

# WOLF CREEK

NUCLEAR OPERATING CORPORATION

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April 28, 1993  
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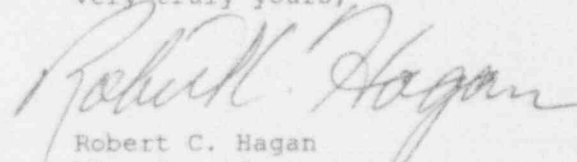
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Subject: Docket No. 50-482: Annual Radiological  
Environmental Operating Report

Gentlemen:

Enclosed is the Annual Radiological Environmental Operating Report which is being submitted pursuant to Wolf Creek Generating Station (WCGS) Technical Specification 6.9.1.6. This report covers the operating of WCGS for the period of January 1, 1992, through December 31, 1992.

Very truly yours,

  
Robert C. Hagan  
Vice President  
Nuclear Assurance

RCH/jad

Enclosure

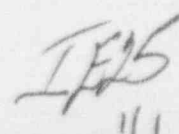
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WOLF CREEK NUCLEAR OPERATING CORPORATION

WOLF CREEK GENERATING STATION

1992 ANNUAL RADIOLOGICAL

ENVIRONMENTAL OPERATING REPORT



APRIL 14, 1993

## TABLE OF CONTENTS

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LIST OF TABLES	ii
LIST OF FIGURES	iii
INTRODUCTION	1
I. PROGRAM DESCRIPTION	2
II. DISCUSSION OF RESULTS	5
III. ANNUAL LAND USE SURVEY RESULTS AND PROGRAM REVISIONS	9
IV. PROGRAM DEVIATIONS	10
V. EPA INTERLABORATORY COMPARISON RESULTS	13
APPENDIX A: SUMMARY TABLES IN THE FORMAT OF NRC RADIOLOGICAL ASSESSMENT BRANCH TECHNICAL POSITION, REVISION 1, NOVEMBER 1979	A-1
APPENDIX B: 1992 INDIVIDUAL SAMPLE RESULTS	B-1

## LIST OF TABLES

---

TABLE 1: 1992 Radiological Environmental Monitoring Program Sample Collection	14
TABLE 2: Sample Location Numbers, Distances, and Directions	20
TABLE 3: 1992 Airborne Particulate Gross Beta Analyses	21
TABLE 4: Airborne Particulate Quarterly Composite Gamma Isotopic Analyses	23
TABLE 5: 1992 First & Second Quarter TLD Results	24
TABLE 6: 1992 Third & Fourth Quarter TLD Results	25
TABLE 7: 1992 Drinking Water Radiological Analyses	26
TABLE 8: 1992 Surface Water Radiological Analyses	27
TABLE 9: 1992 Ground Water Radiological Analyses	28
TABLE 10: 1992 Aquatic Plants Radiological Analyses	28
TABLE 11: 1992 Shoreline Sediment Radiological Analyses	29
TABLE 12: 1992 Bottom Sediment Radiological Analyses	29
TABLE 13: 1992 Broadleaf Vegetation Radiological Analyses	30
TABLE 14: 1992 Irrigated Crop Radiological Analyses	30
TABLE 15: 1992 Milk Radiological Analyses	31
TABLE 16: 1992 Fish Radiological Analyses	32
TABLE 17: 1992 Land Use Census Residence Data	33
TABLE 18: 1992 Land Use Census Milk and Garden Data	34
TABLE 19: 1992 US EPA Interlaboratory Comparison Program	35



## LIST OF FIGURES

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FIGURE 1: Airborne Pathway Sampling Locations	37
FIGURE 2: Direct Radiation Sampling Locations	38
FIGURE 3: Waterborne Pathway Sampling Locations	39
FIGURE 4: Ingestion Pathway Sampling Locations	40
FIGURE 5: Distant Sampling Locations	41
FIGURE 6: 1992 Airborne Gross Beta Indicator to Control Ratios	42
FIGURE 7: Historical Location 40 (Control) Smoothed Gross Beta	43
FIGURE 8: Historical Gross Beta Smoothed Weekly Indicator to Control Ratio	44
FIGURE 9: Gross Beta Historical Weekly Indicator Average and Control	45
FIGURE 10: Variation of Nearsite TLD Averages	46
FIGURE 11: TLD Nearsite Average and Control Average, Historical	47
FIGURE 12: Wind Frequency vs. TLD Exposure Comparison, By Sector	48
FIGURE 13: WCGS Surface Water and Cumulative Liquid Effluent Tritium Data	49
FIGURE 14: WCGS Surface Water and Quarterly Liquid Effluent Tritium Data	50
FIGURE 15: Drinking Water Gross Beta (Historical)	51

## INTRODUCTION

The 1992 Annual Radiological Environmental Operating Report for Wolf Creek Generating Station (WCGS) covers the period from January 1 through December 31, 1992. WCGS is located in Coffey County, Kansas, approximately five miles northeast of Burlington, Kansas.

Fuel loading commenced at WCGS on March 12, 1985. The operational phase of the Radiological Environmental Monitoring Program began on May 22, 1985 with initial criticality and the first detectable quantities of radioactivity were reported in plant effluents in June, 1985.

This report contains a description of the Radiological Environmental Monitoring Program (REMP) conducted by Wolf Creek Nuclear Operating Corporation (WCNOC), results of sample analyses performed by Teledyne Isotopes, a discussion of monitoring program results, a description of revisions to and deviations from the program, and comments on the results of the Environmental Protection Agency (EPA) Interlaboratory Comparison Program. Individual sample results and a summary of results in the Nuclear Regulatory Commission (NRC) Branch Technical Position specified format are included as appendices to the report.

No radiological effects of plant operations were detected in airborne particulate and radioiodine filters, fish, irrigated crops, milk, ground water, or drinking water.

Cs-137 was detected on one broadleaf vegetation sample during 1992. The data suggests that the activity did not originate from WCGS operations. Cs-137 was also detected in one fish sample obtained from Wolf Creek Cooling Lake (WCCL) during 1992. The fish sample is discussed further in Section II, Discussion of Results.

During 1992, activation Products were detected in aquatic plants and algae, shoreline soil, and bottom sediment samples.

No measurable impact on human exposure due to plant operation was seen for the year.

## **I. PROGRAM DESCRIPTION**

Radiological Environmental samples were collected according to the schedule in Section 5.0 and Table 5-1 of the WCGS Offsite Dose Calculation Manual (ODCM). All samples were collected by WCNOG's Environmental Management and Radiological Services Groups. The samples were processed and analyzed by Teledyne Isotopes of Westwood, New Jersey. Table 1 lists sampling pathways and frequencies of sampling and analysis. Table 2 lists each sample location's distance and direction from the plant. Samples in addition to those required by the WCGS ODCM were obtained in conjunction with the Kansas Department of Health and Environment (KDHE) and to monitor additional parameters.

The following is a description of the sampling and analysis program by individual pathways. Deviations are permitted from the required sampling schedule if specimens are not attainable due to hazardous conditions, seasonal unavailability, malfunction of automatic sampling equipment, and other legitimate reasons. Deviations from the routine sampling schedule and other problems encountered during the year are described in Section IV, Program Deviations.

### **A. Airborne:**

Low volume air sampling pumps continuously collected particulate and radioiodine samples on 47 mm glass fiber filters and charcoal canisters, respectively. Weekly, the filters and charcoal canisters are changed out, labeled, and then shipped to Teledyne Isotopes for analysis. The volume of air sampled was calculated from the average of initial and final flow rates and the total time of collection. Each pump is equipped with a time totalizer that is checked weekly against the elapsed time.

Gross beta analysis of the air particulate samples were performed approximately 72 hours post collection to allow the radon and thoron daughter products to decay. Each filter was mounted on a stainless steel planchette and counted on an automatic alpha-beta counter.

Weekly air particulate filters were combined into quarterly composites for each location and analyzed for gamma emitting isotopes on a Ge(Li) detector.

Charcoal canisters were routinely counted in groups of five to determine the presence or absence of I-131. Positive indication of I-131 would have resulted in analysis of each individual charcoal canister.

Air Samples were collected from the three sectors with the highest ground level deposition constants (D/Q), the community of New Strawn, and a control location. Distances and directions to sampling locations from the plant site are listed in Table 2; locations are shown in Figure 1 (nearby locations) and Figure 5 (distant locations).

### **B. Direct Radiation:**

The thermoluminescent dosimeters (TLDs) used during 1992 were provided by Teledyne Isotopes. The TLDs consisted of rectangular Teflon wafers impregnated with  $\text{CaSO}_4:\text{Dy}$ . Prior to placement in the field, the dosimeters were annealed for at least one hour at 250 to 260 degrees Centigrade. The TLDs are then placed in polyethylene pouches and holders containing 0.093 inch thick copper shields to filter out low energy radiation. Freshly annealed dosimeters were exchanged with exposed dosimeters and the exposed dosimeters are shipped to Teledyne Isotopes for analysis. Four freshly annealed TLDs are shipped as controls with the exposed TLDs to record any exposure received in transit.

Gamma exposures are measured on a Teledyne Model 8300 TLD reader. Individual dosimeters are then exposed to a Cs-137 source to determine each dosimeter's calibration factor.

In general, TLDs are positioned roughly 3 to 4 feet above the ground on utility poles. They are contained in either plastic thermostat boxes or fiberglass air sample pump housings. The boxes and housings protect them from the elements and tampering. Two TLDs are placed at each designated location. TLD sample locations are illustrated in Figure 2 (nearby locations) and Figure 5 (distant locations). Table 2 provides the distance and direction of each location from the site.

#### **C. Waterborne:**

All water samples are analyzed for gamma emitters on a Ge(Li) detector. Radiochemical analysis for I-131 is performed on drinking water and ground water samples. Gross beta analysis is performed on drinking water samples. Tritium analysis is performed by liquid scintillation monthly for surface water and quarterly for drinking water. Tritium analysis is performed by gas proportional counter quarterly for ground water. All water sampling locations are listed in Table 2 and shown in Figures 2 and 5.

Drinking water is sampled at the water treatment facilities for the towns of Burlington and Leroy. The Burlington facility is located upstream and the Leroy facility is located downstream of the confluence of the effluent from Wolf Creek Cooling Lake and the Neosho River. Monthly, composite samples are obtained from automatic composite samplers at each location that draw approximately 10 ml samples hourly.

Monthly, grab samples are drawn from each surface water location. Surface water is sampled at the outfall of John Redmond Reservoir (JRR) as a control and in the discharge cove and spillway of Wolf Creek Cooling Lake for indicator locations.

Ground water locations are collected quarterly from four locations. One ground water well is hydrologically upgradient from the site (location B-12) and is used as a control location. Three additional samples (C-10, C-49, and D-65) are obtained from wells hydrologically downgradient from the site as indicator samples.

Shoreline sediments are sampled semiannually for gamma analysis at the discharge cove (indicator, Figure 3) and at JRR (control, Figure 3).

Bottom sediments are also collected semiannually. Samples are obtained for gamma analysis at the discharge cove (indicator, Figure 3) and at JRR (control, Figure 3). In addition, a sample is obtained in the area of the ultimate heat sink (UHS, Figure 3).

Semiannual aquatic plant and algae samples are obtained for gamma analysis from the discharge cove area or from an alternate location near the discharge cove (DC and DC ALT, respectively on Figure 3).

#### **D. Ingestion:**

Milk samples are collected semimonthly from April through November (while the animals are feeding on pasture grass) and monthly from December through March (while the animals are on stored feed). No sampling locations were identified within 5 miles of the plant that produced milk for human consumption during 1992. Therefore, only control samples were obtained. Radiochemical I-131 and

gamma isotopic analyses were performed on each sample. The control location is illustrated on Figure 5.

Broadleaf vegetation samples were collected monthly during the growing season from four gardens. The three indicator gardens (two regular and one alternate) were identified in the 1991 Land Use Census as having the highest historical D/Q constants (Figure 4). In addition, a control garden was sampled (Figure 5). Gamma isotopic analysis was performed on all samples.

Irrigated crops (soybeans and corn) were also sampled. Two samples were obtained from cropland downstream of the confluence of Wolf Creek Cooling Lake effluents and the Neosho River (indicator) and one sample was obtained upstream (control). However, due to high rainfall amounts in the region during 1992, no irrigation from the Neosho river occurred during 1992. The samples were still obtained to serve as baseline data and to continue contact with local landowners. Gamma isotopic analysis was performed on each sample.

Fish are sampled from the tail waters of JRR (control) and from Wolf Creek Cooling Lake semiannually for gamma isotopic analysis (Figure 4). Several recreationally important species and rough species are sampled. Gamma isotopic analysis is performed on boneless meat portions of the fish.

Game animals and fowl are sampled annually in the immediate vicinity of the plant and at a control location that is remote from the site. Gamma isotopic analysis is performed on boneless meat portions of the game.

All sampling locations listed in this section are outlined in Table 2.

## II. Discussion of Results

Analysis results for all pathways are summarized in Appendix A using the format described in NRC Radiological Assessment Branch Technical Position, Revision 1, November 1979. Results for individual samples are listed in Appendix B.

In this section, results are discussed by pathway and analysis type. Operational results are related to controls, preoperational data, sources of radioactivity, and effluent releases when applicable. Trends or seasonal effects are discussed. Tables 1 through 16 illustrate results of interest for 1992. Associated errors for positive results may be obtained in Appendix B.

### A. Airborne

Results of the weekly gross beta analysis are summarized in Table 3.

Figure 6 illustrates a plot of weekly gross beta indicator to control (I/C) ratios for 1992. The 1992 average indicator to control ratio was 107%. Figure 8 illustrates a historical plot of the gross beta I/C ratios and includes a smoothed average trend. Although the smoothed average has a very slight increasing trend, the Gross Beta values for the time period are consistent with expected background and suggest that the slightly increasing I/C ratios are a result of changing environmental conditions. For instance, Figure 7 illustrates a slightly decreasing trend for location 40 (airborne sample control location) since 1989. Decreasing control values would tend to increase the I/C ratio over time. In addition, no radioiodine has been detected since 1989. Therefore, the slight increase in gross beta I/C ratios is due to a slight decrease in control location gross beta values over time and is not due to plant operations. It is also interesting to note that the smoothed plot (Figure 7) shows a definite seasonal cyclic trend in which gross beta values peak in the winter months (December or January) and decrease to a low point in the spring months (May or June).

Figure 9 illustrates a historical plot of average weekly indicator and control gross beta values during plant operations.

Table 4 summarizes the gamma analyses of 1992 airborne particulate filter quarterly composites. The table shows that only natural radioisotopes Be-7 and K-40 were detected.

No effects of plant operation were seen via air samples during 1992.

### B. Direct Radiation

1992 quarterly gamma exposures for each location are summarized in Tables 5 and 6. Values are normalized to a standard 90 day quarter. Figure 9 shows the nearsite TLD data expressed as a percentage of the control data. Results from TLDs located near the plant site (<3 miles distant) have been combined into quarterly averages. Note that nearsite TLD locations have historically trended higher than the control locations both prior to and after WCGS became operational. Figure 11 shows the historical quarterly average values expressed in mRem/ std 90 day quarter for both nearsite and control locations.

In addition, Figure 12 illustrates a comparison of wind frequency data to TLD exposure data for 1992. All TLD data for each sector was averaged for the year. No correlation between wind frequency/direction and TLD exposures is apparent from the data.



No changes to area gamma exposure rates as a result of plant operations were identified.

#### C. Waterborne:

##### **(1) Drinking Water:**

Results of drinking water gamma isotopic analyses are summarized in Table 7. No tritium was detected in drinking water samples during 1992. Figure 15 illustrates the historical drinking water gross beta data through 1992. The composite sample for May 2 through June 6 had elevated gross beta results. The indicator and control location both displayed elevated values suggesting that the elevated values are not related to plant operations. No cause has been identified. No other nuclides were identified during 1992.

No activity due to plant operations were evident in drinking water samples during 1992.

##### **(2) Surface Water:**

Surface water data is summarized in Table 8. Tritium was the only nuclide identified in surface water samples during 1992. Figure 13 illustrates smoothed tritium data for Wolf Creek Cooling Lake (WCCL) from startup in May 1985 through 1992 for locations DC and SP and the cumulative curies of tritium released to WCCL. Tritium values have been declining recently and the declining trend may be due to high precipitation during 1992. Significant discharge from WCCL occurred during 1992 as a result of precipitation. The increased precipitation allowed some dilution or replacement (with nontritiated water) of the tritiated water inventory in WCCL. The region had experienced a prolonged drought during the previous 2 to 3 years. Little discharge from WCCL occurred during the dry period. Note that the tritium levels are well below the 20,000 pCi/liter reporting limit for drinking water sources and the 30,000 pCi/liter limit for other water sources. Figure 14 illustrates the same smoothed tritium data for WCCL except quarterly tritium effluent discharges are plotted. A possible correlation between quarterly discharge levels and lake levels could be inferred from the data. Future data may shed further light on the possible correlation.

##### **(3) Ground Water:**

No gamma emitters or tritium were detected in ground water samples during 1992. A summary of results is included in Table 9.

##### **(4) Shoreline Sediment:**

Naturally occurring nuclides Ra-226, Th-228, and K-40 were detected in shoreline sediment samples during 1992. Co-60 was the only additional isotope detected and it was detected in samples obtained from the discharge cove (DC). The Cobalt activity is attributable to plant operations. Analysis results are summarized in Table 11.

#### D. Ingestion:

##### **(1) Milk:**

No indicator locations for milk were available for sampling during 1992 (see Program Deviation section for explanation). A control sample was routinely obtained for analysis. All milk samples analyzed contained K-40 at levels consistent with preoperational data. The yearly average K-40 concentration was 1340 pCi/liter. Table 15 summarizes milk analysis results for 1992.



No other gamma emitters were detected.

## **(2) Food and Garden Crops:**

Gamma analyses of broadleaf vegetation samples during 1992 revealed naturally occurring gamma emitters K-40 and Be-7 at concentration consistent to preoperational levels.

Cs-137 was detected in one broadleaf vegetation sample during 1992 at 0.0118 pCi/gram. The sample was obtained July 28 at location R-1. This amount of Cs-137 is attributed to fallout. The range of fallout Cs-137 detected during preoperational studies was 0.0131 to 0.0478 pCi/liter. In addition, no Cs-137 was detected in airborne effluents from WCGS during the second or third quarters of 1992. No Cs-134 (half-life = 2.05 years) was detected and its presence would also be expected if the Cs-137 (half-life = 30.2 years) were due to plant operations. Due to the relatively short half-life of Cs-134 one would expect Cs-134 to be present if the source was nearby, whereas Cs-134 would decay away if the source is relatively distant or if a significant amount of time has passed since its release. Broadleaf vegetation results are summarized in Table 13.

No additional gamma emitters were detected in broadleaf vegetation samples during the remainder of the year.

Crop samples were obtained from lands normally irrigated by the Neosho river below the outfall of WCCL. However, due to adequate precipitation during 1992, no irrigation was needed. The samples were still obtained to continue Wolf Creeks relationship with local landowners and to continue to establish baseline values. Results of crop analyses are summarized in Table 14.

No nuclides were detected which were attributable to plant operations.

## **(3) Fish:**

Analysis results are illustrated in Table 15. Naturally occurring K-40 was detected in all fish samples with an average concentration of 3.33 pCi/gram (wet weight). Th-228 was also detected in all fish samples.

Cs-137 was detected in a catfish sample obtained April 7 at 0.0188 pCi/gram (wet weight). Fallout Cs-137 also is regularly detected in bottom sediment samples from both WCCL and JRR (control). (See discussion of bottom sediment sample results in the Special Samples portion of the report.) A portion of the Cs-137 activity detected in WCCL bottom sediments is probably attributable to Cs-137 fallout and a portion may be due to plant operations. Catfish species are predominantly bottom dwellers and feeders and would be a good candidate species for uptake of activity that has settled out in sediments. Although fallout Cs-137 may have contributed to the Cs-137 accumulation in the fish, the Cs-137 activity is assumed to be attributable to plant operations for the dose calculation below.

A dose calculation for a hypothetical individual yields an annual dose of 0.045 mrem from the measured value for Cs-137. (Assuming 16 kg per year ingestion rate from Regulatory Guide 1.109, critical age group = teen, critical organ = liver). Currently, WCCL is closed to the public for recreational fishing and therefore no known pathway to man currently exists.

No other radionuclides were detected in fish during the year.

### **(1) Game Animals and Birds:**

Naturally occurring K-40 was detected in all game animal and bird samples in concentrations consistent with preoperational levels.

No other radionuclides were detected and no effects of plant operations were detected in this pathway.

### **(2) Bottom Sediment:**

Table 12 shows gamma emitters detected during 1992 in bottom sediment samples. Sampling locations include the Ultimate Heat Sink (UHS), DC, and JRR. Natural nuclides detected include K-40, Ra-226, and Th-228.

Several other nuclides were detected in bottom sediment samples. A portion of the Cs-137 activity detected in WCCL bottom sediments is probably attributable to fallout and a portion is due to plant operations. The Cs-137 levels are only slightly higher than those reported prior to WCGS criticality and therefore a major portion of the activity is due to fallout. In addition, no Cs-134 has thus been detected.

However, the Mn-54 and Co-60 activity shown in the table are attributed to plant operations and are regularly identified in plant effluents.

### **(3) Aquatic Vegetation:**

Table 10 shows gamma emitters detected during 1992 in aquatic plant samples. Be-7 and K-40 were detected in all samples collected. Ra-226 and Th-228 were identified in some of the samples. Algae samples proved to accumulate the most detectable activity. Mn-54, Co-58, Co-60, Cs-134, and Cs-137 were all detected in at least one of the two algae samples and some were detected in other aquatic plant samples.

### III. ANNUAL LAND USE CENSUS RESULTS AND PROGRAM REVISIONS

Section 5.2 of the WCGS Offsite Dose Calculation Manual (ODCM) directs that "A Land Use Census shall be conducted annually during the growing season to identify the nearest (1) milk animal, (2) residence, and (3) garden of greater than 500 square feet producing broadleaf vegetation in each of 16 meteorological sectors within five miles of the WCGS Site." The results shall also be included in the Annual Radiological Environmental Operating Report. Table 5-1 of the WCGS ODCM states that garden (broadleaf) sampling locations will be "from two indicator locations with highest calculated annual average D/Q".

#### METHODOLOGY

The 1992 Land Use Survey was completed in October. Information was collected using a combination of mailed survey forms, telephone contacts, and door-to-door contacts.

Surveys were mailed to the rural residences within five miles of WCGS during the second week of August 1992. The survey excludes the residents of New Strawn, Burlington, and a trailer park just north of Burlington. These locations are excluded because of the large number of households and the low probability that information gained from these residences would affect the locations used for REMP sampling. A total of 193 surveys mailed to rural locations, 30 vacancies were confirmed and 144 responses out of 163 known residences (88.3 percent) responded or were contacted by Wolf Creek personnel. Response rates for the last six years range from 85 to 90 percent.

#### RESULTS

The total population for the responding residences was 442 persons for an average of 3.07 persons per household. This average and the 163 known occupied residences are used to estimate the total rural population within five miles of the site (excluding New Strawn, Burlington, and the trailer park). The rural population is estimated at 500 persons. The population estimates were 436 in 1990 and 466 in 1991. Results are summarized in Tables 17 and 18.

No milk animals that produced milk for human consumption were identified within 5 miles of WCGS again in 1992.

#### SUMMARY

On the basis of the data collected in the 1992 Land Use Census, no changes are required in the Radiological Environmental Monitoring Program.

#### IV. PROGRAM DEVIATIONS

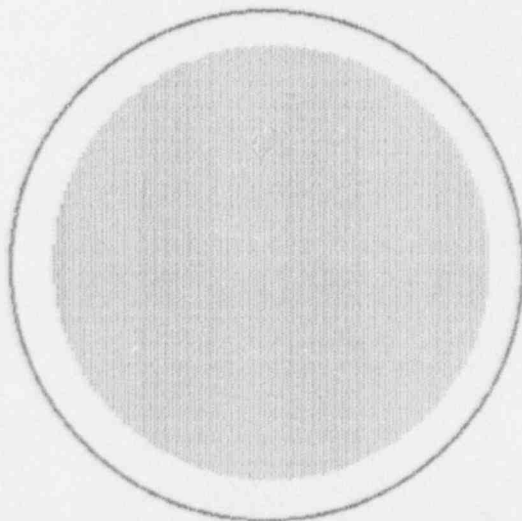
##### **Airborne:**

Location 40, 6/30/92 - 7/7/92: A discrepancy of 1.9 hours existed between the elapsed clock time and the elapsed meter time for the air sample pump (each pump is equipped with a motor time totalizer to monitor motor run hours). Further investigation found that the switch was sticking and thus was probably not fully engaged when the filter and cartridge were replaced on 6/30/92. It appeared that the act of closing the housing jarred the switch and shut off the pump. The filter and cartridge were changed at 10:10 a.m. and the station was rechecked at 12:00 p.m. (time when pump problem was discovered). The time discrepancy accounted for the difference between the elapsed clock time and the elapsed meter time. The switch was lubricated and appeared to be working correctly. The elapsed meter time was used to calculate total air volume sampled.

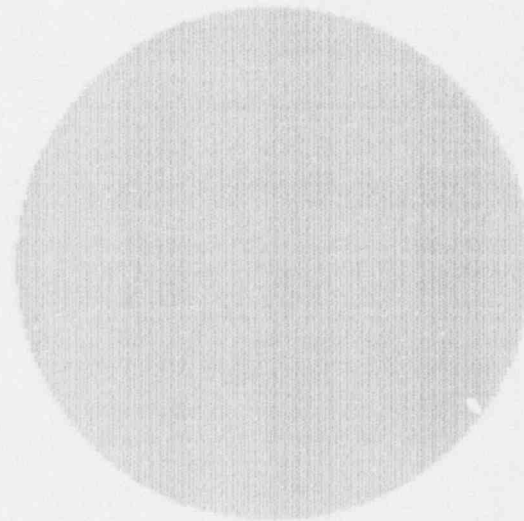
Location 40, 7/7/92 - 7/14/92: A discrepancy of 5.4 hours existed between the elapsed clock time and the elapsed meter time for the air sample pump. Further investigation showed that a loose fuse interrupted the power supply and the loose fuse may have contributed to problems experienced the previous week. The fuse was tightened and the station was returned to service. The elapsed time meter was checked to ensure that it was operating properly. The elapsed meter time was used to calculate total air volume sampled.

Locations 2 and 3, 8/18/92 - 8/25/92: Both locations showed a discrepancy of approximately 3 hours between the elapsed clock time and the elapsed meter time. The local power cooperative which serves both locations was confirmed to have experienced a power outage during the week. The elapsed meter time was used to calculate the total air volume sampled for both locations.

Location 37, 8/18/92 - 8/25/92: A portion of the air particulate sample head was missing that allowed dust to be collected across the entire surface of the filter rather than being concentrated in the center of the filter as normally happens. The sample head was repaired and the filter was analyzed as normal. Gross beta results were within the range expected for Location 37. The figure below illustrates the difference in the appearance of the filters.



Normal Filter Appearance



8/25/92 Filter from Location 37

Location 40, 8/4/92 - 9/15/92: The sample pump in service during the indicated time period was replaced and brought in to the lab for preventative maintenance and calibration. The rotometer showed an "as found" variance exceeding 10% (compared to the calibration curve used in the field to find true flow rates). Gross Beta data from the time period was compared to historical data for the rest of the year and no adverse trends could be identified. The problem was postulated to be caused by slight air inleakage during the original calibration. Corrective action included replacing the older style sample heads with an improved configuration to reduce the potential for air leakage during future calibrations. The new sample heads are scheduled to be placed in service in early 1993.

#### **Drinking Water:**

Location LW-40, 9/8/92: Tubing necessary for the operation of an automatic composite water sampler was inadvertently left disconnected after the August samples were collected on 9/1/92. The automatic composite water sampler collects hourly 10 ml samples at the Leroy drinking water treatment plant. The problem was discovered on 9/8/92 and corrected. Approximately one week's equivalent of sample was not collected. The tubing was reconnected and the sampler was calibrated and returned to service.

#### **Direct Radiation Samplers (TLDs):**

All Locations, Second Quarter 1992: TLDs were collected from all sampling locations as required. Even though the shipping container was clearly marked "DO NOT X-RAY", the shipping container was inadvertently x-rayed before leaving WCGS. The TLDs were shipped to Teledyne Isotopes and analyzed as per normal protocol. Four freshly annealed TLDs were included in the shipping package as per procedure to record transit exposure. The TLD results showed no adverse consequences due to the x-ray exposure and no abnormal readings resulted. The TLDs included to record transit exposure yielded exposures similar to what is normally experienced during shipment.

Location 9, Second Quarter 1992: The TLD housing cover was missing and thus the TLDs had been exposed to the elements prior to collection. The cover was replaced after the TLDs were collected. No abnormal readings resulted.

Location 16, Second Quarter 1992: The tree to which the TLDs and protective housing were affixed was struck by lightning sometime during the second quarter. The TLD housing cover was missing and thus the TLDs had been exposed to the elements prior to collection. The cover was replaced after the TLDs were collected. No abnormal readings resulted.

Location 29, Second Quarter 1992: The TLD housing cover was missing and thus the TLDs had been exposed to the elements prior to collection. The cover was replaced after the TLDs were collected. No abnormal readings resulted.

Location 5, Fourth Quarter 1992: The TLD housing cover was missing and thus the TLDs had been exposed to the elements prior to collection. The cover was replaced after the TLDs were collected. No abnormal readings resulted.

#### Ingestion:

##### Milk:

There were no deviations in milk sampling. However, there are still no indicator sampling locations available within five miles of the plant. Refer to Section III, Annual Land Use Census Results and Program Revisions.

##### Broadleaf Vegetation:

Broadleaf Vegetation is sampled when seasonably available. No broadleaf vegetation deviations occurred during 1992. Listed below are those sample locations and dates when the samples were not collected due to seasonal unavailability. No corrective actions were necessary. Samples were collected at the secondary location G-1 when available. Sample locations A-1 and R-1 are the primary sample locations and S-4 is the control location.

All locations (4/92)	Samples unavailable Gardens not yet established
A-1 (5/92)	Sample not yet available. Garden at A-1 not yet established All other gardens sampled
R-1, G-1 (8/92)	Growing season complete for vegetation species selected by landowners. All other gardens sampled
R-1, G-1 (9/92)	Growing season complete for vegetation species selected by landowners. All other gardens sampled
R-1, G-1, S-4 (10/92)	Growing season complete for vegetation species selected by landowners. A-1 sampled.
R-1, G-1, S-4 (11/92)	Growing season complete for vegetation species selected by landowners. A-1 sampled.
R-1, G-1, S-4, A-1 (12/92)	Growing season complete for vegetation species selected by landowners. Last sample of season obtained at A-1 11/92.

## V. EPA INTERLABORATORY COMPARISON RESULTS

Teledyne Isotopes is contracted to perform radiological analysis of environmental samples for WCNOG. Teledyne participated in the EPA Interlaboratory Comparison Program during 1992.

Table 19 shows interlaboratory comparison test results received during the year. The table lists the sample date, the sample media, the nuclide or analysis type, the known value reported by the EPA, the measured value reported by Teledyne Isotopes (based upon triplicate analysis), and the normalized deviation from the known. Results are listed in the table for sample media and analysis types corresponding to those performed for WCNOG.

All of the Teledyne Isotopes results were within three standard deviations of the known EPA results. Only results exceeding three standard deviations require corrective action. Two results were between two and three standard deviations. Those two required investigation. The footnotes of Table 19 describe the results of the investigations.



TABLE 1

**1992 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM  
SAMPLE COLLECTION**

EXPOSURE PATHWAY/ SAMPLE	NUMBER OF SAMPLES AND SAMPLE LOCATIONS	SAMPLING AND COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
AIRBORNE			
Iodine & Particulates	Samples from five locations	Continuous sampler operation with sample collection weekly, or more frequently if required by dust loading.	Analyze radioiodine cannister weekly for I-131
	Samples from loca- tions near the site boundary in three sectors having the highest calculated annual average D/Q. (Locations 2, 3, and 37 on Figure 1)		Analyze particulate filter weekly for gross beta activity; perform quarterly composite gamma isotopic analysis (by location)
	Sample from the vicinity of the community having the highest calculated annual average D/Q (Location 32 on Figure 1, New Strawn)		
	Sample from a control location 10 - 20 miles distant in a low D/Q sector (Location 40 on Figure 5)		
DIRECT RADIATION			
	40 routine monitoring stations with two or more dosimeters measuring dose continuously placed as follows:	Quarterly	Gamma dose quarterly

TABLE 1 (Cont'd)

EXPOSURE PATHWAY/ SAMPLE	NUMBER OF SAMPLES AND SAMPLE LOCATIONS	SAMPLING AND COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
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## DIRECT RADIATION (cont'd)

An inner ring of stations, one in each meteorological sector 0-3 mile range from the site (Locations 1-14, 18, 26-31, 37, and 38 on Figure 2)

An outer ring of stations, one in each meteorological sector 3-5 mile range from the site (Locations 15-17, 19-22, 24, 25, and 32-36 on Figure 2)

The balance of stations to be placed in special interest areas such as population centers (Locations 23 and 32), nearby residences (Many locations are near local residences), schools (Location 23), and in one or two areas to serve as control stations 10-20 miles distant from the site (Locations 39 and 40 on Figures 2 and 5)

Locations 41, 42, and 43 are not required sampling stations but have been added as special interest sampling locations

TABLE 1 (Cont'd)

EXPOSURE PATHWAY/ SAMPLE	NUMBER OF SAMPLES AND SAMPLE LOCATIONS	SAMPLING AND COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
<b>WATERBORNE</b>			
Surface	One sample upstream (Location MUSH on Figure 3) and two samples downstream (Locations DC and SP on Figure 3)	Monthly grab sample	Monthly gamma isotopic analysis and composite for tritium quarterly analysis
Ground	Samples from one or two sources only if likely to be affected  Indicator locations at locations hydrologically downgradient of the site (Locations C-10, C-49, and D-65 on Figure 3); Control sample at a location hydrologically upgradient to the site (Location B-12 on Figure 3)	Quarterly	Quarterly gamma isotopic and tritium analysis
Drinking	Sample of municipal water supply at an indicator location downstream of the site (Location LVV-40 on Figure 5); Control sample location from location upstream of the site (Location BW-15 on Figure 3)	Monthly Composite	Monthly gamma isotopic analysis and gross beta analysis of composite sample. Quarterly tritium analysis of composites.
Shoreline sediment	One sample from the vicinity of Wolf Creek Cooling Lake discharge cove and one sample from John Redmond Reservoir (Locations DC and JRR respectively on Figure 3).	Semiannually	Semiannual gamma isotopic analysis

TABLE 1 (Cont'd)

EXPOSURE PATHWAY/ SAMPLE	NUMBER OF SAMPLES AND SAMPLE LOCATIONS	SAMPLING AND COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
<b>WATERBORNE (cont'd)</b>			
Bottom sediment	One sample from the vicinity of Wolf Creek Cooling Lake discharge cove and one sample from John Redmond Reservoir (Locations DC and JRR respectively on Figure 3). Special samples were obtained from the vicinity of the Ultimate Heat Sink.	Semiannually	Semiannual gamma isotopic analysis
Rooted Aquatics or Algae	One sample from the vicinity of Wolf Creek Cooling Lake (Location DC on Figure 3).	Semiannually	Semiannual gamma isotopic analysis
<b>INGESTION</b>			
Milk	Samples from milking animals at three indicator locations within five miles of the site having the highest dose potential (currently there are no indicator locations producing milk for human consumption within five miles of the site); one sample from a control location greater than 10 miles from the site (Location S-3 on Figure 5)	Semimonthly while animals are on pasture (April to November) and monthly during the remainder of the year (December to March)	Gamma isotopic analysis and I-131 analysis of each sample

TABLE 1 (Cont'd)

EXPOSURE PATHWAY/ SAMPLE	NUMBER OF SAMPLES AND SAMPLE LOCATIONS	SAMPLING AND COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
INGESTION (cont'd)			
Fish	Indicator samples of 1-3 recreationally important species from Wolf Creek Cooling Lake; control samples of similar species from John Redmond Reservoir (several sampling areas indicated on Figure 4)	Semiannually	Gamma isotopic analysis on edible portions
Broadleaf Vegetation	Samples of available broadleaf vegetation from two indicator locations with highest calculated annual average D/Q (Locations A-1 and R-1 and alternate location G-1 on Figure 4); sample of similar broadleaf vegetation from a control location greater than 10 miles from the site in a low D/Q sector (Location S-4 on Figure 5)	Monthly when available	Gamma isotopic analysis on edible portions
Irrigated Crops	Sample of crops irrigated with water from the Neosho River downstream of the Neosho River - Wolf Creek confluence (Location NR-D1 and NR-D2 on Figure 5); control sample irrigated with water from the Neosho River upstream of the Neosho River - Wolf Creek confluence (Location NR-U1 on Figure 5)	At time of harvest	Gamma isotopic analysis on edible portions

TABLE 1 (Cont'd)

EXPOSURE PATHWAY/ SAMPLE	NUMBER OF SAMPLES AND SAMPLE LOCATIONS	SAMPLING AND COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
INGESTION (cont'd)			
Game birds and animals	Indicator samples of region specific recreationally important species from the vicinity of Wolf Creek Cooling Lake; control samples of similar species from the vicinity of Hartford, KS. (Location shown on Figure 5)	Annually	Gamma isotopic analysis on edible portions

TABLE 2  
SAMPLE LOCATION NUMBERS, DISTANCES (Miles), AND DIRECTIONS

Location Number	Distance / Direction	Location Number	Distance / Direction	Location Number	Distance / Direction
<b>TLD and Air Particulates and Radioiodines</b>					
1	1.4/N	15	4.5/ESE	29	2.6/SSW
2	2.7/N	16	4.2/E	30	2.2/SW
3	3.0/NNE	17	3.6/SE	31	3.0/WNW
4	4.0/NNE	18	3.2/SSE	32	3.2/WNW
5	4.0/NE	19	4.0/SSE	33	3.7/WNW
6	4.4/ENE	20	3.3/S	34	4.0/NW
7	1.9/NE	21	3.8/S	35	4.6/NNW
8	1.6/NNE	22	4.1/SSW	36	4.2/N
9	2.0/ENE	23	4.5/SW	37	2.1/NNW
10	2.4/ENE	24	4.1/WSW	38	1.2/NW
11	1.5/E	25	3.6/W	39	13.0/N
12	1.8/ESE	26	2.6/WSW	40	>15.0/WNW
13	1.5/SE	27	2.1/SW	41	0.8/NNW
14	2.8/SE	28	2.8/SW	42	0.8/SSE
				43	0.8/WNW
<b>Ground water                      Drinking water                      Surface water</b>					
B-12	2.2/NNE	BW-15	3.9/SW	MUSH	3.6/W
C-10	2.8/W	LW-40	10.0/SSE	DC	0.6/WNW
C-49	2.9/SW			SP	2.9/S
D-65	3.9/S				
<b>Milk                      Broadleaf vegetation                      Irrigated Crops</b>					
S-3	>15.0/WNW	A-1	1.4/N	NR-U1	4.2/SW
		R-1	2.1/NNW	NR-D1	>10.0/S
		G-1	1.6/SE	NR-D2	>10.0/S
		S-4	>15.0/WNW		
<b>Fish                      Shoreline and Bottom Sediments                      Aquatic Vegetation / Algae</b>					
WCCL	0.6/WNW	DC	0.6/WNW	DC	0.6/WNW
JRR	4/W	JRR	4/W		
		UHS	0.6/E		
<b>Game Birds and Animals</b>					
WCCL	General Vicinity				
Hartford	>15.0/WNW				



TABLE 3  
1992 Airborne Particulate Gross Beta Analyses  
(pCi / cubic meter, analysis error reported in Appendix B)

WEEK	DATE		Location				
	Beginning	Ending	2	3	32	37	40
1	12/30/91	1/7/92	0.032	0.032	0.031	0.036	0.037
2	1/7/92	1/14/92	0.024	0.024	0.026	0.026	0.024
3	1/14/92	1/21/92	0.022	0.022	0.025	0.027	0.023
4	1/21/92	1/28/92	0.023	0.023	0.019	0.024	0.021
5	1/28/92	2/4/92	0.030	0.030	0.028	0.028	0.034
6	2/4/92	2/11/92	0.016	0.016	0.018	0.018	0.021
7	2/11/92	2/18/92	0.023	0.023	0.021	0.019	0.021
8	2/18/92	2/25/92	0.037	0.037	0.029	0.036	0.029
9	2/25/92	3/3/92	0.026	0.026	0.023	0.024	0.025
10	3/3/92	3/10/92	0.025	0.025	0.019	0.023	0.021
11	3/10/92	3/17/92	0.023	0.023	0.022	0.024	0.021
12	3/17/92	3/24/92	0.025	0.025	0.018	0.020	0.020
13	3/24/92	3/31/92	0.023	0.023	0.018	0.022	0.022
14	3/31/92	4/7/92	0.025	0.025	0.019	0.022	0.022
15	4/7/92	4/14/92	0.028	0.028	0.025	0.026	0.028
16	4/14/92	4/21/92	0.023	0.023	0.020	0.021	0.023
17	4/21/92	4/28/92	0.023	0.023	0.014	0.016	0.019
18	4/28/92	5/5/92	0.023	0.023	0.017	0.022	0.021
19	5/5/92	5/12/92	0.019	0.019	0.013	0.018	0.016
20	5/12/92	5/19/92	0.021	0.021	0.023	0.026	0.022
21	5/19/92	5/26/92	0.014	0.014	0.013	0.011	0.013
22	5/26/92	6/2/92	0.024	0.024	0.017	0.027	0.026
23	6/2/92	6/9/92	0.021	0.021	0.021	0.022	0.020
24	6/9/92	6/16/92	0.021	0.021	0.015	0.021	0.017
25	6/16/92	6/23/92	0.021	0.021	0.017	0.021	0.017
26	6/23/92	6/30/92	0.024	0.024	0.025	0.027	0.025
27	6/30/92	7/7/92	0.016	0.016	0.010	0.019	0.021
28	7/7/92	7/14/92	0.023	0.023	0.021	0.022	0.021

TABLE 3 (cont'd)  
1992 Airborne Particulate Gross Beta Analyses  
(pCi / cubic meter, analysis error reported in Appendix B)

WEEK	DATE		Location				
	Beginning	Ending	2	3	32	37	40
29	7/14/92	7/21/92	0.017	0.017	0.018	0.020	0.017
30	7/21/92	7/28/92	0.017	0.017	0.019	0.015	0.019
31	7/28/92	8/4/92	0.026	0.026	0.026	0.022	0.026
32	8/4/92	8/11/92	0.022	0.022	0.025	0.023	0.025
33	8/11/92	8/18/92	0.021	0.021	0.019	0.024	0.022
34	8/18/92	8/25/92	0.046	0.046	0.021	0.041	0.042
35	8/25/92	9/1/92	0.029	0.029	0.023	0.025	0.026
36	9/1/92	9/8/92	0.027	0.027	0.022	0.022	0.027
37	9/8/92	9/15/92	0.024	0.024	0.015	0.018	0.021
38	9/15/92	9/22/92	0.029	0.029	0.018	0.023	0.026
39	9/22/92	9/29/92	0.018	0.018	0.017	0.022	0.023
40	9/29/92	10/6/92	0.032	0.032	0.026	0.037	0.045
41	10/6/92	10/12/92	0.023	0.023	0.023	0.033	0.038
42	10/12/92	10/20/92	0.024	0.024	0.020	0.027	0.030
43	10/20/92	10/27/92	0.027	0.027	0.035	0.040	0.042
44	10/27/92	11/3/92	0.016	0.016	0.017	0.020	0.021
45	11/3/92	11/10/92	0.023	0.023	0.020	0.023	0.024
46	11/10/92	11/17/92	0.029	0.029	0.027	0.023	0.027
47	11/17/92	11/24/92	0.022	0.022	0.023	0.020	0.025
48	11/24/92	12/1/92	0.036	0.036	0.038	0.037	0.040
49	12/1/92	12/8/92	0.015	0.015	0.018	0.021	0.018
50	12/8/92	12/15/92	0.024	0.024	0.023	0.022	0.024
51	12/15/92	12/22/92	0.045	0.045	0.050	0.045	0.044
52	12/22/92	12/29/92	0.030	0.030	0.027	0.030	0.033

TABLE 4  
Airborne Particulate Quarterly Composite Gamma Isotopic Analyses  
(pCi / cubic meter, analysis error reported in Appendix B)

LOCATION	YEAR	QTR	SE-7	K-40	I-131	CS-134	CS-137
2	1992	1	5.64E-02	<LLD	< 0.003	< 0.0006	< 0.0005
2	1992	2	9.53E-02	<LLD	< 0.003	< 0.0005	< 0.0005
2	1992	3	8.59E-02	<LLD	< 0.002	< 0.0004	< 0.0004
2	1992	4	4.86E-02	<LLD	< 0.002	< 0.0005	< 0.0006
3	1992	1	4.32E-02	<LLD	< 0.003	< 0.0005	< 0.0007
3	1992	2	5.91E-02	3.19E-02	< 0.002	< 0.0005	< 0.0005
3	1992	3	7.60E-02	<LLD	< 0.002	< 0.0004	< 0.0005
3	1992	4	4.48E-02	<LLD	< 0.002	< 0.0005	< 0.0005
32	1992	1	6.01E-02	8.27E-03	< 0.003	< 0.0005	< 0.0007
32	1992	2	8.47E-02	<LLD	< 0.002	< 0.0005	< 0.0004
32	1992	3	9.25E-02	<LLD	< 0.002	< 0.0005	< 0.0007
32	1992	4	6.02E-02	<LLD	< 0.003	< 0.0006	< 0.0006
37	1992	1	5.58E-02	<LLD	< 0.004	< 0.0005	< 0.0005
37	1992	2	9.40E-02	<LLD	< 0.002	< 0.0005	< 0.0004
37	1992	3	8.02E-02	5.85E-03	< 0.002	< 0.0004	< 0.0005
37	1992	4	7.71E-02	<LLD	< 0.002	< 0.0004	< 0.0003
40	1992	1	5.28E-02	<LLD	< 0.003	< 0.0005	< 0.0005
40	1992	2	7.50E-02	<LLD	< 0.002	< 0.0004	< 0.0003
40	1992	3	7.45E-02	<LLD	< 0.002	< 0.0007	< 0.0006
40	1992	4	4.90E-02	<LLD	< 0.002	< 0.0005	< 0.0004

TABLE 5  
1992 First & Second Quarter TLD Results  
(mr / 90 day qtr)

Year = 1992 Quarter = 1			
LOC	DAYS	90 Day Exposure	Error (2 std dev)
1	84.9	15.4	0.4
2	84.8	13.0	2.1
3	84.8	15.2	0.7
4	84.8	15.4	0.6
5	84.8	14.4	0.4
6	84.8	15.4	0.7
7	84.8	14.6	0.3
8	84.8	15.8	0.7
9	84.8	13.5	0.3
10	84.8	15.0	0.4
11	84.8	17.1	0.2
12	84.8	15.0	0.5
13	84.8	16.3	1.3
14	84.8	15.5	0.4
15	84.9	14.6	0.4
16	84.8	14.6	0.2
17	84.9	15.3	0.4
18	84.9	16.6	0.4
19	84.9	15.2	0.9
20	84.9	16.0	0.6
21	84.9	13.4	0.3
22	85	15.1	0.6
23	85	15.8	0.4
24	85.1	14.9	0.3
25	85	12.4	0.3
26	85	14.1	0.5
27	85	15.4	0.3
28	85	14.9	0.3
29	85.1	13.4	0.5
30	85.1	14.5	0.3
31	85.1	15.5	0.3
32	85.1	15.4	0.7
33	85.1	15.0	0.7
34	85	16.6	0.2
35	85	18.1	0.5
36	85	16.0	0.5
37	84.8	15.2	0.5
38	84.8	17.3	0.6
39	85.3	15.3	1.5
40	85.3	14.2	0.4
41	84.9	16.5	0.7
42	85.1	10.6	0.2
43	85.1	10.0	0.1

Year = 1992 Quarter = 2			
LOC	DAYS	90 Day Exposure	Error (2 std dev)
1	91	14.5	0.4
2	91.1	12.9	0.2
3	91	13.2	0.3
4	91	13.9	1.4
5	91	12.4	0.3
6	91	12.5	0.2
7	91	12.7	0.3
8	91	14.5	0.4
9	91	12.1	0.2
10	91	13.9	0.8
11	91.2	16.0	0.4
12	91	14.2	0.4
13	91	15.4	0.3
14	91	14.1	0.3
15	91	13.0	1.4
16	91	14.6	0.4
17	91.1	13.4	1.2
18	91.1	15.0	0.3
19	91.1	15.0	0.5
20	91.2	14.8	0.4
21	91.2	12.5	0.2
22	91.1	14.1	0.6
23	91.1	14.0	0.2
24	91	13.9	0.3
25	91	11.5	0.3
26	91	13.0	0.2
27	91	15.1	1.0
28	91.1	13.7	0.5
29	91.1	12.1	0.2
30	91	12.9	0.6
31	91	14.1	0.3
32	91	13.4	0.3
33	91	14.9	0.3
34	90.9	15.0	0.4
35	90.9	14.3	0.3
36	90.9	15.7	1.0
37	91	14.6	0.9
38	91	15.0	0.6
39	90.9	14.7	0.7
40	90.9	12.9	0.4
41	91	14.7	0.6
42	90.8	9.7	0.3
43	90.8	9.3	0.4

TABLE 6  
1992 Third & Fourth Quarter TLD Results  
(mr / 90 day qtr)

Year = 1992 Quarter = 3			
LOC	DAYS	90 Day Exposure	Error (2 std dev)
1	97	14.8	0.4
2	96.9	13.2	0.3
3	97	13.8	0.3
4	97	13.8	0.2
5	97	14.1	0.5
6	97	12.3	0.3
7	97	14.7	0.7
8	97	14.9	0.4
9	97.1	13.1	0.3
10	96.8	14.9	0.5
11	97.1	15.5	0.7
12	97.1	14.0	0.4
13	97.1	15.3	0.7
14	97	13.4	0.5
15	97.1	14.9	0.7
16	97.1	13.0	0.9
17	96.9	14.5	0.5
18	96.9	15.5	0.5
19	96.9	15.7	0.7
20	96.9	14.6	0.5
21	96.9	12.8	0.4
22	96.9	13.5	1.1
23	97	14.8	0.3
24	97	15.6	0.8
25	97	13.1	0.4
26	97	14.0	0.3
27	97	14.9	0.4
28	97	12.7	0.2
29	97	12.0	0.3
30	97	13.8	0.5
31	97	15.0	0.4
32	97	14.4	0.3
33	97	16.2	0.5
34	97.1	16.6	0.4
35	97	15.3	0.4
36	97	15.0	0.4
37	97	15.3	0.4
38	97	16.7	0.5
39	97.1	15.2	0.4
40	97.1	13.6	0.3
41	97	14.0	0.4
42	97.1	10.5	0.2
43	97.1	11.1	0.2

Year = 1992 Quarter = 4			
LOC	DAYS	90 Day Exposure	Error (2 std dev)
1	91	15.0	1.4
2	91.1	14.4	2.5
3	91	15.1	1.7
4	91.1	15.0	1.0
5	91	13.9	0.4
6	91.1	13.4	2.7
7	91.1	13.4	2.9
8	91.1	13.8	2.4
9	91	13.9	2.9
10	91	14.9	2.0
11	91	15.4	4.4
12	91	15.3	1.5
13	91	15.4	1.3
14	91	15.6	1.4
15	91	14.9	2.8
16	91	14.8	1.0
17	91	15.9	10.0
18	91	15.2	3.1
19	91	15.7	1.7
20	91	15.0	1.5
21	91	13.0	0.8
22	91	13.9	1.3
23	91	14.8	1.1
24	91	15.6	2.3
25	91	12.3	0.6
26	91	14.1	2.5
27	91	14.9	1.1
28	91	12.1	3.0
29	91	12.5	2.1
30	91	15.5	3.5
31	91	14.5	1.4
32	91	13.7	2.1
33	91	15.7	2.2
34	91	15.5	2.2
35	91.2	14.6	1.5
36	91.2	14.5	1.4
37	91.2	15.4	1.6
38	91.2	16.7	5.0
39	91	14.6	1.7
40	91	13.2	1.2
41	91	13.9	0.7
42	91	10.4	1.8
43	91	10.3	2.2



TABLE 7  
1992 Drinking Water Radiological Analyses  
(pCi / liter, analysis error reported in Appendix B)

SAMPLE COLLECTION START DATE	LOCATION	CR-8	MN-54	FE-59	CO-58	CO-60	ZN-65	ZR-NB-95	I-131	CS-134	CS-137	BA-LA-140
1/7/92	BW15	8.4	<3	<7	<3	<4	<8	<3	<0.2	<4	<4	<4
2/4/92	BW15	8.9	<3	<7	<3	<4	<8	<3	<0.1	<4	<4	<4
3/3/92	BW15	7.7	<3	<7	<3	<3	<7	<4	<0.1	<4	<4	<4
4/7/92	BW15	7.7	<4	<7	<3	<3	<8	<4	<0.4	<4	<4	<5
5/5/92	BW15	5.6	<4	<8	<4	<4	<8	<4	<0.7	<4	<4	<5
6/2/92	BW15	15	<3	<6	<3	<3	<8	<3	<0.7	<4	<4	<4
7/7/92	BW15	6.9	<3	<7	<3	<3	<8	<4	<0.1	<4	<4	<6
8/4/92	BW15	7.4	<2	<6	<3	<3	<5	<3	<0.5	<3	<4	<5
9/6/92	BW15	6.9	<4	<9	<5	<5	<10	<5	<1	<5	<5	<6
10/3/92	BW15	4.9	<4	<7	<3	<4	<8	<4	<0.5	<4	<4	<7
11/3/92	BW15	6.8	<3	<6	<3	<3	<6	<3	<0.5	<3	<3	<3
12/1/92	BW15	7.9	<3	<6	<3	<3	<7	<4	<0.1	<3	<3	<6
1/7/92	LW40	8.5	<3	<7	<3	<3	<7	<3	<0.3	<4	<4	<4
1/7/92	LW40	5.7	<3	<6	<3	<3	<6	<3	<0.4	<3	<4	<4
2/4/92	LW40	5.9	<4	<9	<4	<4	<9	<4	<0.1	<5	<5	<5
3/3/92	LW40	5.6	<3	<6	<3	<4	<7	<3	<0.1	<4	<4	<4
3/3/92	LW40	4.8	<3	<7	<3	<3	<8	<3	<1	<3	<4	<4
4/7/92	LW40	6	<3	<7	<3	<4	<7	<4	<0.5	<4	<4	<4
5/2/92	LW40	5.8	<5	<10	<5	<5	<10	<5	<0.9	<5	<5	<6
6/6/92	LW40	18	<4	<9	<4	<4	<9	<4	<0.6	<5	<5	<5
7/7/92	LW40	6.9	<5	<10	<5	<6	<10	<5	<0.2	<5	<6	<9
8/4/92	LW40	6.1	<3	<6	<3	<3	<6	<3	<0.6	<3	<4	<6
9/6/92	LW40	8.6	<3	<7	<3	<4	<7	<3	<1	<3	<5	<6
10/3/92	LW40	6.6	<3	<7	<3	<3	<6	<3	<0.5	<3	<3	<4
11/3/92	LW40	5.4	<3	<5	<2	<3	<6	<3	<0.5	<3	<4	<4
12/1/92	LW40	13	<4	<7	<4	<4	<7	<4	<0.1	<4	<4	<6

TABLE 8  
1992 Surface Water Radiological Analyses  
(pCi / liter, analysis error reported in Appendix B)

LOCATION	DATE	H-7	MN-54	FE-59	CO-58	CO-60	ZN-65	ZR-NB-95	I-131	CS-134	CS-137	BA-LA-140
DC	1/21/92	7300	<3	<6	<3	<3	<6	<3	<6	<3	<3	<4
DC	2/18/92	6900	<4	<9	<5	<5	<10	<5	<9	<5	<5	<7
DC	3/17/92	7800	<3	<6	<3	<3	<6	<3	<5	<3	<3	<4
DC	4/21/92	7600	<4	<8	<4	<4	<8	<4	<7	<4	<4	<7
DC	5/19/92	6900	<3	<7	<3	<3	<8	<3	<5	<4	<4	<4
DC	6/23/92	6900	<3	<8	<4	<3	<8	<4	<7	<4	<4	<5
DC	6/23/92	6600	<3	<7	<3	<4	<7	<3	<7	<4	<4	<6
DC	7/21/92	6000	<3	<7	<4	<4	<7	<4	<7	<4	<4	<6
DC	8/18/92	5900	<4	<10	<4	<5	<10	<5	<10	<5	<5	<9
DC	9/15/92	6100	<3	<8	<3	<4	<7	<4	<9	<4	<4	<8
DC	10/20/92	6400	<5	<10	<4	<5	<10	<5	<10	<5	<5	<6
DC	11/17/92	6000	<3	<6	<3	<3	<6	<3	<3	<3	<3	<3
DC	12/15/92	6000	<3	<6	<3	<3	<6	<3	<7	<3	<3	<6
MUSH	1/21/92	<600	<3	<6	<3	<4	<6	<3	<6	<3	<3	<4
MUSH	1/21/92	<600	<3	<6	<3	<3	<6	<6	<7	<3	<3	<4
MUSH	2/18/92	<600	<4	<8	<4	<4	<9	<4	<6	<4	<4	<5
MUSH	3/17/92	<400	<4	<7	<3	<4	<8	<4	<6	<4	<4	<5
MUSH	4/21/92	<600	<3	<7	<3	<3	<7	<4	<8	<3	<4	<6
MUSH	5/19/92	<600	<3	<6	<3	<3	<6	<3	<5	<3	<4	<4
MUSH	6/23/92	<600	<3	<7	<4	<4	<8	<4	<10	<4	<5	<9
MUSH	7/21/92	<600	<3	<7	<3	<3	<6	<3	<6	<3	<5	<5
MUSH	8/18/92	<700	<4	<8	<3	<4	<7	<4	<9	<4	<4	<7
MUSH	9/15/92	<600	<3	<7	<3	<3	<7	<3	<8	<3	<4	<7
MUSH	10/20/92	<700	<3	<7	<3	<3	<7	<3	<7	<3	<4	<7
MUSH	11/17/92	<400	<2	<5	<2	<3	<5	<3	<4	<3	<3	<3
MUSH	12/15/92	<400	<2	<6	<2	<3	<5	<3	<6	<3	<3	<5
SP	1/21/92	7200	<4	<8	<4	<4	<8	<4	<8	<4	<5	<5
SP	2/18/92	7200	<4	<7	<4	<4	<8	<4	<7	<4	<4	<5
SP	3/17/92	7000	<3	<7	<3	<4	<7	<4	<6	<4	<4	<5
SP	4/21/92	7900	<3	<8	<4	<4	<7	<4	<8	<4	<4	<6
SP	5/19/92	7000	<4	<9	<4	<4	<9	<4	<7	<5	<5	<5
SP	6/23/92	6900	<3	<8	<4	<3	<8	<4	<7	<4	<4	<5
SP	7/21/92	5500	<3	<6	<3	<3	<7	<3	<5	<3	<3	<4
SP	8/18/92	5800	<3	<8	<4	<4	<8	<4	<9	<4	<4	<7
SP	9/15/92	5900	<3	<6	<3	<3	<7	<3	<8	<3	<4	<6
SP	9/15/92	5900	<4	<8	<4	<3	<7	<4	<10	<4	<4	<7
SP	10/20/92	7100	<4	<8	<3	<4	<8	<4	<7	<4	<5	<6
SP	11/17/92	6500	<3	<7	<3	<4	<7	<3	<4	<4	<4	<4
SP	12/15/92	6700	<3	<6	<3	<3	<6	<3	<7	<3	<3	<6



**TABLE 9**  
**1992 Ground Water Radiological Analyses**  
 (pCi / liter, analysis error reported in Appendix B)

LOCATION	DATE	H-3	MN-54	FE-59	CO-58	CO-60	ZN-65	ZR-NB-95	I-131	CS-134	CS-137	BA-LA-140
B12	18-Feb-92	< 200	< 3	< 6	< 3	< 3	< 6	< 3	< 0.1	< 3	< 4	< 3
B12	19-May-92	< 100	< 4	< 8	< 4	< 4	< 8	< 4	< 0.1	< 4	< 4	< 4
B12	18-Aug-92	< 200	< 3	< 7	< 3	< 4	< 8	< 4	< 0.2	< 4	< 4	< 6
B12	17-Nov-92	< 100	< 3	< 6	< 3	< 3	< 6	< 3	< 0.2	< 3	< 3	< 4
C10	18-Feb-92	< 200	< 2	< 5	< 2	< 2	< 5	< 3	< 0.1	< 3	< 3	< 3
C10	19-May-92	< 100	< 6	< 10	< 6	< 7	< 10	< 7	< 0.1	< 7	< 7	< 9
C10	18-Aug-92	< 200	< 3	< 8	< 3	< 3	< 8	< 4	< 0.2	< 4	< 4	< 8
C10	17-Nov-92	< 100	< 3	< 6	< 3	< 4	< 7	< 4	< 0.2	< 4	< 4	< 5
C49	18-Feb-92	< 200	< 10	< 20	< 10	< 10	< 20	< 10	< 0.2	< 10	< 10	< 10
C49D*	18-Feb-92	< 200	< 10	< 20	< 10	< 10	< 20	< 10	< 0.2	< 10	< 10	< 10
C49	19-May-92	< 100	< 3	< 6	< 3	< 3	< 6	< 3	< 0.1	< 3	< 4	< 5
C49	18-Aug-92	< 200	< 3	< 8	< 4	< 4	< 7	< 4	< 0.2	< 4	< 4	< 8
C49	17-Nov-92	< 100	< 3	< 7	< 3	< 4	< 8	< 4	< 0.2	< 4	< 4	< 5
D65	18-Feb-92	< 200	< 2	< 6	< 2	< 3	< 6	< 3	< 0.1	< 3	< 4	< 4
D65	19-May-92	< 100	< 3	< 7	< 3	< 4	< 7	< 3	< 0.2	< 4	< 4	< 5
D65	18-Aug-92	< 200	< 3	< 7	< 3	< 4	< 6	< 3	< 0.1	< 3	< 4	< 6
D65	17-Nov-92	< 100	< 3	< 8	< 3	< 3	< 7	< 3	< 0.2	< 3	< 3	< 4

\* Duplicate Sample

**TABLE 10**  
**1992 Aquatic Plants Radiological Analyses**  
 (pCi / liter, analysis error reported in Appendix B)

DATE	LOCATION	TYPE	BE-7	K-40	MN-54	CO-58	CO-60	CS-134	CS-137	RA-226	TH-232	CR-51	SB-125
14-Apr-92	DC	CATTAIL	0.190	3.180	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD
11 May-92	DC	ALGAE	0.850	1.720	0.015	0.022	0.026	0.050	0.078	0.487	0.155	< LLD	< LLD
23-Jun-92	DC	AMERICAN LOTUS	0.433	3.550	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD	< LLD
25-Aug-92	DC	ALGAE	0.930	1.210	0.061	0.038	0.068	< LLD	0.013	< LLD	0.032	< LLD	< LLD
22-Sep-92	DC ALT	POND WEED	0.241	1.910	< LLD	0.015	0.040	< LLD	< LLD	0.232	< LLD	< LLD	< LLD

**TABLE 11**  
**1992 Shoreline Sediment Radiological Analyses**  
 (pCi / kg dry, analysis error reported in Appendix B)

LOCATION	DATE	BE-7	K-40	CO-58	CO-60	CS-134	CS-137	RA-226	TH-228	RA-228
DC	14-Apr-92	< LLD	11.50	< LLD	0.095	< 0.05	0.056	2.7	1.19	< LLD
DC*	14-Apr-92	< LLD	8.53	< LLD	< LLD	< 0.05	< 0.05	1.59	0.924	< LLD
DC	22-Sep-92	< LLD	9.55	< LLD	0.086	< 0.06	0.0742	1.75	1.03	< LLD
JRR	14-Apr-92	< LLD	9.63	< LLD	< LLD	< 0.05	0.19	1.69	1.25	< LLD
JRR*	22-Sep-92	< LLD	9.92	< LLD	< LLD	< 0.06	< 0.04	< LLD	3.62	1.51

Those numbers reported as <LLD are not normally tracked in WCNOG shoreline sediment databases unless activity is detected.

\* Duplicate analysis

**TABLE 12**  
**1992 Bottom Sediment Radiological Analyses**  
 (pCi / kg dry, analysis error reported in Appendix B)

LOCATION	DATE	BE-7	K-40	MN-54	CO-58	CO-60	CS-134	CS-137	RA-226	TH-228
DC	6/23/92	< LLD	10.2	0.053	< LLD	0.625	0.244	0.526	1.610	1.170
DC	9/22/92	< LLD	9.5	< LLD	< LLD	0.910	0.239	0.483	2.800	1.160
JRR	7/6/92	< LLD	17.2	< LLD	< LLD	< LLD	< 0.05	0.223	3.170	1.430
JRR	9/22/92	< LLD	16.4	< LLD	< LLD	< LLD	< 0.05	0.222	2.020	1.230
JRR*	7/6/92	< LLD	18.5	< LLD	< LLD	< LLD	< 0.05	0.272	1.550	1.470
UHS	10/26/92	< LLD	12.3	< LLD	< LLD	0.087	< 0.04	0.329	2.250	1.160
UHS*	10/26/92	< LLD	11.8	< LLD	< LLD	0.084	< 0.05	0.35	2.390	1.140

Those numbers reported as <LLD are not normally tracked in WCNOG bottom sediment databases unless activity is detected.

\* Duplicate Sample

**TABLE 13**  
**1992 Broadleaf Vegetation Radiological Analyses**  
 (pCi / kg dry, analysis error reported in Appendix B)

DATE	TYPE	LOC	BE-7	K-40	RU-103	I-131	CS-134	CS-137	RA-226	TH-228
23-Jun-92	SWISS CHARD	A-1	0.298	4.24	< 0.008	< 0.01	< 0.008	< 0.008	< 0.1	< 0.01
26-Jul-92	SWISS CHARD	A-1	0.935	3.25	< 0.007	< 0.01	< 0.007	< 0.007	< 0.1	< 0.01
25-Aug-92	SWISS CHARD	A-1	0.364	2.9	< 0.01	< 0.01	< 0.01	< 0.01	< 0.2	< 0.02
22-Sep-92	SWISS CHARD	A-1	0.486	2.45	< 0.01	< 0.03	< 0.009	< 0.01	< 0.2	< 0.02
27-Oct-92	SWISS CHARD	A-1	0.59	2.95	< 0.01	< 0.02	< 0.01	< 0.01	< 0.2	< 0.02
24-Nov-92	SWISS CHARD	A-1	0.561	1.96	< 0.01	< 0.02	< 0.01	< 0.01	< 0.2	< 0.02
27-May-92	SWISS CHARD	G-1	0.126	5.01	< 0.01	< 0.02	< 0.01	< 0.01	< 0.02	< 0.02
23-Jun-92	CABBAGE	G-1	0.421	3.71	< 0.009	< 0.02	< 0.008	< 0.008	< 0.2	< 0.02
26-Jul-92	CABBAGE	G-1	1.33	3.13	< 0.008	< 0.01	< 0.008	< 0.009	< 0.1	< 0.01
26-May-92	SWISS CHARD	R-1	0.313	3.93	< 0.02	< 0.02	< 0.01	< 0.01	< 0.02	< 0.02
24-Jun-92	LETTUCE	R-1	0.165	5.25	< 0.008	< 0.01	< 0.008	< 0.008	< 0.1	< 0.01
26-Jul-92	CABBAGE	R-1	2.1	5.69	< 0.006	< 0.01	< 0.006	0.0118	< 0.1	0.0299
26-May-92	SWISS CHARD	S-4	0.167	4.17	< 0.01	< 0.02	< 0.01	< 0.01	< 0.02	< 0.02
24-Jun-92	CABBAGE	S-4	0.303	3.08	< 0.01	< 0.02	< 0.01	< 0.01	< 0.2	< 0.02
26-Jul-92	CABBAGE	S-4	0.91	3.42	< 0.01	< 0.02	< 0.01	< 0.01	< 0.3	< 0.03
25-Aug-92	CABBAGE	S-4	1.26	2.61	< 0.01	< 0.02	< 0.01	< 0.01	< 0.3	< 0.02
22-Sep-92	SPINACH	S-4	0.333	9.82	< 0.02	< 0.04	< 0.01	< 0.02	< 0.2	< 0.02

**TABLE 14**  
**1992 Irrigated Crops Radiological Analyses**  
 (pCi / kg dry, analysis error reported in Appendix B)

DATE	TYPE	LOC	BE-7	K-40	RU-103	I-131	CS-134	CS-137	RA-226	TH-228
04-Nov-92	SOYBEAN	NRD1	< 0.07	17.5	< 0.008	< 0.02	< 0.008	< 0.008	< 0.1	< 0.01
06-Oct-92	CORN	NRD2	< 0.05	3.16	< 0.007	< 0.02	< 0.006	< 0.005	< 0.1	< 0.01
06-Oct-92	SOYBEAN	NRD2	< 0.06	16.1	< 0.007	< 0.03	< 0.006	< 0.006	< 0.1	< 0.009
16-Oct-92	CORN	NRU1	< 0.05	2.93	< 0.006	< 0.02	< 0.005	< 0.005	< 0.09	< 0.009
16-Oct-92	SOYBEAN	NRU1	0.0657	0.0386	< 0.006	< 0.02	< 0.006	< 0.006	< 0.09	< 0.009
20-Oct-92	SOYBEAN	A1	0.499	11.1	< 0.02	< 0.04	< 0.02	< 0.02	< 0.3	< 0.03

Soybeans obtained from A1 by special request of KDHE

TABLE 15  
1992 Milk Radiological Analyses  
(pCi / kg dry, analysis error reported in Appendix B)

TYPE	DATE	I-131	K-40	K-40 ERROR	CS-134	CS-137	BA-LA- 140	COMMENTS
COW	1/14/92	< 0.2	1240	+/- 120	< 4	< 4	< 6	
COW	2/11/92	< 0.2	1210	+/- 120	< 4	< 4	< 4	
COW	3/10/92	< 0.2	1210	+/- 120	< 3	< 4	< 4	
COW	4/14/92	< 0.2	1180	+/- 120	< 4	< 4	< 7	
COW	4/14/92	< 0.4	1050	+/- 100	< 5	< 5	< 9	DUPLICATE
COW	5/12/92	< 0.5	1300	+/- 130	< 4	< 4	< 4	
COW	5/12/92	< 0.4	1360	+/- 140	< 5	< 5	< 5	DUPLICATE
COW	5/27/92	< 0.2	1330	+/- 130	< 4	< 4	< 4	
COW	5/27/92	< 0.3	1280	+/- 130	< 4	< 5	< 4	DUPLICATE
COW	6/9/92	< 0.3	1280	+/- 130	< 4	< 4	< 7	
COW	6/23/92	< 0.2	1480	+/- 150	< 4	< 4	< 5	
COW	7/14/92	< 0.1	1350	+/- 130	< 4	< 4	< 6	
COW	7/28/92	< 0.2	1380	+/- 140	< 4	< 4	< 5	
COW	8/11/92	< 0.1	1300	+/- 130	< 3	< 4	< 4	
COW	8/26/92	< 0.1	1320	+/- 130	< 3	< 3	< 5	
COW	9/8/92	< 0.2	1340	+/- 130	< 4	< 4	< 6	
COW	9/22/92	< 0.2	2000	+/- 200	< 7	< 6	< 8	
COW	10/13/92	< 0.2	1360	+/- 140	< 4	< 4	< 5	
COW	10/27/92	< 0.2	1410	+/- 140	< 4	< 4	< 5	
COW	11/10/92	< 0.2	1390	+/- 140	< 4	< 5	< 5	
COW	11/24/92	< 0.4	1410	+/- 140	< 4	< 4	< 5	
COW	12/8/92	< 0.2	1310	+/- 130	< 4	< 4	< 5	

TABLE 16  
1992 Fish Radiological Analyses  
(pCi / kg dry, analysis error reported in Appendix B)

DATE	SPECIES	Location	K-40	MN-54	FE-59	CO-58	CO-60	ZN-65	CS-134	CS-137	TH-228
07-Apr-92	COMMON CARP	WCCL	2.34	< 0.03	< 0.07	< 0.03	< 0.03	< 0.06	< 0.03	< 0.03	0.06
07-Apr-92	CHANNEL CAT	WCCL	3.70	< 0.02	< 0.04	< 0.02	< 0.02	< 0.03	< 0.02	0.0188	0.03
07-Apr-92	BLACK CRAPPIE	WCCL	2.92	< 0.02	< 0.04	< 0.02	< 0.02	< 0.04	< 0.02	< 0.02	0.03
07-Apr-92	WHITE CRAPPIE	WCCL	3.37	< 0.01	< 0.04	< 0.02	< 0.02	< 0.04	< 0.02	< 0.02	0.03
07-Apr-92	WHITE CRAPPIE	WCCL	3.36	< 0.01	< 0.04	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	0.02
27-May-92	CARP	JRR	3.19	< 0.04	< 0.1	< 0.04	< 0.04	< 0.1	< 0.04	< 0.04	0.06
27-May-92	CATFISH	JRR	3.71	< 0.03	< 0.06	< 0.03	< 0.03	< 0.05	< 0.03	< 0.03	0.05
14-Oct-92	CARP	WCCL	2.50	< 0.03	< 0.07	< 0.03	< 0.03	< 0.06	< 0.03	< 0.04	0.05
14-Oct-92	WIPER	WCCL	3.29	< 0.03	< 0.06	< 0.03	< 0.03	< 0.06	< 0.03	< 0.04	0.07
28-Oct-92	BLACK CRAPPIE	JRR	3.86	< 0.03	< 0.07	< 0.02	< 0.03	< 0.06	< 0.03	< 0.03	0.06
28-Oct-92	BLACK BASS	JRR	3.86	< 0.02	< 0.05	< 0.02	< 0.03	< 0.07	< 0.02	< 0.02	0.03
28-Oct-92	BUFFALO	JRR	3.64	< 0.02	< 0.05	< 0.03	< 0.03	< 0.05	< 0.02	< 0.03	0.04
28-Oct-92	WHITE CRAPPIE	JRR	3.51	< 0.02	< 0.06	< 0.03	< 0.03	< 0.06	< 0.03	< 0.03	0.04

TABLE 17  
1992 Land Use Census Residence Data

SECTOR	TOTAL POPULATION FOR SECTOR	NO. OF RESPONSES/ HOUSEHOLDS	1991 DISTANCE(Mi)/ CLOSEST RESIDENCE	1992 DISTANCE(Mi)/ CLOSEST RESIDENCE
A	<u>15</u>	<u>6/7</u>	1.4/A-01	1.4/A-01
B	<u>21</u>	<u>5/6</u>	3.1/B-02	3.1/B-02
C	<u>21</u>	<u>7/9</u>	2.0/C-01	2.0/C-01
D	<u>15</u>	<u>4/4</u>	2.1/D-01	2.1/D-01
E	<u>14</u>	<u>4/5</u>	1.8/E-01	1.8/E-01
F	<u>39</u>	<u>13/15</u>	1.8/F-01	1.8/F-01
G	<u>23</u>	<u>8/9</u>	1.6/G-01	1.6/G-01
H	<u>26</u>	<u>8/9</u>	3.1/H-02	3.1/H-02
J	<u>16</u>	<u>4/7</u>	3.3/J-01	3.3/J-01
K	<u>12</u>	<u>6/6</u>	<u>3.8/K-05</u>	<u>2.6/K-06</u>
L	<u>78</u>	<u>26/26</u>	2.1/L-09	2.1/L-09
M	<u>44</u>	<u>15/19</u>	<u>2.4/M-02</u>	<u>1.6/M-19</u>
N	<u>15</u>	<u>6/6</u>	2.1/N-01	2.1/N-01
P	<u>71</u>	<u>19/19</u>	2.9/P-02	2.9/P-02
Q	<u>23</u>	<u>7/9</u>	1.4/Q-02	1.4/Q-02
R	<u>9</u>	<u>5/5</u>	1.9/R-05	1.9/R-05

**BOLD PRINTING** denotes a change from 1991 Land Use Census.

TABLE 18  
1992 Land Use Census Milk and Garden Data

SECTOR	1991 DISTANCE(Mi)/ MILK ANIMAL	1992 DISTANCE(Mi)/ MILK ANIMAL	1991 DISTANCE(Mi)/ CLOSEST GARDEN	1992 DISTANCE(Mi)/ CLOSEST GARDEN	D/Q (DEPOSITION CONSTANT)/ RANKING
A	NONE	NONE	1.4/A-01	1.4/A-01	5.92E-09 / 1
B	<u>4.1/B-06</u> <u>4.9/B-07</u>	<u>4.9/B-07</u>	3.1/B-02	3.1/B-02	9.05E-10 / 7
C	NONE	NONE	2.0/C-01	2.0/C-01	7.73E-10 / 10
D	<u>2.4/D-03</u>	<u>NONE</u>	2.1/D-01	2.1/D-01	4.32E-10 / 16
E	NONE	NONE	1.8/E-01	1.8/E-01	7.76E-10 / 9
F	NONE	NONE	1.6/F-07	1.6/F-07	1.11E-09 / 5
G	NONE	NONE	1.6/G-01	1.6/G-01	1.55E-09 / 3
H	NONE	NONE	<u>4.9/H-06</u>	<u>3.1/H-02</u>	<u>5.35E-10 / 13</u>
J	NONE	NONE	<u>3.8/J-02</u>	<u>3.3/J-01</u>	<u>5.28E-10 / 14</u>
K	NONE	NONE	<u>4.1/K-01</u>	<u>2.6/K-06</u>	<u>7.57E-10 / 11</u>
L	NONE	NONE	<u>2.8/L-03</u>	<u>2.6/L-39</u>	<u>4.98E-10 / 15</u>
M	<u>1.6/M-19*</u>	<u>1.6/M-19</u>	<u>2.4/M-02</u>	<u>1.6/M-19</u>	<u>1.19E-09 / 4</u>
N	NONE	NONE	<u>2.6/N-03</u>	<u>2.6/N-03</u>	<u>8.08E-10 / 10</u>
P	NONE	NONE	<u>4.7/P-03</u>	<u>2.8/P-26</u>	<u>5.50E-10 / 12</u>
Q	NONE	NONE	2.3/Q-03	2.3/Q-03	9.37E-10 / 6
R	NONE	NONE	2.1/R-01	2.1/R-01	1.84E-09 / 2

**BOLD PRINTING** denotes a change from 1991 Land Use Census.

No milk sample locations would apply for the REMP because of a variety of reasons. Generally, dairy breeds that are present are not utilized for milk production for human consumption. Location M-19 dairy cattle are young animals at pasture that are moved to Leroy Kansas if/when they are used for milk production. Other residents confirmed that their animals are not used for milking for human consumption. Location D-03 is currently vacant.

Garden data changes are largely because of people moving into locations that are closer to the site. The calculated D/Q values are ranked in descending order, confirm that the gardens currently being sampled for the REMP are appropriate and that no changes are necessary.



TABLE 19

## 1992 US EPA Interlaboratory Comparison Program

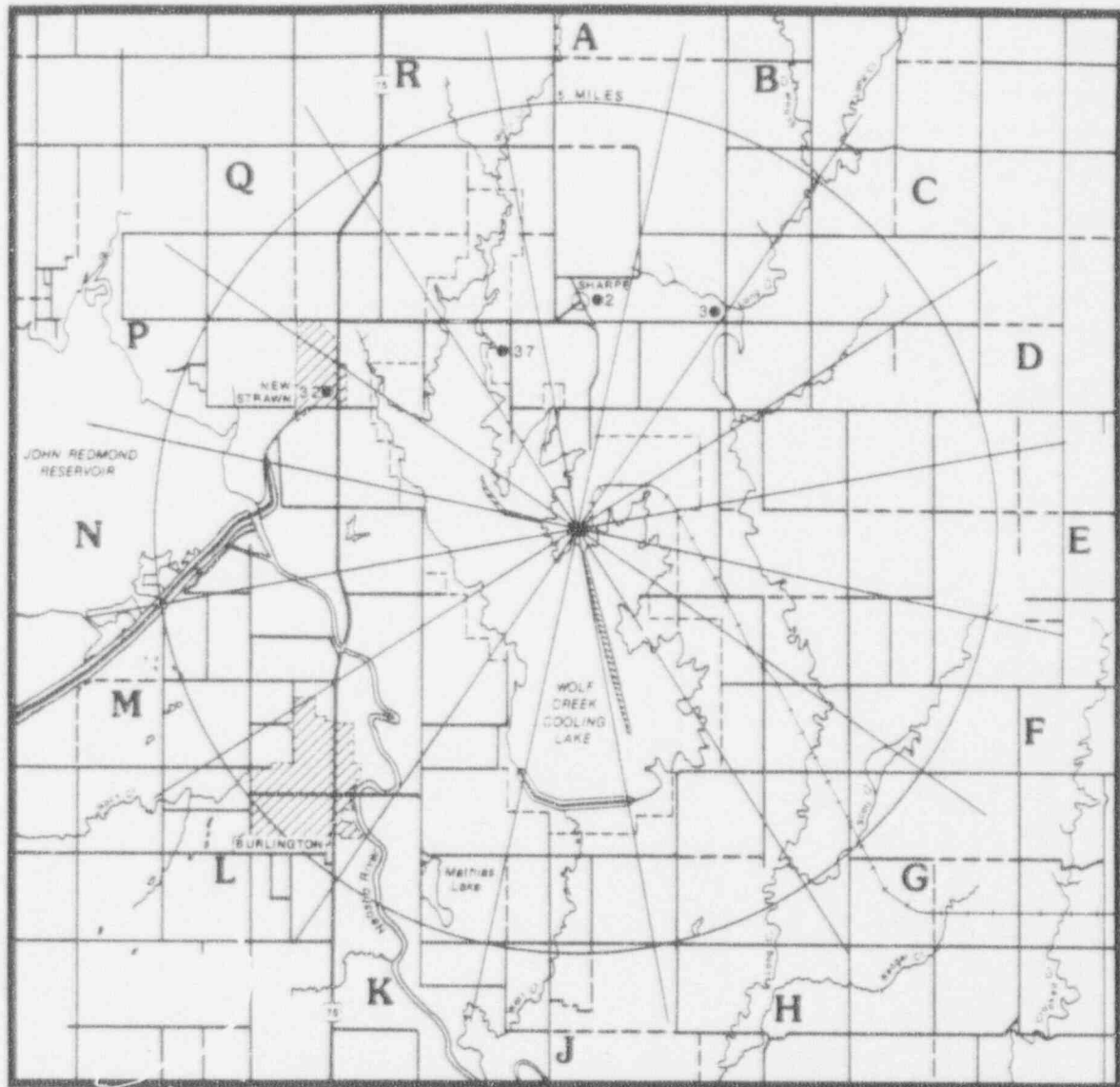
Collection Date	Media	Nuclide	EPA Results (a)			Teledyne Results (b)		
1/31/92	Water	Gr-Beta	30.0	+/-	5.0	31.67	+/-	0.58
2/7/92	Water	I-131	59.0	+/-	6.0	61.00	+/-	1.73
2/14/92	Water	Co-60	40.0	+/-	5.0	38.00	+/-	2.65
		Zn-65	148.0	+/-	15.0	145.00	+/-	1.73
		Ru-106	203.0	+/-	20.0	191.00	+/-	21.66
		Cs-134	31.0	+/-	5.0	29.00	+/-	2.00
		Cs-137	49.0	+/-	5.0	53.67	+/-	2.52
		Ba-133	76.0	+/-	8.0	75.67	+/-	7.51
2/21/92	Water	H-3	7904.0	+/-	790.0	7800.00	+/-	100.00
3/27/92	Air Filter	Gr-Beta	41.0	+/-	5.0	43.00	+/-	1.00
		Cs-137	10.0	+/-	5.0	11.00	+/-	1.73
4/14/92	Water	Gr-Beta	140.0	+/-	21.0	98.00	+/-	2.00 c
		Co-60	56.0	+/-	5.0	55.00	+/-	1.73
		Cs-134	24.0	+/-	5.0	22.67	+/-	1.53
		Cs-137	22.0	+/-	5.0	24.67	+/-	3.06
4/24/92	Milk	I-131	78.0	+/-	8.0	71.67	+/-	4.04
		Cs-137	39.0	+/-	5.0	46.67	+/-	2.31 d
		K	1710.0	+/-	86.0	1680.00	+/-	72.11
5/15/92	Water	Gr-Beta	44.0	+/-	5.0	44.67	+/-	1.15
6/5/92	Water	Co-60	20.0	+/-	5.0	21.33	+/-	0.58
		Zn-65	99.0	+/-	10.0	107.00	+/-	3.61
		Ru-106	141.0	+/-	14.0	127.00	+/-	11.53
		Cs-134	15.0	+/-	5.0	15.00	+/-	1.00
		Cs-137	15.0	+/-	5.0	16.00	+/-	1.00
		Ba-133	98.0	+/-	10.0	93.33	+/-	6.03
6/19/92	Water	H-3	2125.0	+/-	347.0	2100.00	+/-	0.00
8/7/92	Water	I-131	45.0	+/-	6.0	43.33	+/-	6.03
8/28/92	Air Filter	Gr-Beta	69.0	+/-	10.0	69.00	+/-	1.00
		Cs-137	18.0	+/-	5.0	16.67	+/-	2.31

TABLE 19 (cont'd)  
1992 US EPA Interlaboratory Comparison Program

Collection Date	Media	Nuclide	EPA Results (a)			Teledyne Results (b)		
9/18/92	Water	Gr-Beta	50.0	+/-	5.0	45.00	+/-	1.73
9/25/92	Milk	I-131	100.0	+/-	10.0	99.00	+/-	7.21
		Cs-137	15.0	+/-	5.0	15.67	+/-	1.15
		K	1750.0	+/-	88.0	1660.00	+/-	85.44
10/9/92	Water	Co-60	10.0	+/-	5.0	11.00	+/-	1.00
		Zn-65	148.0	+/-	15.0	156.67	+/-	0.58
		Ru-106	175.0	+/-	18.0	164.33	+/-	7.51
		Cs-134	8.0	+/-	5.0	8.67	+/-	0.58
		Cs-137	8.0	+/-	5.0	8.67	+/-	0.58
		Ba-133	74.0	+/-	7.0	75.67	+/-	9.29
10/20/92	Water	Gr-Beta	53.0	+/-	10.0	49.00	+/-	2.65
		Co-60	15.0	+/-	5.0	15.00	+/-	1.00
		Cs-134	5.0	+/-	5.0	5.00	+/-	0.00
		Cs-137	8.0	+/-	5.0	8.67	+/-	0.58
10/23/92	Water	H-3	5962.0	+/-	596.0	5666.67	+/-	57.74

- (a) EPA Results - Expected laboratory precision (1 sigma). Units are pCi/liter for water and milk except K is in mg/liter. Units are total pCi for air particulate filters.
- (b) Teledyne Results - Average +/- 1 sigma. Units are pCi/liter for water and milk except K is in mg/liter. Units are total pCi for air particulate filters.
- (c) There was a large fraction of low energy beta emitters (Co-60 and Cs-134) in the sample. Detector efficiency decreases with decreasing energy. We are required to calibrate with the high energy beta emitters (Cs-137 and Sr-90). No corrective action necessary.
- (d) There is no apparent reason for the high Cs-137 results. The sample geometry and detector efficiencies were verified to be correct. The Total K and I-131 by gamma spectroscopy were in good agreement with EPA values. There is no trend and results were within +/- 3 sigma so no action taken.

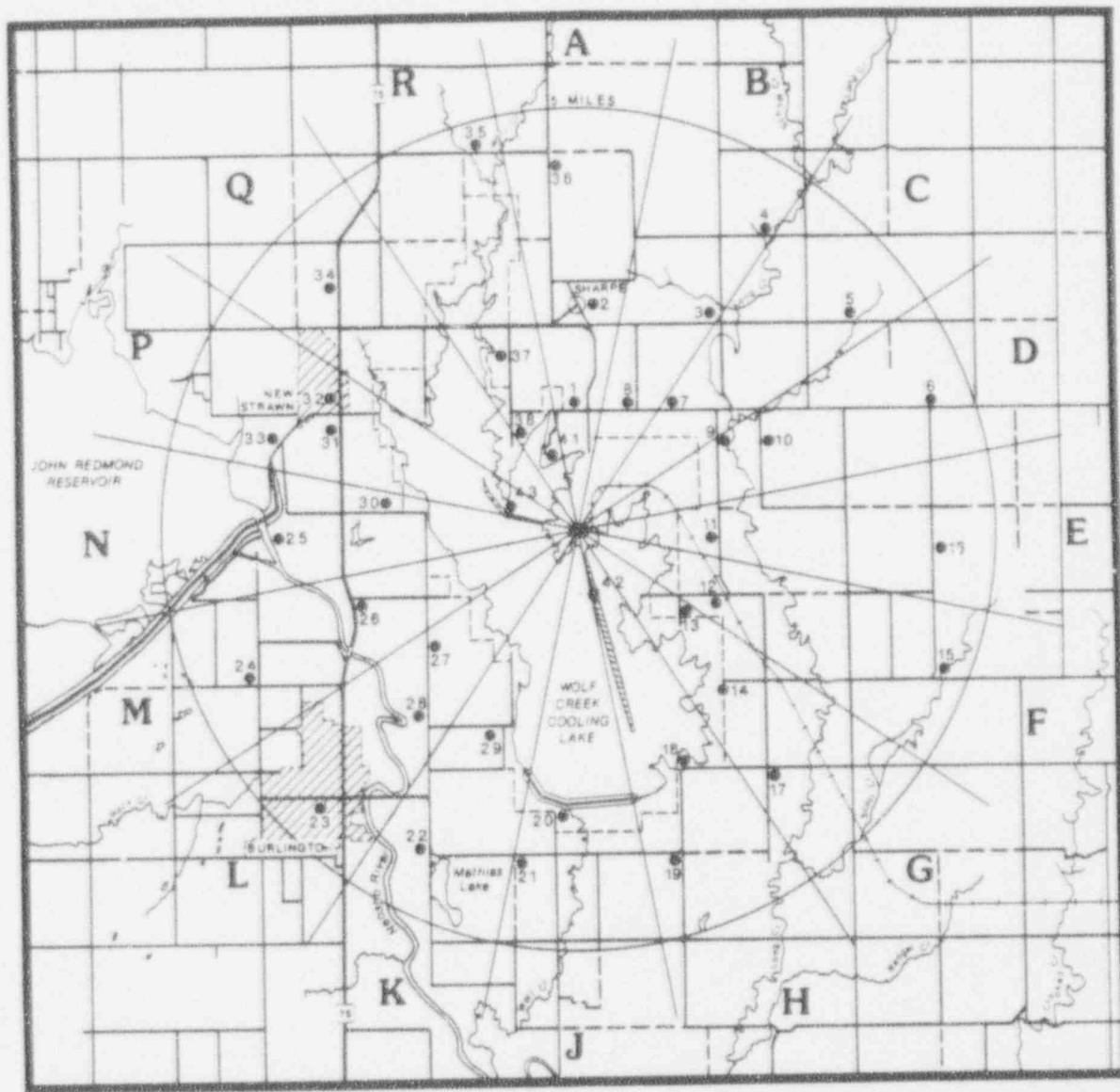
FIGURE 1



**AIRBORNE PATHWAY SAMPLING LOCATIONS**

● - AIRBORNE PARTICULATE AND RADIOIODINE

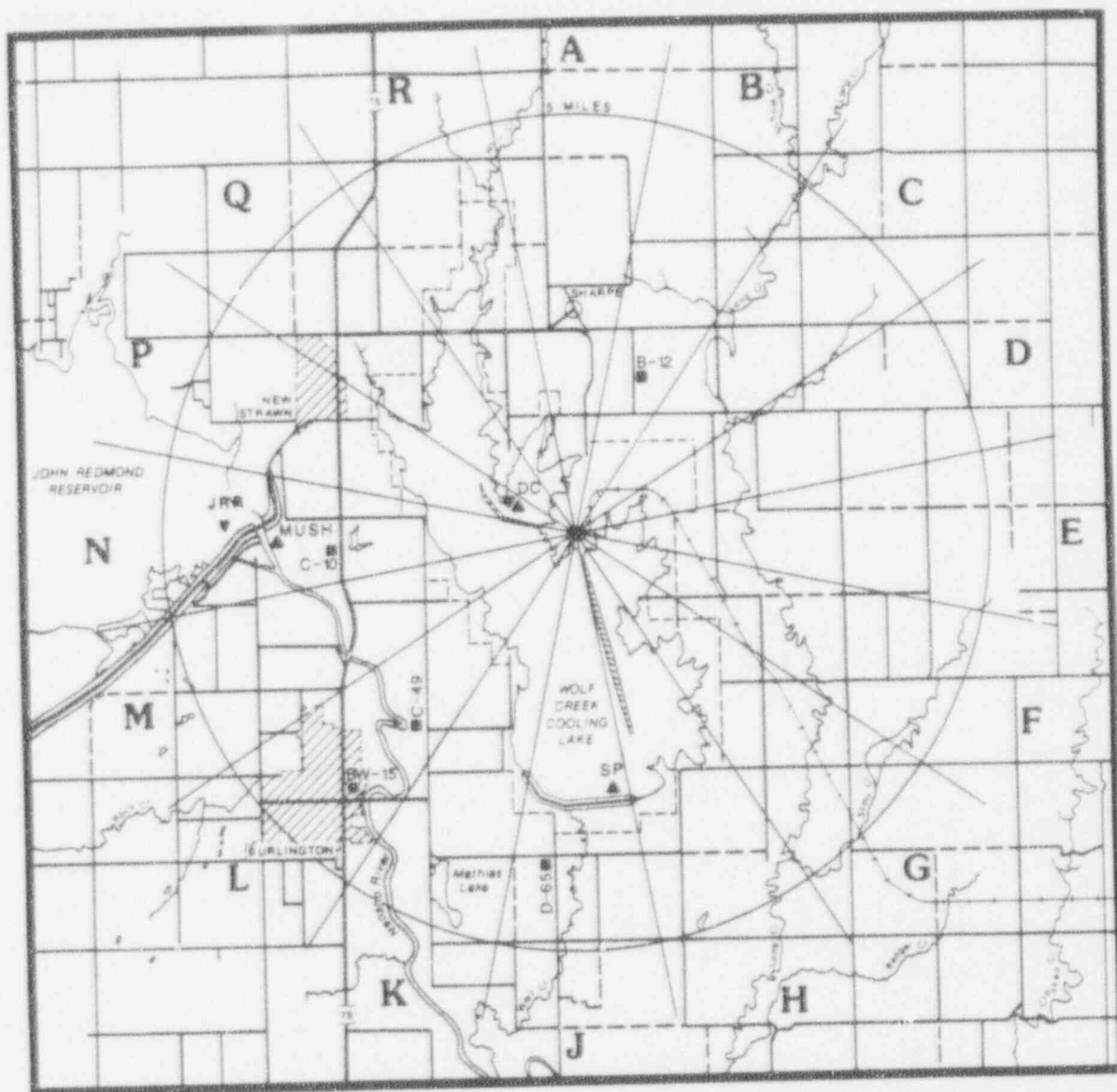
FIGURE 2



DIRECT RADIATION PATHWAY SAMPLING LOCATIONS

•--TLD LOCATIONS

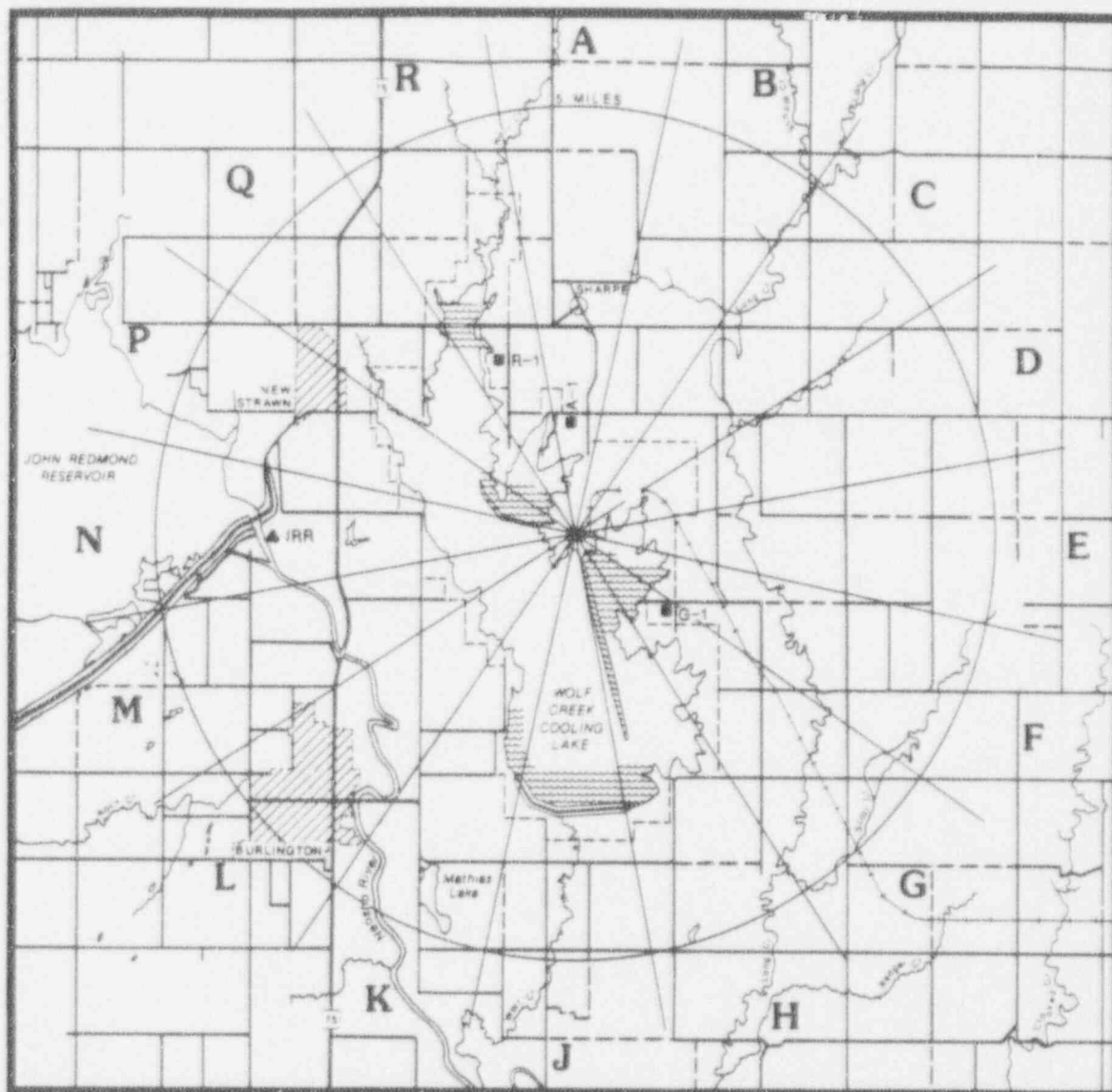
FIGURE 3



### WATERBORNE PATHWAY SAMPLING LOCATIONS

- DRINKING WATER      ▲- SURFACE WATER
- GROUND WATER      ▼- SHORELINE SEDIMENT
- ◆- BOTTOM SEDIMENT
- AQUATIC VEGETATION

FIGURE 4

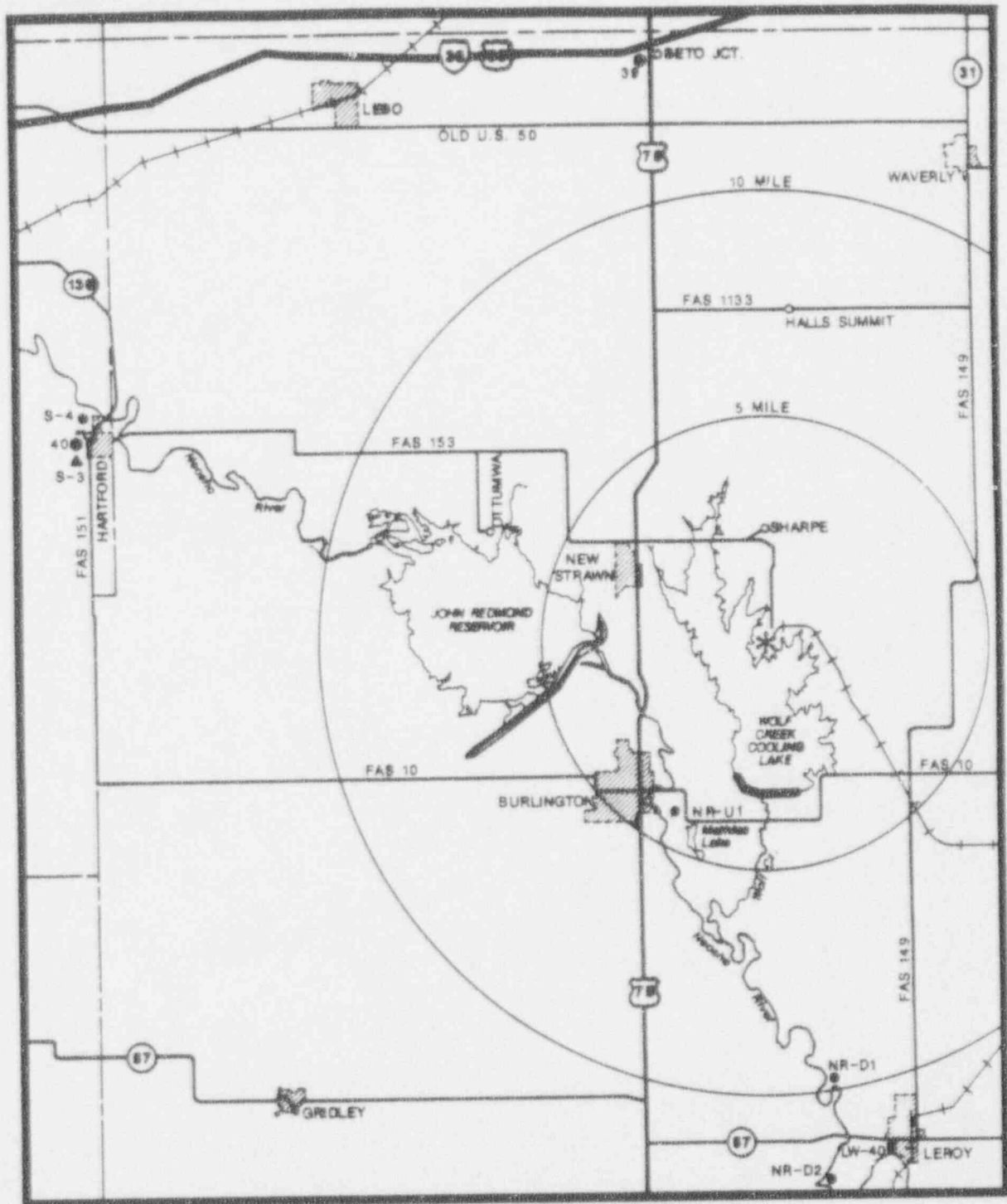


### INGESTION PATHWAY SAMPLING LOCATIONS

■-FOOD PRODUCTS

☐-FISH (WCCL)    ▲-FISH (JRR)

FIGURE 5



### DISTANT SAMPLING LOCATIONS

- - TLD      ■ - DRINKING WATER
- ▲ - MILK      ● - BROADLEAF VEGETATION/  
IRRIGATED CROPS



FIGURE 6

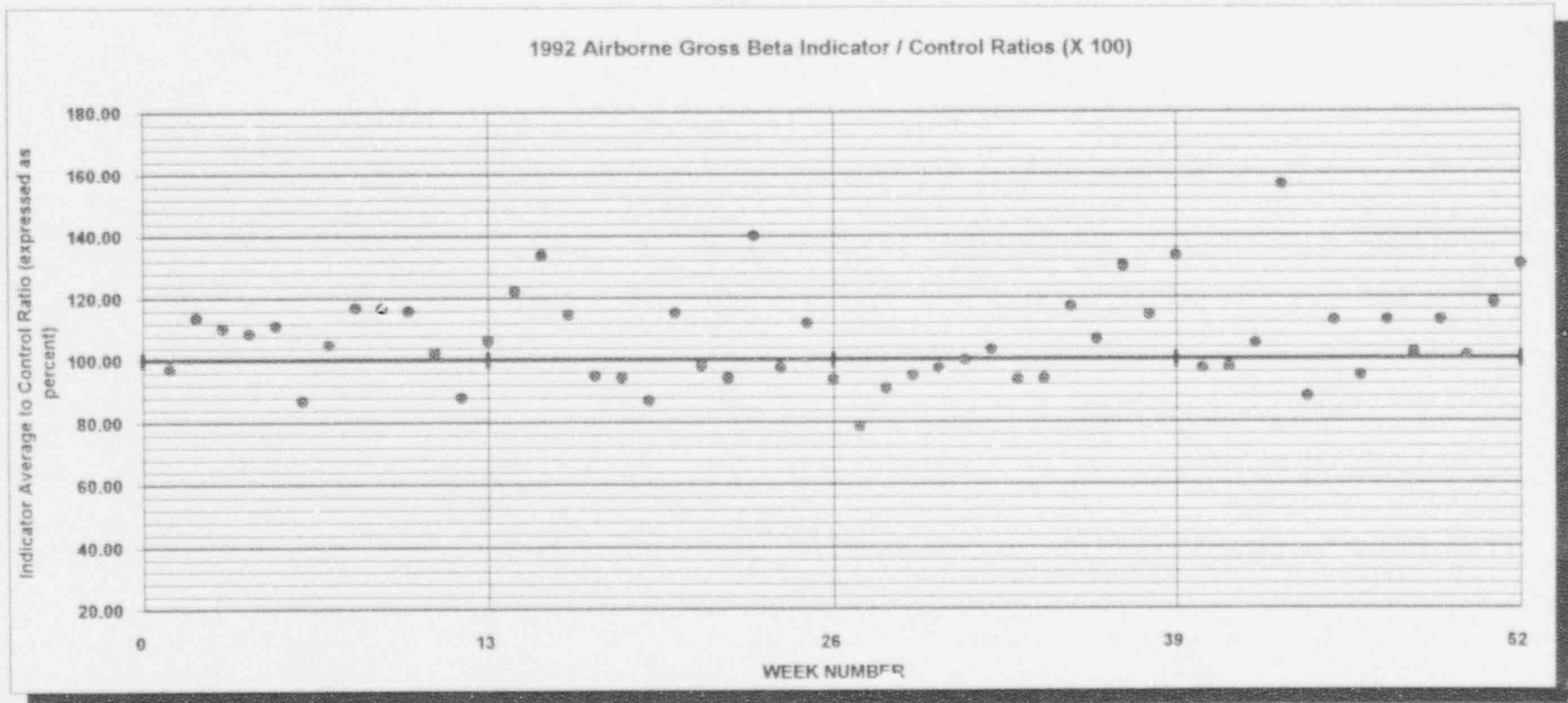


FIGURE 7

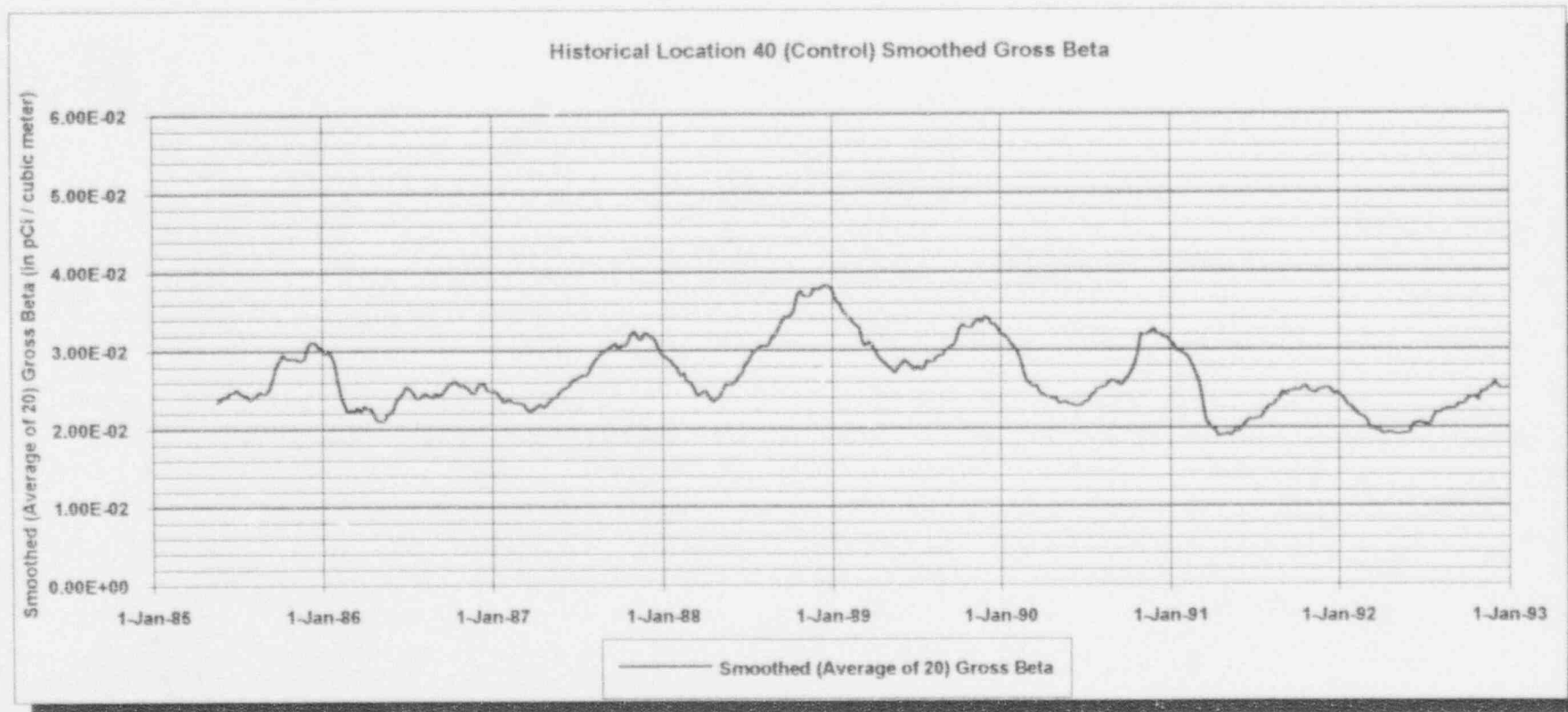


FIGURE 8

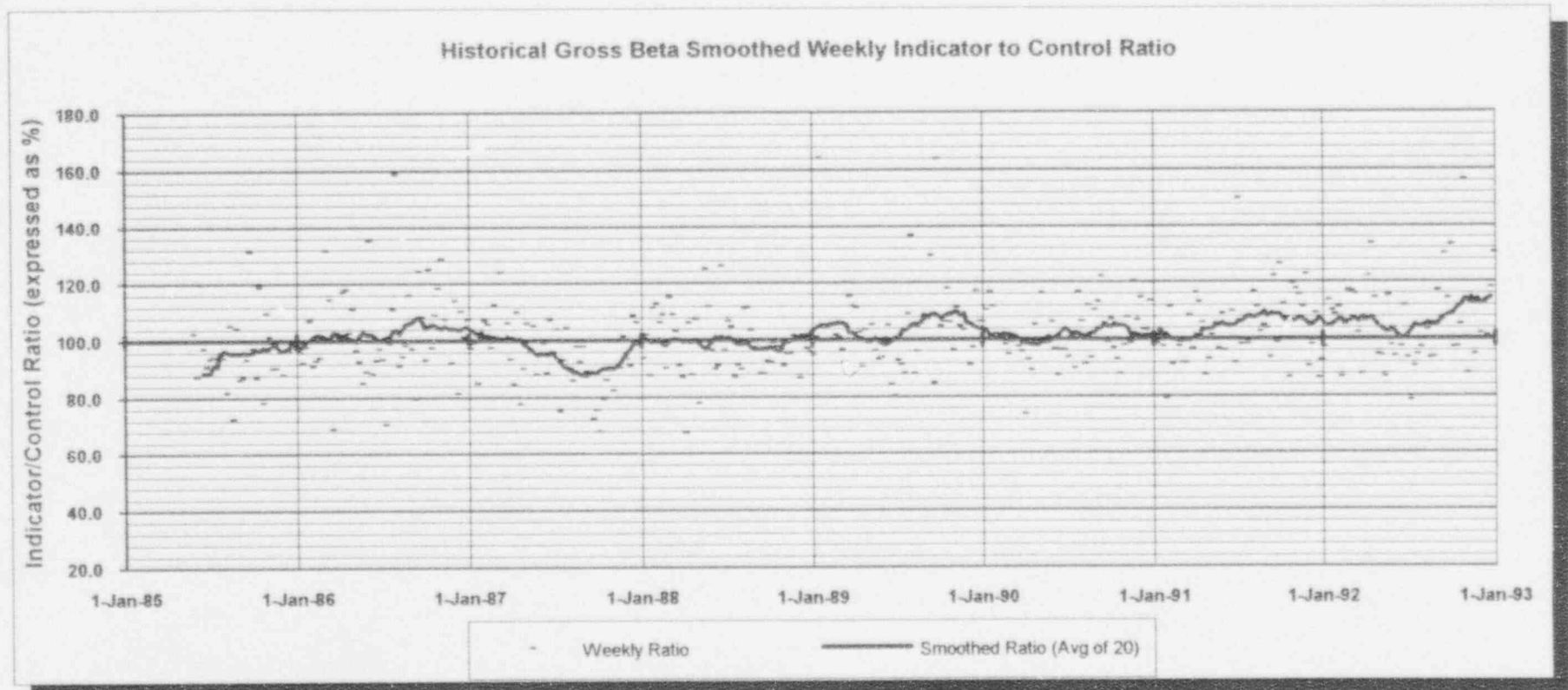


FIGURE 9

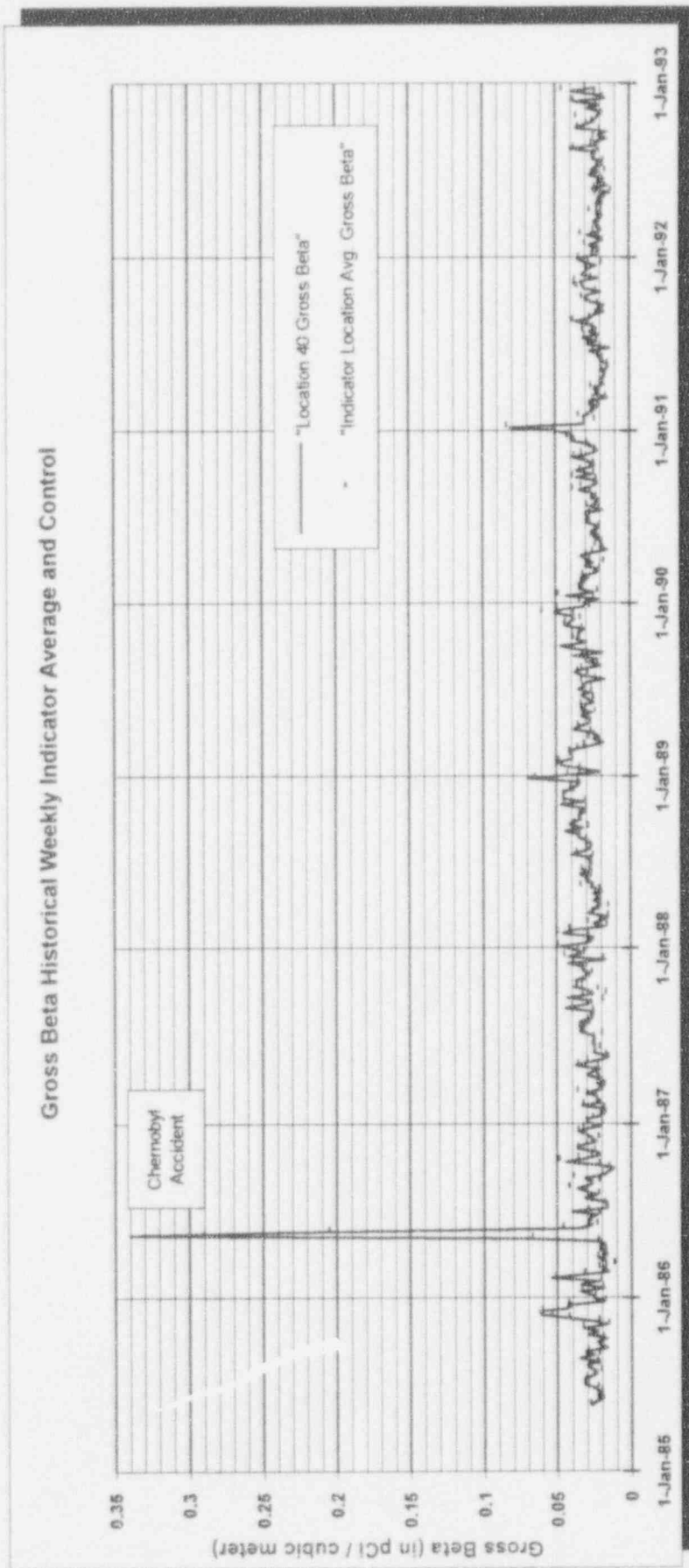


Figure 10

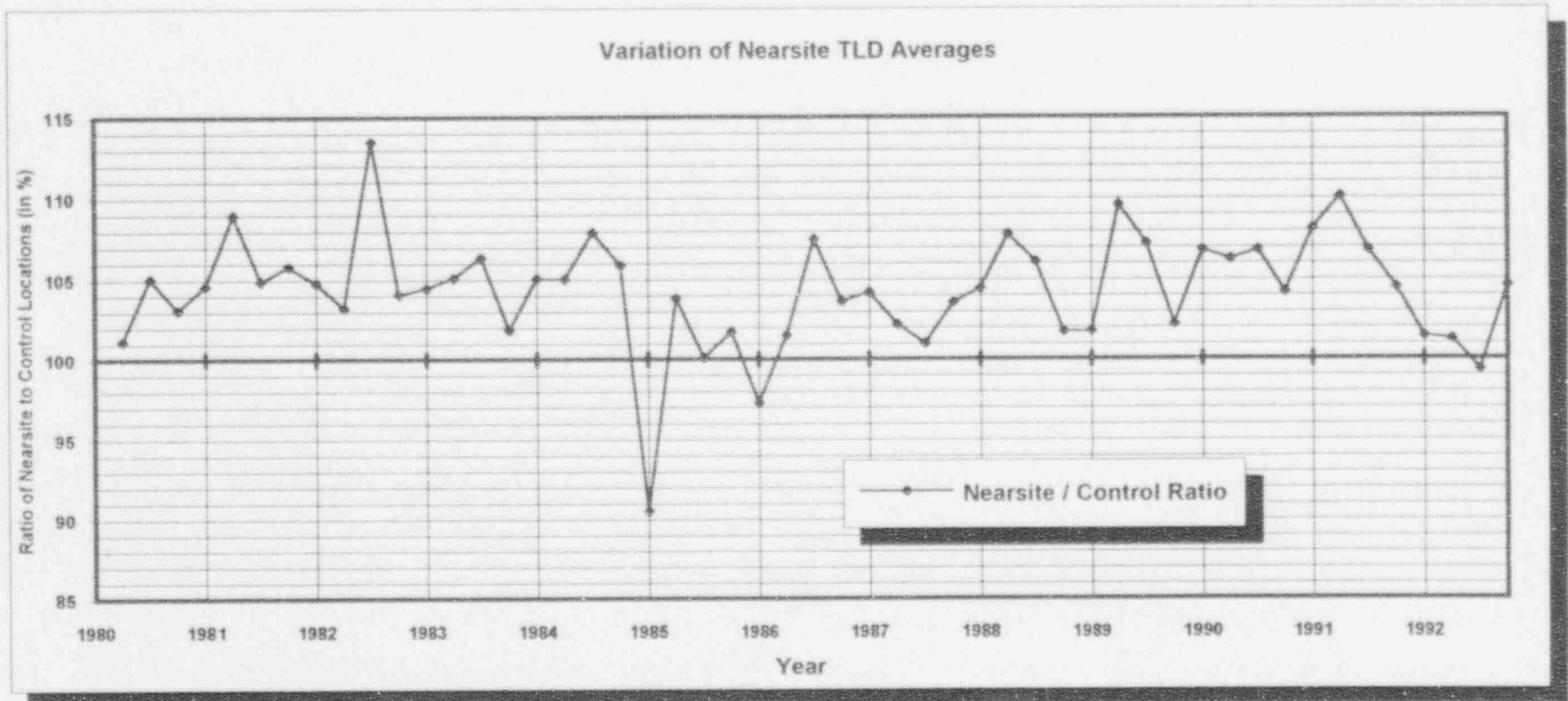


FIGURE 11

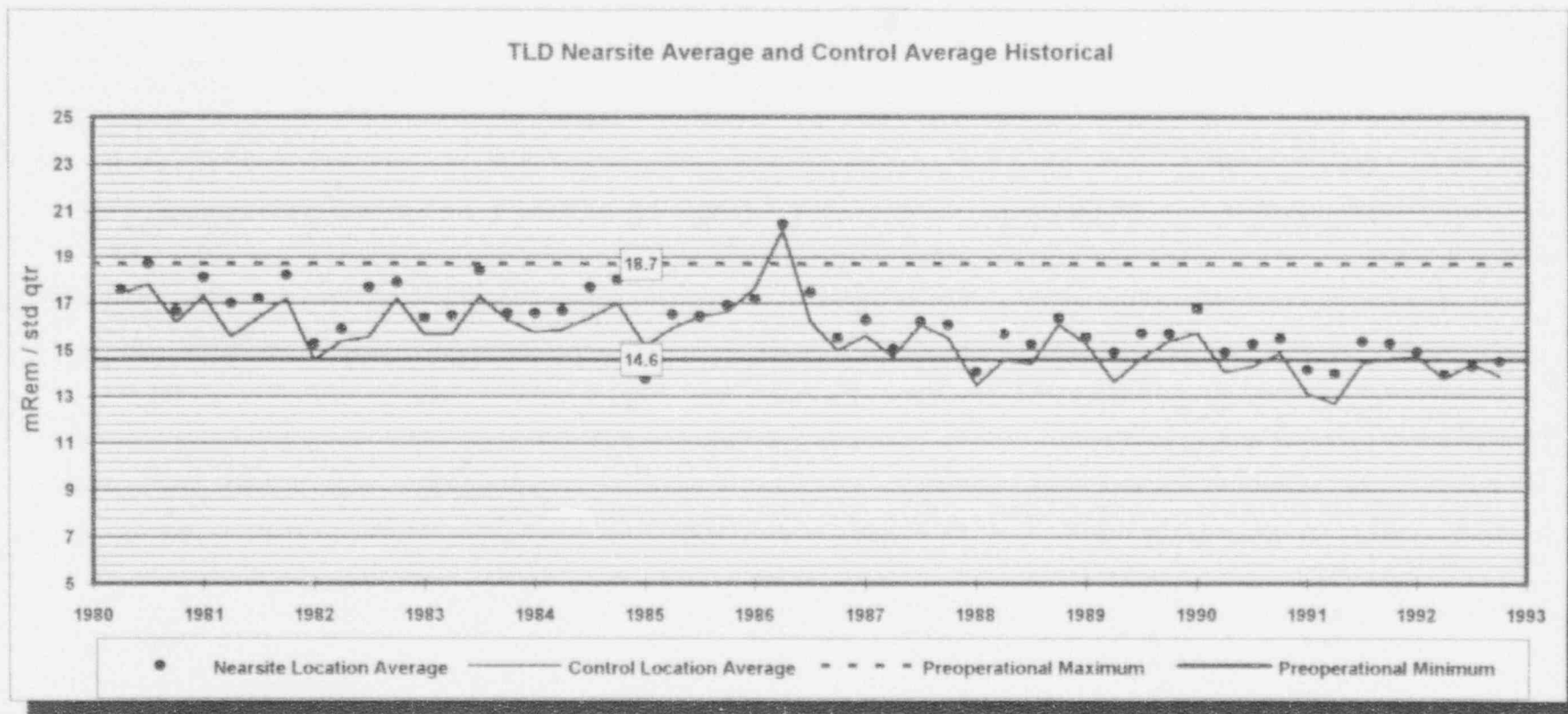


FIGURE 12

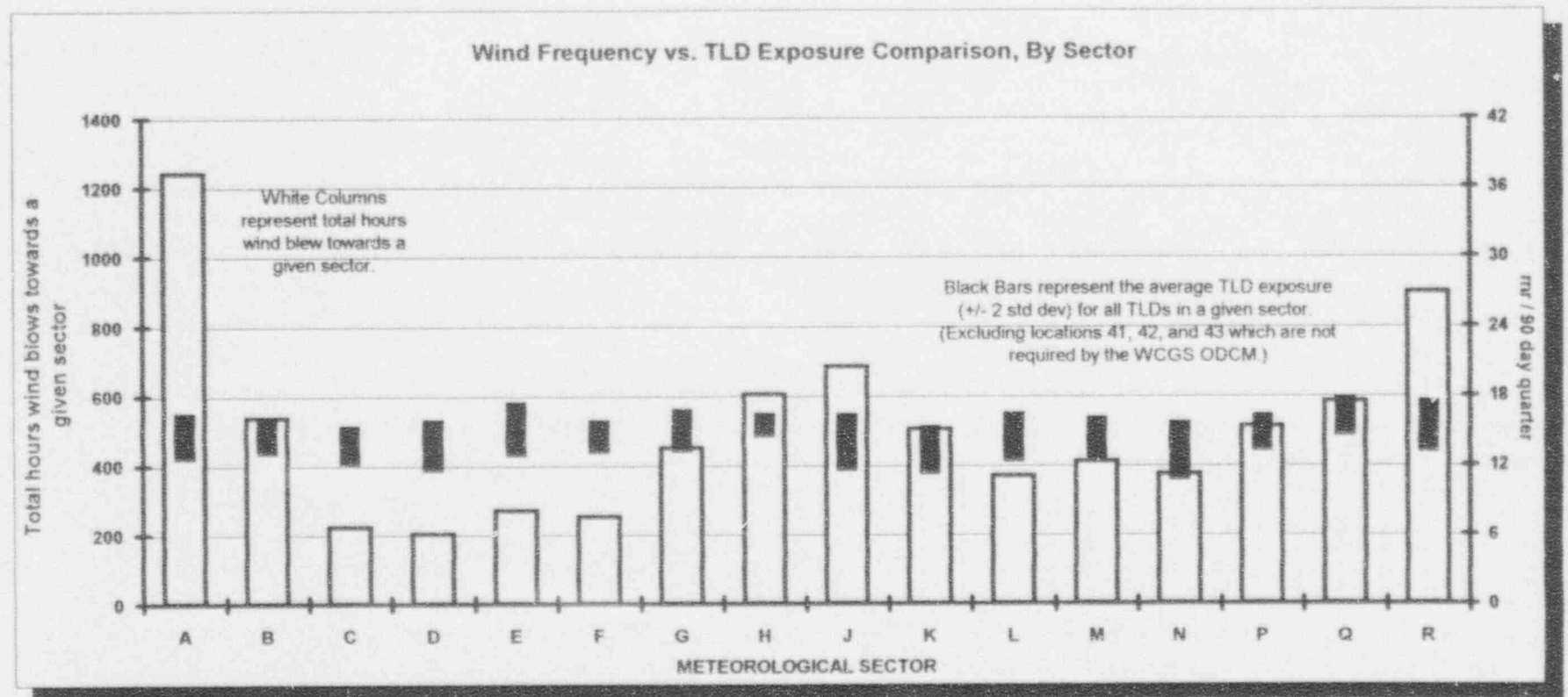




FIGURE 13

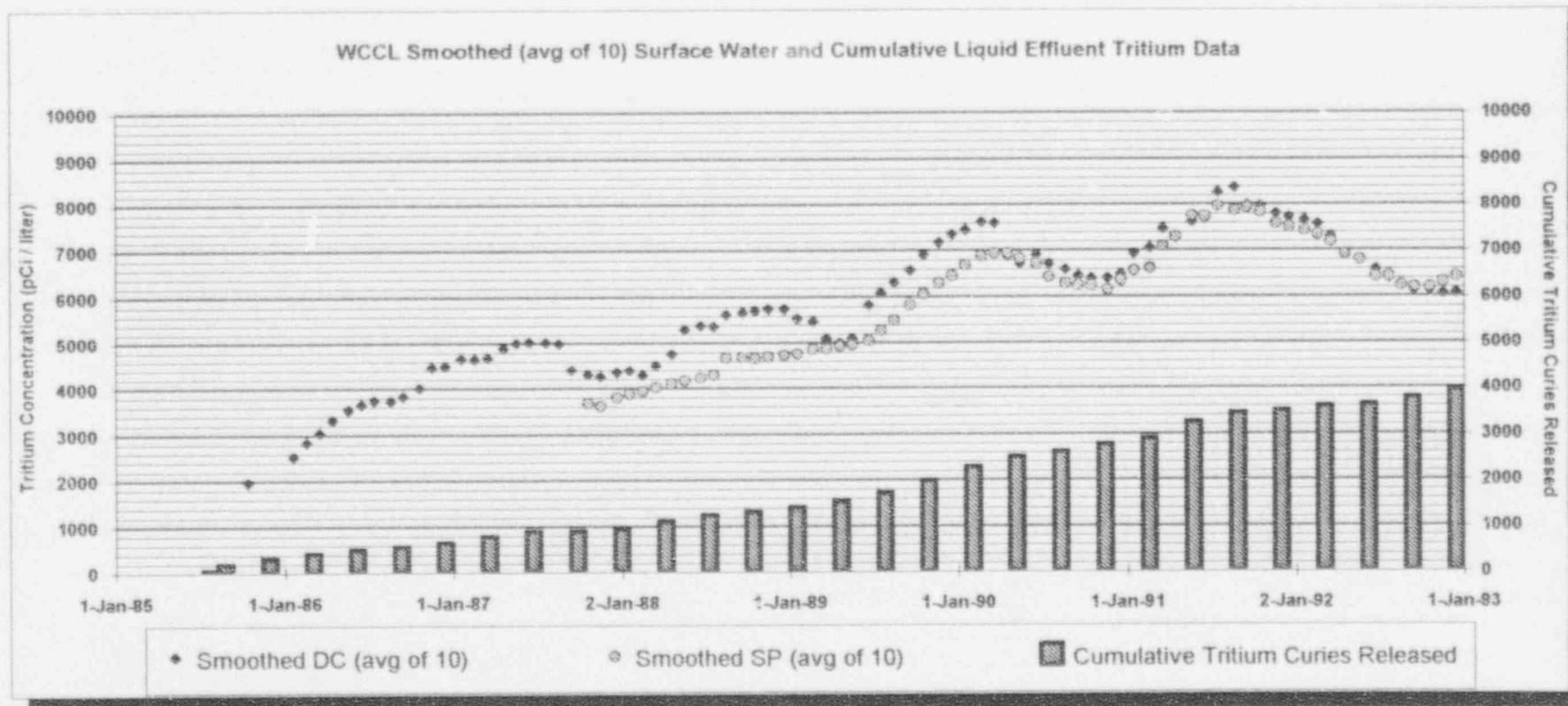


FIGURE 14

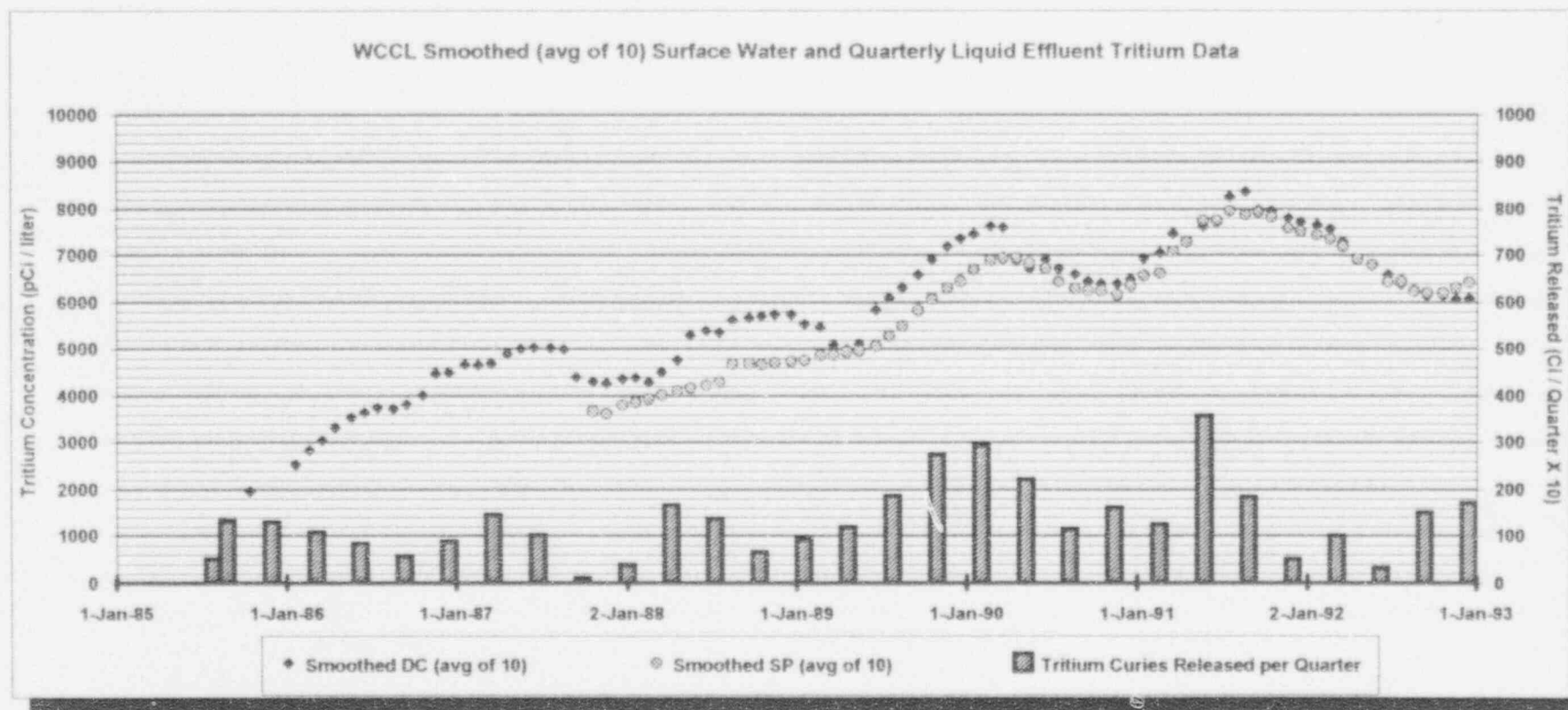
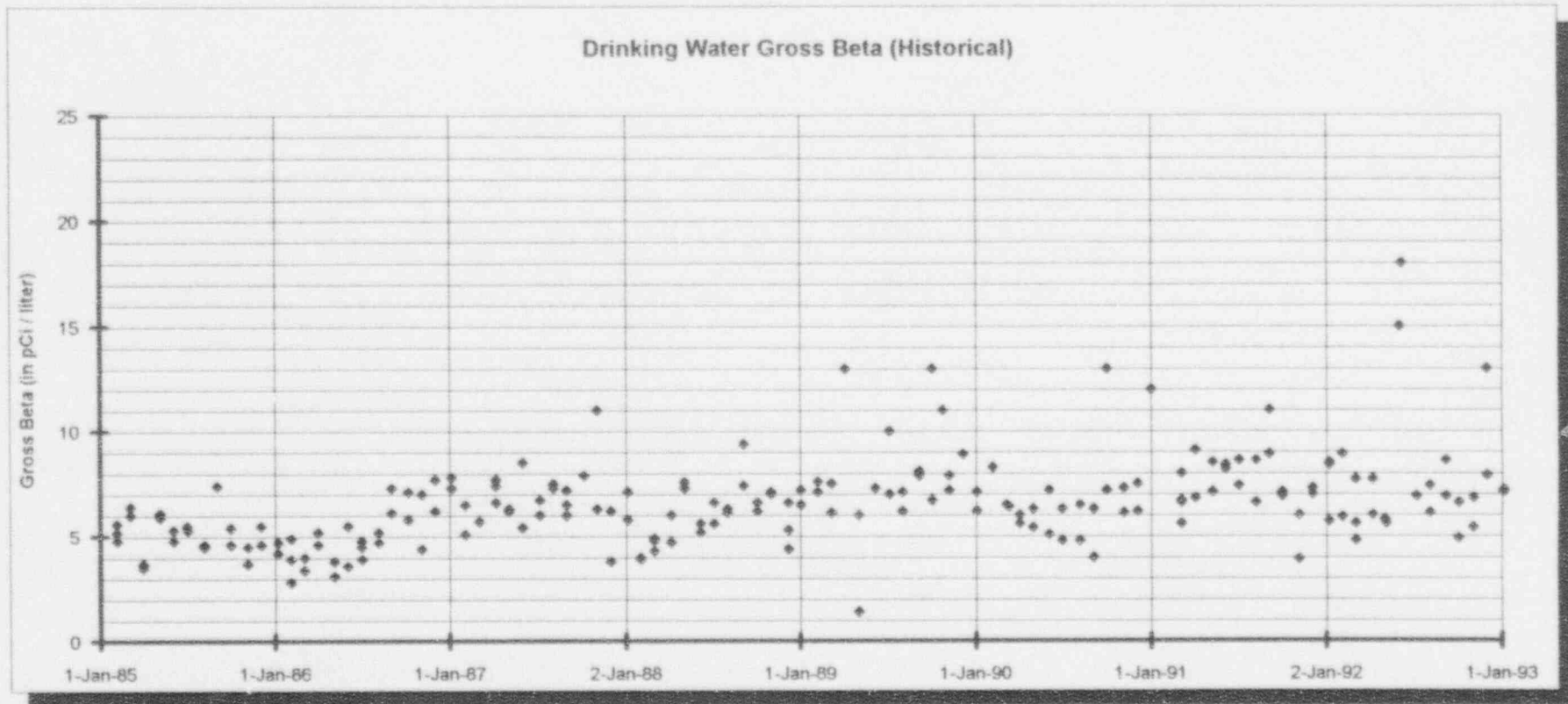


FIGURE 15



## Appendix A

Summary Tables in the format of NRC Radiological  
Assessment Branch Technical Position  
Revision 1, November 1979

# ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Wolf Creek Nuclear Docket No. STN 50-482

Location of Facility Coffey County, Kansas Reporting Period Annual 1992  
(County, State)

Medium of Pathway Sampled (Unit of Measurement)	Analysis and Total Number of Analysis Performed	Lower Limit of Detection (LLD)	All Indicator Locations		Location with Highest Name Distance and Directions	Annual Mean		Control Locations		Number of Nonroutine Reported Measurements**
			Mean (f) Range	Mean (f) Range		Mean (f) Range	Mean (f) Range			
Air Particulate X10-3 pCi/Cu.M.)	Gross (260)	3	24(208/208)	25(52/52)	37 2.1 miles NNW	25(52/52) (13-45)	23(52/52) (13-40)		0	
	Beta		(10-50)							
	1-131 (260)	7	-(0/208)	N/A	N/A	N/A	-(0/52)			
	Gamma (20)									
	Be-7	1	69(16/16) (43-95)	76(4/4) (56-90)	37 2.1 miles NNW	76(4/4) (56-90)	63(4/4) (49-75)		0	
	K-40	24	15(3/16) (5.9-32)	32(1/4)	3 3.0 miles NNE	32(1/4)	-(0/4)		0	
External Radiation (mR/day)										
	TLD (319) Quarterly	0.05	0.16(303/303) (0.12-0.21)	0.18(8/8) (0.16-0.20)	38 1.2 miles NW	0.18(8/8) (0.16-0.20)	0.16(16/16) (0.14-0.19)		0	

Stations 39 and 40

\* Nominal Lower Limit of Detection (LLD)  
\*\* Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parentheses (f)

# ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

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Medium of Pathway Sampled (Unit of Measurement)	Analysis and Total Number of Analysis Performed	Lower Limit of Detection (LLD)	All Indicator Locations		Location with Highest Name Distance and Directions	Annual Mean		Control Locations --Mean (f) --Range	Number of Nonroutine Reported Measurements**
			-- Mean (f) --Range	--Range		--Mean (f) --Range			
			Station 8-3						
Milk (pCi/l)	1-131 (20)	3	--	--	--	--	(0/20)		0
	Gamma (20)								
	K-40	100	--	--	--	--	1358(20/20) (1180-2000)		0

\* Nominal Lower Limit of Detection (LLD)

\*\* Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parentheses (f)

Location of Facility Colley County, Kansas Reporting Period Annual 1992  
(County, State)

\* Nominal Lower Limit of Detection (LLD)

- \* Nominal Lower Limit of Detection (LLD)
- \*\*\* Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parentheses (f)



# ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Wolf Creek Nuclear Docket No. STN 50-482

Location of Facility Coffey County, Kansas Reporting Period Annual 1992  
(County, State)

Medium of Pathway Sampled (Unit of Measurement)	Analysis and Total Number of Analysis Performed	Lower Limit of Detection (LLD)	All Indicator Locations ** Mean (f) ** Range	Location with Highest Name Distance and Directions	Annual Mean ** Mean (f) ** Range	Control Locations ** Mean (f) ** Range Station No. JRR	Number of Nonroutine Reported Measurements**
Sediment/Silt (pCi/g dry weight)	Gamma (7)						
	K-40	0.5	11(4/4) (9.5-12)	JRR 4 miles W	16(3/3) (14-17)	16(3/3) (14-17)	0
	Co-58	0.02	-(0/4) --	NA	NA --	-(0/3) --	0
	Mn-54	0.03	0.053(1/4) --	DC	0.053(1/4) --	-(0/3) --	0
	Co-60	0.02	0.48(4/4) (0.084-0.91)	DC 0.6 mile WNW	0.87(2/2) (0.83-0.91)	-(0/3) --	0
	Ce-134	0.06	0.24(2/4) (0.239-0.244)	DC 0.6 mile WNW	0.24(2/2) (0.239-0.244)	-(0/4) --	0
	Ce-137	0.06	0.42(4/4) (0.33-0.53)	DC 0.6 mile WNW	0.51(2/2) (0.48-0.53)	0.22(3/3) (0.22-0.23)	0
	Ra-226	0.5	2.3(4/4) (1.6-2.8)	UHS	2.3(2/2) (2.3-2.4)	2.3(3/3) (1.6-3.2)	0
	Th-228	0.04	1.2(4/4) (1.1-1.2)	JRR 4 miles W	1.3(3/3) (1.2-1.4)	1.3(3/3) (1.2-1.4)	0

\* Nominal Lower Limit of Detection (LLD)

\*\* Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parentheses (f)

# ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

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Location of Facility Coffey County, Kansas Reporting Period Annual 1992  
(County, State)

Medium of Pathway Sampled (Unit of Measurement)	Analysis and Total Number of Analysis Performed	Lower Limit of Detection (LLD)	All Indicator Locations ** Mean (f) **Range	Location with Highest Name Distance and Directions	Annual Mean		Control Locations		Number of Nonroutine Reported Measurements**
					**Mean (f) **Range		**Mean (f) **Range		
							No Control		
Soil (pCi/g dry weight)	Gamma (f)								
	K-40	0.5	16(1/1) --	A1 1.4 miles N	16(1/1) --		--		0
	Cs-137	0.06	0.27(1/1) --	A1 1.4 miles N	0.27(1/1) --		--		0
	Ra-226	0.5	2.2(1/1) --	A1 1.4 miles N	2.2(1/1) --		--		0
	Th-228	0.04	1.3(1/1) --	A1 1.4 miles N	1.3(1/1) --		--		0

\* Nominal Lower Limit of Detection (LLD)

\*\* Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parentheses (f)

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Location of Facility Coffey County, Kansas Reporting Period Annual 1992  
(County, State)

Medium of Pathway Sampled (Unit of Measurement)	Analysis and Total Number of Analysis Performed	Lower Limit of Detection (LLD)	All Indicator Locations ** Mean (f) **Range	Location with Highest Name Distance and Directions	Annual Mean **Mean (f) **Range	Control Locations **Mean (f) **Range Station No. JRR	Number of Nonroutine Reported Measurements**
Shoreline Soil (pCi/g dry weight)	Gamma (4)						
	K-40	0.5	11(2/2) (9.6-12)	DC 0.6 miles WNW	11(2/2) (9.6-12)	10(2/2) (9.6-9.9)	0
	Co-60		0.09(2/2) (0.09-0.10)	DC 0.6 miles WNW	0.09(2/2) (0.09-0.10)	-(0/2) --	0
	Cs-137	0.06	0.07(2/2) (0.06-0.07)	JRR 4.0 miles W	0.19(1/1) --	0.19(1/1) --	0
	Ra-226	0.5	2.2(2/2) (1.8-2.7)	JRR 4.0 miles W	2.7(2/2) (1.7-3.6)	2.7(2/2) (1.7-3.6)	0
	Th-228	0.04	1.1(2/2) (1.0-1.2)	JRR 4.0 miles W	1.4(2/2) (1.3-1.5)	1.4(2/2) (1.3-1.5)	0

\* Nominal Lower Limit of Detection (LLD)

\*\* Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parentheses (f)

# ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Wolf Creek Nuclear Docket No. STN 50-492

Location of Facility Coffey County, Kansas Reporting Period Annual 1992  
(County, State)

Medium & Pathway Sampled (Unit of Measurement)	Vegetation Aquatic (pCi/g wet weight)	Analysis and Total Number of Analysis	Lower Limit of Detection (LLD)	All Indicator Locations		Location with Highest Name Distance and Directions	Annual Mean		Control Locations --Mean (f) --Range	Number of Nonroutine Reported Measurements**
				-- Mean (f) -- Range	-- Range		-- Mean (f) -- Range	-- Range		
								No Control		
		Gamma (5)					0.43(1/1)	--		0
		E-7	0.1	0.38(5/5) (0.19-0.85)		DG	--			
		K-40	0.5	2.3(5/5) (1.2-3.6)		DG	3.6(1/1)	--		0
		Mn-54	0.04	0.01(2/5) (0.006-0.015)		DC 0.6 miles WNW	0.01(2/4) (0.006-0.015)	--		0
		Co-58	0.01	0.02(3/5) (0.015-0.038)		DC 0.6 miles WNW	0.02(3/4) (0.015-0.038)	--		0
		Co-60	0.01	0.12(3/5) (0.04-0.26)		DC 0.6 miles WNW	0.12(3/4) (0.04-0.26)	--		0
		Cs-134	0.02	0.05(1/5)		DC 0.6 miles WNW	0.05(1/4)	--		0
		Cs-137	0.01	0.05(2/5) (0.013-0.078)		DC 0.6 miles WNW	0.05(2/4) (0.013-0.078)	--		0
		Ra-226	0.2	0.4(2/5) (0.23-0.49)		DC 0.6 miles WNW	0.4(2/4) (0.23-0.49)	--		0
		Th-228	0.02	0.09(2/5) (0.03-0.16)		DC 0.6 miles WNW	0.09(2/4) (0.03-0.16)	--		0

\* Nominal Lower Limit of Detection (LLD)

\*\* Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parentheses (f)

# ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Wolf Creek Nuclear Docket No. STN 50-482

Location of Facility Coffey County, Kansas Reporting Period Annual 1992  
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Medium of Pathway Sampled (Unit of Measurement)	Analysis and Total Number of Analysis Performed	Lower Limit of Detection (LLD)	All Indicator Locations ** Mean (f) **Range	Location with Highest Name Distance and Directions	Annual Mean **Mean (f) **Range	Control Locations **Mean (f) **Range	Number of Nonroutine Reported Measurements**
						<b>BW-15</b>	
Water Drinking (pCi/l)	I-131 (24)	0.5	-(0/12)	NA	NA	-(0/12)	0
	Gross (24) Beta	2	7.8(12/12) (5.4-18)	BW15 3.9 miles SW	7.8(12/12) (4.9-15)	7.8(12/12) (4.9-15)	0
	Gamma (24)	--	-(0/12)	NA	NA	-(0/12)	0
	Tritium (8)	1000	-(0/4) --	NA	NA --	-(0/4) --	0
						<b>B-12</b>	
Water, Ground (pCi/l)	I-131 (17)	0.5	-(0/13) --	NA	NA	-(0/4) --	0
	Gamma (17)						
	K-40	100	-(0/13) --	NA	NA	-(0/4) --	0
	Tritium (17)	1000	-(0/13) --	NA	NA	-(0/4) --	0

\* Nominal Lower Limit of Detection (LLD)

\*\* Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parentheses (f)

# ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

Name of Facility Wolf Creek Nuclear Docket No. STN 50-482

Location of Facility Coffey County, Kansas Reporting Period Annual 1992  
(County, State)

Medium of Pathway Sampled (Unit of Measurement)	Analysis and Total Number of Analysis Performed	Lower Limit of Detection (LLD)	All Indicator Locations ** Mean (f) ** Range	Location with Highest Name Distance and Directions	Annual Mean ** Mean (f) ** Range	Control Locations ** Mean (f) ** Range Mush	Number of Nonroutine Reported Measurements**
Water Surface (pCi/l)	Gamma (37) K-40	60	83(1/25) --	SP	83(1/12) --	-(0/12) --	0
	Tritium (37)	1000	6675(24/25) (5500-7900)	SP	6725(12/12) (5500-7900)	-(0/12) --	0

\* Nominal Lower Limit of Detection (LLD)

\*\* Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parentheses (f)

## Appendix B

### 1992 Individual Sample Results



WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - AIRBORNE  
THERMOLUMINESCENT DOSIMETERS

(net mR/day)

STATION NUMBER	FIRST QUARTER 01/08/92-04/02/92	SECOND QUARTER 04/02/92-07/02/92	THIRD QUARTER 07/02/92-10/07/92	FOURTH QUARTER 10/07/92-01/06/93
STA-01	0.180±0.016	0.151±0.009	0.174±0.014	0.164±0.012
STA-02	0.169±0.020	0.136±0.005	0.150±0.008	0.175±0.009
STA-03	0.182±0.027	0.145±0.010	0.158±0.010	0.172±0.016
STA-04	0.168±0.024	0.149±0.011	0.158±0.000	0.168±0.007
STA-05	0.158±0.010	0.128±0.010	0.173±0.022	0.155±0.008
STA-06	0.166±0.010	0.136±0.008	0.146±0.007	0.152±0.009
STA-07	0.171±0.009	0.135±0.005	0.152±0.016	0.141±0.029
STA-08	0.177±0.020	0.156±0.015	0.171±0.012	0.169±0.007
STA-09	0.151±0.008	0.129±0.009	0.148±0.009	0.151±0.007
STA-10	0.168±0.013	0.154±0.011	0.172±0.019	0.160±0.018
STA-11	0.198±0.005	0.175±0.010	0.178±0.011	0.164±0.047
STA-12	0.172±0.018	0.158±0.013	0.157±0.014	0.171±0.007
STA-13	0.194±0.044	0.179±0.010	0.185±0.010	0.170±0.013
STA-14	0.170±0.015	0.161±0.013	0.136±0.021	0.170±0.007
STA-15	0.166±0.013	0.156±0.010	0.161±0.025	0.171±0.013
STA-16	0.162±0.009	0.161±0.010	0.135±0.034	0.164±0.010
STA-17	0.170±0.013	0.155±0.014	0.168±0.019	0.164±0.014
STA-18	0.171±0.012	0.170±0.011	0.177±0.015	0.169±0.011
STA-19	0.156±0.036	0.164±0.015	0.170±0.030	0.175±0.009
STA-20	0.178±0.004	0.163±0.020	0.161±0.019	0.172±0.008
STA-21	0.151±0.013	0.140±0.011	0.145±0.011	0.152±0.005
STA-22	0.166±0.014	0.159±0.022	0.150±0.049	0.157±0.008
STA-23	0.173±0.012	0.152±0.007	0.168±0.007	0.164±0.009
STA-24	0.164±0.007	0.156±0.009	0.185±0.008	0.169±0.008

WOLF CREEK NUCLEAR OPERATING CORPORATION

EXPOSURE PATHWAY - AIRBORNE  
THERMOLUMINESCENT DOSIMETERS

(net mR/day)

STATION NUMBER	FIRST QUARTER 01/09/92-04/02/92	SECOND QUARTER 04/02/92-07/02/92	THIRD QUARTER 07/02/92-10/07/92	FOURTH QUARTER 10/07/92-01/06/93
STA-25	0.136±0.013	0.127±0.011	0.151±0.020	0.134±0.004
STA-26	0.151±0.022	0.141±0.004	0.149±0.009	0.163±0.025
STA-27	0.166±0.012	0.181±0.044	0.168±0.009	0.168±0.010
STA-28	0.171±0.005	0.143±0.007	0.145±0.009	0.145±0.003
STA-29	0.152±0.003	0.133±0.005	0.135±0.007	0.143±0.020
STA-30	0.158±0.010	0.148±0.011	0.154±0.011	0.188±0.038
STA-31	0.171±0.009	0.163±0.011	0.164±0.013	0.156±0.009
STA-32	0.171±0.010	0.150±0.009	0.163±0.007	0.157±0.010
STA-33	0.169±0.008	0.170±0.011	0.177±0.012	0.171±0.008
STA-34	0.192±0.003	0.168±0.012	0.189±0.013	0.172±0.023
STA-35	0.205±0.016	0.158±0.011	0.167±0.015	0.166±0.007
STA-36	0.172±0.008	0.178±0.023	0.161±0.009	0.163±0.013
STA-37	0.169±0.018	0.188±0.019	0.157±0.012	0.183±0.010
STA-38	0.196±0.023	0.171±0.013	0.178±0.008	0.198±0.054
STA-39	0.157±0.014	0.174±0.027	0.168±0.014	0.166±0.005
STA-40	0.154±0.014	0.148±0.018	0.147±0.009	0.145±0.010
STA-41	0.181±0.019	0.162±0.022	0.150±0.011	0.156±0.004
STA-42	0.113±0.003	0.111±0.010	0.107±0.004	0.117±0.002
STA-43	0.106±0.005	0.107±0.019	0.109±0.004	0.116±0.022

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - AIRBORNE  
THERMOLUMINESCENT DOSIMETERS

(net mR/day)

STATION NUMBER	FIRST QUARTER 01/03/92-04/02/92	SECOND QUARTER 04/02/92-07/02/92	THIRD QUARTER 07/02/92-10/07/92	FOURTH QUARTER 10/07/92-01/06/93
STA-01	0.163±0.011	0.172±0.014	0.156±0.010	0.169±0.010
STA-02	0.120±0.090	0.151±0.009	0.144±0.010	0.146±0.025
STA-03	0.155±0.018	0.149±0.011	0.149±0.010	0.163±0.009
STA-04	0.173±0.011	0.160±0.059	0.150±0.008	0.166±0.009
STA-05	0.163±0.014	0.148±0.007	0.140±0.009	.
STA-06	0.178±0.031	0.143±0.007	0.128±0.010	0.144±0.030
STA-07	0.154±0.012	0.147±0.010	0.172±0.025	0.156±0.012
STA-08	0.177±0.023	0.167±0.011	0.161±0.015	0.138±0.026
STA-09	0.149±0.011	0.139±0.003	0.143±0.007	0.156±0.032
STA-10	0.168±0.011	0.157±0.032	0.159±0.012	0.171±0.013
STA-11	0.183±0.009	0.181±0.014	0.167±0.026	0.178±0.012
STA-12	0.163±0.015	0.157±0.012	0.156±0.010	0.168±0.014
STA-13	0.170±0.036	0.164±0.009	0.156±0.029	0.174±0.007
STA-14	0.175±0.007	0.152±0.004	0.162±0.011	0.178±0.014
STA-15	0.160±0.013	0.134±0.060	0.170±0.019	0.160±0.029
STA-16	0.162±0.007	0.163±0.014	0.154±0.012	0.166±0.005
STA-17	0.170±0.012	0.144±0.052	0.154±0.013	0.190±0.110
STA-18	0.198±0.014	0.169±0.013	0.168±0.018	0.138±0.033
STA-19	0.181±0.009	0.168±0.014	0.179±0.009	0.174±0.016
STA-20	0.179±0.026	0.167±0.003	0.164±0.012	0.162±0.015
STA-21	0.147±0.007	0.137±0.004	0.140±0.012	0.137±0.007
STA-22	0.170±0.021	0.154±0.014	0.151±0.015	0.151±0.012
STA-23	0.179±0.013	0.159±0.007	0.163±0.013	0.163±0.009
STA-24	0.167±0.012	0.152±0.009	0.162±0.033	0.179±0.023

\*lost

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - AIRBORNE  
THERMOLUMINESCENT DOSIMETERS

(net mR/day)

STATION NUMBER	FIRST QUARTER 01/08/92-04/02/92	SECOND QUARTER 04/02/92-07/02/92	THIRD QUARTER 07/02/92-10/07/92	FOURTH QUARTER 10/07/92-01/06/93
STA-25	0.140±0.005	0.128±0.005	0.144±0.011	0.139±0.004
STA-26	0.162±0.009	0.148±0.009	0.161±0.011	0.150±0.010
STA-27	0.178±0.010	0.155±0.012	0.163±0.018	0.163±0.007
STA-28	0.159±0.010	0.163±0.010	0.137±0.007	0.126±0.034
STA-29	0.145±0.021	0.136±0.007	0.133±0.008	0.136±0.013
STA-30	0.166±0.007	0.139±0.022	0.154±0.019	0.157±0.004
STA-31	0.173±0.011	0.151±0.003	0.169±0.014	0.166±0.013
STA-32	0.172±0.027	0.148±0.009	0.158±0.010	0.148±0.021
STA-33	0.166±0.032	0.161±0.009	0.184±0.018	0.180±0.024
STA-34	0.177±0.010	0.166±0.010	0.180±0.015	0.173±0.011
STA-35	0.196±0.013	0.161±0.005	0.173±0.011	0.159±0.015
STA-36	0.184±0.020	0.172±0.036	0.173±0.013	0.159±0.008
STA-37	0.170±0.011	0.139±0.036	0.184±0.013	0.160±0.014
STA-38	0.189±0.012	0.163±0.024	0.193±0.023	0.172±0.011
STA-39	0.185±0.066	0.152±0.012	0.171±0.011	0.160±0.018
STA-40	0.161±0.013	0.137±0.004	0.156±0.011	0.149±0.009
STA-41	0.186±0.027	0.164±0.018	0.161±0.013	0.152±0.007
STA-42	0.123±0.005	0.105±0.010	0.126±0.008	0.114±0.021
STA-43	0.115±0.004	0.100±0.001	0.139±0.007	0.114±0.011

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

FEED & FORAGE

(pCi/GM DRY)

STATION NUMBER NRD2

DATE COLLECTED:	10/08 CORN	10/08 SOYBEANS
GAMMA SPECTRUM ANALYSIS:		
BE-7	L.T. 5. E-02	L.T. 6. E-02
K-40	3.16±0.32 E 00	1.61±0.16 E 01
MN-54	L.T. 5. E-03	L.T. 6. E-03
CO-58	L.T. 6. E-03	L.T. 7. E-03
FE-59	L.T. 1. E-02	L.T. 2. E-02
CO-60	L.T. 5. E-03	L.T. 7. E-03
ZN-65	L.T. 1. E-02	L.T. 2. E-02
NB-95/ZR-95	L.T. 6. E-03	L.T. 7. E-03
RU-103	L.T. 7. E-03	L.T. 7. E-03
RU-106	L.T. 5. E-02	L.T. 5. E-02
I-131	L.T. 2. E-02	L.T. 3. E-02
CS-134	L.T. 6. E-03	L.T. 6. E-03
CS-137	L.T. 5. E-03	L.T. 6. E-03
LA-140/BA-140	L.T. 1. E-02	L.T. 1. E-02
CE-141	L.T. 1. E-02	L.T. 1. E-02
CE-144	L.T. 3. E-02	L.T. 4. E-02
RA-226	L.T. 1. E-01	L.T. 1. E-01
TH-228	L.T. 1. E-02	L.T. 9. E-03

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

FEED & FORAGE

(pCi/GM DRY)

STATION NUMBER NRUI

DATE COLLECTED:

10/16  
SOYBEANS

10/16  
CORN

GAMMA SPECTRUM ANALYSIS:

BE-7	6.57±3.86 E-02	L.T. 5. E-02
K-40	1.60±0.16 E 00	2.93±0.29 E 00
MN-54	L.T. 5. E-03	L.T. 5. E-03
CO-58	L.T. 6. E-03	L.T. 5. E-03
FE-59	L.T. 2. E-02	L.T. 1. E-02
CO-60	L.T. 6. E-03	L.T. 5. E-03
ZN-65	L.T. 2. E-02	L.T. 1. E-02
NB-95/ZR-95	L.T. 6. E-03	L.T. 6. E-03
RU-103	L.T. 6. E-03	L.T. 6. E-03
RU-106	L.T. 5. E-02	L.T. 5. E-02
I-131	L.T. 2. E-02	L.T. 2. E-02
CS-134	L.T. 6. E-03	L.T. 5. E-03
CS-137	L.T. 6. E-03	L.T. 5. E-03
LA-140/BA-140	L.T. 8. E-03	L.T. 9. E-03
CE-141	L.T. 9. E-03	L.T. 9. E-03
CE-144	L.T. 3. E-02	L.T. 3. E-02
RA-226	L.T. 9. E-02	L.T. 9. E-02
TH-228	L.T. 9. E-03	L.T. 9. E-03

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

FEED & FORAGE

(pCi/GM DRY)

STATION NUMBER A1

DATE COLLECTED:

10/20  
SOYBEANS

GAMMA SPECTRUM ANALYSIS:

BE-7	4.99±1.19 E-01
K-40	1.11±0.11 E 01
MN-54	LT. 2. E-02
CO-58	LT. 2. E-02
FE-59	LT. 4. E-02
CO-60	LT. 2. E-02
ZN-65	LT. 4. E-02
NB-95/ZR-95	LT. 2. E-02
RU-103	LT. 2. E-02
RU-106	LT. 2. E-01
I-131	LT. 4. E-02
CS-134	LT. 2. E-02
CS-137	LT. 2. E-02
LA-140/BA-140	LT. 4. E-02
CE-141	LT. 3. E-02
CE-144	LT. 1. E-01
RA-226	LT. 3. E-01
TH-228	LT. 3. E-02



WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

FEED & FORAGE

(pCi/GM DRY)

STATION NUMBER NR-D1

DATE COLLECTED:	11/04	SOYBEANS
GAMMA SPECTRUM ANALYSIS:		
BE-7	L.T. 7.	E-02
K-40	1.75±0.17	E-01
MN-54	L.T. 8.	E-03
CO-58	L.T. 8.	E-03
FE-59	L.T. 2.	E-02
CO-60	L.T. 9.	E-03
ZN-65	L.T. 2.	E-02
NB-95/ZR-95	L.T. 8.	E-03
RU-103	L.T. 3.	E-03
RU-106	L.T. 7.	E-02
I-131	L.T. 2.	E-02
CS-134	L.T. 8.	E-03
CS-137	L.T. 8.	E-03
LA-140/BA-140	L.T. 1.	E-02
CE-141	L.T. 1.	E-02
CE-144	L.T. 4.	E-02
RA-226	L.T. 1.	E-01
TH-228	L.T. 1.	E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE AND CHARCOAL FILTERS

STATION NUMBER 02

COLLECTION START DATE	DATE STOP DATE	VOLUME	UNITS	MID COUNT TIME DATE	A P FILTER GROSS BETA (pCi/Cu.M.)	MID COUNT TIME DATE	CHARCOAL FILTER I-131 (pCi/Cu.M.)
12/30	01/07	3.70E 08	CC	01/17	3.2 ± 0.3 E-02	01/14	L.T. 2. E-02
01/07	01/14	3.27E 08	CC	01/23	2.4 ± 0.3 E-02	01/18	L.T. 1. E-02
01/14	01/21	3.19E 08	CC	01/31	2.2 ± 0.3 E-02	01/28	L.T. 3. E-02
01/21	01/28	3.03E 08	CC	02/07	2.3 ± 0.3 E-02	01/31	L.T. 2. E-02
01/28	02/04	2.98E 08	CC	02/14	3.0 ± 0.3 E-02	02/07	L.T. 2. E-02
02/04	02/11	3.59E 08	CC	02/21	1.6 ± 0.2 E-02	02/14	L.T. 2. E-02
02/11	02/18	3.40E 08	CC	02/27	2.3 ± 0.3 E-02	02/27	L.T. 2. E-02
02/18	02/25	2.71E 08	CC	03/06	3.7 ± 0.4 E-02	02/29	L.T. 2. E-02
02/25	03/03	2.77E 08	CC	03/12	2.6 ± 0.3 E-02	03/05	L.T. 2. E-02
03/03	03/10	2.64E 08	CC	03/24	2.5 ± 0.3 E-02	03/12	L.T. 2. E-02
03/10	03/17	2.85E 08	CC	04/02	2.3 ± 0.3 E-02	03/20	L.T. 1. E-02
03/17	03/24	2.92E 08	CC	04/02	2.5 ± 0.3 E-02	03/27	L.T. 3. E-02
03/24	03/31	2.89E 08	CC	04/09	2.3 ± 0.3 E-02	04/05	L.T. 1. E-02
03/31	04/07	2.99E 08	CC	04/30	2.5 ± 0.3 E-02	04/09	L.T. 2. E-02
03/31*	04/07	2.99E 08	CC	05/12	2.3 ± 0.3 E-02	04/10	L.T. 2. E-02
04/07	04/14	3.18E 08	CC	04/24	2.8 ± 0.3 E-02	04/17	L.T. 2. E-02
04/14	04/21	3.00E 08	CC	04/30	2.3 ± 0.3 E-02	04/26	L.T. 2. E-02
04/21	04/28	3.05E 08	CC	05/08	2.3 ± 0.3 E-02	05/02	L.T. 2. E-02
04/28	05/05	3.04E 08	CC	05/15	2.3 ± 0.3 E-02	05/08	L.T. 2. E-02

\*Duplicate Analysis

WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE AND CHARCOAL FILTERS

STATION NUMBER 02

COLLECTION START DATE	DATE STOP DATE	VOLUME	UNITS	MID COUNT TIME DATE	A P FILTER GROSS BETA (pCi/Cu.M.)	MID COUNT TIME DATE	CHARCOAL FILTER I-131 (pCi/Cu.M.)
05/05	05/12	3.18E 08	CC	05/27	1.9 ± 0.3 E-02	05/16	L.T. 1. E-02
05/12	05/19	3.23E 08	CC	06/05	2.1 ± 0.3 E-02	05/24	L.T. 2. E-02
05/19	05/26	3.29E 08	CC	06/08	1.4 ± 0.2 E-02	05/30	L.T. 2. E-02
05/26	06/02	3.23E 08	CC	06/16	2.4 ± 0.3 E-02	06/07	L.T. 2. E-02
06/02	06/09	3.21E 08	CC	06/19	2.1 ± 0.3 E-02	06/14	L.T. 2. E-02
06/09	06/16	3.25E 08	CC	06/26	2.1 ± 0.3 E-02	06/23	L.T. 3. E-02
06/16	06/23	3.48E 08	CC	07/06	2.1 ± 0.3 E-02	06/30	L.T. 3. E-02
06/16*	06/23	3.48E 08	CC	07/06	2.0 ± 0.3 E-02	07/01	L.T. 1. E-02
06/23	06/30	3.28E 08	CC	07/14	2.4 ± 0.3 E-02	07/07	L.T. 2. E-02
06/30	07/07	3.27E 08	CC	07/20	1.6 ± 0.3 E-02	07/12	L.T. 2. E-02
06/30*	07/07	3.27E 08	CC	07/20	1.6 ± 0.3 E-02	07/13	L.T. 2. E-02
07/07	07/14	3.40E 08	CC	07/24	2.3 ± 0.3 E-02	07/17	L.T. 1. E-02
07/14	07/21	3.30E 08	CC	07/29	1.7 ± 0.2 E-02	07/27	L.T. 2. E-02
07/21	07/28	3.38E 08	CC	08/12	1.7 ± 0.3 E-02	07/31	L.T. 1. E-02
07/28	08/04	3.26E 08	CC	08/13	2.6 ± 0.3 E-02	08/09	L.T. 2. E-02
07/28*	08/04	3.26E 08	CC	08/13	2.5 ± 0.3 E-02	08/11	L.T. 3. E-02
08/04	08/11	3.13E 08	CC	08/20	2.2 ± 0.3 E-02	08/13	L.T. 1. E-02
08/11	08/18	3.06E 08	CC	08/28	2.1 ± 0.3 E-02	08/22	L.T. 2. E-02

\*Duplicate Analysis

**WOLF CREEK NUCLEAR OPERATING CORPORATION**  
**AIR PARTICULATE AND CHARCOAL FILTERS**

STATION NUMBER 02

COLLECTION START DATE	DATE STOP DATE	VOLUME	UNITS	MID COUNT TIME DATE	A P FILTER GROSS BETA (pCi/Cu.M.)	MID COUNT TIME DATE	CHARCOAL FILTER I-131 (pCi/Cu.M.)
08/18	08/25	2.93E 08	CC	09/08	4.6 ± 0.4 E-02	08/30	L.T. 2. E-02
08/25	09/01	2.88E 08	CC	09/10	2.9 ± 0.3 E-02	09/05	L.T. 2. E-02
09/01	09/08	2.91E 08	CC	09/21	2.7 ± 0.3 E-02	09/13	L.T. 2. E-02
09/08	09/15	2.87E 08	CC	09/23	2.4 ± 0.3 E-02	09/22	L.T. 2. E-02
09/15	09/22	2.92E 08	CC	10/02	2.9 ± 0.3 E-02	09/29	L.T. 4. E-02
09/22	09/29	2.90E 08	CC	10/06	1.8 ± 0.3 E-02	10/02	L.T. 3. E-02
09/29	10/06	2.95E 08	CC	10/22	3.2 ± 0.3 E-02	10/10	L.T. 2. E-02
10/06	10/12	2.51E 08	CC	10/20	2.3 ± 0.3 E-02	10/17	L.T. 3. E-02
10/12	10/20	3.20E 08	CC	10/27	2.4 ± 0.3 E-02	10/24	L.T. 2. E-02
10/20	10/27	2.95E 08	CC	11/04	2.7 ± 0.3 E-02	10/31	L.T. 2. E-02
10/27	11/03	3.25E 08	CC	11/13	1.6 ± 0.2 E-02	11/08	L.T. 2. E-02
11/03	11/10	3.01E 08	CC	11/19	2.3 ± 0.3 E-02	11/15	L.T. 2. E-02
11/10	11/17	2.96E 08	CC	11/25	2.9 ± 0.3 E-02	11/20	L.T. 7. E-03
11/17	11/24	2.98E 08	CC	12/02	2.2 ± 0.3 E-02	12/02	L.T. 2. E-02
11/24	12/01	3.00E 08	CC	12/11	3.6 ± 0.3 E-02	12/08	L.T. 2. E-02
12/01	12/08	3.10E 08	CC	12/16	1.5 ± 0.2 E-02	12/11	L.T. 2. E-02
12/01*	12/08	3.10E 08	CC	12/16	1.6 ± 0.3 E-02	12/12	L.T. 8. E-03
12/08	12/15	2.92E 08	CC	12/29	2.4 ± 0.3 E-02	12/19	L.T. 2. E-02
12/15	12/22	3.04E 08	CC	12/31	4.5 ± 0.4 E-02	12/25	L.T. 2. E-02
12/22	12/29	3.04E 08	CC	01/07	3.0 ± 0.3 E-02	01/07	L.T. 2. E-02

\*Duplicate analysis

WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE AND CHARCOAL FILTERS

STATION NUMBER 03

COLLECTION START DATE	DATE STOP DATE	VOLUME	UNITS	MID COUNT TIME DATE	A P FILTER GROSS BETA (pCi/Cu.M.)	MID COUNT TIME DATE	CHARCOAL FILTER 1-131 (pCi/Cu.M.)
12/30	01/07	3.58E 08	CC	01/17	3.1 ± 0.3 E-02	01/14	L.T. 3. E-02
01/07	01/14	3.02E 08	CC	01/23	2.6 ± 0.3 E-02	01/18	L.T. 2. E-02
01/14	01/21	3.01E 08	CC	01/31	2.5 ± 0.3 E-02	01/28	L.T. 3. E-02
01/21	01/28	2.81E 08	CC	02/07	1.9 ± 0.3 E-02	01/31	L.T. 2. E-02
01/28	02/04	2.73E 08	CC	02/14	2.8 ± 0.3 E-02	02/07	L.T. 2. E-02
02/04	02/11	2.99E 08	CC	02/21	1.8 ± 0.3 E-02	02/14	L.T. 2. E-02
02/11	02/18	2.95E 08	CC	02/27	2.1 ± 0.3 E-02	02/27	L.T. 3. E-02
02/18	02/25	3.02E 08	CC	03/06	2.9 ± 0.3 E-02	02/29	L.T. 2. E-02
02/25	03/03	2.57E 08	CC	03/12	2.3 ± 0.3 E-02	03/05	L.T. 2. E-02
03/03	03/10	2.94E 08	CC	03/24	1.9 ± 0.3 E-02	03/12	L.T. 2. E-02
03/10	03/17	2.79E 08	CC	04/02	2.2 ± 0.3 E-02	03/20	L.T. 2. E-02
03/17	03/24	3.02E 08	CC	04/02	1.6 ± 0.3 E-02	03/27	L.T. 3. E-02
03/24	03/31	2.94E 08	CC	04/09	1.8 ± 0.3 E-02	04/05	L.T. 1. E-02
03/31	04/07	2.79E 08	CC	04/30	1.9 ± 0.3 E-02	04/09	L.T. 2. E-02
04/07	04/14	2.67E 08	CC	04/24	2.5 ± 0.3 E-02	04/17	L.T. 2. E-02
04/14	04/21	2.85E 08	CC	04/30	2.0 ± 0.3 E-02	04/26	L.T. 2. E-02
04/21	04/28	2.75E 08	CC	05/08	1.4 ± 0.3 E-02	05/02	L.T. 2. E-02
04/28	05/05	2.69E 08	CC	05/15	1.7 ± 0.3 E-02	05/08	L.T. 2. E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE AND CHARCOAL FILTERS

STATION NUMBER 03

COLLECTION START DATE	DATE STOP DATE	VOLUME	UNITS	MID COUNT TIME DATE	A P FILTER GROSS BETA (pCi/Cu.M.)	MID COUNT TIME DATE	CHARCOAL FILTER 1-131 (pCi/Cu.M.)
05/05	05/12	2.97E 08	CC	05/27	1.3 ± 0.2 E-02	05/16	L.T. 1. E-02
05/12	05/19	3.09E 08	CC	06/05	2.3 ± 0.3 E-02	05/24	L.T. 2. E-02
05/19	05/26	3.13E 08	CC	06/08	1.3 ± 0.3 E-02	05/30	L.T. 2. E-02
05/26	06/02	2.96E 08	CC	06/16	1.7 ± 0.3 E-02	06/07	L.T. 2. E-02
06/02	06/09	3.06E 08	CC	06/19	2.1 ± 0.3 E-02	06/14	L.T. 2. E-02
06/09	06/16	3.00E 08	CC	06/26	1.5 ± 0.3 E-02	06/23	L.T. 3. E-02
06/16	06/23	3.21E 08	CC	07/06	1.7 ± 0.3 E-02	06/30	L.T. 3. E-02
06/23	06/30	2.94E 08	CC	07/14	2.5 ± 0.3 E-02	07/07	L.T. 3. E-02
06/30	07/07	2.97E 08	CC	07/20	1.0 ± 0.2 E-02	07/12	L.T. 2. E-02
07/07	07/14	3.09E 08	CC	07/24	2.1 ± 0.3 E-02	07/17	L.T. 1. E-02
07/14	07/21	2.90E 08	CC	07/29	1.8 ± 0.3 E-02	07/27	L.T. 3. E-02
07/21	07/28	2.97E 08	CC	08/12	1.9 ± 0.4 E-02	07/31	L.T. 1. E-02
07/28	08/04	2.96E 08	CC	08/13	2.6 ± 0.3 E-02	08/09	L.T. 2. E-02
08/04	08/11	3.18E 08	CC	08/20	2.5 ± 0.4 E-02	08/13	L.T. 1. E-02
08/11	08/18	2.91E 08	CC	08/28	1.9 ± 0.3 E-02	08/22	L.T. 2. E-02
08/18	08/25	2.83E 08	CC	09/08	2.1 ± 0.3 E-02	08/30	L.T. 2. E-02
08/25	09/01	2.83E 08	CC	09/10	2.3 ± 0.3 E-02	09/05	L.T. 2. E-02
09/01	09/08	2.87E 08	CC	09/21	2.2 ± 0.3 E-02	09/13	L.T. 2. E-02
09/08	09/15	2.87E 08	CC	09/23	1.5 ± 0.3 E-02	09/22	L.T. 2. E-02
09/15	09/22	2.97E 08	CC	10/02	1.8 ± 0.3 E-02	09/29	L.T. 4. E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE AND CHARCOAL FILTERS

STATION NUMBER 03

COLLECTION START DATE	DATE STOP DATE	VOLUME	UNITS	MID COUNT TIME DATE	A P FILTER GROSS BETA (pCi/Cu.M.)	MID COUNT TIME DATE	CHARCOAL FILTER I-131 (pCi/Cu.M.)
09/22	09/29	2.86E 08	CC	10/06	1.7 ± 0.3 E-02	10/02	L.T. 3. E-02
09/29	10/06	2.90E 08	CC	10/22	2.6 ± 0.3 E-02	10/10	L.T. 2. E-02
09/29*	10/06	2.90E 08	CC	10/22	2.7 ± 0.3 E-02	10/14	L.T. 2. E-02
10/06	10/12	2.41E 08	CC	10/20	2.3 ± 0.3 E-02	10/17	L.T. 3. E-02
10/12	10/20	3.20E 08	CC	10/27	2.0 ± 0.3 E-02	10/24	L.T. 2. E-02
10/20	10/27	2.85E 08	CC	11/04	3.5 ± 0.4 E-02	10/31	L.T. 2. E-02
10/27	11/03	2.74E 08	CC	11/13	1.7 ± 0.3 E-02	11/08	L.T. 2. E-02
11/03	11/10	2.66E 08	CC	11/19	2.0 ± 0.3 E-02	11/15	L.T. 2. E-02
11/10	11/17	2.70E 08	CC	11/25	2.7 ± 0.3 E-02	11/20	L.T. 8. E-03
11/17	11/24	2.69E 08	CC	12/02	2.3 ± 0.3 E-02	12/02	L.T. 2. E-02
11/24	12/01	2.69E 08	CC	12/11	3.8 ± 0.4 E-02	12/08	L.T. 3. E-02
12/01	12/08	2.85E 08	CC	12/16	1.8 ± 0.3 E-02	12/11	L.T. 2. E-02
12/08	12/15	2.71E 08	CC	12/29	2.3 ± 0.3 E-02	12/19	L.T. 2. E-02
12/15	12/22	2.69E 08	CC	12/31	5.0 ± 0.4 E-02	12/25	L.T. 2. E-02
12/22	12/29	2.69E 08	CC	01/07	2.7 ± 0.3 E-02	01/07	L.T. 2. E-02

\*Duplicate analysis



**WOLF CREEK NUCLEAR OPERATING CORPORATION**  
**AIR PARTICULATE AND CHARCOAL FILTERS**

STATION NUMBER 32

COLLECTION START DATE	DATE STOP DATE	VOLUME	UNITS	MID COUNT TIME DATE	A P FILTER GROSS BETA (pCi/Cu M.)	MID COUNT TIME DATE	CHARCOAL FILTER I-131 (pCi/Cu M.)
12/30	01/07	3.22E 08	CC	01/17	3.6 ± 0.3 E-02	01/14	L.T. 3. E-02
01/07	01/14	2.94E 08	CC	01/23	2.6 ± 0.3 E-02	01/18	L.T. 2. E-02
01/14	01/21	2.74E 08	CC	01/31	2.7 ± 0.3 E-02	01/28	L.T. 4. E-02
01/21	01/28	2.75E 08	CC	02/07	2.4 ± 0.3 E-02	01/31	L.T. 2. E-02
01/28	02/04	2.86E 08	CC	02/14	2.8 ± 0.3 E-02	02/07	L.T. 2. E-02
02/04	02/11	3.05E 08	CC	02/21	1.8 ± 0.3 E-02	02/14	L.T. 2. E-02
02/11	02/18	2.87E 08	CC	02/27	1.9 ± 0.3 E-02	02/27	L.T. 3. E-02
02/18	02/25	2.25E 08	CC	03/06	3.6 ± 0.4 E-02	02/29	L.T. 3. E-02
02/25	03/03	2.24E 08	CC	03/12	2.4 ± 0.4 E-02	03/05	L.T. 3. E-02
02/25*	03/03	2.24E 08	CC	03/12	2.6 ± 0.4 E-02	03/06	L.T. 1. E-02
03/03	03/10	2.16E 08	CC	03/24	2.3 ± 0.4 E-02	03/12	L.T. 2. E-02
03/10	03/17	2.16E 08	CC	04/02	2.4 ± 0.4 E-02	03/20	L.T. 2. E-02
03/17	03/24	3.06E 08	CC	04/02	2.0 ± 0.3 E-02	03/27	L.T. 2. E-02
03/24	03/31	3.11E 08	CC	04/09	2.2 ± 0.3 E-02	04/05	L.T. 1. E-02
03/31	04/07	2.98E 08	CC	04/30	2.2 ± 0.3 E-02	04/09	L.T. 2. E-02
04/07	04/14	3.15E 08	CC	04/24	2.6 ± 0.3 E-02	04/17	L.T. 2. E-02
04/14	04/21	3.02E 08	CC	04/30	2.1 ± 0.3 E-02	04/26	L.T. 2. E-02
04/21	04/28	3.06E 08	CC	05/08	1.6 ± 0.3 E-02	05/02	L.T. 2. E-02
04/28	05/05	3.15E 08	CC	05/15	2.2 ± 0.3 E-02	05/08	L.T. 2. E-02

\*Duplicate Analysis

WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE AND CHARCOAL FILTERS

STATION NUMBER 32

COLLECTION START DATE	DATE STOP DATE	VOLUME	UNITS	MID COUNT TIME DATE	A P FILTER GROSS BETA (pCi/Cu.M.)	MID COUNT TIME DATE	CHARCOAL FILTER I-131 (pCi/Cu.M.)
05/05	05/12	3.01E 08	CC	05/27	1.8 ± 0.3 E-02	05/16	L.T. 1. E-02
05/12	05/19	3.03E 08	CC	06/05	2.6 ± 0.3 E-02	05/24	L.T. 2. E-02
05/19	05/26	3.06E 08	CC	06/08	1.1 ± 0.2 E-02	05/30	L.T. 2. E-02
05/26	06/02	3.00E 08	CC	06/16	2.7 ± 0.3 E-02	06/07	L.T. 2. E-02
06/02	06/09	3.13E 08	CC	06/19	2.2 ± 0.3 E-02	06/14	L.T. 2. E-02
06/09	06/16	2.96E 08	CC	06/26	2.1 ± 0.3 E-02	06/23	L.T. 3. E-02
06/16	06/23	3.02E 08	CC	07/06	2.1 ± 0.3 E-02	06/30	L.T. 3. E-02
06/23	06/30	2.92E 08	CC	07/14	2.7 ± 0.4 E-02	07/07	L.T. 3. E-02
06/30	07/07	2.85E 08	CC	07/20	1.9 ± 0.3 E-02	07/12	L.T. 2. E-02
07/07	07/14	2.82E 08	CC	07/24	2.2 ± 0.3 E-02	07/17	L.T. 1. E-02
07/14	07/21	3.03E 08	CC	07/29	2.0 ± 0.3 E-02	07/27	L.T. 3. E-02
07/21	07/28	3.10E 08	CC	08/12	1.5 ± 0.3 E-02	07/31	L.T. 1. E-02
07/28	08/04	3.04E 08	CC	08/13	2.2 ± 0.3 E-02	08/09	L.T. 2. E-02
08/04	08/11	3.23E 08	CC	08/20	2.3 ± 0.3 E-02	08/13	L.T. 1. E-02
08/11	08/18	2.98E 08	CC	08/28	2.4 ± 0.3 E-02	08/22	L.T. 2. E-02
08/18	08/25	3.03E 08	CC	09/08	4.1 ± 0.4 E-02	08/30	L.T. 2. E-02
08/25	09/01	2.86E 08	CC	09/10	2.5 ± 0.3 E-02	09/05	L.T. 2. E-02
08/25*	09/01	2.86E 08	CC	09/10	2.8 ± 0.3 E-02	09/10	L.T. 2. E-02

\*Duplicate Analysis

WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE AND CHARCOAL FILTERS

STATION NUMBER 32

COLLECTION START DATE	DATE STOP DATE	VOLUME	UNITS	MID COUNT TIME DATE	A P FILTER GROSS BETA (pCi/Cu.M.)	MID COUNT TIME DATE	CHARCOAL FILTER I-131 (pCi/Cu.M.)
09/01	09/08	2.91E 08	CC	09/21	2.2 ± 0.3 E-02	09/13	L.T. 2. E-02
09/08	09/15	2.87E 08	CC	09/23	1.8 ± 0.3 E-02	09/22	L.T. 2. E-02
09/15	09/22	3.09E 08	CC	10/02	2.3 ± 0.3 E-02	09/29	L.T. 4. E-02
09/22	09/29	2.94E 08	CC	10/06	2.2 ± 0.3 E-02	10/02	L.T. 3. E-02
09/29	10/06	2.90E 08	CC	10/22	3.7 ± 0.4 E-02	10/10	L.T. 2. E-02
10/06	10/12	2.44E 08	CC	10/20	3.3 ± 0.4 E-02	10/17	L.T. 3. E-02
10/12	10/20	3.43E 08	CC	10/27	2.7 ± 0.3 E-02	10/24	L.T. 2. E-02
10/20	10/27	3.10E 08	CC	11/04	4.0 ± 0.4 E-02	10/31	L.T. 2. E-02
10/27	11/03	3.15E 08	CC	11/13	2.0 ± 0.3 E-02	11/08	L.T. 2. E-02
11/03	11/10	2.99E 08	CC	11/19	2.3 ± 0.3 E-02	11/15	L.T. 2. E-02
11/10	11/17	2.96E 08	CC	11/25	2.3 ± 0.3 E-02	11/20	L.T. 7. E-03
11/17	11/24	3.14E 08	CC	12/02	2.0 ± 0.3 E-02	12/02	L.T. 2. E-02
11/24	12/01	3.04E 08	CC	12/11	3.7 ± 0.3 E-02	12/08	L.T. 2. E-02
12/01	12/08	3.10E 08	CC	12/16	2.1 ± 0.3 E-02	12/11	L.T. 2. E-02
12/08	12/15	2.93E 08	CC	12/29	2.2 ± 0.3 E-02	12/19	L.T. 2. E-02
12/15	12/22	3.17E 08	CC	12/31	4.5 ± 0.4 E-02	12/25	L.T. 2. E-02
12/22	12/29	3.17E 08	CC	01/07	3.0 ± 0.3 E-02	01/07	L.T. 2. E-02

**WOLF CREEK NUCLEAR OPERATING CORPORATION**  
**AIR PARTICULATE AND CHARCOAL FILTERS**

STATION NUMBER 37

COLLECTION START DATE	DATE STOP DATE	VOLUME	UNITS	MID COUNT TIME DATE	A P FILTER GROSS BETA (pCi/Cu.M.)	MID COUNT TIME DATE	CHARCOAL FILTER I-131 (pCi/Cu.M.)
12/30	01/07	3.48E 08	CC	01/17	3.7 ± 0.3 E-02	01/14	L.T. 3. E-02
01/07	01/14	2.91E 08	CC	01/23	2.4 ± 0.3 E-02	01/18	L.T. 2. E-02
01/14	01/21	2.93E 08	CC	01/31	2.3 ± 0.3 E-02	01/28	L.T. 3. E-02
01/21	01/28	2.89E 08	CC	02/07	2.1 ± 0.3 E-02	01/31	L.T. 2. E-02
01/28	02/04	2.92E 08	CC	02/14	3.4 ± 0.3 E-02	02/07	L.T. 2. E-02
02/04	02/11	3.05E 08	CC	02/21	2.1 ± 0.3 E-02	02/14	L.T. 2. E-02
02/11	02/18	2.96E 08	CC	02/27	2.1 ± 0.3 E-02	02/27	L.T. 2. E-02
02/18	02/25	3.01E 08	CC	03/06	2.9 ± 0.3 E-02	02/29	L.T. 2. E-02
02/25	03/03	2.92E 08	CC	03/12	2.5 ± 0.3 E-02	03/05	L.T. 2. E-02
03/03	03/10	2.99E 08	CC	03/24	2.1 ± 0.3 E-02	03/12	L.T. 2. E-02
03/10	03/17	3.05E 08	CC	04/02	2.1 ± 0.3 E-02	03/20	L.T. 1. E-02
03/17	03/24	3.02E 08	CC	04/02	2.0 ± 0.3 E-02	03/27	L.T. 3. E-02
03/24	03/31	3.02E 08	CC	04/09	2.2 ± 0.3 E-02	04/05	L.T. 1. E-02
03/31	04/07	3.03E 08	CC	04/30	2.2 ± 0.3 E-02	04/09	L.T. 2. E-02
04/07	04/14	3.03E 08	CC	04/24	2.8 ± 0.3 E-02	04/17	L.T. 2. E-02
04/14	04/21	3.01E 08	CC	04/30	2.3 ± 0.3 E-02	04/26	L.T. 2. E-02
04/14*	04/21	3.01E 08	CC	04/30	2.2 ± 0.3 E-02	04/28	L.T. 2. E-02
04/21	04/28	2.84E 08	CC	05/08	1.9 ± 0.3 E-02	05/02	L.T. 2. E-02
04/28	05/05	3.05E 08	CC	05/15	2.1 ± 0.3 E-02	05/08	L.T. 2. E-02

Duplicate Analysis

WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE AND CHARCOAL FILTERS

STATION NUMBER 37

COLLECTION START DATE	DATE STOP DATE	VOLUME	UNITS	MID COUNT TIME DATE	A P FILTER GROSS BETA (pCi/Cu.M.)	MID COUNT TIME DATE	CHARCOAL FILTER I-131 (pCi/Cu.M.)
05/05	05/12	3.08E 08	CC	05/27	1.6 ± 0.3 E-02	05/16	L.T. 1. E-02
05/12	05/19	2.98E 08	CC	06/05	2.2 ± 0.3 E-02	05/24	L.T. 2. E-02
05/19	05/26	3.07E 08	CC	06/08	1.3 ± 0.3 E-02	05/30	L.T. 2. E-02
05/26	06/02	2.97E 08	CC	06/16	2.6 ± 0.3 E-02	06/07	L.T. 2. E-02
06/02	06/09	3.02E 08	CC	06/19	2.0 ± 0.3 E-02	06/14	L.T. 2. E-02
06/09	06/16	3.04E 08	CC	06/26	1.7 ± 0.3 E-02	06/23	L.T. 3. E-02
06/16	06/23	3.07E 08	CC	07/06	1.7 ± 0.3 E-02	06/30	L.T. 3. E-02
06/23	06/30	2.94E 08	CC	07/14	2.5 ± 0.3 E-02	07/07	L.T. 3. E-02
06/30	07/07	3.00E 08	CC	07/20	2.1 ± 0.3 E-02	07/12	L.T. 2. E-02
07/07	07/14	2.99E 08	CC	07/24	2.1 ± 0.3 E-02	07/17	L.T. 1. E-02
07/14	07/21	2.86E 08	CC	07/29	1.7 ± 0.3 E-02	07/27	L.T. 3. E-02
07/21	07/28	2.92E 08	CC	08/12	1.9 ± 0.4 E-02	07/31	L.T. 1. E-02
07/28	08/04	2.81E 08	CC	08/13	2.6 ± 0.3 E-02	08/09	L.T. 2. E-02
08/04	08/11	3.34E 08	CC	08/20	2.5 ± 0.3 E-02	08/13	L.T. 1. E-02
08/11	08/18	3.31E 08	CC	08/28	2.2 ± 0.3 E-02	08/22	L.T. 2. E-02
08/18	08/25	3.21E 08	CC	09/08	4.2 ± 0.4 E-02	08/30	L.T. 2. E-02
08/25	09/01	3.15E 08	CC	09/10	2.6 ± 0.3 E-02	09/05	L.T. 2. E-02
09/01	09/08	3.12E 08	CC	09/21	2.7 ± 0.3 E-02	09/13	L.T. 2. E-02
09/08	09/15	3.17E 08	CC	09/23	2.1 ± 0.3 E-02	09/22	L.T. 2. E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE AND CHARCOAL FILTERS

STATION NUMBER 37

COLLECTION START DATE	DATE STOP DATE	VOLUME	UNITS	MID COUNT TIME DATE	A P FILTER GROSS BETA (pCi/Cu.M.)	MID COUNT TIME DATE	CHARCOAL FILTER I-131 (pCi/Cu.M.)
09/15	09/22	3.38E 08	CC	10/02	2.6 ± 0.3 E-02	09/29	L.T. 3. E-02
09/22	09/29	3.17E 08	CC	10/06	2.3 ± 0.3 E-02	10/02	L.T. 3. E-02
09/29	10/06	3.15E 08	CC	10/22	4.5 ± 0.4 E-02	10/10	L.T. 2. E-02
10/06	10/12	2.69E 08	CC	10/20	3.8 ± 0.4 E-02	10/17	L.T. 3. E-02
10/12	10/20	3.72E 08	CC	10/27	3.0 ± 0.3 E-02	10/24	L.T. 2. E-02
10/20	10/27	3.35E 08	CC	11/04	4.2 ± 0.4 E-02	10/31	L.T. 2. E-02
10/27	11/03	3.41E 08	CC	11/13	2.1 ± 0.3 E-02	11/08	L.T. 2. E-02
10/27*	11/03	3.41E 08	CC	11/13	2.3 ± 0.3 E-02	11/10	L.T. 2. E-02
11/03	11/10	3.31E 08	CC	11/19	2.4 ± 0.3 E-02	11/15	L.T. 2. E-02
11/10	11/17	3.41E 08	CC	11/25	2.7 ± 0.3 E-02	11/20	L.T. 6. E-03
11/17	11/24	3.25E 08	CC	12/02	2.5 ± 0.3 E-02	12/02	L.T. 2. E-02
11/24	12/01	3.18E 08	CC	12/11	4.0 ± 0.3 E-02	12/08	L.T. 2. E-02
12/01	12/08	3.25E 08	CC	12/16	2.2 ± 0.3 E-02	12/11	L.T. 2. E-02
12/08	12/15	3.21E 08	CC	12/29	2.4 ± 0.3 E-02	12/19	L.T. 2. E-02
12/15	12/22	3.40E 08	CC	12/31	4.4 ± 0.4 E-02	12/25	L.T. 2. E-02
12/22	12/29	3.33E 08	CC	01/07	3.3 ± 0.3 E-02	01/07	L.T. 2. E-02

\*Duplicate analysis

**WOLF CREEK NUCLEAR OPERATING CORPORATION**  
**AIR PARTICULATE AND CHARCOAL FILTERS**

STATION NUMBER 40

COLLECTION START DATE	DATE STOP DATE	VOLUME	UNITS	MID COUNT TIME DATE	A P FILTER GROSS BETA (pCi/Cu.M.)	MID COUNT TIME DATE	CHARCOAL FILTER I-131 (pCi/Cu.M.)
12/30	01/07	4.02E 08	CC	01/17	3.5 ± 0.3 E-02	01/14	L.T. 9. E-03
01/07	01/14	3.64E 08	CC	01/23	2.2 ± 0.3 E-02	01/18	L.T. 8. E-03
01/14	01/21	3.64E 08	CC	01/31	2.2 ± 0.3 E-02	01/28	L.T. 2. E-02
01/21	01/28	3.68E 08	CC	02/07	2.0 ± 0.3 E-02	01/31	L.T. 1. E-02
01/28	02/04	3.44E 08	CC	02/14	2.7 ± 0.3 E-02	02/07	L.T. 6. E-03
01/28*	02/04	3.44E 08	CC	02/14	2.7 ± 0.3 E-02	02/08	L.T. 7. E-03
02/04	02/11	3.60E 08	CC	02/21	2.1 ± 0.3 E-02	02/14	L.T. 1. E-02
02/11	02/18	3.50E 08	CC	02/27	2.0 ± 0.3 E-02	02/27	L.T. 1. E-02
02/18	02/25	2.83E 08	CC	03/06	2.8 ± 0.3 E-02	02/29	L.T. 9. E-03
02/25	03/03	3.01E 08	CC	03/12	2.1 ± 0.3 E-02	03/05	L.T. 1. E-02
03/03	03/10	2.90E 08	CC	03/24	1.9 ± 0.3 E-02	03/12	L.T. 1. E-02
03/10	03/17	2.78E 08	CC	04/02	2.2 ± 0.3 E-02	03/20	L.T. 1. E-02
03/17	03/24	2.89E 08	CC	04/02	2.3 ± 0.3 E-02	03/27	L.T. 3. E-02
03/24	03/31	3.03E 08	CC	04/09	2.0 ± 0.3 E-02	04/05	L.T. 1. E-02
03/31	04/07	2.90E 08	CC	04/30	1.8 ± 0.3 E-02	04/09	L.T. 1. E-02
04/07	04/14	3.11E 08	CC	04/24	2.0 ± 0.3 E-02	04/17	L.T. 9. E-03
04/14	04/21	2.93E 08	CC	04/30	1.9 ± 0.3 E-02	04/26	L.T. 1. E-02
04/21	04/28	2.72E 08	CC	05/08	1.9 ± 0.3 E-02	05/02	L.T. 1. E-02
04/28	05/05	2.80E 08	CC	05/15	2.2 ± 0.3 E-02	05/08	L.T. 1. E-02

Duplicate Analysis



WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE AND CHARCOAL FILTERS

STATION NUMBER 40

COLLECTION START DATE	DATE STOP DATE	VOLUME	UNITS	MID COUNT TIME DATE	A P FILTER GROSS BETA (pCi/Cu.M.)	MID COUNT TIME DATE	CHARCOAL FILTER I-131 (pCi/Cu.M.)
05/05	05/12	2.99E 08	CC	05/27	1.9 ± 0.3 E-02	05/16	L.T. 9. E-03
05/12	05/19	2.93E 08	CC	06/05	2.0 ± 0.3 E-02	05/24	L.T. 1. E-02
05/12*	05/19	2.93E 08	CC	06/05	2.1 ± 0.3 E-02	05/27	L.T. 1. E-02
05/19	05/26	3.03E 08	CC	06/08	1.3 ± 0.3 E-02	05/30	L.T. 9. E-03
05/26	06/02	2.84E 08	CC	06/16	2.5 ± 0.3 E-02	06/07	L.T. 1. E-02
06/02	06/09	2.94E 08	CC	06/19	1.5 ± 0.2 E-02	06/14	L.T. 1. E-02
06/09	06/16	2.89E 08	CC	06/26	1.9 ± 0.3 E-02	06/23	L.T. 2. E-02
06/16	06/23	2.94E 08	CC	07/06	1.7 ± 0.3 E-02	06/30	L.T. 4. E-02
06/23	06/30	2.85E 08	CC	07/14	2.7 ± 0.4 E-02	07/07	L.T. 2. E-02
06/30	07/07	2.96E 08	CC	07/20	2.1 ± 0.3 E-02	07/12	L.T. 1. E-02
07/07	07/14	2.84E 08	CC	07/24	2.4 ± 0.3 E-02	07/17	L.T. 1. E-02
07/14	07/21	2.88E 08	CC	07/29	1.9 ± 0.3 E-02	07/27	L.T. 1. E-02
07/21	07/28	2.94E 08	CC	08/12	1.8 ± 0.4 E-02	07/31	L.T. 1. E-02
07/28	08/04	2.84E 08	CC	08/13	2.5 ± 0.3 E-02	08/09	L.T. 1. E-02
08/04	08/11	3.38E 08	CC	08/20	2.3 ± 0.3 E-02	08/13	L.T. 9. E-03
08/11	08/18	3.38E 08	CC	08/28	2.3 ± 0.3 E-02	08/22	L.T. 1. E-02
08/18	08/25	3.38E 08	CC	09/08	4.0 ± 0.3 E-02	08/30	L.T. 9. E-03
08/25	09/01	3.27E 08	CC	09/10	2.2 ± 0.3 E-02	09/05	L.T. 9. E-03

\*Duplicate Analysis

WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE AND CHARCOAL FILTERS

STATION NUMBER 40

COLLECTION START DATE	DATE STOP DATE	VOLUME	UNITS	MID COUNT TIME DATE	A P FILTER GROSS BETA (pCi/Cu.M.)	MID COUNT TIME DATE	CHARCOAL FILTER	
							I-131 (pCi/Cu.M.)	
09/01	09/08	3.42E 08	CC	09/21	2.3 ± 0.3 E-02	09/13	L.T. 8.	E-03
09/08	09/15	3.13E 08	CC	09/23	1.5 ± 0.2 E-02	09/22	L.T. 2.	E-02
09/15	09/22	3.12E 08	CC	10/02	2.1 ± 0.3 E-02	09/29	L.T. 2.	E-02
09/22	09/29	2.69E 08	CC	10/06	1.5 ± 0.3 E-02	10/02	L.T. 2.	E-02
09/29	10/06	2.92E 08	CC	10/22	3.6 ± 0.3 E-02	10/10	L.T. 1.	E-02
10/06	10/12	2.62E 08	CC	10/20	3.0 ± 0.3 E-02	10/17	L.T. 1.	E-02
10/12	10/20	3.38E 08	CC	10/27	2.4 ± 0.3 E-02	10/24	L.T. 9.	E-03
10/20	10/27	3.00E 08	CC	11/04	2.3 ± 0.3 E-02	10/31	L.T. 1.	E-02
10/27	11/03	3.24E 08	CC	11/13	2.1 ± 0.3 E-02	11/08	L.T. 8.	E-02
11/03	11/10	2.93E 08	CC	11/19	2.0 ± 0.3 E-02	11/15	L.T. 1.	E-02
11/10	11/17	3.10E 08	CC	11/25	2.8 ± 0.3 E-02	11/20	L.T. 3.	E-03
11/17	11/24	3.10E 08	CC	12/02	2.0 ± 0.3 E-02	12/02	L.T. 1.	E-02
11/24	12/01	2.98E 08	CC	12/11	3.7 ± 0.3 E-02	12/08	L.T. 2.	E-02
12/01	12/08	3.09E 08	CC	12/16	1.8 ± 0.3 E-02	12/11	L.T. 9.	E-03
12/08	12/15	3.17E 08	CC	12/29	2.3 ± 0.3 E-02	12/19	L.T. 9.	E-03
12/15	12/22	3.07E 08	CC	12/31	3.9 ± 0.4 E-02	12/25	L.T. 8.	E-03
12/22	12/29	3.07E 08	CC	01/07	2.7 ± 0.3 E-02	01/07	L.T. 1.	E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE FILTERS  
EXPOSURE PATHWAY - AIRBORNE

ISOTOPIC ANALYSIS ON QUARTERLY COMPOSITE

(pCi/Cu.M.)

STATION NUMBER 02

DATE COLLECTED:	12/30-03/31	03/31-06/30	06/30-09/29	09/29-12/29
GAMMA SPECTRUM ANALYSIS:				
BE-7	5.64±0.61 E-02	9.53±0.95 E-02	8.59±0.86 E-02	4.86±0.63 E-02
K-40	LT. 2. E-02	LT. 9. E-03	LT. 7. E-03	LT. 9. E-03
MN-54	LT. 5. E-04	LT. 4. E-04	LT. 3. E-04	LT. 5. E-04
CO-58	LT. 5. E-04	LT. 4. E-04	LT. 4. E-04	LT. 5. E-04
FE-59	LT. 1. E-03	LT. 1. E-03	LT. 9. E-04	LT. 1. E-03
CO-60	LT. 6. E-04	LT. 4. E-04	LT. 4. E-04	LT. 6. E-04
ZN-65	LT. 1. E-03	LT. 9. E-04	LT. 9. E-04	LT. 1. E-03
NB-95/ZR-95	LT. 6. E-04	LT. 5. E-04	LT. 4. E-04	LT. 6. E-04
RU-103	LT. 7. E-04	LT. 6. E-04	LT. 5. E-04	LT. 5. E-04
RU-106	LT. 4. E-03	LT. 4. E-03	LT. 3. E-03	LT. 4. E-03
I-131	LT. 3. E-03	LT. 3. E-03	LT. 2. E-03	LT. 2. E-03
CS-134	LT. 6. E-04	LT. 5. E-04	LT. 4. E-04	LT. 5. E-04
CS-137	LT. 5. E-04	LT. 5. E-04	LT. 4. E-04	LT. 6. E-04
LA-140/BA-140	LT. 2. E-03	LT. 2. E-03	LT. 1. E-03	LT. 1. E-03
CE-141	LT. 8. E-04	LT. 1. E-03	LT. 8. E-04	LT. 9. E-04
CE-144	LT. 2. E-03	LT. 3. E-03	LT. 2. E-03	LT. 3. E-03
RA-226	LT. 7. E-03	LT. 9. E-03	LT. 8. E-03	LT. 1. E-02
TH-228	LT. 7. E-04	LT. 8. E-04	LT. 7. E-04	LT. 8. E-04

WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE FILTERS  
EXPOSURE PATHWAY - AIRBORNE

ISOTOPIC ANALYSIS ON QUARTERLY COMPOSITE

(pCi/Cu.M.)

STATION NUMBER 03

DATE COLLECTED:	12/30-03/31	03/31-06/30	06/30-09/29	09/29-12/29
GAMMA SPECTRUM ANALYSIS:				
BE-7	4.32±0.54 E-02	5.91±0.59 E-02	7.60±0.83 E-02	4.48±0.52 E-02
K-40	L.T. 1. E-02	3.19±0.65 E-02	L.T. 1. E-02	L.T. 2. E-02
MN-54	L.T. 5. E-04	L.T. 5. E-04	L.T. 5. E-04	L.T. 5. E-04
CO-58	L.T. 5. E-04	L.T. 6. E-04	L.T. 5. E-04	L.T. 5. E-04
FE-59	L.T. 1. E-03	L.T. 1. E-03	L.T. 1. E-03	L.T. 1. E-03
CO-60	L.T. 6. E-04	L.T. 5. E-04	L.T. 6. E-04	L.T. 5. E-04
ZN-65	L.T. 1. E-03	L.T. 1. E-03	L.T. 1. E-03	L.T. 1. E-03
NB-95/ZR-95	L.T. 5. E-04	L.T. 6. E-04	L.T. 6. E-04	L.T. 6. E-04
RU-103	L.T. 7. E-04	L.T. 6. E-04	L.T. 7. E-04	L.T. 6. E-04
RU-106	L.T. 4. E-03	L.T. 5. E-03	L.T. 5. E-03	L.T. 5. E-03
I-131	L.T. 3. E-03	L.T. 2. E-03	L.T. 2. E-03	L.T. 2. E-03
CS-134	L.T. 5. E-04	L.T. 5. E-04	L.T. 4. E-04	L.T. 5. E-04
CS-137	L.T. 7. E-04	L.T. 5. E-04	L.T. 5. E-04	L.T. 5. E-04
LA-140/BA-140	L.T. 2. E-03	L.T. 2. E-03	L.T. 1. E-03	L.T. 2. E-03
CE-141	L.T. 9. E-04	L.T. 8. E-04	L.T. 2. E-03	L.T. 7. E-04
CE-144	L.T. 3. E-03	L.T. 2. E-03	L.T. 5. E-03	L.T. 2. E-03
RA-226	L.T. 8. E-03	L.T. 7. E-03	L.T. 1. E-02	L.T. 7. E-03
TH-228	L.T. 8. E-04	L.T. 7. E-04	L.T. 1. E-03	L.T. 7. E-04

WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE FILTERS  
EXPOSURE PATHWAY - AIRBORNE

ISOTOPIC ANALYSIS ON QUARTERLY COMPOSITE

(pCi/Cu.M.)

STATION NUMBER 32

DATE COLLECTED:	12/30-03/31	03/31-06/30	06/30-09/29	09/29-12/29
GAMMA SPECTRUM ANALYSIS:				
BE-7	6.01±0.65 E-02	8.47±0.85 E-02	9.25±0.92 E-02	6.02±0.68 E-02
K-40	8.27±4.35 E-03	L.T. 9. E-03	L.T. 1. E-02	L.T. 2. E-02
MN-54	L.T. 5. E-04	L.T. 4. E-04	L.T. 5. E-04	L.T. 5. E-04
CO-58	L.T. 5. E-04	L.T. 5. E-04	L.T. 4. E-04	L.T. 6. E-04
FE-59	L.T. 1. E-03	L.T. 9. E-04	L.T. 1. E-03	L.T. 2. E-03
CO-60	L.T. 6. E-04	L.T. 4. E-04	L.T. 6. E-04	L.T. 6. E-04
ZN-65	L.T. 1. E-03	L.T. 9. E-04	L.T. 1. E-03	L.T. 1. E-03
NB-95/ZR-95	L.T. 6. E-04	L.T. 5. E-04	L.T. 5. E-04	L.T. 6. E-04
RU-103	L.T. 6. E-04	L.T. 6. E-04	L.T. 6. E-04	L.T. 7. E-04
RU-106	L.T. 4. E-03	L.T. 4. E-03	L.T. 4. E-03	L.T. 5. E-03
I-131	L.T. 3. E-03	L.T. 2. E-03	L.T. 2. E-03	L.T. 3. E-03
CS-134	L.T. 5. E-04	L.T. 5. E-04	L.T. 5. E-04	L.T. 6. E-04
CS-137	L.T. 7. E-04	L.T. 4. E-04	L.T. 7. E-04	L.T. 6. E-04
LA-140/BA-140	L.T. 2. E-03	L.T. 1. E-03	L.T. 1. E-03	L.T. 2. E-03
CE-141	L.T. 1. E-03	L.T. 1. E-03	L.T. 8. E-04	L.T. 9. E-04
CE-144	L.T. 3. E-03	L.T. 3. E-03	L.T. 3. E-03	L.T. 3. E-03
RA-226	L.T. 9. E-03	L.T. 9. E-03	L.T. 9. E-03	L.T. 8. E-03
TH-228	L.T. 7. E-04	L.T. 8. E-04	L.T. 8. E-04	L.T. 7. E-04

WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE FILTERS  
EXPOSURE PATHWAY - AIRBORNE

ISOTOPIC ANALYSIS ON QUARTERLY COMPOSITE

(pCi/Cu.M.)

STATION NUMBER 37

DATE COLLECTED:	12/30-03/31	03/31-06/30	06/30-09/29	09/29-12/29
GAMMA SPECTRUM ANALYSIS:				
BE-7	5.58±0.74 E-02	9.04±0.90 E-02	8.02±0.80 E-02	7.71±0.77 E-02
K-40	LT. 2. E-02	LT. 9. E-03	5.85±2.87 E-03	LT. 7. E-03
MN-54	LT. 6. E-04	LT. 5. E-04	LT. 5. E-04	LT. 4. E-04
CO-58	LT. 6. E-04	LT. 5. E-04	LT. 5. E-04	LT. 4. E-04
FE-59	LT. 1. E-03	LT. 9. E-04	LT. 1. E-03	LT. 8. E-04
CO-60	LT. 6. E-04	LT. 5. E-04	LT. 4. E-04	LT. 5. E-04
ZN-65	LT. 1. E-03	LT. 8. E-04	LT. 1. E-03	LT. 7. E-04
NB-95/ZR-95	LT. 7. E-04	LT. 4. E-04	LT. 5. E-04	LT. 4. E-04
RU-103	LT. 8. E-04	LT. 6. E-04	LT. 5. E-04	LT. 4. E-04
RU-106	LT. 6. E-03	LT. 4. E-03	LT. 4. E-03	LT. 3. E-03
I-131	LT. 4. E-03	LT. 2. E-03	LT. 2. E-03	LT. 2. E-03
CS-134	LT. 7. E-04	LT. 5. E-04	LT. 4. E-04	LT. 4. E-04
CS-137	LT. 7. E-04	LT. 4. E-04	LT. 5. E-04	LT. 3. E-04
LA-140/BA-140	LT. 2. E-03	LT. 2. E-03	LT. 1. E-03	LT. 9. E-04
CE-141	LT. 1. E-03	LT. 9. E-04	LT. 8. E-04	LT. 7. E-04
CE-144	LT. 3. E-03	LT. 3. E-03	LT. 2. E-03	LT. 2. E-03
RA-226	LT. 9. E-03	LT. 8. E-03	LT. 8. E-03	LT. 7. E-03
TH-228	LT. 8. E-04	LT. 8. E-04	LT. 7. E-04	LT. 7. E-04

WOLF CREEK NUCLEAR OPERATING CORPORATION

AIR PARTICULATE FILTERS  
EXPOSURE PATHWAY - AIRBORNE

ISOTOPIC ANALYSIS ON QUARTERLY COMPOSITE

(pCi/Cu.M.)

STATION NUMBER 40

DATE COLLECTED:	12/30-03/31	03/31-06/30	06/30-09/29	09/29-12/29
GAMMA SPECTRUM ANALYSIS:				
BE-7	5.28±0.63 E-02	7.50±0.75 E-02	7.45±0.74 E-02	4.90±0.55 E-02
K-40	L.T. 9. E-03	L.T. 7. E-03	L.T. 2. E-02	L.T. 1. E-02
MN-54	L.T. 4. E-04	L.T. 4. E-04	L.T. 6. E-04	L.T. 5. E-04
CO-58	L.T. 4. E-04	L.T. 4. E-04	L.T. 7. E-04	L.T. 5. E-04
FE-59	L.T. 1. E-03	L.T. 9. E-04	L.T. 1. E-03	L.T. 1. E-03
CO-60	L.T. 6. E-04	L.T. 4. E-04	L.T. 6. E-04	L.T. 5. E-04
ZN-65	L.T. 1. E-03	L.T. 8. E-04	L.T. 1. E-03	L.T. 1. E-03
NB-95/ZR-95	L.T. 6. E-04	L.T. 4. E-04	L.T. 7. E-04	L.T. 5. E-04
RU-103	L.T. 6. E-04	L.T. 5. E-04	L.T. 7. E-04	L.T. 6. E-04
RU-106	L.T. 4. E-03	L.T. 3. E-03	L.T. 5. E-03	L.T. 4. E-03
I-131	L.T. 3. E-03	L.T. 2. E-03	L.T. 2. E-03	L.T. 2. E-03
CS-134	L.T. 5. E-04	L.T. 4. E-04	L.T. 7. E-04	L.T. 5. E-04
CS-137	L.T. 5. E-04	L.T. 3. E-04	L.T. 6. E-04	L.T. 4. E-04
LA-140/BA-140	L.T. 2. E-03	L.T. 1. E-03	L.T. 2. E-03	L.T. 1. E-03
CE-141	L.T. 1. E-03	L.T. 5. E-04	L.T. 9. E-04	L.T. 7. E-04
CE-144	L.T. 3. E-03	L.T. 1. E-03	L.T. 3. E-03	L.T. 2. E-03
RA-226	L.T. 8. E-03	L.T. 6. E-03	L.T. 8. E-03	L.T. 7. E-03
TH-228	L.T. 7. E-04	L.T. 6. E-04	L.T. 8. E-04	L.T. 7. E-04



WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

ANIMALS/GAME

(pCi/GM WET)

STATION NUMBER SECTOR G

DATE COLLECTED:	10/27 DEER	12/10 BW	12/10 EC
GAMMA SPECTRUM ANALYSIS:			
BE-7	L.T. 3. E-01	L.T. 1. E-01	L.T. 1. E-01
K-40	2.69±0.37 E 00	2.51±0.25 E 00	3.72±0.37 E 00
MN-54	L.T. 3. E-02	L.T. 1. E-02	L.T. 2. E-02
CO-58	L.T. 3. E-02	L.T. 1. E-02	L.T. 2. E-02
FE-59	L.T. 7. E-02	L.T. 3. E-02	L.T. 4. E-02
CO-60	L.T. 3. E-02	L.T. 1. E-02	L.T. 1. E-02
ZN-65	L.T. 7. E-02	L.T. 3. E-02	L.T. 3. E-02
NB-95/ZR-95	L.T. 3. E-02	L.T. 1. E-02	L.T. 2. E-02
RU-103	L.T. 3. E-02	L.T. 1. E-02	L.T. 2. E-02
RU-106	L.T. 3. E-01	L.T. 1. E-01	L.T. 1. E-01
I-131	L.T. 9. E-02	L.T. 3. E-02	L.T. 4. E-02
CS-134	L.T. 3. E-02	L.T. 1. E-02	L.T. 2. E-02
CS-137	L.T. 3. E-02	L.T. 1. E-02	L.T. 2. E-02
LA-140/BA-140	L.T. 6. E-02	L.T. 2. E-02	L.T. 3. E-02
CE-141	L.T. 5. E-02	L.T. 2. E-02	L.T. 2. E-02
CE-144	L.T. 2. E-01	L.T. 5. E-02	L.T. 8. E-02
RA-226	L.T. 5. E-01	L.T. 2. E-01	L.T. 3. E-01
TH-228	L.T. 5. E-02	L.T. 2. E-02	L.T. 2. E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

ANIMALS/GAME

(pCi/GM WET)

STATION NUMBER CONTROL

DATE COLLECTED:

11/27  
BW

11/25  
GPC

GAMMA SPECTRUM ANALYSIS:

BE-7	LT. 6. E-02	LT. 1. E-01
K-40	4.06±0.41 E 00	2.71±0.27 E 00
MN-54	LT. 6. E-03	LT. 2. E-02
CO-58	LT. 6. E-03	LT. 2. E-02
FE-59	LT. 1. E-02	LT. 4. E-02
CO-60	LT. 7. E-03	LT. 2. E-02
ZN-65	LT. 2. E-02	LT. 4. E-02
NB-95/ZR-95	LT. 6. E-03	LT. 2. E-02
RU-103	LT. 7. E-03	LT. 2. E-02
RU-106	LT. 6. E-02	LT. 2. E-01
I-131	LT. 1. E-02	LT. 3. E-02
CS-134	LT. 7. E-03	LT. 2. E-02
CS-137	LT. 7. E-03	LT. 2. E-02
LA-140/BA-140	LT. 9. E-03	LT. 2. E-02
CE-141	LT. 1. E-02	LT. 3. E-02
CE-144	LT. 4. E-02	LT. 1. E-01
RA-226	LT. 1. E-01	LT. 3. E-01
TH-228	LT. 1. E-02	LT. 3. E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

ANIMALS/GAME

(pCi/GM WET)

STATION NUMBER SECTOR R

DATE COLLECTED:	12/10 BW	12/10 EC
GAMMA SPECTRUM ANALYSIS:		
BE-7	L.T. 1. E-01	L.T. 1. E-01
K-40	3.02±0.30 E 00	2.32±0.23 E 00
MN-54	L.T. 1. E-02	L.T. 1. E-02
CO-58	L.T. 1. E-02	L.T. 1. E-02
FE-59	L.T. 3. E-02	L.T. 3. E-02
CO-60	L.T. 1. E-02	L.T. 1. E-02
ZN-65	L.T. 2. E-02	L.T. 3. E-02
NB-95/ZR-95	L.T. 1. E-02	L.T. 2. E-02
RU-103	L.T. 1. E-02	L.T. 2. E-02
RU-106	L.T. 1. E-01	L.T. 1. E-01
I-131	L.T. 3. E-02	L.T. 4. E-02
CS-134	L.T. 1. E-02	L.T. 2. E-02
CS-137	L.T. 1. E-02	L.T. 2. E-02
LA-140/BA-140	L.T. 2. E-02	L.T. 2. E-02
CE-141	L.T. 2. E-02	L.T. 2. E-02
CE-144	L.T. 8. E-02	L.T. 8. E-02
RA-226	L.T. 2. E-01	L.T. 3. E-01
TH-228	L.T. 2. E-02	L.T. 2. E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

FISH

(pCi/GM WET)

STATION NUMBER WCCL

DATE COLLECTED:	04/07 COMMON CARP	04/07 CHANNEL CATFISH	04/07 BLACK CARPPIE	04/07 WHITE CRAPPIE	04/07 WHITE CR*
GAMMA SPECTRUM ANALYSIS:					
BE-7	LT. 3. E-01	LT. 1. E-01	LT. 2. E-01	LT. 2. E-01	LT. 1. E-01
K-40	2.34±0.27 E 00	3.70±0.37 E 00	2.92±0.29 E 00	3.37±0.34 E 00	3.36±0.34 E 00
MN-54	LT. 3. E-02	LT. 2. E-02	LT. 2. E-02	LT. 1. E-02	LT. 1. E-02
CO-58	LT. 3. E-02	LT. 2. E-02	LT. 2. E-02	LT. 2. E-02	LT. 2. E-02
FE-59	LT. 7. E-02	LT. 4. E-02	LT. 4. E-02	LT. 4. E-02	LT. 4. E-02
CO-60	LT. 3. E-02	LT. 2. E-02	LT. 2. E-02	LT. 2. E-02	LT. 2. E-02
ZN-65	LT. 6. E-02	LT. 3. E-02	LT. 4. E-02	LT. 4. E-02	LT. 3. E-02
NB-95/ZR-95	LT. 3. E-02	LT. 2. E-02	LT. 2. E-02	LT. 2. E-02	LT. 2. E-02
RU-103	LT. 4. E-02	LT. 2. E-02	LT. 2. E-02	LT. 2. E-02	LT. 2. E-02
RU-106	LT. 2. E-01	LT. 1. E-01	LT. 2. E-01	LT. 1. E-01	LT. 1. E-01
I-131	LT. 2. E-01	LT. 1. E-01	LT. 7. E-02	LT. 1. E-01	LT. 9. E-02
CS-134	LT. 3. E-02	LT. 2. E-02	LT. 2. E-02	LT. 2. E-02	LT. 2. E-02
CS-137	LT. 3. E-02	1.88±1.09 E-02	LT. 2. E-02	LT. 2. E-02	LT. 2. E-02
LA-140/BA-140	LT. 9. E-02	LT. 5. E-02	LT. 3. E-02	LT. 4. E-02	LT. 5. E-02
CE-141	LT. 8. E-02	LT. 4. E-02	LT. 3. E-02	LT. 4. E-02	LT. 3. E-02
CE-144	LT. 2. E-01	LT. 1. E-01	LT. 1. E-01	LT. 1. E-01	LT. 1. E-01
RA-226	LT. 6. E-01	LT. 3. E-01	LT. 3. E-01	LT. 3. E-01	LT. 3. E-01
TH-228	LT. 6. E-02	LT. 3. E-02	LT. 3. E-02	LT. 3. E-02	LT. 2. E-02

\*Duplicate Analysis

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

FISH

(pCi/GM WET)

STATION NUMBER WCCL

DATE COLLECTED:	10/14 (ROUGH) CARP	10/14 (GAME) WIPER
GAMMA SPECTRUM ANALYSIS:		
BE-7	LT. 3. E-01	LT. 3. E-01
K-40	2.50±0.35 E 00	3.29±0.41 E 00
MN-54	LT. 3. E-02	LT. 3. E-02
CO-58	LT. 3. E-02	LT. 3. E-02
FE-59	LT. 7. E-02	LT. 6. E-02
CO-60	LT. 3. E-02	LT. 3. E-02
ZN-65	LT. 6. E-02	LT. 6. E-02
NB-95/ZR-95	LT. 3. E-02	LT. 3. E-02
RU-103	LT. 4. E-02	LT. 4. E-02
RU-106	LT. 3. E-01	LT. 3. E-01
I-131	LT. 1. E-01	LT. 1. E-01
CS-134	LT. 3. E-02	LT. 3. E-02
CS-137	LT. 4. E-02	LT. 4. E-02
LA-140/BA-140	LT. 7. E-02	LT. 7. E-02
CE-141	LT. 5. E-02	LT. 5. E-02
CE-144	LT. 2. E-01	LT. 2. E-01
RA-226	LT. 6. E-01	LT. 6. E-01
TH-228	LT. 5. E-02	LT. 5. E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

FISH

(pCi/GM WET)

STATION NUMBER NR

DATE COLLECTED:	10/28 WHITE CRAPPIE	10/28 LGMTH BASS	10/28 SMMTH BUFFALO	10/28* WHITE CRAPPIE
GAMMA SPECTRUM ANALYSIS:				
BE-7	LT. 3. E-01	LT. 2. E-01	LT. 2. E-01	LT. 3. E-01
K-40	3.86±0.48 E 00	3.86±0.46 E 00	3.64±0.41 E 00	3.51±0.44 E 00
MN-54	LT. 3. E-02	LT. 2. E-02	LT. 2. E-02	LT. 2. E-02
CO-58	LT. 2. E-02	LT. 2. E-02	LT. 3. E-02	LT. 3. E-02
FE-59	LT. 7. E-02	LT. 5. E-02	LT. 5. E-02	LT. 6. E-04
CO-60	LT. 3. E-02	LT. 3. E-02	LT. 2. E-02	LT. 3. E-02
ZN-65	LT. 6. E-02	LT. 7. E-02	LT. 5. E-02	LT. 6. E-02
NB-95/ZR-95	LT. 3. E-02	LT. 3. E-02	LT. 2. E-02	LT. 3. E-02
RU-103	LT. 4. E-02	LT. 3. E-02	LT. 3. E-02	LT. 3. E-02
RU-106	LT. 2. E-01	LT. 2. E-01	LT. 2. E-01	LT. 2. E-01
I-131	LT. 8. E-02	LT. 6. E-02	LT. 7. E-02	LT. 1. E-01
CS-134	LT. 3. E-02	LT. 2. E-02	LT. 2. E-02	LT. 3. E-02
CS-137	LT. 3. E-02	LT. 2. E-02	LT. 3. E-02	LT. 3. E-02
LA-140/BA-140	LT. 6. E-02	LT. 6. E-02	LT. 4. E-02	LT. 7. E-02
CE-141	LT. 6. E-02	LT. 3. E-02	LT. 5. E-02	LT. 5. E-02
CE-144	LT. 2. E-01	LT. 1. E-01	LT. 2. E-01	LT. 2. E-01
RA-226	LT. 6. E-01	LT. 4. E-01	LT. 5. E-01	LT. 5. E-01
TH-228	LT. 6. E-02	LT. 3. E-02	LT. 4. E-02	LT. 4. E-02

\*Duplicate Analysis

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

FISH

(pCi/GM WET)

STATION NUMBER JRR

DATE COLLECTED:

05/27  
CARP

05/27

CHANNEL CATFISH

GAMMA SPECTRUM ANALYSIS:

BE-7	L.T. 4. E-01	L.T. 3. E-01
K-40	3.19±0.50 E 00	3.71±0.37 E 00
MN-54	L.T. 4. E-02	L.T. 3. E-02
CO-58	L.T. 4. E-02	L.T. 3. E-02
FE-59	L.T. 1. E-01	L.T. 6. E-02
CO-60	L.T. 4. E-02	L.T. 3. E-02
ZN-65	L.T. 1. E-01	L.T. 5. E-02
NB-95/ZR-95	L.T. 5. E-02	L.T. 3. E-02
RU-103	L.T. 5. E-02	L.T. 3. E-02
RU-106	L.T. 4. E-01	L.T. 2. E-01
I-131	L.T. 2. E-01	L.T. 1. E-01
CS-134	L.T. 4. E-02	L.T. 3. E-02
CS-137	L.T. 4. E-02	L.T. 3. E-02
LA-140/BA-140	L.T. 8. E-02	L.T. 5. E-02
CE-141	L.T. 7. E-02	L.T. 5. E-02
CE-144	L.T. 2. E-01	L.T. 1. E-01
RA-226	L.T. 7. E-01	L.T. 5. E-01
TH-228	L.T. 6. E-02	L.T. 5. E-02



WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

FOOD/GARDEN CROPS

(PCI/GM WET)

STATION NUMBER A-1

DATE COLLECTED:	06/23 SWISS CHARD	07/28 SWISS CHARD	08/25 SWISS CHARD	09/22 SWISS CHARD	10/27 SWISS CHARD
GAMMA SPECTRUM ANALYSIS:					
BE-7	2.98±0.64 E-01	9.35±0.94 E-01	3.64±0.73 E-01	4.86±0.87 E-01	5.90±0.95 E-01
K-40	4.24±0.42 E-00	3.25±0.33 E-00	2.90±0.29 E-00	2.45±0.25 E-00	2.95±0.30 E-00
MN-54	L.T. 8. E-03	L.T. 6. E-03	L.T. 1. E-02	L.T. 9. E-03	L.T. 1. E-02
CO-58	L.T. 8. E-03	L.T. 6. E-03	L.T. 9. E-03	L.T. 1. E-02	L.T. 1. E-02
FE-59	L.T. 2. E-02	L.T. 2. E-02	L.T. 2. E-02	L.T. 2. E-02	L.T. 2. E-02
CO-60	L.T. 9. E-03	L.T. 8. E-03	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02
ZN-65	L.T. 2. E-02	L.T. 2. E-02	L.T. 2. E-02	L.T. 2. E-02	L.T. 3. E-02
NB-95/ZR-95	L.T. 8. E-03	L.T. 6. E-03	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02
RU-103	L.T. 8. E-03	L.T. 7. E-03	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02
RU-106	L.T. 7. E-02	L.T. 5. E-02	L.T. 9. E-02	L.T. 8. E-02	L.T. 1. E-01
I-131	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02	L.T. 3. E-02	L.T. 2. E-02
CS-134	L.T. 8. E-03	L.T. 7. E-03	L.T. 1. E-02	L.T. 9. E-03	L.T. 1. E-02
CS-137	L.T. 8. E-03	L.T. 7. E-03	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02
LA-140/BA-140	L.T. 1. E-02	L.T. 9. E-03	L.T. 1. E-02	L.T. 2. E-02	L.T. 2. E-02
CE-141	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02	L.T. 2. E-02	L.T. 2. E-02
CE-144	L.T. 5. E-02	L.T. 4. E-02	L.T. 6. E-02	L.T. 8. E-02	L.T. 7. E-02
RA-226	L.T. 1. E-01	L.T. 1. E-01	L.T. 2. E-01	L.T. 2. E-01	L.T. 2. E-01
TH-228	L.T. 1. E-02	L.T. 1. E-02	L.T. 2. E-02	L.T. 2. E-02	L.T. 2. E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

FOOD/GARDEN CROPS

(PCI/GM WET)

STATION NUMBER A-1

DATE COLLECTED:

11/24  
SWISS CHARD

GAMMA SPECTRUM ANALYSIS:

BE-7	5.61±0.88 E-01
K-40	1.96±0.20 E 00
MN-54	L.T. 1. E-02
CO-58	L.T. 1. E-02
FE-59	L.T. 2. E-02
CO-60	L.T. 1. E-02
ZN-65	L.T. 3. E-02
NB-95/ZR-95	L.T. 1. E-02
RU-103	L.T. 1. E-02
RU-106	L.T. 1. E-01
I-131	L.T. 2. E-02
CS-134	L.T. 1. E-02
CS-137	L.T. 1. E-02
LA-140/BA-140	L.T. 2. E-02
CE-141	L.T. 2. E-02
CE-144	L.T. 7. E-02
RA-226	L.T. 2. E-01
TH-228	L.T. 2. E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

FOOD/GARDEN CROPS

(PCI/GM WET)

STATION NUMBER G-1

DATE COLLECTED:	05/27 SWISSCHARD	06/23 CABBAGE	07/28 CABBAGE
GAMMA SPECTRUM ANALYSIS:			
BE-7	1.26±0.67 E-01	4.21±0.64 E-01	1.33±0.13 E 00
K-40	5.01±0.50 E 00	3.71±0.37 E 00	3.13±0.31 E 00
MN-54	LT. 9. E-03	LT. 8. E-03	LT. 7. E-03
CO-58	LT. 9. E-03	LT. 8. E-03	LT. 7. E-03
FE-59	LT. 2. E-02	LT. 2. E-02	LT. 2. E-02
CO-60	LT. 9. E-03	LT. 9. E-03	LT. 8. E-03
ZN-65	LT. 2. E-02	LT. 2. E-02	LT. 2. E-02
NB-95/ZR-95	LT. 1. E-02	LT. 8. E-03	LT. 8. E-03
RU-103	LT. 1. E-02	LT. 9. E 03	LT. 8. E-03
RU-106	LT. 9. E-02	LT. 7. E-02	LT. 7. E-02
I-131	LT. 2. E-02	LT. 2. E-02	LT. 1. E-02
CS-134	LT. 1. E-02	LT. 8. E-03	LT. 8. E-03
CS-137	LT. 1. E-02	LT. 8. E-03	LT. 9. E-03
LA-140/BA-140	LT. 1. E-02	LT. 1. E-02	LT. 1. E-02
CE-141	LT. 2. E-02	LT. 2. E-02	LT. 1. E-02
CE-144	LT. 6. E-02	LT. 6. E-02	LT. 4. E-02
RA-226	LT. 2. E-01	LT. 2. E-01	LT. 1. E-01
TH-228	LT. 2. E-02	LT. 2. E-02	LT. 1. E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

FOOD/GARDEN CROPS

(PCI/GM WET)

STATION NUMBER R-1

DATE COLLECTED:	05/26 SWISSCHARD	06/24 LETTUCE	07/28 CABBAGE
GAMMA SPECTRUM ANALYSIS:			
BE-7	3.13±0.94 E-01	1.65±0.51 E-01	2.10±0.21 E 00
K-40	3.93±0.39 E 00	5.25±0.53 E 00	5.69±0.57 E 00
MN-54	LT. 1. E-02	LT. 7. E-03	LT. 5. E-03
CO-58	LT. 1. E-02	LT. 7. E-03	LT. 5. E-03
FE-59	LT. 3. E-02	LT. 2. E-02	LT. 1. E-02
CO-60	LT. 1. E-02	LT. 8. E-03	LT. 6. E-03
ZN-65	LT. 3. E-02	LT. 2. E-02	LT. 1. E-02
NB-95/ZR-95	LT. 1. E-02	LT. 8. E-03	LT. 6. E-03
RU-103	LT. 2. E-02	LT. 8. E-03	LT. 6. E-03
RU-106	LT. 1. E-01	LT. 6. E-02	LT. 5. E-02
I-131	LT. 2. E-02	LT. 1. E-02	LT. 1. E-02
CS-134	LT. 1. E-02	LT. 8. E-03	LT. 6. E-03
CS-137	LT. 1. E-02	LT. 8. E-03	1.18±0.45 E-02
LA-140/BA-140	LT. 2. E-02	LT. 1. E-02	LT. 6. E-03
CE-141	LT. 2. E-02	LT. 1. E-02	LT. 9. E-03
CE-144	LT. 8. E-02	LT. 4. E-02	LT. 4. E-02
RA-226	LT. 2. E-01	LT. 1. E-01	LT. 1. E-01
TH-228	LT. 2. E-02	LT. 1. E-02	2.99±0.53 E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

FOOD/GARDEN CROPS

(PCI/GM WET)

STATION NUMBER S-4

DATE COLLECTED:	05/26 SWISSCHARD	06/24 CABBAGE	07/28 CABBAGE	08/25 CABBAGE	09/22 SPINACH
GAMMA SPECTRUM ANALYSIS:					
BE-7	1.67±0.73 E-01	3.03±0.78 E-01	9.10±1.10 E-01	1.26±0.13 E 00	3.33±1.06 E-01
K-40	4.17±0.42 E 00	3.08±0.31 E 00	3.42±0.34 E 00	2.61±0.26 E 00	9.82±0.98 E 00
MN-54	L.T. 1. E-02	L.T. 9. E-03	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02
CO-58	L.T. 1. E-02	L.T. 9. E-03	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02
FE-59	L.T. 2. E-02	L.T. 2. E-02	L.T. 3. E-02	L.T. 3. E-02	L.T. 4. E-02
CO-60	L.T. 1. E-02	L.T. 9. E-03	L.T. 1. E-02	L.T. 1. E-02	L.T. 2. E-02
ZN-65	L.T. 2. E-02	L.T. 2. E-02	L.T. 3. E-02	L.T. 3. E-02	L.T. 4. E-02
NB-95/ZR-95	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02	L.T. 2. E-02
RU-103	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02	L.T. 2. E-02
RU-106	L.T. 9. E-02	L.T. 8. E-02	L.T. 1. E-01	L.T. 1. E-01	L.T. 1. E-01
I-131	L.T. 2. E-02	L.T. 2. E-02	L.T. 2. E-02	L.T. 2. E-02	L.T. 4. E-02
CS-134	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02
CS-137	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02	L.T. 2. E-02
LA-140/BA-140	L.T. 1. E-02	L.T. 1. E-02	L.T. 1. E-02	L.T. 2. E-02	L.T. 3. E-02
CE-141	L.T. 2. E-02	L.T. 1. E-02	L.T. 2. E-02	L.T. 2. E-02	L.T. 2. E-02
CE-144	L.T. 7. E-02	L.T. 6. E-02	L.T. 1. E-01	L.T. 8. E-02	L.T. 9. E-02
RA-226	L.T. 2. E-01	L.T. 2. E-01	L.T. 3. E-01	L.T. 3. E-01	L.T. 2. E-01
TH-228	L.T. 2. E-02	L.T. 2. E-02	L.T. 3. E-02	L.T. 2. E-02	L.T. 2. E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION  
 EXPOSURE PATHWAY - INGESTION

FOOD/GARDEN CROPS

(PCI/GM WET)

STATION NUMBER S-4

DATE COLLECTED: 09/22\*  
 SPINACH

GAMMA SPECTRUM ANALYSIS:

BE-7	3.21±1.28 E-01
K-40	9.94±0.99 E 00
MN-54	L.T. 2. E-02
CO-58	L.T. 2. E-02
FE-59	L.T. 4. E-02
CO-60	L.T. 2. E-02
ZN-65	L.T. 4. E-02
NB-95/ZR-95	L.T. 2. E-02
RU-103	L.T. 2. E-02
RU-106	L.T. 1. E-01
I-131	L.T. 6. E-02
CS-134	L.T. 2. E-02
CS-137	L.T. 2. E-02
LA-140/BA-140	L.T. 3. E-02
CE-141	L.T. 4. E-02
CE-144	L.T. 1. E-01
RA-226	L.T. 3. E-01
TH-228	L.T. 4. E-02

\*Duplicate Analysis

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

MILK

(PCI/LITER)

STATION NUMBER S-3

DATE COLLECTED:	01/14		02/11		03/10		04/14		*04/14	
RADIOCHEMICAL ANALYSIS:										
I-131	L.T. 2	E-01	L.T. 2	E-01	L.T. 2	E-01	L.T. 2	E-01	L.T. 4	E-01
GAMMA SPECTRUM ANALYSIS:										
BE-7	L.T. 3	E 01	L.T. 3	E 01	L.T. 3	E 01	L.T. 4	E 01	L.T. 5	E 01
K-40	1.24±0.12	E 03	1.21±0.12	E 03	1.21±0.12	E 03	1.18±0.12	E 03	1.05±0.10	E 03
MN-54	L.T. 3	E 00	L.T. 3	E 00	L.T. 3	E 00	L.T. 4	E 00	L.T. 5	E 00
CO-58	L.T. 3	E 00	L.T. 3	E 00	L.T. 3	E 00	L.T. 4	E 00	L.T. 4	E 00
FE-59	L.T. 8	E 00	L.T. 8	E 00	L.T. 7	E 00	L.T. 1	E 01	L.T. 1	E 01
CO-60	L.T. 4	E 00	L.T. 4	E 00	L.T. 4	E 00	L.T. 5	E 00	L.T. 5	E 00
ZN-65	L.T. 8	E 00	L.T. 8	E 00	L.T. 8	E 00	L.T. 9	E 00	L.T. 1	E 01
NB-95/ZR-95	L.T. 3	E 00	L.T. 4	E 00	L.T. 3	E 00	L.T. 4	E 00	L.T. 5	E 00
RU-103	L.T. 4	E 00	L.T. 4	E 00	L.T. 3	E 00	L.T. 5	E 00	L.T. 5	E 00
RU-106	L.T. 3	E 01	L.T. 3	E 01	L.T. 3	E 01	L.T. 4	E 01	L.T. 4	E 01
I-131	L.T. 7	E 00	L.T. 5	E 00	L.T. 4	E 00	L.T. 9	E 00	L.T. 1	E 01
CS-134	L.T. 4	E 00	L.T. 4	E 00	L.T. 3	E 00	L.T. 4	E 00	L.T. 5	E 00
CS-137	L.T. 4	E 00	L.T. 4	E 00	L.T. 4	E 00	L.T. 4	E 00	L.T. 5	E 00
LA-140/BA-140	L.T. 6	E 00	L.T. 4	E 00	L.T. 4	E 00	L.T. 7	E 00	L.T. 9	E 00
CE-141	L.T. 7	E 00	L.T. 6	E 00	L.T. 6	E 00	L.T. 9	E 00	L.T. 1	E 01
CE-144	L.T. 3	E 01	L.T. 2	E 01	L.T. 3	E 01	L.T. 4	E 01	L.T. 4	E 01
RA-226	L.T. 7	E 01	L.T. 7	E 01	L.T. 8	E 01	L.T. 1	E 02	L.T. 1	E 02
TH-228	L.T. 6	E 00	L.T. 7	E 00	L.T. 6	E 00	L.T. 8	E 00	L.T. 1	E 01

\*Duplicate Analysis



WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

MILK

(PCI/LITER)

STATION NUMBER S-3

DATE COLLECTED:	04/28	05/12	05/12*	05/27	05/27*
RADIOCHEMICAL ANALYSIS:					
I-131	L.T. 1 E-01	L.T. 5 E-01	L.T. 4 E-01	L.T. 2 E-01	L.T. 3 E-01
GAMMA SPECTRUM ANALYSIS:					
BE-7	L.T. 3 E-01	L.T. 3 E-01	L.T. 4 E-01	L.T. 3 E-01	L.T. 3 E-01
K-40	1.36±0.14 E-03	1.30±0.13 E-03	1.36±0.14 E-03	1.33±0.13 E-03	1.28±0.13 E-03
MN-54	L.T. 4 E-00	L.T. 4 E-00	L.T. 4 E-00	L.T. 4 E-00	L.T. 3 E-00
CO-58	L.T. 3 E-00	L.T. 3 E-00	L.T. 4 E-00	L.T. 3 E-00	L.T. 3 E-00
FE-59	L.T. 8 E-00	L.T. 8 E-00	L.T. 1 E-01	L.T. 9 E-00	L.T. 7 E-00
CO-60	L.T. 4 E-00	L.T. 3 E-00	L.T. 5 E-00	L.T. 4 E-00	L.T. 4 E-00
ZN-65	L.T. 9 E-00	L.T. 9 E-00	L.T. 1 E-01	L.T. 9 E-00	L.T. 8 E-00
NB-95/ZR-95	L.T. 4 E-00	L.T. 4 E-00	L.T. 4 E-00	L.T. 4 E-00	L.T. 3 E-00
RU-103	L.T. 4 E-00	L.T. 4 E-00	L.T. 5 E-00	L.T. 3 E-00	L.T. 3 E-00
RU-106	L.T. 3 E-01	L.T. 3 E-01	L.T. 4 E-01	L.T. 3 E-01	L.T. 3 E-01
I-131	L.T. 6 E-00	L.T. 4 E-00	L.T. 6 E-00	L.T. 4 E-00	L.T. 4 E-00
CS-134	L.T. 4 E-00	L.T. 4 E-00	L.T. 5 E-00	L.T. 4 E-00	L.T. 4 E-00
CS-137	L.T. 4 E-00	L.T. 4 E-00	L.T. 5 E-00	L.T. 4 E-00	L.T. 5 E-00
LA-140/BA-140	L.T. 5 E-00	L.T. 4 E-00	L.T. 5 E-00	L.T. 4 E-00	L.T. 4 E-00
CE-141	L.T. 7 E-00	L.T. 5 E-00	L.T. 7 E-00	L.T. 6 E-00	L.T. 6 E-00
CE-144	L.T. 3 E-01	L.T. 2 E-01	L.T. 3 E-01	L.T. 2 E-01	L.T. 2 E-01
RA-226	L.T. 8 E-01	L.T. 7 E-01	L.T. 9 E-01	L.T. 7 E-01	L.T. 7 E-01
TH-228	L.T. 7 E-00	L.T. 6 E-00	L.T. 8 E-00	L.T. 7 E-00	L.T. 7 E-00

\*Duplicate Analysis

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

MILK

(PCI/LITER)

STATION NUMBER S-3

DATE COLLECTED:	06/09	06/23	07/14	07/28	08/11
RADIOCHEMICAL ANALYSIS:					
I-131	L.T. 3. E-01	L.T. 2. E-01	L.T. 1. E-01	L.T. 2. E-01	L.T. 1. E-01
GAMMA SPECTRUM ANALYSIS:					
BE-7	L.T. 4. E-01	L.T. 3. E-01	L.T. 3. E-01	L.T. 3. E-01	L.T. 3. E-01
K-40	1.28±0.13 E 03	1.48±0.15 E 03	1.35±0.13 E 03	1.38±0.14 E 03	1.30±0.13 E 03
MN-54	L.T. 4. E-00	L.T. 3. E-00	L.T. 4. E-00	L.T. 4. E-00	L.T. 3. E-00
CO-58	L.T. 4. E-00	L.T. 4. E-00	L.T. 3. E-00	L.T. 4. E-00	L.T. 3. E-00
FE-59	L.T. 1. E-01	L.T. 9. E-00	L.T. 8. E-00	L.T. 8. E-00	L.T. 7. E-00
CO-60	L.T. 5. E-00	L.T. 4. E-00	L.T. 4. E-00	L.T. 4. E-00	L.T. 4. E-00
ZN-65	L.T. 1. E-01	L.T. 9. E-00	L.T. 8. E-00	L.T. 1. E-01	L.T. 8. E-00
NB-95/ZR-95	L.T. 4. E-00	L.T. 4. E-00	L.T. 4. E-00	L.T. 4. E-00	L.T. 3. E-00
RU-103	L.T. 5. E-00	L.T. 4. E-00	L.T. 4. E-00	L.T. 4. E-00	L.T. 3. E-00
RU-106	L.T. 4. E-01	L.T. 3. E-01	L.T. 3. E-01	L.T. 3. E-01	L.T. 3. E-01
I-131	L.T. 1. E-01	L.T. 6. E-00	L.T. 7. E-00	L.T. 7. E-00	L.T. 4. E-00
CS-134	L.T. 4. E-00	L.T. 4. E-00	L.T. 4. E-00	L.T. 4. E-00	L.T. 3. E-00
CS-137	L.T. 4. E-00	L.T. 4. E-00	L.T. 4. E-00	L.T. 4. E-00	L.T. 4. E-00
LA-140/BA-140	L.T. 7. E-00	L.T. 5. E-00	L.T. 6. E-00	L.T. 5. E-00	L.T. 4. E-00
CE-141	L.T. 9. E-00	L.T. 7. E-00	L.T. 7. E-00	L.T. 6. E-00	L.T. 6. E-00
CE-144	L.T. 3. E-01	L.T. 3. E-01	L.T. 3. E-01	L.T. 2. E-01	L.T. 3. E-01
RA-226	L.T. 9. E-01	L.T. 8. E-01	L.T. 8. E-01	L.T. 7. E-01	L.T. 7. E-01
TH-228	L.T. 8. E-00	L.T. 7. E-00	L.T. 7. E-00	L.T. 7. E-00	L.T. 6. E-00

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

MILK

(PCI/LITER)

STATION NUMBER S-3

DATE COLLECTED:	08/26	09/08	09/22	10/13	10/27
RADIOCHEMICAL ANALYSIS:					
I-131	L.T. 1. E-01	L.T. 2. E-01	L.T. 2. E-01	L.T. 2. E-01	L.T. 2. E-01
GAMMA SPECTRUM ANALYSIS:					
BE-7	L.T. 3. E-01	L.T. 3. E-01	L.T. 5. E-01	L.T. 3. E-01	L.T. 3. E-01
K-40	1.32±0.13 E-03	1.34±0.13 E-03	2.00±0.20 E-03	1.36±0.14 E-03	1.41±0.14 E-03
MN-54	L.T. 3. E-00	L.T. 4. E-00	L.T. 6. E-00	L.T. 4. E-00	L.T. 3. E-00
CO-58	L.T. 3. E-00	L.T. 4. E-00	L.T. 6. E-00	L.T. 4. E-00	L.T. 4. E-00
FE-59	L.T. 7. E-00	L.T. 9. E-00	L.T. 2. E-01	L.T. 9. E-00	L.T. 9. E-00
CO-60	L.T. 3. E-00	L.T. 4. E-00	L.T. 7. E-00	L.T. 4. E-00	L.T. 4. E-00
ZN-65	L.T. 8. E-00	L.T. 1. E-01	L.T. 2. E-01	L.T. 9. E-00	L.T. 1. E-01
NB-95/ZR-95	L.T. 3. E-00	L.T. 4. E-00	L.T. 5. E-00	L.T. 4. E-00	L.T. 4. E-00
RU-103	L.T. 4. E-01	L.T. 4. E-00	L.T. 7. E-00	L.T. 4. E-00	L.T. 4. E-00
RU-106	L.T. 3. E-01	L.T. 3. E-01	L.T. 5. E-01	L.T. 3. E-01	L.T. 3. E-01
I-131	L.T. 6. E-00	L.T. 8. E-00	L.T. 1. E-01	L.T. 6. E-00	L.T. 6. E-00
CS-134	L.T. 3. E-00	L.T. 4. E-00	L.T. 7. E-00	L.T. 4. E-00	L.T. 4. E-00
CS-137	L.T. 3. E-00	L.T. 4. E-00	L.T. 6. E-00	L.T. 4. E-00	L.T. 4. E-00
LA-140/BA-140	L.T. 5. E-00	L.T. 6. E-00	L.T. 8. E-00	L.T. 5. E-00	L.T. 5. E-00
CE-141	L.T. 6. E-00	L.T. 7. E-00	L.T. 1. E-01	L.T. 6. E-00	L.T. 7. E-00
CE-144	L.T. 2. E-01	L.T. 2. E-01	L.T. 4. E-01	L.T. 2. E-01	L.T. 3. E-01
RA-226	L.T. 6. E-01	L.T. 8. E-01	L.T. 1. E-02	L.T. 7. E-01	L.T. 8. E-01
TH-228	L.T. 6. E-00	L.T. 7. E-00	L.T. 1. E-01	L.T. 7. E-00	L.T. 7. E-00

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - INGESTION

MILK

(PCI/LITER)

STATION NUMBER S-3

DATE COLLECTED:	11/10	11/24	12/08
RADIOCHEMICAL ANALYSIS:			
I-131	L.T. 2. E-01	L.T. 4. E-01	L.T. 2. E-01
GAMMA SPECTRUM ANALYSIS:			
BE-7	L.T. 3. E 01	L.T. 3. E 01	L.T. 3. E 01
K-40	1.39±0.14 E 03	1.41±0.14 E 03	1.31±0.13 E 03
MN-54	L.T. 3. E 00	L.T. 3. E 00	L.T. 4. E 00
CO-58	L.T. 3. E 00	L.T. 4. E 00	L.T. 3. E 00
FE-59	L.T. 8. E 00	L.T. 8. E 00	L.T. 9. E 00
CO-60	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00
ZN-65	L.T. 8. E 00	L.T. 9. E 00	L.T. 9. E 00
NB-95/ZR-95	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00
RU-103	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00
RU-106	L.T. 3. E 01	L.T. 3. E 01	L.T. 3. E 01
I-131	L.T. 6. E 00	L.T. 7. E 00	L.T. 6. E 00
CS-134	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00
CS-137	L.T. 5. E 00	L.T. 4. E 00	L.T. 4. E 00
LA-140/BA-140	L.T. 5. E 00	L.T. 5. E 00	L.T. 5. E 00
CE-141	L.T. 6. E 00	L.T. 6. E 00	L.T. 5. E 00
CE-144	L.T. 2. E 01	L.T. 2. E 01	L.T. 3. E 01
RA-226	L.T. 7. E 01	L.T. 7. E 01	L.T. 8. E 01
TH-228	L.T. 7. E 00	L.T. 6. E 00	L.T. 7. E 00

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - AQUATIC

SEDIMENT/SILT

(pCi/GM DRY)

STATION NUMBER DC

DATE COLLECTED:

06/23

09/22

GAMMA SPECTRUM ANALYSIS:

BE-7	L.T. 4. E-01	L.T. 4. E-01
K-40	1.02±0.10 E 01	9.46±0.95 E 00
MN-54	5.30±2.99 E-02	L.T. 5. E-02
CO-58	L.T. 5. E-02	L.T. 4. E-02
FE-59	L.T. 1. E-01	L.T. 1. E-01
CO-60	8.25±0.83 E-01	9.10±0.91 E-01
ZN-65	L.T. 1. E-01	L.T. 1. E-01
NB-95/ZR-95	L.T. 5. E-02	L.T. 5. E-02
RU-103	L.T. 5. E-02	L.T. 5. E-02
RU-106	L.T. 4. E-01	L.T. 4. E-01
I-131	L.T. 2. E-01	L.T. 1. E-01
CS-134	2.44±0.43 E-01	2.39±0.46 E-01
CS-137	5.26±0.53 E-01	4.83±0.52 E-01
LA-140/BA-140	L.T. 8. E-02	L.T. 9. E-02
CE-141	L.T. 8. E-02	L.T. 8. E-02
CE-144	L.T. 3. E-01	L.T. 3. E-01
RA-226	1.61±0.60 E 00	2.80±0.76 E 00
TH-228	1.17±0.12 E 00	1.16±0.12 E 00

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - AQUATIC

SEDIMENT SILT

(pCi/GM DRY)

STATION NUMBER UHS

DATE COLLECTED: 10/26

10/26

GAMMA SPECTRUM ANALYSIS:

BE-7	L.T. 4. E-01	L.T. 4. E-01
K-40	1.18±0.12 E 01	1.23±0.12 E 01
MN-54	L.T. 4. E-02	L.T. 4. E-02
CO-58	L.T. 3. E-02	L.T. 3. E-02
FE-59	L.T. 9. E-02	L.T. 8. E-02
CO-60	8.37±3.30 E-02	8.65±2.97 E-02
ZN-65	L.T. 9. E-02	L.T. 9. E-02
NB-95/ZR-95	L.T. 4. E-02	L.T. 5. E-02
RU-103	L.T. 4. E-02	L.T. 4. E-02
RU-106	L.T. 3. E-01	L.T. 3. E-01
I-131	L.T. 9. E-02	L.T. 1. E-01
CS-134	L.T. 5. E-02	L.T. 4. E-02
CS-137	3.50±0.43 E-01	3.29±0.45 E-01
LA-140/BA-140	L.T. 7. E-02	L.T. 8. E-02
CE-141	L.T. 6. E-02	L.T. 6. E-02
CE-144	L.T. 2. E-01	L.T. 2. E-01
RA-226	2.39±0.60 E 00	2.25±0.52 E 00
TH-228	1.14±0.11 E 00	1.16±0.12 E 00



WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - AQUATIC

SEDIMENT SILT

(pCi/GM DRY)

STATION NUMBER JRR

DATE COLLECTED:	04/16	07/06	07/06*	09/22
GAMMA SPECTRUM ANALYSIS:				
BE-7	L.T. 4. E-01	L.T. 3. E-01	L.T. 4. E-01	L.T. 4. E-01
K-40	1.44±0.14 E 01	1.72±0.17 E 01	1.85±0.19 E 01	1.64±0.16 E 01
MN-54	L.T. 4. E-02	L.T. 3. E-02	L.T. 4. E-02	L.T. 4. E-02
CO-58	L.T. 4. E-02	L.T. 3. E-02	L.T. 4. E-02	L.T. 4. E-02
FE-59	L.T. 1. E-01	L.T. 8. E-02	L.T. 9. E-02	L.T. 9. E-02
CO-60	L.T. 4. E-02	L.T. 3. E-02	L.T. 4. E-02	L.T. 4. E-02
ZN-65	L.T. 9. E-02	L.T. 7. E-02	L.T. 9. E-02	L.T. 9. E-02
NB-95/ZR-95	L.T. 5. E-02	L.T. 4. E-02	L.T. 4. E-02	L.T. 5. E-02
RU-103	L.T. 5. E-02	L.T. 4. E-02	L.T. 5. E-02	L.T. 4. E-02
RU-106	L.T. 4. E-01	L.T. 3. E-01	L.T. 3. E-01	L.T. 3. E-01
I-131	L.T. 2. E-01	L.T. 8. E-02	L.T. 1. E-01	L.T. 1. E-01
CS-134	L.T. 5. E-02	L.T. 5. E-02	L.T. 5. E-02	L.T. 5. E-02
CS-137	2.25±0.43 E-01	2.23±0.37 E-01	2.72±0.34 E-01	2.22±0.39 E-01
LA-140/BA-140	L.T. 2. E-01	L.T. 7. E-02	L.T. 9. E-02	L.T. 1. E-01
CE-141	L.T. 9. E-02	L.T. 6. E-02	L.T. 7. E-02	L.T. 8. E-02
CE-144	L.T. 3. E-01	L.T. 2. E-01	L.T. 2. E-01	L.T. 3. E-01
RA-226	1.61±0.66 E 00	3.17±0.58 E 00	1.55±0.58 E 00	2.02±0.57 E 00
TH-228	1.27±0.13 E 00	1.43±0.14 E 00	1.47±0.15 E 00	1.23±0.12 E 00

\*Duplicate Analysis



WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - TERRESTRIAL

SOIL

(pCi/GM DRY)

STATION NUMBER A-1

DATE COLLECTED: 06/26

GAMMA SPECTRUM ANALYSIS:

BE-7	L.T. 4.	E-01
K-40	1.63±0.16	E 01
MN-54	L.T. 4.	E-02
CO-58	L.T. 4.	E-02
FE-59	L.T. 1.	E-01
CO-60	L.T. 4.	E-02
ZN-65	L.T. 8.	E-02
NB-95/ZR-95	L.T. 5.	E-02
RU-103	L.T. 5.	E-02
RU-106	L.T. 3.	E-01
I-131	L.T. 2.	E-01
CS-134	L.T. 5.	E-02
CS-137	2.66±0.40	E-01
LA-140/BA-140	L.T. 1.	E-01
CE-141	L.T. 8.	E-02
CE-144	L.T. 2.	E-01
RA-226	2.23±0.56	E 00
TH-228	1.28±0.13	E 00

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - AQUATIC

SHORELINE SOIL

(pCi/GM DRY)

STATION NUMBER DC

DATE COLLECTED:	04/14	*04/14	09/22
GAMMA SPECTRUM ANALYSIS:			
BE-7	L.T. 3. E-01	L.T. 4. E-01	L.T. 4. E-01
K-40	1.15±0.12 E 01	8.53±0.85 E 00	9.55±0.96 E 00
MN-54	L.T. 3. E-02	L.T. 4. E-02	L.T. 4. E-02
CO-58	L.T. 4. E-02	L.T. 3. E-02	L.T. 3. E-02
FE-59	L.T. 8. E-02	L.T. 8. E-02	L.T. 8. E-02
CO-60	9.50±3.68 E-02	L.T. 6. E-02	8.60±3.90 E-02
ZN-65	L.T. 8. E-02	L.T. 9. E-02	L.T. 9. E-02
NB-95/ZR-95	L.T. 4. E-02	L.T. 5. E-02	L.T. 5. E-02
RU-103	L.T. 4. E-02	L.T. 4. E-02	L.T. 4. E-02
RU-106	L.T. 3. E-01	L.T. 3. E-01	L.T. 3. E-01
I-131	L.T. 8. E-02	L.T. 1. E-01	L.T. 1. E-01
CS-134	L.T. 5. E-02	L.T. 5. E-02	L.T. 5. E-02
CS-137	5.60±2.53 E-02	L.T. 5. E-02	7.42±2.68 E-02
LA-140/BA-140	L.T. 5. E-02	L.T. 7. E-02	L.T. 7. E-02
CE-141	L.T. 6. E-02	L.T. 9. E-02	L.T. 7. E-02
CE-144	L.T. 2. E-01	L.T. 3. E-01	L.T. 2. E-01
RA-226	2.70±0.55 E 00	1.59±0.66 E 00	1.75±0.58 E 00
TH-228	1.19±0.12 E 00	9.24±0.92 E-01	1.03±0.10 E 00

\*Duplicate Analysis

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - AQUATIC

SHORELINE SOIL

(pCi/GM DRY)

STATION NUMBER JRR

DATE COLLECTED:

04/14

09/22

GAMMA SPECTRUM ANALYSIS:

BE-7	L.T. 4. E-01	L.T. 4. E-01
K-40	9.63±0.96 E 00	9.92±0.99 E 00
MN-54	L.T. 4. E-02	L.T. 4. E-02
CO-58	L.T. 4. E-02	L.T. 4. E-02
FE-59	L.T. 9. E-02	L.T. 9. E-02
CO-60	L.T. 4. E-02	L.T. 4. E-02
ZN-65	L.T. 8. E-02	L.T. 8. E-02
NB-95/ZR-95	L.T. 5. E-02	L.T. 5. E-02
RU-103	L.T. 4. E-02	L.T. 5. E-02
RU-106	L.T. 3. E-01	L.T. 3. E-01
I-131	L.T. 1. E-01	L.T. 2. E-01
CS-134	L.T. 5. E-02	L.T. 6. E-02
CS-137	1.90±0.39 E-01	L.T. 4. E-02
LA-140/BA-140	L.T. 9. E-02	L.T. 1. E-01
CE-141	L.T. 8. E-02	L.T. 9. E-02
CE-144	L.T. 3. E-01	L.T. 3. E-01
RA-226	1.69±0.65 E 00	3.62±0.73 E 00
TH-228	1.25±0.12 E 00	1.51±0.15 E 00

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - AQUATIC

VEGETATION - AQUATIC

(pCi/GM WET)

STATION NUMBER DC

DATE COLLECTED:	04/14	05/19	08/25	09/22
GAMMA SPECTRUM ANALYSIS:				
BE-7	1.90±0.94 E-01	8.50±0.85 E-01	1.93±0.24 E-01	2.41±0.54 E-01
K-40	3.18±0.32 E-00	1.72±0.17 E-00	1.21±0.12 E-00	1.91±0.19 E-00
MN-54	L.T. 1. E-02	1.46±0.46 E-02	6.06±2.95 E-03	L.T. 7. E-03
CO-58	L.T. 1. E-02	2.20±0.60 E-02	3.76±0.39 E-02	1.48±0.53 E-02
FE-59	L.T. 3. E-02	L.T. 2. E-02	L.T. 8. E-03	L.T. 2. E-02
CO-60	L.T. 1. E-02	2.61±0.26 E-01	6.78±0.68 E-02	4.00±0.68 E-02
ZN-65	L.T. 3. E-02	L.T. 2. E-02	L.T. 8. E-03	L.T. 1. E-03
NB-95/ZR-95	L.T. 1. E-02	L.T. 8. E-03	L.T. 4. E-03	L.T. 7. E-03
RU-103	L.T. 1. E-02	L.T. 7. E-03	L.T. 4. E-03	L.T. 8. E-03
RU-106	L.T. 1. E-01	L.T. 6. E-02	L.T. 3. E-02	L.T. 6. E-02
I-131	L.T. 4. E-02	L.T. 1. E-02	L.T. 5. E-03	L.T. 2. E-02
CS-134	L.T. 1. E-02	5.03±0.72 E-02	L.T. 5. E-03	L.T. 8. E-03
CS-137	L.T. 1. E-02	7.79±0.78 E-02	1.29±0.31 E-02	L.T. 8. E-03
LA-140/BA-140	L.T. 3. E-02	L.T. 1. E-02	L.T. 5. E-03	L.T. 1. E-02
CE-141	L.T. 3. E-02	L.T. 1. E-02	L.T. 5. E-03	L.T. 1. E-02
CE-144	L.T. 9. E-02	L.T. 4. E-02	L.T. 2. E-02	L.T. 5. E-02
RA-226	L.T. 3. E-01	4.87±0.98 E-01	L.T. 7. E-02	2.32±1.17 E-01
TH-228	L.T. 2. E-02	1.55±0.15 E-01	3.18±0.33 E-02	L.T. 1. E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - AQUATIC

VEGETATION - AQUATIC

(pCi/GM WET)

STATION NUMBER DG

DATE COLLECTED: 06/23

GAMMA SPECTRUM ANALYSIS:

BE-7	4.33±0.56 E-01
K-40	3.55±0.35 E 00
MN-54	L.T. 6. E-03
CO-58	L.T. 7. E-03
FE-59	L.T. 2. E-02
CO-60	L.T. 7. E-03
ZN-65	L.T. 2. E-02
NB-95/ZR-95	L.T. 7. E-03
RU-103	L.T. 8. E-03
RU-106	L.T. 6. E-02
I-131	L.T. 2. E-02
CS-134	L.T. 8. E-03
CS-137	L.T. 7. E-03
LA-140/BA-140	L.T. 1. E-02
CE-141	L.T. 1. E-02
CE-144	L.T. 4. E-02
RA-226	L.T. 1. E-01
TH-228	L.T. 1. E-02

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

DRINKING WATER

(PC1/LITER)

STATION NUMBER BW15

DATE COLLECTED:	01/07-02/04	02/04-03/03	03/03-04/07	04/07-05/05	05/05-06/02
RADIOCHEMICAL ANALYSIS:					
GR-B	8.4 ± 1.4 E 00	8.9 ± 1.4 E 00	7.7 ± 1.4 E 00	7.7 ± 1.6 E 00	5.6 ± 1.3 E 00
I-131	L.T. 2. E-01	L.T. 1. E-01	L.T. 1. E-01	L.T. 4. E-01	L.T. 7. E-01
GAMMA SPECTRUM ANALYSIS:					
BE-7	L.T. 3. E 01	L.T. 3. E 01	L.T. 3. E 01	L.T. 3. E 01	L.T. 3. E 01
K-40	L.T. 1. E 02	L.T. 1. E 02	L.T. 1. E 02	L.T. 6. E 01	L.T. 1. E 02
MN-54	L.T. 3. E 00	L.T. 3. E 00	L.T. 3. E 00	L.T. 4. E 00	L.T. 4. E 00
CO-58	L.T. 3. E 00	L.T. 3. E 00	L.T. 3. E 00	L.T. 3. E 00	L.T. 4. E 00
FE-59	L.T. 7. E 00	L.T. 7. E 00	L.T. 7. E 00	L.T. 7. E 00	L.T. 8. E 00
CO-60	L.T. 4. E 00	L.T. 4. E 00	L.T. 3. E 00	L.T. 3. E 00	L.T. 4. E 00
ZN-65	L.T. 8. E 00	L.T. 8. E 00	L.T. 7. E 00	L.T. 8. E 00	L.T. 8. E 00
NB-95/ZR-95	L.T. 3. E 00	L.T. 3. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00
RU-103	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00
RU-106	L.T. 3. E 01	L.T. 3. E 01	L.T. 3. E 01	L.T. 3. E 01	L.T. 3. E 01
I-131	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 5. E 00	L.T. 7. E 00
CS-134	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00
CS-137	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00
LA-140/BA-140	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 5. E 00	L.T. 5. E 00
CE-141	L.T. 6. E 00	L.T. 6. E 00	L.T. 5. E 00	L.T. 7. E 00	L.T. 6. E 00
CE-144	L.T. 2. E 01	L.T. 2. E 01	L.T. 2. E 01	L.T. 3. E 01	L.T. 2. E 01
RA-226	L.T. 8. E 01	L.T. 8. E 01	L.T. 7. E 01	L.T. 8. E 01	L.T. 7. E 01
TH-228	L.T. 7. E 00	L.T. 6. E 00	L.T. 7. E 00	L.T. 7. E 00	L.T. 7. E 00

01/07-04/07

TRITIUM ANALYSIS:

H-3 L.T. 6. E 02



WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

DRINKING WATER

(PCI/LITER)

STATION NUMBER BW15

DATE COLLECTED:	06/02-07/07	07/07-08/04	08/04-09/01	09/01-10/06	10/06-11/03
RADIOCHEMICAL ANALYSIS:					
GR-B	1.5 ± 0.2 E 01	6.9 ± 1.2 E 00	7.4 ± 1.3 E 00	6.9 ± 1.9 E 00	4.9 ± 1.2 E 00
I-131	L.T. 7. E-01	L.T. 1. E-01	L.T. 5. E-01	L.T. 1. E 00	L.T. 5. E-01
GAMMA SPECTRUM ANALYSIS:					
BE-7	L.T. 3. E 01	L.T. 3. E 01	L.T. 3. E 01	L.T. 4. E 01	L.T. 3. E 01
K-40	L.T. 1. E 02	L.T. 8. E 01	L.T. 5. E 01	L.T. 1. E 02	L.T. 6. E 01
MN-54	L.T. 3. E 00	L.T. 3. E 00	L.T. 2. E 00	L.T. 4. E 00	L.T. 4. E 00
CO-58	L.T. 3. E 00	L.T. 3. E 00	L.T. 3. E 00	L.T. 5. E 00	L.T. 3. E 00
FE-59	L.T. 6. E 00	L.T. 7. E 00	L.T. 6. E 00	L.T. 9. E 00	L.T. 7. E 00
CO-60	L.T. 3. E 00	L.T. 3. E 00	L.T. 3. E 00	L.T. 5. E 00	L.T. 4. E 00
ZN-65	L.T. 8. E 00	L.T. 8. E 00	L.T. 5. E 00	L.T. 1. E 01	L.T. 8. E 00
NB-95/ZR-95	L.T. 3. E 00	L.T. 4. E 00	L.T. 3. E 00	L.T. 5. E 00	L.T. 4. E 00
RU-103	L.T. 4. E 00	L.T. 4. E 00	L.T. 3. E 00	L.T. 5. E 00	L.T. 4. E 00
RU-106	L.T. 3. E 01	L.T. 3. E 01	L.T. 3. E 01	L.T. 4. E 01	L.T. 4. E 01
I-131	L.T. 4. E 00	L.T. 7. E 00	L.T. 7. E 00	L.T. 9. E 00	L.T. 7. E 00
CS-134	L.T. 4. E 00	L.T. 4. E 00	L.T. 3. E 00	L.T. 5. E 00	L.T. 4. E 00
CS-137	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 5. E 00	L.T. 4. E 00
LA-140/LA-140	L.T. 4. E 00	L.T. 6. E 00	L.T. 5. E 00	L.T. 6. E 00	L.T. 7. E 00
CE-141	L.T. 5. E 00	L.T. 6. E 00	L.T. 6. E 00	L.T. 8. E 00	L.T. 8. E 00
CE-144	L.T. 2. E 01	L.T. 2. E 01	L.T. 2. E 01	L.T. 3. E 01	L.T. 4. E 01
RA-226	L.T. 6. E 01	L.T. 7. E 01	L.T. 6. E 01	L.T. 8. E 01	L.T. 9. E 01
TH-228	L.T. 6. E 00	L.T. 6. E 00	L.T. 5. E 00	L.T. 8. E 00	L.T. 9. E 00
TRITIUM ANALYSIS:	04/07-07/07				07/07-10/06
H-3	L.T. 6. E 02				L.T. 7. E 02



WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

DRINKING WATER

(PCI/LITER)

STATION NUMBER BW15

DATE COLLECTED:	11/03-12/01	12/01-01/05
RADIOCHEMICAL ANALYSIS:		
GR-B	6.8 ± 1.3 E 00	7.9 ± 1.6 E 00
I-131	L.T. 5. E-01	L.T. 1. E-01
GAMMA SPECTRUM ANALYSIS:		
BE-7	L.T. 3. E 01	L.T. 3. E 01
K-40	L.T. 8. E 01	L.T. 5. E 01
MN-54	L.T. 3. E 00	L.T. 3. E 00
CO-58	L.T. 3. E 00	L.T. 3. E 00
FE-59	L.T. 6. E 00	L.T. 6. E 00
CO-60	L.T. 3. E 00	L.T. 3. E 00
ZN-65	L.T. 6. E 00	L.T. 7. E 00
NB-95/ZR-95	L.T. 3. E 00	L.T. 4. E 00
RU-103	L.T. 3. E 00	L.T. 4. E 00
RU-106	L.T. 3. E 01	L.T. 3. E 01
I-131	L.T. 4. E 00	L.T. 6. E 00
CS-134	L.T. 3. E 00	L.T. 3. E 00
CS-137	L.T. 3. E 00	L.T. 3. E 00
LA-140/BA-140	L.T. 3. E 00	L.T. 6. E 00
CE-141	L.T. 4. E 00	L.T. 6. E 00
CE-144	L.T. 2. E 01	L.T. 2. E 01
RA-226	L.T. 6. E 01	L.T. 6. E 01
TH-228	L.T. 5. E 00	L.T. 6. E 00
TRITIUM ANALYSIS:	10/06-01/05	
H-3	L.T. 7. E 02	

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

DRINKING WATER

(PCI/LITER)

STATION NUMBER LW40

DATE COLLECTED:	01/07-02/04	01/07-02/04*	02/04-03/03	03/03-04/07	03/03-04/07*
RADIOCHEMICAL ANALYSIS:					
GR-B	5.7 ± 1.9 E 00	8.5 ± 2.1 E 00	5.9 ± 1.3 E 00	5.6 ± 2.3 E 00	4.8 ± 2.2 E 00
I-131	L.T. 4. E-01	L.T. 3. E-01	L.T. 1. E-01	L.T. 1. E-01	L.T. 1. E 00
GAMMA SPECTRUM ANALYSIS:					
BE-7	L.T. 3. E 01	L.T. 3. E 01	L.T. 4. E 01	L.T. 3. E 01	L.T. 3. E 01
K-40	L.T. 5. E 01	L.T. 9. E 01	L.T. 1. E 02	L.T. 5. E 01	L.T. 1. E 02
MN-54	L.T. 3. E 00	L.T. 3. E 00	L.T. 4. E 00	L.T. 3. E 00	L.T. 3. E 00
CO-58	L.T. 3. E 00	L.T. 3. E 00	L.T. 4. E 00	L.T. 3. E 00	L.T. 3. E 00
FE-59	L.T. 6. E 00	L.T. 7. E 00	L.T. 9. E 00	L.T. 6. E 00	L.T. 7. E 00
CO-60	L.T. 3. E 00	L.T. 3. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 3. E 00
ZN-65	L.T. 6. E 00	L.T. 7. E 00	L.T. 9. E 00	L.T. 7. E 00	L.T. 8. E 00
NB-95/ZR-95	L.T. 3. E 00	L.T. 3. E 00	L.T. 4. E 00	L.T. 3. E 00	L.T. 3. E 00
RU-103	L.T. 3. E 01	L.T. 3. E 01	L.T. 5. E 00	L.T. 4. E 00	L.T. 4. E 00
RU-106	L.T. 4. E 00	L.T. 4. E 00	L.T. 6. E 01	L.T. 3. E 01	L.T. 3. E 01
I-131	L.T. 3. E 00	L.T. 4. E 00	L.T. 5. E 00	L.T. 4. E 00	L.T. 5. E 00
CS-134	L.T. 4. E 00	L.T. 4. E 00	L.T. 5. E 00	L.T. 4. E 00	L.T. 3. E 00
CS-137	L.T. 4. E 00	L.T. 4. E 00	L.T. 5. E 00	L.T. 4. E 00	L.T. 4. E 00
LA-140/BA-140	L.T. 5. E 00	L.T. 5. E 00	L.T. 7. E 00	L.T. 6. E 00	L.T. 5. E 00
CE-141	L.T. 2. E 01	L.T. 2. E 01	L.T. 3. E 01	L.T. 3. E 01	L.T. 2. E 01
CE-144	L.T. 7. E 01	L.T. 7. E 01	L.T. 8. E 01	L.T. 7. E 01	L.T. 7. E 01
RA-226	L.T. 6. E 00	L.T. 6. E 00	L.T. 8. E 00	L.T. 6. E 00	L.T. 7. E 00
TH-228					
TRITIUM ANALYSIS:	01/07-04/07				
H-3	L.T. 5. E 02				

\*Duplicate Analysis

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

DRINKING WATER

(PCI/LITER)

STATION NUMBER LW40

DATE COLLECTED:	04/07-05/05	05/05-06/02	06/02-07/07	07/07-08/04	08/04-09/01
RADIOCHEMICAL ANALYSIS:					
GR-B	6.0 ± 1.5 E 00	5.8 ± 1.4 E 00	1.8 ± 0.2 E 01	6.9 ± 2.0 E 00	6.1 ± 1.3 E 00
I-131	L.T. 5. E-01	L.T. 9. E-01	L.T. 6. E-01	L.T. 2. E-01	L.T. 6. E-01
GAMMA SPECTRUM ANALYSIS:					
BE-7	L.T. 3. E 01	L.T. 4. E 01	L.T. 4. E 01	L.T. 5. E 01	L.T. 3. E 01
K-40	L.T. 9. E 01	L.T. 1. E 02	L.T. 1. E 02	L.T. 8. E 01	L.T. 5. E 01
MN-54	L.T. 3. E 00	L.T. 5. E 00	L.T. 4. E 00	L.T. 5. E 00	L.T. 3. E 00
CO-58	L.T. 3. E 00	L.T. 5. E 00	L.T. 4. E 00	L.T. 5. E 00	L.T. 3. E 00
FE-59	L.T. 7. E 00	L.T. 1. E 01	L.T. 9. E 00	L.T. 1. E 01	L.T. 6. E 00
CO-60	L.T. 4. E 00	L.T. 5. E 00	L.T. 4. E 00	L.T. 6. E 00	L.T. 3. E 00
ZN-65	L.T. 7. E 00	L.T. 1. E 01	L.T. 9. E 00	L.T. 1. E 01	L.T. 6. E 00
NB-95/ZR-95	L.T. 4. E 00	L.T. 5. E 00	L.T. 4. E 00	L.T. 5. E 00	L.T. 3. E 00
RU-103	L.T. 3. E 01	L.T. 6. E 00	L.T. 5. E 00	L.T. 6. E 00	L.T. 3. E 00
RU-106	L.T. 3. E 01	L.T. 4. E 01	L.T. 4. E 01	L.T. 4. E 01	L.T. 2. E 01
I-131	L.T. 4. E 00	L.T. 9. E 00	L.T. 5. E 00	L.T. 1. E 01	L.T. 8. E 00
CS-134	L.T. 4. E 00	L.T. 5. E 00	L.T. 5. E 00	L.T. 5. E 00	L.T. 3. E 00
CS-137	L.T. 4. E 00	L.T. 6. E 00	L.T. 5. E 00	L.T. 6. E 00	L.T. 4. E 00
LA-140/BA-140	L.T. 4. E 00	L.T. 8. E 00	L.T. 7. E 00	L.T. 9. E 00	L.T. 6. E 00
CE-141	L.T. 5. E 00	L.T. 3. E 01	L.T. 3. E 01	L.T. 1. E 01	L.T. 6. E 00
CE-144	L.T. 2. E 01	L.T. 9. E 01	L.T. 8. E 01	L.T. 4. E 01	L.T. 2. E 01
RA-226	L.T. 7. E 01	L.T. 9. E 01	L.T. 8. E 01	L.T. 1. E 02	L.T. 6. E 01
TH-228	L.T. 6. E 00	L.T. 8. E 00	L.T. 7. E 00	L.T. 1. E 01	L.T. 6. E 00
TRITIUM ANALYSIS:	04/07-07/07				
H-3	L.T. 6. E 02				

\*Duplicate Analysis

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

DRINKING WATER

(PCI/LITER)

STATION NUMBER LW40

DATE COLLECTED:	09/01-10/06	10/06-11/03	11/03-12/01	12/01-01/05
RADIOCHEMICAL ANALYSIS:				
GR-B	8.6 ± 1.8 E 00	6.6 ± 1.4 E 00	5.4 ± 1.2 E 00	1.3 ± 0.2 E 01
I-131	L.T. 1.	L.T. 5.	L.T. 5.	L.T. 1.
GAMMA SPECTRUM ANALYSIS:				
BE-7	L.T. 3.	L.T. 3.	L.T. 2.	L.T. 4.
K-40	L.T. 6.	L.T. 8.	L.T. 5.	L.T. 6.
MN-54	L.T. 3.	L.T. 3.	L.T. 3.	L.T. 4.
CO-58	L.T. 3.	L.T. 3.	L.T. 2.	L.T. 4.
FE-59	L.T. 7.	L.T. 7.	L.T. 5.	L.T. 7.
CO-60	L.T. 4.	L.T. 3.	L.T. 3.	L.T. 4.
ZN-65	L.T. 7.	L.T. 6.	L.T. 6.	L.T. 7.
NB-95/ZR-95	L.T. 3.	L.T. 3.	L.T. 3.	L.T. 4.
RU-103	L.T. 4.	L.T. 4.	L.T. 3.	L.T. 4.
RU-106	L.T. 3.	L.T. 3.	L.T. 2.	L.T. 3.
I-131	L.T. 7.	L.T. 5.	L.T. 4.	L.T. 8.
CS-134	L.T. 3.	L.T. 3.	L.T. 3.	L.T. 4.
CS-137	L.T. 5.	L.T. 3.	L.T. 4.	L.T. 4.
LA-140/BA-140	L.T. 6.	L.T. 4.	L.T. 4.	L.T. 6.
CE-141	L.T. 7.	L.T. 5.	L.T. 5.	L.T. 9.
CE-144	L.T. 3.	L.T. 2.	L.T. 2.	L.T. 4.
RA-226	L.T. 7.	L.T. 6.	L.T. 6.	L.T. 9.
TH-228	L.T. 6.	L.T. 5.	L.T. 5.	L.T. 9.
TRITIUM ANALYSIS:	07/07-10/06			10/06-01/05
H-3	L.T. 7.			L.T. 6.

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

GROUND WATER

(PCI/LITER)

STATION NUMBER B-12

DATE COLLECTED:	02/18	05/19	08/18	11/17	
RADIOCHEMICAL ANALYSIS:					
I-131	LT. 1. E-01	LT. 1. E-01	LT. 2. E-01	LT. 2. E-01	
GAMMA SPECTRUM ANALYSIS:					
BE-7	LT. 3. E-01	LT. 3. E-01	LT. 3. E-01	LT. 3. E-01	
K-40	LT. 8. E-01	LT. 1. E-02	LT. 6. E-01	LT. 5. E-01	
MN-54	LT. 3. E-00	LT. 4. E-00	LT. 3. E-00	LT. 3. E-00	
CO-58	LT. 3. E-00	LT. 4. E-00	LT. 3. E-00	LT. 3. E-00	
FE-59	LT. 6. E-00	LT. 8. E-00	LT. 7. E-00	LT. 6. E-00	
CO-60	LT. 3. E-00	LT. 4. E-00	LT. 4. E-00	LT. 3. E-00	
ZN-65	LT. 6. E-00	LT. 8. E-00	LT. 8. E-00	LT. 6. E-00	
NB-95/ZR-95	LT. 3. E-00	LT. 4. E-00	LT. 4. E-00	LT. 3. E-00	
RU-103	LT. 4. E-00	LT. 4. E-00	LT. 4. E-00	LT. 3. E-00	
RU-106	LT. 3. E-01	LT. 4. E-01	LT. 3. E-01	LT. 3. E-01	
I-131	LT. 5. E-00	LT. 6. E-00	LT. 8. E-00	LT. 5. E-00	
CS-134	LT. 3. E-00	LT. 4. E-00	LT. 4. E-00	LT. 3. E-00	
CS-137	LT. 4. E-00	LT. 4. E-00	LT. 4. E-00	LT. 3. E-00	
LA-140/BA-140	LT. 3. E-00	LT. 4. E-00	LT. 6. E-00	LT. 4. E-00	
CE-141	LT. 5. E-00	LT. 6. E-00	LT. 7. E-00	LT. 7. E-00	
CE-144	LT. 2. E-01	LT. 2. E-01	LT. 2. E-01	LT. 3. E-01	
RA-226	LT. 7. E-01	LT. 7. E-01	LT. 7. E-01	LT. 8. E-01	
TH-228	LT. 7. E-00	LT. 6. E-00	LT. 6. E-00	LT. 7. E-00	
TRITIUM ANALYSIS:					
H-3	LT. 2. E-02	LT. 1. E-02	LT. 2. E-02	LT. 1. E-02	

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

GROUND WATER

(PCI/LITER)

STATION NUMBER C-10

DATE COLLECTED:	02/18	05/19	08/18	11/17
RADIOCHEMICAL ANALYSIS:				
I-131	L.T. 1. E-01	L.T. 1. E-01	L.T. 2. E-01	L.T. 2. E-01
GAMMA SPECTRUM ANALYSIS:				
BE-7	L.T. 2. E-01	L.T. 6. E-01	L.T. 3. E-01	L.T. 3. E-01
K-40	L.T. 6. E-01	L.T. 2. E-02	L.T. 9. E-01	L.T. 7. E-01
MN-54	L.T. 2. E-00	L.T. 6. E-00	L.T. 3. E-00	L.T. 3. E-00
CO-58	L.T. 2. E-00	L.T. 6. E-00	L.T. 3. E-00	L.T. 3. E-00
FE-59	L.T. 5. E-00	L.T. 1. E-01	L.T. 8. E-00	L.T. 6. E-00
CO-60	L.T. 2. E-00	L.T. 7. E-00	L.T. 3. E-00	L.T. 4. E-00
ZN-65	L.T. 5. E-00	L.T. 1. E-01	L.T. 8. E-00	L.T. 7. E-00
NB-95/ZR-95	L.T. 3. E-00	L.T. 7. E-00	L.T. 4. E-00	L.T. 4. E-00
RU-103	L.T. 3. E-00	L.T. 7. E-00	L.T. 4. E-00	L.T. 3. E-00
RU-106	L.T. 2. E-01	L.T. 6. E-01	L.T. 3. E-01	L.T. 3. E-01
I-131	L.T. 4. E-00	L.T. 1. E-01	L.T. 1. E-01	L.T. 5. E-00
CS-134	L.T. 3. E-00	L.T. 7. E-00	L.T. 4. E-00	L.T. 4. E-00
CS-137	L.T. 3. E-00	L.T. 7. E-00	L.T. 4. E-00	L.T. 4. E-00
LA-140/BA-140	L.T. 3. E-00	L.T. 9. E-00	L.T. 8. E-00	L.T. 5. E-00
CE-141	L.T. 4. E-00	L.T. 1. E-01	L.T. 6. E-00	L.T. 8. E-00
CE-144	L.T. 2. E-01	L.T. 6. E-01	L.T. 2. E-01	L.T. 3. E-01
RA-226	L.T. 4. E-01	L.T. 2. E-02	L.T. 7. E-01	L.T. 1. E-02
TH-228	L.T. 5. E-00	L.T. 2. E-01	L.T. 6. E-00	L.T. 8. E-00

TRITIUM ANALYSIS:

H-3	L.T. 2. E-02	L.T. 1. E-02	L.T. 2. E-02	L.T. 1. E-02
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WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

## GROUND WATER

(PCI/LITER)

STATION NUMBER C-49

DATE COLLECTED:	02/18	02/18*	05/19	08/18	11/17
RADIOCHEMICAL ANALYSIS:					
I-131	LT. 2 E-01	LT. 2 E-01	LT. 1 E-01	LT. 2 E-01	LT. 2 E-01
GAMMA SPECTRUM ANALYSIS:					
3E-7	LT. 1 E 02	LT. 1 E 02	LT. 3 E 01	LT. 3 E 01	LT. 3 E 01
K-40	LT. 3 E 02	LT. 4 E 02	LT. 6 E 01	LT. 6 E 01	LT. 9 E
MN-54	LT. 1 E 01	LT. 1 E 01	LT. 3 E 00	LT. 3 E 00	LT. 3 E
CO-58	LT. 1 E 01	LT. 1 E 01	LT. 3 E 00	LT. 4 E 00	LT. 3 E 00
FE-59	LT. 2 E 01	LT. 2 E 01	LT. 6 E 00	LT. 8 E 00	LT. 7 E 00
CO-60	LT. 1 E 01	LT. 1 E 01	LT. 3 E 00	LT. 4 E 00	LT. 4 E 00
ZN-65	LT. 2 E 01	LT. 2 E 01	LT. 6 E 00	LT. 7 E 00	LT. 8 E 00
NB-95/ZR-95	LT. 1 E 01	LT. 1 E 01	LT. 3 E 00	LT. 4 E 00	LT. 4 E 00
RU-103	LT. 1 E 01	LT. 1 E 01	LT. 3 E 00	LT. 4 E 00	LT. 4 E 00
RU-106	LT. 1 E 02	LT. 1 E 02	LT. 3 E 01	LT. 3 E 01	LT. 3 E 01
I-131	LT. 2 E 01	LT. 2 E 01	LT. 5 E 00	LT. 9 E 00	LT. 5 E 00
CS-134	LT. 1 E 01	LT. 1 E 01	LT. 3 E 00	LT. 4 E 00	LT. 4 E 00
CS-137	LT. 1 E 01	LT. 1 E 01	LT. 4 E 00	LT. 4 E 00	LT. 4 E 00
LA-140/BA-140	LT. 1 E 01	LT. 1 E 01	LT. 5 E 00	LT. 8 E 00	LT. 5 E 00
CE-141	LT. 1 E 01	LT. 2 E 01	LT. 6 E 00	LT. 8 E 00	LT. 5 E 00
CE-144	LT. 6 E 01	LT. 6 E 01	LT. 2 E 01	LT. 3 E 01	LT. 2 E 01
RA-226	LT. 2 E 02	LT. 2 E 02	LT. 7 E 01	LT. 9 E 01	LT. 7 E 01
TH-228	LT. 2 E 01	LT. 2 E 01	LT. 6 E 00	LT. 7 E 00	LT. 6 E 00
TRITIUM ANALYSIS:					
H-3	LT. 2 E 02	LT. 2 E 02	LT. 1 E 02	LT. 2 E 02	LT. 1 E 02

\*Duplicate Analysis



WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

GROUND WATER

(PCI/LITER)

STATION NUMBER D-65

DATE COLLECTED:	02/18	05/19	08/18	11/17
RADIOCHEMICAL ANALYSIS:				
I-131	LT. 1. E-01	LT. 2. E-01	LT. 1. E-01	LT. 2. E-01
GAMMA SPECTRUM ANALYSIS:				
BE-7	LT. 2. E-01	LT. 3. E-01	LT. 3. E-01	LT. 3. E-01
K-40	LT. 4. E-01	LT. 1. E-02	LT. 6. E-01	LT. 5. E-01
MN-54	LT. 2. E-00	LT. 3. E-00	LT. 3. E-00	LT. 3. E-00
CO-58	LT. 2. E-00	LT. 3. E-00	LT. 3. E-00	LT. 3. E-00
FE-59	LT. 6. E-00	LT. 7. E-00	LT. 7. E-00	LT. 6. E-00
CO-60	LT. 3. E-00	LT. 4. E-00	LT. 4. E-00	LT. 3. E-00
ZN-65	LT. 6. E-00	LT. 7. E-00	LT. 6. E-00	LT. 7. E-00
NB-95/ZR-95	LT. 3. E-00	LT. 3. E-00	LT. 3. E-00	LT. 3. E-00
RU-103	LT. 3. E-00	LT. 4. E-00	LT. 4. E-00	LT. 4. E-00
RU-106	LT. 2. E-01	LT. 3. E-01	LT. 3. E-01	LT. 3. E-01
I-131	LT. 4. E-00	LT. 6. E-00	LT. 9. E-00	LT. 4. E-00
CS-134	LT. 3. E-00	LT. 4. E-00	LT. 3. E-00	LT. 3. E-00
CS-137	LT. 4. E-00	LT. 4. E-00	LT. 4. E-00	LT. 3. E-00
LA-140/BA-140	LT. 4. E-00	LT. 5. E-00	LT. 6. E-00	LT. 4. E-00
CE-141	LT. 5. E-00	LT. 5. E-00	LT. 8. E-00	LT. 5. E-00
CE-144	LT. 2. E-01	LT. 2. E-01	LT. 3. E-01	LT. 2. E-01
RA-226	LT. 6. E-01	LT. 7. E-01	LT. 8. E-01	LT. 7. E-01
TH-228	LT. 5. E-00	LT. 6. E-00	LT. 7. E-00	LT. 6. E-00

TRITIUM ANALYSIS:

H-3	LT. 2. E-02	LT. 1. E-02	LT. 2. E-02	LT. 1. E-02
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WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

GROUND WATER

(PCI/LITER)

STATION NUMBER WCTC

DATE COLLECTED: 12/29

RADIOCHEMICAL ANALYSIS:

I-131 LT. 1. E-01

GAMMA SPECTRUM ANALYSIS:

BE-7	LT. 3.	E 01
K-40	LT. 5.	E 01
MN-54	LT. 3.	E 00
CO-58	LT. 3.	E 00
FE-59	LT. 6.	E 00
CO-60	LT. 3.	E 00
ZN-65	LT. 8.	E 00
NB-95/ZR-95	LT. 3.	E 00
RU-103	LT. 4.	E 00
RU-106	LT. 3.	E 01
I-131	LT. 7.	E 00
CS-134	LT. 4.	E 00
CS-137	LT. 4.	E 00
LA-140/BA-140	LT. 5.	E 00
CE-141	LT. 6.	E 00
CE-144	LT. 2.	E 01
RA-226	LT. 7.	E 01
TH-228	LT. 7.	E 00

TRITIUM ANALYSIS:

H-3 LT. 1. E 02

## STATION NUMBER MUSH

DATE COLLECTED:	01/21	01/21*	02/18	03/17	04/21
GAMMA SPECTRUM ANALYSIS:					
BE-7	L.T. 3. E 01	L.T. 3. E 01	L.T. 4. E 01	L.T. 3. E 01	L.T. 3. E 01
K-40	L.T. 5. E 01	L.T. 8. E 01	L.T. 1. E 02	L.T. 5. E 01	L.T. 5. E 01
MN-54	L.T. 3. E 00	L.T. 3. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 3. E 00
CO-58	L.T. 3. E 00	L.T. 3. E 00	L.T. 4. E 00	L.T. 3. E 00	L.T. 3. E 00
FE-59	L.T. 6. E 00	L.T. 6. E 00	L.T. 8. E 00	L.T. 7. E 00	L.T. 7. E 00
CO-60	L.T. 4. E 00	L.T. 3. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 3. E 00
ZN-55	L.T. 6. E 00	L.T. 6. E 00	L.T. 9. E 00	L.T. 8. E 00	L.T. 7. E 00
7-95/ZR-95	L.T. 3. E 00	L.T. 3. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00
U-103	L.T. 4. E 00	L.T. 4. E 00	L.T. 5. E 00	L.T. 4. E 00	L.T. 4. E 00
RU-105	L.T. 3. E 01	L.T. 3. E 01	L.T. 4. E 01	L.T. 3. E 01	L.T. 3. E 01
I-131	L.T. 6. E 00	L.T. 7. E 00	L.T. 6. E 00	L.T. 6. E 00	L.T. 8. E 00
CS-134	L.T. 3. E 00	L.T. 3. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 3. E 00
CS-137	L.T. 3. E 00	L.T. 3. E 00	L.T. 4. E 00	L.T. 4. E 00	L.T. 4. E 00
LA-140/BA-140	L.T. 4. E 00	L.T. 4. E 00	L.T. 5. E 00	L.T. 5. E 00	L.T. 6. E 00
CE-141	L.T. 7. E 00	L.T. 5. E 00	L.T. 7. E 00	L.T. 6. E 00	L.T. 8. E 00
CE-144	L.T. 3. E 01	L.T. 2. E 01	L.T. 3. E 01	L.T. 2. E 01	L.T. 3. E 01
RA-226	L.T. 7. E 01	L.T. 5. E 01	L.T. 8. E 01	L.T. 7. E 01	L.T. 9. E 01
TH-228	L.T. 7. E 00	L.T. 6. E 00	L.T. 7. E 00	L.T. 6. E 00	L.T. 8. E 00
TRITIUM ANALYSIS:					
H-3	L.T. 6. E 02	L.T. 6. E 02	L.T. 6. E 02	L.T. 4. E 02	L.T. 6. E 02

\*Duplicate analysis

## STATION NUMBER MUSH

32

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAYS - WATERBORNE

SURFACE WATER

(PCI/LITER)

STATION NUMBER MUSH

	DATE COLLECTED:					
	10/20	11/17	12/15			
GAMMA SPECTRUM ANALYSIS:						
BE-7	LT. 3.	LT. 2.	LT. 3.	E 01		E 01
K-40	LT. 6.	LT. 5.	LT. 4.	E 01		E 01
MN-54	LT. 3.	LT. 2.	LT. 2.	E 00		E 00
CO-58	LT. 3.	LT. 2.	LT. 2.	E 00		E 00
FE-59	LT. 7.	LT. 5.	LT. 6.	E 00		E 00
CO-60	LT. 3.	LT. 3.	LT. 3.	E 00		E 00
ZN-65	LT. 7.	LT. 5.	LT. 5.	E 00		E 00
NB-95/ZR-95	LT. 3.	LT. 3.	LT. 3.	E 00		E 00
RU-103	LT. 4.	LT. 3.	LT. 3.	E 00		E 00
RU-106	LT. 3.	LT. 2.	LT. 2.	E 01		E 01
I-131	LT. 7.	LT. 4.	LT. 6.	E 00		E 00
CS-134	LT. 3.	LT. 3.	LT. 3.	E 00		E 00
CS-137	LT. 4.	LT. 3.	LT. 3.	E 00		E 00
LA-140/BA-140	LT. 7.	LT. 3.	LT. 5.	E 00		E 00
CE-141	LT. 7.	LT. 5.	LT. 6.	E 00		E 00
CE-144	LT. 3.	LT. 2.	LT. 2.	E 01		E 01
RA-226	LT. 8.	LT. 6.	LT. 6.	E 01		E 01
TH-228	LT. 7.	LT. 5.	LT. 5.	E 00		E 00
TRITIUM ANALYSIS:						
H-3	LT. 7.	LT. 4.	LT. 4.	E 02		E 02

**WOLF CREEK NUCLEAR OPERATING CORPORATION**  
EXPOSURE PATHWAY - WATERBORNE

SURFACE WATER

(PCI/LITER)

STATION NUMBER SP

DATE COLLECTED:	01/21	02/18	03/17	04/21	05/19
GAMMA SPECTRUM ANALYSIS:					
BE-7	LT. 4. E 01	LT. 3. E 01	LT. 3. E 01	LT. 4. E 01	LT. 4. E 01
K-40	LT. 1. E 02	LT. 1. E 02	LT. 1. E 02	LT. 7. E 01	LT. 1. E 02
MN-54	LT. 4. E 00	LT. 4. E 00	LT. 3. E 00	LT. 3. E 00	LT. 4. E 00
CO-58	LT. 4. E 00	LT. 4. E 00	LT. 3. E 00	LT. 4. E 00	LT. 4. E 00
FE-59	LT. 8. E 00	LT. 7. E 00	LT. 7. E 00	LT. 8. E 00	LT. 9. E 00
CO-60	LT. 4. E 00	LT. 4. E 00	LT. 4. E 00	LT. 4. E 00	LT. 4. E 00
ZN-65	LT. 8. E 00	LT. 8. E 00	LT. 7. E 00	LT. 7. E 00	LT. 9. E 00
NB-95/ZR-95	LT. 4. E 00	LT. 4. E 00	LT. 4. E 00	LT. 4. E 00	LT. 4. E 00
RU-103	LT. 5. E 00	LT. 4. E 00	LT. 4. E 00	LT. 4. E 00	LT. 5. E 00
RU-106	LT. 4. E 01	LT. 3. E 01	LT. 3. E 01	LT. 3. E 01	LT. 4. E 01
I-131	LT. 8. E 00	LT. 7. E 00	LT. 6. E 00	LT. 8. E 00	LT. 7. E 00
CS-134	LT. 4. E 00	LT. 4. E 00	LT. 4. E 00	LT. 4. E 00	LT. 5. E 00
CS-137	LT. 5. E 00	LT. 4. E 00	LT. 4. E 00	LT. 4. E 00	LT. 5. E 00
LA-140/BA-140	LT. 5. E 00	LT. 5. E 00	LT. 5. E 00	LT. 6. E 00	LT. 5. E 00
CE-141	LT. 7. E 00	LT. 6. E 00	LT. 6. E 00	LT. 9. E 00	LT. 7. E 00
CE-144	LT. 3. E 01	LT. 2. E 01	LT. 2. E 01	LT. 4. E 01	LT. 3. E 01
RA-226	LT. 8. E 01	LT. 8. E 01	LT. 7. E 01	LT. 1. E 02	LT. 8. E 01
TH-228	LT. 8. E 00	LT. 7. E 00	LT. 6. E 00	LT. 9. E 00	LT. 7. E 00
TRITIUM ANALYSIS:					
H-3	7.2 ± 0.5 E 03	7.2 ± 0.5 E 03	7.0 ± 0.4 E 03	7.9 ± 0.6 E 03	7.0 ± 0.4 E 03

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

SURFACE WATER

(PCI/LITER)

STATION NUMBER SP

DATE COLLECTED:	06/23	07/21	08/18	09/15	09/15*
GAMMA SPECTRUM ANALYSIS:					
BE-7	LT. 3. E 01	LT. 3. E 01	LT. 3. E 01	LT. 3. E 01	LT. 4. E 01
K-40	8.28±2.81 E 01	LT. 8. E 01	LT. 9. E 01	LT. 5. E 01	LT. 8. E 01
MN-54	LT. 3. E 00	LT. 3. E 00	LT. 3. E 00	LT. 3. E 00	LT. 4. E 00
CO-58	LT. 4. E 00	LT. 3. E 00	LT. 4. E 00	LT. 3. E 00	LT. 4. E 00
FE-59	LT. 8. E 00	LT. 6. E 00	LT. 8. E 0	LT. 6. E 00	LT. 8. E 00
CO-60	LT. 3. E 00	LT. 3. E 00	LT. 4. E 00	LT. 3. E 00	LT. 3. E 00
ZN-65	LT. 8. E 00	LT. 7. E 00	LT. 8. E 00	LT. 7. E 00	LT. 7. E 00
NB-95/ZR-95	LT. 4. E 00	LT. 3. E 00	LT. 4. E 00	LT. 3. E 00	LT. 4. E 00
RU-103	LT. 4. E 00	LT. 3. E 00	LT. 4. E 00	LT. 3. E 00	LT. 4. E 00
RU-106	LT. 3. E 01	LT. 3. E 01	LT. 3. E 01	LT. 3. E 01	LT. 3. E 01
I-131	LT. 7. E 00	LT. 5. E 00	LT. 9. E 00	LT. 8. E 00	LT. 1. E 01
CS-134	LT. 4. E 00	LT. 3. E 00	LT. 4. E 00	LT. 3. E 00	LT. 4. E 00
CS-137	LT. 4. E 00	LT. 3. E 00	LT. 4. E 00	LT. 4. E 00	LT. 4. E 00
LA-140/BA-140	LT. 5. E 00	LT. 4. E 00	LT. 7. E 00	LT. 6. E 00	LT. 7. E 00
CE-141	LT. 6. E 00	LT. 5. E 00	LT. 6. E 00	LT. 7. E 00	LT. 6. E 00
CE-144	LT. 2. E 01	LT. 2. E 01	LT. 2. E 01	LT. 2. E 01	LT. 2. E 01
RA-226	LT. 7. E 01	LT. 6. E 01	LT. 7. E 01	LT. 7. E 01	LT. 7. E 01
TH-228	LT. 7. E 00	LT. 5. E 00	LT. 6. E 00	LT. 6. E 00	LT. 7. E 00
TRITIUM ANALYSIS:					
H-3	6.9 ± 0.3 E 03	5.5 ± 0.5 E 03	5.8 ± 0.5 E 03	5.9 ± 0.5 E 03	5.9 ± 0.5 E 03

\*Duplicate analysis



WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

SURFACE WATER

(PCI/LITER)

STATION NUMBER SP

DATE COLLECTED:	10/20	11/17	12/15
GAMMA SPECTRUM ANALYSIS:			
BE-7	LT. 3. E 01	LT. 3. E 01	LT. 3. E 01
K-40	LT. 6. E 01	LT. 1. E 02	LT. 8. E 01
MN-54	LT. 4. E 00	LT. 3. E 00	LT. 3. E 00
CO-58	LT. 3. E 00	LT. 3. E 00	LT. 3. E 00
FE-59	LT. 8. E 00	LT. 7. E 00	LT. 6. E 00
CO-60	LT. 4. E 00	LT. 4. E 00	LT. 3. E 00
ZN-65	LT. 8. E 00	LT. 7. E 00	LT. 6. E 00
NB-95/ZR-95	LT. 4. E 00	LT. 3. E 00	LT. 3. E 00
RU-103	LT. 4. E 00	LT. 4. E 00	LT. 3. E 00
RU-106	LT. 3. E 01	LT. 3. E 01	LT. 3. E 01
I-131	LT. 7. E 00	LT. 4. E 00	LT. 7. E 00
CS-134	LT. 4. E 00	LT. 4. E 00	LT. 3. E 00
CS-137	LT. 5. E 00	LT. 4. E 00	LT. 3. E 00
LA-140/BA-140	LT. 6. E 00	LT. 4. E 00	LT. 6. E 00
CE-141	LT. 8. E 00	LT. 5. E 00	LT. 5. E 00
CE-144	LT. 3. E 01	LT. 2. E 01	LT. 2. E 01
RA-226	LT. 9. E 01	LT. 6. E 01	LT. 5. E 01
TH-228	LT. 7. E 00	LT. 6. E 00	LT. 5. E 00
TRITIUM ANALYSIS:			
H-3	7.1 ± 0.6 E 03	6.5 ± 0.4 E 03	6.7 ± 0.4 E 03

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

SURFACE WATER

(PCI/LITER)

STATION NUMBER DC

DATE COLLECTED:	01/21	02/18	03/17	04/21	05/19
GAMMA SPECTRUM ANALYSIS:					
BE-7	LT. 3. E 01	LT. 4. E 01	LT. 3. E 01	LT. 3. E 01	LT. 3. E 01
K-40	LT. 8. E 01	LT. 1. E 02	LT. 8. E 01	LT. 1. E 02	LT. 1. E 02
MN-54	LT. 3. E 00	LT. 4. E 00	LT. 3. E 00	LT. 4. E 00	LT. 3. E 00
CO-58	LT. 3. E 00	LT. 5. E 00	LT. 3. E 00	LT. 4. E 00	LT. 3. E 00
FE-59	LT. 6. E 00	LT. 9. E 00	LT. 6. E 00	LT. 8. E 00	LT. 7. E 00
CO-60	LT. 3. E 00	LT. 5. E 00	LT. 3. E 00	LT. 4. E 00	LT. 3. E 00
ZN-65	LT. 6. E 00	LT. 1. E 01	LT. 6. E 00	LT. 8. E 00	LT. 8. E 00
NB-95/ZR-95	LT. 3. E 00	LT. 5. E 00	LT. 3. E 00	LT. 4. E 00	LT. 3. E 00
RU-103	LT. 3. E 00	LT. 5. E 00	LT. 3. E 00	LT. 4. E 00	LT. 4. E 00
RU-106	LT. 3. E 01	LT. 4. E 01	LT. 3. E 01	LT. 3. E 01	LT. 3. E 01
I-131	LT. 6. E 00	LT. 9. E 00	LT. 5. E 00	LT. 7. E 00	LT. 5. E 00
CS-134	LT. 3. E 00	LT. 5. E 00	LT. 3. E 00	LT. 4. E 00	LT. 4. E 00
CS-137	LT. 3. E 00	LT. 5. E 00	LT. 3. E 00	LT. 4. E 00	LT. 4. E 00
LA-140/BA-140	LT. 4. E 00	LT. 7. E 00	LT. 4. E 00	LT. 7. E 00	LT. 4. E 00
CE-141	LT. 5. E 00	LT. 8. E 00	LT. 5. E 00	LT. 6. E 00	LT. 6. E 00
CE-144	LT. 2. E 01	LT. 3. E 01	LT. 2. E 01	LT. 2. E 01	LT. 2. E 01
RA-226	LT. 5. E 01	LT. 9. E 01	LT. 6. E 01	LT. 7. E 01	LT. 7. E 01
TH-228	LT. 6. E 00	LT. 8. E 00	LT. 5. E 00	LT. 6. E 00	LT. 7. E 00
TRITIUM ANALYSIS:					
H-3	7.3 ± 0.5 E 03	6.9 ± 0.5 E 03	7.8 ± 0.4 E 03	7.6 ± 0.6 E 03	6.9 ± 0.4 E 03

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

SURFACE WATER

(PCI/LITER)

STATION NUMBER DC

DATE COLLECTED:	06/23	07/21	08/18	09/15	10/20
GAMMA SPECTRUM ANALYSIS:					
BE-7	LT. 3. E 01	LT. 3. E 01	LT. 4. E 01	LT. 4. E 01	LT. 4. E 01
K-40	LT. 6. E 01	LT. 5. E 01	LT. 1. E 02	LT. 6. E 01	LT. 1. E 02
MN-54	LT. 3. E 00	LT. 3. E 00	LT. 4. E 00	LT. 3. E 00	LT. 5. E 00
CO-58	LT. 3. E 00	LT. 4. E 00	LT. 4. E 00	LT. 3. E 00	LT. 4. E 00
FE-59	LT. 7. E 00	LT. 7. E 00	LT. 1. E 01	LT. 8. E 00	LT. 1. E 01
CO-60	LT. 4. E 00	LT. 4. E 00	LT. 5. E 00	LT. 4. E 00	LT. 5. E 00
ZN-65	LT. 7. E 00	LT. 7. E 00	LT. 1. E 01	LT. 7. E 00	LT. 1. E 01
NB-95/ZR-95	LT. 3. E 00	LT. 4. E 00	LT. 5. E 00	LT. 4. E 00	LT. 5. E 00
RU-103	LT. 4. E 00	LT. 4. E 00	LT. 6. E 00	LT. 4. E 00	LT. 5. E 00
RU-106	LT. 3. E 01	LT. 3. E 01	LT. 4. E 01	LT. 3. E 01	LT. 4. E 01
I-131	LT. 7. E 00	LT. 7. E 00	LT. 1. E 01	LT. 9. E 00	LT. 1. E 01
CS-134	LT. 4. E 00	LT. 4. E 00	LT. 5. E 00	LT. 4. E 00	LT. 5. E 00
CS-137	LT. 4. E 00	LT. 4. E 00	LT. 5. E 00	LT. 4. E 00	LT. 5. E 00
LA-140/BA-140	LT. 6. E 00	LT. 5. E 00	LT. 9. E 00	LT. 8. E 00	LT. 6. E 00
CE-141	LT. 7. E 00	LT. 6. E 00	LT. 9. E 00	LT. 8. E 00	LT. 8. E 00
CE-144	LT. 3. E 01	LT. 2. E 01	LT. 3. E 01	LT. 3. E 01	LT. 3. E 01
RA-226	LT. 8. E 01	LT. 8. E 01	LT. 9. E 01	LT. 8. E 01	LT. 8. E 01
TH-228	LT. 7. E 00	LT. 7. E 00	LT. 8. E 00	LT. 7. E 00	LT. 8. E 00
TRITIUM ANALYSIS:					
H-3	6.6 ± 0.3 E 03	6.0 ± 0.5 E 03	5.9 ± 0.5 E 03	6.1 ± 0.5 E 03	6.4 ± 0.6 E 03

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

SURFACE WATER

(PCI/LITER)

STATION NUMBER DC

DATE COLLECTED:	11/17	12/15
GAMMA SPECTRUM ANALYSIS:		
BE-7	L.T. 2.	L.T. 3. E 01
K-40	L.T. 8.	L.T. 5. E 01
MN-54	L.T. 3.	L.T. 3. E 00
CO-58	L.T. 3.	L.T. 3. E 00
FE-59	L.T. 6.	L.T. 6. E 00
CO-60	L.T. 3.	L.T. 3. E 00
ZN-65	L.T. 6.	L.T. 6. E 00
NB-95/ZR-95	L.T. 3.	L.T. 3. E 00
RU-103	L.T. 3.	L.T. 4. E 00
RU-106	L.T. 3.	L.T. 3. E 01
I-131	L.T. 3.	L.T. 7. E 00
CS-134	L.T. 3.	L.T. 3. E 00
CS-137	L.T. 3.	L.T. 3. E 00
LA-140/BA-140	L.T. 3.	L.T. 6. E 00
CE-141	L.T. 4.	L.T. 7. E 00
CE-144	L.T. 2.	L.T. 2. E 01
RA-226	L.T. 6.	L.T. 7. E 01
TH-228	L.T. 5.	L.T. 6. E 00
TRITIUM ANALYSIS:		
H-3	6.0 ± 0.4 E 03	6.0 ± 0.4 E 03

WOLF CREEK NUCLEAR OPERATING CORPORATION  
EXPOSURE PATHWAY - WATERBORNE

SURFACE WATER

(PCI/LITER)

STATION NUMBER NCTC

DATE COLLECTED: 12/29

GAMMA SPECTRUM ANALYSIS:

BE-7	LT. 3.	E 01
K-40	LT. 1.	E 02
MN-54	LT. 4.	E 00
CO-58	LT. 4.	E 00
FE-59	LT. 8.	E 00
CO-60	LT. 3.	E 00
ZN-65	LT. 7.	E 00
NB-95/ZR-95	LT. 4.	E 00
RU-103	LT. 4.	E 00
RU-106	LT. 3.	E 01
I-131	LT. 6.	E 00
CS-134	LT. 4.	E 00
CS-137	LT. 4.	E 00
LA-140/BA-140	LT. 5.	E 00
CE-141	LT. 6.	E 00
CE-144	LT. 2.	E 01
RA-226	LT. 7.	E 01
TH-228	LT. 6.	E 00

TRITIUM ANALYSIS:

H-3	LT. 6.	E 02
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