 | -8.08E-01 | 1.49E+00 | 2.44E+00 | 1.50E+01 | 1.49E+00 | pCi/L |
| Sanitary Wastewater - SWWL(268898004) - WW | 13-Dec-10 | Cobalt-60 | 1.74E-04 | 2.28E+00 | 3.79E+00 | 1.50E+01 | 2.28E+00 | pCi/L |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Sanitary Wastewater - SWWL(256988002) - WW | 16-Jun-10 | Iron-59 | -1.86E-01 | 5.89E+00 | 9.86E+00 | 3.00E+01 | 5.89E+00 | pCi/L |
| Sanitary Wastewater - SWWL(261316008) - WW | 16-Sep-10 | Iron-59 | -7.78E-01 | 3.09E+00 | 5.03E+00 | 3.00E+01 | 3.09E+00 | pCi/L |
| Sanitary Wastewater - SWWL(268898004) - WW | 13-Dec-10 | Iron-59 | -1.64E+00 | 4.04E+00 | 6.67E+00 | 3.00E+01 | 4.04E+00 | pCi/L |
| Sanitary Wastewater - SWWL(256988002) - WW | 16-Jun-10 | Lanthanum-140 | -2.34E+01 | 2.47E+01 | 3.13E+01 | 1.50E+01 | 2.47E+01 | pCi/L |
| Sanitary Wastewater - SWWL(261316008) - WW | 16-Sep-10 | Lanthanum-140 | 9.20E-01 | 2.74E+00 | 4.75E+00 | 1.50E+01 | 2.74E+00 | pCi/L |
| Sanitary Wastewater - SWWL(268898004) - WW | 13-Dec-10 | Lanthanum-140 | -8.15E-01 | 3.25E+00 | 5.42E+00 | 1.50E+01 | 3.25E+00 | pCi/L |
| Sanitary Wastewater - SWWL(256988002) - WW | 16-Jun-10 | Manganese-54 | 3.95E-01 | 1.72E+00 | 2.98E+00 | 1.50E+01 | 1.72E+00 | pCi/L |
| Sanitary Wastewater - SWWL(261316008) - WW | 16-Sep-10 | Manganese-54 | -1.03E+00 | 1.50E+00 | 2.43E+00 | 1.50E+01 | 1.50E+00 | pCi/L |
| Sanitary Wastewater - SWWL(268898004) - WW | 13-Dec-10 | Manganese-54 | -7.64E-01 | 2.06E+00 | 3.36E+00 | 1.50E+01 | 2.06E+00 | pCi/L |
| Sanitary Wastewater - SWWL(256988002) - WW | 16-Jun-10 | Niobium-95 | 1.33E+00 | 2.61E+00 | 4.38E+00 | 1.50E+01 | 2.61E+00 | pCi/L |
| Sanitary Wastewater - SWWL(261316008) - WW | 16-Sep-10 | Niobium-95 | 3.95E-01 | 1.57E+00 | 2.71E+00 | 1.50E+01 | 1.57E+00 | pCi/L |
| Sanitary Wastewater - SWWL(268898004) - WW | 13-Dec-10 | Niobium-95 | 2.15E+00 | 2.23E+00 | 3.89E+00 | 1.50E+01 | 2.23E+00 | pCi/L |
| Sanitary Wastewater - SWWL(256988002) - WW | 16-Jun-10 | Tritium | 3.21E+02 | 2.74E+02 | 4.08E+02 | 2.00E+03 | 2.80E+02 | pCi/L |
| Sanitary Wastewater - SWWL(261316008) - WW | 16-Sep-10 | Tritium | 3.10E+01 | 1.74E+02 | 2.84E+02 | 2.00E+03 | 1.75E+02 | pCi/L |
| Sanitary Wastewater - SWWL(268898004) - WW | 13-Dec-10 | Tritium | 4.38E+02 | 3.17E+02 | 4.77E+02 | 2.00E+03 | 3.28E+02 | pCi/L |
| Sanitary Wastewater - SWWL(256988002) - WW | 16-Jun-10 | Zinc-65 | -1.65E+00 | 4.03E+00 | 6.56E+00 | 3.00E+01 | 4.03E+00 | pCi/L |
| Sanitary Wastewater - SWWL(261316008) - WW | 16-Sep-10 | Zinc-65 | -1.16E+00 | 3.43E+00 | 5.55E+00 | 3.00E+01 | 3.43E+00 | pCi/L |
| Sanitary Wastewater - SWWL(268898004) - WW | 13-Dec-10 | Zinc-65 | -6.58E+00 | 4.91E+00 | 7.67E+00 | 3.00E+01 | 4.91E+00 | pCi/L |

Sediment - SED
SD

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Sediment - SED(256988001) - SD | 16-Jun-10 | Cesium-134 | 3.85E+00 | 2.82E+01 | 5.05E+01 | 1.50E+02 | 2.82E+01 | pCi/kg |
| Sediment - SED(261316007) - SD | 20-Sep-10 | Cesium-134 | 2.48E+00 | 2.47E+01 | 4.43E+01 | 1.50E+02 | 2.47E+01 | pCi/kg |
| Sediment - SED(256988001) - SD | 16-Jun-10 | Cesium-137 | 4.44E+01 | 2.58E+01 | 3.95E+01 | 1.80E+02 | 2.58E+01 | pCi/kg |
| Sediment - SED(261316007) - SD | 20-Sep-10 | Cesium-137 | 2.65E+01 | 2.13E+01 | 4.15E+01 | 1.80E+02 | 2.13E+01 | pCi/kg |
| Sediment - SED(256988001) - SD | 16-Jun-10 | Potassium-40 | 7.71E+03 | 1.14E+03 | 3.51E+02 | | 1.14E+03 | pCi/kg |
| Sediment - SED(261316007) - SD | 20-Sep-10 | Potassium-40 | 7.36E+03 | 1.01E+03 | 2.83E+02 | | 1.01E+03 | pCi/kg |

Septic Sample
WW

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Septic Sample(250886006) - WW | 30-Mar-10 | Barium-140 | 8.11E+00 | 1.66E+01 | 2.75E+01 | 1.50E+01 | 1.66E+01 | pCi/L |
| Septic Sample(250886006) - WW | 30-Mar-10 | Cesium-134 | -3.04E+00 | 3.79E+00 | 4.40E+00 | 1.50E+01 | 3.79E+00 | pCi/L |
| Septic Sample(250886006) - WW | 30-Mar-10 | Cesium-137 | -2.05E+00 | 3.03E+00 | 3.69E+00 | 1.80E+01 | 3.03E+00 | pCi/L |
| Septic Sample(250886006) - WW | 30-Mar-10 | Cobalt-58 | 4.06E-01 | 2.28E+00 | 3.88E+00 | 1.50E+01 | 2.28E+00 | pCi/L |
| Septic Sample(250886006) - WW | 30-Mar-10 | Cobalt-60 | 1.10E+00 | 2.28E+00 | 4.02E+00 | 1.50E+01 | 2.28E+00 | pCi/L |
| Septic Sample(250886006) - WW | 30-Mar-10 | Iron-59 | 1.08E+00 | 4.97E+00 | 8.32E+00 | 3.00E+01 | 4.97E+00 | pCi/L |
| Septic Sample(250886006) - WW | 30-Mar-10 | Lanthanum-140 | -2.66E+00 | 6.09E+00 | 9.72E+00 | 1.50E+01 | 6.09E+00 | pCi/L |
| Septic Sample(250886006) - WW | 30-Mar-10 | Manganese-54 | -6.28E-01 | 2.10E+00 | 3.45E+00 | 1.50E+01 | 2.10E+00 | pCi/L |
| Septic Sample(250886006) - WW | 30-Mar-10 | Niobium-95 | 2.08E-01 | 2.55E+00 | 4.33E+00 | 1.50E+01 | 2.55E+00 | pCi/L |
| Septic Sample(250886006) - WW | 30-Mar-10 | Tritium | 6.45E+01 | 2.82E+02 | 4.63E+02 | 2.00E+03 | 2.82E+02 | pCi/L |
| Septic Sample(250886006) - WW | 30-Mar-10 | Zinc-65 | -5.41E+00 | 5.34E+00 | 8.01E+00 | 3.00E+01 | 5.34E+00 | pCi/L |

South Haven Raw Water - SHR

# REMP Year End Report for PALI for 2010
# Palisades REMP

DW

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| South Haven Raw Water - SHR(245006003) - DW | 1-Jan-10 | BETA | 8.30E-01 | 1.73E+00 | 2.60E+00 | 4.00E+00 | 1.73E+00 | pCi/L |
| South Haven Raw Water - SHR(246524002) - DW | 1-Feb-10 | BETA | 1.94E+00 | 2.10E+00 | 2.95E+00 | 4.00E+00 | 2.12E+00 | pCi/L |
| South Haven Raw Water - SHR(249724002) - DW | 1-Mar-10 | BETA | 2.06E+00 | 2.21E+00 | 3.19E+00 | 4.00E+00 | 2.24E+00 | pCi/L |
| South Haven Raw Water - SHR(250886002) - DW | 1-Apr-10 | BETA | 6.77E-01 | 1.90E+00 | 2.98E+00 | 4.00E+00 | 1.91E+00 | pCi/L |
| South Haven Raw Water - SHR(252613002) - DW | 30-Apr-10 | BETA | 2.98E+00 | 2.45E+00 | 3.39E+00 | 4.00E+00 | 2.50E+00 | pCi/L |
| South Haven Raw Water - SHR(254304002) - DW | 31-May-10 | BETA | 2.06E+00 | 2.07E+00 | 2.82E+00 | 4.00E+00 | 2.09E+00 | pCi/L |
| South Haven Raw Water - SHR(256985002) - DW | 30-Jun-10 | BETA | 9.49E-01 | 1.83E+00 | 2.92E+00 | 4.00E+00 | 1.83E+00 | pCi/L |
| South Haven Raw Water - SHR(258297002) - DW | 15-Jul-10 | BETA | 4.13E-01 | 1.51E+00 | 2.39E+00 | 4.00E+00 | 1.51E+00 | pCi/L |
| South Haven Raw Water - SHR(260845002) - DW | 15-Aug-10 | BETA | 2.04E+00 | 1.85E+00 | 2.53E+00 | 4.00E+00 | 1.88E+00 | pCi/L |
| South Haven Raw Water - SHR(262033002) - DW | 15-Sep-10 | BETA | 1.40E+00 | 1.97E+00 | 2.87E+00 | 4.00E+00 | 1.99E+00 | pCi/L |
| South Haven Raw Water - SHR(267302002) - DW | 15-Oct-10 | BETA | 1.23E+00 | 2.39E+00 | 3.89E+00 | 4.00E+00 | 2.40E+00 | pCi/L |
| South Haven Raw Water - SHR(268898002) - DW | 15-Nov-10 | BETA | 2.70E+00 | 1.88E+00 | 2.38E+00 | 4.00E+00 | 1.93E+00 | pCi/L |
| South Haven Raw Water - SHR(270296002) - DW | 15-Dec-10 | BETA | -1.83E-01 | 1.85E+00 | 3.14E+00 | 4.00E+00 | 1.85E+00 | pCi/L |
| South Haven Raw Water - SHR(245006003) - DW | 1-Jan-10 | Tritium | -1.74E+02 | 3.00E+02 | 5.30E+02 | 2.00E+03 | 3.00E+02 | pCi/L |
| South Haven Raw Water - SHR(246524002) - DW | 1-Feb-10 | Tritium | 1.00E+02 | 2.66E+02 | 4.32E+02 | 2.00E+03 | 2.67E+02 | pCi/L |
| South Haven Raw Water - SHR(249724002) - DW | 1-Mar-10 | Tritium | 1.65E+02 | 2.63E+02 | 4.16E+02 | 2.00E+03 | 2.65E+02 | pCi/L |
| South Haven Raw Water - SHR(250886002) - DW | 1-Apr-10 | Tritium | -1.25E+02 | 2.65E+02 | 4.63E+02 | 2.00E+03 | 2.65E+02 | pCi/L |
| South Haven Raw Water - SHR(252613002) - DW | 30-Apr-10 | Tritium | 3.33E+01 | 3.01E+02 | 5.01E+02 | 2.00E+03 | 3.01E+02 | pCi/L |
| South Haven Raw Water - SHR(254304002) - DW | 31-May-10 | Tritium | 1.78E+02 | 2.65E+02 | 4.17E+02 | 2.00E+03 | 2.67E+02 | pCi/L |
| South Haven Raw Water - SHR(256985002) - DW | 30-Jun-10 | Tritium | -4.03E+01 | 9.61E+01 | 1.68E+02 | 2.00E+03 | 9.61E+01 | pCi/L |
| South Haven Raw Water - SHR(258297002) - DW | 15-Jul-10 | Tritium | 0.00E+00 | 3.11E+02 | 5.22E+02 | 2.00E+03 | 3.11E+02 | pCi/L |
| South Haven Raw Water - SHR(260845002) - DW | 15-Aug-10 | Tritium | -2.36E+02 | 2.58E+02 | 4.65E+02 | 2.00E+03 | 2.58E+02 | pCi/L |
| South Haven Raw Water - SHR(262033002) - DW | 15-Sep-10 | Tritium | 1.42E+02 | 3.73E+02 | 6.08E+02 | 2.00E+03 | 3.74E+02 | pCi/L |
| South Haven Raw Water - SHR(267302002) - DW | 15-Oct-10 | Tritium | -1.69E+02 | 2.84E+02 | 5.02E+02 | 2.00E+03 | 2.84E+02 | pCi/L |
| South Haven Raw Water - SHR(268898002) - DW | 15-Nov-10 | Tritium | 1.68E+02 | 1.51E+02 | 2.40E+02 | 2.00E+03 | 1.55E+02 | pCi/L |
| South Haven Raw Water - SHR(270296002) - DW | 15-Dec-10 | Tritium | 1.67E+02 | 2.57E+02 | 4.07E+02 | 2.00E+03 | 2.59E+02 | pCi/L |

Stormwater affected areas - STMA

SW

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Stormwater affected areas - STMA(250886007) - SW | 16-Mar-10 | Barium-140 | 8.41E+00 | 2.85E+01 | 4.85E+01 | 1.50E+01 | 2.85E+01 | pCi/L |
| Stormwater affected areas - STMA(261316009) - SW | 16-Sep-10 | Barium-140 | -6.86E+00 | 1.03E+01 | 1.61E+01 | 1.50E+01 | 1.03E+01 | pCi/L |
| Stormwater affected areas - STMA(250886007) - SW | 16-Mar-10 | Cesium-134 | 1.09E+00 | 2.15E+00 | 3.82E+00 | 1.50E+01 | 2.15E+00 | pCi/L |
| Stormwater affected areas - STMA(261316009) - SW | 16-Sep-10 | Cesium-134 | -8.21E-01 | 2.23E+00 | 3.72E+00 | 1.50E+01 | 2.23E+00 | pCi/L |
| Stormwater affected areas - STMA(250886007) - SW | 16-Mar-10 | Cesium-137 | -7.85E-01 | 2.06E+00 | 3.31E+00 | 1.80E+01 | 2.06E+00 | pCi/L |
| Stormwater affected areas - STMA(261316009) - SW | 16-Sep-10 | Cesium-137 | -1.04E+00 | 1.92E+00 | 3.20E+00 | 1.80E+01 | 1.92E+00 | pCi/L |
| Stormwater affected areas - STMA(250886007) - SW | 16-Mar-10 | Cobalt-58 | 1.09E+00 | 2.11E+00 | 3.75E+00 | 1.50E+01 | 2.11E+00 | pCi/L |
| Stormwater affected areas - STMA(261316009) - SW | 16-Sep-10 | Cobalt-58 | -3.73E-01 | 1.89E+00 | 3.16E+00 | 1.50E+01 | 1.89E+00 | pCi/L |
| Stormwater affected areas - STMA(250886007) - SW | 16-Mar-10 | Cobalt-60 | 1.23E+00 | 1.93E+00 | 3.39E+00 | 1.50E+01 | 1.93E+00 | pCi/L |
| Stormwater affected areas - STMA(261316009) - SW | 16-Sep-10 | Cobalt-60 | -1.12E+00 | 1.95E+00 | 3.20E+00 | 1.50E+01 | 1.95E+00 | pCi/L |
| Stormwater affected areas - STMA(250886007) - SW | 16-Mar-10 | Iron-59 | -9.36E-01 | 5.51E+00 | 9.12E+00 | 3.00E+01 | 5.51E+00 | pCi/L |
| Stormwater affected areas - STMA(261316009) - SW | 16-Sep-10 | Iron-59 | -2.17E+00 | 3.75E+00 | 6.00E+00 | 3.00E+01 | 3.75E+00 | pCi/L |
| Stormwater affected areas - STMA(250886007) - SW | 16-Mar-10 | Lanthanum-140 | 2.90E-01 | 1.03E+01 | 1.76E+01 | 1.50E+01 | 1.03E+01 | pCi/L |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Stormwater affected areas - STMA(261316009) - SW | 16-Sep-10 | Lanthanum-140 | 3.03E+00 | 3.46E+00 | 6.14E+00 | 1.50E+01 | 3.46E+00 | pCi/L |
| Stormwater affected areas - STMA(250886007) - SW | 16-Mar-10 | Manganese-54 | 2.31E-01 | 1.86E+00 | 3.22E+00 | 1.50E+01 | 1.86E+00 | pCi/L |
| Stormwater affected areas - STMA(261316009) - SW | 16-Sep-10 | Manganese-54 | 9.38E-01 | 1.80E+00 | 3.11E+00 | 1.50E+01 | 1.80E+00 | pCi/L |
| Stormwater affected areas - STMA(250886007) - SW | 16-Mar-10 | Niobium-95 | -4.22E-01 | 2.38E+00 | 3.84E+00 | 1.50E+01 | 2.38E+00 | pCi/L |
| Stormwater affected areas - STMA(261316009) - SW | 16-Sep-10 | Niobium-95 | 3.51E-01 | 2.04E+00 | 3.48E+00 | 1.50E+01 | 2.04E+00 | pCi/L |
| Stormwater affected areas - STMA(250886007) - SW | 16-Mar-10 | Tritium | 1.41E+02 | 2.89E+02 | 4.65E+02 | 2.00E+03 | 2.91E+02 | pCi/L |
| Stormwater affected areas - STMA(261316009) - SW | 16-Sep-10 | Tritium | -8.87E+01 | 1.54E+02 | 2.84E+02 | 2.00E+03 | 1.54E+02 | pCi/L |
| Stormwater affected areas - STMA(250886007) - SW | 16-Mar-10 | Zinc-65 | 2.69E+00 | 4.06E+00 | 7.18E+00 | 3.00E+01 | 4.06E+00 | pCi/L |
| Stormwater affected areas - STMA(261316009) - SW | 16-Sep-10 | Zinc-65 | -7.77E+00 | 4.30E+00 | 6.33E+00 | 3.00E+01 | 4.30E+00 | pCi/L |

Well #14
GW

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Well #14(267721001) - GW | 17-Nov-10 | Barium-140 | -1.44E+00 | 7.81E+00 | 1.28E+01 | 1.50E+01 | 7.81E+00 | pCi/L |
| Well #14(267721001) - GW | 17-Nov-10 | Cesium-134 | 2.90E-02 | 1.09E+00 | 1.85E+00 | 1.50E+01 | 1.09E+00 | pCi/L |
| Well #14(267721001) - GW | 17-Nov-10 | Cesium-137 | -1.45E-01 | 9.60E-01 | 1.63E+00 | 1.80E+01 | 9.60E-01 | pCi/L |
| Well #14(267721001) - GW | 17-Nov-10 | Cobalt-58 | -6.88E-01 | 9.93E-01 | 1.62E+00 | 1.50E+01 | 9.93E-01 | pCi/L |
| Well #14(267721001) - GW | 17-Nov-10 | Cobalt-60 | 2.70E-01 | 9.47E-01 | 1.64E+00 | 1.50E+01 | 9.47E-01 | pCi/L |
| Well #14(267721001) - GW | 17-Nov-10 | Iron-59 | -2.38E-01 | 2.07E+00 | 3.42E+00 | 3.00E+01 | 2.07E+00 | pCi/L |
| Well #14(267721001) - GW | 17-Nov-10 | Lanthanum-140 | -3.12E-01 | 2.30E+00 | 3.84E+00 | 1.50E+01 | 2.30E+00 | pCi/L |
| Well #14(267721001) - GW | 17-Nov-10 | Manganese-54 | -3.46E-02 | 9.23E-01 | 1.56E+00 | 1.50E+01 | 9.23E-01 | pCi/L |
| Well #14(267721001) - GW | 17-Nov-10 | Niobium-95 | 5.11E-01 | 1.10E+00 | 1.90E+00 | 1.50E+01 | 1.10E+00 | pCi/L |
| Well #14(267721001) - GW | 17-Nov-10 | Tritium | 1.80E+02 | 2.49E+02 | 3.91E+02 | 2.00E+03 | 2.51E+02 | pCi/L |
| Well #14(267721001) - GW | 17-Nov-10 | Zinc-65 | -4.54E+00 | 2.42E+00 | 3.59E+00 | 3.00E+01 | 2.42E+00 | pCi/L |

Well #15
GW

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Well #15(267721002) - GW | 17-Nov-10 | Barium-140 | 6.39E+00 | 7.68E+00 | 1.27E+01 | 1.50E+01 | 7.68E+00 | pCi/L |
| Well #15(267721002) - GW | 17-Nov-10 | Cesium-134 | 8.76E-03 | 1.19E+00 | 2.02E+00 | 1.50E+01 | 1.19E+00 | pCi/L |
| Well #15(267721002) - GW | 17-Nov-10 | Cesium-137 | -2.25E+00 | 2.51E+00 | 2.78E+00 | 1.80E+01 | 2.51E+00 | pCi/L |
| Well #15(267721002) - GW | 17-Nov-10 | Cobalt-58 | -1.85E-01 | 1.03E+00 | 1.73E+00 | 1.50E+01 | 1.03E+00 | pCi/L |
| Well #15(267721002) - GW | 17-Nov-10 | Cobalt-60 | -8.45E-02 | 1.06E+00 | 1.79E+00 | 1.50E+01 | 1.06E+00 | pCi/L |
| Well #15(267721002) - GW | 17-Nov-10 | Iron-59 | 2.04E+00 | 2.45E+00 | 4.24E+00 | 3.00E+01 | 2.45E+00 | pCi/L |
| Well #15(267721002) - GW | 17-Nov-10 | Lanthanum-140 | -7.91E-01 | 2.50E+00 | 4.04E+00 | 1.50E+01 | 2.50E+00 | pCi/L |
| Well #15(267721002) - GW | 17-Nov-10 | Manganese-54 | -1.12E+00 | 9.92E-01 | 1.56E+00 | 1.50E+01 | 9.92E-01 | pCi/L |
| Well #15(267721002) - GW | 17-Nov-10 | Niobium-95 | -6.18E-01 | 1.08E+00 | 1.78E+00 | 1.50E+01 | 1.08E+00 | pCi/L |
| Well #15(267721002) - GW | 17-Nov-10 | Tritium | 2.47E+02 | 2.54E+02 | 3.90E+02 | 2.00E+03 | 2.59E+02 | pCi/L |
| Well #15(267721002) - GW | 17-Nov-10 | Zinc-65 | 7.19E-01 | 2.36E+00 | 3.44E+00 | 3.00E+01 | 2.36E+00 | pCi/L |

Well #16
GW

| Sample Name | Date Collected | Nuclide | Result | 2 Sigma Uncert | MDC | LLD | 2 Sigma TPU | Units |
|---|---|---|---|---|---|---|---|---|
| Well #16(267721003) - GW | 17-Nov-10 | Barium-140 | -1.05E+00 | 7.59E+00 | 1.25E+01 | 1.50E+01 | 7.59E+00 | pCi/L |
| Well #16(267721003) - GW | 17-Nov-10 | Cesium-134 | 5.53E-01 | 1.16E+00 | 2.01E+00 | 1.50E+01 | 1.16E+00 | pCi/L |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Well #16(267721003) - GW | 17-Nov-10 | Cesium-137 | 9.61E-01 | 1.00E+00 | 1.78E+00 | 1.80E+01 | 1.00E+00 | pCi/L |
| Well #16(267721003) - GW | 17-Nov-10 | Cobalt-58 | 2.81E-01 | 1.03E+00 | 1.78E+00 | 1.50E+01 | 1.03E+00 | pCi/L |
| Well #16(267721003) - GW | 17-Nov-10 | Cobalt-60 | 1.13E+00 | 1.04E+00 | 1.83E+00 | 1.50E+01 | 1.04E+00 | pCi/L |
| Well #16(267721003) - GW | 17-Nov-10 | Iron-59 | 5.85E-01 | 2.10E+00 | 3.57E+00 | 3.00E+01 | 2.10E+00 | pCi/L |
| Well #16(267721003) - GW | 17-Nov-10 | Lanthanum-140 | 4.48E-01 | 2.36E+00 | 4.05E+00 | 1.50E+01 | 2.36E+00 | pCi/L |
| Well #16(267721003) - GW | 17-Nov-10 | Manganese-54 | 1.10E-01 | 9.89E-01 | 1.69E+00 | 1.50E+01 | 9.89E-01 | pCi/L |
| Well #16(267721003) - GW | 17-Nov-10 | Niobium-95 | 9.79E-01 | 1.04E+00 | 1.83E+00 | 1.50E+01 | 1.04E+00 | pCi/L |
| Well #16(267721003) - GW | 17-Nov-10 | Tritium | 1.69E+02 | 2.48E+02 | 3.91E+02 | 2.00E+03 | 2.50E+02 | pCi/L |
| Well #16(267721003) - GW | 17-Nov-10 | Zinc-65 | -3.45E+00 | 2.21E+00 | 3.34E+00 | 3.00E+01 | 2.21E+00 | pCi/L |

**ATTACHMENT 5**

**GEL LABORATORIES, LLC**
**INTERLABORATORY COMPARISON PROGRAM RESULTS**

17 Pages Follow

| SAMPLE | ANALYSIS | PALISADES VALUE microCi | ANALYTICS VALUE microCi | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A24738-66 | Ce-141 | 3.48E-05 | 3.62E-05 | 0.96 | 20 | AGREEMENT |
| SOLID | Cr-51 | 1.28E-04 | 1.26E-04 | 1.01 | 20 | AGREEMENT |
| 1 LITER | Cs-134 | 2.03E-05 | 2.07E-05 | 0.98 | 20 | AGREEMENT |
| DET 1 | Cs-137 | 2.44E-05 | 2.39E-05 | 1.02 | 20 | AGREEMENT |
| | Co-58 | 2.23E-05 | 2.25E-05 | 0.99 | 20 | AGREEMENT |
| | Mn-54 | 2.92E-05 | 2.90E-05 | 1.01 | 20 | AGREEMENT |
| | Fe-59 | 3.32E-05 | 3.21E-05 | 1.03 | 20 | AGREEMENT |
| | Zn-65 | 3.60E-05 | 3.61E-05 | 1.00 | 20 | AGREEMENT |
| | Co-60 | 3.07E-05 | 3.12E-05 | 0.98 | 20 | AGREEMENT |
| A24738-66 | Ce-141 | 3.15E-05 | 3.62E-05 | 0.87 | 20 | AGREEMENT |
| SOLID | Cr-51 | 1.17E-04 | 1.26E-04 | 0.93 | 20 | AGREEMENT |
| 1 LITER | Cs-134 | 1.84E-05 | 2.07E-05 | 0.89 | 20 | AGREEMENT |
| DET 2 | Cs-137 | 2.30E-05 | 2.39E-05 | 0.96 | 20 | AGREEMENT |
| | Co-58 | 2.06E-05 | 2.25E-05 | 0.92 | 20 | AGREEMENT |
| | Mn-54 | 2.74E-05 | 2.90E-05 | 0.94 | 20 | AGREEMENT |
| | Fe-59 | 3.00E-05 | 3.21E-05 | 0.93 | 20 | AGREEMENT |
| | Zn-65 | 3.26E-05 | 3.61E-05 | 0.90 | 20 | AGREEMENT |
| | Co-60 | 2.81E-05 | 3.12E-05 | 0.90 | 20 | AGREEMENT |

| SAMPLE | ANALYSIS | PALISADES VALUE microCi | ANALYTICS VALUE microCi | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A24738-66 | Ce-141 | 3.10E-05 | 3.62E-05 | 0.86 | 20 | AGREEMENT |
| SOLID | Cr-51 | 1.10E-04 | 1.26E-04 | 0.87 | 20 | AGREEMENT |
| 1 LITER | Cs-134 | 1.82E-05 | 2.07E-05 | 0.88 | 20 | AGREEMENT |
| DET 3 | Cs-137 | 2.10E-05 | 2.39E-05 | 0.88 | 20 | AGREEMENT |
| | Co-58 | 2.00E-05 | 2.25E-05 | 0.89 | 20 | AGREEMENT |
| | Mn-54 | 2.51E-05 | 2.90E-05 | 0.87 | 20 | AGREEMENT |
| | Fe-59 | 2.76E-05 | 3.21E-05 | 0.86 | 20 | AGREEMENT |
| | Zn-65 | 3.14E-05 | 3.61E-05 | 0.87 | 20 | AGREEMENT |
| | Co-60 | 2.72E-05 | 3.12E-05 | 0.87 | 20 | AGREEMENT |
| A24739-66 | Ce-141 | 3.83E-05 | 3.79E-05 | 1.01 | 20 | AGREEMENT |
| SIMULATED | Cr-51 | 1.32E-04 | 1.32E-04 | 1.00 | 20 | AGREEMENT |
| GAS | Cs-134 | 2.12E-05 | 2.16E-05 | 0.98 | 20 | AGREEMENT |
| 1 LITER | Cs-137 | 2.55E-05 | 2.50E-05 | 1.02 | 20 | AGREEMENT |
| DET 1 | Co-58 | 2.32E-05 | 2.35E-05 | 0.99 | 20 | AGREEMENT |
| | Mn-54 | 3.03E-05 | 3.04E-05 | 1.00 | 20 | AGREEMENT |
| | Fe-59 | 3.37E-05 | 3.36E-05 | 1.00 | 20 | AGREEMENT |
| | Zn-65 | 3.75E-05 | 3.78E-05 | 0.99 | 20 | AGREEMENT |
| | Co-60 | 3.29E-05 | 3.26E-05 | 1.01 | 20 | AGREEMENT |

| SAMPLE | ANALYSIS | PALISADES VALUE microCi | ANALYTICS VALUE microCi | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A24739-66 | Ce-141 | 3.45E-05 | 3.79E-05 | 0.91 | 20 | AGREEMENT |
| SIMULATED | Cr-51 | 1.24E-04 | 1.32E-04 | 0.94 | 20 | AGREEMENT |
| GAS | Cs-134 | 2.10E-05 | 2.16E-05 | 0.97 | 20 | AGREEMENT |
| 1 LITER | Cs-137 | 2.54E-05 | 2.50E-05 | 1.01 | 20 | AGREEMENT |
| DET 2 | Co-58 | 2.37E-05 | 2.35E-05 | 1.01 | 20 | AGREEMENT |
| | Mn-54 | 2.96E-05 | 3.04E-05 | 0.97 | 20 | AGREEMENT |
| | Fe-59 | 3.27E-05 | 3.36E-05 | 0.97 | 20 | AGREEMENT |
| | Zn-65 | 3.70E-05 | 3.78E-05 | 0.98 | 20 | AGREEMENT |
| | Co-60 | 3.10E-05 | 3.26E-05 | 0.95 | 20 | AGREEMENT |
| A24739-66 | Ce-141 | 3.48E-05 | 3.79E-05 | 0.92 | 20 | AGREEMENT |
| GAS | Cr-51 | 1.18E-04 | 1.32E-04 | 0.89 | 20 | AGREEMENT |
| 1 LITER | Cs-134 | 1.94E-05 | 2.16E-05 | 0.90 | 20 | AGREEMENT |
| DET 3 | Cs-137 | 2.33E-05 | 2.50E-05 | 0.93 | 20 | AGREEMENT |
| | Co-58 | 2.26E-05 | 2.35E-05 | 0.96 | 20 | AGREEMENT |
| | Mn-54 | 2.83E-05 | 3.04E-05 | 0.93 | 20 | AGREEMENT |
| | Fe-59 | 3.30E-05 | 3.36E-05 | 0.98 | 20 | AGREEMENT |
| | Zn-65 | 3.54E-05 | 3.78E-05 | 0.94 | 20 | AGREEMENT |
| | Co-60 | 3.06E-05 | 3.26E-05 | 0.94 | 20 | AGREEMENT |

| SAMPLE | ANALYSIS | PALISADES VALUE microCi | ANALYTICS VALUE microCi | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A24740-66 | Ce-141 | 5.46E-04 | 5.55E-04 | 0.98 | 20 | AGREEMENT |
| SOLID | Cr-51 | 1.96E-03 | 1.94E-03 | 1.01 | 20 | AGREEMENT |
| 50 ML | Cs-134 | 2.95E-04 | 3.17E-04 | 0.93 | 20 | AGREEMENT |
| DET 1 | Cs-137 | 3.81E-04 | 3.67E-04 | 1.04 | 20 | AGREEMENT |
| | Co-58 | 3.46E-04 | 3.45E-04 | 1.00 | 20 | AGREEMENT |
| | Mn-54 | 4.60E-04 | 4.45E-04 | 1.03 | 20 | AGREEMENT |
| | Fe-59 | 5.15E-04 | 4.92E-04 | 1.05 | 20 | AGREEMENT |
| | Zn-65 | 5.64E-04 | 5.53E-04 | 1.02 | 20 | AGREEMENT |
| | Co-60 | 4.73E-04 | 4.78E-04 | 0.99 | 20 | AGREEMENT |
| A24740-66 | Ce-141 | 4.94E-04 | 5.55E-04 | 0.89 | 20 | AGREEMENT |
| SOLID | Cr-51 | 1.78E-03 | 1.94E-03 | 0.92 | 20 | AGREEMENT |
| 50 ML | Cs-134 | 2.93E-04 | 3.17E-04 | 0.93 | 20 | AGREEMENT |
| DET 2 | Cs-137 | 3.31E-04 | 3.67E-04 | 0.90 | 20 | AGREEMENT |
| | Co-58 | 3.36E-04 | 3.45E-04 | 0.98 | 20 | AGREEMENT |
| | Mn-54 | 4.44E-04 | 4.45E-04 | 1.00 | 20 | AGREEMENT |
| | Fe-59 | 4.83E-04 | 4.92E-04 | 0.98 | 20 | AGREEMENT |
| | Zn-65 | 5.41E-04 | 5.53E-04 | 0.98 | 20 | AGREEMENT |
| | Co-60 | 4.57E-04 | 4.78E-04 | 0.96 | 20 | AGREEMENT |

| SAMPLE | ANALYSIS | PALISADES VALUE microCi | ANALYTICS VALUE microCi | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A24740-66 | Ce-141 | 4.87E-04 | 5.55E-04 | 0.88 | 20 | AGREEMENT |
| SOLID | Cr-51 | 1.71E-03 | 1.94E-03 | 0.88 | 20 | AGREEMENT |
| 50 ML | Cs-134 | 2.85E-04 | 3.17E-04 | 0.90 | 20 | AGREEMENT |
| DET 3 | Cs-137 | 3.53E-04 | 3.67E-04 | 0.96 | 20 | AGREEMENT |
| | Co-58 | 3.25E-04 | 3.45E-04 | 0.94 | 20 | AGREEMENT |
| | Mn-54 | 4.13E-04 | 4.45E-04 | 0.93 | 20 | AGREEMENT |
| | Fe-59 | 4.64E-04 | 4.92E-04 | 0.94 | 20 | AGREEMENT |
| | Zn-65 | 5.17E-04 | 5.53E-04 | 0.94 | 20 | AGREEMENT |
| | Co-60 | 4.46E-04 | 4.78E-04 | 0.93 | 20 | AGREEMENT |
| A24741-66 | Ce-141 | 3.68E-05 | 3.62E-05 | 1.02 | 20 | AGREEMENT |
| SOLID | Cr-51 | 1.30E-04 | 1.26E-04 | 1.03 | 20 | AGREEMENT |
| 1 LITER | Cs-134 | 1.95E-05 | 2.06E-05 | 0.94 | 20 | AGREEMENT |
| DET 4 | Cs-137 | 2.69E-05 | 2.39E-05 | 1.13 | 20 | AGREEMENT |
| | Co-58 | 2.57E-05 | 2.25E-05 | 1.14 | 20 | AGREEMENT |
| | Mn-54 | 3.27E-05 | 2.90E-05 | 1.13 | 20 | AGREEMENT |
| | Fe-59 | 3.58E-05 | 3.21E-05 | 1.12 | 20 | AGREEMENT |
| | Zn-65 | 3.95E-05 | 3.60E-05 | 1.10 | 20 | AGREEMENT |
| | Co-60 | 3.20E-05 | 3.11E-05 | 1.03 | 20 | AGREEMENT |

| SAMPLE | ANALYSIS | PALISADES VALUE microCi | ANALYTICS VALUE microCi | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A25106-66 | Ce-141 | 5.97E-02 | 5.92E-02 | 1.01 | 20 | AGREEMENT |
| CARTRIDGE | Cr-51 | 1.21E-01 | 1.21E-01 | 1.00 | 20 | AGREEMENT |
| BG-300 | Cs-134 | 1.98E-02 | 2.11E-02 | 0.94 | 20 | AGREEMENT |
| DET 1 | Cs-137 | 2.24E-02 | 2.09E-02 | 1.07 | 20 | AGREEMENT |
| | Co-58 | 2.32E-02 | 2.26E-02 | 1.02 | 20 | AGREEMENT |
| | Mn-54 | 2.99E-02 | 2.84E-02 | 1.05 | 20 | AGREEMENT |
| | Fe-59 | 3.71E-02 | 3.41E-02 | 1.09 | 20 | AGREEMENT |
| | Zn-65 | 5.29E-02 | 4.95E-02 | 1.07 | 20 | AGREEMENT |
| | Co-60 | 3.85E-02 | 3.81E-02 | 1.01 | 20 | AGREEMENT |
| A25106-66 | Ce-141 | 5.83E-02 | 5.92E-02 | 0.98 | 20 | AGREEMENT |
| CARTRIDGE | Cr-51 | 1.20E-01 | 1.21E-01 | 1.00 | 20 | AGREEMENT |
| BG-300 | Cs-134 | 2.00E-02 | 2.11E-02 | 0.95 | 20 | AGREEMENT |
| DET 2 | Cs-137 | 2.35E-02 | 2.09E-02 | 1.13 | 20 | AGREEMENT |
| | Co-58 | 2.42E-02 | 2.26E-02 | 1.07 | 20 | AGREEMENT |
| | Mn-54 | 3.10E-02 | 2.84E-02 | 1.09 | 20 | AGREEMENT |
| | Fe-59 | 3.88E-02 | 3.41E-02 | 1.14 | 20 | AGREEMENT |
| | Zn-65 | 5.33E-02 | 4.95E-02 | 1.08 | 20 | AGREEMENT |
| | Co-60 | 3.83E-02 | 3.81E-02 | 1.01 | 20 | AGREEMENT |

| SAMPLE | ANALYSIS | PALISADES VALUE microCi | ANALYTICS VALUE microCi | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A25106-66 | Ce-141 | 5.48E-02 | 5.92E-02 | 0.93 | 20 | AGREEMENT |
| CARTRIDGE | Cr-51 | 1.10E-01 | 1.21E-01 | 0.91 | 20 | AGREEMENT |
| BG-300 | Cs-134 | 1.87E-02 | 2.11E-02 | 0.88 | 20 | AGREEMENT |
| DET 3 | Cs-137 | 2.09E-02 | 2.09E-02 | 1.00 | 20 | AGREEMENT |
| | Co-58 | 2.17E-02 | 2.26E-02 | 0.96 | 20 | AGREEMENT |
| | Mn-54 | 2.82E-02 | 2.84E-02 | 0.99 | 20 | AGREEMENT |
| | Fe-59 | 3.41E-02 | 3.41E-02 | 1.00 | 20 | AGREEMENT |
| | Zn-65 | 5.01E-02 | 4.95E-02 | 1.01 | 20 | AGREEMENT |
| | Co-60 | 3.62E-02 | 3.81E-02 | 0.95 | 20 | AGREEMENT |
| A25107-66* | Ce-141 | 1.25E-03 | 1.30E-03 | 0.96 | 20 | AGREEMENT |
| SIMULATED | Cr-51 | 2.54E-03 | 2.64E-03 | 0.96 | 20 | AGREEMENT |
| GAS | Cs-134 | 4.12E-04 | 4.64E-04 | 0.89 | 20 | AGREEMENT |
| 25 CC VIAL | Cs-137 | 4.62E-04 | 4.58E-04 | 1.01 | 20 | AGREEMENT |
| DET 1 | Co-58 | 4.84E-04 | 4.97E-04 | 0.97 | 20 | AGREEMENT |
| | Mn-54 | 6.25E-04 | 6.23E-04 | 1.00 | 20 | AGREEMENT |
| | Fe-59 | 7.63E-04 | 7.48E-04 | 1.02 | 20 | AGREEMENT |
| | Zn-65 | 1.11E-03 | 1.09E-03 | 1.02 | 20 | AGREEMENT |
| | Co-60 | 8.10E-04 | 8.35E-04 | 0.97 | 20 | AGREEMENT |

* microCi/cc

| SAMPLE | ANALYSIS | PALISADES VALUE microCi/cc | ANALYTICS VALUE microCi/cc | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A25107-66 | Ce-141 | 1.21E-03 | 1.30E-03 | 0.93 | 20 | AGREEMENT |
| SIMULATED | Cr-51 | 2.55E-03 | 2.64E-03 | 0.96 | 20 | AGREEMENT |
| GAS | Cs-134 | 4.30E-04 | 4.64E-04 | 0.93 | 20 | AGREEMENT |
| 25 CC VIAL | Cs-137 | 4.98E-04 | 4.58E-04 | 1.09 | 20 | AGREEMENT |
| DET 2 | Co-58 | 5.07E-04 | 4.97E-04 | 1.02 | 20 | AGREEMENT |
| | Mn-54 | 6.71E-04 | 6.23E-04 | 1.08 | 20 | AGREEMENT |
| | Fe-59 | 8.08E-04 | 7.48E-04 | 1.08 | 20 | AGREEMENT |
| | Zn-65 | 1.13E-03 | 1.09E-03 | 1.04 | 20 | AGREEMENT |
| | Co-60 | 8.20E-04 | 8.35E-04 | 0.98 | 20 | AGREEMENT |
| A25107-66 | Ce-141 | 1.10E-03 | 1.30E-03 | 0.85 | 20 | AGREEMENT |
| SIMULATED | Cr-51 | 2.22E-03 | 2.64E-03 | 0.84 | 20 | AGREEMENT |
| GAS | Cs-134 | 3.91E-04 | 4.64E-04 | 0.84 | 20 | AGREEMENT |
| 25 CC VIAL | Cs-137 | 4.23E-04 | 4.58E-04 | 0.92 | 20 | AGREEMENT |
| DET 3 | Co-58 | 4.32E-04 | 4.97E-04 | 0.87 | 20 | AGREEMENT |
| | Mn-54 | 5.58E-04 | 6.23E-04 | 0.90 | 20 | AGREEMENT |
| | Fe-59 | 6.81E-04 | 7.48E-04 | 0.91 | 20 | AGREEMENT |
| | Zn-65 | 9.97E-04 | 1.09E-03 | 0.92 | 20 | AGREEMENT |
| | Co-60 | 7.33E-04 | 8.35E-04 | 0.88 | 20 | AGREEMENT |

| SAMPLE | ANALYSIS | PALISADES VALUE microCi/cc | ANALYTICS VALUE microCi/cc | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A25108-66 | Ce-141 | 6.15E-05 | 5.91E-05 | 1.04 | 20 | AGREEMENT |
| SAND | Cr-51 | 1.27E-04 | 1.20E-04 | 1.06 | 20 | AGREEMENT |
| 1 LITER | Cs-134 | 2.12E-05 | 2.11E-05 | 1.01 | 20 | AGREEMENT |
| DET 1 | Cs-137 | 2.32E-05 | 2.08E-05 | 1.11 | 20 | AGREEMENT |
| | Co-58 | 2.40E-05 | 2.26E-05 | 1.06 | 20 | AGREEMENT |
| | Mn-54 | 2.94E-05 | 2.83E-05 | 1.04 | 20 | AGREEMENT |
| | Fe-59 | 3.80E-05 | 3.40E-05 | 1.12 | 20 | AGREEMENT |
| | Zn-65 | 5.22E-05 | 4.93E-05 | 1.06 | 20 | AGREEMENT |
| | Co-60 | 3.97E-05 | 3.80E-05 | 1.05 | 20 | AGREEMENT |
| A25108-66 | Ce-141 | 6.06E-05 | 5.91E-05 | 1.03 | 20 | AGREEMENT |
| SAND | Cr-51 | 1.29E-04 | 1.20E-04 | 1.07 | 20 | AGREEMENT |
| 1 LITER | Cs-134 | 2.25E-05 | 2.11E-05 | 1.07 | 20 | AGREEMENT |
| DET 2 | Cs-137 | 2.44E-05 | 2.08E-05 | 1.17 | 20 | AGREEMENT |
| | Co-58 | 2.58E-05 | 2.26E-05 | 1.14 | 20 | AGREEMENT |
| | Mn-54 | 3.25E-05 | 2.83E-05 | 1.15 | 20 | AGREEMENT |
| | Fe-59 | 4.03E-05 | 3.40E-05 | 1.18 | 20 | AGREEMENT |
| | Zn-65 | 5.52E-05 | 4.93E-05 | 1.12 | 20 | AGREEMENT |
| | Co-60 | 4.12E-05 | 3.80E-05 | 1.08 | 20 | AGREEMENT |

| SAMPLE | ANALYSIS | PALISADES VALUE microCi/cc | ANALYTICS VALUE microCi/cc | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A25108-66 | Ce-141 | 5.60E-05 | 5.91E-05 | 0.95 | 20 | AGREEMENT |
| SAND | Cr-51 | 1.18E-04 | 1.20E-04 | 0.98 | 20 | AGREEMENT |
| 1 LITER | Cs-134 | 1.97E-05 | 2.11E-05 | 0.93 | 20 | AGREEMENT |
| DET 3 | Cs-137 | 2.12E-05 | 2.08E-05 | 1.02 | 20 | AGREEMENT |
| | Co-58 | 2.26E-05 | 2.26E-05 | 1.00 | 20 | AGREEMENT |
| | Mn-54 | 2.78E-05 | 2.83E-05 | 0.98 | 20 | AGREEMENT |
| | Fe-59 | 3.45E-05 | 3.40E-05 | 1.01 | 20 | AGREEMENT |
| | Zn-65 | 4.72E-05 | 4.93E-05 | 0.96 | 20 | AGREEMENT |
| | Co-60 | 3.68E-05 | 3.80E-05 | 0.97 | 20 | AGREEMENT |
| A25108-66 | Ce-141 | 6.02E-05 | 5.91E-05 | 1.02 | 20 | AGREEMENT |
| SAND | Cr-51 | 1.34E-04 | 1.20E-04 | 1.11 | 20 | AGREEMENT |
| 1 LITER | Cs-134 | 1.99E-05 | 2.11E-05 | 0.94 | 20 | AGREEMENT |
| DET 4 | Cs-137 | 2.28E-05 | 2.08E-05 | 1.10 | 20 | AGREEMENT |
| | Co-58 | 2.40E-05 | 2.26E-05 | 1.06 | 20 | AGREEMENT |
| | Mn-54 | 3.06E-05 | 2.83E-05 | 1.08 | 20 | AGREEMENT |
| | Fe-59 | 3.89E-05 | 3.40E-05 | 1.14 | 20 | AGREEMENT |
| | Zn-65 | 5.26E-05 | 4.93E-05 | 1.07 | 20 | AGREEMENT |
| | Co-60 | 3.81E-05 | 3.80E-05 | 1.00 | 20 | AGREEMENT |

| SAMPLE | ANALYSIS | PALISADES VALUE microCi | ANALYTICS VALUE microCi | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A25109-66 | Ce-141 | 6.05E-02 | 5.92E-02 | 1.02 | 20 | AGREEMENT |
| CHARCOAL | Cr-51 | 1.20E-01 | 1.21E-01 | 1.00 | 20 | AGREEMENT |
| CARTRIDGE | Cs-134 | 1.96E-02 | 2.11E-02 | 0.93 | 20 | AGREEMENT |
| DE-500 | Cs-137 | 2.25E-02 | 2.09E-02 | 1.08 | 20 | AGREEMENT |
| DET 1 | Co-58 | 2.36E-02 | 2.26E-02 | 1.04 | 20 | AGREEMENT |
| | Mn-54 | 3.07E-02 | 2.84E-02 | 1.08 | 20 | AGREEMENT |
| | Fe-59 | 3.80E-02 | 3.41E-02 | 1.11 | 20 | AGREEMENT |
| | Zn-65 | 5.37E-02 | 4.95E-02 | 1.09 | 20 | AGREEMENT |
| | Co-60 | 3.86E-02 | 3.81E-02 | 1.01 | 20 | AGREEMENT |
| A25109-66 | Ce-141 | 5.84E-02 | 5.92E-02 | 0.99 | 20 | AGREEMENT |
| CHARCOAL | Cr-51 | 1.24E-01 | 1.21E-01 | 1.03 | 20 | AGREEMENT |
| CARTRIDGE | Cs-134 | 2.06E-02 | 2.11E-02 | 0.97 | 20 | AGREEMENT |
| DE-500 | Cs-137 | 2.42E-02 | 2.09E-02 | 1.16 | 20 | AGREEMENT |
| DET 2 | Co-58 | 2.52E-02 | 2.26E-02 | 1.11 | 20 | AGREEMENT |
| | Mn-54 | 3.28E-02 | 2.84E-02 | 1.16 | 20 | AGREEMENT |
| | Fe-59 | 3.92E-02 | 3.41E-02 | 1.15 | 20 | AGREEMENT |
| | Zn-65 | 5.64E-02 | 4.95E-02 | 1.14 | 20 | AGREEMENT |
| | Co-60 | 4.02E-02 | 3.81E-02 | 1.06 | 20 | AGREEMENT |

| SAMPLE | ANALYSIS | PALISADES VALUE microCi | ANALYTICS VALUE microCi | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A25109-66 | Ce-141 | 5.36E-02 | 5.92E-02 | 0.90 | 20 | AGREEMENT |
| CHARCOAL | Cr-51 | 1.08E-01 | 1.21E-01 | 0.90 | 20 | AGREEMENT |
| CARTRIDGE | Cs-134 | 1.80E-02 | 2.11E-02 | 0.85 | 20 | AGREEMENT |
| DE-500 | Cs-137 | 1.99E-02 | 2.09E-02 | 0.95 | 20 | AGREEMENT |
| DET 3 | Co-58 | 2.10E-02 | 2.26E-02 | 0.93 | 20 | AGREEMENT |
| | Mn-54 | 2.73E-02 | 2.84E-02 | 0.96 | 20 | AGREEMENT |
| | Fe-59 | 3.38E-02 | 3.41E-02 | 0.99 | 20 | AGREEMENT |
| | Zn-65 | 4.72E-02 | 4.95E-02 | 0.95 | 20 | AGREEMENT |
| | Co-60 | 3.53E-02 | 3.81E-02 | 0.93 | 20 | AGREEMENT |

| SAMPLE | ANALYSIS | PALISADES VALUE microCi/cc | ANALYTICS VALUE microCi/cc | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A25273-66 | Cr-51 | 8.77E-02 | 7.88E-02 | 1.11 | 20 | AGREEMENT |
| CARTRIDGE | Cs-134 | 1.44E-02 | 1.42E-02 | 1.02 | 20 | AGREEMENT |
| RGEM | Cs-137 | 1.93E-02 | 1.64E-02 | 1.17 | 20 | AGREEMENT |
| DET 1 | Co-58 | 1.17E-02 | 1.03E-02 | 1.14 | 20 | AGREEMENT |
| | Mn-54 | 1.35E-02 | 1.12E-02 | 1.21 | 20 | AGREEMENT |
| | Fe-59 | 2.14E-02 | 1.76E-02 | 1.22 | 20 | AGREEMENT |
| | Zn-65 | 1.99E-02 | 1.65E-02 | 1.21 | 20 | AGREEMENT |
| | Co-60 | 2.86E-02 | 2.67E-02 | 1.07 | 20 | AGREEMENT |
| A25273-66 | Cr-51 | 8.52E-02 | 7.88E-02 | 1.08 | 20 | AGREEMENT |
| CARTRIDGE | Cs-134 | 1.46E-02 | 1.42E-02 | 1.03 | 20 | AGREEMENT |
| RGEM | Cs-137 | 2.01E-02 | 1.64E-02 | 1.22 | 20 | AGREEMENT |
| DET 2 | Co-58 | 1.22E-02 | 1.03E-02 | 1.19 | 20 | AGREEMENT |
| | Mn-54 | 1.39E-02 | 1.12E-02 | 1.24 | 20 | AGREEMENT |
| | Fe-59 | 2.19E-02 | 1.76E-02 | 1.25 | 20 | AGREEMENT |
| | Zn-65 | 2.00E-02 | 1.65E-02 | 1.21 | 20 | AGREEMENT |
| | Co-60 | 2.83E-02 | 2.67E-02 | 1.06 | 20 | AGREEMENT |

| SAMPLE | ANALYSIS | PALISADES VALUE microCi/cc | ANALYTICS VALUE microCi/cc | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A25273-66 | Cr-51 | 7.21E-02 | 7.88E-02 | 0.91 | 20 | AGREEMENT |
| CARTRIDGE | Cs-134 | 1.25E-02 | 1.42E-02 | 0.88 | 20 | AGREEMENT |
| RGEM | Cs-137 | 1.62E-02 | 1.64E-02 | 0.99 | 20 | AGREEMENT |
| DET 3 | Co-58 | 9.86E-03 | 1.03E-02 | 0.96 | 20 | AGREEMENT |
| | Mn-54 | 1.14E-02 | 1.12E-02 | 1.02 | 20 | AGREEMENT |
| | Fe-59 | 1.80E-02 | 1.76E-02 | 1.03 | 20 | AGREEMENT |
| | Zn-65 | 1.68E-02 | 1.65E-02 | 1.02 | 20 | AGREEMENT |
| | Co-60 | 2.45E-02 | 2.67E-02 | 0.92 | 20 | AGREEMENT |
| A25274-66 | Cr-51 | 5.16E-03 | 4.93E-03 | 1.05 | 20 | AGREEMENT |
| SOLID | Cs-134 | 9.06E-04 | 8.86E-04 | 1.02 | 20 | AGREEMENT |
| DET 1 | Cs-137 | 1.05E-03 | 1.03E-03 | 1.02 | 20 | AGREEMENT |
| 7.2 ML BOMB | Co-58 | 6.81E-04 | 6.44E-04 | 1.06 | 20 | AGREEMENT |
| | Mn-54 | 7.61E-04 | 7.00E-04 | 1.09 | 20 | AGREEMENT |
| | Fe-59 | 1.15E-03 | 1.10E-03 | 1.05 | 20 | AGREEMENT |
| | Zn-65 | 1.03E-03 | 1.03E-03 | 1.00 | 20 | AGREEMENT |
| | Co-60 | 1.64E-03 | 1.67E-03 | 0.98 | 20 | AGREEMENT |

| SAMPLE | ANALYSIS | PALISADES VALUE microCi/cc | ANALYTICS VALUE microCi/cc | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A25274-66 | Cr-51 | 4.95E-03 | 4.93E-03 | 1.00 | 20 | AGREEMENT |
| SOLID | Cs-134 | 9.53E-04 | 8.86E-04 | 1.08 | 20 | AGREEMENT |
| DET 2 | Cs-137 | 1.06E-03 | 1.03E-03 | 1.03 | 20 | AGREEMENT |
| 7.2 ML BOMB | Co-58 | 7.05E-04 | 6.44E-04 | 1.09 | 20 | AGREEMENT |
| | Mn-54 | 7.22E-04 | 7.00E-04 | 1.03 | 20 | AGREEMENT |
| | Fe-59 | 1.19E-03 | 1.10E-03 | 1.08 | 20 | AGREEMENT |
| | Zn-65 | 1.05E-03 | 1.03E-03 | 1.02 | 20 | AGREEMENT |
| | Co-60 | 1.66E-03 | 1.67E-03 | 0.99 | 20 | AGREEMENT |
| A25274-66 | Cr-51 | 4.36E-03 | 4.93E-03 | 0.88 | 20 | AGREEMENT |
| SOLID | Cs-134 | 8.82E-04 | 8.86E-04 | 1.00 | 20 | AGREEMENT |
| DET 3 | Cs-137 | 1.06E-03 | 1.03E-03 | 1.03 | 20 | AGREEMENT |
| 7.2 ML BOMB | Co-58 | 6.28E-04 | 6.44E-04 | 0.98 | 20 | AGREEMENT |
| | Mn-54 | 7.38E-04 | 7.00E-04 | 1.05 | 20 | AGREEMENT |
| | Fe-59 | 1.02E-03 | 1.10E-03 | 0.93 | 20 | AGREEMENT |
| | Zn-65 | 1.15E-03 | 1.03E-03 | 1.11 | 20 | AGREEMENT |
| | Co-60 | 1.58E-03 | 1.67E-03 | 0.94 | 20 | AGREEMENT |

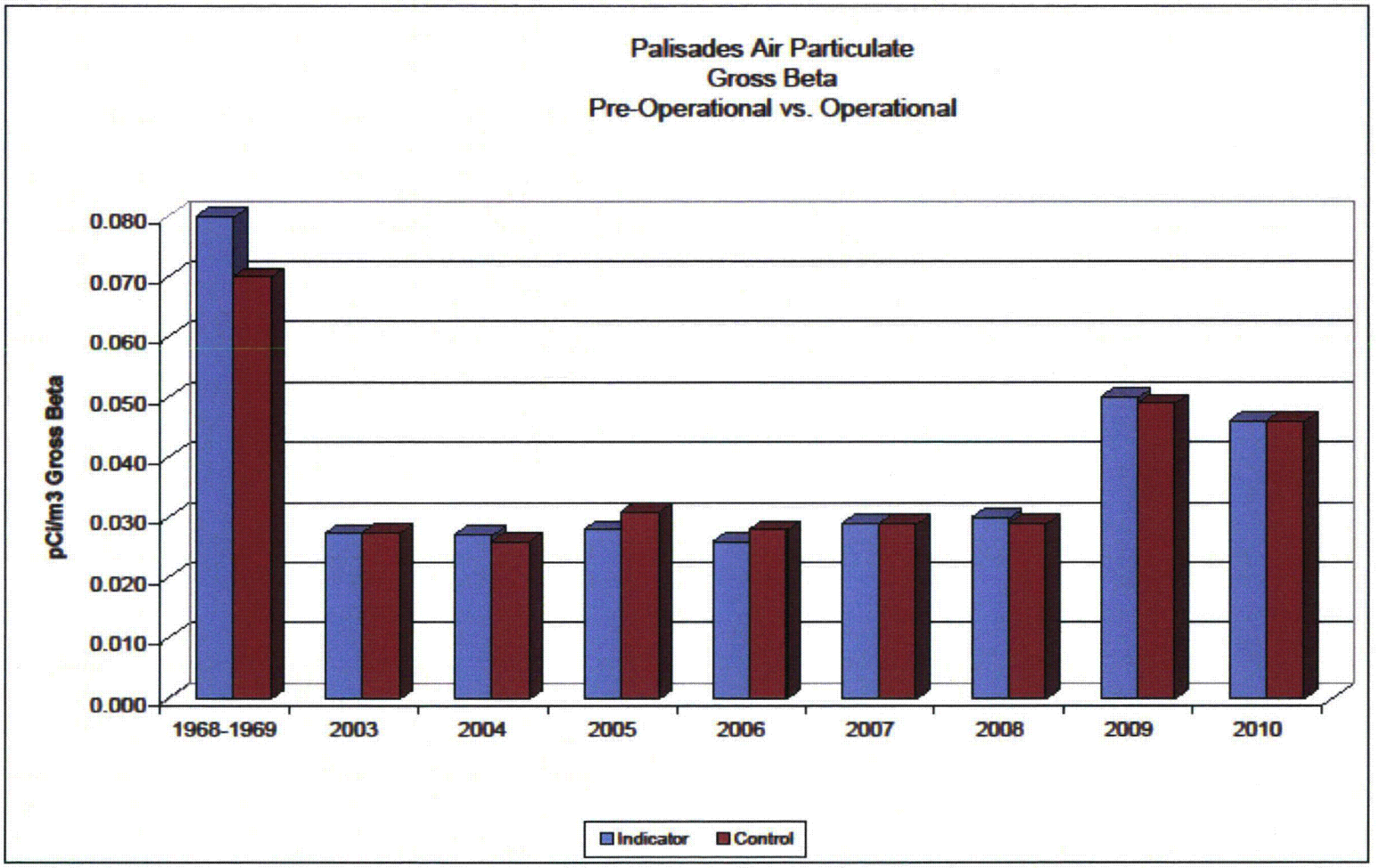
| SAMPLE | ANALYSIS | PALISADES VALUE microCi/cc | ANALYTICS VALUE microCi/cc | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A25275-66 | Cr-51 | 1.48E-01 | 1.50E-01 | 0.99 | 20 | AGREEMENT |
| FILTER | Cs-134 | 2.44E-02 | 2.69E-02 | 0.91 | 20 | AGREEMENT |
| SIMULATED | Cs-137 | 3.22E-02 | 3.12E-02 | 1.03 | 20 | AGREEMENT |
| 4 CM | Co-58 | 1.96E-02 | 1.95E-02 | 1.00 | 20 | AGREEMENT |
| DET 1 | Mn-54 | 2.30E-02 | 2.12E-02 | 1.08 | 20 | AGREEMENT |
| | Fe-59 | 3.63E-02 | 3.33E-02 | 1.09 | 20 | AGREEMENT |
| | Zn-65 | 3.32E-02 | 3.13E-02 | 1.06 | 20 | AGREEMENT |
| | Co-60 | 4.96E-02 | 5.07E-02 | 0.98 | 20 | AGREEMENT |
| A25275-66 | Cr-51 | 1.44E-01 | 1.50E-01 | 0.96 | 20 | AGREEMENT |
| FILTER | Cs-134 | 2.48E-02 | 2.69E-02 | 0.92 | 20 | AGREEMENT |
| SIMULATED | Cs-137 | 3.34E-02 | 3.12E-02 | 1.07 | 20 | AGREEMENT |
| 4 CM | Co-58 | 2.06E-02 | 1.95E-02 | 1.06 | 20 | AGREEMENT |
| DET 2 | Mn-54 | 2.36E-02 | 2.12E-02 | 1.11 | 20 | AGREEMENT |
| | Fe-59 | 3.70E-02 | 3.33E-02 | 1.11 | 20 | AGREEMENT |
| | Zn-65 | 3.41E-02 | 3.13E-02 | 1.09 | 20 | AGREEMENT |
| | Co-60 | 4.91E-02 | 5.07E-02 | 0.97 | 20 | AGREEMENT |

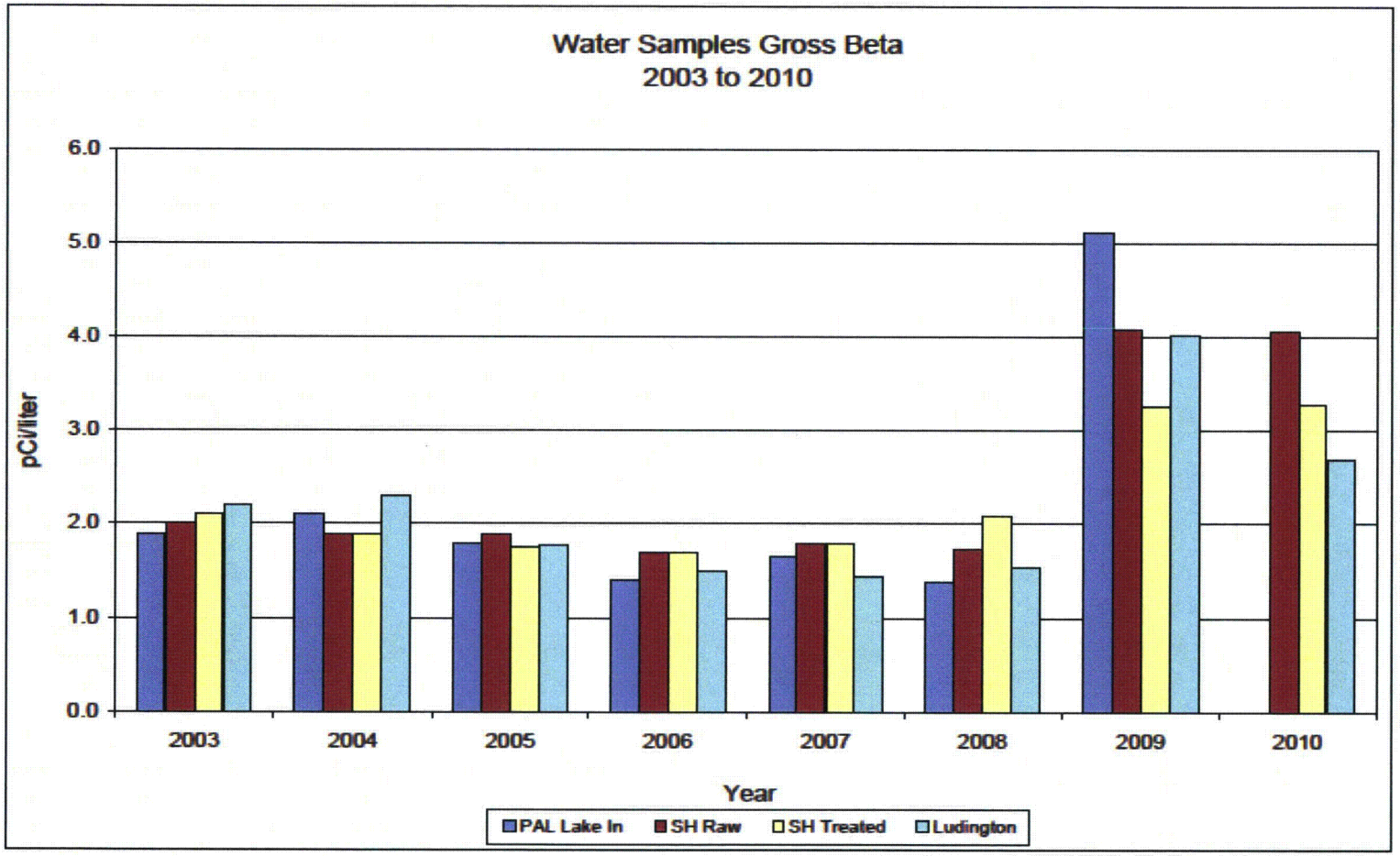
| SAMPLE | ANALYSIS | PALISADES VALUE microCi/cc | ANALYTICS VALUE microCi/cc | RATIO PALISADES: ANALYTICS | RESOLUTION | COMPARISON |
|---|---|---|---|---|---|---|
| A25275-66 | Cr-51 | 1.48E-01 | 1.50E-01 | 0.99 | 20 | AGREEMENT |
| FILTER | Cs-134 | 2.46E-02 | 2.69E-02 | 0.92 | 20 | AGREEMENT |
| SIMULATED | Cs-137 | 3.16E-02 | 3.12E-02 | 1.01 | 20 | AGREEMENT |
| 4 CM | Co-58 | 1.95E-02 | 1.95E-02 | 1.00 | 20 | AGREEMENT |
| DET 3 | Mn-54 | 2.28E-02 | 2.12E-02 | 1.07 | 20 | AGREEMENT |
| | Fe-59 | 3.61E-02 | 3.33E-02 | 1.08 | 20 | AGREEMENT |
| | Zn-65 | 3.27E-02 | 3.13E-02 | 1.04 | 20 | AGREEMENT |
| | Co-60 | 4.95E-02 | 5.07E-02 | 0.98 | 20 | AGREEMENT |
| A25276-66 LIQUID | Tritium | 7.31E-04 | 7.50E-04 | 0.97 | 12.5 | AGREEMENT |

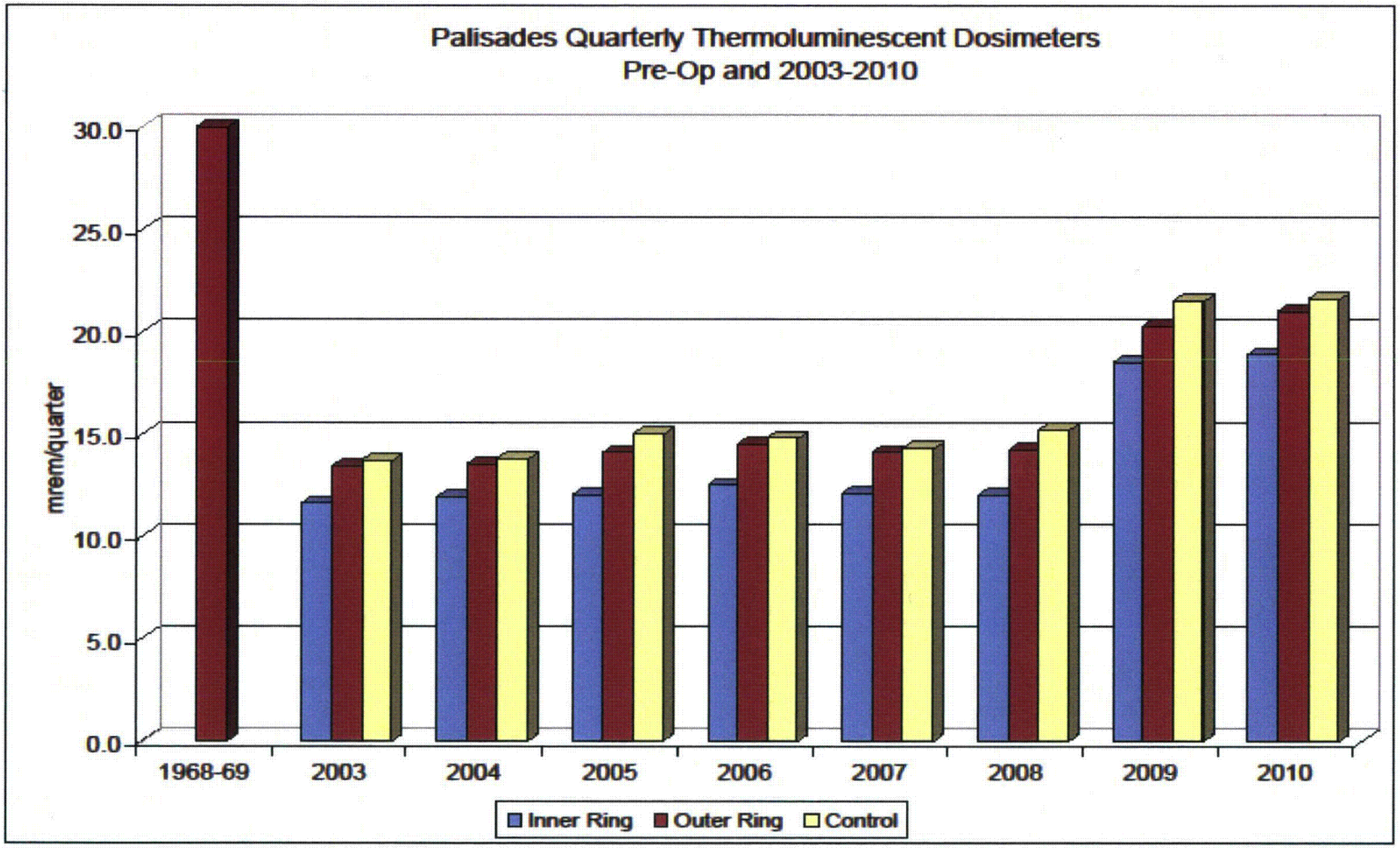
# ATTACHMENT 6

# DATA GRAPHS

3 Pages Follow


Palisades Air Particulate
Gross Beta
Pre-Operational vs. Operational
pCi/m3 Gross Beta
0.080
0.070
0.060
0.050
0.040
0.030
0.020
0.010
0.000
1968-1969
2003
2004
2005
2006
2007
2008
2009
2010
Indicator
Control


Water Samples Gross Beta
2003 to 2010
pCi/liter
6.0
5.0
4.0
3.0
2.0
1.0
0.0
2003
2004
2005
2006
2007
2008
2009
2010
Year
PAL Lake In
SH Raw
SH Treated
Ludington


Palisades Quarterly Thermoluminescent Dosimeters
Pre-Op and 2003-2010
mrem/quarter
30.0
25.0
20.0
15.0
10.0
5.0
0.0
1968-69
2003
2004
2005
2006
2007
2008
2009
2010
Inner Ring
Outer Ring
Control