

INTRODUCTION

The following sections provide tables of data on which PNNL's environmental surveillance summary information in the Hanford Site Environmental Report for Calendar Year 2003 was based. Information that may help the reader to understand these data tables is provided below.

GENERAL

Some degree of inherent uncertainty is associated with all analytical measurements. The total propagated analytical uncertainty for an individual result is a 2-sigma counting error. For samples that are prepared or manipulated in the laboratory prior to counting, the total propagated analytical uncertainty includes both the counting uncertainty and the uncertainty connected with sample preparation and chemical separations. For samples that are not manipulated in the laboratory before counting, the total propagated analytical uncertainty only accounts for the uncertainty associated with counting the sample. The uncertainty associated with samples that are analyzed but not counted includes only the analytical process uncertainty.

EXTERNAL RADIATION DATA

The thermoluminescent dosimeter (TLD) readings in this data volume are in milliroentgens per day (mR/day) and have been converted to mrem/year for presentation in the annual report.

The following section provides definitions of column headings in the data tables in this document.

COLUMN HEADING	DEFINITION
OWNER ID	Identifies the owner of the data (SESPMNT = PNNL SESP routine collection, SESPSPEC = PNNL SESP special study, PNLGW = PNNL Groundwater)
SAMP NUM	Sample Number is a unique identifier for a sample
SAMP SITE NAME	Sample Site Name is the name of the sampling site as identified in the Hanford Environmental Information System (HEIS) database
DIST CLASS	Distant Classification is the location of the sampling site relative to the Hanford Site (Onsite, Offsite, Community, Distant, Perimeter, River_Shoreline). Field not utilized by OWNER ID PNLGW
MEDIA	Categorizes samples into logical groups or subject areas: AT Air BI Biota (foodstuffs, wildlife, vegetation) ER External Radiation GW Samples collected from wells, including engineered structures that provide access to the aquifer for groundwater samples at locations close to the river. 'GW' is also assigned to samples collected from tubes inserted ~1 meter or deeper into the always-submerged riverbed. SO Soil/Sediment SW Surface Water (also represents water collected from rivers, ponds and springs, and drinking water)
SAMP FROM	Sample From identifies the media-dependent entity that was sampled (e.g., COW, WINE, WHITEFISH, etc.). Field not utilized by OWNER ID PNLGW
SAMP ITEM	Sample Item identifies the media-dependent item (e.g., MILK, RED WINE, MUSCLE, etc.) that was sampled from the entity identified in the SAMP FROM field
COLL MTHD	Collection Method is used to denote the type of method used for surface water (SW) collections FILTER Filter material of cloth or paper RESIN Resin sampler for collecting cations and anions from water

COLUMN HEADING	DEFINITION
SAMP DATE	Sample Date is the date the sample was collected
CON SHORT NAME	Constituent Short Name for the specific radiological or chemical compound or physical parameter
VALUE RPTD	The concentration or result reported by the analytical laboratory or read from an instrument
ANAL UNITS RPTD	The units in which the result was originally reported
COUNTING ERROR	The 2-sigma Counting Error for radioanalytical results only
TOTAL ANAL ERROR	The 2-sigma Total Analytical Error may be reported for any result
LAB QUALIFIER	<p data-bbox="462 888 1435 963">A flag identifying issues that could impact the quality of the reported result. Qualifiers that apply to the 2003 data include:</p> <ul style="list-style-type: none"> <li data-bbox="505 993 1435 1236">B For organics the analyte was found in the associated blank as well as in the sample, indicates possible/probable blank contamination. For inorganics or the analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the Instrument Detection Limit (IDL) or Method Detection Limit (MDL). ORGANICS - The analyte was detected in both the associated QC blank and in the sample. <li data-bbox="505 1266 1435 1362">C Possible contamination has occurred. For metals 'C' qualifier analyte was detected in the associated blank above lab detection limit. <li data-bbox="505 1392 1435 1430">BC Characteristics from both 'B' and 'C' qualifiers exist <li data-bbox="505 1459 1435 1535">D Identifies all compounds in an analysis at a secondary dilution factor <li data-bbox="505 1564 1435 1602">CD Characteristics from both 'C' and 'D' qualifiers exist <li data-bbox="505 1631 1435 1669">E Report value is estimated. <li data-bbox="505 1698 1435 1774">J Value is estimated; no 'U' qualifier has been assigned and the result is below the required detection level (RDL) <li data-bbox="505 1803 1435 1841">JB Characteristics from both 'J' and 'B' qualifiers exist

COLUMN HEADING	DEFINITION
	N Matrix spike/matrix spike duplicate outside of the control limit.
	JBN Characteristics from both 'JB' and 'N' qualifiers exist.
	U Indicates constituent was analyzed for but not detected or value reported < 0; value reported < counting error; value reported < total analytical error; value_rptd <=contract Method Detection Limit (MDL), Instrument Detection Limit (IDL), Minimum Detectable Activity (MDA), or Practical Quantitation Limit (PQL). For metals, 'U' qualifier may be represented by the lab detection limit.
	UN Characteristics from both 'U' and 'N' qualifiers exist
SAMP COMMENT	Contains pertinent information about a sample, which may affect the quality and use of the data
RESULT COMMENT	Contains pertinent information about the result, which may effect the quality and use of the data
TAG ID	Identifier used to group the different portions collected from a single biota sample. For example, a single Tag ID would be used to group the muscle and bone samples collected from a single deer.
WELL NAME	Name provided to identify ground-water wells including aquifer tubes.
FLOW RATE	Columbia River daily average flow downstream of Priest Rapids Dam
FLOW RATE UNITS	Columbia River flow in cubic feet per second (CFS)
REPLICATE ID	Core sample number
REPLICATE VALUE	Core value reported
RELATIVE % DIFFERENCE	The relative percent difference between the measured concentration of the original value reported and the replicate value reported. The formula is: $100 * VALUE RPTD - REPLICATE VALUE / ((VALUE RPTD + REPLICATE VALUE) / 2)$
MIN DETECTABLE ACTIVITY	Minimum detectable activity (MDA) is assumed to be a sample-dependent estimate, typically dependent on the background of the measurement instrument and sample yield, reported in the same units as the result value for the reported analyte.