ENCLOSURE 3 TO ØCANØ98310

REVISIONS TO ANO-1 & 2
OFFSITE DOSE CALCULATION MANUAL

OFFSITE DOSE CALCULATION MANUAL

FOR ARKANSAS NUCLEAR ONE

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1.0 Introduction

The Offsite Dose Calculation Manual (ODCM) provides guidance for making release rate and dose calculations for radioactive liquid and gaseous effluents from Arkansas Nuclear One-Units 1 and 2. The methodology is drawn from NuReg 0133, Rev. 0. Many of the numbers contained within this manual were taken from NuReg 0133 and Reg. Guide 1.109. These numbers and the calculational method may be changed as provided for in the Technical Specification.

A specification for a given item will have a different specification number for each unit, therefore, in the ODCM references to Technical Specifications will be made to the specification subjects. The specification subjects and numbers are presented below.

	Specification Number	
Subject	ANO-1	ANO-2
Radioactive Gaseous Effluents - Instrumentation	3.5.7	3.3.3.9
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2.0 Liquid Effluents

2.1 Radioactive Liquid Effluent Monitor Setpoint.

The Radioactive Liquid Effluent Instrumentation Specification requires that the radioactive liquid effluents be monitored with the alarm/trip setpoints adjusted to ensure that the limits of the radioactive liquid effluents concentration specification are not exceeded. These concentrations are for the site. The alarm/trip setpoint on the liquid effluent monitor is dependent upon the dilution water flowrate liquid, radwaste tank flowrate, the isotopic composition of the radioactive liquid to be discharged, a gross gamma count of the liquid to be discharged, the background countrate of the monitor, and the efficiency of the monitor. An adjustable setpoint will be used because of the variability of these parameters. The setpoint will be calculated and set on the monitor prior to the release of each batch of radioactive liquid effluents. The following methodology will be used for determining the setpoint.

1) A sample will be taken from the tank (batch) to be discharged. A gross gamma and a gamma isotopic analysis will be performed utilizing this sample.

2) A dilution factor (DF) for the tank will be calculated based upon the results of the gamma isotopic analysis and the Maximum Permissible Concentration (MPC) of each detected radionuclide.

   The DF is calculated by using the following equation:

   $$DF = \Sigma_i \ (C_i / MPC_i)$$

   where; DF = dilution factor
   C_i = concentration of isotope i, (μCi/ml).
   MPC_i = maximum permissible concentration of isotope i, from 10 CFR 20, App. B, Table II, Column 2, (μCi/ml).

3) The dilution water flowrate is based upon the number of ANO-1 circulating water pumps in operation at the time of release. Each circulating water pump has an approximate flowrate of 191500 gpm.

4) The theoretical release rate, F_m, of the tank (batch) can be expressed in terms of the dilution water flowrate, such that for each volume of dilution water released you may combine a given volume of liquid radwaste. This may be expressed in terms of the dilution factors:

   $$F_m = PMPNUM \times 191500/DF$$

   where; F_m = theoretical release rate (gpm).

PMPNUM = number of ANO-1 circulating water pumps in operation.

DF = dilution factor calculated in Step 2.

191500 = approximate flowrate of 1 ANO-1 circulating pump (gpm).

In the above equation, F_M approaches zero as DF increases. The actual flowrate, F_A, will generally be equal to F_M for high activity releases. For low activity releases, F_M will become larger and may exceed the capacity of the pump. In this case, flowrate F_A may be set equal to the maximum flowrate of the pump.

5) The monitor setpoint is calculated by incorporating the monitor reading prior to starting the release (i.e., background countrate), and a factor which is the amount of increase in the release concentration needed to violate the radioactive liquid concentration specification. The monitor setpoint can be expressed as follows:

$$M_L = (K \times F_M/F_A) + B$$

where; M_L = monitor setpoint (CPM).

K = monitor output countrate (CPM) for the gross activity of the release. This number is taken from a graph of activity (μCi/ml) vs. output countrate for the monitor (CPM).

F_M/F_A = number of times the activity would need to increase to violate the radioactive liquid effluent-concentration specification.

B = background countrate (CPM) prior to starting the release.

NOTE: In general, the setpoints will be calculated assuming only one radioactive liquid effluent release at any given time.

2.2 Liquid "Dose" Calculation

2.2.1 The "dose" or "dose commitment" to an individual in the unrestricted area shall be less than or equal to the limits specified in Radioactive Liquid Effluents-Dose specification. The dose limits are on a per reactor basis.

The dose contribution for each radioactive liquid release shall be calculated for the total time period (length) of the release.

The dose commitment for the whole body or organs for each release is given by the following equation:

(1) $$D_\tau = \sum_i [A_{it} \times \Delta t \times C_i \times F]$$

where; D_τ = dose commitment to the whole body or organ, τ, from the release (mrem).

$A_{i\tau}$ = site related ingestion dose commitment factor to the total body or organ, τ, for each identified principal gamma and beta emitting isotope, i $(\frac{\text{mrem-ml}}{\text{hr-}\mu\text{Ci}})$.

Calculational method is in Section 2.2.2.

Δt = length in time of the release (hours).

C_i = the concentration of isotope i, in the undiluted radioactive liquid effluent (μCi/ml).

F = the near field average dilution factor for C_i during any liquid effluent release. This factor is calculated as:

$$F = \frac{\text{radwaste flow rate (gallon/hr)}}{\text{dilution water flow rate (gallon/hr)} \times K}$$

where K is used to account for any dilution in the near field of the plant (i.e. the discharge canal). For ANO-1, the factor is 1 since it has a once-through cooling system. A value of 1 will be used for ANO-2 since the Unit 2 liquid radwaste effluents are discharged via the same point as for Unit 1.

Equation 1 can be reduced by combining Δt and F.

$\therefore$ $$\Delta t \times F = \Delta t \times \frac{\text{radwaste flow rate}}{\text{dilution flow rate}}$$

Δt x radwaste flow rate is the volume of waste released, which can be designated as V (gallons).

Substituting C_i (total μCi for release) = C_i (μCi/ml) * V(ml) into equation 1 gives,

(2) $$D_\tau = \frac{\Delta t \sum_i C_i * A_{i\tau}}{\text{Dilution Volume}}$$

Where; D_τ = dose commitment to be the whole body or organ τ, from this release (mrem).

Δt = length of time into reporting period (hours).

C_i = concentration of radionuclide i, in the undiluted radioactive liquid effluent (μCi).

$A_{i\tau}$ = ingestion dose commitment factor as calculated in Section 2.2.2 (see Table 3-1 to locate tabulated values).

Dilution Volume = total volume of water that has flowed through the discharge canal (ml) during the reporting period. This is conservatively assumed to be the ANO-1 circulating water flowrate times the time into the reporting period.

Equation 2 will be used to check the release against the radioactive liquid effluent dose technical specifications.

2.2.2 Dose Commitment Factor $A_{i\tau}$ - The equation for calculating dose contributions requires a dose commitment factor, $A_{i\tau}$, for each isotope, i. This factor embodies exposure from the consumption of fish, invertebrates and potable water where appropriate. The adult male is used as the maximum exposed individual. This factor can be expressed by:

(3) $$A_{i\tau} = K_o(U_w/D_w + U_F BF_i)DF_i$$

where; $A_{i\tau}$ = composite dose parameter for the total body or critical organ of an adult for isotope, i, for all appropriate pathways (mrem/hr per μCi/ml).

K_o = units conversion factor; $1.14 \times 10^5 = 10^6$ pci/μci x 10^3 ml/liter divided by 8,760 hr/yr.

U_W = average adult water consumption (assumed) 730 kg/yr.

U_F = adult fish consumption (assumed) 21 kg/yr.

BF_i = bioaccumulation factor for isotope, i, in fish (pCi/kg per pCi/l). These values are taken from Reg. Guide 1.109 Table A-1.

DF_i = dose conversion factor for nuclide, i, for adults in organ, τ, mrem/pCi ingested from Table E-11 of Reg. Guide 1.109.

D_W = dilution factor from the near field area within one quarter mile of the release point to the potable water intake for adult water consumption.

The site is on Lake Dardanelle on the Arkansas River. There is no potable water intake in Lake Dardanelle or in the near vicinity downstream of the Dardanelle dam, therefore the term U_W/D_W will be deleted.

Substituting the appropriate factors into the above equation yields;

$$A_{i\tau} = 1.14E5 \times 21\ BF_i \times DF_i$$

or

(4) $$A_{i\tau} = 2.39E6 \times BF_i \times DF_i$$

The equations in 2.2 will be used as the methodology for dose projections to cover 4.11.1.3.1 and 4.27.3 wherein C_i is handled as follows:

$$C_i = x/y * A_{Ci}$$

where; x = number of days projected to release during the next 31 days.

y = number of days actually released in the last 31 days.

A_{Ci} = actual number of μCi of ch nuclide released in the last 31 days.

C_i = projected number of μCi of each nuclide to be released.

3.0 Gaseous Effluents

3.1 Gaseous Monitor Setpoints

3.1.0 Introduction:

This section applies to the following gaseous radiation monitors.

ANO-1	
RE-7400	Unit vents (reactor building purge, fuel handling area, and radwaste area ventilation systems)
RE-4830*	Waste gas holdup system monitor
ANO-2	
2RE-8233	Containment purge
2RE-8540	Fuel handling area ventilation system
2RE-8542	Radwaste area ventilation system
2RE-7828	Auxiliary building extension ventilation system
2RE-2429	Waste gas holdup system monitor

The determination of the setpoints for the above monitors will be based upon an arbitrarily set fraction of the maximum permissible concentration (MPC) at the site boundary, of noble gas activity (Xe-133 equivalent) released from the above release points. Other factors considered in the setpoint calculations include: background countrate for each monitor, radwaste flowrate, Xe-133 equivalent monitor efficiency, atmospheric dilution factor, and the number and type of ventilation systems in operation. The fraction of an MPC allocated to each monitor will be dependent upon plant conditions, and the amount of activity that is expected to be released via each release point. The fraction assigned to each monitor may be varied, however, the sum of all of the fractions of an MPC assigned shall be less than or equal to 1 MPC. When the setpoint on one monitor is changed, the setpoint on at least one other monitor will be changed accordingly. Determining setpoints in this manner will allow the flexibility needed to maintain plant operation.

The fact that one monitor alarms would not necessarily mean the gaseous effluents are being released at such a rate that the one MPC limit is being violated. The alarm would indicate that more material is being released than the fraction of an MPC assigned to the alarmed monitor. An analysis of that material being released via all of the monitors and the release rate at those monitors would have to be done to ensure that the MPC limit is not being violated.

* These monitors provide an automatic isolation for the waste gas holdup systems and are not final effluent point monitors. The discharge from RE-4830 is monitored by RE-7400.

The initial fractions of one MPC allocated to the release points are given below. The allocations may be changed as indicated above.

ANO-1	50%
ANO-2 Radwaste area	30%
ANO-2 Fuel handling area	19%
ANO-2 Auxiliary building extension	0%
ANO-2 Containment purge	0%

The containment purge and the auxiliary building extension ventilation systems are not operated continuously, therefore, they will not be routinely allocated a fraction of an MPC to be released.

The setpoints to be used during a batch type of release (i.e. reactor building purge, release from the waste gas hold up system or any other non-routine release) will be calculated for each release before it occurs.

3.1.1 The basic methodology for determining a monitor setpoint starts by determining the allowable concentration at the monitor.

$$C_B = C_M * F * (\overline{x/q})_v * 1E\text{-}6$$

where; C_B = Xe-133 equivalent concentration at the site boundary (μCi/ml). This is based upon the arbitrary fraction of 1 MPC assigned to this monitor.

C_M = Xe-133 equivalent concentration at the monitor (μCi/ml).

F = the flowrate of radioactive gaseous effluent at the release point being considered (ml/sec).

$(\overline{x/q})_v$ = atmospheric dispersion factor, 2.8×10^{-6} sec/m^3 found in the ANO-2 FSAR Section 2.3.

1E-6= conversion factor (m^3/ml)

Solving for $C_M = \dfrac{C_B}{F * (\overline{x/q})_v * 1E\text{-}6}$

(usually F and C_M only will be varied)

The setpoint for each monitor is:

$$S = (C_M * K) + B$$

where; S = monitor setpoint (counts/sec)..

C_M = Xe-133 equivalent count at the monitor (μCi/ml) (defined above).

K = conversion factor determined from response curve of monitor (counts/sec vs. μCi/ml).

B = background count rate at the monitor (counts/sec).

3.2 Airborne Release Rates - Implementation of 10 CFR 20.

This section provides the calculational methodology to implement the Radioacative Gaseous Effluents - Dose Rate specifications. It should be noted that these specifications are site related not unit related.

The dose rate to the total body may be calculated by:

$$DR_{TB} = DR_{body} + DR_{\tau}$$

Where DR_{TB} = dose rate to the total body from gaseous effluents expressed in (mrem/yr).

DR_{body} = dose rate to the total body from noble gases in (mrem/yr) from section 3.2.1.

DR_{τ} = dose rate with τ as total body from I-131, H-3, and particulates with half-lives > 8 days in (mrem/yr) from section 3.2.2.

3.2.1 Noble Gas Release Rate.

The release rate for noble gases can be calculated from;

1) $DR_{body} = 10^6 * \Sigma [K_i * (\overline{\chi/q})_v * Q_i]$ to the total body

2) $DR_{skin} = 10^6 * \Sigma [(L_i + 1.1M_i) * (\overline{\chi/q})_v * Q_i]$ to the skin

where DR = dose rate for time and organ in question (body or skin) (mrem/yr).

10^6 = Conversion factors, (pCi/μCi).

Q_i = Release rate of isotope, i, (μCi/sec). The release rate of radionuclides, i, in gaseous effluent from all vent releases (μCi/sec).

$(\overline{\chi/q})_v$ = 2.8E-6 sec/m^3 for all vent releases.

M_i = The air dose factor due to gamma emissions for each identified noble gas radionuclide in mrad/yr per $\mu Ci/m^3$ (unit conversions constant of 1.1 mrem/mrad converts air dose to skin dose) (see Table 3-1).

K_i = The total body dose factor due to gamma emissions for each identified noble gas radionuclide in mrem/yr per pCi/m^3 (see Table 3-1).

L_i = The skin dose factor due to beta emissions for each identified noble gas radionuclide in mrem/yr per $\mu Ci/m^3$ (see Reg. Guide 1.109).

In equation 1, $(x/q)_v$ is constant and K_i is constant for a given radioisotope, and their product will be constant for a given isotope. The equation simplifies to:

3) $DR_{body} = \sum_i XK_i * Q_i$ to the total body

where $XK_i = (\overline{\chi/q})_v * K_i * 10^6$, and all other variables are defined above.

In equation 2, $(\overline{\chi/q})_v$ is constant and $(L_i + 1.1M_i)$ is constant for any given radioisotope, and therefore, their product is constant. Equation 2 simplifies to:

4) $DR_{skin} = LM_i * Q_i$ to the skin

where $LM_i = 10^6 * (\overline{\chi/q})_v * (L_i + 1.1M_i)$

See Table 3-1 to locate tabulated values.

3.2.2 Iodine-131, Tritium, and Particulate Release Rate

The release rate for Iodine-131, Tritium, and Radionuclides in particulate form with half-lives > 8 days may be calculated from:

5) $DR_\tau = P_i * W * Q_i$ to any organ,

where DR_τ = Dose rate to organ τ for the time period in question (mrem/yr).

P_i = The dose parameter for radionuclides other than noble gases for the inhalation pathway in mrem/yr per $\mu Ci/m^3$ and for food and ground plane pathways in m^2 (mrem/yr per $\mu Ci/sec$). The dose

factors are based on the critical individual organ and most restrictive age group (infant).

P_i is determined in equations 6,7, and 8.

Q_i = The release rate of radionuclides, i, in gaseous effluent from all vent releases (μCi/sec).

W = The dispersion parameter for estimating the dose to an individual due to all vent releases:

= 2.8E-6, for the inhalation pathway.

= 1.4E-8 meters $^{-2}$, for the food and ground plane pathways.

A dispersion parameter of 1.4E-8 meters $^{-2}$ will be used for the food on ground plane pathways. This assumes a deposition velocity of 5E-3 meters/sec; as obtained from the ANO-2 FSAR, Section 11.3.

Equation 5 considers the infant as the most restrictive age group. The organs that will be considered are the skin, bone, liver, total body, thyroid, kidney, lung, and GI-LLI. There are three major pathways that may contribute to the dose rate to the above items. The pathways considered will be inhalation, ground plane, and food. The food pathway for the infant is considered to be from milk only. All three pathways will contribute to the whole body dose, while the skin will be affected by only the ground plane pathway, and the other organs will be affected by only the inhalation and food pathways.

The dispersion factor for the inhalation pathway will be $(\overline{\chi/q})_v$, while $(\overline{d/q})_v$ will be used for the ground plane and food pathways.

The equations for the pathways to an infant are:

6) $P_i = 1.4E9 * DFA_i$, for inhalation;

7) $P_i = 8.76E9 * DFG_i * (1-e^{-\lambda_i * 3.15E7})/\lambda_i$, for ground plane;

8) $P_i = 2.4E10 * r * F_i * DFL_i * (e^{-\lambda_i * 1.73E5})/$

$(\lambda_i + 5.73E7)$, for food;

where DFA_i = maximum organ inhalation dose factor for radionuclide, i (mrem/pCi).

DFG_i = ground plane dose conversion factor for radionuclide, i (mrem/hr per pCi/m^2) (see Table 3-1).

λ_i = decay constant for radionuclide, i (sec^{-1}).

r = fraction of deposited activity retained on cows' feed grass (1 for radioiodines and .2 for particulates).

1.73E5= transport time from pasture to cow, to milk, to infant (seconds).

F_i = stable element transfer coefficient (days/liter) (from Reg. Guide 1.109 Table E-1).

DFL_i = organ ingestion dose factor for radionuclide, i (mrem/pCi).

1.4E9 = conversion factor, 10^6 pCi/μCi x 1400 m^3/yr (assume infant breathing rate).

8.76E9 = conversion factor, 10^6 pCi/μCi x 8760 hr/yr.

2.4E10 = conversion factor, ($1 \bullet m^2 \bullet$pCi per yr$\bullet$day$\bullet$mCi).

Since $(\overline{\chi/q})_v$ and $(\overline{d/q})_v$ (and therefore W) are assumed to be constant in equation 5, equation 5 may be reduced to:

9) $DR_r = PW_i * Q_i$ to any organ,

where $PW_i = P_i$ inhalation $* (\overline{\chi/q})_v + P_i$ ground plane $* (\overline{d/q})_v + P_i * (\overline{d/q})_v$ food and is determined for each organ.

See Table 3-1 to locate tabulated values of PW_i.

NOTE: PW_i for Tritium equals 8.4E-3 where P_i equals 3.0E3 and W equals 2.8E-6.

3.3 Dose Due to Noble Gases

The air dose in unrestricted areas due to noble gases released in gaseous effluents shall be less than or equal to 5 mrad for gamma radiation and 10 mrad for beta radiation for any calendar quarter for each unit. The general objective of less than or equal to 10 mrad of gamma radiation and 20 mrad of beta radiation for a calendar year per unit (2.5 mrad and 5 mrad respectively per quarter) should be used for planning releases.

The air dose in unrestricted area due to noble gases released in gaseous effluents should be determined by the following expressions:

During any calendar quarter, for gamma radiation:

1) $$3.17E\text{-}8 \sum_i [M_i[(\overline{\chi/Q})*\tilde{Q}_i + (\overline{\chi/q})*\tilde{q}_i] = D \text{ (mrad)}.$$

During any calendar quarter, for beta radiation:

2) $$3.17E\text{-}8 \sum_i N_i [(\overline{\chi/Q})*\tilde{Q}_i + (\overline{\chi/q})*\tilde{q}_i] = D \text{ (mrad)}.$$

where;

M_i = The air dose factor due to gamma emissions for each identified noble gas radionuclide in mrad/yr per $\mu Ci/m^3$ (see Table 3-1).

N_i = The air dose factor due to beta emissions for each identified noble gas radionuclide in mrad/yr per $\mu Ci/m^3$ (see Table 3-1).

$(\overline{\chi/Q})$ = 0 sec/m^3 for vent releases. The highest calculated annual average relative concentration for area at or beyond the unrestricted area boundary for long term releases (greater than 500 hrs/year).

$(\overline{\chi/q})$ = 2.8×10^{-6} sec/m^3 for vent releases. The relative concentration for areas at or beyond the unrestricted area boundary for short term releases (equal to or less than 500 hrs/year).

$\tilde{Q}_i$ = The average release of noble gas radionuclides in gaseous effluents, i, for long term releases (greater than 500 hrs/yr) from all vents in μCi. Releases shall be cumulative over the calendar quarter or year as appropriate.

$\tilde{q}_i$ = The average release of noble gas radionuclides in gaseous effluents, i, for short term releases (equal to or less than 500 hrs/year) from all vents in μCi. Releases shall be cumulative over the calendar quarter or year as appropriate.

D = The "dose" for the type of radiation and time frame in question.

3.17E-8 = The inverse of the number of seconds per year.

The above equations have been simplified from the equations found in NUREG 0133 Rev. 0 because we have no free-standing stacks. We will simplify the equation further by saying that there are no long term releases. We will take weekly samples from the unit vents (continuous release points) and use a release period of 168 hours per sample (i.e. consider items as short term releases). Individual samples will be taken for each batch release.

Equation 1 has been reduced to:

$$D \leq 3.17E\text{-}8 * \Sigma MX_i * \tilde{q}_i, \text{ and}$$

equation 2 has been reduced to:

$$D \leq 3.17E\text{-}8 * \Sigma NX_i * \tilde{q}_i,$$

where: $MX_i = M_i * (\overline{\chi/q}) * 10^6$ pCi/μCi (see table 3-1).

$NX_i = N_i \times (\overline{\chi/q}) * 10^6$ pCi/μCi (see table 3-1).

$\tilde{q}_i$ = has been previously defined.

3.4 Dose Due to Iodine-131, Tritium, and Particulates in Gaseous Effluents

3.4.1 Dose Equation-Particulates, etc.

The dose to an individual from iodine-131, tritium, and radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released to unrestricted areas shall be as specified in the Technical Specifications. (Radioactive Gaseous Effluents-Dose Particulates) This section will provide the calculational methodology for verification that the limits are not exceeded.

$$D_\tau \leq 3.17E\text{-}8 \sum_i R_i \left[w_s \tilde{q}_{is} + w_v \tilde{q}_{iv} \right]$$

where: D_τ = Dose to the whole body or any organ.

$\tilde{q}_i$ = The releases of radionuclides, radioactive materials in particulate form, and radionuclides other than noble gases in gaseous effluents, i, for short term releases equal to or less than 500 hrs/yr (μCi). Releases shall be cumulative over the calendar quarter or year as appropriate.

w = The dispersion parameter for estimating the dose to an individual at the controlling location for short term releases (equal to or less than 500 hrs/yr.):

w = 2.8E-6 for the inhalation pathway in sec/m^3,

w = 1.4E-8 for the food and ground plane pathway in meters $^{-2}$.

3.17×10^{-8} = The inverse of the number of seconds in a year.

R_i = The dose factor for organ, τ, for each identified radionuclide, i, in m^2 (mrem/yr) per μCi/sec or mrem/yr per $\mu Ci/m^3$. Calculation method in section 3.4.2.

s = Subscript to denote terms relating to free standing stack releases.

v = Subscript to denote terms relating to vent releases.

A dispersion parameter of 2.8E-6 sec/m^3 as per ANO Unit II FSAR, Section 2.3.4.4. will be used for "w" for the inhalation pathway. The reason for using this value is the majority of the gaseous activity released from the site has typically been released from the waste gas decay tanks and reactor building purges, within the time frame of 8 to 24 hours.

There are no free standing stacks at ANO, therefore, we will delete the terms pertaining to stacks.

The previous equation reduces to:

$$D_\tau = 3.17E\text{-}8 \sum_i RW_i * q_i$$

where $RW_i = R_i * w_i$ for nuclide i, for organ τ (see Table 3-1 to locate the tabulated values).

3.4.2 Calculation of RW_i

3.4.2.0 Introduction:

This part of the ODCM deals with the computation of pathway dose factors (RW_i). These factors are for isotopes found in gaseous releases (the isotopes being in particulate form, iodine-131, and tritium). Each potential pathway for the isotope to enter man is expressed in the form of an equation. These equations are then summed together so the total dose contribution for each isotope can be obtained.

There are four age groups for which these factors are to be considered: adult, teenager, child, and infant. The infant and child are the least tolerant to radiation. Thus, they also possess the most restrictive limits as to how much radioactive gas can be released per unit time. Therefore, only these two age groups will be calculated, since it becomes apparent that if the limits for these two age groups are met, then the limits for the less restrictive teenager and adult groups must have been satisfied also.

In developing the RW_i values, separate expressions are written for each of the potential pathways. These expressions are denoted by

$R_i^G[D/Q], R_i^I[\chi/Q], R_i^C[D/Q], R_i^M[D/Q]$ and $R_i^V[D/Q]$, where

the superscripts G, I, C, M, and V refer to ground plane, inhalation, cow's milk, meat, and vegetation, respectively. The 'argument' notation, [ ], indicates the appropriate dispersion parameter, w, to be applied with the R_i factor. In the case of tritium, the dispersion parameter, w, is always taken as $(\overline{\chi/Q})$. The R_i values are listed in tabular form at the end of the ODCM.

Each of the five pathways mentioned in the above paragraph will, at this time, be considered and reduced to as simple an expression as possible.

3.4.2.1. Inhalation Pathway Factor, $R_i^I[\chi/Q]$

$$R_i^I[\chi/Q] = [K'(BR)_a (DFA_i)_a \text{ (mrem/yr per } \mu Ci/m^3)]\ \chi/Q$$

where:

χ/Q = 2.8 E-6 sec/m^3

K' = a constant of unit conversion, 10^6 pCi/μCi.

Combining terms: $\chi/Q * K' = (2.8E\text{-}6)\ (10^6) = 2.8$

$$R_i^{\tau}[\chi/Q] = 2.8\ (BR)_a\ (DFA_i)_a$$

$(BR)_a$ = the breathing rate of the receptor of age group (a) in m^3/yr

$(DFA_i)_a$ = the maximum organ inhalation dose factor for the receptor of age group (a) for the i^{th} radionuclide, in mrem/μCi. The total body is considered as an organ in the selection of $(DFA_i)_a$.

The breathing rates $(BR)_a$ for the various age groups are tabulated below, as given in Table E-5 of the Regulatory Guide 1.109.

Age Group (a)	Breathing Rate (m^3/yr)
Infant	1400
Child	3700
Teen	8000
Adult	8000

Inhalation dose factor, $(DFA_i)_a$, for the various age groups are given in Tables E-7 through E-10 of Regulatory Guide 1.109 (See Table 3-1).

3.4.2.2. Ground Plane Pathway Factor, $R_i^G[D/Q]$

$$R_i^G[D/Q]=[K'K''(SF)DFG_i[(1-e^{-\lambda_i t})/\lambda_i](m^2 mrem/yr \text{ per } \mu Ci/sec)]5E\text{-}3 * \chi/Q$$

Where:

K' = a constant of unit conversion, 10^6 pCi/μCi.

K'' = a constant of unit conversion, 8760 hr/yr.

λ_i = the decay constant for the i^{th} radionuclide, sec^{-1}.

t = the exposure time, 4.73E8 sec (15 years).

DFG_i = the ground plane dose conversion factor for the i^{th} radionuclide (mrem/hr per pCi/m^2).

5E-3 = sec/m deposition factor.

SF = the shielding factor (dimensionless), 0.7

χ/Q = 2.8E-6 (sec/m^3)

A shielding factor of 0.7 is suggested in Table E-15 of Regulatory Guide 1.109. A tabulation of DFG_i values is presented in Table E-6 of Regulatory Guide 1.109.

Combining terms, the above equation can be expressed in the following manner:

$$R_i^G [D/Q] = 6.13E9 * DFG_i * [(1-e^{-\lambda_i 4.73E8})/\lambda_i] * 5E\text{-}3 * 2.8E\text{-}6$$

where: $6.13\ E9 = K' \times K'' \times 0.7$

NOTE: This equation is the same for all age groups.

Combining terms: $6.13E9 * 5E\text{-}3 * 2.8E\text{-}6 = 85.8$,

$$R_i^G[D/Q] = 85.8\ DFG_i[(1-e^{-\lambda_i 4.73E8})/\lambda_i].$$

3.4.2.3. Grass-Cow-Milk Pathway Factor, $R_i^C[D/Q]$

$$R_i^C [D/Q] = K' \frac{Q_F U_{ap}}{\lambda_i + \lambda_w} Fm(r) (DFL_i)_a \left[\frac{f_p f_s}{Y_p} + \frac{(1-f_p f_s) e^{-\lambda_i t_h}}{Y_s}\right] e^{-\lambda_i t_f} (5E\text{-}3)(\chi/Q)$$

$5E\text{-}3 * \chi/Q$ (m^2xmrem/yr per μCi/sec)

The quantity $f_p f_s = 1$ by definition (until site specific data is available via land census), and so everything within the inner brackets reduces to $[\frac{1}{Y_p}]$, or [1/0.7] or [1.43], (see below).

$\therefore K' \times Q_F \times (U_{ap}) \times [1.43] = 2.36E10$

$\therefore$ The equation can be written:

$$R_i^C[D/Q] = \frac{[\ (2.36E10)(F_m)(r)(DFL_i)_a(e^{-\lambda_i 1.73E5})\ ]\chi/Q * 5E\text{-}3}{(\lambda_i + 5.73E\text{-}7)}$$

where: $\chi/Q = 2.8E\text{-}6$ sec/m^3

K' = a constant of unit conversion, 10^6 pCi/μCi.

Q_F = the cow's consumption rate in kg/day wet weight.

U_{ap} = the receptor's milk consumption rate for age (a) in liters/yr.

Y_p = the agricultural productivity by unit area of pasture feed grass in kg/m^2.

Y_s = the agricultural productivity by unit area of stored feed in kg/m^2.

F_m = the stable element transfer coefficients in days/liter.

r = fraction of deposited activity retained on cow's feed grass.

$(DFL_i)_a$ = the maximum organ ingestion dose factor for the i^{th} radionuclide for the receptor in age group (a) in mrem/pCi.

λ_i = the decay constant for the ith radionuclide in sec^{-1}.

λ_w = the decay constant for removal of activity on leaf and plant surfaces by weathering, 5.73E-7 sec^{-1} (corresponding to a 14 day half-life).

t_f = the transport time from pasture to cow, to milk, to receptor (sec).

t_h = the transport time from pasture, to harvest, to cow, to milk, to receptor (sec).

f_p = fraction of the year that the cow is at pasture (dimensionless).

f_s = fraction of the cow feed that is pasture grass while the cow is at pasture (dimensionless).

5E-3 = m/sec deposition factor.

Combining terms: (2.36E10) (2.8E-6) (5E-3) = 330

$$R_i^C[D/Q] = \frac{(330)(F_m)(r)(DFL_i)_a(e^{-\lambda_i 1.73E5})}{(\lambda_i + 5.73E\text{-}7)}$$

SPECIAL NOTE: The above equation is applicable in the case that the milk animal is a goat.

Milk cattle are considered to be fed from two potential sources, pasture grass and stored feeds. Following the development in Regulatory Guide 1.109, the values of f_p and f_s will be considered unity.

Tabulated below are the appropriate parameter values and their reference to Regulatory Guide 1.109. In the case that the milk animal is a goat, rather than a cow, refer to Regulatory Guide 1.109 for the appropriate parameter values.

Parameter	Value	RG. 1.109
r (dimensionless)	1.0 for radioiodine	E-15
	0.2 for particulates	E-15
F_m (days/liter)	Each stable element	E-1
U_{ap} (liters/yr)-Infant	330	E-5
-Child	330	E-5
-Teen	400	E-5
-Adult	310	E-5

$(DFL_i)_a$(mrem/pCi)	Each radionuclide	E-11 to E-14
Y_p (kg/m²)	0.7	E-15
Y_s (kg/m²)	2.0	E-15
t_f (seconds)	1.73E5 (2 days)	E-15
t_h (seconds)	7.78E6 (90 days)	E-15
Q_f (kg/day)	50	E-3

The concentration of tritium in milk is based on the airborne concentration rather than the deposition. Therefore, the R_i^C is based on [χ/Q]:

$$R_i^C[\chi/Q] = [K'K''' F_m Q_F U_{ap} (DFL_i)_a [0.75(0.5/H)] \text{ (mrem/yr per } \mu Ci/m^3)]\chi/Q$$

where: $\chi/Q = 2.8E\text{-}6$ sec/m³.

K''' = a constant on unit conversion, 10^3 gm/kg.

H = absolute humidity of the atmosphere, in gm/m³.

0.75 = the fraction of total feed that is water.

0.5 = the ratio of the specific activity of the feed grass water to the atmospheric water. Other parameters and values are given above. The value of H may be considered as 8 grams/meter³, in lieu of site specific information (as per NuReg 0133, 5.3.1.3., Page 34, Paragraph 1).

Combining terms χ/Q (K' * K''' Q_F U_{ap} * (0.75(0.5/8)) = 2.17E6

$$\therefore R_i^C[\chi/Q] = (2.17E6)\ (F_m)\ (DFL_i)_a\ .$$

3.4.2.4. Grass-Cow-Meat Pathway Factor, $R_i^M[D/Q]$

The integrated concentration in meat follows in a similar manner to the development for the milk pathway, therefore:

$$R_i^M[D/Q] = K' \frac{Q_F\ (U_{ap})}{\lambda_i + \lambda_w} F_f(r)(DFL_i)_a \left[\frac{f_p f_s}{Y_p} + \frac{(1-f_p f_s) e^{-\lambda_i t_h}}{Y_s} \right] e^{-\lambda_i t_h} (5E\text{-}3)(\chi/Q)$$

$e^{-\lambda_i t_f}$ (5E-3)(χ/Q)

where: 5E-3 = m/sec deposition factor.

F_f = the stable element transfer coefficients in days/kg.

U_{ap} = the receptor's meat consumption rate for age (a) in kg/yr.

t_f = the transport time from pasture to receptor in sec.

t_h = the transport time from crop field to receptor in sec.

χ/Q = 2.8E-6 sec/m^3.

Tabulated below are the appropriate parameter values and their reference to Regulatory Guide 1.109:

Parameter	Value	RG 1.109
r (dimensionless)	1.0 for radioiodine	E-15
	0.2 for particulates	E-15
F_f (days/kg)	Each stable element	E-1
U_{ap} (kg/yr) - Infant	0	E-5
- Child	41	E-5
- Teen	65	E-5
- Adult	110	E-5
$(DFL_i)_a$ (mrem/pCi)	Each radionuclide	E-11 to E-14
Y_p (kg/m^2)	0.7	E-15
Y_s (kg/m^2)	2.0	E-15
t_f (seconds)	1.73E6 (20 days)	E-15
t_h (seconds)	7.78E6 (90 days)	E-15
Q_F (kg/day)	50	E-3

The above equation can be reduced and rearranged to the following after inverting the appropriate values:

$$R_i^M[D/Q] = \frac{(2.93E9)\ (F_f)(r)(DFL_i)_a(e^{-\lambda_i 1.73E6})\ \chi/Q * 5E\text{-}3}{(\lambda_i + 5.73E\text{-}7)}$$

Equation 3.4.2.4. was reduced in the same manner as was equation 3.4.2.3., and for the same reasons.

Combining terms: $(\chi/Q)(5E\text{-}3)(2.93E9) = 41$

$$R_i^M[D/Q] = \frac{(41)\ (F_f)(r)(DFL_i)_a(e^{-\lambda_i 1.73E6})}{(\lambda_i + 5.73E\text{-}7)}$$

The concentration of tritium in meat is based on the airborne concentration rather than the deposition. Therefore, the R_i^M is based on [χ/Q]:

$$R_i^M[\chi/Q] = [K'K''F_f Q_F U_{ap} (DFL_i)_a \ [0.75(0.5/H] \ (\text{mrem/yr per } \mu Ci/m^3)]\chi/Q$$

where all terms are defined above and in Section 3.4.2.3. of this manual.

The equation for tritium contribution via the meat pathway is reduced to the following expression:

$$R_i^M[\chi/Q] = 2.69E5 * F_f * (DFL_i)_a$$

Where: $2.69E5 = [K' \times K'' \ Q_F \ U_{ap} * (0.75(0.5/8))] \ \chi/Q$

3.4.2.5. Vegetation Pathway Factor, $R_i^V[D/Q]$

The integrated concentration in vegetation consumed by man follows the expression developed in the derivation of the milk factor. Man is considered to consume two types of vegetation (fresh and stored) that differ only in the time period between harvest and consumption, therefore:

$$R_i^V [D/Q] = K' \frac{(r)}{Y_v(\lambda_i+\lambda_w)} (DFL_i)_a \ [U_a^L f_L e^{-\lambda_i t_L} + U_a^S f_g e^{-\lambda_i t_h}] * 5E\text{-}3 * \chi/Q$$

where:

χ/Q = 2.8E-6 sec/m^3.

K' = a constant of unit conversion, 10^6 pCi/μCi.

U_a^L = the consumption rate of fresh leafy vegetation by the receptor in age group (a) in kg/yr.

U_a^S = the consumption rate of stored vegetation by the receptor in age group (a) in kg/yr.

f_L = the fraction of the annual intake of fresh leafy vegetation grown locally.

f_g = the fraction of the annual intake of stored vegetation grown locally.

t_L = the average time between harvest of leafy vegetation and its consumption in seconds.

t_h = the average time between harvest of stored vegetation and its consumption in seconds.

Y_v = the vegetation areal density in kg/m^2.

5E-3 = deposition factor (m/sec).

All other factors are defined in Section 3.4.2.3. of this manual.

Tabulated below are the appropriate parameter values and their reference to Regulatory Guide 1.109.

Parameter	Value	RG1.109
r (dimensionless)	1.0 for radioiodines	E-1
	0.2 for particulates	E-1
$(DFL_i)_a$ (mrem/pCi)	Each radionuclide	E-11 to E-14
U_a^L(kg/yr) - Infant	0	E-5
Child	26	E-5
Teen	42	E-5
Adult	64	E-5
U_a^S(kg/yr) - Infant	0	E-5
Child	520	E-5
Teen	630	E-5
Adult	520	E-5
f_L (dimensionless)	site specific (default = 1.0)	
f_g (dimensionless)	site specific (default = 0.76) (see Ref. 6, Page 28)	
t_L (seconds)	8.6E4 (1 day)	E-15
t_h (seconds)	5.18E6 (60 days)	E-15
Y_v (kg/m²)	2.0	E-15

Rearranging the above equation and maintaining appropriate values:

$$R_i^V[D/Q] = \left[\frac{5E5(r)(DFL_i)_a(26e^{-\lambda_i 8.6E4} + 395e^{-\lambda_i 5.18E6})}{(\lambda_i + 5.73E\text{-}7)} \right] * \chi/Q * 5E\text{-}3$$

Combining terms: $(5E5)(5E\text{-}3)(\chi/Q) = 7E\text{-}3$

$$R_i^V[D/Q] = \left[\frac{(7E\text{-}3)(r)(DFL_i)_a(26e^{-\lambda_i 8.6E4} + 395e^{-\lambda_i 5.18E6})}{(\lambda_i + 5.73E\text{-}7)} \right]$$

The concentration of tritium in vegetation is based on the airborne concentration rather than the deposition. Therefore, the R_i^V is based on $[\chi/Q]$:

$$R_i^V[\chi/Q] = (K'K'''[U_a^L f_L + U_a^S f_g](DFL_i)_a[0.75(0.5/H)](\text{mrem/yr per } \mu Ci/m^3)) * \chi/Q$$

where all terms have been defined above and in Section 3.4.2.3. of this manual.

This equation reduces to the following after inserting the appropriate value: $R_i[\chi/Q] = 7.42E4 * (DFL_i)_a$

where: $7.42E4 = (K' * K'' * [U_a^L f_L + V_a^S f_g] * [0.75(0.58)] * \chi/Q$

Calculation for the Infant

A value of zero is assigned to the U_{ap} parameter in the grass-cow-meat pathway for the infant. A zero value is also assigned to the U_a^L and U_a^S parameters in the grass-cow-vegetation pathway. The reason for this is that it is assumed that there is zero consumption via the meat and vegetation pathways for an infant. Therefore:

$$RW_i = R_i^I[\chi/Q] + R_i^G[D/Q] + R_i^C[D/Q]$$

After substituting the expanded expressions for the various pathways considered here, the expression becomes:

$$RW_i = [(3920)(DFA_i)_a] + (85.8)(DFG_i)([1-e^{-\lambda_i 4.73E8}]/\lambda_i) + \frac{(300)(F_m)(r)(DFL_i)_a (e^{-\lambda_i 1.73E5})}{(\lambda_i + 5.73E-7)}$$

where: $3920 = 2.8\ (BR)_a$ for an infant.

$1.0E-2 = F_m$ as per table E-1 in NuReg 1.109 (for tritium).

$3.0E-7 = (DFL_i)_a$ for tritium as per Table E-14 in NuReg 1.109.

All other terms as defined previously. The tritium factor is calculated as follows:

$$R_i^I[\chi/Q] + R_i^C[\chi/Q] = 2.8(BR)_a\ (DFA_i)_a + (4.5E4)(F_m)(DRL_i)_a$$

Substituting values the equation becomes:

$$RW_i = [2.8(1400)(4.62E-7)] + [4.5E4(1.0E-2)(3.08E-7)] = 1.95E-3$$

Calculations for the Child

All five pathways are applicable for the child, therefore, the summation for each isotope is:

$$RW_i = R_i^I[\chi/Q] + R_i^G[D/Q] + R_i^C[D/Q] + R_i^M[D/Q] + R_i^V[D/Q], \text{ or}$$

$$RW_i = ((10360)(DFA_i)_a) + (85.8DFG_i[(1-e^{-\lambda_i 4.73E8})/\lambda_i]) +$$

$$\frac{(330)(F_m)(r)(DFL_i)_a(e^{-\lambda_i 1.73E5})}{(\lambda_i + 5.73E\text{-}7)} + \frac{(41)(F_f)(r)(DFL_i)_a(e^{-\lambda_i 1.73E6})}{(\lambda_i + 5.73E\text{-}7)} +$$

$$\frac{(7E\text{-}3)(r)(DFL_i)_a\ [(26e^{-\lambda_i 8.6E4} + 395e^{-\lambda_i 5.18E6})]}{(\lambda_i + 5.73E\text{-}7)}$$

where: $10360 = (2.8)(BR)_a = (2.8)\ (3700)$

The tritium factor for the child is calculatd as follows:

$RW_i = R_i^I[\chi/Q] + R_i^C[\chi/Q] + R_i^M[\chi/Q] + R_i^V[\chi/Q]$ or

$RW_i = [2.8(BR)_a\ (DFA_i)_a] + [2.17E6(F_m)(DFL_i)_a] + [2.69E5(F_f)\ (DFL_i)_a] +$

$[7.42E4\ (DFL_i)_a]$

Substituting values:

$RW_i = [2.8(3700)(3.04E\text{-}7)] + [2.17E6\ (10E\text{-}2)(3.04E\text{-}7)] + [2.69E5\ (1.2E\text{-}2)(3.04E\text{-}7) + [7.42E4(3.04E\text{-}7)]$

$RW_i = 3.33E\text{-}2$

3.5 Gaseous Effluent Dose Projections

The equations in 3.3 and 3.4 will be used as the methodology for dose projections for gaseous effluent releases where in $_{qi}$ is handled as follows:

$$_{qi} = x/y * A_{qi}$$

Where: x = number of days projected to release during the next 31 days.

y = number of days actually released in the last 31 days.

A_{qi} = number of μCi of isotope $_i$ released in the last 31 days.

$_{qi}$ = projected number of μCi of each isotope $_i$ to be released.

Table 3-1

Contents of ODCM Record File

Variable	Record #	Elements	Description
$A_{i\tau}$	62	16-100	Adult bone dose factor, liquid release
$A_{i\tau}$	63	16-100	Adult liver dose factor, liquid release
$A_{i\tau}$	64	16-100	Adult total body dose factor, liquid release
$A_{i\tau}$	65	16-100	Adult thyroid dose factor, liquid release
$A_{i\tau}$	66	16-100	Adult kidney dose factor, liquid release
$A_{i\tau}$	67	16-100	Adult lung dose factor, liquid release
$A_{i\tau}$	68	16-100	Adult GI-LLI dose factor, liquid release
BF_i	61	16-100	Bio-accummulation factors for freshwater fish (Reg Guide 1.109 Table A-1)
DFA_i	31	16-100	Infant inhalation dose factor for bones
DFA_i	32	16-100	Infant inhalation dose factor for liver
DFA_i	33	16-100	Infant inhalation dose factor for total body
DFA_i	34	16-100	Infant inhalation dose factor for thyroid
DFA_i	35	16-100	Infant inhalation dose factor for kidneys
DFA_i	36	16-100	Infant inhalation dose factor for lungs
DFA_i	37	16-100	Infant inhalation dose factor for GI-LLI
DFA_i	46	16-100	Child inhalation dose factor for bone
DFA_i	47	16-100	Child inhalation dose factor for liver
DFA_i	48	16-100	Child inhalation dose factor for total body
DFA_i	49	16-100	Child inhalation dose factor for thyroid
DFA_i	50	16-100	Child inhalation dose factor for kidney
DFA_i	51	16-100	Child inhalation dose factor for lung
DFA_i	52	16-100	Child inhalation dose factor for GI-LLI
DFG_i	21	16-100	Skin external dose factor for standing on contaminated ground. (R.G. 1.109 Table E-6)

Table 3-1 (Continued)

Variable	Record #	Elements	Description
DFG_i	22	16-100	Total body external dose factor for standing on contaminated ground (R.G. 1.109 Table E-6)
DFL_i	24	16-100	Infant ingestion dose factor for bone
DFL_i	25	16-100	Infant ingestion dose factor for liver
DFL_i	26	16-100	Infant ingestion dose factor for total body
DFL_i	27	16-100	Infant ingestion dose factor for thyroid
DFL_i	28	16-100	Infant ingestion dose factor for kidney
DFL_i	29	16-100	Infant ingestion dose factor for lung
DFL_i	30	16-100	Infant ingestion dose factor for GI-LLI
DFL_i	39	16-100	Child ingestion dose factor for bone
DFL_i	40	16-100	Child ingestion dose factor for liver
DFL_i	41	16-100	Child ingestion dose factor for total body
DFL_i	42	16-100	Child ingestion dose factor for thyroid
DFL_i	43	16-100	Child ingestion dose factor for kidney
DFL_i	44	16-100	Child ingestion dose factor for lung
DFL_i	45	16-100	Child ingestion dose factor for GI-LLI
F_f	53	16-100	Stable element transfer data-meat (R.G. 1.109, Table E-1)
F_m	23	16-100	Stable element transfer data-cow (R.G. 1.109, Table E-1)
HL_i	38	1-100	Radioisotope half-life in seconds
K_i	21	1-15	Gamma body dose factor (R.G. 1.109, Table B-1)
LM_i	5	1-15	Skin dose factors-gas release, $(L_i + 1.1\ M_i) \times (X/q) \times 10^6$ L_i values from Reg. Guide 1.109
M_i	23	1-15	Gamma air dose factors-gas release (R.G. 1.109, Table B-1)

Table 3-1 (Continued)

Variable	Record #	Elements	Description
MX_i	6	1-15	$M_i \times (\overline{x/q})$ for gas release
N_i	24	1-15	Beta air dose factor-gas release (R.G. 1.109, Table B-1)
NX_i	7	1-15	$N_i \times (\overline{x/q})$
PW_i	4	16-100	Infant unshielded skin dose factor-gas release, $\Sigma P_i \times W$ for the ground plane, inhalation, and food pathways
PW_i	5	16-100	Infant unshielded total body doses factor-gas release
PW_i	6	16-100	Infant bone dose factors-gas release
PW_i	7	16-100	Infant liver dose factor-gas release
PW_i	8	16-100	Infant thyroid dose factor-gas release
PW_i	9	16-100	Infant kidney dose factor-gas release
PW_i	10	16-100	Infant lung dose factor-gas release
PW_i	11	16-100	Infant GI-LLI dose factor-gas release
RW_i	12	16-100	Infant shielded skin dose factors-gas release (ground plane)
RW_i	13	16-100	Infant shielded total body dose factor-gas release
RW_i	14	16-100	Child bone dose factor-gas release
RW_i	15	16-100	Child liver dose factor-gas release
RW_i	16	16-100	Child thyroid dose factor-gas release
RW_i	17	16-100	Child kidney dose factor-gas release
RW_i	18	16-100	Child lung dose factor-gas release
RW_i	19	16-100	Child GI-LLI dose factor-gas release
RW_i	20	16-100	Child shielded total body dose factor-gas release.
XK_i	4	1-15	$K_i \times (\overline{x/q}) \times 10^6$ total body dose rate factor-gas release

ODCM RECORD # 4

AR-41	2.475E-02	ZR-97	6.930E-02
KR-83M	2.117E-07	NB-94	0.000E-01
KR-85M	3.276E-03	NB-95	1.614E 00
KR-85	4.508E-05	MO-90	0.000E-01
KR-87	1.658E-02	MO-99	9.342E-02
KR-88	4.116E-02	TC-99M	4.223E-03
KR-89	4.648E-02	RU-103	1.271E 00
KR-90	4.368E-02	RU-106	3.792E 00
XE-131M	2.562E-04	AG-110M	3.510E 01
XE-133M	7.028E-04	CD-109	0.000E-01
XE-133	8.232E-04	CD-113M	0.000E-01
XE-135M	8.736E-03	SN-113	0.000E-01
XE-135	5.068E-03	SB-122	0.000E-01
XE-137	3.976E-03	SB-124	0.000E-01
XE-138	2.472E-02	SB-125	0.000E-01
H-3	0.000E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	9.944E-02
C-14	0.000E-01	I-131	2.037E-01
NA-24	2.776E-01	I-132	2.905E-02
P-32	0.000E-01	I-133	6.019E-02
K-40	0.000E-01	I-134	1.073E-02
CR-51	5.520E-02	I-135	5.970E-02
MN-54	1.305E 01	CS-134	3.960E 01
MN-56	2.145E-02	CS-136	1.690E 00
FE-55	0.000E-01	CS-137	1.862E 01
FE-59	3.210E 00	CS-138	8.510E-03
CO-56	0.000E-01	BA-139	2.370E-03
CO-57	0.000E-01	BA-140	2.348E-01
CO-58	4.465E 00	LA-140	4.361E-01
CO-60	6.832E 01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	6.703E-01
NI-65	7.015E-03	EU-152	0.000E-01
CU-64	1.375E-02	W-187	5.478E-02
ZN-65	7.492E 00	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	4.726E-03	BI-214	0.000E-01
RB-88	7.559E-04	RA-226	0.000E-01
RB-89	2.981E-03	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	2.507E-04	NP-239	1.985E-02
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	5.155E-02	BBBBBBB	0.000E-01
SR-92	1.726E-02	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	1.058E-04	EEEEEEE	0.000E-01
Y-91M	2.321E-03	FFFFFFF	0.000E-01
Y-91	1.208E-02	GGGGGGG	0.000E-01
Y-92	4.269E-03	HHHHHHH	0.000E-01
Y-93	4.747E-03	IIIIIII	0.000E-01
ZR-95	2.903E 00	JJJJJJJ	0.000E-01

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AR-41	3.618E-02	ZR-97	5.959E-02
KR-83M	5.944E-05	NB-94	0.000E-01
KR-85M	7.876E-03	NB-95	1.384E 00
KR-85	3.805E-03	MO-90	0.000E-01
KR-87	4.625E-02	MO-99	6.666E-01
KR-88	5.345E-02	TC-99M	3.696E-03
KR-89	8.156E-02	RU-103	1.091E 00
KR-90	7.062E-02	RU-106	3.191E 00
XE-131M	1.813E-03	AG-110M	3.261E 01
XE-133M	3.790E-03	CD-109	0.000E-01
XE-133	1.944E-03	CD-113M	0.000E-01
XE-135M	1.234E-02	SN-113	0.000E-01
XE-135	1.112E-02	SB-122	0.000E-01
XE-137	3.881E-02	SB-124	0.000E-01
XE-138	3.993E-02	SB-125	0.000E-01
H-3	8.400E-03	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	2.237E-01
C-14	7.136E 00	I-131	1.055E 01
NA-24	4.899E-01	I-132	2.822E-02
P-32	5.403E 01	I-133	2.910E-01
K-40	0.000E-01	I-134	1.090E-02
CR-51	4.860E-02	I-135	6.018E-02
MN-54	1.127E 01	CS-134	1.301E 02
MN-56	1.815E-02	CS-136	1.982E 01
FE-55	3.365E-01	CS-137	7.685E 01
FE-59	4.482E 00	CS-138	8.951E-03
CO-56	0.000E-01	BA-139	2.107E-03
CO-57	0.000E-01	BA-140	3.180E-01
CO-58	4.544E 00	LA-140	3.850E-01
CO-60	6.105E 01	CE-139	0.000E-01
NI-63	1.730E 01	CE-144	1.075E 00
NI-65	6.036E-03	EU-152	0.000E-01
CU-64	1.335E-02	W-187	4.739E-02
ZN-65	1.246E 02	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	5.172E-03	BI-214	0.000E-01
RB-88	1.465E-03	RA-226	0.000E-01
RB-89	3.060E-03	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	4.144E 00	NP-239	1.720E-02
SR-90	4.478E 02	AAAAAAA	0.000E-01
SR-91	4.426E-02	BBBBBBB	0.000E-01
SR-92	1.554E-02	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	3.367E-04	EEEEEEE	0.000E-01
Y-91M	2.005E-03	FFFFFFF	0.000E-01
Y-91	5.467E-02	GGGGGGG	0.000E-01
Y-92	3.597E-03	HHHHHHH	0.000E-01
Y-93	3.481E-03	IIIIIII	0.000E-01
ZR-95	2.559E 00	JJJJJJJ	0.000E-01

AR-41	2.604E-02	ZR-97	4.195E-04
KR-83M	5.404E-05	NB-94	0.000E-01
KR-85M	3.444E-03	NB-95	5.024E-02
KR-85	4.816E-05	MO-90	0.000E-01
KR-87	1.728E-02	MO-99	0.000E-01
KR-88	4.256E-02	TC-99M	3.989E-07
KR-89	4.844E-02	RU-103	5.740E-03
KR-90	4.564E-02	RU-106	2.456E-01
XE-131M	4.368E-04	AG-110M	5.227E 00
XE-133M	9.156E-04	CD-109	0.000E-01
XE-133	9.884E-04	CD-113M	0.000E-01
XE-135M	9.408E-03	SN-113	0.000E-01
XE-135	5.376E-03	SB-122	0.000E-01
XE-137	4.228E-03	SB-124	0.000E-01
XE-138	2.579E-02	SB-125	0.000E-01
H-3	0.000E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	3.011E-01
C-14	3.343E 01	I-131	2.003E 01
NA-24	2.506E-01	I-132	4.743E-03
P-32	1.394E 03	I-133	5.666E-01
K-40	0.000E-01	I-134	2.579E-03
CR-51	0.000E-01	I-135	1.255E-02
MN-54	0.000E-01	CS-134	5.108E 02
MN-56	0.000E-01	CS-136	1.669E 01
FE-55	1.950E 00	CS-137	7.341E 02
FE-59	2.542E 00	CS-138	1.415E-03
CO-56	0.000E-01	BA-139	4.155E-06
CO-57	0.000E-01	BA-140	2.183E 00
CO-58	0.000E-01	LA-140	1.416E-03
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	4.987E 02	CE-144	8.969E 00
NI-65	6.766E-06	EU-152	0.000E-01
CU-64	0.000E-01	W-187	9.079E-04
ZN-65	7.466E 01	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	1.445E 02	NP-239	1.039E-03
SR-90	1.845E 03	AAAAAAA	0.000E-01
SR-91	4.611E-03	BBBBBBB	0.000E-01
SR-92	2.947E-05	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	9.222E-03	EEEEEEE	0.000E-01
Y-91M	1.141E-06	FFFFFFF	0.000E-01
Y-91	1.647E 00	GGGGGGG	0.000E-01
Y-92	4.586E-05	HHHHHHH	0.000E-01
Y-93	4.195E-04	IIIIIII	0.000E-01
ZR-95	3.231E-01	JJJJJJJ	0.000E-01

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AR-41	9.184E-03	ZR-97	7.175E-05
KR-83M	8.064E-04	NB-94	0.000E-01
KR-85M	5.516E-03	NB-95	2.060E-02
KR-85	5.460E-03	MO-90	0.000E-01
KR-87	2.884E-02	MO-99	3.004E 00
KR-88	8.204E-03	TC-99M	8.228E-07
KR-89	2.968E-02	RU-103	0.000E-01
KR-90	2.192E-02	RU-106	0.000E-01
XE-131M	3.108E-03	AG-110M	3.815E 00
XE-133M	4.144E-03	CD-109	0.000E-01
XE-133	2.940E-03	CD-113M	0.000E-01
XE-135M	2.069E-03	SN-113	0.000E-01
XE-135	6.888E-03	SB-122	0.000E-01
XE-137	3.556E-02	SB-124	0.000E-01
XE-138	1.330E-02	SB-125	0.000E-01
H-3	8.400E-03	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.493E-01
C-14	7.136E 00	I-131	2.361E 01
NA-24	2.506E-01	I-132	9.918E-03
P-32	8.197E 01	I-133	8.247E-01
K-40	0.000E-01	I-134	5.253E-03
CR-51	0.000E-01	I-135	2.472E-02
MN-54	6.017E-01	CS-134	9.524E 02
MN-56	4.312E-06	CS-136	4.906E 01
FE-55	1.257E 00	CS-137	8.592E 02
FE-59	4.440E 00	CS-138	2.187E-03
CO-56	0.000E-01	BA-139	2.756E-09
CO-57	0.000E-01	BA-140	2.183E-03
CO-58	2.950E-01	LA-140	5.608E-04
CO-60	1.471E-01	CE-139	0.000E-01
NI-63	3.083E 01	CE-144	3.404E 00
NI-65	8.029E-07	EU-152	0.000E-01
CU-64	2.645E-03	W-187	6.314E-04
ZN-65	2.560E 02	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	1.560E-03	RA-226	0.000E-01
RB-89	8.977E-04	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	9.292E-05
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	7.803E-02	JJJJJJJ	0.000E-01

AR-41	0.000E-01	ZR-97	0.000E-01
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	0.000E-01
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	0.000E-01
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	8.400E-03	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	2.201E-01
C-14	7.136E 00	I-131	7.758E 03
NA-24	2.506E-01	I-132	4.743E-01
P-32	0.000E-01	I-133	1.502E 02
K-40	0.000E-01	I-134	1.247E-01
CR-51	1.231E-03	I-135	2.256E 00
MN-54	0.000E-01	CS-134	0.000E-01
MN-56	0.000E-01	CS-136	0.000E-01
FE-55	0.000E-01	CS-137	0.000E-01
FE-59	0.000E-01	CS-138	0.000E-01
CO-56	0.000E-01	BA-139	0.000E-01
CO-57	0.000E-01	BA-140	0.000E-01
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	0.000E-01
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	0.000E-01	W-187	0.000E-01
ZN-65	0.000E-01	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	0.000E-01
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	0.000E-01	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	7.253E-05
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.508E-02
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	4.489E 00
KR-88	0.000E-01	TC-99M	8.851E-06
KR-89	0.000E-01	RU-103	1.207E-02
KR-90	0.000E-01	RU-106	3.014E-01
XE-131M	0.000E-01	AG-110M	5.460E 00
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	8.400E-03	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	9.321E-01
C-14	7.136E 00	I-131	2.757E 01
NA-24	2.506E-01	I-132	1.105E-02
P-32	0.000E-01	I-133	9.693E-01
K-40	0.000E-01	I-134	5.841E-03
CR-51	2.707E-04	I-135	2.754E-02
MN-54	1.316E-01	CS-134	2.452E 02
MN-56	3.082E-06	CS-136	1.956E 01
FE-55	0.000E-01	CS-137	2.306E 02
FE-59	0.000E-01	CS-138	1.149E-03
CO-56	0.000E-01	BA-139	1.658E-09
CO-57	0.000E-01	BA-140	5.186E-04
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	1.510E 00
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	4.692E-03	W-187	0.000E-01
ZN-65	1.242E 02	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	1.854E-04
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	8.705E-02	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	3.089E-01
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.341E 00
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	3.775E-01
KR-88	0.000E-01	TC-99M	2.270E-03
KR-89	0.000E-01	RU-103	1.544E 00
KR-90	0.000E-01	RU-106	3.238E 01
XE-131M	0.000E-01	AG-110M	1.027E 01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	8.400E-03	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	9.526E-01
C-14	7.136E 00	I-131	0.000E-01
NA-24	2.506E-01	I-132	0.000E-01
P-32	0.000E-01	I-133	0.000E-01
K-40	0.000E-01	I-134	0.000E-01
CR-51	3.803E-02	I-135	0.000E-01
MN-54	2.799E 00	CS-134	1.005E 02
MN-56	3.508E-02	CS-136	4.000E 00
FE-55	8.418E-01	CS-137	9.339E 01
FE-59	4.135E 00	CS-138	1.831E-04
CO-56	0.000E-01	BA-139	1.666E-02
CO-57	0.000E-01	BA-140	4.470E 00
CO-58	2.176E 00	LA-140	4.704E-01
CO-60	1.262E 01	CE-139	0.000E-01
NI-63	5.841E-01	CE-144	2.756E 01
NI-65	2.274E-02	EU-152	0.000E-01
CU-64	2.603E-02	W-187	1.109E-01
ZN-65	1.811E 00	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	5.684E 00	NP-239	1.666E-01
SR-90	3.148E 01	AAAAAAA	0.000E-01
SR-91	1.474E-01	BBBBBBB	0.000E-01
SR-92	6.664E-02	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	7.526E-01	EEEEEEE	0.000E-01
Y-91M	7.801E-03	FFFFFFF	0.000E-01
Y-91	6.860E 00	GGGGGGG	0.000E-01
Y-92	6.860E-02	HHHHHHH	0.000E-01
Y-93	2.140E-01	IIIIIII	0.000E-01
ZR-95	4.900E 00	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	3.926E-01
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	2.238E 00
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	1.126E 00
KR-88	0.000E-01	TC-99M	5.921E-03
KR-89	0.000E-01	RU-103	4.623E-02
KR-90	0.000E-01	RU-106	4.784E-01
XE-131M	0.000E-01	AG-110M	1.969E 02
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	8.400E-03	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	6.732E-01
C-14	7.136E 00	I-131	8.412E-01
NA-24	2.506E-01	I-132	5.331E-03
P-32	1.883E 01	I-133	1.365E-01
K-40	0.000E-01	I-134	3.610E-03
CR-51	1.477E-01	I-135	6.378E-03
MN-54	2.147E-01	CS-134	2.586E 00
MN-56	2.007E-01	CS-136	7.433E-01
FE-55	1.585E-01	CS-137	2.684E 00
FE-59	9.028E-02	CS-138	2.454E-03
CO-56	0.000E-01	BA-139	1.427E-01
CO-57	0.000E-01	BA-140	6.050E-01
CO-58	7.576E-01	LA-140	2.402E-01
CO-60	3.056E 00	CE-139	0.000E-01
NI-63	1.538E 00	CE-144	2.224E 00
NI-65	1.403E-01	EU-152	0.000E-01
CU-64	9.612E-02	W-187	1.352E-01
ZN-65	2.163E 02	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	3.920E-21	BI-214	0.000E-01
RB-88	9.486E-04	RA-226	0.000E-01
RB-89	1.909E-04	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	2.965E 01	NP-239	7.018E-02
SR-90	2.198E 01	AAAAAAA	0.000E-01
SR-91	2.105E-01	BBBBBBB	0.000E-01
SR-92	2.920E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	3.046E-01	EEEEEEE	0.000E-01
Y-91M	6.586E-03	FFFFFFF	0.000E-01
Y-91	2.581E-01	GGGGGGG	0.000E-01
Y-92	3.544E-01	HHHHHHH	0.000E-01
Y-93	4.667E-01	IIIIIII	0.000E-01
ZR-95	7.060E-02	JJJJJJJ	0.000E-01

ODCM RECORD # 12

AR-41	0.000E-01	ZR-97	4.851E-02
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.130E 00
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	6.539E-02
KR-88	0.000E-01	TC-99M	2.956E-03
KR-89	0.000E-01	RU-103	8.895E-01
KR-90	0.000E-01	RU-106	3.545E 00
XE-131M	0.000E-01	AG-110M	2.835E 01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	0.000E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	6.961E-02
C-14	0.000E-01	I-131	1.461E-01
NA-24	1.943E-01	I-132	2.033E-02
P-32	0.000E-01	I-133	4.213E-02
K-40	0.000E-01	I-134	7.511E-03
CR-51	3.864E-02	I-135	4.179E-02
MN-54	1.137E 01	CS-134	5.652E 01
MN-56	1.501E-02	CS-136	1.183E 00
FE-55	0.000E-01	CS-137	1.439E 02
FE-59	2.247E 00	CS-138	5.957E-03
CO-56	0.000E-01	BA-139	1.659E-03
CO-57	0.000E-01	BA-140	1.644E-01
CO-58	3.128E 00	LA-140	3.053E-01
CO-60	2.019E 02	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	5.637E-01
NI-65	4.910E-03	EU-152	0.000E-01
CU-64	9.622E-03	W-187	3.834E-02
ZN-65	5.982E 00	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	3.308E-03	BI-214	0.000E-01
RB-88	5.291E-04	RA-226	0.000E-01
RB-89	2.087E-03	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	1.755E-04	NP-239	1.390E-02
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	3.608E-02	BBBBBBB	0.000E-01
SR-92	1.208E-02	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	7.406E-05	EEEEEEE	0.000E-01
Y-91M	1.625E-03	FFFFFFF	0.000E-01
Y-91	8.460E-03	GGGGGGG	0.000E-01
Y-92	2.989E-03	HHHHHHH	0.000E-01
Y-93	3.323E-03	IIIIIII	0.000E-01
ZR-95	2.033E 00	JJJJJJJ	0.000E-01

ODCM RECORD # 13

AR-41	0.000E-01	ZR-97	4.172E-02
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	9.722E-01
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	6.423E-01
KR-88	0.000E-01	TC-99M	2.591E-03
KR-89	0.000E-01	RU-103	7.644E-01
KR-90	0.000E-01	RU-106	2.985E 00
XE-131M	0.000E-01	AG-110M	2.682E 01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	8.400E-03	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.983E-01
C-14	7.136E 00	I-131	1.050E 01
NA-24	4.181E-01	I-132	2.081E-02
P-32	5.403E 01	I-133	2.761E-01
K-40	0.000E-01	I-134	8.187E-03
CR-51	3.459E-02	I-135	4.483E-02
MN-54	9.832E 00	CS-134	1.446E 02
MN-56	1.270E-02	CS-136	1.937E 01
FE-55	3.365E-01	CS-137	1.842E 02
FE-59	3.662E 00	CS-138	6.717E-03
CO-56	0.000E-01	BA-139	1.475E-03
CO-57	0.000E-01	BA-140	2.563E-01
CO-58	3.403E 00	LA-140	2.695E-01
CO-60	1.746E 02	CE-139	0.000E-01
NI-63	1.730E 01	CE-144	9.832E-01
NI-65	4.225E-03	EU-152	0.000E-01
CU-64	9.715E-03	W-187	3.324E-02
ZN-65	1.233E 02	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	3.957E-03	BI-214	0.000E-01
RB-88	1.267E-03	RA-226	0.000E-01
RB-89	2.315E-03	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	4.144E 00	NP-239	1.205E-02
SR-90	4.478E 02	AAAAAAA	0.000E-01
SR-91	3.103E-02	BBBBBBB	0.000E-01
SR-92	1.088E-02	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	3.099E-04	EEEEEEE	0.000E-01
Y-91M	1.403E-03	FFFFFFF	0.000E-01
Y-91	5.145E-02	GGGGGGG	0.000E-01
Y-92	2.518E-03	HHHHHHH	0.000E-01
Y-93	2.440E-03	IIIIIII	0.000E-01
ZR-95	1.809E 00	JJJJJJJ	0.000E-01

ODCM RECORD # 14

AR-41	0.000E-01	ZR-97	5.334E-04
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	8.705E-02
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	2.611E-07
KR-89	0.000E-01	RU-103	9.356E-01
KR-90	0.000E-01	RU-106	4.985E 01
XE-131M	0.000E-01	AG-110M	3.303E 00
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	8.400E-03	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	2.655E-01
C-14	3.334E 01	I-131	1.073E 01
NA-24	1.772E-01	I-132	5.927E-03
[illegible]32	7.163E 02	I-133	3.475E-01
K[illegible]	0.000E-01	I-134	3.284E-03
CR-[illegible]	0.000E-01	I-135	1.552E-02
MN-54	0.000E-01	CS-134	5.364E 02
MN-56	0.000E-01	CS-136	9.131E 00
FE-55	1.664E 01	CS-137	8.078E 02
FE-59	5.732E 00	CS-138	1.772E-03
CO-56	0.000E-01	BA-139	5.160E-06
CO-57	0.000E-01	BA-140	2.812E 00
CO-58	0.000E-01	LA-140	1.848E-03
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	1.262E 03	CE-144	2.049E 01
NI-65	1.006E-05	EU-152	0.000E-01
CU-64	0.000E-01	W-187	1.364E-03
ZN-65	6.817E 01	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	2.904E 02	NP-239	1.320E-03
SR-90	1.919E 04	AAAAAAA	0.000E-01
SR-91	1.029E-02	BBBBBBB	0.000E-01
SR-92	4.689E-05	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	1.183E-02	EEEEEEE	0.000E-01
Y-91M	1.419E-06	FFFFFFF	0.000E-01
Y-91	2.691E 00	GGGGGGG	0.000E-01
Y-92	5.700E-05	HHHHHHH	0.000E-01
Y-93	5.257E-04	IIIIIII	0.000E-01
ZR-95	5.768E-01	JJJJJJJ	0.000E-01

ODCM RECORD # 15

AR-41	0.000E-01	ZR-97	7.721E-05
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	3.397E-02
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	1.286E 00
KR-88	0.000E-01	TC-99M	5.120E-07
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	2.230E 00
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.408E-02	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.177E-01
C-14	6.666E 00	I-131	1.079E 01
NA-24	1.772E-01	I-132	1.140E-02
P-32	3.349E 01	I-133	4.291E-01
K-40	0.000E-01	I-134	6.050E-03
CR-51	0.000E-01	I-135	2.759E-02
MN-54	8.366E 00	CS-134	8.800E 02
MN-56	4.913E-06	CS-136	2.508E 01
FE-55	8.827E 00	CS-137	7.731E 02
FE-59	9.275E 00	CS-138	2.352E-03
CO-56	0.000E-01	BA-139	2.756E-09
CO-57	0.000E-01	BA-140	2.464E-03
CO-58	7.343E-01	LA-140	6.459E-04
CO-60	6.469E 00	CE-139	0.000E-01
NI-63	6.755E 01	CE-144	6.405E 00
NI-65	9.869E-07	EU-152	0.000E-01
CU-64	1.221E-03	W-187	8.077E-04
ZN-65	1.816E 02	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	1.575E-03	RA-226	0.000E-01
RB-89	9.666E-04	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	9.470E-05
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	1.270E-01	JJJJJJJ	0.000E-01

AR-41	0.000E-01	ZR-97	0.000E-01
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	0.000E-01
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	0.000E-01
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.408E-02	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.711E-01
C-14	6.666E 00	I-131	3.568E 03
NA-24	1.772E-01	I-132	5.419E-01
P-32	0.000E-01	I-133	7.994E 01
K-40	0.000E-01	I-134	1.419E-01
CR-51	1.103E-03	I-135	2.495E 00
MN-54	0.000E-01	CS-134	0.000E-01
MN-56	0.000E-01	CS-136	0.000E-01
FE-55	0.000E-01	CS-137	0.000E-01
FE-59	0.000E-01	CS-138	0.000E-01
CO-56	0.000E-01	BA-139	0.000E-01
CO-57	0.000E-01	BA-140	0.000E-01
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	0.000E-01
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	0.000E-01	W-187	0.000E-01
ZN-65	0.000E-01	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	0.000E-01
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	0.000E-01	JJJJJJJ	0.000E-01

AR-41	0.000E-01	ZR-97	1.105E-04
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	3.192E-02
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	2.746E 00
KR-88	0.000E-01	TC-99M	7.441E-06
KR-89	0.000E-01	RU-103	2.355E 00
KR-90	0.000E-01	RU-106	6.732E 01
XE-131M	0.000E-01	AG-110M	4.154E 00
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.408E-02	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.090E 00
C-14	6.666E 00	I-131	1.771E 01
NA-24	1.772E-01	I-132	1.751E-02
P-32	0.000E-01	I-133	7.150E-01
K-40	0.000E-01	I-134	9.241E-03
CR-51	3.042E-04	I-135	4.232E-02
MN-54	2.340E 00	CS-134	2.728E 02
MN-56	5.011E-06	CS-136	1.337E 01
FE-55	0.000E-01	CS-137	2.520E 02
FE-59	0.000E-01	CS-138	1.740E-03
CO-56	0.000E-01	BA-139	2.414E-09
CO-57	0.000E-01	BA-140	8.022E-04
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	3.549E 00
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	2.954E-03	W-187	0.000E-01
ZN-65	1.144E 02	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	2.755E-04
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	1.810E-01	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	3.170E-01
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.720E 00
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	3.792E-01
KR-88	0.000E-01	TC-99M	2.663E-03
KR-89	0.000E-01	RU-103	1.854E 00
KR-90	0.000E-01	RU-106	4.009E 01
XE-131M	0.000E-01	AG-110M	1.533E 01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.408E-02	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.057E 00
C-14	6.666E 00	I-131	0.000E-01
NA-24	1.772E-01	I-132	0.000E-01
P-32	0.000E-01	I-133	0.000E-01
K-40	0.000E-01	I-134	0.000E-01
CR-51	4.913E-02	I-135	0.000E-01
MN-54	4.413E 00	CS-134	9.788E 01
MN-56	3.678E-02	CS-136	1.994E 00
FE-55	5.263E 00	CS-137	9.067E 01
FE-59	6.215E 00	CS-138	1.90?E-04
CO-56	0.000E-01	BA-139	1.616E-02
CO-57	0.000E-01	BA-140	4.881E 00
CO-58	3.098E 00	LA-140	5.118E-01
CO-60	1.979E 01	CE-139	0.000E-01
NI-63	7.697E-01	CE-144	3.232E-01
NI-65	2.290E-02	EU-152	0.000E-01
CU-64	2.683E-02	W-187	1.150E-01
ZN-65	2.787E 00	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	6.040E 00	NP-239	1.627E-01
SR-90	4.134E 01	AAAAAAA	0.000E-01
SR-91	1.492E-01	BBBBBBB	0.000E-01
SR-92	6.724E-02	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	7.325E-01	EEEEEEE	0.000E-01
Y-91M	7.874E-03	FFFFFFF	0.000E-01
Y-91	7.356E 00	GGGGGGG	0.000E-01
Y-92	6.693E-02	HHHHHHH	0.000E-01
Y-93	2.082E-01	IIIIIII	0.000E-01
ZR-95	6.247E 00	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	1.160E 00
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.542E 01
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	1.417E 00
KR-88	0.000E-01	TC-99M	1.375E-02
KR-89	0.000E-01	RU-103	2.411E 01
KR-90	0.000E-01	RU-106	7.707E 02
XE-131M	0.000E-01	AG-110M	2.618E 02
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.408E-02	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.562E 00
C-14	6.666E 00	I-131	9.563E-01
NA-24	1.772E-01	I-132	8.964E-03
P-32	1.971E 01	I-133	1.654E-01
K-40	0.000E-01	I-134	2.673E-03
CR-51	8.559E-02	I-135	1.483E-02
MN-54	6.984E 00	CS-134	4.739E 00
MN-56	3.450E-01	CS-136	8.761E-01
FE-55	1.630E 00	CS-137	4.837E 00
FE-59	9.757E 00	CS-138	7.552E-04
CO-56	0.000E-01	BA-139	1.616E-01
CO-57	0.000E-01	BA-140	1.605E 00
CO-58	4.351E 00	LA-140	1.078E 00
CO-60	3.590E 01	CE-139	0.000E-01
NI-63	4.559E 00	CE-144	1.260E 02
NI-65	2.352E-01	EU-152	0.000E-01
CU-64	1.598E-01	W-187	3.646E-01
ZN-65	3.188E 01	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	1.036E-20	BI-214	0.000E-01
RB-88	4.828E-05	RA-226	0.000E-01
RB-89	5.294E-06	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	1.164E 01	NP-239	2.564E-01
SR-90	2.556E 02	AAAAAAA	0.000E-01
SR-91	5.089E-01	BBBBBBB	0.000E-01
SR-92	6.788E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	1.684E 00	EEEEEEE	0.000E-01
Y-91M	4.807E-03	FFFFFFF	0.000E-01
Y-91	1.817E 01	GGGGGGG	0.000E-01
Y-92	6.699E-01	HHHHHHH	0.000E-01
Y-93	1.141E 00	IIIIIII	0.000E-01
ZR-95	1.055E 01	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	4.173E-02
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	9.844E-01
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	3.746E-01
KR-88	0.000E-01	TC-99M	2.589E-03
KR-89	0.000E-01	RU-103	1.122E 00
KR-90	0.000E-01	RU-106	9.174E 00
XE-131M	0.000E-01	AG-110M	2.608E 01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.408E-02	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	2.011E-01
C-14	6.666E 00	I-131	6.250E 00
NA-24	3.448E-01	I-132	2.254E-02
P-32	2.761E 01	I-133	1.971E-01
K-40	0.000E-01	I-134	9.112E-03
CR-51	3.469E-02	I-135	4.891E-02
MN-54	1.192E 01	CS-134	2.341E 02
MN-56	1.270E-02	CS-136	1.729E 01
FE-55	2.735E 00	CS-137	2.375E 02
FE-59	6.532E 00	CS-138	6.766E-03
CO-56	0.000E-01	BA-139	1.475E-03
CO-57	0.000E-01	BA-140	3.080E-01
CO-58	4.912E 00	LA-140	2.696E-01
CO-60	1.906E 02	CE-139	0.000E-01
NI-63	4.292E 01	CE-144	1.581E 00
NI-65	4.226E-03	EU-152	0.000E-01
CU-64	9.227E-03	W-187	3.338E-02
ZN-65	1.181E 02	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	4.369E-03	BI-214	0.000E-01
RB-88	1.489E-03	RA-226	0.000E-01
RB-89	2.550E-03	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	8.294E 00	NP-239	1.207E-02
SR-90	4.811E 03	AAAAAAA	0.000E-01
SR-91	3.125E-02	BBBBBBB	0.000E-01
SR-92	1.088E-02	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	3.812E-04	EEEEEEE	0.000E-01
Y-91M	1.403E-03	FFFFFFF	0.000E-01
Y-91	7.934E-02	GGGGGGG	0.000E-01
Y-92	2.518E-03	HHHHHHH	0.000E-01
Y-93	2.443E-03	IIIIIII	0.000E-01
ZR-95	1.865E 00	JJJJJJJ	0.000E-01

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AR-41	8.840E-03	ZR-97	6.400E-09
KR-83M	7.560E-08	NB-94	0.000E-01
KR-85M	1.170E-03	NB-95	6.000E-09
KR-85	1.610E-0[illegible]	MO-90	0.000E-01
KR-87	5.920E-03	MO-99	2.200E-09
KR-88	1.470E-02	TC-99M	1.100E-09
KR-89	1.660E-02	RU-103	4.200E-09
KR-90	1.560E-02	RU-106	1.800E-09
XE-131M	9.150E-05	AG-110M	2.100E-08
XE-133M	2.510E-04	CD-109	0.000E-01
XE-133	2.940E-04	CD-113M	0.000E-01
XE-135M	3.120E-03	SN-113	0.000E-01
XE-135	1.810E-03	SB-122	0.000E-01
XE-137	1.420E-03	SB-124	0.000E-01
XE-138	8.830E-03	SB-125	0.000E-01
H-3	0.000E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	2.000E-09
C-14	0.000E-01	I-131	3.400E-09
NA-24	2.900E-08	I-132	2.000E-08
P-32	0.000E-01	I-133	4.500E-09
K-40	0.000E-01	I-134	1.900E-08
CR-51	2.600E-10	I-135	1.400E-08
MN-54	6.800E-09	CS-134	1.400E-08
MN-56	1.300E-08	CS-136	1.700E-08
FE-55	0.000E-01	CS-137	4.900E-09
FE-59	9.400E-09	CS-138	2.400E-08
CO-56	0.000E-01	BA-139	2.700E-09
CO-57	0.000E-01	BA-140	2.400E-09
CO-58	8.200E-09	LA-140	1.700E-08
CO-60	2.000E-08	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	3.700E-10
NI-65	4.300E-09	EU-152	0.000E-01
CU-64	1.700E-09	W-187	3.600E-09
ZN-65	4.600E-09	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	1.400E-08	BI-214	0.000E-01
RB-88	4.000E-09	RA-226	0.000E-01
RB-89	1.800E-08	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	6.500E-13	NP-239	1.100E-09
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	8.300E-09	BBBBBBB	0.000E-01
SR-92	1.000E-08	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	2.600E-12	EEEEEEE	0.000E-01
Y-91M	4.400E-09	FFFFFFF	0.000E-01
Y-91	2.700E-11	GGGGGGG	0.000E-01
Y-92	1.900E-09	HHHHHHH	0.000E-01
Y-93	7.800E-10	IIIIIII	0.000E-01
ZR-95	5.800E-09	JJJJJJJ	0.000E-01

AR-41	2.690E-03	ZR-97	5.500E-09
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	1.460E-03	NB-95	5.100E-09
KR-85	1.340E-03	MO-90	0.000E-01
KR-87	9.730E-03	MO-99	1.900E-09
KR-88	2.370E-03	TC-99M	9.600E-10
KR-89	1.010E-02	RU-103	3.600E-09
KR-90	7.290E-03	RU-106	1.500E-09
XE-131M	4.760E-04	AG-110M	1.800E-08
XE-133M	9.940E-04	CD-109	0.000E-01
XE-133	3.060E-04	CD-113M	0.000E-01
XE-135M	7.110E-04	SN-113	0.000E-01
XE-135	1.860E-03	SB-122	0.000E-01
XE-137	1.220E-02	SB-124	0.000E-01
XE-138	4.130E-03	SB-125	0.000E-01
H-3	0.000E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.700E-09
C-14	0.000E-01	I-131	2.800E-09
NA-24	2.500E-08	I-132	1.700E-08
P-32	0.000E-01	I-133	3.700E-09
K-40	0.000E-01	I-134	1.600E-08
CR-51	2.200E-10	I-135	1.200E-08
MN-54	5.800E-09	CS-134	1.200E-08
MN-56	1.100E-08	CS-136	1.500E-08
FE-55	0.000E-01	CS-137	4.200E-09
FE-59	8.000E-09	CS-138	2.100E-08
CO-56	0.000E-01	BA-139	2.400E-09
CO-57	0.000E-01	BA-140	2.100E-09
CO-58	7.000E-09	LA-140	1.500E-08
CO-60	1.700E-08	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	3.200E-10
NI-65	3.700E-09	EU-152	0.000E-01
CU-64	1.500E-09	W-187	3.100E-09
ZN-65	4.000E-09	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	1.200E-08	BI-214	0.000E-01
RB-88	3.500E-09	RA-226	0.000E-01
RB-89	1.500E-08	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	5.600E-13	NP-239	9.500E-10
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	7.100E-09	BBBBBBB	0.000E-01
SR-92	9.000E-09	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	2.200E-12	EEEEEEE	0.000E-01
Y-91M	3.800E-09	FFFFFFF	0.000E-01
Y-91	2.400E-11	GGGGGGG	0.000E-01
Y-92	1.600E-09	HHHHHHH	0.000E-01
Y-93	5.700E-10	IIIIIII	0.000E-01
ZR-95	5.000E-09	JJJJJJJ	0.000E-01

AR-41	3.280E-03	ZR-97	1.480E-08
KR-83M	2.880E-04	NB-94	0.000E-01
KR-85M	1.970E-03	NB-95	4.200E-08
KR-85	1.950E-03	MO-90	0.000E-01
KR-87	1.030E-02	MO-99	0.000E-01
KR-88	2.930E-03	TC-99M	1.920E-09
KR-89	1.060E-02	RU-103	1.480E-06
KR-90	7.830E-03	RU-106	2.410E-05
XE-131M	1.110E-03	AG-110M	9.960E-07
XE-133M	1.480E-03	CD-109	0.000E-01
XE-133	1.050E-03	CD-113M	0.000E-01
XE-135M	7.390E-04	SN-113	0.000E-01
XE-135	2.460E-03	SB-122	0.000E-01
XE-137	1.270E-02	SB-124	0.000E-01
XE-138	4.750E-03	SB-125	0.000E-01
H-3	0.000E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	2.080E-05
C-14	2.370E-05	I-131	3.590E-05
NA-24	1.010E-05	I-132	1.660E-06
P-32	1.700E-03	I-133	1.250E-05
K-40	0.000E-01	I-134	8.690E-07
CR-51	0.000E-01	I-135	3.640E-06
MN-54	0.000E-01	CS-134	3.770E-04
MN-56	0.000E-01	CS-136	4.590E-05
FE-55	1.390E-05	CS-137	5.220E-04
FE-59	3.080E-05	CS-138	4.810E-07
CO-56	0.000E-01	BA-139	8.810E-07
CO-57	0.000E-01	BA-140	1.710E-04
CO-58	0.000E-01	LA-140	2.110E-08
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	6.340E-04	CE-144	2.980E-06
NI-65	4.700E-06	EU-152	0.000E-01
CU-64	0.000E-01	W-187	9.030E-07
ZN-65	1.840E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	2.510E-03	NP-239	1.110E-08
SR-90	1.850E-02	AAAAAAA	0.000E-01
SR-91	5.000E-05	BBBBBBB	0.000E-01
SR-92	1.920E-05	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	8.690E-08	EEEEEEE	0.000E-01
Y-91M	8.100E-10	FFFFFFF	0.000E-01
Y-91	1.130E-06	GGGGGGG	0.000E-01
Y-92	7.650E-09	HHHHHHH	0.000E-01
Y-93	2.430E-08	IIIIIII	0.000E-01
ZR-95	2.060E-07	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	2.540E-09
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.730E-08
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	3.400E-05
KR-88	0.000E-01	TC-99M	3.960E-09
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	7.270E-07
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	3.080E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.030E-05
C-14	5.060E-06	I-131	4.230E-05
NA-24	1.010E-05	I-132	3.370E-06
P-32	1.000E-04	I-133	1.820E-05
K-40	0.000E-01	I-134	1.780E-06
CR-51	0.000E-01	I-135	7.240E-06
MN-54	1.990E-05	CS-134	7.030E-04
MN-56	8.180E-07	CS-136	1.350E-04
FE-55	8.980E-06	CS-137	6.110E-04
FE-59	5.380E-05	CS-138	7.820E-07
CO-56	0.000E-01	BA-139	5.840E-10
CO-57	0.000E-01	BA-140	1.710E-07
CO-58	3.600E-06	LA-140	8.320E-09
CO-60	1.080E-06	CE-139	0.000E-01
NI-63	3.920E-05	CE-144	1.220E-06
NI-65	5.320E-07	EU-152	0.000E-01
CU-64	6.090E-07	W-187	6.280E-07
ZN-65	6.310E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	4.980E-07	RA-226	0.000E-01
RB-89	2.860E-07	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	9.930E-10
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	5.020E-08	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	1.160E-09
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.000E-08
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	6.630E-06
KR-88	0.000E-01	TC-99M	5.100E-08
KR-89	0.000E-01	RU-103	4.950E-07
KR-90	0.000E-01	RU-106	3.010E-06
XE-131M	0.000E-01	AG-110M	4.810E-07
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	3.080E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	9.610E-06
C-14	5.060E-06	I-131	1.860E-05
NA-24	1.010E-05	I-132	1.200E-06
P-32	6.590E-05	I-133	5.330E-06
K-40	0.000E-01	I-134	6.330E-07
CR-51	1.410E-08	I-135	2.640E-06
MN-54	4.510E-06	CS-134	7.100E-05
MN-56	1.410E-07	CS-136	5.040E-05
FE-55	2.400E-06	CS-137	4.330E-05
FE-59	2.120E-05	CS-138	3.790E-07
CO-56	0.000E-01	BA-139	2.550E-08
CO-57	0.000E-01	BA-140	8.810E-06
CO-58	8.980E-06	LA-140	2.140E-09
CO-60	2.550E-05	CE-139	0.000E-01
NI-63	2.200E-05	CE-144	1.670E-07
NI-65	2.420E-07	EU-152	0.000E-01
CU-64	2.820E-07	W-187	2.170E-07
ZN-65	2.910E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	3.820E-07	BI-214	0.000E-01
RB-88	2.730E-07	RA-226	0.000E-01
RB-89	1.970E-07	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	7.200E-05	NP-239	5.610E-10
SR-90	4.710E-03	AAAAAAA	0.000E-01
SR-91	1.810E-06	BBBBBBB	0.000E-01
SR-92	7.130E-07	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	2.330E-09	EEEEEEE	0.000E-01
Y-91M	2.760E-11	FFFFFFF	0.000E-01
Y-91	3.010E-08	GGGGGGG	0.000E-01
Y-92	2.150E-10	HHHHHHH	0.000E-01
Y-93	6.620E-10	IIIIIII	0.000E-01
ZR-95	3.560E-08	JJJJJJJ	0.000E-01

AR-41	0.000E-01	ZR-97	0.000E-01
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	0.000E-01
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	0.000E-01
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	3.080E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.520E-05
C-14	5.060E-06	I-131	1.390E-02
NA-24	1.010E-05	I-132	1.580E-04
P-32	0.000E-01	I-133	3.310E-03
K-40	0.000E-01	I-134	4.150E-05
CR-51	9.200E-09	I-135	6.490E-04
MN-54	0.000E-01	CS-134	0.000E-01
MN-56	0.000E-01	CS-136	0.000E-01
FE-55	0.000E-01	CS-137	0.000E-01
FE-59	0.000E-01	CS-138	0.000E-01
CO-56	0.000E-01	BA-139	0.000E-01
CO-57	0.000E-01	BA-140	0.000E-01
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	0.000E-01
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	0.000E-01	W-187	0.000E-01
ZN-65	0.000E-01	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	0.000E-01
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	0.000E-01	JJJJJJJ	0.000E-01

AR-41	0.000E-01	ZR-97	2.560E-09
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.240E-08
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	5.080E-05
KR-88	0.000E-01	TC-99M	4.260E-08
KR-89	0.000E-01	RU-103	3.080E-06
KR-90	0.000E-01	RU-106	2.850E-05
XE-131M	0.000E-01	AG-110M	1.040E-06
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	3.080E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	6.440E-05
C-14	5.060E-06	I-131	4.940E-05
NA-24	1.010E-05	I-132	3.760E-06
P-32	0.000E-01	I-133	2.140E-05
K-40	0.000E-01	I-134	1.990E-06
CR-51	2.010E-09	I-135	8.070E-06
MN-54	4.410E-06	CS-134	1.810E-04
MN-56	7.030E-07	CS-136	5.380E-05
FE-55	0.000E-01	CS-137	1.640E-04
FE-59	0.000E-01	CS-138	3.900E-07
CO-56	0.000E-01	BA-139	3.510E-10
CO-57	0.000E-01	BA-140	4.060E-08
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	4.930E-07
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	1.080E-06	W-187	0.000E-01
ZN-65	3.060E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	1.980E-09
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	5.410E-08	JJJJJJJ	0.000E-01

AR-41	0.000E-01	ZR-97	0.000E-01
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	0.000E-01
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	2.070E-09
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	3.080E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	0.000E-01
C-14	5.060E-06	I-131	0.000E-01
NA-24	1.010E-05	I-132	0.000E-01
P-32	0.000E-01	I-133	0.000E-01
K-40	0.000E-01	I-134	0.000E-01
CR-51	1.790E-08	I-135	0.000E-01
MN-54	0.000E-01	CS-134	7.420E-05
MN-56	0.000E-01	CS-136	1.100E-05
FE-55	4.390E-06	CS-137	6.640E-05
FE-59	1.590E-05	CS-138	6.090E-08
CO-56	0.000E-01	BA-139	3.540E-10
CO-57	0.000E-01	BA-140	1.050E-07
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	0.000E-01
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	0.000E-01	W-187	0.000E-01
ZN-65	0.000E-01	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	0.000E-01
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	0.000E-01	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	1.620E-04
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.460E-05
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	1.120E-05
KR-88	0.000E-01	TC-99M	1.150E-06
KR-89	0.000E-01	RU-103	1.800E-05
KR-90	0.000E-01	RU-106	1.830E-04
XE-131M	0.000E-01	AG-110M	3.770E-05
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	3.080E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	3.810E-05
C-14	5.060E-06	I-131	1.510E-06
NA-24	1.010E-05	I-132	2.730E-06
P-32	2.300E-05	I-133	3.080E-06
K-40	0.000E-01	I-134	1.840E-06
CR-51	4.110E-07	I-135	2.620E-06
MN-54	7.310E-06	CS-134	1.910E-06
MN-56	7.430E-05	CS-136	2.050E-06
FE-55	1.140E-06	CS-137	1.910E-06
FE-59	2.570E-07	CS-138	1.250E-06
CO-56	0.000E-01	BA-139	5.580E-05
CO-57	0.000E-01	BA-140	4.200E-05
CO-58	8.970E-06	LA-140	9.770E-05
CO-60	2.570E-05	CE-139	0.000E-01
NI-63	1.950E-06	CE-144	1.710E-04
NI-65	4.050E-05	EU-152	0.000E-01
CU-64	1.250E-05	W-187	3.690E-05
ZN-65	5.330E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	1.000E-24	BI-214	0.000E-01
RB-88	4.850E-07	RA-226	0.000E-01
RB-89	9.740E-08	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	5.160E-04	NP-239	2.870E-05
SR-90	2.310E-04	AAAAAAA	0.000E-01
SR-91	5.920E-05	BBBBBBB	0.000E-01
SR-92	2.070E-04	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	1.200E-04	EEEEEEE	0.000E-01
Y-91M	2.700E-06	FFFFFFF	0.000E-01
Y-91	8.100E-05	GGGGGGG	0.000E-01
Y-92	1.460E-04	HHHHHHH	0.000E-01
Y-93	1.920E-04	IIIIIII	0.000E-01
ZR-95	2.500E-05	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	1.070E-07
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.120E-05
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	9.980E-13
KR-89	0.000E-01	RU-103	1.440E-06
KR-90	0.000E-01	RU-106	6.200E-05
XE-131M	0.000E-01	AG-110M	7.130E-06
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	0.000E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	2.660E-07
C-14	1.890E-05	I-131	2.710E-05
NA-24	7.540E-06	I-132	1.210E-06
P-32	1.450E-03	I-133	9.460E-06
K-40	0.000E-01	I-134	6.580E-07
CR-51	0.000E-01	I-135	2.760E-06
MN-54	0.000E-01	CS-134	2.830E-04
MN-56	0.000E-01	CS-136	3.450E-05
FE-55	1.410E-05	CS-137	3.920E-04
FE-59	9.690E-06	CS-138	3.610E-07
CO-56	0.000E-01	BA-139	1.060E-09
CO-57	0.000E-01	BA-140	4.000E-05
CO-58	0.000E-01	LA-140	3.610E-07
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	2.420E-04	CE-144	2.280E-03
NI-65	1.710E-09	EU-152	0.000E-01
CU-64	0.000E-01	W-187	9.260E-09
ZN-65	1.380E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	2.840E-04	NP-239	2.650E-07
SR-90	2.920E-02	AAAAAAA	0.000E-01
SR-91	6.830E-08	BBBBBBB	0.000E-01
[illegible]	7.500E-09	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	2.350E-06	EEEEEEE	0.000E-01
Y-91M	2.910E-10	FFFFFFF	0.000E-01
Y-91	4.200E-04	GGGGGGG	0.000E-01
Y-92	1.170E-08	HHHHHHH	0.000E-01
Y-93	1.070E-07	IIIIIII	0.000E-01
ZR-95	8.240E-05	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	1.830E-08
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	4.590E-06
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	1.180E-07
KR-88	0.000E-01	TC-99M	2.060E-12
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	5.160E-06
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	4.620E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.690E-07
C-14	3.790E-06	I-131	3.170E-05
NA-24	7.540E-06	I-132	2.530E-06
P-32	8.030E-05	I-133	1.370E-05
K-40	0.000E-01	I-134	1.340E-06
CR-51	0.000E-01	I-135	5.430E-06
MN-54	1.810E-05	CS-134	5.020E-04
MN-56	1.100E-09	CS-136	9.610E-05
FE-55	8.390E-06	CS-137	4.370E-04
FE-59	1.680E-05	CS-138	5.580E-07
CO-56	0.000E-01	BA-139	7.030E-13
CO-57	0.000E-01	BA-140	4.000E-08
CO-58	8.710E-07	LA-140	1.430E-07
CO-60	5.730E-06	CE-139	0.000E-01
NI-63	1.460E-05	CE-144	8.650E-04
NI-65	2.030E-10	EU-152	0.000E-01
CU-64	1.340E-09	W-187	6.440E-09
ZN-65	4.470E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	3.980E-07	RA-226	0.000E-01
RB-89	2.290E-07	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	2.370E-08
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	1.990E-05	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	8.360E-09
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	2.700E-06
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	2.310E-08
KR-88	0.000E-01	TC-99M	2.660E-11
KR-89	0.000E-01	RU-103	4.850E-07
KR-90	0.000E-01	RU-106	7.770E-06
XE-131M	0.000E-01	AG-110M	3.570E-06
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	4.620E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.260E-07
C-14	3.790E-06	I-131	1.400E-05
NA-24	7.540E-06	I-132	8.997E-07
P-32	5.530E-05	I-133	4.000E-06
K-40	0.000E-01	I-134	4.750E-07
CR-51	6.390E-08	I-135	1.980E-06
MN-54	3.560E-06	CS-134	5.320E-05
MN-56	1.580E-10	CS-136	3.780E-05
FE-55	2.380E-06	CS-137	3.250E-05
FE-59	6.770E-06	CS-138	3.840E-07
CO-56	0.000E-01	BA-139	3.070E-11
CO-57	0.000E-01	BA-140	2.070E-06
CO-58	1.300E-06	LA-140	3.080E-08
CO-60	8.410E-06	CE-139	0.000E-01
NI-63	8.290E-06	CE-144	1.260E-04
NI-65	8.790E-11	EU-152	0.000E-01
CU-64	5.530E-10	W-187	2.230E-09
ZN-65	2.220E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	2.860E-07	BI-214	0.000E-01
RB-88	2.050E-07	RA-226	0.000E-01
RB-89	1.470E-07	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	8.150E-06	NP-239	1.340E-08
SR-90	1.850E-03	AAAAAAA	0.000E-01
SR-91	2.470E-09	BBBBBBB	0.000E-01
SR-92	2.790E-10	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	6.300E-08	EEEEEEE	0.000E-01
Y-91M	9.900E-12	FFFFFFF	0.000E-01
Y-91	1.120E-05	GGGGGGG	0.000E-01
Y-92	3.290E-10	HHHHHHH	0.000E-01
Y-93	2.910E-09	IIIIIII	0.000E-01
ZR-95	1.450E-05	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	0.000E-01
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	0.000E-01
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	0.000E-01
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	4.620E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.990E-07
C-14	3.790E-06	I-131	1.060E-02
NA-24	7.540E-06	I-132	1.210E-04
P-32	0.000E-01	I-133	2.540E-03
K-40	0.000E-01	I-134	3.180E-05
CR-51	4.110E-08	I-135	4.970E-04
MN-54	0.000E-01	CS-134	0.000E-01
MN-56	0.000E-01	CS-136	0.000E-01
FE-55	0.000E-01	CS-137	0.000E-01
FE-59	0.000E-01	CS-138	0.000E-01
CO-56	0.000E-01	BA-139	0.000E-01
CO-57	0.000E-01	BA-140	0.000E-01
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	0.000E-01
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	0.000E-01	W-187	0.000E-01
ZN-65	0.000E-01	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	0.000E-01
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	0.000E-01	JJJJJJJ	0.000E-01

ODCM RECORD # 35

AR-41	0.000E-01	ZR-97	1.850E-08
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	3.370E-06
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	1.890E-07
KR-88	0.000E-01	TC-99M	2.220E-11
KR-89	0.000E-01	RU-103	3.030E-06
KR-90	0.000E-01	RU-106	7.610E-05
XE-131M	0.000E-01	AG-110M	7.800E-06
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	4.620E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	7.390E-07
C-14	3.790E-06	I-131	3.700E-05
NA-24	7.540E-06	I-132	2.820E-06
P-32	0.000E-01	I-133	1.600E-05
K-40	0.000E-01	I-134	1.490E-06
CR-51	9.450E-09	I-135	6.050E-06
MN-54	3.560E-06	CS-134	1.360E-04
MN-56	7.860E-10	CS-136	4.030E-05
FE-55	0.000E-01	CS-137	1.230E-04
FE-59	0.000E-01	CS-138	2.930E-07
CO-56	0.000E-01	BA-139	4.230E-13
CO-57	0.000E-01	BA-140	9.590E-09
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	3.840E-04
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	2.840E-09	W-187	0.000E-01
ZN-65	2.320E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	4.730E-08
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
[illegible]	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	2.220E-05	JJJJJJJ	0.000E-01

ODCM RECORD # 36

AR-41	0.000E-01	ZR-97	7.880E-05
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	3.420E-04
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	9.630E-05
KR-88	0.000E-01	TC-99M	5.790E-07
KR-89	0.000E-01	RU-103	3.940E-04
KR-90	0.000E-01	RU-106	8.260E-03
XE-131M	0.000E-01	AG-110M	2.620E-03
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	4.620E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	2.430E-04
C-14	3.790E-06	I-131	0.000E-01
NA-24	7.540E-06	I-132	0.000E-01
P-32	0.000E-01	I-133	0.000E-01
K-40	0.000E-01	I-134	0.000E-01
CR-51	9.170E-06	I-135	0.000E-01
MN-54	7.140E-04	CS-134	5.690E-05
MN-56	8.950E-06	CS-136	8.400E-06
FE-55	6.210E-05	CS-137	5.090E-05
FE-59	7.250E-04	CS-138	4.670E-08
CO-56	0.000E-01	BA-139	4.250E-06
CO-57	0.000E-01	BA-140	1.140E-03
CO-58	5.550E-04	LA-140	1.200E-04
CO-60	3.220E-03	CE-139	0.000E-01
NI-63	1.490E-04	CE-144	7.030E-03
NI-65	5.800E-06	EU-152	0.000E-01
CU-64	6.640E-06	W-187	2.830E-05
ZN-65	4.620E-04	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	1.450E-03	NP-239	4.250E-05
SR-90	8.030E-03	AAAAAAA	0.000E-01
SR-91	3.760E-05	BBBBBBB	0.000E-01
SR-92	1.700E-05	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	1.920E-04	EEEEEEE	0.000E-01
Y-91M	1.990E-06	FFFFFFF	0.000E-01
Y-91	1.750E-03	GGGGGGG	0.000E-01
Y-92	1.750E-05	HHHHHHH	0.000E-01
Y-93	5.460E-05	IIIIIII	0.000E-01
ZR-95	1.250E-03	JJJJJJJ	0.000E-01

ODCM RECORD # 37 .

AR-41	0.000E-01	ZR-97	1.000E-04
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	9.050E-06
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	3.480E-05
KR-88	0.000E-01	TC-99M	1.450E-06
KR-89	0.000E-01	RU-103	1.150E-05
KR-90	0.000E-01	RU-106	1.170E-04
XE-131M	0.000E-01	AG-110M	2.360E-05
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	4.620E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	3.150E-05
C-14	3.790E-06	I-131	7.560E-07
NA-24	7.540E-06	I-132	1.360E-06
P-32	1.150E-05	I-133	1.540E-06
K-40	0.000E-01	I-134	9.210E-07
CR-51	2.550E-05	I-135	1.310E-06
MN-54	5.040E-06	CS-134	9.530E-07
MN-56	5.120E-05	CS-136	1.020E-06
FE-55	7.820E-07	CS-137	9.530E-07
FE-59	1.770E-05	CS-138	6.260E-07
CO-56	0.000E-01	BA-139	3.640E-05
CO-57	0.000E-01	BA-140	2.740E-05
CO-58	7.950E-06	LA-140	6.060E-05
CO-60	2.280E-05	CE-139	0.000E-01
NI-63	1.730E-06	CE-144	1.060E-04
NI-65	3.580E-05	EU-152	0.000E-01
CU-64	1.070E-05	W-187	2.540E-05
ZN-65	3.670E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	1.000E-24	BI-214	0.000E-01
RB-88	2.420E-07	RA-226	0.000E-01
RB-89	4.870E-08	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	4.570E-05	NP-239	1.780E-05
SR-90	9.360E-05	AAAAAAA	0.000E-01
SR-91	5.240E-05	BBBBBBB	0.000E-01
SR-92	1.000E-04	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	7.430E-05	EEEEEEE	0.000E-01
Y-91M	1.680E-06	FFFFFFF	0.000E-01
Y-91	5.020E-05	GGGGGGG	0.000E-01
Y-92	9.040E-05	HHHHHHH	0.000E-01
Y-93	1.190E-04	IIIIIII	0.000E-01
ZR-95	1.550E-05	JJJJJJJ	0.000E-01

ODCM RECORD # 38

AR-41	6.588E 03	ZR-97	6.120E 04
KR-83M	6.700E 03	NB-94	6.300E 11
KR-85M	1.610E 04	NB-95	5.660E 06
KR-85	3.400E 08	MO-90	2.050E 04
KR-87	4.579E 03	MO-99	2.400E 05
KR-88	1.008E 04	TC-99M	2.170E 04
KR-89	1.900E 02	RU-103	3.420E 06
KR-90	3.230E 01	RU-106	3.170E 07
XE-131M	1.028E 06	AG-110M	2.190E 07
XE-133M	1.950E 05	CD-109	3.910E 07
XE-133	4.570E 05	CD-113M	4.600E 08
XE-135M	9.360E 02	SN-113	9.960E 06
XE-135	3.300E 04	SB-122	2.350E 05
XE-137	2.300E 02	SB-124	5.200E 06
XE-138	1.020E 03	SB-125	8.600E 07
H-3	4.000E 08	SB-127	3.350E 05
BE-7	4.600E 06	TE-132	2.810E 05
C-14	1.810E 11	I-131	6.950E 05
NA-24	5.410E 04	I-132	8.200E 03
P-32	1.230E 06	I-133	7.560E 04
K-40	3.980E 16	I-134	3.190E 03
CR-51	2.400E 06	I-135	2.410E 04
MN-54	2.700E 07	CS-134	6.500E 07
MN-56	9.320E 03	CS-136	1.120E 06
FE-55	8.200E 07	CS-137	9.520E 08
FE-59	3.850E 06	CS-138	2.004E 03
CO-56	6.680E 06	BA-139	4.960E 03
CO-57	2.330E 07	BA-140	1.100E 06
CO-58	6.160E 06	LA-140	1.450E 05
CO-60	1.660E 08	CE-139	1.190E 07
NI-63	2.900E 09	CE-144	2.460E 07
NI-65	9.220E 03	EU-152	4.170E 08
CU-64	4.570E 04	W-187	8.600E 04
ZN-65	2.110E 07	HG-203	4.040E 06
SE-75	1.040E 07	PB-214	1.600E 03
BR-84	1.900E 03	BI-214	7.090E 03
RB-88	1.070E 03	RA-226	5.060E 10
RB-89	9.360E 02	TH-228	6.030E 07
SR-85	5.630E 06	U-235	2.440E 16
SR-89	4.550E 06	NP-239	2.030E 05
SR-90	8.880E 08	AAAAAAA	0.000E-01
SR-91	3.510E 04	BBBBBBB	0.000E-01
SR-92	9.750E 03	CCCCCCC	0.000E-01
Y-88	9.210E 06	DDDDDDD	0.000E-01
Y-90	2.300E 05	EEEEEEE	0.000E-01
Y-91M	2.982E 03	FFFFFFF	0.000E-01
Y-91	5.080E 06	GGGGGGG	0.000E-01
Y-92	1.270E 04	HHHHHHH	0.000E-01
Y-93	3.708E 04	IIIIIII	0.000E-01
ZR-95	5.660E 06	JJJJJJJ	0.000E-01

ODCM RECORD # 39

AR-41	0.000E-01	ZR-97	6.990E-09
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	2.250E-08
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	9.230E-10
KR-89	0.000E-01	RU-103	7.310E-07
KR-90	0.000E-01	RU-106	1.170E-05
XE-131M	0.000E-01	AG-110M	5.390E-07
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	0.000E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.010E-05
C-14	1.210E-05	I-131	1.720E-05
NA-24	5.800E-06	I-132	8.000E-07
P-32	8.250E-04	I-133	5.920E-06
K-40	0.000E-01	I-134	4.190E-07
CR-51	0.000E-01	I-135	1.750E-06
MN-54	0.000E-01	CS-134	2.340E-04
MN-56	0.000E-01	CS-136	2.350E-05
FE-55	1.150E-05	CS-137	3.270E-04
FE-59	1.650E-05	CS-138	2.280E-07
CO-56	0.000E-01	BA-139	4.140E-07
CO-57	0.000E-01	BA-140	8.310E-05
CO-58	0.000E-01	LA-140	1.010E-08
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	5.380E-04	CE-144	2.080E-06
NI-65	2.220E-06	EU-152	0.000E-01
CU-64	0.000E-01	W-187	4.290E-07
ZN-65	1.370E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	1.320E-03	NP-239	5.250E-09
SR-90	1.700E-02	AAAAAAA	0.000E-01
SR-91	2.400E-05	BBBBBBB	0.000E-01
SR-92	9.030E-06	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	4.110E-08	EEEEEEE	0.000E-01
Y-91M	3.820E-10	FFFFFFF	0.000E-01
Y-91	6.020E-07	GGGGGGG	0.000E-01
Y-92	3.600E-09	HHHHHHH	0.000E-01
Y-93	1.140E-08	IIIIIII	0.000E-01
ZR-95	1.160E-07	JJJJJJJ	0.000E-01

ODCM RECORD # 40

AR-41	0.000E-01	ZR-97	1.010E-09
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	8.760E-09
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	1.330E-05
KR-88	0.000E-01	TC-99M	1.810E-09
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	3.640E-07
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.030E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	4.470E-06
C-14	2.420E-06	I-131	1.730E-05
NA-24	5.800E-06	I-132	1.470E-06
P-32	3.860E-05	I-133	7.320E-06
K-40	0.000E-01	I-134	7.780E-07
CR-51	0.000E-01	I-135	3.150E-06
MN-54	1.070E-05	CS-134	3.840E-04
MN-56	3.340E-07	CS-136	6.460E-05
FE-55	6.100E-06	CS-137	3.130E-04
FE-59	2.670E-05	CS-138	3.170E-07
CO-56	0.000E-01	BA-139	2.210E-10
CO-57	0.000E-01	BA-140	7.280E-08
CO-58	1.800E-06	LA-140	3.530E-09
CO-60	5.290E-06	CE-139	0.000E-01
NI-63	2.880E-05	CE-144	6.520E-07
NI-65	2.090E-07	EU-152	0.000E-01
CU-64	2.450E-07	W-187	2.540E-07
ZN-65	3.650E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	1.900E-07	RA-226	0.000E-01
RB-89	1.170E-07	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	3.770E-10
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	2.550E-08	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	5.960E-10
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	6.260E-09
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	3.290E-06
KR-88	0.000E-01	TC-99M	3.000E-08
KR-89	0.000E-01	RU-103	2.810E-07
KR-90	0.000E-01	RU-106	1.460E-06
XE-131M	0.000E-01	AG-110M	2.910E-07
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.030E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	5.400E-06
C-14	2.420E-06	I-131	9.830E-06
NA-24	5.800E-06	I-132	6.760E-07
P-32	3.180E-05	I-133	2.770E-06
K-40	0.000E-01	I-134	3.580E-07
CR-51	8.900E-09	I-135	1.490E-06
MN-54	2.850E-06	CS-134	8.100E-05
MN-56	7.540E-08	CS-136	4.180E-05
FE-55	1.890E-06	CS-137	4.620E-05
FE-59	1.330E-05	CS-138	2.010E-07
CO-56	0.000E-01	BA-139	1.200E-08
CO-57	0.000E-01	BA-140	4.850E-06
CO-58	5.510E-06	LA-140	1.190E-09
CO-60	1.560E-05	CE-139	0.000E-01
NI-63	1.830E-05	CE-144	1.110E-07
NI-65	1.220E-07	EU-152	0.000E-01
CU-64	1.480E-07	W-187	1.140E-07
ZN-65	2.270E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	1.980E-07	BI-214	0.000E-01
RB-88	1.320E-07	RA-226	0.000E-01
RB-89	1.040E-07	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	3.770E-05	NP-239	2.650E-10
SR-90	4.310E-03	AAAAAAA	0.000E-01
SR-91	9.060E-07	BBBBBBB	0.000E-01
SR-92	3.620E-07	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	1.100E-09	EEEEEEE	0.000E-01
Y-91M	1.390E-11	FFFFFFF	0.000E-01
Y-91	1.610E-08	GGGGGGG	0.000E-01
Y-92	1.030E-08	HHHHHHH	0.000E-01
Y-93	3.130E-10	IIIIIII	0.000E-01
ZR-95	2.270E-08	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	0.000E-01
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	0.000E-01
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	0.000E-01
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.030E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	6.510E-06
C-14	2.420E-06	I-131	5.720E-03
NA-24	5.800E-06	I-132	6.820E-05
P-32	0.000E-01	I-133	1.360E-03
K-40	0.000E-01	I-134	1.790E-05
CR-51	4.940E-09	I-135	2.790E-04
MN-54	0.000E-01	CS-134	0.000E-01
MN-56	0.000E-01	CS-136	0.000E-01
FE-55	0.000E-01	CS-137	0.000E-01
FE-59	0.000E-01	CS-138	0.000E-01
CO-56	0.000E-01	BA-139	0.000E-01
CO-57	0.000E-01	BA-140	0.000E-01
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	0.000E-01
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	0.000E-01	W-187	0.000E-01
ZN-65	0.000E-01	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	0.000E-01
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	0.000E-01	JJJJJJJ	0.000E-01

AR-41	3.157E 03	ZR-97	1.450E-09
KR-83M	4.178E-20	NB-94	0.000E-01
KR-85M	8.169E 02	NB-95	8.230E-09
KR-85	2.223E-15	MO-90	0.000E-01
KR-87	1.620E-10	MO-99	2.840E-05
KR-88	7.579E-13	TC-99M	2.630E-08
KR-89	4.926E 01	RU-103	1.840E-06
KR-90	3.684E 10	RU-106	1.580E-05
XE-131M	2.722E-15	AG-110M	6.780E-07
XE-133M	9.842E-15	CD-109	0.000E-01
XE-133	5.067E 07	CD-113M	0.000E-01
XE-135M	6.013E-13	SN-113	0.000E-01
XE-135	6.295E-13	SB-122	0.000E-01
XE-137	1.304E-31	SB-124	0.000E-01
XE-138	3.081E 00	SB-125	0.000E-01
H-3	2.300E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	4.150E-05
C-14	2.420E-06	I-131	2.840E-05
NA-24	5.800E-06	I-132	2.250E-06
P-32	0.000E-01	I-133	1.220E-05
K-40	0.000E-01	I-134	1.190E-06
CR-51	1.350E-09	I-135	4.830E-06
MN-54	3.000E-06	CS-134	1.190E-04
MN-56	4.040E-07	CS-136	3.440E-05
FE-55	0.000E-01	CS-137	1.020E-04
FE-59	0.000E-01	CS-138	2.230E-07
CO-56	0.000E-01	BA-139	1.930E-10
CO-57	0.000E-01	BA-140	2.370E-08
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	3.610E-07
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	5.920E-07	W-187	0.000E-01
ZN-65	2.300E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	1.090E-09
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	3.650E-08	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	0.000E-01
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	0.000E-01
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	9.190E-10
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.030E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	0.000E-01
C-14	2.420E-06	I-131	0.000E-01
NA-24	5.800E-06	I-132	0.000E-01
P-32	0.000E-01	I-133	0.000E-01
K-40	0.000E-01	I-134	0.000E-01
CR-51	9.020E-09	I-135	0.000E-01
MN-54	0.000E-01	CS-134	4.270E-05
MN-56	0.000E-01	CS-136	5.130E-06
FE-55	3.450E-06	CS-137	3.670E-05
FE-59	7.740E-06	CS-138	2.400E-08
CO-56	0.000E-01	BA-139	1.300E-10
CO-57	0.000E-01	BA-140	4.340E-08
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	0.000E-01
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	0.000E-01	W-187	0.000E-01
ZN-65	0.000E-01	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	0.000E-01
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	0.000E-01	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	1.530E-04
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.620E-05
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	1.100E-05
KR-88	0.000E-01	TC-99M	1.030E-06
KR-89	0.000E-01	RU-103	1.890E-05
KR-90	0.000E-01	RU-106	1.820E-04
XE-131M	0.000E-01	AG-110M	4.330E-05
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.030E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	4.500E-05
C-14	2.420E-06	I-131	1.540E-06
NA-24	5.800E-06	I-132	1.730E-06
P-32	2.280E-05	I-133	2.950E-06
K-40	0.000E-01	I-134	5.160E-07
CR-51	4.720E-07	I-135	2.400E-06
MN-54	8.980E-06	CS-134	2.070E-06
MN-56	4.840E-05	CS-136	2.270E-06
FE-55	1.130E-06	CS-137	1.960E-06
FE-59	2.780E-05	CS-138	1.460E-07
CO-56	0.000E-01	BA-139	2.390E-05
CO-57	0.000E-01	BA-140	4.210E-05
CO-58	1.050E-05	LA-140	9.840E-05
CO-60	2.930E-05	CE-139	0.000E-01
NI-63	1.940E-06	CE-144	1.700E-04
NI-65	2.560E-05	EU-152	0.000E-01
CU-64	1.150E-05	W-187	3.570E-05
ZN-65	6.410E-06	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	1.000E-24	BI-214	0.000E-01
RB-88	9.320E-09	RA-226	0.000E-01
RB-89	1.020E-09	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	5.110E-05	NP-239	2.790E-05
SR-90	2.290E-04	AAAAAAA	0.000E-01
SR-91	5.300E-05	BBBBBBB	0.000E-01
SR-92	1.710E-04	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	1.170E-04	EEEEEEE	0.000E-01
Y-91M	7.480E-07	FFFFFFF	0.000E-01
Y-91	8.020E-05	GGGGGGG	0.000E-01
Y-92	1.040E-04	HHHHHHH	0.000E-01
Y-93	1.700E-04	IIIIIII	0.000E-01
ZR-95	2.660E-05	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	5.070E-08
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	6.350E-06
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	4.810E-13
KR-89	0.000E-01	RU-103	7.550E-07
KR-90	0.000E-01	RU-106	3.680E-05
XE-131M	0.000E-01	AG-110M	4.560E-06
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	0.000E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.300E-07
C-14	9.700E-06	I-131	1.300E-05
NA-24	4.350E-06	I-132	5.720E-07
P-32	7.040E-04	I-133	4.480E-06
K-40	0.000E-01	I-134	3.170E-07
CR-51	0.000E-01	I-135	1.330E-06
MN-54	0.000E-01	CS-134	1.760E-04
MN-56	0.000E-01	CS-136	1.760E-05
FE-55	1.280E-05	CS-137	2.450E-04
FE-59	5.590E-06	CS-138	1.710E-07
CO-56	0.000E-01	BA-139	4.980E-10
CO-57	0.000E-01	BA-140	2.000E-05
CO-58	0.000E-01	LA-140	1.740E-07
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	2.220E-04	CE-144	1.830E-03
NI-65	8.080E-10	EU-152	0.000E-01
CU-64	0.000E-01	W-187	4.410E-09
ZN-65	1.150E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	1.620E-04	NP-239	1.260E-07
SR-90	2.730E-02	AAAAAAA	0.000E-01
SR-91	3.280E-08	BBBBBBB	0.000E-01
SR-92	7.540E-09	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	1.110E-06	EEEEEEE	0.000E-01
Y-91M	1.370E-10	FFFFFFF	0.000E-01
Y-91	2.470E-04	GGGGGGG	0.000E-01
Y-92	5.500E-09	HHHHHHH	0.000E-01
Y-93	5.040E-08	IIIIIII	0.000E-01
ZR-95	5.130E-05	JJJJJJJ	0.000E-01

AR-41	0.000E-01	ZR-97	7.340E-09
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	2.480E-06
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	4.660E-08
KR-88	0.000E-01	TC-99M	9.410E-13
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	3.080E-06
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	3.040E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	7.360E-08
C-14	1.820E-06	I-131	1.300E-05
NA-24	4.350E-06	I-132	1.100E-06
P-32	3.090E-05	I-133	5.490E-06
K-40	0.000E-01	I-134	5.840E-07
CR-51	0.000E-01	I-135	2.360E-06
MN-54	1.160E-05	CS-134	2.740E-04
MN-56	4.480E-10	CS-136	4.620E-05
FE-55	6.800E-06	CS-137	2.230E-04
FE-59	9.040E-06	CS-138	2.270E-07
CO-56	0.000E-01	BA-139	2.660E-13
CO-57	0.000E-01	BA-140	1.750E-08
CO-58	4.790E-07	LA-140	6.080E-08
CO-60	3.550E-06	CE-139	0.000E-01
NI-63	1.250E-05	CE-144	5.720E-04
NI-65	7.990E-11	EU-152	0.000E-01
CU-64	5.390E-10	W-187	2.610E-09
ZN-65	3.060E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	1.520E-07	RA-226	0.000E-01
RB-89	9.330E-08	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	9.040E-09
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	1.130E-05	JJJJJJJ	0.000E-01

ODCM RECORD # 48

AR-41	0.000E-01	ZR-97	4.320E-09
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.770E-06
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	1.150E-08
KR-88	0.000E-01	TC-99M	1.560E-11
KR-89	0.000E-01	RU-103	2.900E-07
KR-90	0.000E-01	RU-106	4.570E-06
XE-131M	0.000E-01	AG-110M	2.470E-06
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	3.040E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	7.120E-08
C-14	1.820E-06	I-131	7.370E-06
NA-24	4.350E-06	I-132	5.070E-07
P-32	2.670E-05	I-133	2.080E-06
K-40	0.000E-01	I-134	2.690E-07
CR-51	4.170E-08	I-135	1.120E-06
MN-54	2.570E-06	CS-134	6.070E-05
MN-56	8.430E-11	CS-136	3.140E-05
FE-55	2.100E-06	CS-137	3.470E-05
FE-59	4.510E-06	CS-138	1.500E-07
CO-56	0.000E-01	BA-139	1.450E-11
CO-57	0.000E-01	BA-140	1.170E-06
CO-58	8.550E-07	LA-140	2.040E-08
CO-60	6.120E-06	CE-139	0.000E-01
NI-63	7.560E-06	CE-144	9.770E-05
NI-65	4.440E-11	EU-152	0.000E-01
CU-64	2.900E-10	W-187	1.170E-09
ZN-65	1.900E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	1.480E-07	BI-214	0.000E-01
RB-88	9.900E-08	RA-226	0.000E-01
RB-89	7.830E-08	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	4.660E-06	NP-239	6.350E-09
SR-90	1.740E-03	AAAAAAA	0.000E-01
SR-91	1.240E-09	BBBBBBB	0.000E-01
SR-92	1.420E-10	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	2.990E-08	EEEEEEE	0.000E-01
Y-91M	4.980E-12	FFFFFFF	0.000E-01
Y-91	6.590E-06	GGGGGGG	0.000E-01
Y-92	1.570E-10	HHHHHHH	0.000E-01
Y-93	1.380E-09	IIIIIII	0.000E-01
ZR-95	1.000E-05	JJJJJJJ	0.000E-01

ODCM RECORD # 50

AR-41	0.000E-01	ZR-97	1.050E-08
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	2.330E-06
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	1.060E-07
KR-88	0.000E-01	TC-99M	1.370E-11
KR-89	0.000E-01	RU-103	1.900E-06
KR-90	0.000E-01	RU-106	4.970E-05
XE-131M	0.000E-01	AG-110M	5.740E-06
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	3.040E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	4.790E-07
C-14	1.820E-06	I-131	2.130E-05
NA-24	4.350E-06	I-132	1.690E-06
P-32	0.000E-01	I-133	9.130E-06
K-40	0.000E-01	I-134	8.920E-07
CR-51	6.570E-09	I-135	3.620E-0
MN-54	2.710E-06	CS-134	8.930E-05
MN-56	4.520E-10	CS-136	2.580E-05
FE-55	0.000E-01	CS-137	7.630E-05
FE-59	0.000E-01	CS-138	1.680E-07
CO-56	0.000E-01	BA-139	2.330E-13
CO-57	0.000E-01	BA-140	5.710E-09
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	3.170E-04
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	1.630E-09	W-187	0.000E-01
ZN-65	1.930E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	2.630E-08
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	1.610E-05	JJJJJJJ	0.000E-01

ODCM RECORD # 51

AR-41	0.000E-01	ZR-97	3.060E-05
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.660E-04
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	3.660E-05
KR-88	0.000E-01	TC-99M	2.570E-07
KR-89	0.000E-01	RU-103	1.790E-04
KR-90	0.000E-01	RU-106	3.870E-03
XE-131M	0.000E-01	AG-110M	1.480E-03
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	3.070E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.020E-04
C-14	1.820E-06	I-131	0.000E-01
NA-24	4.350E-06	I-132	0.000E-01
P-32	0.000E-01	I-133	0.000E-01
K-40	0.000E-01	I-134	0.000E-01
CR-51	4.590E-06	I-135	0.000E-01
MN-54	4.260E-04	CS-134	3.270E-05
MN-56	3.550E-06	CS-136	3.930E-06
FE-55	3.000E-05	CS-137	2.810E-05
FE-59	3.430E-04	CS-138	1.840E-08
CO-56	0.000E-01	BA-139	1.560E-06
CO-57	0.000E-01	BA-140	4.710E-04
CO-58	2.990E-04	LA-140	4.940E-05
CO-60	1.910E-03	CE-139	0.000E-01
NI-63	7.430E-05	CE-144	3.120E-05
NI-65	2.210E-06	EU-152	0.000E-01
CU-64	2.590E-06	W-187	1.110E-05
ZN-65	2.690E-04	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	5.830E-04	NP-239	1.570E-05
SR-90	3.990E-03	AAAAAAA	0.000E-01
SR-91	1.440E-05	BBBBBBB	0.000E-01
SR-92	6.490E-06	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	7.070E-05	EEEEEEE	0.000E-01
Y-91M	7.600E-07	FFFFFFF	0.000E-01
Y-91	7.100E-04	GGGGGGG	0.000E-01
Y-92	6.460E-06	HHHHHHH	0.000E-01
Y-93	2.010E-05	IIIIIII	0.000E-01
ZR-95	6.030E-04	JJJJJJJ	0.000E-01

ODCM RECORD # 52

AR-41	0.000E-01	ZR-97	9.490E-05
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.000E-05
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	3.420E-05
KR-88	0.000E-01	TC-99M	1.300E-06
KR-89	0.000E-01	RU-103	1.210E-05
KR-90	0.000E-01	RU-106	1.160E-04
XE-131M	0.000E-01	AG-110M	2.710E-05
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	3.040E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	3.720E-05
C-14	1.820E-06	I-131	7.680E-07
NA-24	4.350E-06	I-132	8.650E-07
P-32	1.140E-05	I-133	1.480E-06
K-40	0.000E-01	I-134	2.580E-07
CR-51	2.930E-07	I-135	1.200E-06
MN-54	6.160E-06	CS-134	1.040E-06
MN-56	3.330E-05	CS-136	1.130E-06
FE-55	7.750E-07	CS-137	9.780E-07
FE-59	1.910E-05	CS-138	7.290E-08
CO-56	0.000E-01	BA-139	1.560E-05
CO-57	0.000E-01	BA-140	2.750E-05
CO-58	9.290E-06	LA-140	6.100E-05
CO-60	2.600E-05	CE-139	0.000E-01
NI-63	1.710E-06	CE-144	1.050E-04
NI-65	2.270E-05	EU-152	0.000E-01
CU-64	9.920E-06	W-187	2.460E-05
ZN-65	4.410E-06	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	1.000E-24	BI-214	0.000E-01
RB-88	4.660E-09	RA-226	0.000E-01
RB-89	5.110E-10	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	4.520E-05	NP-239	1.730E-05
SR-90	9.280E-05	AAAAAAA	0.000E-01
SR-91	4.700E-05	BBBBBBB	0.000E-01
SR-92	4.550E-05	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	7.240E-05	EEEEEEE	0.000E-01
Y-91M	4.640E-07	FFFFFFF	0.000E-01
Y-91	4.970E-05	GGGGGGG	0.000E-01
Y-92	6.460E-05	HHHHHHH	0.000E-01
Y-93	1.050E-04	IIIIIII	0.000E-01
ZR-95	1.650E-05	JJJJJJJ	0.000E-01

ODCM RECORD # 53

AR-41	0.000E-01	ZR-97	3.400E-02
KR-83M	0.000E-01	NB-94	2.800E-01
KR-85M	0.000E-01	NB-95	2.800E-01
KR-85	0.000E-01	MO-90	8.000E-03
KR-87	0.000E-01	MO-99	8.000E-03
KR-88	0.000E-01	TC-99M	4.000E-01
KR-89	0.000E-01	RU-103	4.000E-01
KR-90	0.000E-01	RU-106	4.000E-01
XE-131M	0.000E-01	AG-110M	1.700E-02
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	1.200E-02	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	7.700E-02
C-14	3.100E-02	I-131	2.900E-03
NA-24	3.000E-02	I-132	2.900E-03
P-32	4.600E-02	I-133	2.900E-03
K-40	0.000E-01	I-134	2.900E-03
CR-51	2.400E-03	I-135	2.900E-03
MN-54	8.000E-04	CS-134	4.000E-03
MN-56	8.000E-04	CS-136	4.000E-03
FE-55	4.000E-02	CS-137	4.000E-03
FE-59	4.000E-02	CS-138	4.000E-03
CO-56	1.300E-02	BA-139	3.200E-03
CO-57	1.300E-02	BA-140	3.200E-03
CO-58	1.300E-02	LA-140	2.000E-04
CO-60	1.300E-02	CE-139	1.200E-03
NI-63	5.300E-02	CE-144	1.200E-03
NI-65	5.300E-02	EU-152	0.000E-01
CU-64	8.000E-03	W-187	1.300E-03
ZN-65	3.000E-02	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	3.100E-02	RA-226	0.000E-01
RB-89	3.100E-02	TH-228	0.000E-01
SR-85	6.000E-04	U-235	0.000E-01
SR-89	6.000E-04	NP-239	2.000E-04
SR-90	6.000E-06	AAAAAAA	0.000E-01
SR-91	6.000E-04	BBBBBBB	0.000E-01
SR-92	6.000E-04	CCCCCCC	0.000E-01
Y-88	4.600E-03	DDDDDDD	0.000E-01
Y-90	4.600E-03	EEEEEEE	0.000E-01
Y-91M	4.600E-03	FFFFFFF	0.000E-01
Y-91	4.600E-03	GGGGGGG	0.000E-01
Y-92	4.600E-03	HHHHHHH	0.000E-01
Y-93	4.600E-03	IIIIIII	0.000E-01
ZR-95	3.400E-02	JJJJJJJ	0.000E-01

ODCM RECORD # 54

AR-41	0.000E-01	ZR-97	1.680E-09
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	6.220E-09
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	2.470E-10
KR-89	0.000E-01	RU-103	1.850E-07
KR-90	0.000E-01	RU-106	2.750E-06
XE-131M	0.000E-01	AG-110M	1.600E-07
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	0.000E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	2.520E-06
C-14	2.840E-06	I-131	4.160E-06
NA-24	1.700E-06	I-132	2.030E-07
P-32	1.930E-04	I-133	1.420E-06
K-40	0.000E-01	I-134	1.060E-07
CR-51	0.000E-01	I-135	4.430E-07
MN-54	0.000E-01	CS-134	6.220E-05
MN-56	0.000E-01	CS-136	6.510E-06
FE-55	2.750E-06	CS-137	7.970E-05
FE-59	4.340E-06	CS-138	5.520E-08
CO-56	0.000E-01	BA-139	9.700E-08
CO-57	0.000E-01	BA-140	2.030E-05
CO-58	0.000E-01	LA-140	2.500E-09
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	1.300E-04	CE-144	4.880E-07
NI-65	5.280E-07	EU-152	0.000E-01
CU-64	0.000E-01	W-187	1.030E-07
ZN-65	4.840E-06	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	9.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	3.080E-04	NP-239	1.190E-09
SR-90	7.580E-03	AAAAAAA	0.000E-01
SR-91	5.670E-06	BBBBBBB	0.000E-01
SR-92	2.150E-06	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	9.620E-09	EEEEEEE	0.000E-01
Y-91M	9.090E-11	FFFFFFF	0.000E-01
Y-91	1.410E-07	GGGGGGG	0.000E-01
Y-92	8.450E-10	HHHHHHH	0.000E-01
Y-93	2.680E-09	IIIIIII	0.000E-01
ZR-95	3.040E-08	JJJJJJJ	0.000E-01

ODCM RECORD # 55

AR-41	0.000E-01	ZR-97	3.390E-10
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	3.460E-09
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	4.310E-06
KR-88	0.000E-01	TC-99M	6.980E-10
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	1.480E-07
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	1.050E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.630E-06
C-14	5.680E-07	I-131	5.950E-06
NA-24	1.700E-06	I-132	5.430E-07
P-32	1.200E-05	I-133	2.470E-06
K-40	0.000E-01	I-134	2.880E-07
CR-51	0.000E-01	I-135	1.160E-06
MN-54	4.570E-06	CS-134	1.480E-04
MN-56	1.150E-07	CS-136	2.570E-05
FE-55	1.900E-06	CS-137	1.090E-04
FE-59	1.020E-05	CS-138	1.090E-07
CO-56	0.000E-01	BA-139	6.910E-11
CO-57	0.000E-01	BA-140	2.550E-08
CO-58	7.450E-07	LA-140	1.260E-09
CO-60	2.140E-06	CE-139	0.000E-01
NI-63	9.010E-06	CE-144	2.040E-07
NI-65	6.860E-08	EU-152	0.000E-01
CU-64	8.330E-08	W-187	8.610E-08
ZN-65	1.540E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	6.050E-08	RA-226	0.000E-01
RB-89	4.010E-08	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	1.170E-10
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	9.750E-09	JJJJJJJ	0.000E-01

ODCM RECORD # 56

AR-41	0.000E-01	ZR-97	1.550E-10
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.960E-09
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	8.200E-07
KR-88	0.000E-01	TC-99M	8.890E-09
KR-89	0.000E-01	RU-103	7.970E-08
KR-90	0.000E-01	RU-106	3.480E-07
XE-131M	0.000E-01	AG-110M	8.790E-08
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	1.050E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.530E-06
C-14	5.680E-07	I-131	3.410E-06
NA-24	1.700E-06	I-132	1.900E-07
P-32	7.460E-06	I-133	7.530E-07
K-40	0.000E-01	I-134	1.030E-07
CR-51	2.660E-09	I-135	4.280E-07
MN-54	8.720E-07	CS-134	1.210E-04
MN-56	2.040E-08	CS-136	1.850E-05
FE-55	4.430E-07	CS-137	7.140E-05
FE-59	3.910E-06	CS-138	5.400E-08
CO-56	0.000E-01	BA-139	2.840E-09
CO-57	0.000E-01	BA-140	1.330E-06
CO-58	1.670E-06	LA-140	3.330E-10
CO-60	4.720E-06	CE-139	0.000E-01
NI-63	4.360E-06	CE-144	2.620E-08
NI-65	3.130E-08	EU-152	0.000E-01
CU-64	3.910E-08	W-187	3.010E-08
ZN-65	6.960E-06	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	5.210E-08	BI-214	0.000E-01
RB-88	3.210E-08	RA-226	0.000E-01
RB-89	2.820E-08	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	8.840E-06	NP-239	6.450E-11
SR-90	1.860E-03	AAAAAAA	0.000E-01
SR-91	2.290E-07	BBBBBBB	0.000E-01
SR-92	9.300E-08	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	2.580E-10	EEEEEEE	0.000E-01
Y-91M	3.520E-12	FFFFFFF	0.000E-01
Y-91	3.770E-09	GGGGGGG	0.000E-01
Y-92	2.470E-11	HHHHHHH	0.000E-01
Y-93	7.400E-11	IIIIIII	0.000E-01
ZR-95	6.600E-09	JJJJJJJ	0.000E-01

ODCM RECORD # 57

AR-41	0.000E-01	ZR-97	0.000E-01
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	0.000E-01
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	0.000E-01
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	1.050E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.800E-06
C-14	5.680E-07	I-131	1.950E-03
NA-24	1.700E-06	I-132	1.900E-05
P-32	0.000E-01	I-133	3.630E-04
K-40	0.000E-01	I-134	4.990E-06
CR-51	1.590E-09	I-135	7.650E-05
MN-54	0.000E-01	CS-134	0.000E-01
MN-56	0.000E-01	CS-136	0.000E-01
FE-55	0.000E-01	CS-137	0.000E-01
FE-59	0.000E-01	CS-138	0.000E-01
CO-56	0.000E-01	BA-139	0.000E-01
CO-57	0.000E-01	BA-140	0.000E-01
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	0.000E-01
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	0.000E-01	W-187	0.000E-01
ZN-65	0.000E-01	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	0.000E-01
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	0.000E-01	JJJJJJJ	0.000E-01

ODCM RECORD # 58

AR-41	0.000E-01	ZR-97	5.120E-10
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	3.420E-09
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	9.760E-06
KR-88	0.000E-01	TC-99M	1.060E-08
KR-89	0.000E-01	RU-103	7.060E-07
KR-90	0.000E-01	RU-106	5.310E-06
XE-131M	0.000E-01	AG-110M	2.910E-07
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	1.050E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.570E-05
C-14	5.680E-07	I-131	1.020E-05
NA-24	1.700E-06	I-132	8.650E-07
P-32	0.000E-01	I-133	4.310E-06
K-40	0.000E-01	I-134	4.580E-07
CR-51	5.860E-10	I-135	1.860E-06
MN-54	1.360E-06	CS-134	4.790E-05
MN-56	1.460E-07	CS-136	1.430E-05
FE-55	0.000E-01	CS-137	3.700E-05
FE-59	0.000E-01	CS-138	8.010E-08
CO-56	0.000E-01	BA-139	6.460E-11
CO-57	0.000E-01	BA-140	8.670E-09
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	1.210E-07
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	2.100E-07	W-187	0.000E-01
ZN-65	1.030E-05	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	3.650E-10
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	1.530E-08	JJJJJJJ	0.000E-01

ODCM RECORD # 59

AR-41	0.000E-01	ZR-97	0.000E-01
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	0.000E-01
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	3.420E-10
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	1.050E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	0.000E-01
C-14	5.680E-07	I-131	0.000E-01
NA-24	1.700E-06	I-132	0.000E-01
P-32	0.000E-01	I-133	0.000E-01
K-40	0.000E-01	I-134	0.000E-01
CR-51	3.530E-09	I-135	0.000E-01
MN-54	0.000E-01	CS-134	1.590E-05
MN-56	0.000E-01	CS-136	1.960E-06
FE-55	1.060E-06	CS-137	1.230E-05
FE-59	2.850E-06	CS-138	7.910E-09
CO-56	0.000E-01	BA-139	3.920E-11
CO-57	0.000E-01	BA-140	1.460E-08
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	0.000E-01
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	0.000E-01	W-187	0.000E-01
ZN-65	0.000E-01	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	0.000E-01
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	0.000E-01	JJJJJJJ	0.000E-01

ODCM RECORD # 60

AR-41	0.000E-01	ZR-97	1.050E-04
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	2.100E-05
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	9.990E-06
KR-88	0.000E-01	TC-99M	4.130E-07
KR-89	0.000E-01	RU-103	2.160E-05
KR-90	0.000E-01	RU-106	1.780E-04
XE-131M	0.000E-01	AG-110M	6.040E-05
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	1.050E-07	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	7.710E-05
C-14	5.680E-07	I-131	1.570E-06
NA-24	1.700E-06	I-132	1.020E-07
P-32	2.170E-05	I-133	2.220E-06
K-40	0.000E-01	I-134	2.510E-10
CR-51	6.690E-07	I-135	1.310E-06
MN-54	1.400E-05	CS-134	2.590E-06
MN-56	3.670E-06	CS-136	2.920E-06
FE-55	1.090E-06	CS-137	2.110E-06
FE-59	3.400E-05	CS-138	4.650E-13
CO-56	0.000E-01	BA-139	1.720E-07
CO-57	0.000E-01	BA-140	4.180E-05
CO-58	1.510E-05	LA-140	9.250E-05
CO-60	4.020E-05	CE-139	0.000E-01
NI-63	1.880E-06	CE-144	1.650E-04
NI-65	1.740E-06	EU-152	0.000E-01
CU-64	7.100E-06	W-187	2.820E-05
ZN-65	9.700E-06	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	4.090E-13	BI-214	0.000E-01
RB-88	8.360E-19	RA-226	0.000E-01
RB-89	2.330E-21	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	4.940E-05	NP-239	2.400E-05
SR-90	2.190E-04	AAAAAAA	0.000E-01
SR-91	2.700E-05	BBBBBBB	0.000E-01
SR-92	4.260E-05	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	1.020E-04	EEEEEEE	0.000E-01
Y-91M	2.670E-10	FFFFFFF	0.000E-01
Y-91	7.760E-05	GGGGGGG	0.000E-01
Y-92	1.480E-05	HHHHHHH	0.000E-01
Y-93	8.500E-05	IIIIIII	0.000E-01
ZR-95	3.090E-05	JJJJJJJ	0.000E-01

ODCM RECORD # 61

AR-41	0.000E-01	ZR-97	3.300E 00
KR-83M	0.000E-01	NB-94	3.000E 04
KR-85M	0.000E-01	NB-95	3.000E 04
KR-85	0.000E-01	MO-90	1.000E 01
KR-87	0.000E-01	MO-99	1.000E 01
KR-88	0.000E-01	TC-99M	1.500E 01
KR-89	0.000E-01	RU-103	1.000E 01
KR-90	0.000E-01	RU-106	1.000E 01
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	0.000E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	4.000E 02
C-14	4.600E 03	I-131	1.500E 01
NA-24	1.000E 02	I-132	1.500E 01
P-32	1.000E 05	I-133	1.500E 01
K-40	0.000E-01	I-134	1.500E 01
CR-51	2.000E 02	I-135	1.500E 01
MN-54	4.000E 02	CS-134	2.000E 03
MN-56	4.000E 02	CS-136	2.000E 03
FE-55	1.000E 02	CS-137	2.000E 03
FE-59	1.000E 02	CS-138	2.000E 03
CO-56	5.000E 01	BA-139	4.000E 00
CO-57	5.000E 01	BA-140	4.000E 00
CO-58	5.000E 01	LA-140	2.500E 01
CO-60	5.000E 01	CE-139	1.000E 00
NI-63	1.000E 02	CE-144	1.000E 00
NI-65	1.000E 02	EU-152	0.000E-01
CU-64	5.000E 01	W-187	1.200E 03
ZN-65	2.000E 03	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	4.200E 02	BI-214	0.000E-01
RB-88	2.000E 03	RA-226	0.000E-01
RB-89	2.000E 03	TH-228	0.000E-01
SR-85	3.000E 01	U-235	0.000E-01
SR-89	3.000E 01	NP-239	1.000E 01
SR-90	3.000E 01	AAAAAAA	0.000E-01
SR-91	3.000E 01	BBBBBBB	0.000E-01
SR-92	3.000E 01	CCCCCCC	0.000E-01
Y-88	2.500E 01	DDDDDDD	0.000E-01
Y-90	2.500E 01	EEEEEEE	0.000E-01
Y-91M	2.500E 01	FFFFFFF	0.000E-01
Y-91	2.500E 01	GGGGGGG	0.000E-01
Y-92	2.500E 01	HHHHHHH	0.000E-01
Y-93	2.500E 01	IIIIIII	0.000E-01
ZR-95	3.300E 00	JJJJJJJ	0.000E-01

ODCM RECORD # 62

AR-41	0.000E-01	ZR-97	1.327E-02
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	4.467E 02
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	8.870E-03
KR-89	0.000E-01	RU-103	4.429E 00
KR-90	0.000E-01	RU-106	6.583E 01
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	0.000E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	2.413E 03
C-14	3.128E 04	I-131	1.494E 02
NA-24	4.070E 02	I-132	7.290E 00
P-32	4.620E 07	I-133	5.099E 01
K-40	0.000E-01	I-134	3.806E 00
CR-51	0.000E-01	I-135	1.591E 01
MN-54	0.000E-01	CS-134	2.978E 05
MN-56	0.000E-01	CS-136	3.117E 04
FE-55	6.583E 02	CS-137	3.816E 05
FE-59	1.039E 03	CS-138	2.643E 02
CO-56	0.000E-01	BA-139	9.289E-01
CO-57	0.000E-01	BA-140	1.944E 02
CO-58	0.000E-01	LA-140	1.496E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	3.112E 04	CE-144	1.168E 00
NI-65	1.264E 02	EU-152	0.000E-01
CU-64	0.000E-01	W-187	2.959E 02
ZN-65	2.317E 04	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	2.212E 04	NP-239	2.849E-02
SR-90	5.444E 05	AAAAAAA	0.000E-01
SR-91	4.072E 02	BBBBBBB	0.000E-01
SR-92	1.544E 02	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	5.758E-01	EEEEEEE	0.000E-01
Y-91M	5.440E-03	FFFFFFF	0.000E-01
Y-91	8.439E 00	GGGGGGG	0.000E-01
Y-92	5.057E-02	HHHHHHH	0.000E-01
Y-93	1.604E-01	IIIIIII	0.000E-01
ZR-95	2.402E-01	JJJJJJJ	0.000E-01

ODCM RECORD # 63

AR-41	0.000E-01	ZR-97	2.678E-03
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	2.485E 02
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	1.032E 02
KR-88	0.000E-01	TC-99M	2.507E-02
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.262E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.561E 03
C-14	6.255E 03	I-131	2.137E 02
NA-24	4.070E 02	I-132	1.950E 01
P-32	2.873E 06	I-133	8.870E 01
K-40	0.000E-01	I-134	1.034E 01
CR-51	0.000E-01	I-135	4.166E 01
MN-54	4.376E 03	CS-134	7.086E 05
MN-56	1.101E 02	CS-136	1.231E 05
FE-55	4.549E 02	CS-137	5.219E 05
FE-59	2.442E 03	CS-138	5.219E 02
CO-56	0.000E-01	BA-139	6.617E-04
CO-57	0.000E-01	BA-140	2.442E-01
CO-58	8.918E 01	LA-140	7.541E-02
CO-60	2.562E 02	CE-139	0.000E-01
NI-63	2.157E 03	CE-144	4.884E-01
NI-65	1.642E 01	EU-152	0.000E-01
CU-64	9.971E 00	W-187	2.473E 02
ZN-65	7.374E 04	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	2.897E 02	RA-226	0.000E-01
RB-89	1.920E 02	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	2.801E-03
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	7.703E-02	JJJJJJJ	0.000E-01

ODCM RECORD # 64

AR-41	0.000E-01	ZR-97	1.225E-03
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.336E 02
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	1.963E 01
KR-88	0.000E-01	TC-99M	3.192E-01
KR-89	0.000E-01	RU-103	1.908E 00
KR-90	0.000E-01	RU-106	8.331E 00
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.262E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.465E 03
C-14	6.255E 03	I-131	1.225E 02
NA-24	4.070E 02	I-132	6.823E 00
P-32	1.786E 06	I-133	2.704E 01
K-40	0.000E-01	I-134	3.699E 00
CR-51	1.274E 00	I-135	1.537E 01
MN-54	8.350E 02	CS-134	5.793E 05
MN-56	1.954E 01	CS-136	8.858E 04
FE-55	1.061E 02	CS-137	3.419E 05
FE-59	9.361E 02	CS-138	2.586E 02
CO-56	0.000E-01	BA-139	2.720E-02
CO-57	0.000E-01	BA-140	1.274E 01
CO-58	1.999E 02	LA-140	1.993E-02
CO-60	5.650E 02	CE-139	0.000E-01
NI-63	1.044E 03	CE-144	6.272E-02
NI-65	7.493E 00	EU-152	0.000E-01
CU-64	4.680E 00	W-187	8.647E 01
ZN-65	3.332E 04	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	5.239E 01	BI-214	0.000E-01
RB-88	1.537E 02	RA-226	0.000E-01
RB-89	1.350E 02	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	6.349E 02	NP-239	1.544E-03
SR-90	1.336E 05	AAAAAAA	0.000E-01
SR-91	1.645E 01	BBBBBBB	0.000E-01
SR-92	6.679E 00	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	1.544E-02	EEEEEEE	0.000E-01
Y-91M	2.107E-04	FFFFFFF	0.000E-01
Y-91	2.256E-01	GGGGGGG	0.000E-01
Y-92	1.478E-03	HHHHHHH	0.000E-01
Y-93	4.429E-03	IIIIIII	0.000E-01
ZR-95	5.214E-02	JJJJJJJ	0.000E-01

ODCM RECORD # 65

AR-41	0.000E-01	ZR-97	0.000E-01
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	0.000E-01
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	0.000E-01
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.262E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.724E 03
C-14	6.255E 03	I-131	7.002E 04
NA-24	4.070E 02	I-132	6.823E 02
P-32	0.000E-01	I-133	1.304E 04
K-40	0.000E-01	I-134	1.792E 02
CR-51	7.613E-01	I-135	2.747E 03
MN-54	0.000E-01	CS-134	0.000E-01
MN-56	0.000E-01	CS-136	0.000E-01
FE-55	0.000E-01	CS-137	0.000E-01
FE-59	0.000E-01	CS-138	0.000E-01
CO-56	0.000E-01	BA-139	0.000E-01
CO-57	0.000E-01	BA-140	0.000E-01
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	0.000E-01
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	0.000E-01	W-187	0.000E-01
ZN-65	0.000E-01	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	0.000E-01
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	0.000E-01	JJJJJJJ	0.000E-01

ODCM RECORD # 66

AR-41	0.000E-01	ZR-97	4.045E-03
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	2.456E 02
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	2.337E 02
KR-88	0.000E-01	TC-99M	3.806E-01
KR-89	0.000E-01	RU-103	1.690E 01
KR-90	0.000E-01	RU-106	1.271E 02
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.262E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	1.503E 04
C-14	6.255E 03	I-131	3.663E 02
NA-24	4.070E 02	I-132	3.106E 01
P-32	0.000E-01	I-133	1.548E 02
K-40	0.000E-01	I-134	1.645E 01
CR-51	2.806E-01	I-135	6.679E 01
MN-54	1.302E 03	CS-134	2.293E 05
MN-56	1.398E 02	CS-136	6.847E 04
FE-55	0.000E-01	CS-137	1.772E 05
FE-59	0.000E-01	CS-138	3.835E 02
CO-56	0.000E-01	BA-139	6.186E-04
CO-57	0.000E-01	BA-140	8.302E-02
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	2.897E-01
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	2.514E 01	W-187	0.000E-01
ZN-65	4.932E 04	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	8.738E-03
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	1.209E-01	JJJJJJJ	0.000E-01

AR-41	0.000E-01	ZR-97	0.000E-01
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	0.000E-01
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	0.000E-01
KR-88	0.000E-01	TC-99M	1.228E-02
KR-89	0.000E-01	RU-103	0.000E-01
KR-90	0.000E-01	RU-106	0.000E-01
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.262E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	0.000E-01
C-14	6.255E 03	I-131	0.000E-01
NA-24	4.070E 02	I-132	0.000E-01
P-32	0.000E-01	I-133	0.000E-01
K-40	0.000E-01	I-134	0.000E-01
CR-51	1.690E 00	I-135	0.000E-01
MN-54	0.000E-01	CS-134	7.613E 04
MN-56	0.000E-01	CS-136	9.384E 03
FE-55	2.538E 02	CS-137	5.889E 04
FE-59	6.823E 02	CS-138	3.787E 01
CO-56	0.000E-01	BA-139	3.754E-04
CO-57	0.000E-01	BA-140	1.398E-01
CO-58	0.000E-01	LA-140	0.000E-01
CO-60	0.000E-01	CE-139	0.000E-01
NI-63	0.000E-01	CE-144	0.000E-01
NI-65	0.000E-01	EU-152	0.000E-01
CU-64	0.000E-01	W-187	0.000E-01
ZN-65	0.000E-01	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	9.000E-01
BR-84	0.000E-01	BI-214	0.000E-01
RB-88	0.000E-01	RA-226	0.000E-01
RB-89	0.000E-01	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	0.000E-01	NP-239	0.000E-01
SR-90	0.000E-01	AAAAAAA	0.000E-01
SR-91	0.000E-01	BBBBBBB	0.000E-01
SR-92	0.000E-01	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	0.000E-01	EEEEEEE	0.000E-01
Y-91M	0.000E-01	FFFFFFF	0.000E-01
Y-91	0.000E-01	GGGGGGG	0.000E-01
Y-92	0.000E-01	HHHHHHH	0.000E-01
Y-93	0.000E-01	IIIIIII	0.000E-01
ZR-95	0.000E-01	JJJJJJJ	0.000E-01

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AR-41	0.000E-01	ZR-97	8.295E 02
KR-83M	0.000E-01	NB-94	0.000E-01
KR-85M	0.000E-01	NB-95	1.508E 06
KR-85	0.000E-01	MO-90	0.000E-01
KR-87	0.000E-01	MO-99	2.392E 02
KR-88	0.000E-01	TC-99M	1.483E 01
KR-89	0.000E-01	RU-103	5.171E 02
KR-90	0.000E-01	RU-106	4.261E 03
XE-131M	0.000E-01	AG-110M	0.000E-01
XE-133M	0.000E-01	CD-109	0.000E-01
XE-133	0.000E-01	CD-113M	0.000E-01
XE-135M	0.000E-01	SN-113	0.000E-01
XE-135	0.000E-01	SB-122	0.000E-01
XE-137	0.000E-01	SB-124	0.000E-01
XE-138	0.000E-01	SB-125	0.000E-01
H-3	2.262E-01	SB-127	0.000E-01
BE-7	0.000E-01	TE-132	7.383E 04
C-14	6.255E 03	I-131	5.638E 01
NA-24	4.070E 02	I-132	3.663E 00
P-32	5.195E 06	I-133	7.972E 01
K-40	0.000E-01	I-134	9.013E-03
CR-51	3.203E 02	I-135	4.704E 01
MN-54	1.341E 04	CS-134	1.240E 04
MN-56	3.514E 03	CS-136	1.398E 04
FE-55	2.609E 02	CS-137	1.010E 04
FE-59	8.140E 03	CS-138	2.226E-03
CO-56	0.000E-01	BA-139	1.647E 00
CO-57	0.000E-01	BA-140	4.003E 02
CO-58	1.807E 03	LA-140	5.536E 03
CO-60	4.812E 03	CE-139	0.000E-01
NI-63	4.501E 02	CE-144	3.950E 02
NI-65	4.166E 02	EU-152	0.000E-01
CU-64	8.499E 02	W-187	8.101E 04
ZN-65	4.644E 04	HG-203	0.000E-01
SE-75	0.000E-01	PB-214	0.000E-01
BR-84	4.112E-04	BI-214	0.000E-01
RB-88	4.003E-09	RA-226	0.000E-01
RB-89	1.116E-11	TH-228	0.000E-01
SR-85	0.000E-01	U-235	0.000E-01
SR-89	3.548E 03	NP-239	5.746E 02
SR-90	1.573E 04	AAAAAAA	0.000E-01
SR-91	1.939E 03	BBBBBBB	0.000E-01
SR-92	3.060E 03	CCCCCCC	0.000E-01
Y-88	0.000E-01	DDDDDDD	0.000E-01
Y-90	6.105E 03	EEEEEEE	0.000E-01
Y-91M	1.598E-02	FFFFFFF	0.000E-01
Y-91	4.644E 03	GGGGGGG	0.000E-01
Y-92	8.858E 02	HHHHHHH	0.000E-01
Y-93	5.087E 03	IIIIIII	0.000E-01
ZR-95	2.441E 02	JJJJJJJ	0.000E-01

4.0 Environmental Sampling Stations - Radiological

Environmental samples will be collected as specified in the Technical Specifications. The approximate locations of selected sample sites are shown on Figures 4-1a and 4-1b for illustrative purposes.

Table 4-1 lists its approximate distances and directions of the sample stations from the plant.

ARKANSAS POWER & LIGHT CO. ARKANSAS NUCLEAR ONE	RADIOLOGICAL SAMPLE STATIONS	FIG. 4 -1a

Station 7 at Danville.

Figure 4-1b
Radiological Sample Stations

Table 4-1

Environmental Sampling Stations - Radiological

Site Number	Direction and Distance from Plant	Sample Location	Sample Types
1	92° - 0.5 miles	Near meteorology tower on site	1) Airborne radioiodines 2) Airborne particulates 3) Direct radiation
2	235° - 0.5 miles	Near former AP&L Logde on site	1) Airborne radioiodines 2) Airborne particulates 3) Direct radiation
3	4° - 0.4 miles	Hwy. 333 on AP&L pole #36	1) Airborne radioiodines 2) Airborne particulates 3) Direct radiation
4	171° - 0.4 miles	Near the May Cemetery	1) Airborne radioiodines 2) Airborne particulates 3) Direct radiation
5	298° - 8.5 miles	Ray Walter's residence Knoxville, AR	1) Airborne radioiodines 2) Airborne particulates 3) Direct radiation
6	109° - 6.8 miles	AP&L District Office Russellville, AR	1) Airborne radioiodines 2) Airborne particulates 3) Direct radiation
7	209° - 19.3 miles	AP&L Substation Danville, AR	1) Airborne radioiodines 2) Airborne particulates 3) Direct radiation
8	180° - 0.1 miles	Plant discharge canal	1) Surface water 2) Shoreline sediment 3) Fish
10	90° - 1.0 miles	Plant inlet canal	1) Surface water 2) Shoreline sediment 3) Fish
14	65° 5.8 miles	Inlet to Russellville city water system	1) Drinking water
16	295° - 6.0 miles	Piney Creek area on Lake Dardanelle	1) Surface 2) Shoreline sediment 3) Fish
19	99° - 8.0 miles	Arkansas Tech Dairy	1) Milk
20	29° - 8.0 miles	Odem Meyers Dairy	1) Milk

Table 4-1 (Continued)

Environmental Sampling Stations - Radiological

Site Number	Direction and Distance from Plant	Sample Location	Sample Types
23	73° - 12 miles	R. A. Yound Dairy	1) Milk
29	11° - 8.0 miles	H. Steuber Dairy	1) Milk
30	160° - 0.8 miles	James Taylor residence	1) Food products
32	155° - 0.8 miles	Cliff Steward residence	1) Ground water
33	98° - 4.8 miles	Ouita Use Area	1) Ground water
34	295° - 6.6 miles	Flat Rock Rec. Area	1) Ground water
35	32° - 1.2 miles	Tom Cook residence	1) Food products
108	318° - 1.8 miles	Round Mountain Road AP&L Pole #46	1) Direct radiation
109	308° - 1.2 miles	Round Mountain Road AP&L Pole #94	1) Direct radiation
110	136° - 0.8 miles	R. H. Douglas residence	1) Direct radiation
111	108° - 2.3 miles	Hwy. 326 on AP&L Pole #971/36	1) Direct radiation
112	60° - 3.3 miles	Hwy. 64 at I-0 exit	1) Direct radiation
113	48° - 1.4 miles	Hwy. 64 and 333 on AP&L Pole #79	1) Direct radiation
114	24° - 1.4 miles	Hwy. 64, 0.6 miles west of Hwy. 333	1) Direct radiation
115	343° - 1.5 miles	Hwy. 64, 1.7 miles west of Hwy. 333 on AP&L Pole #112	1) Direct radiation
116	315° - 1.9 miles	Near former Post Office, London, AR	1) Direct radiation
117	305° - 17.2 miles	Near Post Office, Clarksville, AR	1) Direct radiation
118	291° - 5.8 miles	Hwy. 64, Piney, AR on Co-op Pole #26/100	1) Direct radiation

Table 4-1 (Continued)

Environmental Sampling Stations - Radiological

Site Number	Direction and Distance from Plant	Sample Location	Sample Types
119	313° - 4.8 miles	Entrance road to Roberts Rance, 2 miles west of Hwy. 333	1) Direct radiation
120	338° - 4.2 miles	Near Martin Chapel on Hwy 333	1) Direct radiation
121	338° - 5.5 miles	0.5 miles from East Point Church on AP&L Pole #87	1) Direct radiation
122	12° - 3.5 miles	2.2 miles SE of site 121 on AP&L #900/161	1) Direct radiation
123	48° - 3.5 miles	Unmarked road, 0.8 miles N of Pleasant View Dr. on AP&L Pole #13	1) Direct radiation
124	62° - 3.3 miles	Pleasant Valley Drive, 2.6 miles S of Hwy. 7 on AP&L pole #26	1) Direct radiation
125	47° - 9.2 miles	Near Dover School Dover, AR	1) Direct radiation
126	78° - 5.6 miles	Hwy. 7, 1.1 miles N. of I-40	1) Direct radiation
127	103° - 5.7 miles	N. Boulder and West O Sts., Russellville, AR	1) Direct radiation
128	115° - 8.5 miles	Airport, Russellville, AR	1) Direct radiation
129	118° - 7.5 miles	Russellville High School, Russellville, AR	1) Direct radiation
130	245° - 4.6 miles	Hwy. 22, Delaware, AR	1) Direct radiation
131	253° - 2.7 miles	Delaware Use Area	1) Direct radiation
132	274° - 4.8 miles	River Front Road, 2.3 miles W of Hwy. 393	1) Direct radiation

Table 4-1 (Continued)

Environmental Sampling Stations - Radiological

Site Number	Direction and Distance from Plant	Sample Location	Sample Types
133	231° - 3.8 miles	Hwy. 22, 1 mile E of Delaware, AR	1) Direct radiation
134	207° - 2.8 miles	Hwy. 22, 3.5 miles E of Delaware, AR on AP&L Pole #114	1) Direct radiation
135	186° - 3.1 miles	Hwy. 22, 3.5 miles of Delaware, AR	1) Direct radiation
136	166° - 4.3 miles	Hwy. 22, near Little Hays Creek Bridge on AP&L Pole #61	1) Direct radiation
137	152° - 8.5 miles	Morris R. Moore Armory Dardanelle, AR	1) Direct radiation
138	195° - 5.8 miles	Mt. Nebo State Part	1) Direct radiation
139	178° - 19.2 miles	Near Post Office, Ola, AR	1) Direct radiation
140	151° - 21.8 miles	Hwy. 10, Casa High School, Perry County, AR	1) Direct radiation
141	134° - 3.3 miles	Hwy. 326, 1 mile S of Dardanelle State Park	1) Direct radiation
142	127° - 5.2 miles	Skyline and Nordan Dr., Russellville, AR	1) Direct radiation
143	106° - 17.5 miles	Near Atkins High School Atkins, AR	1) Direct radiation
144	314° - 13.0 miles	Lamar Elementary School Lamar, AR	1) Direct radiation