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Report of Tritide Study at the Responsive Neutron Generator Product Deployment Center

Jaime Coffey and Robert Burkhart

Prepared by
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Albuquerque, New Mexico 87185 and Livermore, California 94550

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Report of Tritide Study at the Responsive Neutron Generator Product Deployment Center

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Abstract

This report documents a study of sample counting results for wipes from routine surface area monitoring conducted at the Responsive Neutron Generator Product Deployment Center (RNGPDC) at Sandia National Laboratories (SNL). The study was initiated in November 2006, with two samples suspected of containing erbium tritide, after some samples were found to exhibit higher tritium counting rates upon recount at a later time. The main goal of the study was to determine whether the current practice of analyzing tritium wipe samples once, within a few days of sample collection, is adequate to accurately quantify the amount of tritium on the sample when tritides may be present. Recommendations are made toward routine recounting of vials suspected of containing particulate forms of tritium.

Table of Contents

List of Figures

Acronyms & Abbreviations

cm	centimeter(s)
dpm	disintegrations per minute
ErT_2	erbium di-tritide
HTO	tritiated water or hydrogen tritium water
ICP	Inductively Coupled Plasma
MDA	minimum detectable activity
ml	milliliter(s)
mm	millimeter(s)
PM	photomultiplier
RNGPDC	Responsive Neutron Generator Product Deployment Center
SNL	Sandia National Laboratories
TEM	Transmission Electron Microscope

Report of Tritide Study at the Responsive Neutron Generator Product Deployment Center

INTRODUCTION

This report documents a study of sample counting results for vials containing wipes from routine surface area monitoring conducted at the Responsive Neutron Generator Product Deployment Center (RNGPDC) at Sandia National Laboratories (SNL). An indication that some samples exhibited higher tritium counting rates during subsequent recounts initiated the study. Some samples counted within a few days of collection initially showed less than two times the minimum detectable activity (MDA) for tritium, but later showed more than two times MDA. The original data was not sufficient to understand the underlying process at work, so a more detailed study was developed.

The main goal of the study was to determine whether the current practice of analyzing tritium wipe samples once—within a few days of sample collection—is adequate to accurately quantify the amount of tritium on the sample.

Because our work involves some handling of metal tritides, a secondary goal of the study was to gather additional information as to the presence and properties of these materials relative to sample counting.

THEORY

Tritium

Tritium is a radioactive isotope of hydrogen consisting of one proton and two neutrons. Tritium is naturally produced in the upper atmosphere by bombardment of Nitrogen-14 by a neutron. This results in the production of tritium and Carbon-14. Tritium can also be produced by various man-made processes and is commonly used for radioluminescent materials and neutron generator devices such as those produced by Sandia at the RNGPDC.

Tritium is unstable and decays by beta particle emission with a half-life of 12.43 years and an energy of 18.6 keV. This decay produces a Helium-3 nucleus, a beta particle, and an anti-neutrino. The average beta particle energy is 5.7 keV. With one unimportant exception, tritium is the weakest known beta emitter. The range of beta particles is about 5 mm in air, and only .005 mm in water or soft tissue. This short range means it does not present an external hazard from human exposure, but does present detection challenges, as will be discussed below.

Although all three isotopes of hydrogen behave about the same chemically, regardless of their mass number, tritium presents different biological risks based on its chemical form. Since the human body has no affinity for molecular hydrogen, the gas form is not readily absorbed via inhalation or through the skin. Tritium in the form of water (HTO or T_2O) presents a more significant risk. Tritiated water is readily absorbed by the body and is eliminated with a biological half-life of approximately 10 days. The greater absorption of tritiated water is

responsible for the much lower exposure limits expressed as Derived Air Concentrations in Reference [1].

Metal tritides represent another level of concern for human exposure. In this case, the main concern is with respirable particulates [3],[5]. The biological half-life of some tritides can be an order of magnitude higher than those of HTO [4]. Metal tritides emit low energy beta particles and bremsstrahlung and, once entrained in the lungs, can cause local tissue damage [6]. The resulting doses depend on which metal is present and its solubility, but are on the order ten times higher than tritiated water based on the airborne limits given in Reference [1].

Metal Tritide Chemistry

Hydrogen can behave as an electrophite or nucleophite and can react with nearly all elements of the periodic table. This accounts for the large number of known metal hydrides. The reaction products of the hydrogen isotopes with metals are called metal protides, metal deuterides, and metal tritides. Their binding character can be ionic, covalent, or metallic. The metal hydrides are of interest mainly because of their large hydrogen storage capacity, which is useful in applications such as neutron generators.

The tritide of particular concern in this study is erbium di-tritide (ErT_2). Other tritides are also used at the RNGPDC, but the main production operations utilize ErT_2. The usual process for forming metal tritides is tritium absorption from the gas phase. The tritide is formed by exposing a metal to tritium gas in a high-temperature environment. Erbium oxidizes easily and normally has an outer oxide layer. Metal tritides formed from rare earth metals like erbium are very stable and don't readily release tritium once formed. Of interest from a dose perspective is the (aqueous) solubility of the tritide because the behavior of tritium in the body is heavily dependent on the solubility of any particles inhaled. The rare earth metal tritides are not very soluble and the solubility generally decreases with molecular weight.

Tritium Measurement

Large quantities of tritium are measured using calorimetry, and intermediate levels can be measured with mass spectrometry; however, at the levels normally encountered in a laboratory environment, liquid scintillation is the only practical measurement option. This is mainly due to the low penetrating ability of tritium beta particles. Liquid scintillation involves placing the sample to be counted directly into a liquid, which then emits detectable light and avoids problems relating to signal loss between the source and the detector, attenuation of particles by detector windows, and beta backscattering from the detector [2].

To properly quantify the amount of activity in a metal tritide sample the tritium must be removed from the metallic structure. This can be accomplished by burning the tritium of a metal tritide sample in a Wickbold apparatus, converting the tritium to HTO, which is in turn analyzed. Another method is to dissolve the metal tritide sample in an acid in a closed container where tritium atoms exchange with hydrogen atoms of the acid. The HT gas, which also arises, is oxidized to HTO in a second step using H_2O_2 and a precious metal catalyst. Unfortunately, these methods do not lend themselves to routine application, so liquid scintillation is once again the method of choice [7].

The first step in liquid scintillation analyses for tritium involves incorporation of the sample, usually a paper filter wipe, within a suitable liquid scintillation solution—typically in a glass vial. The vial is then placed in a light-tight enclosure within the liquid scintillation analyzer and is viewed by photomultiplier (PM) tubes. Since all beta particles pass through some portion of the scintillator, and most are stopped in the scintillator, the counting efficiency can be very high. The output of the analysis is typically reported in units of dpm/wipe or dpm/100 cm^2.

MATERIALS AND METHODS

Scope of Study

The study began in November 2006 with two samples suspected of containing metal tritides. When these samples were observed to increase over time, the study was expanded (in December 2006) with the addition of four more samples. It was later recognized that more frequent analyses were needed immediately after collection, so 30 more samples were added in March 2007.

All together, a total of 36 swipes were taken in areas with detectable surface contamination, both with and without a known potential to contain metal tritides (gloveboxes, fume hoods, and vacuum storage units). Sample points were intentionally chosen to cover a large range of contamination levels (counting rates).

A standard contamination swipe method was used, consisting of lightly rubbing Whatman 47 mm paper filters across 100 cm^2 of surface area, where possible. The swipes were then individually placed in glass vials with 18 ml of Ultima Gold ™ XR liquid scintillation fluid and analyzed using a Packard TRI-CARB 2500TR liquid scintillation counter. The swipes were recounted weekly for 24 weeks.

Control Sample

A vial containing a spike sample (HTO) of known and consistent counting rate was obtained from the main counting lab and counted along with the samples as a control.

Erbium Evaluation

After the results had stabilized or reached an apparent maximum, the wipes were removed from six samples and analyzed for erbium using Inductively Coupled Plasma (ICP) analysis. The analyzer used was a Perkin-Elmer Optima model 5300 DV. The highest reading samples were chosen due to the sensitivity limitations of the ICP analysis method. Following removal of the wipes, counting of the vials continued until the study was concluded.

RESULTS AND DISCUSSION

Raw Results

The raw results of the analysis of the wipe samples are included as Attachment 1Attachment 1, tabulated in Attachment 2, and plotted in Figure 1.

Analysis

The results were normalized by dividing each sample count by the initial reading for that sample. This shows the relative increase of each sample as a multiple of its initial counting rate. The normalized results are graphed in Figure 2 and tabulated in Attachment 3.

The results were also normalized by plotting the counting rates against the time elapsed since the initial count of each sample, rather than the actual counting dates. This allows comparison of rise times across all samples. The Time Normalized Raw Counting Results are graphed in Figure 3 and tabulated in Attachment 4.

The data were further analyzed for the amount of time needed for the samples to reach 90% of their final counting rates. The results of this analysis are presented in Figure 4.

Upon close examination of the data, the following observations were made:

1. The average increase across all samples (excluding the control and a single outlier) was a factor of 2.7 ± 1.3 times the initial counting rate. Those samples which increased by more than 20% exhibited an average increase of 3.2 ± 1.2.
2. The highest relative increase observed for any sample (the outlier) was a factor of 19.4 in a sample from a Transmission Electron Microscope (TEM) sample fixture tip. It is suspected that the large increase observed in this one sample may have resulted from a larger particle than those picked up by the other samples.
3. The median amount of time required for the samples to reach 90% of their final counting rate was 45 days.
4. All samples destined to increase more than 20% above the initial reading were observed to exceed 20% within 7 days of the initial count.
5. Removing the wipes from the vials after the counting rates had reached their maximum levels had very little effect on the readings, indicating that almost all of the tritium activity remained in the cocktail.

Statistical Analysis of Results

A plot of the percent ranking of normalized sample maxima versus a standard normal distribution is provided in Figure 5. Review of this graph and the curves presented in Figure 2 indicated that two different groups were represented by the data: samples that increased less than 20% (appearing as less than -1 sigma on Figure 5) and those that increased more than 20%. This suspicion was confirmed statistically using Minitab® (version 15) to conduct a two-sample t-test with a 99.7% confidence interval. The t-test results showed that the nine samples that increased the least are indeed statistically distinct from those that increased more.

However, no clear boundary separating samples likely to contain tritides from those where the expectation was lower was observed. Some of the higher increases were observed in samples not expected to contain tritides and some samples (notably some glovebox surfaces), which were considered likely to contain tritides, did not increase significantly.

Results of Erbium Evaluation

The laboratory analytical report for the erbium analyses is presented as Attachment 5.

Note: Add one to all the sample numbers quoted in the Lab Report for comparison with the rest of the data provided (e.g., the results reported for sample #28 are actually for sample #29).

Erbium was positively detected on the two samples containing the most tritium. No statistical correlation with tritium concentration was possible, however, due to the small sample size and the proximity of the results to the ICP erbium detection limit. The presence of erbium in the samples supports the conclusion that metal tritides are the likely source of the observed increase in counting rates over time.

Legend for Figures 1-3

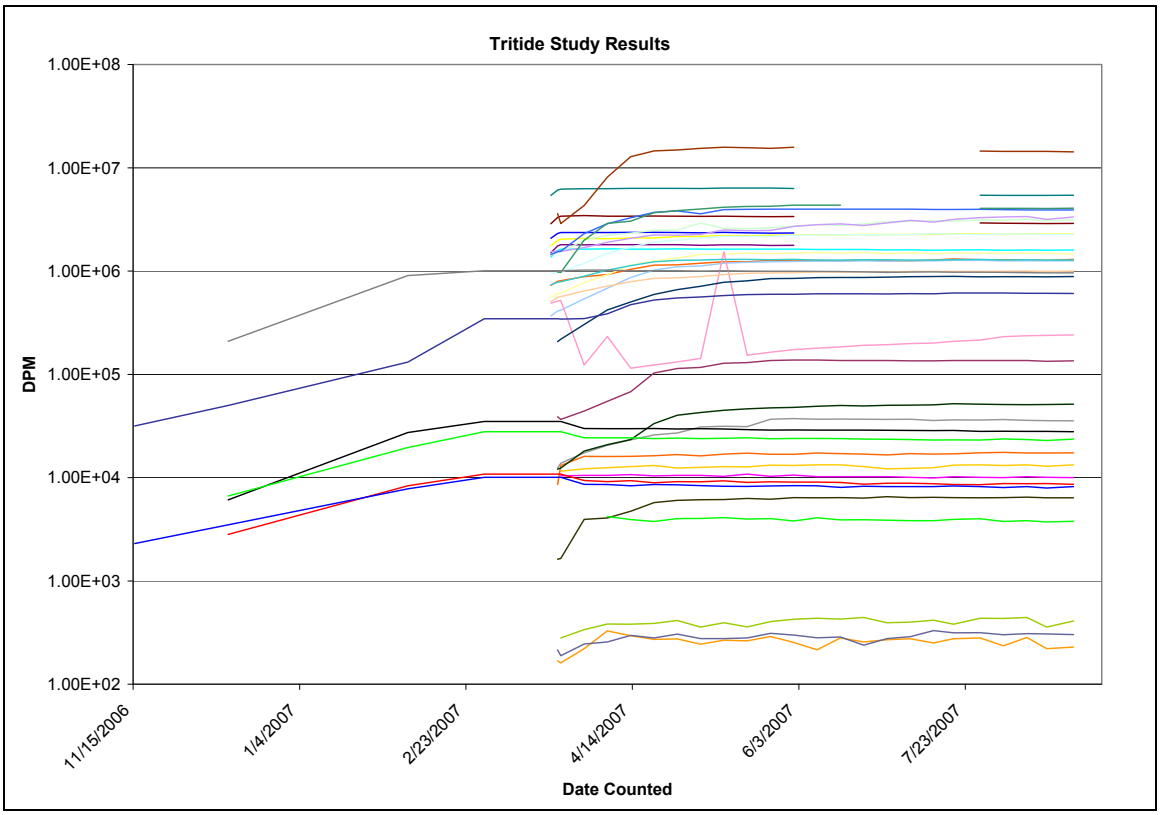


Figure 1. Raw Counting Results

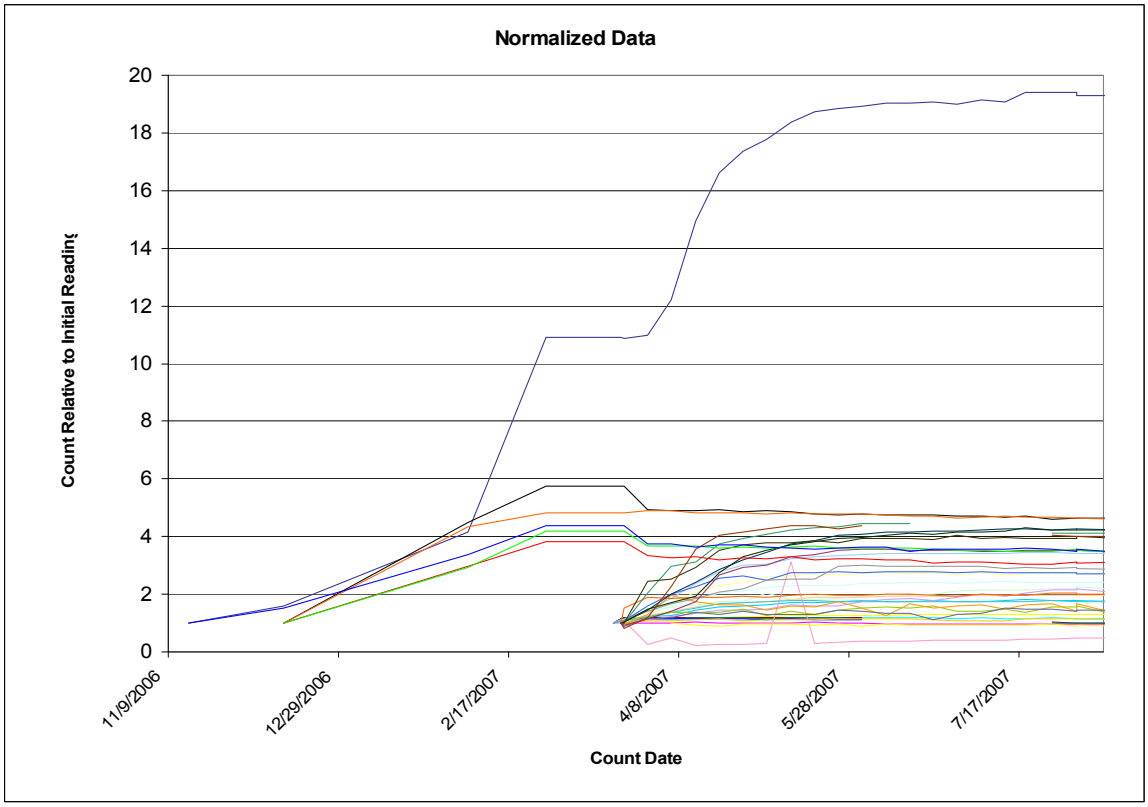


Figure 2. Normalized Counting Results

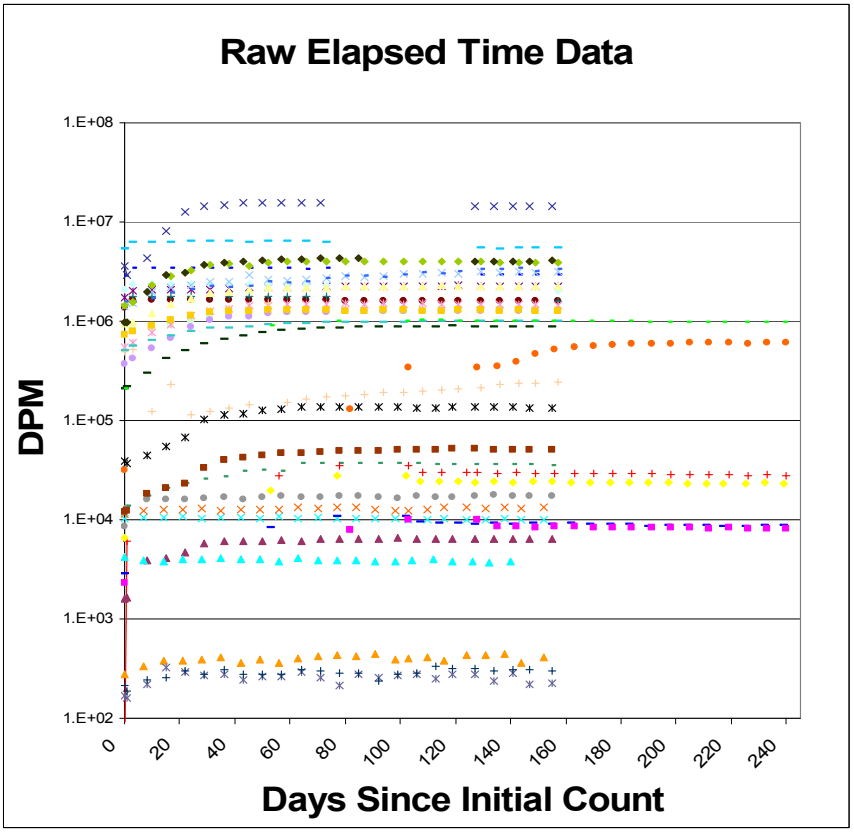


Figure 3. Time Normalized Raw Counting Results

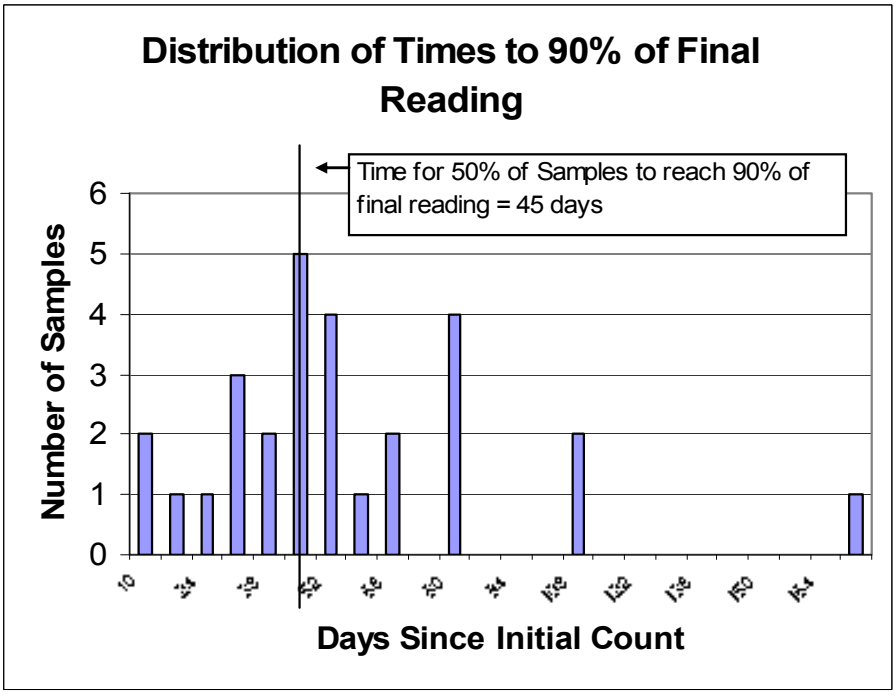


Figure 4. Times to 90% of Final Reading

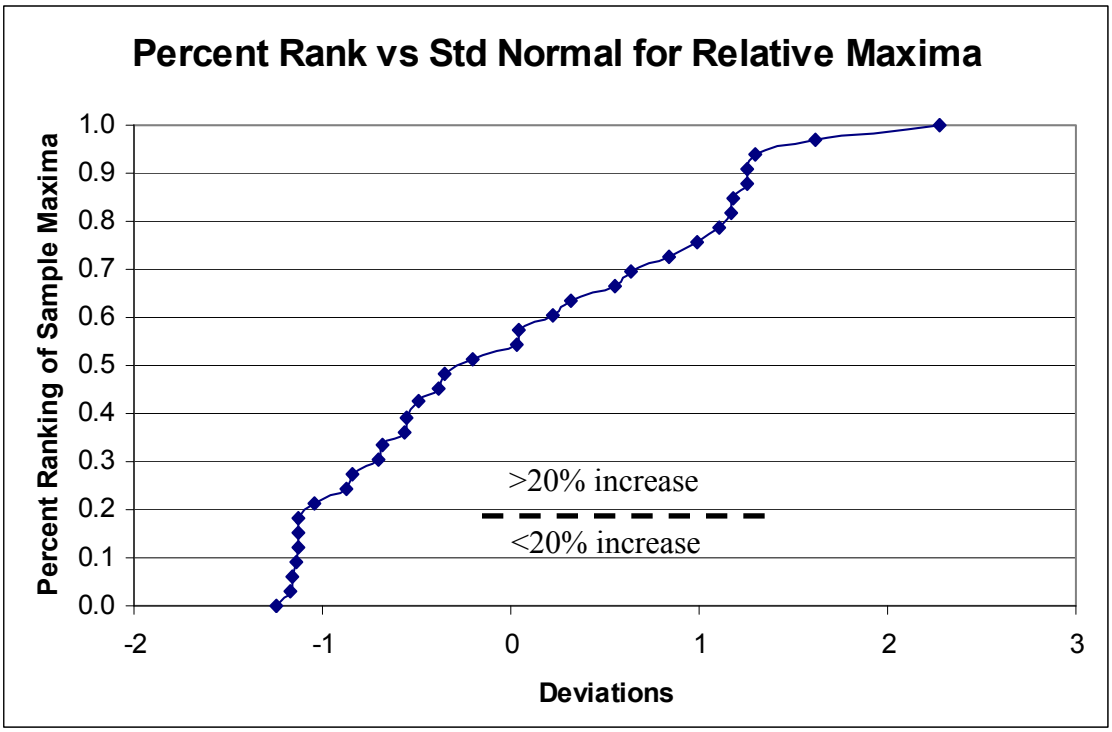


Figure 5. Statistical Distribution of Counting Results

CONCLUSIONS AND RECOMMENDATIONS

1. The current single count analysis method for wipes is adequate for HTO, but is not adequate to quantify suspected particulate tritium levels.
2. The majority of samples within neutron generator production operations may be expected to exhibit an increase in count rate over time, and it is not currently possible to accurately predict which samples will not increase.
3. We recommend that tritium sample vials within neutron generator operations at the RNGPDC routinely undergo a second count 7-10 days after the initial count in order to obtain more information about the sources of the counting increases.
4. We further recommend that samples found to increase by more than 20% on the second count be held and recounted again at 45 and 90 days to estimate their final counting rates and to determine the multiplication factor more precisely.
5. Since the expected overall increase is less than a factor of 5 and because the extent of the current controls have been found to be more than adequate to control personnel exposures at the RNGPDC, the initial count should continue to be used for radiation protection purposes until sufficient data is obtained to warrant further action.

REFERENCES

[1] Code of Federal Regulations, Title 10, Part 835, Appendix A: Derived Air Concentrations (DAC) for Controlling Radiation Exposure to Workers at DOE Facilities.

[2] Radiation Detection and Measurement, 3rd Ed, Glenn F. Knoll (2000).

[3] Biokinetics and Internal Dosimetry of Inhaled Metal Tritide Particles, Yansheng Wang, PhD Thesis (1998).

[4] Primer on Tritium Safe Handling Practices, DOE-HDBK-1079-94.

[5] Tritium Handling and Safe Storage, DOE-HDBK-1129-2007.

[6] Special Tritiated Compounds, DOE-HDBK-1184-2004.

[7] Tritium and Helium-3 in metals R. Lasser. Springer-Verlag.

ATTACHMENT 1: WIPE COUNTING RESULTS

RPF 2005-RSF (06-2006)

RPO-04-01

RADIOLOGICAL SURVEY FORM

Survey Number: S104390

Location: 870/1208	Requesting Org.: 02733	Date: 3/20/2007	Time: 0830
Purpose: Characterization		Request #: N/A	RWP #:

Instrument and Probe Type and Serial Numbers			Surveyor's Printed Names	Surveyor's Signature/Date
Bldg. 870/LSC			Coffey, Jamie	

#	Item Description/Location	BETA-GAMMA ACTIVITY Count Data Attached: ☑ YES ☐ NO %Eff.[a]: N/A Radionuclide: H-3				ALPHA ACTIVITY Count Data Attached: ☐ YES ☑ NO %Eff.[a]: N/A Radionuclide: N/A				RADIATION SURVEY Background: N/A mrem/hr Radiation Type: N/A	
		cpm	Bkg. cpm	dpm[b,c] / 100 cm²	T/R[d]	cpm	Bkg. cpm	dpm[b,c] / 100 cm²	T/R[d]	mrem/hr	Distance
1	Gloves (inside glove box)	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a
2	Glove box bottom	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a
3	Glove box bottom	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a
4	Glove box bottom	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a
5	Loading chamber internal	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a
6	Tools	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a
7	Flilter	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a

(a) %Eff-Removable/Direct (b) ND=No detectable activity above background (c) If other than 100 cm², indicate area or record as 'dpm/probe' or 'dpm/LAW' (large area wipe). (d) T/R- Total/Removable

Remarks: Characterization survey inside the 1208 loader glovebox.

Reviewed by:	Date:

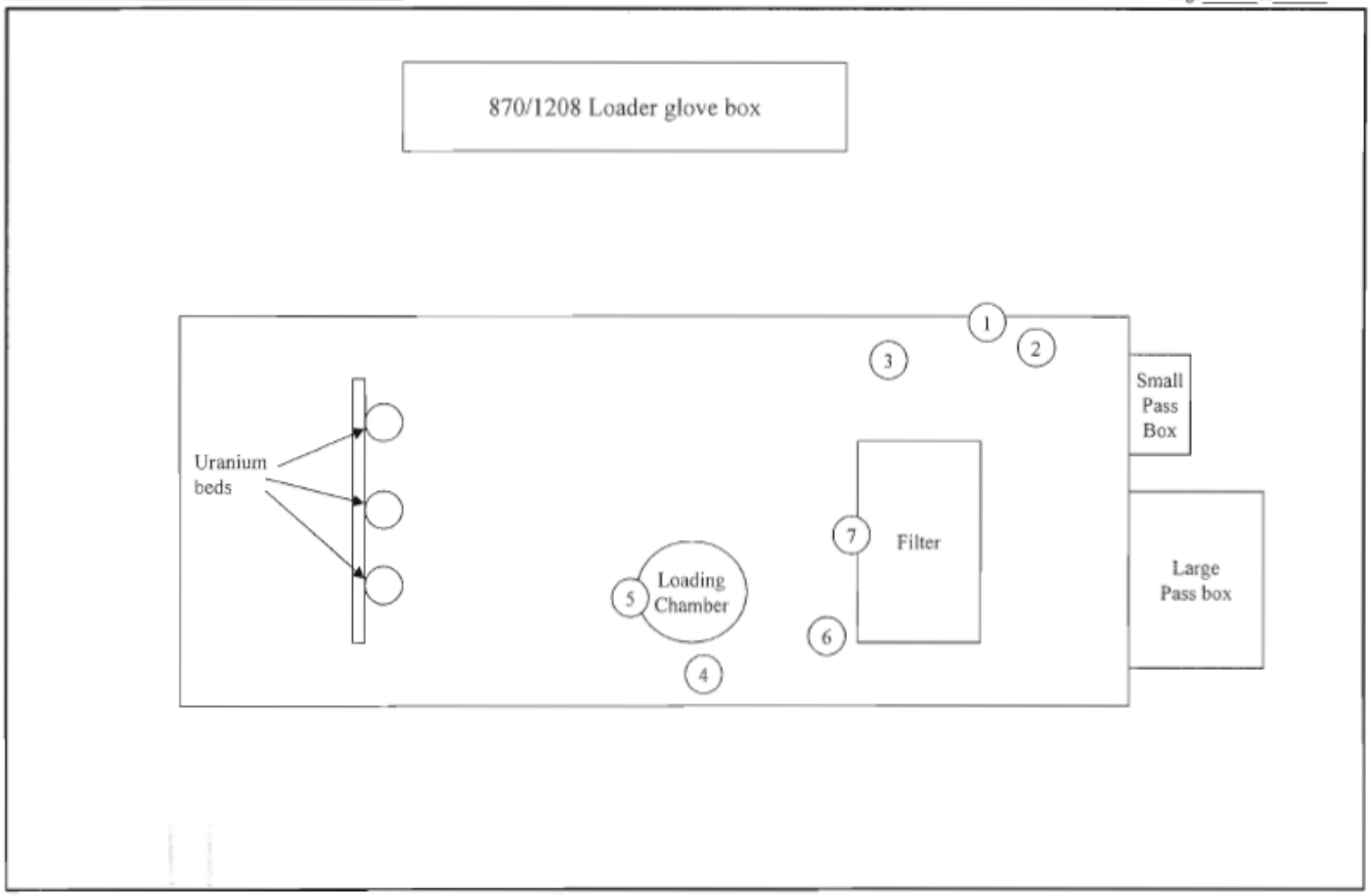
RPJA-04-01-1

RPF 2005-RSM (06-2006)

RPO-04-01
Survey Number: S104390

RADIOLOGICAL SURVEY MAP

Page 2 of 3



○ indicates smear location * indicates contact radiation reading △ indicates LAW location All radiation readings are gamma in mrem/h unless noted otherwise.

SOP indicates Step Off Pad location AS# indicates Air Sample location and number ☐ Static Count

RPJA-04-01-1

RPF 2005-RSF (06-2006)

RPO-04-01

RADIOLOGICAL SURVEY FORM

Survey Number: S104398

Location: 870/1109	Requesting Org.: 02733	Date: 3/20/2007	Time: 0930
Purpose: Characterization		Request #: N/A	RWP #:

Instrument and Probe Type and Serial Numbers			Surveyor's Printed Names	Surveyor's Signature/Date
Bldg. 870/LSC			Coffey, Jamie	Jamie J 3/20/07

#	Item Description/Location	BETA-GAMMA ACTIVITY Count Data Attached: ☑ YES ☐ NO %Eff.:[a] N/A Radionuclide: H-3				ALPHA ACTIVITY Count Data Attached: ☐ YES ☑ NO %Eff.:[a] N/A Radionuclide: N/A				RADIATION SURVEY Background: N/A mrem/hr Radiation Type: N/A	
		cpm	Bkg. cpm	dpm[b,c] / 100 cm²	T/R[d]	cpm	Bkg. cpm	dpm[b,c] / 100 cm²	T/R[d]	mrem/hr	Distance
1	Gloves (inside glove box) by lathe	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a
2	Gloves (inside glove box) by drill pre	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a
3	Glove box bottom	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a
4	Glove box bottom	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a
5	Glove box bottom	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a
6	Metal shavings	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a
7	Lathe chuck	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a
8	Lathe cutter	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a
9	Drill press plate	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a
10	Tool cabinet	n/a	n/a	n/a	R	n/a	n/a	n/a	n/a	n/a	n/a

[a] %Eff-Removable/Direct [b] ND=No detectable activity above background [c] If other than 100 cm², indicate area or record as 'dpm/probe' or 'dpm/LAW' (large area wipe). [d] T/R=Total/Removable

Remarks: Characterization survey inside the glove box in 1109.

Reviewed by: Date:

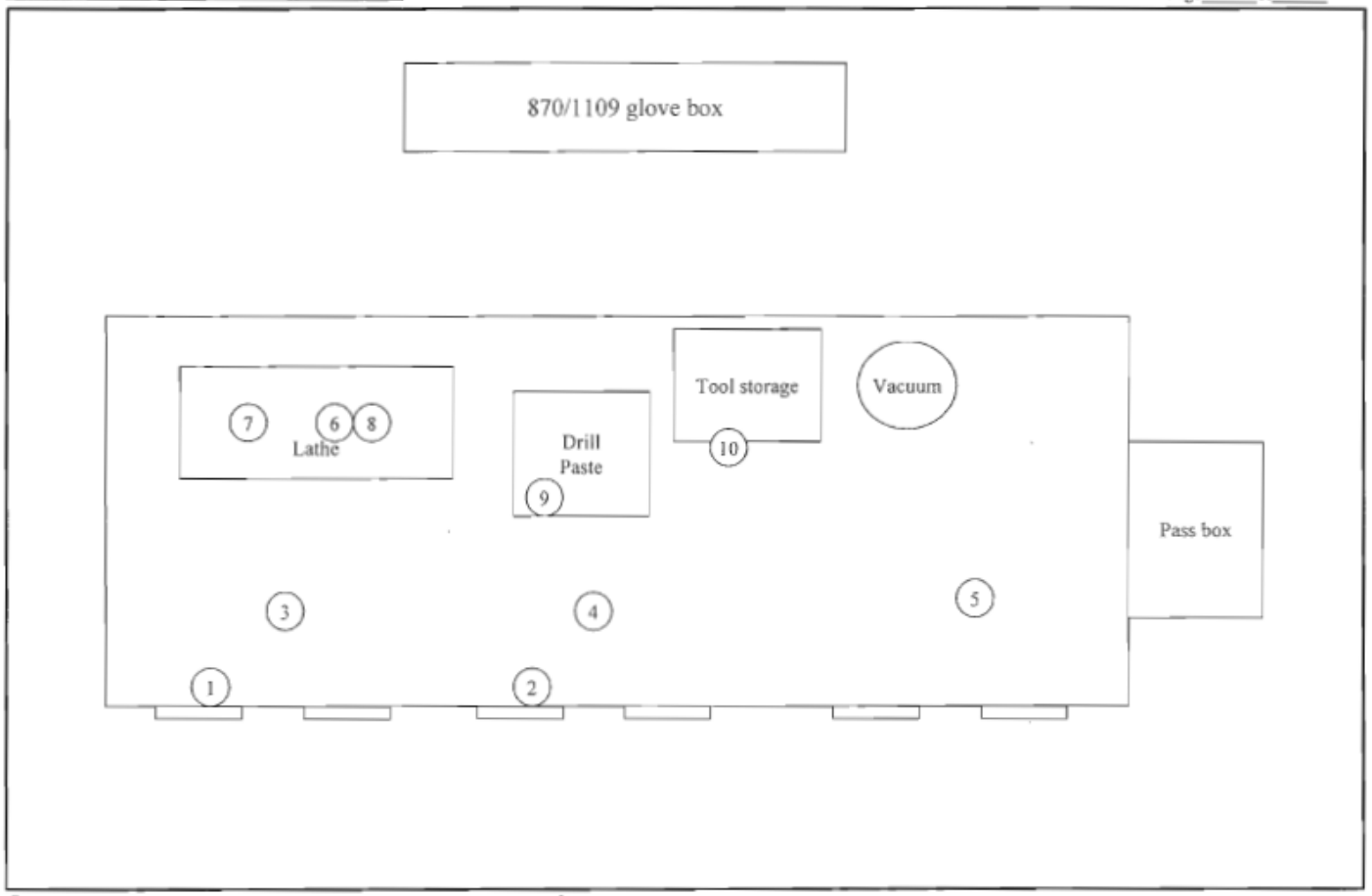
RPJA-04-01-I

RPF 2005-RSM (06-2006)

RPO-04-01
Survey Number: S10439

RADIOLOGICAL SURVEY MAP

Page 2 of 4



○ indicates smear location * indicates contact radiation reading △ indicates LAW location All radiation readings are gamma in mrem/h unless noted otherwise.

SOP indicates Step Off Pad location AS# indicates Air Sample location and number ☐ Static Count

RPIA-04-01-1

```
*****************************************************************************
* Sandia Radiation Protection Sample Diagnostics Program            3-20-2007 *
*****************************************************************************
LSC Windows Analysis Program - Version 1.4                 Procedure RPSD-09-03

Customer                : COFFEY, Org. 10328      (JCOFFEY)
Program ID              : RPOP
Sample Category         : SA
Sample Description      : 870-1109-CHAR

Analyst                 : HMRICHA
Batch Number            : D6013102
LSC System ID           : UNIT07 - 410231
Protocol Number/Name    : 04 H3 -- SWIPE
No. of Samples          : 10
Collection Date         : 03/20/2007
Received Date           : 03/20/2007
Count Date              : 03/20/2007
Count Time (min)        : 2.00
Background cpm          : 1.65E+01
Background tSIE         : 4.17E+02
Background Eff          : 3.15E-01
Sample Aliquot          : 1.00E+00 Each

H3 MDA = 4.73E+01 dpm/Each
H3 CL  = 2.12E+01 dpm/Each
```

Reviewed by JMRichard 3/20/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.22E+05	405	0.306	7.26E+05	8.35E+04	>CL
002+	2	1.00E+00	2.83E+05	398	0.301	9.40E+05	1.08E+05	>CL
003+	3	1.00E+00	3.91E+05	364	0.276	1.42E+06	1.62E+05	>CL
004+	4	1.00E+00	1.64E+05	394	0.297	5.52E+05	6.38E+04	>CL
005+	5	1.00E+00	1.03E+05	369	0.279	3.68E+05	4.28E+04	>CL
006+	6	1.00E+00	1.24E+05	333	0.254	4.88E+05	5.66E+04	>CL
007+	7	1.00E+00	4.34E+05	374	0.283	1.54E+06	1.75E+05	>CL
008+	8	1.00E+00	1.54E+05	403	0.304	5.06E+05	5.85E+04	>CL

Survey No.: S104398

Page No.: 4 of 4

D6013102 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	4.34E+05	398	0.301	1.44E+06	1.65E+05	>CL
010+	10	1.00E+00	2.23E+05	400	0.302	7.37E+05	8.47E+04	>CL

Survey No.: _____

Page No.: _____ of _____

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* Sandia Radiation Protection Sample Diagnostics Program 3-26-2007 *
****
LSC Windows Analysis Program - Version 1.4 Procedure RPSD-09-03

Customer : COFFEY, Org. 10328 (jcoffey)
Program ID : RPOP
Sample Category : SA
Sample Description : HOT SWIPES RERUNS

Analyst : HMRICHA
Batch Number : D6014002
LSC System ID : UNIT07 - 410231
Protocol Number/Name : 18 H3 -- SWIPE
No. of Samples : 35
Collection Date : 03/23/2007
Received Date : 03/23/2007
Count Date : 03/23/2007
Count Time (min) : 2.00
Background cpm : 3.25E+01
Background tSIE : 4.11E+02
Background Eff : 3.10E-01
Sample Aliquot : 1.00E+00 Each

H3 MDA = 6.54E+01 dpm/Each
H3 CL = 3.03E+01 dpm/Each

Reviewed by  3/26/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.47E+03	309	0.234	1.04E+04	1.47E+03	>CL
002+	2	1.00E+00	6.35E+05	415	0.313	2.03E+06	2.31E+05	>CL
003+	3	1.00E+00	5.01E+05	408	0.308	1.63E+06	1.85E+05	>CL
004+	4	1.00E+00	5.52E+05	405	0.306	1.80E+06	2.05E+05	>CL
005+	5	1.00E+00	1.04E+06	404	0.305	3.40E+06	3.86E+05	>CL
006+	6	1.00E+00	1.93E+06	412	0.311	6.21E+06	7.02E+05	>CL
007+	7	1.00E+00	7.37E+05	413	0.312	2.36E+06	2.68E+05	>CL
008+	8	1.00E+00	2.45E+05	401	0.303	8.08E+05	9.28E+04	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	2.93E+05	396	0.299	9.78E+05	1.12E+05	>CL
010+	10	1.00E+00	4.21E+05	363	0.275	1.53E+06	1.75E+05	>CL
011+	11	1.00E+00	1.81E+05	391	0.296	6.12E+05	7.05E+04	>CL
012+	12	1.00E+00	1.17E+05	368	0.279	4.19E+05	4.87E+04	>CL
013+	13	1.00E+00	1.35E+05	343	0.261	5.18E+05	6.01E+04	>CL
014+	14	1.00E+00	4.37E+05	373	0.282	1.55E+06	1.77E+05	>CL
015+	15	1.00E+00	1.70E+05	396	0.300	5.66E+05	6.53E+04	>CL
016+	16	1.00E+00	4.67E+05	396	0.299	1.56E+06	1.78E+05	>CL
017+	17	1.00E+00	2.38E+05	399	0.302	7.89E+05	9.06E+04	>CL
018+	18	1.00E+00	1.20E+02	415	0.313	2.80E+02	8.71E+01	>CL
019+	19	1.00E+00	3.62E+03	415	0.313	1.15E+04	1.56E+03	>CL
020+	20	1.00E+00	8.25E+01	412	0.311	1.61E+02	6.72E+01	>CL
021+	21	1.00E+00	2.79E+03	282	0.211	1.31E+04	1.82E+03	>CL
022+	22	1.00E+00	9.10E+01	412	0.311	1.88E+02	7.16E+01	>CL
023+	23	1.00E+00	4.21E+03	400	0.302	1.38E+04	1.86E+03	>CL
024+	24	1.00E+00	6.72E+04	406	0.307	2.19E+05	2.57E+04	>CL
025+	25	1.00E+00	2.93E+05	401	0.303	9.68E+05	1.11E+05	>CL
026+	26	1.00E+00	3.89E+03	411	0.310	1.24E+04	1.68E+03	>CL
027+	27	1.00E+00	5.41E+02	409	0.309	1.65E+03	2.94E+02	>CL
028+	28	1.00E+00	7.91E+05	361	0.274	2.89E+06	3.28E+05	>CL
029+	29	1.00E+00	1.01E+04	364	0.276	3.66E+04	4.61E+03	>CL
030+	30	1.00E+00	8.95E+04	343	0.261	3.43E+05	4.00E+04	>CL
031+	31	1.00E+00	8.67E+03	378	0.286	3.02E+04	3.84E+03	>CL
032+	32	1.00E+00	3.09E+05	398	0.301	1.03E+06	1.18E+05	>CL
033+	33	1.00E+00	2.87E+03	406	0.306	9.28E+03	1.29E+03	>CL
034+	34	1.00E+00	7.34E+03	402	0.303	2.41E+04	3.10E+03	>CL
035+	35	1.00E+00	2.70E+03	413	0.311	8.56E+03	1.20E+03	>CL

Survey No.: _____

Page No.: _____ of _____

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*******************************************************************************
* Sandia Radiation Protection Sample Diagnostics Program            4-2-2007 *
*******************************************************************************
LSC Windows Analysis Program - Version 1.4                  Procedure RPSD-09-03

Customer                : COFFEY, Org. 10328      (JCOFFEY)
Program ID              : RPOP
Sample Category         : SA
Sample Description      : HOT SWIPES RERUNS

Analyst                 : HMRICHA
Batch Number            : D6014002
LSC System ID           : UNIT07 - 410231
Protocol Number/Name    : 18 H3 -- SWIPE
No. of Samples          : 35
Collection Date         : 03/30/2007
Received Date           : 03/30/2007
Count Date              : 03/30/2007
Count Time (min)        : 2.00
Background cpm          : 3.00E+01
Background tSIE         : 4.08E+02
Background Eff          : 3.08E-01
Sample Aliquot          : 1.00E+00 Each

H3 MDA = 6.35E+01 dpm/Each
H3 CL  = 2.93E+01 dpm/Each
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Reviewed by 4/2/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.44E+03	304	0.229	1.05E+04	1.48E+03	>CL
002+	2	1.00E+00	6.41E+05	411	0.310	2.07E+06	2.35E+05	>CL
003+	3	1.00E+00	5.01E+05	409	0.308	1.63E+06	1.85E+05	>CL
004+	4	1.00E+00	5.52E+05	407	0.308	1.79E+06	2.04E+05	>CL
005+	5	1.00E+00	1.04E+06	400	0.302	3.44E+06	3.90E+05	>CL
006+	6	1.00E+00	1.94E+06	409	0.309	6.29E+06	7.11E+05	>CL
007+	7	1.00E+00	7.27E+05	409	0.308	2.36E+06	2.68E+05	>CL
008+	8	1.00E+00	2.65E+05	397	0.300	8.83E+05	1.01E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	3.57E+05	396	0.299	1.19E+06	1.37E+05	>CL
010+	10	1.00E+00	5.46E+05	363	0.276	1.98E+06	2.25E+05	>CL
011+	11	1.00E+00	2.29E+05	391	0.296	7.73E+05	8.89E+04	>CL
012+	12	1.00E+00	1.48E+05	364	0.276	5.37E+05	6.21E+04	>CL
013+	13	1.00E+00	3.15E+04	337	0.257	1.23E+05	1.47E+04	>CL
014+	14	1.00E+00	4.74E+05	371	0.281	1.69E+06	1.92E+05	>CL
015+	15	1.00E+00	1.90E+05	394	0.297	6.39E+05	7.36E+04	>CL
016+	16	1.00E+00	6.89E+05	396	0.299	2.30E+06	2.62E+05	>CL
017+	17	1.00E+00	2.66E+05	395	0.298	8.93E+05	1.02E+05	>CL
018+	18	1.00E+00	1.34E+02	407	0.307	3.37E+02	9.70E+01	>CL
019+	19	1.00E+00	3.79E+03	407	0.307	1.22E+04	1.65E+03	>CL
020+	20	1.00E+00	9.85E+01	413	0.312	2.20E+02	7.64E+01	>CL
021+	21	1.00E+00	3.18E+03	263	0.196	1.61E+04	2.21E+03	>CL
022+	22	1.00E+00	1.06E+02	408	0.308	2.45E+02	8.13E+01	>CL
023+	23	1.00E+00	5.19E+03	394	0.297	1.74E+04	2.29E+03	>CL
024+	24	1.00E+00	9.26E+04	406	0.306	3.03E+05	3.53E+04	>CL
025+	25	1.00E+00	5.97E+05	397	0.300	1.99E+06	2.27E+05	>CL
026+	26	1.00E+00	5.66E+03	411	0.310	1.81E+04	2.38E+03	>CL
027+	27	1.00E+00	1.24E+03	406	0.307	3.94E+03	6.06E+02	>CL
028+	28	1.00E+00	1.16E+06	354	0.269	4.31E+06	4.88E+05	>CL
029+	29	1.00E+00	1.21E+04	362	0.275	4.41E+04	5.50E+03	>CL
030+	30	1.00E+00	9.10E+04	344	0.262	3.47E+05	4.05E+04	>CL
031+	31	1.00E+00	8.66E+03	382	0.289	2.99E+04	3.80E+03	>CL
032+	32	1.00E+00	3.08E+05	401	0.303	1.02E+06	1.16E+05	>CL
033+	33	1.00E+00	2.91E+03	406	0.307	9.37E+03	1.30E+03	>CL
034+	34	1.00E+00	7.36E+03	400	0.302	2.43E+04	3.12E+03	>CL
035+	35	1.00E+00	2.69E+03	410	0.309	8.61E+03	1.20E+03	>CL

Survey No.: _____

Page No.: _____ of _____

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*****************************************************************************
* Sandia Radiation Protection Sample Diagnostics Program            4-9-2007 *
*****************************************************************************
LSC Windows Analysis Program - Version 1.4                 Procedure RPSD-09-03

Customer               : COFFEY, Org. 10328      (JCOFFEY)
Program ID             : RPOP
Sample Category        : SA
Sample Description     : HOT SWIPES RERUNS

Analyst                : HMRICHA
Batch Number           : D6014002
LSC System ID          : UNIT07 - 410231
Protocol Number/Name   : 18 H3 -- SWIPE
No. of Samples         : 36
Collection Date        : 04/06/2007
Received Date          : 04/06/2007
Count Date             : 04/06/2007
Count Time (min)       : 2.00
Background cpm         : 2.80E+01
Background tSIE        : 4.13E+02
Background Eff         : 3.12E-01
Sample Aliquot         : 1.00E+00 Each

H3 MDA = 6.07E+01 dpm/Each
H3 CL  = 2.79E+01 dpm/Each
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Reviewed by  4/9/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.45E+03	305	0.230	1.05E+04	1.49E+03	>CL
002+	2	1.00E+00	6.50E+05	418	0.315	2.06E+06	2.35E+05	>CL
003+	3	1.00E+00	5.04E+05	408	0.308	1.64E+06	1.87E+05	>CL
004+	4	1.00E+00	5.56E+05	410	0.309	1.80E+06	2.05E+05	>CL
005+	5	1.00E+00	1.04E+06	405	0.306	3.41E+06	3.87E+05	>CL
006+	6	1.00E+00	1.96E+06	414	0.312	6.28E+06	7.09E+05	>CL
007+	7	1.00E+00	7.33E+05	411	0.310	2.36E+06	2.69E+05	>CL
008+	8	1.00E+00	2.81E+05	401	0.303	9.26E+05	1.06E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	4.49E+05	398	0.301	1.49E+06	1.70E+05	>CL
010+	10	1.00E+00	6.13E+05	364	0.276	2.22E+06	2.53E+05	>CL
011+	11	1.00E+00	2.74E+05	393	0.297	9.22E+05	1.06E+05	>CL
012+	12	1.00E+00	1.90E+05	368	0.279	6.83E+05	7.86E+04	>CL
013+	13	1.00E+00	5.84E+04	329	0.250	2.33E+05	2.75E+04	>CL
014+	14	1.00E+00	5.33E+05	371	0.281	1.90E+06	2.16E+05	>CL
015+	15	1.00E+00	2.14E+05	395	0.298	7.17E+05	8.26E+04	>CL
016+	16	1.00E+00	8.58E+05	396	0.299	2.87E+06	3.26E+05	>CL
017+	17	1.00E+00	3.04E+05	395	0.298	1.02E+06	1.17E+05	>CL
018+	18	1.00E+00	1.46E+02	408	0.308	3.83E+02	1.04E+02	>CL
019+	19	1.00E+00	3.88E+03	407	0.307	1.25E+04	1.69E+03	>CL
020+	20	1.00E+00	1.30E+02	412	0.311	3.28E+02	9.42E+01	>CL
021+	21	1.00E+00	3.40E+03	281	0.211	1.60E+04	2.18E+03	>CL
022+	22	1.00E+00	1.08E+02	410	0.309	2.57E+02	8.31E+01	>CL
023+	23	1.00E+00	6.20E+03	395	0.299	2.06E+04	2.69E+03	>CL
024+	24	1.00E+00	1.29E+05	408	0.308	4.20E+05	4.87E+04	>CL
025+	25	1.00E+00	8.75E+05	400	0.302	2.90E+06	3.29E+05	>CL
026+	26	1.00E+00	6.46E+03	410	0.309	2.08E+04	2.70E+03	>CL
027+	27	1.00E+00	1.29E+03	408	0.308	4.08E+03	6.24E+02	>CL
028+	28	1.00E+00	2.19E+06	354	0.269	8.13E+06	9.19E+05	>CL
029+	29	1.00E+00	1.50E+04	361	0.274	5.48E+04	6.76E+03	>CL
030+	30	1.00E+00	1.00E+05	342	0.260	3.86E+05	4.49E+04	>CL
031+	31	1.00E+00	8.57E+03	379	0.287	2.98E+04	3.79E+03	>CL
032+	32	1.00E+00	3.07E+05	400	0.302	1.02E+06	1.16E+05	>CL
033+	33	1.00E+00	2.84E+03	406	0.307	9.17E+03	1.27E+03	>CL
034+	34	1.00E+00	7.42E+03	403	0.304	2.43E+04	3.12E+03	>CL
035+	35	1.00E+00	2.70E+03	412	0.311	8.59E+03	1.20E+03	>CL
036+	36	1.00E+00	1.04E+03	317	0.241	4.21E+03	6.63E+02	>CL

Survey No.: _____

Page No.: _____ of _____

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* Sandia Radiation Protection Sample Diagnostics Program 4-16-2007 *
****
LSC Windows Analysis Program - Version 1.4 Procedure RPSD-09-03

Customer : COFFEY, Org. 10328 (JCOFFEY)
Program ID : RPOP
Sample Category : SA
Sample Description : HOT SWIPES RERUNS

Analyst : HMRICHA
Batch Number : D6014002
LSC System ID : UNIT07 - 410231
Protocol Number/Name : 18 H3 -- SWIPE
No. of Samples : 36
Collection Date : 04/13/2007
Received Date : 04/13/2007
Count Date : 04/13/2007
Count Time (min) : 2.00
Background cpm : 2.40E+01
Background tSIE : 4.15E+02
Background Eff : 3.13E-01
Sample Aliquot : 1.00E+00 Each

H3 MDA = 5.64E+01 dpm/Each
H3 CL = 2.58E+01 dpm/Each

Reviewed by  4/16/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.49E+03	305	0.231	1.07E+04	1.50E+03	>CL
002+	2	1.00E+00	6.53E+05	414	0.313	2.09E+06	2.37E+05	>CL
003+	3	1.00E+00	5.07E+05	410	0.310	1.63E+06	1.86E+05	>CL
004+	4	1.00E+00	5.56E+05	410	0.309	1.80E+06	2.05E+05	>CL
005+	5	1.00E+00	1.04E+06	407	0.307	3.40E+06	3.86E+05	>CL
006+	6	1.00E+00	1.98E+06	415	0.313	6.33E+06	7.15E+05	>CL
007+	7	1.00E+00	7.36E+05	412	0.311	2.37E+06	2.69E+05	>CL
008+	8	1.00E+00	3.14E+05	400	0.302	1.04E+06	1.19E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	5.16E+05	401	0.303	1.70E+06	1.94E+05	>CL
010+	10	1.00E+00	6.53E+05	369	0.280	2.33E+06	2.65E+05	>CL
011+	11	1.00E+00	3.38E+05	392	0.297	1.14E+06	1.30E+05	>CL
012+	12	1.00E+00	2.42E+05	367	0.278	8.69E+05	9.99E+04	>CL
013+	13	1.00E+00	2.80E+04	319	0.243	1.15E+05	1.39E+04	>CL
014+	14	1.00E+00	5.82E+05	370	0.280	2.08E+06	2.37E+05	>CL
015+	15	1.00E+00	2.36E+05	394	0.298	7.92E+05	9.10E+04	>CL
016+	16	1.00E+00	9.78E+05	395	0.298	3.28E+06	3.72E+05	>CL
017+	17	1.00E+00	3.41E+05	398	0.301	1.13E+06	1.29E+05	>CL
018+	18	1.00E+00	1.42E+02	410	0.310	3.81E+02	1.02E+02	>CL
019+	19	1.00E+00	3.97E+03	408	0.308	1.28E+04	1.72E+03	>CL
020+	20	1.00E+00	1.15E+02	409	0.309	2.94E+02	8.77E+01	>CL
021+	21	1.00E+00	3.42E+03	281	0.211	1.61E+04	2.20E+03	>CL
022+	22	1.00E+00	1.16E+02	408	0.308	2.97E+02	8.83E+01	>CL
023+	23	1.00E+00	6.98E+03	397	0.300	2.32E+04	2.99E+03	>CL
024+	24	1.00E+00	1.55E+05	410	0.309	5.03E+05	5.81E+04	>CL
025+	25	1.00E+00	1.03E+06	398	0.300	3.43E+06	3.89E+05	>CL
026+	26	1.00E+00	7.31E+03	412	0.311	2.34E+04	3.01E+03	>CL
027+	27	1.00E+00	1.48E+03	409	0.309	4.72E+03	7.07E+02	>CL
028+	28	1.00E+00	3.42E+06	353	0.268	1.28E+07	1.44E+06	>CL
029+	29	1.00E+00	1.86E+04	361	0.274	6.78E+04	8.30E+03	>CL
030+	30	1.00E+00	1.23E+05	343	0.261	4.73E+05	5.48E+04	>CL
031+	31	1.00E+00	8.54E+03	377	0.286	2.98E+04	3.79E+03	>CL
032+	32	1.00E+00	3.06E+05	399	0.302	1.01E+06	1.16E+05	>CL
033+	33	1.00E+00	2.87E+03	406	0.306	9.32E+03	1.29E+03	>CL
034+	34	1.00E+00	7.36E+03	400	0.302	2.43E+04	3.12E+03	>CL
035+	35	1.00E+00	2.61E+03	411	0.310	8.35E+03	1.17E+03	>CL
036+	36	1.00E+00	9.74E+02	318	0.242	3.92E+03	6.24E+02	>CL

Survey No.: _____

Page No.: _____ of _____

****
* Sandia Radiation Protection Sample Diagnostics Program 4-23-2007 *
****
LSC Windows Analysis Program - Version 1.4 Procedure RPSD-09-03

Customer : COFFEY, Org. 10328 (JCOFFEY)
Program ID : RPOP
Sample Category : SA
Sample Description : HOT SWIPES RERUNS

Analyst : HMRICHA
Batch Number : D6014002
LSC System ID : UNIT07 - 410231
Protocol Number/Name : 18 H3 -- SWIPE
No. of Samples : 36
Collection Date : 04/20/2007
Received Date : 04/20/2007
Count Date : 04/20/2007
Count Time (min) : 2.00
Background cpm : 2.45E+01
Background tSIE : 4.14E+02
Background Eff : 3.12E-01
Sample Aliquot : 1.00E+00 Each

H3 MDA = 5.71E+01 dpm/Each
H3 CL = 2.61E+01 dpm/Each

Reviewed by HRicha 4.23.07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.43E+03	307	0.232	1.04E+04	1.46E+03	>CL
002+	2	1.00E+00	6.54E+05	415	0.313	2.09E+06	2.38E+05	>CL
003+	3	1.00E+00	5.06E+05	412	0.311	1.63E+06	1.85E+05	>CL
004+	4	1.00E+00	5.54E+05	408	0.308	1.80E+06	2.05E+05	>CL
005+	5	1.00E+00	1.04E+06	404	0.305	3.42E+06	3.88E+05	>CL
006+	6	1.00E+00	1.97E+06	412	0.311	6.34E+06	7.16E+05	>CL
007+	7	1.00E+00	7.35E+05	411	0.310	2.37E+06	2.69E+05	>CL
008+	8	1.00E+00	3.43E+05	400	0.302	1.14E+06	1.30E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	5.75E+05	398	0.301	1.91E+06	2.18E+05	>CL
010+	10	1.00E+00	6.90E+05	365	0.277	2.49E+06	2.83E+05	>CL
011+	11	1.00E+00	3.73E+05	393	0.297	1.26E+06	1.43E+05	>CL
012+	12	1.00E+00	2.84E+05	368	0.279	1.02E+06	1.17E+05	>CL
013+	13	1.00E+00	2.94E+04	315	0.239	1.23E+05	1.48E+04	>CL
014+	14	1.00E+00	6.17E+05	364	0.276	2.24E+06	2.54E+05	>CL
015+	15	1.00E+00	2.51E+05	391	0.296	8.48E+05	9.73E+04	>CL
016+	16	1.00E+00	1.09E+06	391	0.295	3.71E+06	4.20E+05	>CL
017+	17	1.00E+00	3.68E+05	397	0.300	1.23E+06	1.40E+05	>CL
018+	18	1.00E+00	1.45E+02	410	0.310	3.87E+02	1.03E+02	>CL
019+	19	1.00E+00	4.07E+03	408	0.308	1.31E+04	1.77E+03	>CL
020+	20	1.00E+00	1.09E+02	412	0.311	2.72E+02	8.39E+01	>CL
021+	21	1.00E+00	3.43E+03	279	0.209	1.63E+04	2.23E+03	>CL
022+	22	1.00E+00	1.12E+02	411	0.310	2.81E+02	8.56E+01	>CL
023+	23	1.00E+00	7.78E+03	396	0.299	2.59E+04	3.32E+03	>CL
024+	24	1.00E+00	1.83E+05	409	0.308	5.95E+05	6.86E+04	>CL
025+	25	1.00E+00	1.11E+06	401	0.303	3.67E+06	4.16E+05	>CL
026+	26	1.00E+00	1.03E+04	410	0.310	3.33E+04	4.19E+03	>CL
027+	27	1.00E+00	1.78E+03	407	0.307	5.73E+03	8.38E+02	>CL
028+	28	1.00E+00	3.90E+06	351	0.267	1.46E+07	1.64E+06	>CL
029+	29	1.00E+00	2.81E+04	359	0.272	1.03E+05	1.24E+04	>CL
030+	30	1.00E+00	1.38E+05	344	0.262	5.25E+05	6.08E+04	>CL
031+	31	1.00E+00	8.64E+03	380	0.288	2.99E+04	3.81E+03	>CL
032+	32	1.00E+00	3.05E+05	399	0.301	1.01E+06	1.16E+05	>CL
033+	33	1.00E+00	2.76E+03	405	0.306	8.95E+03	1.25E+03	>CL
034+	34	1.00E+00	7.28E+03	403	0.304	2.39E+04	3.07E+03	>CL
035+	35	1.00E+00	2.70E+03	414	0.312	8.57E+03	1.20E+03	>CL
036+	36	1.00E+00	9.43E+02	320	0.244	3.76E+03	6.02E+02	>CL

Survey No.: _____

Page No.: _____ of _____

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********************************************************************************
* Sandia Radiation Protection Sample Diagnostics Program            4-30-2007 *
********************************************************************************
LSC Windows Analysis Program - Version 1.4                 Procedure RPSD-09-03

Customer                : COFFEY, Org. 10328      (JCOFFEY)
Program ID              : RPOP
Sample Category         : SA
Sample Description      : HOT SWIPES RERUNS

Analyst                 : HMRICHA
Batch Number            : D6014002
LSC System ID           : UNIT07 - 410231
Protocol Number/Name    : 18 H3 -- SWIPE
No. of Samples          : 36
Collection Date         : 04/27/2007
Received Date           : 04/27/2007
Count Date              : 04/27/2007
Count Time (min)        : 2.00
Background cpm          : 1.55E+01
Background tSIE         : 4.15E+02
Background Eff          : 3.13E-01
Sample Aliquot          : 1.00E+00 Each

H3 MDA = 4.62E+01 dpm/Each
H3 CL  = 2.07E+01 dpm/Each
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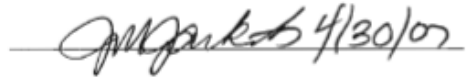
Reviewed by  4/30/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.46E+03	306	0.232	1.05E+04	1.48E+03	>CL
002+	2	1.00E+00	6.72E+05	413	0.311	2.16E+06	2.46E+05	>CL
003+	3	1.00E+00	5.09E+05	411	0.310	1.64E+06	1.87E+05	>CL
004+	4	1.00E+00	5.57E+05	411	0.310	1.80E+06	2.05E+05	>CL
005+	5	1.00E+00	1.04E+06	404	0.305	3.40E+06	3.86E+05	>CL
006+	6	1.00E+00	1.98E+06	414	0.313	6.34E+06	7.16E+05	>CL
007+	7	1.00E+00	7.35E+05	412	0.311	2.36E+06	2.69E+05	>CL
008+	8	1.00E+00	3.47E+05	399	0.301	1.15E+06	1.32E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	5.94E+05	395	0.299	1.99E+06	2.26E+05	>CL
010+	10	1.00E+00	6.95E+05	367	0.278	2.50E+06	2.84E+05	>CL
011+	11	1.00E+00	4.00E+05	394	0.298	1.34E+06	1.53E+05	>CL
012+	12	1.00E+00	3.06E+05	367	0.278	1.10E+06	1.26E+05	>CL
013+	13	1.00E+00	3.11E+04	310	0.235	1.32E+05	1.59E+04	>CL
014+	14	1.00E+00	6.13E+05	364	0.276	2.22E+06	2.53E+05	>CL
015+	15	1.00E+00	2.55E+05	391	0.296	8.62E+05	9.90E+04	>CL
016+	16	1.00E+00	1.13E+06	391	0.296	3.82E+06	4.33E+05	>CL
017+	17	1.00E+00	3.77E+05	395	0.298	1.27E+06	1.45E+05	>CL
018+	18	1.00E+00	1.43E+02	409	0.309	4.13E+02	1.04E+02	>CL
019+	19	1.00E+00	3.84E+03	409	0.309	1.24E+04	1.67E+03	>CL
020+	20	1.00E+00	1.01E+02	410	0.310	2.74E+02	8.03E+01	>CL
021+	21	1.00E+00	3.49E+03	278	0.208	1.67E+04	2.27E+03	>CL
022+	22	1.00E+00	1.10E+02	409	0.308	3.05E+02	8.59E+01	>CL
023+	23	1.00E+00	8.08E+03	396	0.299	2.70E+04	3.44E+03	>CL
024+	24	1.00E+00	2.03E+05	409	0.308	6.60E+05	7.59E+04	>CL
025+	25	1.00E+00	1.16E+06	399	0.301	3.85E+06	4.36E+05	>CL
026+	26	1.00E+00	1.24E+04	409	0.309	4.01E+04	5.00E+03	>CL
027+	27	1.00E+00	1.87E+03	408	0.308	6.03E+03	8.75E+02	>CL
028+	28	1.00E+00	4.07E+06	358	0.272	1.49E+07	1.68E+06	>CL
029+	29	1.00E+00	3.08E+04	358	0.271	1.14E+05	1.36E+04	>CL
030+	30	1.00E+00	1.44E+05	344	0.262	5.49E+05	6.36E+04	>CL
031+	31	1.00E+00	8.42E+03	377	0.285	2.95E+04	3.76E+03	>CL
032+	32	1.00E+00	3.03E+05	396	0.299	1.01E+06	1.16E+05	>CL
033+	33	1.00E+00	2.82E+03	405	0.306	9.16E+03	1.27E+03	>CL
034+	34	1.00E+00	7.33E+03	400	0.302	2.42E+04	3.12E+03	>CL
035+	35	1.00E+00	2.66E+03	412	0.311	8.51E+03	1.19E+03	>CL
036+	36	1.00E+00	9.91E+02	320	0.243	4.01E+03	6.34E+02	>CL

Survey No.: _____

Page No.: _____ of _____

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* Radiation Protection Sample Diagnostics Program 5-7-2007 *

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LSC Windows Analysis Program - Version 1.4 Procedure RPSD-09-03

Customer : COFFEY, Org. 10328 (JCOFFEY)
Program ID : RPOP
Sample Category : SA
Sample Description : HOT SWIPES RERUNS

Analyst : HMRICHA
Batch Number : D6014002
LSC System ID : UNIT07 - 410231
Protocol Number/Name : 18 H3 -- SWIPE
No. of Samples : 36
Collection Date : 05/04/2007
Received Date : 05/04/2007
Count Date : 05/04/2007
Count Time (min) : 2.00
Background cpm : 3.05E+01
Background tSIE : 4.16E+02
Background Eff : 3.14E-01
Sample Aliquot : 1.00E+00 Each

H3 MDA = 6.27E+01 dpm/Each
H3 CL = 2.90E+01 dpm/Each

Reviewed by  5/7/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.47E+03	306	0.232	1.05E+04	1.48E+03	>CL
002+	2	1.00E+00	6.80E+05	415	0.313	2.17E+06	2.47E+05	>CL
003+	3	1.00E+00	5.06E+05	410	0.310	1.63E+06	1.86E+05	>CL
004+	4	1.00E+00	5.52E+05	410	0.310	1.78E+06	2.03E+05	>CL
005+	5	1.00E+00	1.04E+06	405	0.306	3.39E+06	3.84E+05	>CL
006+	6	1.00E+00	1.97E+06	415	0.313	6.30E+06	7.12E+05	>CL
007+	7	1.00E+00	7.31E+05	412	0.311	2.35E+06	2.67E+05	>CL
008+	8	1.00E+00	3.59E+05	398	0.301	1.19E+06	1.36E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.24E+05	396	0.299	2.09E+06	2.37E+05	>CL
010+	10	1.00E+00	7.26E+05	366	0.277	2.62E+06	2.98E+05	>CL
011+	11	1.00E+00	4.27E+05	391	0.296	1.44E+06	1.65E+05	>CL
012+	12	1.00E+00	3.14E+05	370	0.280	1.12E+06	1.28E+05	>CL
013+	13	1.00E+00	3.27E+04	302	0.228	1.43E+05	1.72E+04	>CL
014+	14	1.00E+00	6.28E+05	365	0.277	2.27E+06	2.58E+05	>CL
015+	15	1.00E+00	2.60E+05	388	0.293	8.86E+05	1.02E+05	>CL
016+	16	1.00E+00	1.14E+06	388	0.294	3.89E+06	4.41E+05	>CL
017+	17	1.00E+00	3.79E+05	393	0.297	1.28E+06	1.46E+05	>CL
018+	18	1.00E+00	1.41E+02	407	0.308	3.57E+02	1.00E+02	>CL
019+	19	1.00E+00	3.91E+03	408	0.308	1.26E+04	1.70E+03	>CL
020+	20	1.00E+00	1.06E+02	408	0.308	2.44E+02	8.08E+01	>CL
021+	21	1.00E+00	3.43E+03	279	0.209	1.62E+04	2.22E+03	>CL
022+	22	1.00E+00	1.16E+02	407	0.308	2.76E+02	8.68E+01	>CL
023+	23	1.00E+00	9.34E+03	397	0.300	3.10E+04	3.93E+03	>CL
024+	24	1.00E+00	2.20E+05	408	0.308	7.14E+05	8.21E+04	>CL
025+	25	1.00E+00	1.20E+06	399	0.301	4.00E+06	4.53E+05	>CL
026+	26	1.00E+00	1.32E+04	408	0.308	4.27E+04	5.30E+03	>CL
027+	27	1.00E+00	1.90E+03	406	0.306	6.12E+03	8.89E+02	>CL
028+	28	1.00E+00	4.14E+06	355	0.269	1.54E+07	1.73E+06	>CL
029+	29	1.00E+00	3.17E+04	356	0.270	1.17E+05	1.41E+04	>CL
030+	30	1.00E+00	1.48E+05	346	0.263	5.62E+05	6.51E+04	>CL
031+	31	1.00E+00	8.52E+03	376	0.285	2.98E+04	3.80E+03	>CL
032+	32	1.00E+00	3.01E+05	397	0.300	1.00E+06	1.15E+05	>CL
033+	33	1.00E+00	2.81E+03	404	0.305	9.11E+03	1.27E+03	>CL
034+	34	1.00E+00	7.25E+03	400	0.302	2.39E+04	3.08E+03	>CL
035+	35	1.00E+00	2.63E+03	412	0.311	8.36E+03	1.17E+03	>CL
036+	36	1.00E+00	1.01E+03	321	0.244	4.03E+03	6.39E+02	>CL

Survey No.: _____

Page No.: _____ of _____

Diagnostics Program 5-11-2007

LSC Windows Analysis Program - Version 1.4 Procedure RPSD-09-03

Customer : COFFEY, Org. 10328 (JCOFFEY)
Program ID : RPOP
Sample Category : SA
Sample Description : HOT SWIPES RERUNS

Analyst : HMRICHA
Batch Number : D6014002
LSC System ID : UNIT07 - 410231
Protocol Number/Name : 18 H3 -- SWIPE
No. of Samples : 36
Collection Date : 05/11/2007
Received Date : 05/11/2007
Count Date : 05/11/2007
Count Time (min) : 2.00
Background cpm : 2.60E+01
Background tSIE : 4.15E+02
Background Eff : 3.13E-01
Sample Aliquot : 1.00E+00 Each

H3 MDA = 5.85E+01 dpm/Each
H3 CL = 2.68E+01 dpm/Each

Reviewed by JMG 5/11/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.42E+03	306	0.232	1.03E+04	1.46E+03	>CL
002+	2	1.00E+00	6.88E+05	413	0.312	2.21E+06	2.51E+05	>CL
003+	3	1.00E+00	5.04E+05	410	0.310	1.63E+06	1.85E+05	>CL
004+	4	1.00E+00	5.50E+05	407	0.307	1.79E+06	2.04E+05	>CL
005+	5	1.00E+00	1.03E+06	402	0.303	3.41E+06	3.86E+05	>CL
006+	6	1.00E+00	1.98E+06	411	0.310	6.39E+06	7.22E+05	>CL
007+	7	1.00E+00	7.31E+05	408	0.308	2.37E+06	2.70E+05	>CL
008+	8	1.00E+00	3.65E+05	395	0.298	1.23E+06	1.40E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.48E+05	395	0.299	2.17E+06	2.47E+05	>CL
010+	10	1.00E+00	7.23E+05	366	0.278	2.60E+06	2.95E+05	>CL
011+	11	1.00E+00	4.33E+05	393	0.297	1.46E+06	1.66E+05	>CL
012+	12	1.00E+00	3.33E+05	368	0.279	1.19E+06	1.37E+05	>CL
013+	13	1.00E+00	3.41E+04	296	0.223	1.53E+05	1.83E+04	>CL
014+	14	1.00E+00	6.77E+05	355	0.269	2.51E+06	2.86E+05	>CL
015+	15	1.00E+00	2.69E+05	385	0.291	9.26E+05	1.06E+05	>CL
016+	16	1.00E+00	1.15E+06	388	0.293	3.93E+06	4.45E+05	>CL
017+	17	1.00E+00	3.83E+05	389	0.294	1.30E+06	1.49E+05	>CL
018+	18	1.00E+00	1.47E+02	406	0.307	3.93E+02	1.04E+02	>CL
019+	19	1.00E+00	3.95E+03	405	0.306	1.28E+04	1.73E+03	>CL
020+	20	1.00E+00	1.07E+02	404	0.305	2.66E+02	8.32E+01	>CL
021+	21	1.00E+00	3.50E+03	276	0.206	1.69E+04	2.30E+03	>CL
022+	22	1.00E+00	1.11E+02	408	0.308	2.76E+02	8.50E+01	>CL
023+	23	1.00E+00	9.36E+03	393	0.297	3.14E+04	3.98E+03	>CL
024+	24	1.00E+00	2.40E+05	408	0.308	7.79E+05	8.96E+04	>CL
025+	25	1.00E+00	1.25E+06	397	0.300	4.15E+06	4.70E+05	>CL
026+	26	1.00E+00	1.38E+04	405	0.306	4.50E+04	5.58E+03	>CL
027+	27	1.00E+00	1.89E+03	402	0.304	6.13E+03	8.90E+02	>CL
028+	28	1.00E+00	4.17E+06	348	0.264	1.58E+07	1.78E+06	>CL
029+	29	1.00E+00	3.44E+04	354	0.268	1.28E+05	1.53E+04	>CL
030+	30	1.00E+00	1.51E+05	342	0.260	5.80E+05	6.71E+04	>CL
031+	31	1.00E+00	8.38E+03	373	0.283	2.95E+04	3.76E+03	>CL
032+	32	1.00E+00	2.99E+05	392	0.296	1.01E+06	1.16E+05	>CL
033+	33	1.00E+00	2.83E+03	400	0.302	9.29E+03	1.29E+03	>CL
034+	34	1.00E+00	7.26E+03	398	0.300	2.41E+04	3.10E+03	>CL
035+	35	1.00E+00	2.57E+03	409	0.309	8.24E+03	1.16E+03	>CL
036+	36	1.00E+00	1.02E+03	319	0.243	4.10E+03	6.48E+02	>CL

Survey No.: _____

Page No.: _____ of _____

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*****************************************************************************
* Sandia Radiation Protection Sample Diagnostics Program            5-18-2007 *
*****************************************************************************
LSC Windows Analysis Program - Version 1.4                 Procedure RPSD-09-03

Customer                : COFFEY, Org. 10328      (JCOFFEY)
Program ID              : RPOP
Sample Category         : SA
Sample Description      : HOT SWIPES RERUNS

Analyst                 : HMRICHA
Batch Number            : D6014002
LSC System ID           : UNIT07 - 410231
Protocol Number/Name    : 18 H3 -- SWIPE
No. of Samples          : 36
Collection Date         : 05/18/2007
Received Date           : 05/18/2007
Count Date              : 05/18/2007
Count Time (min)        : 2.00
Background cpm          : 2.40E+01
Background tSIE         : 4.17E+02
Background Eff          : 3.15E-01
Sample Aliquot          : 1.00E+00 Each

H3 MDA = 5.60E+01 dpm/Each
H3 CL  = 2.56E+01 dpm/Each
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Reviewed by:  5-18-07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.52E+03	305	0.231	1.08E+04	1.52E+03	>CL
002+	2	1.00E+00	6.89E+05	415	0.313	2.20E+06	2.50E+05	>CL
003+	3	1.00E+00	5.03E+05	409	0.309	1.63E+06	1.85E+05	>CL
004+	4	1.00E+00	5.47E+05	406	0.306	1.79E+06	2.04E+05	>CL
005+	5	1.00E+00	1.03E+06	403	0.304	3.38E+06	3.83E+05	>CL
006+	6	1.00E+00	1.98E+06	411	0.310	6.39E+06	7.22E+05	>CL
007+	7	1.00E+00	7.27E+05	409	0.309	2.35E+06	2.68E+05	>CL
008+	8	1.00E+00	3.67E+05	395	0.298	1.23E+06	1.41E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.39E+05	388	0.294	2.17E+06	2.47E+05	>CL
010+	10	1.00E+00	7.12E+05	366	0.277	2.57E+06	2.92E+05	>CL
011+	11	1.00E+00	4.40E+05	390	0.295	1.49E+06	1.70E+05	>CL
012+	12	1.00E+00	3.43E+05	369	0.280	1.22E+06	1.40E+05	>CL
013+	13	1.00E+00	3.36E+04	292	0.219	1.53E+05	1.84E+04	>CL
014+	14	1.00E+00	6.62E+05	354	0.269	2.46E+06	2.80E+05	>CL
015+	15	1.00E+00	2.74E+05	381	0.288	9.51E+05	1.09E+05	>CL
016+	16	1.00E+00	1.16E+06	385	0.291	3.97E+06	4.50E+05	>CL
017+	17	1.00E+00	3.82E+05	389	0.294	1.30E+06	1.49E+05	>CL
018+	18	1.00E+00	1.34E+02	406	0.306	3.59E+02	9.84E+01	>CL
019+	19	1.00E+00	3.89E+03	404	0.305	1.27E+04	1.71E+03	>CL
020+	20	1.00E+00	1.04E+02	400	0.302	2.63E+02	8.24E+01	>CL
021+	21	1.00E+00	3.56E+03	275	0.206	1.72E+04	2.33E+03	>CL
022+	22	1.00E+00	1.11E+02	407	0.308	2.81E+02	8.47E+01	>CL
023+	23	1.00E+00	9.31E+03	394	0.298	3.12E+04	3.95E+03	>CL
024+	24	1.00E+00	2.48E+05	408	0.308	8.06E+05	9.26E+04	>CL
025+	25	1.00E+00	1.27E+06	397	0.300	4.23E+06	4.79E+05	>CL
026+	26	1.00E+00	1.42E+04	405	0.306	4.64E+04	5.75E+03	>CL
027+	27	1.00E+00	1.94E+03	403	0.305	6.28E+03	9.08E+02	>CL
028+	28	1.00E+00	4.19E+06	352	0.267	1.57E+07	1.77E+06	>CL
029+	29	1.00E+00	3.48E+04	353	0.268	1.30E+05	1.55E+04	>CL
030+	30	1.00E+00	1.52E+05	338	0.257	5.92E+05	6.84E+04	>CL
031+	31	1.00E+00	8.29E+03	373	0.283	2.92E+04	3.72E+03	>CL
032+	32	1.00E+00	2.98E+05	393	0.297	1.00E+06	1.15E+05	>CL
033+	33	1.00E+00	2.74E+03	401	0.303	8.96E+03	1.25E+03	>CL
034+	34	1.00E+00	7.30E+03	396	0.299	2.43E+04	3.13E+03	>CL
035+	35	1.00E+00	2.57E+03	410	0.310	8.22E+03	1.15E+03	>CL
036+	36	1.00E+00	9.99E+02	321	0.245	3.98E+03	6.30E+02	>CL

Survey No.: _____

Page No.: _____ of _____

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*****************************************************************************
* Sandia Radiation Protection Sample Diagnostics Program            5-25-2007 *
*****************************************************************************
LSC Windows Analysis Program - Version 1.4                 Procedure RPSD-09-03

Customer               : COFFEY, Org. 10328      (JCOFFEY)
Program ID             : RPOP
Sample Category        : SA
Sample Description     : HOT SWIPES RERUNS

Analyst                : HMRICHA
Batch Number           : D6014002
LSC System ID          : UNIT07 - 410231
Protocol Number/Name   : 18 H3 -- SWIPE
No. of Samples         : 36
Collection Date        : 05/25/2007
Received Date          : 05/25/2007
Count Date             : 05/25/2007
Count Time (min)       : 2.00
Background cpm         : 2.80E+01
Background tSIE        : 4.16E+02
Background Eff         : 3.14E-01
Sample Aliquot         : 1.00E+00 Each

H3 MDA = 6.03E+01 dpm/Each
H3 CL  = 2.78E+01 dpm/Each
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Reviewed by  5/25/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.43E+03	308	0.233	1.03E+04	1.46E+03	>CL
002+	2	1.00E+00	6.96E+05	417	0.314	2.22E+06	2.52E+05	>CL
003+	3	1.00E+00	5.03E+05	409	0.309	1.63E+06	1.85E+05	>CL
004+	4	1.00E+00	5.48E+05	410	0.309	1.77E+06	2.02E+05	>CL
005+	5	1.00E+00	1.03E+06	405	0.306	3.36E+06	3.81E+05	>CL
006+	6	1.00E+00	1.98E+06	413	0.311	6.37E+06	7.19E+05	>CL
007+	7	1.00E+00	7.28E+05	414	0.312	2.33E+06	2.65E+05	>CL
008+	8	1.00E+00	3.79E+05	394	0.298	1.27E+06	1.45E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.47E+05	394	0.298	2.17E+06	2.47E+05	>CL
010+	10	1.00E+00	7.29E+05	366	0.277	2.63E+06	2.99E+05	>CL
011+	11	1.00E+00	4.42E+05	394	0.298	1.48E+06	1.69E+05	>CL
012+	12	1.00E+00	3.43E+05	369	0.280	1.23E+06	1.40E+05	>CL
013+	13	1.00E+00	3.54E+04	288	0.216	1.64E+05	1.96E+04	>CL
014+	14	1.00E+00	6.71E+05	356	0.270	2.48E+06	2.82E+05	>CL
015+	15	1.00E+00	2.76E+05	381	0.288	9.57E+05	1.10E+05	>CL
016+	16	1.00E+00	1.16E+06	383	0.290	3.99E+06	4.52E+05	>CL
017+	17	1.00E+00	3.83E+05	393	0.297	1.29E+06	1.47E+05	>CL
018+	18	1.00E+00	1.52E+02	408	0.308	4.03E+02	1.07E+02	>CL
019+	19	1.00E+00	4.09E+03	406	0.307	1.32E+04	1.78E+03	>CL
020+	20	1.00E+00	1.17E+02	407	0.307	2.90E+02	8.79E+01	>CL
021+	21	1.00E+00	3.47E+03	275	0.205	1.68E+04	2.29E+03	>CL
022+	22	1.00E+00	1.24E+02	408	0.308	3.10E+02	9.16E+01	>CL
023+	23	1.00E+00	1.10E+04	396	0.299	3.68E+04	4.62E+03	>CL
024+	24	1.00E+00	2.60E+05	408	0.308	8.43E+05	9.68E+04	>CL
025+	25	1.00E+00	1.29E+06	401	0.303	4.25E+06	4.82E+05	>CL
026+	26	1.00E+00	1.46E+04	408	0.308	4.74E+04	5.86E+03	>CL
027+	27	1.00E+00	1.92E+03	406	0.307	6.16E+03	8.93E+02	>CL
028+	28	1.00E+00	4.19E+06	360	0.273	1.54E+07	1.73E+06	>CL
029+	29	1.00E+00	3.65E+04	355	0.269	1.36E+05	1.62E+04	>CL
030+	30	1.00E+00	1.54E+05	341	0.259	5.96E+05	6.89E+04	>CL
031+	31	1.00E+00	8.25E+03	375	0.284	2.89E+04	3.70E+03	>CL
032+	32	1.00E+00	2.96E+05	393	0.297	9.97E+05	1.14E+05	>CL
033+	33	1.00E+00	2.79E+03	402	0.303	9.13E+03	1.27E+03	>CL
034+	34	1.00E+00	7.17E+03	397	0.300	2.38E+04	3.06E+03	>CL
035+	35	1.00E+00	2.62E+03	413	0.312	8.30E+03	1.16E+03	>CL
036+	36	1.00E+00	1.01E+03	321	0.245	4.00E+03	6.34E+02	>CL

Survey No.: _____

Page No.: _____ of _____

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*****************************************************************************
* Sandia Radiation Protection Sample Diagnostics Program            6-4-2007 *
*****************************************************************************
LSC Windows Analysis Program - Version 1.4                 Procedure RPSD-09-03

Customer                : COFFEY, Org. 10328      (jcoffey)
Program ID              : RPOP
Sample Category         : SA
Sample Description      : HOT SWIPES RERUNS

Analyst                 : HMRICHA
Batch Number            : D6014002
LSC System ID           : UNIT07 - 410231
Protocol Number/Name    : 18 H3 -- SWIPE
No. of Samples          : 36
Collection Date         : 06/01/2007
Received Date           : 06/01/2007
Count Date              : 06/01/2007
Count Time (min)        : 2.00
Background cpm          : 2.90E+01
Background tSIE         : 4.20E+02
Background Eff          : 3.16E-01
Sample Aliquot          : 1.00E+00 Each

H3 MDA = 6.09E+01 dpm/Each
H3 CL  = 2.81E+01 dpm/Each
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Reviewed by _____ 6/4/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.49E+03	306	0.232	1.06E+04	1.49E+03	>CL
002+	2	1.00E+00	7.04E+05	418	0.315	2.23E+06	2.54E+05	>CL
003+	3	1.00E+00	5.06E+05	412	0.311	1.63E+06	1.85E+05	>CL
004+	4	1.00E+00	5.52E+05	412	0.311	1.78E+06	2.02E+05	>CL
005+	5	1.00E+00	1.03E+06	406	0.306	3.38E+06	3.83E+05	>CL
006+	6	1.00E+00	1.99E+06	417	0.315	6.31E+06	7.13E+05	>CL
007+	7	1.00E+00	7.33E+05	414	0.313	2.34E+06	2.66E+05	>CL
008+	8	1.00E+00	3.78E+05	397	0.300	1.26E+06	1.44E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.67E+05	396	0.300	2.22E+06	2.53E+05	>CL
010+	10	1.00E+00	7.60E+05	366	0.278	2.73E+06	3.11E+05	>CL
011+	11	1.00E+00	4.44E+05	393	0.297	1.49E+06	1.70E+05	>CL
012+	12	1.00E+00	3.48E+05	371	0.281	1.24E+06	1.42E+05	>CL
013+	13	1.00E+00	3.69E+04	285	0.213	1.73E+05	2.07E+04	>CL
014+	14	1.00E+00	7.36E+05	359	0.272	2.71E+06	3.08E+05	>CL
015+	15	1.00E+00	2.80E+05	385	0.291	9.63E+05	1.10E+05	>CL
016+	16	1.00E+00	1.17E+06	388	0.294	3.98E+06	4.51E+05	>CL
017+	17	1.00E+00	3.87E+05	395	0.298	1.30E+06	1.48E+05	>CL
018+	18	1.00E+00	1.60E+02	409	0.308	4.24E+02	1.11E+02	>CL
019+	19	1.00E+00	4.11E+03	410	0.310	1.31E+04	1.77E+03	>CL
020+	20	1.00E+00	1.07E+02	407	0.307	2.54E+02	8.26E+01	>CL
021+	21	1.00E+00	3.50E+03	277	0.207	1.68E+04	2.28E+03	>CL
022+	22	1.00E+00	1.22E+02	409	0.309	2.99E+02	9.02E+01	>CL
023+	23	1.00E+00	1.12E+04	395	0.298	3.74E+04	4.69E+03	>CL
024+	24	1.00E+00	2.63E+05	410	0.310	8.49E+05	9.74E+04	>CL
025+	25	1.00E+00	1.30E+06	397	0.300	4.35E+06	4.92E+05	>CL
026+	26	1.00E+00	1.49E+04	411	0.310	4.80E+04	5.93E+03	>CL
027+	27	1.00E+00	2.01E+03	409	0.309	6.40E+03	9.23E+02	>CL
028+	28	1.00E+00	4.21E+06	352	0.267	1.58E+07	1.78E+06	>CL
029+	29	1.00E+00	3.72E+04	356	0.270	1.38E+05	1.64E+04	>CL
030+	30	1.00E+00	1.56E+05	343	0.261	5.98E+05	6.91E+04	>CL
031+	31	1.00E+00	8.28E+03	376	0.285	2.90E+04	3.69E+03	>CL
032+	32	1.00E+00	2.97E+05	394	0.298	9.97E+05	1.14E+05	>CL
033+	33	1.00E+00	2.79E+03	404	0.305	9.06E+03	1.26E+03	>CL
034+	34	1.00E+00	7.29E+03	401	0.303	2.40E+04	3.08E+03	>CL
035+	35	1.00E+00	2.63E+03	412	0.311	8.36E+03	1.17E+03	>CL
036+	36	1.00E+00	9.60E+02	322	0.245	3.80E+03	6.07E+02	>CL

Survey No.: _____

Page No.: _____ of _____

****
* Sandia Radiation Protection Sample Diagnostics Program 6-11-2007 *
****
LSC Windows Analysis Program - Version 1.4 Procedure RPSD-09-03

Customer : COFFEY, Org. 10328 (JCOFFEY)
Program ID : RPOP
Sample Category : SA
Sample Description : HOT SWIPES RERUNS

Analyst : HMRICHA
Batch Number : D6014002
LSC System ID : UNIT07 - 410231
Protocol Number/Name : 18 H3 -- SWIPE
No. of Samples : 36
Collection Date : 06/08/2007
Received Date : 06/08/2007
Count Date : 06/08/2007
Count Time (min) : 2.00
Background cpm : 2.60E+01
Background tSIE : 4.20E+02
Background Eff : 3.17E-01
Sample Aliquot : 1.00E+00 Each

H3 MDA = 5.77E+01 dpm/Each
H3 CL = 2.65E+01 dpm/Each

Reviewed by _____ 6/11/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.39E+03	308	0.233	1.02E+04	1.44E+03	>CL
002+	2	1.00E+00	7.06E+05	418	0.315	2.24E+06	2.55E+05	>CL
003+	3	1.00E+00	5.04E+05	412	0.311	1.62E+06	1.85E+05	>CL
004	4	1.00E+00	6.50E+00	408	0.308	-6.33E+01	3.33E+01	
005	5	1.00E+00	9.50E+00	408	0.308	-5.36E+01	3.34E+01	
006	6	1.00E+00	7.00E+00	410	0.310	-6.13E+01	3.31E+01	
007	7	1.00E+00	1.05E+01	407	0.307	-5.05E+01	3.35E+01	
008+	8	1.00E+00	3.82E+05	399	0.301	1.27E+06	1.45E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.64E+05	395	0.298	2.23E+06	2.53E+05	>CL
010+	10	1.00E+00	7.75E+05	362	0.275	2.82E+06	3.20E+05	>CL
011+	11	1.00E+00	4.48E+05	390	0.295	1.52E+06	1.73E+05	>CL
012+	12	1.00E+00	3.51E+05	370	0.281	1.25E+06	1.43E+05	>CL
013+	13	1.00E+00	3.74E+04	280	0.209	1.79E+05	2.13E+04	>CL
014+	14	1.00E+00	7.56E+05	354	0.268	2.82E+06	3.20E+05	>CL
015+	15	1.00E+00	2.82E+05	379	0.287	9.82E+05	1.13E+05	>CL
016+	16	1.00E+00	1.17E+06	387	0.293	3.99E+06	4.52E+05	>CL
017+	17	1.00E+00	3.83E+05	394	0.298	1.28E+06	1.47E+05	>CL
018+	18	1.00E+00	1.60E+02	408	0.308	4.35E+02	1.11E+02	>CL
019+	19	1.00E+00	4.12E+03	408	0.308	1.33E+04	1.78E+03	>CL
020+	20	1.00E+00	9.25E+01	410	0.309	2.15E+02	7.43E+01	>CL
021+	21	1.00E+00	3.57E+03	274	0.205	1.73E+04	2.35E+03	>CL
022+	22	1.00E+00	1.13E+02	410	0.309	2.82E+02	8.61E+01	>CL
023+	23	1.00E+00	1.10E+04	394	0.298	3.67E+04	4.61E+03	>CL
024+	24	1.00E+00	2.66E+05	409	0.308	8.65E+05	9.92E+04	>CL
025+	25	1.00E+00	1.32E+06	399	0.302	4.36E+06	4.94E+05	>CL
026+	26	1.00E+00	1.52E+04	410	0.309	4.91E+04	6.07E+03	>CL
027+	27	1.00E+00	1.98E+03	406	0.307	6.36E+03	9.18E+02	>CL
028	28	1.00E+00	8.00E+00	408	0.308	-5.84E+01	3.33E+01	
029+	29	1.00E+00	3.71E+04	355	0.269	1.38E+05	1.65E+04	>CL
030+	30	1.00E+00	1.57E+05	344	0.261	6.01E+05	6.95E+04	>CL
031+	31	1.00E+00	8.23E+03	375	0.284	2.89E+04	3.69E+03	>CL
032+	32	1.00E+00	2.95E+05	394	0.298	9.91E+05	1.14E+05	>CL
033+	33	1.00E+00	2.78E+03	403	0.304	9.05E+03	1.26E+03	>CL
034+	34	1.00E+00	7.27E+03	399	0.302	2.40E+04	3.09E+03	>CL
035+	35	1.00E+00	2.62E+03	412	0.311	8.33E+03	1.17E+03	>CL
036+	36	1.00E+00	1.03E+03	323	0.246	4.09E+03	6.44E+02	>CL

Survey No.: _____

Page No.: _____ of _____

****
* Sandia Radiation Protection Sample Diagnostics Program 6-18-2007 *
****
LSC Windows Analysis Program - Version 1.4 Procedure RPSD-09-03

Customer : COFFEY, Org. 10328 (JCOFFEY)
Program ID : RPOP
Sample Category : SA
Sample Description : HOT SWIPES RERUNS

Analyst : HMRICHA
Batch Number : D6014002
LSC System ID : UNIT07 - 410231
Protocol Number/Name : 18 H3 -- SWIPE
No. of Samples : 36
Collection Date : 06/15/2007
Received Date : 06/15/2007
Count Date : 06/15/2007
Count Time (min) : 2.00
Background cpm : 2.30E+01
Background tSIE : 4.19E+02
Background Eff : 3.16E-01
Sample Aliquot : 1.00E+00 Each

H3 MDA = 5.48E+01 dpm/Each
H3 CL = 2.50E+01 dpm/Each

Reviewed by HRicll 6·18·07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.41E+03	308	0.233	1.02E+04	1.45E+03	>CL
002+	2	1.00E+00	7.10E+05	419	0.316	2.25E+06	2.55E+05	>CL
003+	3	1.00E+00	5.02E+05	411	0.310	1.62E+06	1.85E+05	>CL
004	4	1.00E+00	9.00E+00	406	0.306	-4.58E+01	3.13E+01	
005	5	1.00E+00	6.50E+00	408	0.308	-5.36E+01	3.09E+01	
006	6	1.00E+00	9.00E+00	408	0.308	-4.55E+01	3.11E+01	
007	7	1.00E+00	9.00E+00	407	0.307	-4.56E+01	3.12E+01	
008+	8	1.00E+00	3.81E+05	399	0.302	1.26E+06	1.44E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.69E+05	393	0.297	2.25E+06	2.56E+05	>CL
010+	10	1.00E+00	7.66E+05	366	0.277	2.77E+06	3.14E+05	>CL
011+	11	1.00E+00	4.43E+05	395	0.298	1.49E+06	1.70E+05	>CL
012+	12	1.00E+00	3.52E+05	371	0.281	1.25E+06	1.43E+05	>CL
013+	13	1.00E+00	3.79E+04	275	0.206	1.84E+05	2.19E+04	>CL
014+	14	1.00E+00	7.65E+05	351	0.267	2.86E+06	3.25E+05	>CL
015+	15	1.00E+00	2.81E+05	380	0.287	9.80E+05	1.12E+05	>CL
016+	16	1.00E+00	1.16E+06	385	0.291	3.99E+06	4.52E+05	>CL
017+	17	1.00E+00	3.81E+05	393	0.297	1.28E+06	1.47E+05	>CL
018+	18	1.00E+00	1.56E+02	411	0.310	4.27E+02	1.09E+02	>CL
019+	19	1.00E+00	4.12E+03	408	0.308	1.33E+04	1.78E+03	>CL
020+	20	1.00E+00	1.10E+02	408	0.308	2.81E+02	8.43E+01	>CL
021+	21	1.00E+00	3.57E+03	278	0.207	1.71E+04	2.33E+03	>CL
022+	22	1.00E+00	1.12E+02	412	0.311	2.86E+02	8.53E+01	>CL
023+	23	1.00E+00	1.10E+04	395	0.298	3.69E+04	4.63E+03	>CL
024+	24	1.00E+00	2.70E+05	413	0.311	8.67E+05	9.95E+04	>CL
025+	25	1.00E+00	1.32E+06	401	0.303	4.36E+06	4.93E+05	>CL
026+	26	1.00E+00	1.54E+04	410	0.309	4.99E+04	6.16E+03	>CL
027+	27	1.00E+00	1.99E+03	407	0.308	6.40E+03	9.23E+02	>CL
028	28	1.00E+00	7.50E+00	406	0.307	-5.05E+01	3.11E+01	
029+	29	1.00E+00	3.70E+04	358	0.272	1.36E+05	1.62E+04	>CL
030+	30	1.00E+00	1.57E+05	343	0.261	6.02E+05	6.96E+04	>CL
031+	31	1.00E+00	8.25E+03	376	0.285	2.89E+04	3.69E+03	>CL
032+	32	1.00E+00	2.94E+05	393	0.297	9.88E+05	1.13E+05	>CL
033+	33	1.00E+00	2.76E+03	405	0.305	8.98E+03	1.25E+03	>CL
034+	34	1.00E+00	7.26E+03	401	0.303	2.39E+04	3.07E+03	>CL
035+	35	1.00E+00	2.54E+03	414	0.312	8.05E+03	1.13E+03	>CL
036+	36	1.00E+00	9.84E+02	324	0.247	3.89E+03	6.18E+02	>CL

Survey No.: _____

Page No.: _____ of _____

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*****************************************************************************
* Sandia Radiation Protection Sample Diagnostics Program            6-22-2007 *
*****************************************************************************
LSC Windows Analysis Program - Version 1.4                 Procedure RPSD-09-03

Customer               : COFFEY, Org. 10328      (JCOFFEY)
Program ID             : RPOP
Sample Category        : SA
Sample Description     : HOT SWIPES RERUNS

Analyst                : HMRICHA
Batch Number           : D6014002
LSC System ID          : UNIT07 - 410231
Protocol Number/Name   : 18 H3 -- SWIPE
No. of Samples         : 36
Collection Date        : 06/22/2007
Received Date          : 06/22/2007
Count Date             : 06/22/2007
Count Time (min)       : 2.00
Background cpm         : 2.65E+01
Background tSIE        : 4.19E+02
Background Eff         : 3.16E-01
Sample Aliquot         : 1.00E+00 Each

H3 MDA = 5.84E+01 dpm/Each
H3 CL  = 2.68E+01 dpm/Each
```

Reviewed by  6/22/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.42E+03	309	0.234	1.02E+04	1.45E+03	>CL
002+	2	1.00E+00	7.14E+05	416	0.314	2.27E+06	2.59E+05	>CL
003+	3	1.00E+00	5.02E+05	410	0.310	1.62E+06	1.84E+05	>CL
004	4	1.00E+00	8.50E+00	402	0.304	-5.92E+01	3.49E+01	
005	5	1.00E+00	6.00E+00	403	0.304	-6.74E+01	3.49E+01	
006	6	1.00E+00	6.50E+00	406	0.306	-6.54E+01	3.47E+01	
007	7	1.00E+00	1.10E+01	403	0.304	-5.10E+01	3.49E+01	
008+	8	1.00E+00	3.83E+05	396	0.299	1.28E+06	1.46E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.69E+05	393	0.297	2.25E+06	2.56E+05	>CL
010+	10	1.00E+00	7.82E+05	362	0.274	2.85E+06	3.24E+05	>CL
011+	11	1.00E+00	4.49E+05	391	0.296	1.52E+06	1.73E+05	>CL
012+	12	1.00E+00	3.53E+05	369	0.280	1.26E+06	1.44E+05	>CL
013+	13	1.00E+00	3.85E+04	271	0.202	1.91E+05	2.27E+04	>CL
014+	14	1.00E+00	7.35E+05	351	0.266	2.76E+06	3.14E+05	>CL
015+	15	1.00E+00	2.82E+05	378	0.286	9.84E+05	1.13E+05	>CL
016+	16	1.00E+00	1.16E+06	383	0.290	3.99E+06	4.52E+05	>CL
017+	17	1.00E+00	3.81E+05	390	0.295	1.29E+06	1.48E+05	>CL
018+	18	1.00E+00	1.63E+02	408	0.308	4.42E+02	1.13E+02	>CL
019+	19	1.00E+00	3.95E+03	408	0.308	1.28E+04	1.72E+03	>CL
020+	20	1.00E+00	1.05E+02	405	0.306	2.57E+02	8.21E+01	>CL
021+	21	1.00E+00	3.52E+03	276	0.206	1.69E+04	2.31E+03	>CL
022+	22	1.00E+00	1.01E+02	411	0.310	2.39E+02	7.90E+01	>CL
023+	23	1.00E+00	1.10E+04	394	0.298	3.68E+04	4.61E+03	>CL
024+	24	1.00E+00	2.69E+05	411	0.310	8.69E+05	9.97E+04	>CL
025	25	1.00E+00	9.50E+00	380	0.288	-5.90E+01	3.69E+01	
026+	26	1.00E+00	1.53E+04	409	0.309	4.95E+04	6.11E+03	>CL
027+	27	1.00E+00	1.96E+03	405	0.306	6.33E+03	9.15E+02	>CL
028	28	1.00E+00	1.45E+01	403	0.304	-3.95E+01	3.49E+01	
029+	29	1.00E+00	3.70E+04	358	0.271	1.36E+05	1.63E+04	>CL
030+	30	1.00E+00	1.58E+05	343	0.261	6.03E+05	6.98E+04	>CL
031+	31	1.00E+00	8.19E+03	373	0.282	2.89E+04	3.70E+03	>CL
032+	32	1.00E+00	2.93E+05	393	0.297	9.85E+05	1.13E+05	>CL
033+	33	1.00E+00	2.67E+03	405	0.306	8.64E+03	1.21E+03	>CL
034+	34	1.00E+00	7.17E+03	399	0.302	2.36E+04	3.05E+03	>CL
035+	35	1.00E+00	2.59E+03	412	0.311	8.23E+03	1.15E+03	>CL
036+	36	1.00E+00	9.92E+02	325	0.247	3.91E+03	6.21E+02	>CL

Survey No.: _____

Page No.: _____ of _____

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*****************************************************************************
* Sandia Radiation Protection Sample Diagnostics Program            7-2-2007 *
*****************************************************************************
LSC Windows Analysis Program - Version 1.4                Procedure RPSD-09-03

Customer               : COFFEY, Org. 10328      (JCOFFEY)
Program ID             : RPOP
Sample Category        : SA
Sample Description     : HOT SWIPES RERUNS

Analyst                : HMRICHA
Batch Number           : D6014002
LSC System ID          : UNIT07 - 410231
Protocol Number/Name   : 18 H3 -- SWIPE
No. of Samples         : 36
Collection Date        : 06/29/2007
Received Date          : 06/29/2007
Count Date             : 06/29/2007
Count Time (min)       : 2.00
Background cpm         : 3.05E+01
Background tSIE        : 4.22E+02
Background Eff         : 3.18E-01
Sample Aliquot         : 1.00E+00 Each

H3 MDA = 6.19E+01 dpm/Each
H3 CL  = 2.86E+01 dpm/Each
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Reviewed by  7/2/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.41E+03	308	0.233	1.02E+04	1.44E+03	>CL
002+	2	1.00E+00	7.15E+05	420	0.317	2.26E+06	2.56E+05	>CL
003+	3	1.00E+00	5.00E+05	414	0.313	1.60E+06	1.82E+05	>CL
004	4	1.00E+00	7.00E+00	402	0.303	-7.76E+01	3.73E+01	
005	5	1.00E+00	7.50E+00	401	0.303	-7.59E+01	3.73E+01	
006	6	1.00E+00	7.50E+00	404	0.305	-7.54E+01	3.70E+01	
007	7	1.00E+00	1.40E+01	402	0.304	-5.43E+01	3.71E+01	
008+	8	1.00E+00	3.78E+05	397	0.300	1.26E+06	1.44E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.71E+05	396	0.299	2.24E+06	2.55E+05	>CL
010+	10	1.00E+00	8.15E+05	360	0.273	2.99E+06	3.39E+05	>CL
011+	11	1.00E+00	4.44E+05	395	0.299	1.48E+06	1.69E+05	>CL
012+	12	1.00E+00	3.54E+05	373	0.282	1.25E+06	1.43E+05	>CL
013+	13	1.00E+00	3.87E+04	267	0.199	1.94E+05	2.32E+04	>CL
014+	14	1.00E+00	7.80E+05	351	0.266	2.93E+06	3.33E+05	>CL
015+	15	1.00E+00	2.80E+05	376	0.285	9.81E+05	1.13E+05	>CL
016+	16	1.00E+00	1.15E+06	382	0.289	3.98E+06	4.51E+05	>CL
017+	17	1.00E+00	3.79E+05	389	0.294	1.29E+06	1.47E+05	>CL
018+	18	1.00E+00	1.53E+02	412	0.311	3.94E+02	1.06E+02	>CL
019+	19	1.00E+00	3.81E+03	411	0.310	1.22E+04	1.65E+03	>CL
020+	20	1.00E+00	1.14E+02	408	0.308	2.69E+02	8.53E+01	>CL
021+	21	1.00E+00	3.47E+03	278	0.207	1.66E+04	2.27E+03	>CL
022+	22	1.00E+00	1.17E+02	413	0.312	2.76E+02	8.62E+01	>CL
023+	23	1.00E+00	1.11E+04	399	0.301	3.66E+04	4.60E+03	>CL
024+	24	1.00E+00	2.71E+05	411	0.310	8.73E+05	1.00E+05	>CL
025	25	1.00E+00	1.15E+01	378	0.286	-6.64E+01	3.95E+01	
026+	26	1.00E+00	1.56E+04	412	0.311	5.01E+04	6.18E+03	>CL
027+	27	1.00E+00	2.05E+03	409	0.309	6.54E+03	9.42E+02	>CL
028	28	1.00E+00	8.00E+00	401	0.303	-7.43E+01	3.73E+01	
029+	29	1.00E+00	3.69E+04	357	0.271	1.36E+05	1.62E+04	>CL
030+	30	1.00E+00	1.57E+05	345	0.262	6.00E+05	6.94E+04	>CL
031+	31	1.00E+00	8.19E+03	374	0.284	2.87E+04	3.67E+03	>CL
032+	32	1.00E+00	2.90E+05	394	0.298	9.72E+05	1.11E+05	>CL
033+	33	1.00E+00	2.72E+03	403	0.304	8.84E+03	1.23E+03	>CL
034+	34	1.00E+00	7.14E+03	400	0.302	2.35E+04	3.03E+03	>CL
035+	35	1.00E+00	2.59E+03	416	0.314	8.16E+03	1.14E+03	>CL
036+	36	1.00E+00	9.89E+02	325	0.248	3.86E+03	6.15E+02	>CL

Survey No.: _____

Page No.: _____ of _____

****
* Sandia Radiation Protection Sample Diagnostics Program 7-6-2007 *
****
LSC Windows Analysis Program - Version 1.4 Procedure RPSD-09-03

Customer : COFFEY, Org. 10328 (JCOFFEY)
Program ID : RPOP
Sample Category : SA
Sample Description : HOT SWIPES RERUNS

Analyst : HMRICHA
Batch Number : D6014002
LSC System ID : UNIT07 - 410231
Protocol Number/Name : 18 H3 -- SWIPE
No. of Samples : 36
Collection Date : 07/06/2007
Received Date : 07/06/2007
Count Date : 07/06/2007
Count Time (min) : 2.00
Background cpm : 2.70E+01
Background tSIE : 4.21E+02
Background Eff : 3.18E-01
Sample Aliquot : 1.00E+00 Each

H3 MDA = 5.86E+01 dpm/Each
H3 CL = 2.69E+01 dpm/Each

Reviewed by JM Jacobs 7/6/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.38E+03	307	0.233	1.01E+04	1.43E+03	>CL
002+	2	1.00E+00	7.16E+05	418	0.316	2.27E+06	2.58E+05	>CL
003+	3	1.00E+00	4.98E+05	410	0.310	1.61E+06	1.83E+05	>CL
004	4	1.00E+00	9.50E+00	395	0.298	-5.87E+01	3.60E+01	
005	5	1.00E+00	9.00E+00	399	0.302	-5.96E+01	3.55E+01	
006	6	1.00E+00	1.25E+01	398	0.301	-4.82E+01	3.57E+01	
007	7	1.00E+00	9.00E+00	398	0.301	-5.98E+01	3.57E+01	
008+	8	1.00E+00	3.78E+05	396	0.299	1.26E+06	1.45E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.76E+05	394	0.298	2.27E+06	2.58E+05	>CL
010+	10	1.00E+00	8.23E+05	358	0.272	3.03E+06	3.44E+05	>CL
011+	11	1.00E+00	4.47E+05	392	0.296	1.51E+06	1.72E+05	>CL
012+	12	1.00E+00	3.54E+05	370	0.280	1.26E+06	1.44E+05	>CL
013+	13	1.00E+00	3.91E+04	263	0.196	1.99E+05	2.38E+04	>CL
014+	14	1.00E+00	8.08E+05	344	0.261	3.10E+06	3.52E+05	>CL
015+	15	1.00E+00	2.78E+05	371	0.281	9.90E+05	1.14E+05	>CL
016+	16	1.00E+00	1.14E+06	378	0.286	3.99E+06	4.52E+05	>CL
017+	17	1.00E+00	3.77E+05	389	0.294	1.28E+06	1.47E+05	>CL
018+	18	1.00E+00	1.50E+02	408	0.308	3.99E+02	1.06E+02	>CL
019+	19	1.00E+00	3.79E+03	407	0.307	1.23E+04	1.66E+03	>CL
020+	20	1.00E+00	1.11E+02	404	0.305	2.75E+02	8.57E+01	>CL
021+	21	1.00E+00	3.55E+03	275	0.206	1.71E+04	2.32E+03	>CL
022+	22	1.00E+00	1.16E+02	410	0.309	2.88E+02	8.74E+01	>CL
023+	23	1.00E+00	1.10E+04	396	0.299	3.67E+04	4.61E+03	>CL
024+	24	1.00E+00	2.71E+05	408	0.308	8.81E+05	1.01E+05	>CL
025	25	1.00E+00	6.50E+00	375	0.284	-7.22E+01	3.78E+01	
026+	26	1.00E+00	1.56E+04	410	0.310	5.03E+04	6.21E+03	>CL
027+	27	1.00E+00	1.99E+03	406	0.307	6.40E+03	9.25E+02	>CL
028	28	1.00E+00	1.05E+01	396	0.300	-5.50E+01	3.58E+01	
029+	29	1.00E+00	3.66E+04	355	0.270	1.35E+05	1.62E+04	>CL
030+	30	1.00E+00	1.57E+05	342	0.260	6.05E+05	6.99E+04	>CL
031+	31	1.00E+00	8.03E+03	369	0.280	2.86E+04	3.65E+03	>CL
032+	32	1.00E+00	2.88E+05	389	0.294	9.79E+05	1.12E+05	>CL
033+	33	1.00E+00	2.72E+03	404	0.305	8.82E+03	1.23E+03	>CL
034+	34	1.00E+00	7.08E+03	400	0.302	2.34E+04	3.01E+03	>CL
035+	35	1.00E+00	2.57E+03	413	0.311	8.19E+03	1.15E+03	>CL
036+	36	1.00E+00	9.74E+02	324	0.247	3.83E+03	6.11E+02	>CL

Survey No.: _____

Page No.: 1 of 2

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*****************************************************************************
* Sandia Radiation Protection Sample Diagnostics Program            7-16-2007 *
*****************************************************************************
LSC Windows Analysis Program - Version 1.4                 Procedure RPSD-09-03

Customer               : COFFEY, Org. 10328      (JCOFFEY)
Program ID             : RPOP
Sample Category        : SA
Sample Description     : HOT SWIPES RERUNS

Analyst                : HMRICHA
Batch Number           : D6014002
LSC System ID          : UNIT07 - 410231
Protocol Number/Name   : 18 H3 -- SWIPE
No. of Samples         : 36
Collection Date        : 07/13/2007
Received Date          : 07/13/2007
Count Date             : 07/13/2007
Count Time (min)       : 2.00
Background cpm         : 2.60E+01
Background tSIE        : 4.21E+02
Background Eff         : 3.17E-01
Sample Aliquot         : 1.00E+00 Each

H3 MDA = 5.77E+01 dpm/Each
H3 CL  = 2.65E+01 dpm/Each
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Reviewed by _____ 7/16/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.35E+03	310	0.235	9.90E+03	1.40E+03	>CL
002+	2	1.00E+00	7.18E+05	419	0.316	2.27E+06	2.58E+05	>CL
003+	3	1.00E+00	4.96E+05	413	0.312	1.59E+06	1.81E+05	>CL
004	4	1.00E+00	1.25E+01	396	0.299	-4.52E+01	3.44E+01	
005	5	1.00E+00	8.00E+00	399	0.301	-5.98E+01	3.41E+01	
006	6	1.00E+00	7.50E+00	399	0.301	-6.15E+01	3.41E+01	
007	7	1.00E+00	7.00E+00	397	0.300	-6.33E+01	3.42E+01	
008+	8	1.00E+00	3.81E+05	395	0.298	1.28E+06	1.46E+05	>CL

Survey No.: _____

Page No.: 2 of 2

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.82E+05	395	0.298	2.29E+06	2.60E+05	>CL
010+	10	1.00E+00	8.34E+05	359	0.273	3.06E+06	3.47E+05	>CL
011+	11	1.00E+00	4.41E+05	394	0.298	1.48E+06	1.69E+05	>CL
012+	12	1.00E+00	3.54E+05	369	0.280	1.26E+06	1.45E+05	>CL
013+	13	1.00E+00	3.92E+04	262	0.195	2.01E+05	2.40E+04	>CL
014+	14	1.00E+00	7.77E+05	343	0.261	2.98E+06	3.38E+05	>CL
015+	15	1.00E+00	2.79E+05	371	0.281	9.92E+05	1.14E+05	>CL
016+	16	1.00E+00	1.13E+06	378	0.286	3.95E+06	4.47E+05	>CL
017+	17	1.00E+00	3.75E+05	388	0.293	1.28E+06	1.46E+05	>CL
018+	18	1.00E+00	1.55E+02	410	0.309	4.16E+02	1.08E+02	>CL
019+	19	1.00E+00	3.89E+03	409	0.308	1.25E+04	1.69E+03	>CL
020+	20	1.00E+00	1.03E+02	404	0.305	2.51E+02	8.07E+01	>CL
021+	21	1.00E+00	3.50E+03	276	0.206	1.69E+04	2.30E+03	>CL
022+	22	1.00E+00	1.28E+02	411	0.310	3.29E+02	9.35E+01	>CL
023+	23	1.00E+00	1.08E+04	398	0.301	3.57E+04	4.48E+03	>CL
024+	24	1.00E+00	2.72E+05	406	0.307	8.86E+05	1.02E+05	>CL
025	25	1.00E+00	1.25E+01	374	0.283	-4.77E+01	3.64E+01	
026+	26	1.00E+00	1.57E+04	410	0.309	5.08E+04	6.26E+03	>CL
027+	27	1.00E+00	2.01E+03	409	0.309	6.44E+03	9.27E+02	>CL
028	28	1.00E+00	1.15E+01	398	0.301	-4.82E+01	3.42E+01	
029+	29	1.00E+00	3.64E+04	356	0.270	1.35E+05	1.61E+04	>CL
030+	30	1.00E+00	1.57E+05	344	0.261	6.03E+05	6.97E+04	>CL
031+	31	1.00E+00	8.03E+03	372	0.281	2.85E+04	3.64E+03	>CL
032+	32	1.00E+00	2.87E+05	387	0.292	9.83E+05	1.13E+05	>CL
033+	33	1.00E+00	2.69E+03	404	0.305	8.73E+03	1.22E+03	>CL
034+	34	1.00E+00	7.00E+03	400	0.302	2.31E+04	2.98E+03	>CL
035+	35	1.00E+00	2.58E+03	414	0.312	8.17E+03	1.15E+03	>CL
036+	36	1.00E+00	9.80E+02	327	0.249	3.83E+03	6.09E+02	>CL

Survey No.: _____

Page No.: _____ of _____

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* Sandia Radiation Protection Sample Diagnostics Program 7-19-2007 *
****
LSC Windows Analysis Program - Version 1.4 Procedure RPSD-09-03

Customer : COFFEY, Org. 10328 (JCOFFEY)
Program ID : RPOP
Sample Category : SA
Sample Description : HOT SWIPES RERUNS

Analyst : HMRICHA
Batch Number : D6014002
LSC System ID : UNIT07 - 410231
Protocol Number/Name : 18 H3 -- SWIPE
No. of Samples : 36
Collection Date : 07/19/2007
Received Date : 07/19/2007
Count Date : 07/19/2007
Count Time (min) : 2.00
Background cpm : 2.50E+01
Background tSIE : 4.18E+02
Background Eff : 3.15E-01
Sample Aliquot : 1.00E+00 Each

H3 MDA = 5.71E+01 dpm/Each
H3 CL = 2.62E+01 dpm/Each

Reviewed by  7-19-07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.37E+03	306	0.231	1.02E+04	1.44E+03	>CL
002+	2	1.00E+00	7.20E+05	417	0.315	2.29E+06	2.60E+05	>CL
003+	3	1.00E+00	4.97E+05	411	0.310	1.60E+06	1.83E+05	>CL
004	4	1.00E+00	1.15E+01	394	0.298	-4.53E+01	3.45E+01	
005	5	1.00E+00	8.50E+00	394	0.298	-5.54E+01	3.45E+01	
006	6	1.00E+00	9.00E+00	395	0.299	-5.35E+01	3.44E+01	
007	7	1.00E+00	6.00E+00	396	0.299	-6.35E+01	3.43E+01	
008+	8	1.00E+00	3.88E+05	393	0.297	1.31E+06	1.49E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.74E+05	390	0.295	2.28E+06	2.60E+05	>CL
010+	10	1.00E+00	8.25E+05	357	0.271	3.04E+06	3.46E+05	>CL
011+	11	1.00E+00	4.43E+05	392	0.296	1.50E+06	1.71E+05	>CL
012+	12	1.00E+00	3.52E+05	367	0.278	1.27E+06	1.45E+05	>CL
013+	13	1.00E+00	3.97E+04	256	0.190	2.09E+05	2.49E+04	>CL
014+	14	1.00E+00	8.28E+05	345	0.262	3.16E+06	3.59E+05	>CL
015+	15	1.00E+00	2.80E+05	372	0.282	9.93E+05	1.14E+05	>CL
016+	16	1.00E+00	1.14E+06	381	0.288	3.95E+06	4.48E+05	>CL
017+	17	1.00E+00	3.77E+05	385	0.291	1.29E+06	1.48E+05	>CL
018+	18	1.00E+00	1.43E+02	409	0.308	3.81E+02	1.03E+02	>CL
019+	19	1.00E+00	4.07E+03	406	0.307	1.32E+04	1.77E+03	>CL
020+	20	1.00E+00	1.09E+02	404	0.305	2.75E+02	8.53E+01	>CL
021+	21	1.00E+00	3.58E+03	279	0.209	1.70E+04	2.31E+03	>CL
022+	22	1.00E+00	1.23E+02	412	0.311	3.14E+02	9.11E+01	>CL
023+	23	1.00E+00	1.09E+04	394	0.298	3.63E+04	4.56E+03	>CL
024+	24	1.00E+00	2.72E+05	405	0.306	8.90E+05	1.02E+05	>CL
025	25	1.00E+00	1.05E+01	374	0.283	-5.12E+01	3.63E+01	
026+	26	1.00E+00	1.60E+04	407	0.307	5.19E+04	6.40E+03	>CL
027+	27	1.00E+00	2.00E+03	408	0.308	6.40E+03	9.23E+02	>CL
028	28	1.00E+00	1.20E+01	395	0.299	-4.35E+01	3.44E+01	
029+	29	1.00E+00	3.66E+04	355	0.269	1.36E+05	1.63E+04	>CL
030+	30	1.00E+00	1.58E+05	339	0.258	6.13E+05	7.09E+04	>CL
031+	31	1.00E+00	8.11E+03	373	0.283	2.86E+04	3.65E+03	>CL
032+	32	1.00E+00	2.87E+05	389	0.294	9.77E+05	1.12E+05	>CL
033+	33	1.00E+00	2.64E+03	403	0.304	8.59E+03	1.20E+03	>CL
034+	34	1.00E+00	7.02E+03	398	0.301	2.32E+04	3.00E+03	>CL
035+	35	1.00E+00	2.61E+03	413	0.312	8.30E+03	1.16E+03	>CL
036+	36	1.00E+00	9.94E+02	323	0.246	3.94E+03	6.25E+02	>CL

Survey No.: _____

Page No.: _____ of _____

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*****************************************************************************
* Sandia Radiation Protection Sample Diagnostics Program            7-27-2007 *
*****************************************************************************
LSC Windows Analysis Program - Version 1.4                Procedure RPSD-09-03

Customer               : COFFEY, Org. 10328      (JCOFFEY)
Program ID             : RPOP
Sample Category        : SA
Sample Description     : HOT SWIPES RERUNS

Analyst                : HMRICHA
Batch Number           : D6014002
LSC System ID          : UNIT07 - 410231
Protocol Number/Name   : 18 H3 -- SWIPE
No. of Samples         : 36
Collection Date        : 07/27/2007
Received Date          : 07/27/2007
Count Date             : 07/27/2007
Count Time (min)       : 2.00
Background cpm         : 2.10E+01
Background tSIE        : 4.21E+02
Background Eff         : 3.17E-01
Sample Aliquot         : 1.00E+00 Each

H3 MDA = 5.24E+01 dpm/Each
H3 CL  = 2.38E+01 dpm/Each
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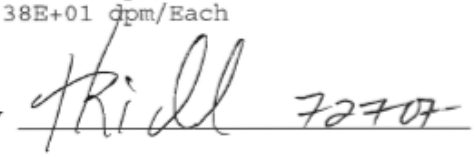
Reviewed by 

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.37E+03	306	0.232	1.01E+04	1.43E+03	>CL
002+	2	1.00E+00	7.24E+05	421	0.317	2.28E+06	2.60E+05	>CL
003+	3	1.00E+00	4.99E+05	412	0.311	1.61E+06	1.83E+05	>CL
004	4	1.00E+00	1.20E+01	396	0.300	-3.00E+01	3.04E+01	
005+	5	1.00E+00	8.86E+05	400	0.302	2.93E+06	3.33E+05	>CL
006+	6	1.00E+00	1.68E+06	409	0.309	5.43E+06	6.14E+05	>CL
007	7	1.00E+00	1.20E+01	396	0.299	-3.01E+01	3.05E+01	
008+	8	1.00E+00	3.89E+05	398	0.301	1.29E+06	1.48E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.75E+05	395	0.299	2.26E+06	2.57E+05	>CL
010+	10	1.00E+00	8.51E+05	359	0.272	3.13E+06	3.55E+05	>CL
011+	11	1.00E+00	4.45E+05	395	0.298	1.49E+06	1.70E+05	>CL
012+	12	1.00E+00	3.56E+05	371	0.281	1.27E+06	1.45E+05	>CL
013+	13	1.00E+00	4.10E+04	257	0.191	2.15E+05	2.56E+04	>CL
014+	14	1.00E+00	8.60E+05	343	0.261	3.29E+06	3.74E+05	>CL
015+	15	1.00E+00	2.80E+05	374	0.283	9.91E+05	1.14E+05	>CL
016+	16	1.00E+00	1.14E+06	380	0.288	3.96E+06	4.48E+05	>CL
017+	17	1.00E+00	3.81E+05	389	0.294	1.30E+06	1.48E+05	>CL
018+	18	1.00E+00	1.55E+02	410	0.309	4.34E+02	1.09E+02	>CL
019+	19	1.00E+00	4.14E+03	409	0.309	1.33E+04	1.79E+03	>CL
020+	20	1.00E+00	1.08E+02	407	0.308	2.81E+02	8.35E+01	>CL
021+	21	1.00E+00	3.61E+03	276	0.206	1.74E+04	2.37E+03	>CL
022+	22	1.00E+00	1.19E+02	412	0.311	3.15E+02	8.91E+01	>CL
023+	23	1.00E+00	1.09E+04	398	0.301	3.61E+04	4.53E+03	>CL
024+	24	1.00E+00	2.73E+05	411	0.310	8.80E+05	1.01E+05	>CL
025+	25	1.00E+00	1.22E+06	399	0.302	4.05E+06	4.59E+05	>CL
026+	26	1.00E+00	1.60E+04	410	0.310	5.14E+04	6.34E+03	>CL
027+	27	1.00E+00	1.99E+03	408	0.308	6.38E+03	9.20E+02	>CL
028+	28	1.00E+00	4.41E+06	402	0.304	1.45E+07	1.64E+06	>CL
029+	29	1.00E+00	3.65E+04	355	0.269	1.36E+05	1.62E+04	>CL
030+	30	1.00E+00	1.59E+05	341	0.259	6.13E+05	7.08E+04	>CL
031+	31	1.00E+00	7.94E+03	374	0.283	2.80E+04	3.58E+03	>CL
032+	32	1.00E+00	2.88E+05	389	0.294	9.78E+05	1.12E+05	>CL
033+	33	1.00E+00	2.64E+03	405	0.306	8.55E+03	1.20E+03	>CL
034+	34	1.00E+00	6.98E+03	398	0.301	2.31E+04	2.98E+03	>CL
035+	35	1.00E+00	2.57E+03	413	0.312	8.16E+03	1.14E+03	>CL
036+	36	1.00E+00	1.01E+03	324	0.247	3.99E+03	6.30E+02	>CL

Survey No.: _____

Page No.: _____ of _____

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*****************************************************************************
* Sandia Radiation Protection Sample Diagnostics Program            8-6-2007 *
*****************************************************************************
LSC Windows Analysis Program - Version 1.4                Procedure RPSD-09-03

Customer               : COFFEY, Org. 10328      (JCOFFEY)
Program ID             : RPOP
Sample Category        : SA
Sample Description     : HOT SWIPES RERUNS

Analyst                : HMRICHA
Batch Number           : D6014002
LSC System ID          : UNIT07 - 410231
Protocol Number/Name   : 18 H3 -- SWIPE
No. of Samples         : 36
Collection Date        : 08/03/2007
Received Date          : 08/03/2007
Count Date             : 08/03/2007
Count Time (min)       : 2.00
Background cpm         : 2.15E+01
Background tSIE        : 4.24E+02
Background Eff         : 3.20E-01
Sample Aliquot         : 1.00E+00 Each

H3 MDA = 5.24E+01 dpm/Each
H3 CL  = 2.39E+01 dpm/Each
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Reviewed by  8/6/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.36E+03	308	0.233	1.00E+04	1.42E+03	>CL
002+	2	1.00E+00	7.23E+05	421	0.318	2.27E+06	2.58E+05	>CL
003+	3	1.00E+00	4.98E+05	414	0.313	1.59E+06	1.81E+05	>CL
004	4	1.00E+00	8.00E+00	394	0.298	-4.53E+01	3.08E+01	
005+	5	1.00E+00	8.79E+05	399	0.302	2.91E+06	3.30E+05	>CL
006+	6	1.00E+00	1.67E+06	409	0.309	5.40E+06	6.11E+05	>CL
007	7	1.00E+00	1.00E+01	396	0.299	-3.85E+01	3.09E+01	
008+	8	1.00E+00	3.85E+05	395	0.299	1.29E+06	1.47E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.81E+05	395	0.299	2.28E+06	2.59E+05	>CL
010+	10	1.00E+00	8.50E+05	360	0.273	3.11E+06	3.54E+05	>CL
011+	11	1.00E+00	4.42E+05	392	0.296	1.49E+06	1.70E+05	>CL
012+	12	1.00E+00	3.54E+05	371	0.281	1.26E+06	1.44E+05	>CL
013+	13	1.00E+00	4.37E+04	254	0.188	2.32E+05	2.76E+04	>CL
014+	14	1.00E+00	8.64E+05	341	0.259	3.34E+06	3.79E+05	>CL
015+	15	1.00E+00	2.81E+05	372	0.282	9.95E+05	1.14E+05	>CL
016+	16	1.00E+00	1.13E+06	378	0.286	3.94E+06	4.46E+05	>CL
017+	17	1.00E+00	3.75E+05	386	0.292	1.28E+06	1.47E+05	>CL
018+	18	1.00E+00	1.56E+02	411	0.310	4.34E+02	1.09E+02	>CL
019+	19	1.00E+00	4.07E+03	410	0.310	1.31E+04	1.75E+03	>CL
020+	20	1.00E+00	9.35E+01	407	0.307	2.35E+02	7.57E+01	>CL
021+	21	1.00E+00	3.62E+03	273	0.204	1.76E+04	2.39E+03	>CL
022+	22	1.00E+00	1.15E+02	411	0.310	3.00E+02	8.68E+01	>CL
023+	23	1.00E+00	1.09E+04	397	0.300	3.64E+04	4.57E+03	>CL
024+	24	1.00E+00	2.71E+05	407	0.307	8.84E+05	1.01E+05	>CL
025+	25	1.00E+00	1.22E+06	398	0.301	4.04E+06	4.58E+05	>CL
026+	26	1.00E+00	1.59E+04	411	0.310	5.12E+04	6.31E+03	>CL
027+	27	1.00E+00	1.99E+03	408	0.308	6.39E+03	9.22E+02	>CL
028+	28	1.00E+00	4.39E+06	402	0.304	1.44E+07	1.63E+06	>CL
029+	29	1.00E+00	3.64E+04	354	0.268	1.36E+05	1.62E+04	>CL
030+	30	1.00E+00	1.58E+05	337	0.257	6.13E+05	7.09E+04	>CL
031+	31	1.00E+00	8.00E+03	374	0.283	2.82E+04	3.60E+03	>CL
032+	32	1.00E+00	2.85E+05	387	0.293	9.71E+05	1.11E+05	>CL
033+	33	1.00E+00	2.69E+03	404	0.305	8.75E+03	1.22E+03	>CL
034+	34	1.00E+00	7.14E+03	397	0.300	2.37E+04	3.05E+03	>CL
035+	35	1.00E+00	2.52E+03	413	0.312	8.02E+03	1.13E+03	>CL
036+	36	1.00E+00	9.53E+02	325	0.248	3.76E+03	5.99E+02	>CL

Survey No.: _____

Page No.: _____ of _____

****
* Sandia Radiation Protection Sample Diagnostics Program 8-13-2007 *
****
LSC Windows Analysis Program - Version 1.4 Procedure RPSD-09-03

Customer : COFFEY, Org. 10328 (jcoffey)
Program ID : RPOP
Sample Category : SA
Sample Description : HOT SWIPES RERUNS

Analyst : HMRICHA
Batch Number : D6014002
LSC System ID : UNIT07 - 410231
Protocol Number/Name : 18 H3 -- SWIPE
No. of Samples : 36
Collection Date : 08/10/2007
Received Date : 08/10/2007
Count Date : 08/10/2007
Count Time (min) : 2.00
Background cpm : 2.05E+01
Background tSIE : 4.21E+02
Background Eff : 3.17E-01
Sample Aliquot : 1.00E+00 Each

H3 MDA = 5.18E+01 dpm/Each
H3 CL = 2.35E+01 dpm/Each

Reviewed by _____ 9/15/07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.40E+03	306	0.232	1.02E+04	1.45E+03	>CL
002+	2	1.00E+00	7.22E+05	419	0.316	2.28E+06	2.60E+05	>CL
003+	3	1.00E+00	4.98E+05	412	0.311	1.60E+06	1.83E+05	>CL
004	4	1.00E+00	6.50E+00	391	0.295	-4.75E+01	3.02E+01	
005+	5	1.00E+00	8.74E+05	398	0.301	2.90E+06	3.29E+05	>CL
006+	6	1.00E+00	1.67E+06	408	0.308	5.41E+06	6.12E+05	>CL
007	7	1.00E+00	9.00E+00	393	0.297	-3.87E+01	3.02E+01	
008+	8	1.00E+00	3.84E+05	394	0.298	1.29E+06	1.47E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.78E+05	394	0.297	2.28E+06	2.59E+05	>CL
010+	10	1.00E+00	8.63E+05	357	0.271	3.19E+06	3.62E+05	>CL
011+	11	1.00E+00	4.40E+05	392	0.296	1.49E+06	1.70E+05	>CL
012+	12	1.00E+00	3.54E+05	369	0.280	1.26E+06	1.44E+05	>CL
013+	13	1.00E+00	4.39E+04	250	0.186	2.36E+05	2.80E+04	>CL
014+	14	1.00E+00	8.69E+05	338	0.257	3.38E+06	3.84E+05	>CL
015+	15	1.00E+00	2.80E+05	369	0.280	9.99E+05	1.15E+05	>CL
016+	16	1.00E+00	1.12E+06	379	0.287	3.91E+06	4.43E+05	>CL
017+	17	1.00E+00	3.75E+05	386	0.292	1.29E+06	1.47E+05	>CL
018+	18	1.00E+00	1.58E+02	411	0.310	4.42E+02	1.10E+02	>CL
019+	19	1.00E+00	4.10E+03	408	0.308	1.33E+04	1.78E+03	>CL
020+	20	1.00E+00	1.07E+02	403	0.304	2.83E+02	8.41E+01	>CL
021+	21	1.00E+00	3.53E+03	272	0.203	1.73E+04	2.35E+03	>CL
022+	22	1.00E+00	1.16E+02	410	0.309	3.09E+02	8.81E+01	>CL
023+	23	1.00E+00	1.08E+04	396	0.299	3.59E+04	4.51E+03	>CL
024+	24	1.00E+00	2.71E+05	407	0.307	8.84E+05	1.01E+05	>CL
025+	25	1.00E+00	1.21E+06	398	0.300	4.05E+06	4.58E+05	>CL
026+	26	1.00E+00	1.58E+04	409	0.309	5.10E+04	6.29E+03	>CL
027+	27	1.00E+00	2.00E+03	405	0.305	6.48E+03	9.34E+02	>CL
028+	28	1.00E+00	4.38E+06	402	0.304	1.44E+07	1.63E+06	>CL
029+	29	1.00E+00	3.65E+04	353	0.268	1.36E+05	1.62E+04	>CL
030+	30	1.00E+00	1.57E+05	339	0.258	6.10E+05	7.05E+04	>CL
031+	31	1.00E+00	7.94E+03	373	0.282	2.81E+04	3.59E+03	>CL
032+	32	1.00E+00	2.84E+05	389	0.294	9.66E+05	1.11E+05	>CL
033+	33	1.00E+00	2.69E+03	405	0.306	8.72E+03	1.22E+03	>CL
034+	34	1.00E+00	7.07E+03	399	0.301	2.34E+04	3.02E+03	>CL
035+	35	1.00E+00	2.56E+03	412	0.311	8.16E+03	1.15E+03	>CL
036+	36	1.00E+00	9.73E+02	325	0.248	3.84E+03	6.09E+02	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.62E+05	386	0.292	2.27E+06	2.58E+05	>CL
010+	10	1.00E+00	8.24E+05	352	0.268	3.07E+06	3.49E+05	>CL
011+	11	1.00E+00	4.35E+05	385	0.291	1.49E+06	1.70E+05	>CL
012+	12	1.00E+00	3.47E+05	364	0.276	1.26E+06	1.44E+05	>CL
013+	13	1.00E+00	4.28E+04	243	0.180	2.38E+05	2.82E+04	>CL
014+	14	1.00E+00	7.99E+05	331	0.252	3.17E+06	3.60E+05	>CL
015+	15	1.00E+00	2.71E+05	360	0.273	9.93E+05	1.14E+05	>CL
016+	16	1.00E+00	1.09E+06	370	0.280	3.90E+06	4.42E+05	>CL
017+	17	1.00E+00	3.65E+05	377	0.286	1.28E+06	1.46E+05	>CL
018+	18	1.00E+00	1.33E+02	404	0.305	3.57E+02	9.80E+01	>CL
019+	19	1.00E+00	3.97E+03	406	0.307	1.29E+04	1.73E+03	>CL
020+	20	1.00E+00	9.00E+01	400	0.302	2.20E+02	7.50E+01	>CL
021+	21	1.00E+00	3.44E+03	266	0.198	1.73E+04	2.36E+03	>CL
022+	22	1.00E+00	1.17E+02	405	0.306	3.06E+02	8.94E+01	>CL
023+	23	1.00E+00	1.05E+04	391	0.295	3.56E+04	4.49E+03	>CL
024+	24	1.00E+00	2.67E+05	401	0.303	8.80E+05	1.01E+05	>CL
025+	25	1.00E+00	1.20E+06	393	0.297	4.03E+06	4.56E+05	>CL
026+	26	1.00E+00	1.56E+04	402	0.304	5.12E+04	6.31E+03	>CL
027+	27	1.00E+00	1.95E+03	401	0.303	6.37E+03	9.21E+02	>CL
028+	28	1.00E+00	4.31E+06	398	0.300	1.44E+07	1.62E+06	>CL
029+	29	1.00E+00	3.57E+04	350	0.266	1.34E+05	1.60E+04	>CL
030+	30	1.00E+00	1.54E+05	333	0.253	6.10E+05	7.06E+04	>CL
031+	31	1.00E+00	7.84E+03	366	0.278	2.81E+04	3.60E+03	>CL
032+	32	1.00E+00	2.78E+05	383	0.290	9.59E+05	1.10E+05	>CL
033+	33	1.00E+00	2.66E+03	399	0.301	8.76E+03	1.22E+03	>CL
034+	34	1.00E+00	6.80E+03	393	0.297	2.28E+04	2.95E+03	>CL
035+	35	1.00E+00	2.45E+03	406	0.306	7.92E+03	1.12E+03	>CL
036+	36	1.00E+00	9.37E+02	321	0.245	3.73E+03	5.96E+02	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.62E+05	386	0.292	2.27E+06	2.58E+05	>CL
010+	10	1.00E+00	8.27E+05	347	0.264	3.13E+06	3.56E+05	>CL
011+	11	1.00E+00	4.27E+05	386	0.292	1.46E+06	1.67E+05	>CL
012+	12	1.00E+00	3.45E+05	362	0.275	1.26E+06	1.44E+05	>CL
013+	13	1.00E+00	4.27E+04	240	0.177	2.41E+05	2.87E+04	>CL
014+	14	1.00E+00	8.33E+05	328	0.249	3.34E+06	3.80E+05	>CL
015+	15	1.00E+00	2.68E+05	353	0.268	9.99E+05	1.15E+05	>CL
016+	16	1.00E+00	1.08E+06	364	0.276	3.91E+06	4.44E+05	>CL
017+	17	1.00E+00	3.63E+05	376	0.284	1.28E+06	1.46E+05	>CL
018+	18	1.00E+00	1.52E+02	405	0.306	4.10E+02	1.08E+02	>CL
019+	19	1.00E+00	4.06E+03	403	0.304	1.33E+04	1.78E+03	>CL
020+	20	1.00E+00	9.45E+01	397	0.300	2.28E+02	7.73E+01	>CL
021+	21	1.00E+00	3.46E+03	264	0.197	1.74E+04	2.37E+03	>CL
022+	22	1.00E+00	1.18E+02	403	0.304	3.01E+02	8.95E+01	>CL
023+	23	1.00E+00	1.04E+04	387	0.293	3.55E+04	4.47E+03	>CL
024+	24	1.00E+00	2.65E+05	397	0.300	8.85E+05	1.01E+05	>CL
025+	25	1.00E+00	1.19E+06	389	0.294	4.06E+06	4.60E+05	>CL
026+	26	1.00E+00	1.56E+04	401	0.303	5.13E+04	6.32E+03	>CL
027+	27	1.00E+00	1.96E+03	401	0.303	6.37E+03	9.21E+02	>CL
028+	28	1.00E+00	4.29E+06	397	0.300	1.43E+07	1.61E+06	>CL
029+	29	1.00E+00	3.55E+04	346	0.263	1.35E+05	1.61E+04	>CL
030+	30	1.00E+00	1.54E+05	334	0.254	6.07E+05	7.02E+04	>CL
031+	31	1.00E+00	7.67E+03	363	0.275	2.78E+04	3.57E+03	>CL
032+	32	1.00E+00	2.76E+05	380	0.288	9.59E+05	1.10E+05	>CL
033+	33	1.00E+00	2.61E+03	397	0.300	8.61E+03	1.21E+03	>CL
034+	34	1.00E+00	6.97E+03	389	0.294	2.36E+04	3.05E+03	>CL
035+	35	1.00E+00	2.52E+03	405	0.306	8.16E+03	1.15E+03	>CL
036+	36	1.00E+00	9.43E+02	319	0.243	3.77E+03	6.04E+02	>CL

Survey No.: _____

Page No.: _____ of _____

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*****************************************************************************
* Sandia Radiation Protection Sample Diagnostics Program            8-31-2007 *
*****************************************************************************
LSC Windows Analysis Program - Version 1.4                 Procedure RPSD-09-03

Customer                : COFFEY, Org. 10328      (JCOFFEY)
Program ID              : RPOP
Sample Category         : SA
Sample Description      : HOT SWIPES RERUNS

Analyst                 : HMRICHA
Batch Number            : D6014002
LSC System ID           : UNIT07 - 410231
Protocol Number/Name    : 18 H3 -- SWIPE
No. of Samples          : 36
Collection Date         : 08/31/2007
Received Date           : 08/31/2007
Count Date              : 08/31/2007
Count Time (min)        : 2.00
Background cpm          : 2.05E+01
Background tSIE         : 4.14E+02
Background Eff          : 3.13E-01
Sample Aliquot          : 1.00E+00 Each

H3 MDA = 5.25E+01 dpm/Each
H3 CL  = 2.38E+01 dpm/Each
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Reviewed by _____ 8-31-07

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
001+	1	1.00E+00	2.32E+03	303	0.229	1.00E+04	1.42E+03	>CL
002+	2	1.00E+00	7.07E+05	413	0.311	2.27E+06	2.59E+05	>CL
003+	3	1.00E+00	4.84E+05	405	0.306	1.58E+06	1.80E+05	>CL
004+	4	1.00E+00	4.75E+05	394	0.298	1.59E+06	1.82E+05	>CL
005+	5	1.00E+00	8.48E+05	388	0.293	2.89E+06	3.28E+05	>CL
006+	6	1.00E+00	1.63E+06	401	0.303	5.37E+06	6.07E+05	>CL
007+	7	1.00E+00	6.04E+05	397	0.300	2.01E+06	2.29E+05	>CL
008+	8	1.00E+00	3.74E+05	381	0.288	1.30E+06	1.48E+05	>CL

Survey No.: _____

Page No.: _____ of _____

D6014002 / 02

Lab ID	Customer ID	Aliquot Each	cpm	tSIE	Eff	H3 Activity dpm/Each	2s Error	Flag
009+	9	1.00E+00	6.66E+05	384	0.291	2.29E+06	2.60E+05	>CL
010+	10	1.00E+00	8.34E+05	344	0.261	3.19E+06	3.63E+05	>CL
011+	11	1.00E+00	4.29E+05	382	0.289	1.48E+06	1.69E+05	>CL
012+	12	1.00E+00	3.45E+05	365	0.276	1.25E+06	1.43E+05	>CL
013+	13	1.00E+00	4.26E+04	237	0.175	2.43E+05	2.89E+04	>CL
014+	14	1.00E+00	8.33E+05	324	0.247	3.37E+06	3.83E+05	>CL
015+	15	1.00E+00	2.63E+05	350	0.266	9.89E+05	1.14E+05	>CL
016+	16	1.00E+00	1.07E+06	363	0.276	3.86E+06	4.38E+05	>CL
017+	17	1.00E+00	3.60E+05	374	0.283	1.27E+06	1.46E+05	>CL
018+	18	1.00E+00	1.46E+02	403	0.304	4.11E+02	1.06E+02	>CL
019+	19	1.00E+00	4.07E+03	401	0.303	1.34E+04	1.80E+03	>CL
020+	20	1.00E+00	9.60E+01	397	0.300	2.52E+02	7.91E+01	>CL
021+	21	1.00E+00	3.42E+03	266	0.198	1.72E+04	2.34E+03	>CL
022+	22	1.00E+00	1.02E+02	405	0.306	2.65E+02	8.07E+01	>CL
023+	23	1.00E+00	1.06E+04	389	0.294	3.59E+04	4.52E+03	>CL
024+	24	1.00E+00	2.63E+05	399	0.301	8.74E+05	1.00E+05	>CL
025+	25	1.00E+00	1.18E+06	393	0.297	3.98E+06	4.51E+05	>CL
026+	26	1.00E+00	1.53E+04	401	0.303	5.03E+04	6.21E+03	>CL
027+	27	1.00E+00	1.95E+03	402	0.303	6.36E+03	9.19E+02	>CL
028+	28	1.00E+00	4.26E+06	395	0.299	1.43E+07	1.61E+06	>CL
029+	29	1.00E+00	3.54E+04	347	0.264	1.34E+05	1.60E+04	>CL
030+	30	1.00E+00	1.52E+05	332	0.253	6.02E+05	6.96E+04	>CL
031+	31	1.00E+00	7.60E+03	363	0.275	2.76E+04	3.54E+03	>CL
032+	32	1.00E+00	2.74E+05	379	0.287	9.53E+05	1.09E+05	>CL
033+	33	1.00E+00	2.63E+03	395	0.299	8.71E+03	1.22E+03	>CL
034+	34	1.00E+00	6.81E+03	390	0.295	2.30E+04	2.97E+03	>CL
035+	35	1.00E+00	2.48E+03	406	0.306	8.04E+03	1.13E+03	>CL
036+	36	1.00E+00	9.21E+02	319	0.243	3.71E+03	5.94E+02	>CL

ATTACHMENT 2:
SPREADSHEET TABULATION OF WIPE COUNTING RESULTS

Preliminary Data for Count Rate Experiment

Vial #	Room#	Location	raw 11/15/2006	raw 12/13/2006	raw 2/5/2007	raw 2/28/2007	raw 3/20/07	raw 3/22/07
1		Background vial						
2	Stack	870 stack monitor						
3	1208	glove port (inside glove box)					1.75E+06	1.98E+06
4	1208	Glove box bottom					1.37E+06	1.59E+06
5	1208	Glove box bottom					1.50E+06	1.75E+06
6	1208	Glove box bottom					2.87E+06	3.31E+06
7	1208	Misc. tools					5.40E+06	6.08E+06
8	1208	External filter					2.08E+06	2.31E+06
9	1109	Gloves (inside glove box) near lathe					7.26E+05	7.94E+05
10	1109	Gloves (inside glove box) near drill press					9.40E+05	9.72E+05
11	1109	Glove box bottom					1.42E+06	1.51E+06
12	1109	Glove box bottom					5.52E+05	6.02E+05
13	1109	Glove box bottom					3.68E+05	4.11E+05
14	1109	Metal shavings					4.88E+05	5.13E+05
15	1109	Lathe chuck					1.54E+06	1.55E+06
16	1109	Lathe cutter					5.06E+05	5.56E+05
17	1109	Drill press plate					1.44E+06	1.54E+06
18	1109	Tool cabinet					7.37E+05	7.80E+05
19	1208	Target holders						
20	1208	Tweezers						
21	1206	Bell jar cabinet right side						1.68E+02
22	1206	Pump cabinet bottom						8.59E+03
23	1108	Dimpler						2.14E+02
24	1108	Saw external						1.24E+04
25	1108	Saw blade						2.08E+05
26	1108	Disc cutter						9.81E+05
27	1108	Grinding wheel						1.21E+04
28	1108	Hot plate						1.62E+03
29	1206	Vacuum storage chamber #8						3.60E+06
30	1206	Vacuum storage chamber #7						3.87E+04
31	1206	TEM Fixture tip	3.16E+04	5.00E+04	1.31E+05	3.45E+05	3.45E+05	3.45E+05
32	1108	Outside of saw		6.08E+03	2.74E+04	3.50E+04	3.50E+04	3.50E+04
33	1108	Saw blade		2.09E+05	9.06E+05	1.01E+06	1.01E+06	1.01E+06
34	1108	Hot plate		2.82E+03	8.33E+03	1.08E+04	1.08E+04	1.08E+04
35	1108	Grinding wheel		6.64E+03	1.95E+04	2.78E+04	2.78E+04	2.78E+04
36	1109	Hood bottom	2.30E+03	3.50E+03	7.80E+03	1.01E+04	1.01E+04	1.01E+04
37	1090	Tritium standard						

Preliminary Data for Count Rate Experiment

			raw	raw	raw	raw	raw	raw
Vial #	Room#	Location	3/23/07	3/30/07	4/6/2007	4/13/2007	4/20/2007	4/27/2007
1		Background vial						
2	Stack	870 stack monitor	1.04E+04	1.05E+04	1.05E+04	1.07E+04	1.04E+04	1.05E+04
3	1208	glove port (inside glove box)	2.03E+06	2.07E+06	2.06E+06	2.09E+06	2.09E+06	2.16E+06
4	1208	Glove box bottom	1.63E+06	1.63E+06	1.64E+06	1.63E+06	1.63E+06	1.64E+06
5	1208	Glove box bottom	1.80E+06	1.79E+06	1.80E+06	1.80E+06	1.80E+06	1.80E+06
6	1208	Glove box bottom	3.40E+06	3.44E+06	3.41E+06	3.40E+06	3.42E+06	3.40E+06
7	1208	Misc. tools	6.21E+06	6.29E+06	6.28E+06	6.33E+06	6.34E+06	6.34E+06
8	1208	External filter	2.36E+06	2.36E+06	2.36E+06	2.37E+06	2.37E+06	2.36E+06
9	1109	Gloves (inside glove box) near lathe	8.08E+05	8.83E+05	9.26E+05	1.04E+06	1.14E+06	1.15E+06
10	1109	Gloves (inside glove box) near drill press	9.78E+05	1.19E+06	1.49E+06	1.70E+06	1.91E+06	1.99E+06
11	1109	Glove box bottom	1.53E+06	1.98E+06	2.22E+06	2.33E+06	2.49E+06	2.50E+06
12	1109	Glove box bottom	6.12E+05	7.73E+05	9.22E+05	1.14E+06	1.26E+06	1.34E+06
13	1109	Glove box bottom	4.19E+05	5.37E+05	6.83E+05	8.69E+05	1.02E+06	1.10E+06
14	1109	Metal shavings	5.18E+05	1.23E+05	2.33E+05	1.15E+05	1.23E+05	1.32E+05
15	1109	Lathe chuck	1.55E+06	1.69E+06	1.90E+06	2.08E+06	2.24E+06	2.22E+06
16	1109	Lathe cutter	5.66E+05	6.39E+05	7.17E+05	7.92E+05	8.48E+05	8.62E+05
17	1109	Drill press plate	1.56E+06	2.30E+06	2.87E+06	3.28E+06	3.71E+06	3.82E+06
18	1109	Tool cabinet	7.89E+05	8.93E+05	1.02E+06	1.13E+06	1.23E+06	1.27E+06
19	1208	Target holders	2.80E+02	3.37E+02	3.83E+02	3.81E+02	3.87E+02	4.13E+02
20	1208	Tweezers	1.15E+04	1.22E+04	1.25E+04	1.28E+04	1.31E+04	1.24E+04
21	1206	Bell jar cabinet right side	1.61E+02	2.20E+02	3.28E+02	2.94E+02	2.72E+02	2.74E+02
22	1206	Pump cabinet bottom	1.31E+04	1.61E+04	1.60E+04	1.61E+04	1.63E+04	1.67E+04
23	1108	Dimpler	1.88E+02	2.45E+02	2.57E+02	2.97E+02	2.81E+02	3.05E+02
24	1108	Saw external	1.38E+04	1.74E+04	2.06E+04	2.32E+04	2.59E+04	2.70E+04
25	1108	Saw blade	2.19E+05	3.03E+05	4.20E+05	5.03E+05	5.95E+05	6.60E+05
26	1108	Disc cutter	9.68E+05	1.99E+06	2.90E+06	3.04E+06	3.67E+06	3.85E+06
27	1108	Grinding wheel	1.24E+04	1.81E+04	2.08E+04	2.34E+04	3.33E+04	4.01E+04
28	1108	Hot plate	1.65E+03	3.94E+03	4.08E+03	4.72E+03	5.73E+03	6.03E+03
29	1206	Vacuum storage chamber #8	2.89E+06	4.31E+06	8.13E+06	1.28E+07	1.46E+07	1.49E+07
30	1206	Vacuum storage chamber #7	3.66E+04	4.41E+04	5.48E+04	6.78E+04	1.03E+05	1.14E+05
31	1206	TEM Fixture tip	3.43E+05	3.47E+05	3.86E+05	4.73E+05	5.25E+05	5.49E+05
32	1108	Outside of saw	3.50E+04	2.99E+04	2.98E+04	2.98E+04	2.99E+04	2.95E+04
33	1108	Saw blade	1.01E+06	1.02E+06	1.02E+06	1.01E+06	1.01E+06	1.01E+06
34	1108	Hot plate	1.08E+04	9.37E+03	9.17E+03	9.32E+03	8.95E+03	9.16E+03
35	1108	Grinding wheel	2.78E+04	2.43E+04	2.43E+04	2.43E+04	2.39E+04	2.42E+04
36	1109	Hood bottom	1.01E+04	8.61E+03	8.59E+03	8.35E+03	8.57E+03	8.51E+03
37	1090	Tritium standard			4.21E+03	3.92E+03	3.76E+03	4.01E+03

Preliminary Data for Count Rate Experiment

			raw	raw	raw	raw	raw	raw
Vial #	Room#	Location	5/4/2007	5/11/2007	5/18/2007	5/25/2007	6/1/2007	6/8/2007
1		Background vial						
2	Stack	870 stack monitor	1.05E+04	1.03E+04	1.08E+04	1.03E+04	1.06E+04	1.02E+04
3	1208	glove port (inside glove box)	2.17E+06	2.21E+06	2.20E+06	2.22E+06	2.23E+06	2.24E+06
4	1208	Glove box bottom	1.63E+06	1.63E+06	1.63E+06	1.63E+06	1.63E+06	1.62E+06
5	1208	Glove box bottom	1.78E+06	1.79E+06	1.79E+06	1.77E+06	1.78E+06	
6	1208	Glove box bottom	3.39E+06	3.41E+06	3.38E+06	3.36E+06	3.38E+06	
7	1208	Misc. tools	6.30E+06	6.39E+06	6.39E+06	6.37E+06	6.31E+06	
8	1208	External filter	2.35E+06	2.37E+06	2.35E+06	2.33E+06	2.34E+06	
9	1109	Gloves (inside glove box) near lathe	1.19E+06	1.23E+06	1.23E+06	1.27E+06	1.26E+06	1.27E+06
10	1109	Gloves (inside glove box) near drill press	2.09E+06	2.17E+06	2.17E+06	2.17E+06	2.22E+06	2.23E+06
11	1109	Glove box bottom	2.92E+06	2.60E+06	2.57E+06	2.63E+06	2.73E+06	2.82E+06
12	1109	Glove box bottom	1.44E+06	1.46E+06	1.49E+06	1.48E+06	1.49E+06	1.52E+06
13	1109	Glove box bottom	1.12E+06	1.19E+06	1.22E+06	1.23E+06	1.24E+06	1.25E+06
14	1109	Metal shavings	1.43E+05	1.53E+06	1.53E+05	1.64E+05	1.73E+05	1.79E+05
15	1109	Lathe chuck	2.27E+06	2.51E+06	2.46E+06	2.48E+06	2.71E+06	2.82E+06
16	1109	Lathe cutter	8.86E+05	9.26E+05	9.51E+05	9.57E+05	9.63E+05	9.82E+05
17	1109	Drill press plate	3.59E+06	3.93E+06	3.97E+06	3.99E+06	3.98E+06	3.99E+06
18	1109	Tool cabinet	1.28E+06	1.30E+06	1.30E+06	1.29E+06	1.30E+06	1.28E+06
19	1208	Target holders	3.57E+02	3.93E+02	3.59E+02	4.03E+02	4.24E+02	4.35E+02
20	1208	Tweezers	1.26E+04	1.28E+04	1.27E+04	1.32E+04	1.31E+04	1.33E+04
21	1206	Bell jar cabinet right side	2.44E+02	2.66E+02	2.63E+02	2.90E+02	2.54E+02	2.15E+02
22	1206	Pump cabinet bottom	1.62E+04	1.69E+04	1.72E+04	1.68E+04	1.68E+04	1.73E+04
23	1108	Dimpler	2.76E+02	2.76E+02	2.81E+02	3.10E+02	2.99E+02	2.82E+02
24	1108	Saw external	3.10E+04	3.14E+04	3.12E+04	3.68E+04	3.74E+04	3.67E+04
25	1108	Saw blade	7.14E+05	7.79E+05	8.06E+05	8.43E+05	8.49E+05	8.65E+05
26	1108	Disc cutter	4.00E+06	4.15E+06	4.23E+06	4.25E+06	4.35E+06	4.36E+06
27	1108	Grinding wheel	4.27E+04	4.50E+04	4.64E+04	4.74E+04	4.80E+04	4.91E+04
28	1108	Hot plate	6.12E+03	6.13E+03	6.28E+03	6.16E+03	6.40E+03	6.36E+03
29	1206	Vacuum storage chamber #8	1.54E+07	1.58E+07	1.57E+07	1.54E+07	1.58E+07	
30	1206	Vacuum storage chamber #7	1.17E+05	1.28E+05	1.30E+05	1.36E+05	1.38E+05	1.38E+05
31	1206	TEM Fixture tip	5.62E+05	5.80E+05	5.92E+05	5.96E+05	5.98E+05	6.01E+05
32	1108	Outside of saw	2.98E+04	2.95E+04	2.92E+04	2.89E+04	2.90E+04	2.89E+04
33	1108	Saw blade	1.00E+06	1.01E+06	1.00E+06	9.97E+05	9.97E+05	9.91E+05
34	1108	Hot plate	9.11E+03	9.29E+03	8.96E+03	9.13E+03	9.06E+03	9.05E+03
35	1108	Grinding wheel	2.39E+04	2.41E+04	2.43E+04	2.38E+04	2.40E+04	2.40E+04
36	1109	Hood bottom	8.36E+03	8.24E+03	8.22E+03	8.30E+03	8.36E+03	8.33E+03
37	1090	Tritium standard	4.03E+03	4.10E+03	3.98E+03	4.00E+03	3.80E+03	4.09E+03

Preliminary Data for Count Rate Experiment

			raw	raw	raw	raw	raw	raw
Vial #	Room#	Location	6/15/2007	6/22/2007	6/29/2007	7/6/2007	7/13/2007	7/19/2007
1		Background vial						
2	Stack	870 stack monitor	1.02E+04	1.02E+04	1.02E+04	1.01E+04	9.90E+03	1.02E+04
3	1208	glove port (inside glove box)	2.25E+06	2.27E+06	2.26E+06	2.27E+06	2.27E+06	2.29E+06
4	1208	Glove box bottom	1.62E+06	1.62E+06	1.60E+06	1.61E+06	1.59E+06	1.60E+06
5	1208	Glove box bottom						
6	1208	Glove box bottom						
7	1208	Misc. tools						
8	1208	External filter						
9	1109	Gloves (inside glove box) near lathe	1.26E+06	1.28E+06	1.26E+06	1.26E+06	1.28E+06	1.31E+06
10	1109	Gloves (inside glove box) near drill press	2.25E+06	2.25E+06	2.24E+06	2.27E+06	2.29E+06	2.28E+06
11	1109	Glove box bottom	2.77E+06	2.85E+06	2.99E+06	3.03E+06	3.06E+06	3.04E+06
12	1109	Glove box bottom	1.49E+06	1.52E+06	1.48E+06	1.51E+06	1.48E+06	1.50E+06
13	1109	Glove box bottom	1.25E+06	1.26E+06	1.25E+06	1.26E+06	1.26E+06	1.27E+06
14	1109	Metal shavings	1.84E+05	1.91E+05	1.94E+05	1.99E+05	2.01E+05	2.09E+05
15	1109	Lathe chuck	2.86E+06	2.76E+06	2.93E+06	3.10E+06	2.98E+06	3.16E+06
16	1109	Lathe cutter	9.80E+05	9.84E+05	9.81E+05	9.90E+05	9.92E+05	9.93E+05
17	1109	Drill press plate	3.99E+06	3.99E+06	3.98E+06	3.99E+06	3.95E+06	3.95E+06
18	1109	Tool cabinet	1.28E+06	1.29E+06	1.29E+06	1.28E+06	1.28E+06	1.29E+06
19	1208	Target holders	4.27E+02	4.42E+02	3.94E+02	3.99E+02	4.16E+02	3.81E+02
20	1208	Tweezers	1.33E+04	1.28E+04	1.22E+04	1.23E+04	1.25E+04	1.32E+04
21	1206	Bell jar cabinet right side	2.81E+02	2.57E+02	2.69E+02	2.75E+02	2.51E+02	2.75E+02
22	1206	Pump cabinet bottom	1.71E+04	1.69E+04	1.66E+04	1.71E+04	1.69E+04	1.70E+04
23	1108	Dimpler	2.86E+02	2.39E+02	2.76E+02	2.88E+02	3.29E+02	3.14E+02
24	1108	Saw external	3.69E+04	3.68E+04	3.66E+04	3.67E+04	3.57E+04	3.63E+04
25	1108	Saw blade	8.67E+05	8.69E+05	8.73E+05	8.81E+05	8.86E+05	8.90E+05
26	1108	Disc cutter	4.36E+06					
27	1108	Grinding wheel	4.99E+04	4.95E+04	5.01E+04	5.03E+04	5.08E+04	5.19E+04
28	1108	Hot plate	6.40E+03	6.33E+03	6.54E+03	6.40E+03	6.44E+03	6.40E+03
29	1206	Vacuum storage chamber #8						
30	1206	Vacuum storage chamber #7	1.36E+05	1.36E+05	1.36E+05	1.35E+05	1.35E+05	1.36E+05
31	1206	TEM Fixture tip	6.02E+05	6.03E+05	6.00E+05	6.05E+05	6.03E+05	6.13E+05
32	1108	Outside of saw	2.89E+04	2.89E+04	2.87E+04	2.86E+04	2.85E+04	2.86E+04
33	1108	Saw blade	9.88E+05	9.85E+05	9.72E+05	9.79E+05	9.83E+05	9.77E+05
34	1108	Hot plate	8.98E+03	8.64E+03	8.84E+03	8.82E+03	8.73E+03	8.59E+03
35	1108	Grinding wheel	2.39E+04	2.36E+04	2.35E+04	2.34E+04	2.31E+04	2.32E+04
36	1109	Hood bottom	8.05E+03	8.23E+03	8.16E+03	8.19E+03	8.17E+03	8.30E+03
37	1090	Tritium standard	3.89E+03	3.91E+03	3.86E+03	3.83E+03	3.83E+03	3.94E+03

Preliminary Data for Count Rate Experiment

Vial #	Room#	Location	raw 7/27/2007	raw 8/3/2007	raw 8/10/2007	raw 8/16/2007	raw 8/24/2007	raw 8/31/2007
1		Background vial						
2	Stack	870 stack monitor	1.01E+04	1.00E+04	1.02E+04	1.01E+04	1.00E+04	1.00E+04
3	1208	glove port (inside glove box)	2.28E+06	2.27E+06	2.28E+06	2.28E+06	2.28E+06	2.27E+06
4	1208	Glove box bottom	1.61E+06	1.59E+06	1.60E+06	1.59E+06	1.60E+06	1.58E+06
5	1208	Glove box bottom					1.60E+06	1.59E+06
6	1208	Glove box bottom	2.93E+06	2.91E+06	2.90E+06	2.89E+06	2.90E+06	2.89E+06
7	1208	Misc. tools	5.43E+06	5.40E+06	5.41E+06	5.42E+06	5.43E+06	5.37E+06
8	1208	External filter					2.03E+06	2.01E+06
9	1109	Gloves (inside glove box) near lathe	1.29E+06	1.29E+06	1.29E+06	1.27E+06	1.30E+06	1.30E+06
10	1109	Gloves (inside glove box) near drill press	2.26E+06	2.28E+06	2.28E+06	2.27E+06	2.27E+06	2.29E+06
11	1109	Glove box bottom	3.13E+06	3.11E+06	3.19E+06	3.07E+06	3.13E+06	3.19E+06
12	1109	Glove box bottom	1.49E+06	1.49E+06	1.49E+06	1.49E+06	1.46E+06	1.48E+06
13	1109	Glove box bottom	1.27E+06	1.26E+06	1.26E+06	1.26E+06	1.26E+06	1.25E+06
14	1109	Metal shavings	2.15E+05	2.32E+05	2.36E+05	2.38E+05	2.41E+05	2.43E+05
15	1109	Lathe chuck	3.29E+06	3.34E+06	3.38E+06	3.17E+06	3.34E+06	3.37E+06
16	1109	Lathe cutter	9.91E+05	9.95E+05	9.99E+05	9.93E+05	9.99E+05	9.89E+05
17	1109	Drill press plate	3.96E+06	3.94E+06	3.91E+06	3.90E+06	3.91E+06	3.86E+06
18	1109	Tool cabinet	1.30E+06	1.28E+06	1.29E+06	1.28E+06	1.28E+06	1.27E+06
19	1208	Target holders	4.35E+02	4.34E+02	4.42E+02	3.57E+02	4.10E+02	4.11E+02
20	1208	Tweezers	1.33E+04	1.31E+04	1.33E+04	1.29E+04	1.33E+04	1.34E+04
21	1206	Bell jar cabinet right side	2.81E+02	2.35E+02	2.83E+02	2.20E+02	2.28E+02	2.52E+02
22	1206	Pump cabinet bottom	1.74E+04	1.76E+04	1.73E+04	1.73E+04	1.74E+04	1.72E+04
23	1108	Dimpler	3.15E+02	3.00E+02	3.09E+02	3.06E+02	3.01E+02	2.65E+02
24	1108	Saw external	3.61E+04	3.64E+04	3.59E+04	3.56E+04	3.55E+04	3.59E+04
25	1108	Saw blade	8.80E+05	8.84E+05	8.84E+05	8.80E+05	8.85E+05	8.74E+05
26	1108	Disc cutter	4.05E+06	4.04E+06	4.05E+06	4.03E+06	4.06E+06	3.98E+06
27	1108	Grinding wheel	5.14E+04	5.12E+04	5.10E+04	5.12E+04	5.13E+04	5.03E+04
28	1108	Hot plate	6.38E+03	6.39E+03	6.48E+03	6.37E+03	6.37E+03	6.36E+03
29	1206	Vacuum storage chamber #8	1.45E+07	1.44E+07	1.44E+07	1.44E+07	1.43E+07	1.43E+07
30	1206	Vacuum storage chamber #7	1.36E+05	1.36E+05	1.36E+05	1.34E+05	1.35E+05	1.34E+05
31	1206	TEM Fixture tip	6.13E+05	6.13E+05	6.10E+05	6.10E+05	6.07E+05	6.02E+05
32	1108	Outside of saw	2.80E+04	2.82E+04	2.81E+04	2.81E+04	2.78E+04	2.76E+04
33	1108	Saw blade	9.78E+05	9.71E+05	9.66E+05	9.59E+05	9.59E+05	9.53E+05
34	1108	Hot plate	8.55E+03	8.75E+03	8.72E+03	8.76E+03	8.61E+03	8.71E+03
35	1108	Grinding wheel	2.31E+04	2.37E+04	2.34E+04	2.28E+04	2.36E+04	2.30E+04
36	1109	Hood bottom	8.16E+03	8.02E+03	8.16E+03	7.92E+03	8.16E+03	8.04E+03
37	1090	Tritium standard	3.99E+03	3.76E+03	3.84E+03	3.73E+03	3.77E+03	3.71E+03

Preliminary Data for Count Rate Experiment

Vial #	Room#	Location	Peak (keV)	at zero						
1		Background vial	2.0	40						
2	Stack	870 stack monitor	1.2	10						
3	1208	glove port (inside glove box)	2.0	32						
4	1208	Glove box bottom	2.0	32						
5	1208	Glove box bottom	2.0	32						
6	1208	Glove box bottom	2.0	32						
7	1208	Misc. tools	2.0	30						
8	1208	External filter	2.0	32						
9	1109	Gloves (inside glove box) near lathe	1.2	10						
10	1109	Gloves (inside glove box) near drill press	1.2	8						
11	1109	Glove box bottom	0.0	0						
12	1109	Glove box bottom	1.2	8						
13	1109	Glove box bottom	1.2	2						
14	1109	Metal shavings	0.0	0						
15	1109	Lathe chuck	0.0	0						
16	1109	Lathe cutter	1.0	5						
17	1109	Drill press plate	1.5	15						
18	1109	Tool cabinet	1.5	15						
19	1208	Target holders	2.0	40						
20	1208	Tweezers	2.0	20						
21	1206	Bell jar cabinet right side	0.0	0						
22	1206	Pump cabinet bottom	1.0	5						
23	1108	Dimpler	1.2	40						
24	1108	Saw external	1.2	8						
25	1108	Saw blade	1.2	15						
26	1108	Disc cutter	1.2	8						
27	1108	Grinding wheel	1.5	15						
28	1108	Hot plate	1.0	5						
29	1206	Vacuum storage chamber #8	1.0	3						
30	1206	Vacuum storage chamber #7	1.0	5						
31	1206	TEM Fixture tip	1.5	15						
32	1108	Outside of saw	2.0	20						
33	1108	Saw blade	2.0	40						
34	1108	Hot plate	2.0	20						
35	1108	Grinding wheel	2.0	20						
36	1109	Hood bottom	2.0	20						
37	1090	Tritium standard			3907.27273	133.244559	4.21E+03	3.71E+03	3.03E+02	1.97E+02

ATTACHMENT 3: COUNT-NORMALIZED COUNTING RESULTS

Normalized Count Data

			norm	raw	norm	raw	norm	raw
Vial #	Room#	Location	11/15/2006	12/13/2006	12/13/2006	2/5/2007	2/5/2007	2/28/2007
1		Background vial						
2	Stack	870 stack monitor						
3	1208	glove port (inside glove box)						
4	1208	Glove box bottom						
5	1208	Glove box bottom						
6	1208	Glove box bottom						
7	1208	Misc. tools						
8	1208	External filter						
9	1109	Gloves (inside glove box) near lathe						
10	1109	Gloves (inside glove box) near drill press						
11	1109	Glove box bottom						
12	1109	Glove box bottom						
13	1109	Glove box bottom						
14	1109	Metal shavings						
15	1109	Lathe chuck						
16	1109	Lathe cutter						
17	1109	Drill press plate						
18	1109	Tool cabinet						
19	1208	Target holders						
20	1208	Tweezers						
21	1206	Bell jar cabinet right side						
22	1206	Pump cabinet bottom						
23	1108	Dimpler						
24	1108	Saw external						
25	1108	Saw blade						
26	1108	Disc cutter						
27	1108	Grinding wheel						
28	1108	Hot plate						
29	1206	Vacuum storage chamber #8						
30	1206	Vacuum storage chamber #7						
31	1206	TEM Fixture tip	1.00E+00	5.00E+04	1.58E+00	1.31E+05	4.15E+00	3.45E+05
32	1108	Outside of saw		6.08E+03	1.00E+00	2.74E+04	4.51E+00	3.50E+04
33	1108	Saw blade		2.09E+05	1.00E+00	9.06E+05	4.33E+00	1.01E+06
34	1108	Hot plate		2.82E+03	1.00E+00	8.33E+03	2.95E+00	1.08E+04
35	1108	Grinding wheel		6.64E+03	1.00E+00	1.95E+04	2.94E+00	2.78E+04
36	1109	Hood bottom	1.00E+00	3.50E+03	1.52E+00	7.80E+03	3.39E+00	1.01E+04
37	1090	Tritium standard						

Normalized Count Data

Vial #	Room#	Location	norm 2/28/2007	raw 3/20/07	norm 3/20/07	raw 3/22/07	norm 3/22/07	raw 3/23/07
1		Background vial						
2	Stack	870 stack monitor						1.04E+04
3	1208	glove port (inside glove box)		1.75E+06	1.00E+00	1.98E+06	1.13E+00	2.03E+06
4	1208	Glove box bottom		1.37E+06	1.00E+00	1.59E+06	1.16E+00	1.63E+06
5	1208	Glove box bottom		1.50E+06	1.00E+00	1.75E+06	1.17E+00	1.80E+06
6	1208	Glove box bottom		2.87E+06	1.00E+00	3.31E+06	1.15E+00	3.40E+06
7	1208	Misc. tools		5.40E+06	1.00E+00	6.08E+06	1.13E+00	6.21E+06
8	1208	External filter		2.08E+06	1.00E+00	2.31E+06	1.11E+00	2.36E+06
9	1109	Gloves (inside glove box) near lathe		7.26E+05	1.00E+00	7.94E+05	1.09E+00	8.08E+05
10	1109	Gloves (inside glove box) near drill press		9.40E+05	1.00E+00	9.72E+05	1.03E+00	9.78E+05
11	1109	Glove box bottom		1.42E+06	1.00E+00	1.51E+06	1.06E+00	1.53E+06
12	1109	Glove box bottom		5.52E+05	1.00E+00	6.02E+05	1.09E+00	6.12E+05
13	1109	Glove box bottom		3.68E+05	1.00E+00	4.11E+05	1.12E+00	4.19E+05
14	1109	Metal shavings		4.88E+05	1.00E+00	5.13E+05	1.05E+00	5.18E+05
15	1109	Lathe chuck		1.54E+06	1.00E+00	1.55E+06	1.01E+00	1.55E+06
16	1109	Lathe cutter		5.06E+05	1.00E+00	5.56E+05	1.10E+00	5.66E+05
17	1109	Drill press plate		1.44E+06	1.00E+00	1.54E+06	1.07E+00	1.56E+06
18	1109	Tool cabinet		7.37E+05	1.00E+00	7.80E+05	1.06E+00	7.89E+05
19	1208	Target holders						2.80E+02
20	1208	Tweezers						1.15E+04
21	1206	Bell jar cabinet right side				1.68E+02	1.00E+00	1.61E+02
22	1206	Pump cabinet bottom				8.59E+03	1.00E+00	1.31E+04
23	1108	Dimpler				2.14E+02	1.00E+00	1.88E+02
24	1108	Saw external				1.24E+04	1.00E+00	1.38E+04
25	1108	Saw blade				2.08E+05	1.00E+00	2.19E+05
26	1108	Disc cutter				9.81E+05	1.00E+00	9.68E+05
27	1108	Grinding wheel				1.21E+04	1.00E+00	1.24E+04
28	1108	Hot plate				1.62E+03	1.00E+00	1.65E+03
29	1206	Vacuum storage chamber #8				3.60E+06	1.00E+00	2.89E+06
30	1206	Vacuum storage chamber #7				3.87E+04	1.00E+00	3.66E+04
31	1206	TEM Fixture tip	1.09E+01	3.45E+05	1.09E+01	3.45E+05	1.09E+01	3.43E+05
32	1108	Outside of saw	5.76E+00	3.50E+04	5.76E+00	3.50E+04	5.76E+00	3.50E+04
33	1108	Saw blade	4.83E+00	1.01E+06	4.83E+00	1.01E+06	4.83E+00	1.01E+06
34	1108	Hot plate	3.83E+00	1.08E+04	3.83E+00	1.08E+04	3.83E+00	1.08E+04
35	1108	Grinding wheel	4.19E+00	2.78E+04	4.19E+00	2.78E+04	4.19E+00	2.78E+04
36	1109	Hood bottom	4.39E+00	1.01E+04	4.39E+00	1.01E+04	4.39E+00	1.01E+04
37	1090	Tritium standard						

Normalized Count Data

Vial #	Room#	Location	norm 3/23/07	raw 3/30/07	norm 3/30/07	raw 4/6/2007	norm 4/6/2007	raw 4/13/2007
1		Background vial						
2	Stack	870 stack monitor	1.00E+00	1.05E+04	1.01E+00	1.05E+04	1.01E+00	1.07E+04
3	1208	glove port (inside glove box)	1.16E+00	2.07E+06	1.18E+00	2.06E+06	1.18E+00	2.09E+06
4	1208	Glove box bottom	1.19E+00	1.63E+06	1.19E+00	1.64E+06	1.20E+00	1.63E+06
5	1208	Glove box bottom	1.20E+00	1.79E+06	1.19E+00	1.80E+06	1.20E+00	1.80E+06
6	1208	Glove box bottom	1.18E+00	3.44E+06	1.20E+00	3.41E+06	1.19E+00	3.40E+06
7	1208	Misc. tools	1.15E+00	6.29E+06	1.16E+00	6.28E+06	1.16E+00	6.33E+06
8	1208	External filter	1.13E+00	2.36E+06	1.13E+00	2.36E+06	1.13E+00	2.37E+06
9	1109	Gloves (inside glove box) near lathe	1.11E+00	8.83E+05	1.22E+00	9.26E+05	1.28E+00	1.04E+06
10	1109	Gloves (inside glove box) near drill press	1.04E+00	1.19E+06	1.27E+00	1.49E+06	1.59E+00	1.70E+06
11	1109	Glove box bottom	1.08E+00	1.98E+06	1.39E+00	2.22E+06	1.56E+00	2.33E+06
12	1109	Glove box bottom	1.11E+00	7.73E+05	1.40E+00	9.22E+05	1.67E+00	1.14E+06
13	1109	Glove box bottom	1.14E+00	5.37E+05	1.46E+00	6.83E+05	1.86E+00	8.69E+05
14	1109	Metal shavings	1.06E+00	1.23E+05	2.52E-01	2.33E+05	4.77E-01	1.15E+05
15	1109	Lathe chuck	1.01E+00	1.69E+06	1.10E+00	1.90E+06	1.23E+00	2.08E+06
16	1109	Lathe cutter	1.12E+00	6.39E+05	1.26E+00	7.17E+05	1.42E+00	7.92E+05
17	1109	Drill press plate	1.08E+00	2.30E+06	1.60E+00	2.87E+06	1.99E+00	3.28E+06
18	1109	Tool cabinet	1.07E+00	8.93E+05	1.21E+00	1.02E+06	1.38E+00	1.13E+06
19	1208	Target holders	1.00E+00	3.37E+02	1.20E+00	3.83E+02	1.37E+00	3.81E+02
20	1208	Tweezers	1.00E+00	1.22E+04	1.06E+00	1.25E+04	1.09E+00	1.28E+04
21	1206	Bell jar cabinet right side	9.58E-01	2.20E+02	1.31E+00	3.28E+02	1.95E+00	2.94E+02
22	1206	Pump cabinet bottom	1.53E+00	1.61E+04	1.87E+00	1.60E+04	1.86E+00	1.61E+04
23	1108	Dimpler	8.79E-01	2.45E+02	1.14E+00	2.57E+02	1.20E+00	2.97E+02
24	1108	Saw external	1.11E+00	1.74E+04	1.40E+00	2.06E+04	1.66E+00	2.32E+04
25	1108	Saw blade	1.05E+00	3.03E+05	1.46E+00	4.20E+05	2.02E+00	5.03E+05
26	1108	Disc cutter	9.87E-01	1.99E+06	2.03E+00	2.90E+06	2.96E+00	3.04E+06
27	1108	Grinding wheel	1.02E+00	1.81E+04	1.50E+00	2.08E+04	1.72E+00	2.34E+04
28	1108	Hot plate	1.02E+00	3.94E+03	2.43E+00	4.08E+03	2.52E+00	4.72E+03
29	1206	Vacuum storage chamber #8	8.03E-01	4.31E+06	1.20E+00	8.13E+06	2.26E+00	1.28E+07
30	1206	Vacuum storage chamber #7	9.46E-01	4.41E+04	1.14E+00	5.48E+04	1.42E+00	6.78E+04
31	1206	TEM Fixture tip	1.09E+01	3.47E+05	1.10E+01	3.86E+05	1.22E+01	4.73E+05
32	1108	Outside of saw	5.76E+00	2.99E+04	4.92E+00	2.98E+04	4.90E+00	2.98E+04
33	1108	Saw blade	4.83E+00	1.02E+06	4.88E+00	1.02E+06	4.88E+00	1.01E+06
34	1108	Hot plate	3.83E+00	9.37E+03	3.32E+00	9.17E+03	3.25E+00	9.32E+03
35	1108	Grinding wheel	4.19E+00	2.43E+04	3.66E+00	2.43E+04	3.66E+00	2.43E+04
36	1109	Hood bottom	4.39E+00	8.61E+03	3.74E+00	8.59E+03	3.73E+00	8.35E+03
37	1090	Tritium standard				4.21E+03	1.00E+00	3.92E+03

Normalized Count Data

Vial #	Room#	Location	norm 4/13/2007	raw 4/20/2007	norm 4/20/2007	raw 4/27/2007	norm 4/27/2007	raw 5/4/2007
1		Background vial						
2	Stack	870 stack monitor	1.03E+00	1.04E+04	1.00E+00	1.05E+04	1.01E+00	1.05E+04
3	1208	glove port (inside glove box)	1.19E+00	2.09E+06	1.19E+00	2.16E+06	1.23E+00	2.17E+06
4	1208	Glove box bottom	1.19E+00	1.63E+06	1.19E+00	1.64E+06	1.20E+00	1.63E+06
5	1208	Glove box bottom	1.20E+00	1.80E+06	1.20E+00	1.80E+06	1.20E+00	1.78E+06
6	1208	Glove box bottom	1.18E+00	3.42E+06	1.19E+00	3.40E+06	1.18E+00	3.39E+06
7	1208	Misc. tools	1.17E+00	6.34E+06	1.17E+00	6.34E+06	1.17E+00	6.30E+06
8	1208	External filter	1.14E+00	2.37E+06	1.14E+00	2.36E+06	1.13E+00	2.35E+06
9	1109	Gloves (inside glove box) near lathe	1.43E+00	1.14E+06	1.57E+00	1.15E+06	1.58E+00	1.19E+06
10	1109	Gloves (inside glove box) near drill press	1.81E+00	1.91E+06	2.03E+00	1.99E+06	2.12E+00	2.09E+06
11	1109	Glove box bottom	1.64E+00	2.49E+06	1.75E+00	2.50E+06	1.76E+00	2.92E+06
12	1109	Glove box bottom	2.07E+00	1.26E+06	2.28E+00	1.34E+06	2.43E+00	1.44E+06
13	1109	Glove box bottom	2.36E+00	1.02E+06	2.77E+00	1.10E+06	2.99E+00	1.12E+06
14	1109	Metal shavings	2.36E-01	1.23E+05	2.52E-01	1.32E+05	2.70E-01	1.43E+05
15	1109	Lathe chuck	1.35E+00	2.24E+06	1.45E+00	2.22E+06	1.44E+00	2.27E+06
16	1109	Lathe cutter	1.57E+00	8.48E+05	1.68E+00	8.62E+05	1.70E+00	8.86E+05
17	1109	Drill press plate	2.28E+00	3.71E+06	2.58E+00	3.82E+06	2.65E+00	3.59E+06
18	1109	Tool cabinet	1.53E+00	1.23E+06	1.67E+00	1.27E+06	1.72E+00	1.28E+06
19	1208	Target holders	1.36E+00	3.87E+02	1.38E+00	4.13E+02	1.48E+00	3.57E+02
20	1208	Tweezers	1.11E+00	1.31E+04	1.14E+00	1.24E+04	1.08E+00	1.26E+04
21	1206	Bell jar cabinet right side	1.75E+00	2.72E+02	1.62E+00	2.74E+02	1.63E+00	2.44E+02
22	1206	Pump cabinet bottom	1.87E+00	1.63E+04	1.90E+00	1.67E+04	1.94E+00	1.62E+04
23	1108	Dimpler	1.39E+00	2.81E+02	1.31E+00	3.05E+02	1.43E+00	2.76E+02
24	1108	Saw external	1.87E+00	2.59E+04	2.09E+00	2.70E+04	2.18E+00	3.10E+04
25	1108	Saw blade	2.42E+00	5.95E+05	2.86E+00	6.60E+05	3.17E+00	7.14E+05
26	1108	Disc cutter	3.10E+00	3.67E+06	3.74E+00	3.85E+06	3.92E+00	4.00E+06
27	1108	Grinding wheel	1.93E+00	3.33E+04	2.75E+00	4.01E+04	3.31E+00	4.27E+04
28	1108	Hot plate	2.91E+00	5.73E+03	3.54E+00	6.03E+03	3.72E+00	6.12E+03
29	1206	Vacuum storage chamber #8	3.56E+00	1.46E+07	4.06E+00	1.49E+07	4.14E+00	1.54E+07
30	1206	Vacuum storage chamber #7	1.75E+00	1.03E+05	2.66E+00	1.14E+05	2.95E+00	1.17E+05
31	1206	TEM Fixture tip	1.50E+01	5.25E+05	1.66E+01	5.49E+05	1.74E+01	5.62E+05
32	1108	Outside of saw	4.90E+00	2.99E+04	4.92E+00	2.95E+04	4.85E+00	2.98E+04
33	1108	Saw blade	4.83E+00	1.01E+06	4.83E+00	1.01E+06	4.83E+00	1.00E+06
34	1108	Hot plate	3.30E+00	8.95E+03	3.17E+00	9.16E+03	3.25E+00	9.11E+03
35	1108	Grinding wheel	3.66E+00	2.39E+04	3.60E+00	2.42E+04	3.64E+00	2.39E+04
36	1109	Hood bottom	3.63E+00	8.57E+03	3.73E+00	8.51E+03	3.70E+00	8.36E+03
37	1090	Tritium standard	9.31E-01	3.76E+03	8.93E-01	4.01E+03	9.52E-01	4.03E+03

Normalized Count Data

Vial #	Room#	Location	norm 5/4/2007	raw 5/11/2007	norm 5/11/2007	raw 5/18/2007	norm 5/18/2007	raw 5/25/2007
1		Background vial						
2	Stack	870 stack monitor	1.01E+00	1.03E+04	9.90E-01	1.08E+04	1.04E+00	1.03E+04
3	1208	glove port (inside glove box)	1.24E+00	2.21E+06	1.26E+00	2.20E+06	1.26E+00	2.22E+06
4	1208	Glove box bottom	1.19E+00	1.63E+06	1.19E+00	1.63E+06	1.19E+00	1.63E+06
5	1208	Glove box bottom	1.19E+00	1.79E+06	1.19E+00	1.79E+06	1.19E+00	1.77E+06
6	1208	Glove box bottom	1.18E+00	3.41E+06	1.19E+00	3.38E+06	1.18E+00	3.36E+06
7	1208	Misc. tools	1.17E+00	6.39E+06	1.18E+00	6.39E+06	1.18E+00	6.37E+06
8	1208	External filter	1.13E+00	2.37E+06	1.14E+00	2.35E+06	1.13E+00	2.33E+06
9	1109	Gloves (inside glove box) near lathe	1.64E+00	1.23E+06	1.69E+00	1.23E+06	1.69E+00	1.27E+06
10	1109	Gloves (inside glove box) near drill press	2.22E+00	2.17E+06	2.31E+00	2.17E+06	2.31E+00	2.17E+06
11	1109	Glove box bottom	2.06E+00	2.60E+06	1.83E+00	2.57E+06	1.81E+00	2.63E+06
12	1109	Glove box bottom	2.61E+00	1.46E+06	2.64E+00	1.49E+06	2.70E+00	1.48E+06
13	1109	Glove box bottom	3.04E+00	1.19E+06	3.23E+00	1.22E+06	3.32E+00	1.23E+06
14	1109	Metal shavings	2.93E-01	1.53E+06	3.14E+00	1.53E+05	3.14E-01	1.64E+05
15	1109	Lathe chuck	1.47E+00	2.51E+06	1.63E+00	2.46E+06	1.60E+00	2.48E+06
16	1109	Lathe cutter	1.75E+00	9.26E+05	1.83E+00	9.51E+05	1.88E+00	9.57E+05
17	1109	Drill press plate	2.49E+00	3.93E+06	2.73E+00	3.97E+06	2.76E+00	3.99E+06
18	1109	Tool cabinet	1.74E+00	1.30E+06	1.76E+00	1.30E+06	1.76E+00	1.29E+06
19	1208	Target holders	1.28E+00	3.93E+02	1.40E+00	3.59E+02	1.28E+00	4.03E+02
20	1208	Tweezers	1.10E+00	1.28E+04	1.11E+00	1.27E+04	1.10E+00	1.32E+04
21	1206	Bell jar cabinet right side	1.45E+00	2.66E+02	1.58E+00	2.63E+02	1.57E+00	2.90E+02
22	1206	Pump cabinet bottom	1.89E+00	1.69E+04	1.97E+00	1.72E+04	2.00E+00	1.68E+04
23	1108	Dimpler	1.29E+00	2.76E+02	1.29E+00	2.81E+02	1.31E+00	3.10E+02
24	1108	Saw external	2.50E+00	3.14E+04	2.53E+00	3.12E+04	2.52E+00	3.68E+04
25	1108	Saw blade	3.43E+00	7.79E+05	3.75E+00	8.06E+05	3.88E+00	8.43E+05
26	1108	Disc cutter	4.08E+00	4.15E+06	4.23E+00	4.23E+06	4.31E+00	4.25E+06
27	1108	Grinding wheel	3.53E+00	4.50E+04	3.72E+00	4.64E+04	3.83E+00	4.74E+04
28	1108	Hot plate	3.78E+00	6.13E+03	3.78E+00	6.28E+03	3.88E+00	6.16E+03
29	1206	Vacuum storage chamber #8	4.28E+00	1.58E+07	4.39E+00	1.57E+07	4.36E+00	1.54E+07
30	1206	Vacuum storage chamber #7	3.02E+00	1.28E+05	3.31E+00	1.30E+05	3.36E+00	1.36E+05
31	1206	TEM Fixture tip	1.78E+01	5.80E+05	1.84E+01	5.92E+05	1.87E+01	5.96E+05
32	1108	Outside of saw	4.90E+00	2.95E+04	4.85E+00	2.92E+04	4.80E+00	2.89E+04
33	1108	Saw blade	4.78E+00	1.01E+06	4.83E+00	1.00E+06	4.78E+00	9.97E+05
34	1108	Hot plate	3.23E+00	9.29E+03	3.29E+00	8.96E+03	3.18E+00	9.13E+03
35	1108	Grinding wheel	3.60E+00	2.41E+04	3.63E+00	2.43E+04	3.66E+00	2.38E+04
36	1109	Hood bottom	3.63E+00	8.24E+03	3.58E+00	8.22E+03	3.57E+00	8.30E+03
37	1090	Tritium standard	9.57E-01	4.10E+03	9.74E-01	3.98E+03	9.45E-01	4.00E+03

Normalized Count Data

Vial #	Room#	Location	norm 5/25/2007	raw 6/1/2007	norm 6/1/2007	raw 6/8/2007	norm 6/8/2007	raw 6/15/2007
1		Background vial						
2	Stack	870 stack monitor	9.90E-01	1.06E+04	1.02E+00	1.02E+04	9.81E-01	1.02E+04
3	1208	glove port (inside glove box)	1.27E+00	2.23E+06	1.27E+00	2.24E+06	1.28E+00	2.25E+06
4	1208	Glove box bottom	1.19E+00	1.63E+06	1.19E+00	1.62E+06	1.18E+00	1.62E+06
5	1208	Glove box bottom	1.18E+00	1.78E+06	1.19E+00			
6	1208	Glove box bottom	1.17E+00	3.38E+06	1.18E+00			
7	1208	Misc. tools	1.18E+00	6.31E+06	1.17E+00			
8	1208	External filter	1.12E+00	2.34E+06	1.13E+00			
9	1109	Gloves (inside glove box) near lathe	1.75E+00	1.26E+06	1.74E+00	1.27E+06	1.75E+00	1.26E+06
10	1109	Gloves (inside glove box) near drill press	2.31E+00	2.22E+06	2.36E+00	2.23E+06	2.37E+00	2.25E+06
11	1109	Glove box bottom	1.85E+00	2.73E+06	1.92E+00	2.82E+06	1.99E+00	2.77E+06
12	1109	Glove box bottom	2.68E+00	1.49E+06	2.70E+00	1.52E+06	2.75E+00	1.49E+06
13	1109	Glove box bottom	3.34E+00	1.24E+06	3.37E+00	1.25E+06	3.40E+00	1.25E+06
14	1109	Metal shavings	3.36E-01	1.73E+05	3.55E-01	1.79E+05	3.67E-01	1.84E+05
15	1109	Lathe chuck	1.61E+00	2.71E+06	1.76E+00	2.82E+06	1.83E+00	2.86E+06
16	1109	Lathe cutter	1.89E+00	9.63E+05	1.90E+00	9.82E+05	1.94E+00	9.80E+05
17	1109	Drill press plate	2.77E+00	3.98E+06	2.76E+00	3.99E+06	2.77E+00	3.99E+06
18	1109	Tool cabinet	1.75E+00	1.30E+06	1.76E+00	1.28E+06	1.74E+00	1.28E+06
19	1208	Target holders	1.44E+00	4.24E+02	1.51E+00	4.35E+02	1.55E+00	4.27E+02
20	1208	Tweezers	1.15E+00	1.31E+04	1.14E+00	1.33E+04	1.16E+00	1.33E+04
21	1206	Bell jar cabinet right side	1.73E+00	2.54E+02	1.51E+00	2.15E+02	1.28E+00	2.81E+02
22	1206	Pump cabinet bottom	1.96E+00	1.68E+04	1.96E+00	1.73E+04	2.01E+00	1.71E+04
23	1108	Dimpler	1.45E+00	2.99E+02	1.40E+00	2.82E+02	1.32E+00	2.86E+02
24	1108	Saw external	2.97E+00	3.74E+04	3.02E+00	3.67E+04	2.96E+00	3.69E+04
25	1108	Saw blade	4.05E+00	8.49E+05	4.08E+00	8.65E+05	4.16E+00	8.67E+05
26	1108	Disc cutter	4.33E+00	4.35E+06	4.43E+00	4.36E+06	4.44E+00	4.36E+06
27	1108	Grinding wheel	3.92E+00	4.80E+04	3.97E+00	4.91E+04	4.06E+00	4.99E+04
28	1108	Hot plate	3.80E+00	6.40E+03	3.95E+00	6.36E+03	3.93E+00	6.40E+03
29	1206	Vacuum storage chamber #8	4.28E+00	1.58E+07	4.39E+00			
30	1206	Vacuum storage chamber #7	3.51E+00	1.38E+05	3.57E+00	1.38E+05	3.57E+00	1.36E+05
31	1206	TEM Fixture tip	1.89E+01	5.98E+05	1.89E+01	6.01E+05	1.90E+01	6.02E+05
32	1108	Outside of saw	4.75E+00	2.90E+04	4.77E+00	2.89E+04	4.75E+00	2.89E+04
33	1108	Saw blade	4.77E+00	9.97E+05	4.77E+00	9.91E+05	4.74E+00	9.88E+05
34	1108	Hot plate	3.24E+00	9.06E+03	3.21E+00	9.05E+03	3.21E+00	8.98E+03
35	1108	Grinding wheel	3.58E+00	2.40E+04	3.61E+00	2.40E+04	3.61E+00	2.39E+04
36	1109	Hood bottom	3.61E+00	8.36E+03	3.63E+00	8.33E+03	3.62E+00	8.05E+03
37	1090	Tritium standard	9.50E-01	3.80E+03	9.03E-01	4.09E+03	9.71E-01	3.89E+03

Normalized Count Data

Vial #	Room#	Location	norm 6/15/2007	raw 6/22/2007	norm 6/22/2007	raw 6/29/2007	norm 6/29/2007	raw 7/6/2007
1		Background vial						
2	Stack	870 stack monitor	9.81E-01	1.02E+04	9.81E-01	1.02E+04	9.81E-01	1.01E+04
3	1208	glove port (inside glove box)	1.29E+00	2.27E+06	1.30E+00	2.26E+06	1.29E+00	2.27E+06
4	1208	Glove box bottom	1.18E+00	1.62E+06	1.18E+00	1.60E+06	1.17E+00	1.61E+06
5	1208	Glove box bottom						
6	1208	Glove box bottom						
7	1208	Misc. tools						
8	1208	External filter						
9	1109	Gloves (inside glove box) near lathe	1.74E+00	1.28E+06	1.76E+00	1.26E+06	1.74E+00	1.26E+06
10	1109	Gloves (inside glove box) near drill press	2.39E+00	2.25E+06	2.39E+00	2.24E+06	2.38E+00	2.27E+06
11	1109	Glove box bottom	1.95E+00	2.85E+06	2.01E+00	2.99E+06	2.11E+00	3.03E+06
12	1109	Glove box bottom	2.70E+00	1.52E+06	2.75E+00	1.48E+06	2.68E+00	1.51E+06
13	1109	Glove box bottom	3.40E+00	1.26E+06	3.42E+00	1.25E+06	3.40E+00	1.26E+06
14	1109	Metal shavings	3.77E-01	1.91E+05	3.91E-01	1.94E+05	3.98E-01	1.99E+05
15	1109	Lathe chuck	1.86E+00	2.76E+06	1.79E+00	2.93E+06	1.90E+00	3.10E+06
16	1109	Lathe cutter	1.94E+00	9.84E+05	1.94E+00	9.81E+05	1.94E+00	9.90E+05
17	1109	Drill press plate	2.77E+00	3.99E+06	2.77E+00	3.98E+06	2.76E+00	3.99E+06
18	1109	Tool cabinet	1.74E+00	1.29E+06	1.75E+00	1.29E+06	1.75E+00	1.28E+06
19	1208	Target holders	1.53E+00	4.42E+02	1.58E+00	3.94E+02	1.41E+00	3.99E+02
20	1208	Tweezers	1.16E+00	1.28E+04	1.11E+00	1.22E+04	1.06E+00	1.23E+04
21	1206	Bell jar cabinet right side	1.67E+00	2.57E+02	1.53E+00	2.69E+02	1.60E+00	2.75E+02
22	1206	Pump cabinet bottom	1.99E+00	1.69E+04	1.97E+00	1.66E+04	1.93E+00	1.71E+04
23	1108	Dimpler	1.34E+00	2.39E+02	1.12E+00	2.76E+02	1.29E+00	2.88E+02
24	1108	Saw external	2.98E+00	3.68E+04	2.97E+00	3.66E+04	2.95E+00	3.67E+04
25	1108	Saw blade	4.17E+00	8.69E+05	4.18E+00	8.73E+05	4.20E+00	8.81E+05
26	1108	Disc cutter	4.44E+00					
27	1108	Grinding wheel	4.12E+00	4.95E+04	4.09E+00	5.01E+04	4.14E+00	5.03E+04
28	1108	Hot plate	3.95E+00	6.33E+03	3.91E+00	6.54E+03	4.04E+00	6.40E+03
29	1206	Vacuum storage chamber #8						
30	1206	Vacuum storage chamber #7	3.51E+00	1.36E+05	3.51E+00	1.36E+05	3.51E+00	1.35E+05
31	1206	TEM Fixture tip	1.91E+01	6.03E+05	1.91E+01	6.00E+05	1.90E+01	6.05E+05
32	1108	Outside of saw	4.75E+00	2.89E+04	4.75E+00	2.87E+04	4.72E+00	2.86E+04
33	1108	Saw blade	4.73E+00	9.85E+05	4.71E+00	9.72E+05	4.65E+00	9.79E+05
34	1108	Hot plate	3.18E+00	8.64E+03	3.06E+00	8.84E+03	3.13E+00	8.82E+03
35	1108	Grinding wheel	3.60E+00	2.36E+04	3.55E+00	2.35E+04	3.54E+00	2.34E+04
36	1109	Hood bottom	3.50E+00	8.23E+03	3.58E+00	8.16E+03	3.55E+00	8.19E+03
37	1090	Tritium standard	9.24E-01	3.91E+03	9.29E-01	3.86E+03	9.17E-01	3.83E+03

Normalized Count Data

Vial #	Room#	Location	norm 7/6/2007	raw 7/13/2007	norm 7/13/2007	raw 7/19/2007	norm 7/19/2007	raw 7/27/2007
1		Background vial						
2	Stack	870 stack monitor	9.71E-01	9.90E+03	9.52E-01	1.02E+04	9.81E-01	1.01E+04
3	1208	glove port (inside glove box)	1.30E+00	2.27E+06	1.30E+00	2.29E+06	1.31E+00	2.28E+06
4	1208	Glove box bottom	1.18E+00	1.59E+06	1.16E+00	1.60E+06	1.17E+00	1.61E+06
5	1208	Glove box bottom						
6	1208	Glove box bottom						2.93E+06
7	1208	Misc. tools						5.43E+06
8	1208	External filter						
9	1109	Gloves (inside glove box) near lathe	1.74E+00	1.28E+06	1.76E+00	1.31E+06	1.80E+00	1.29E+06
10	1109	Gloves (inside glove box) near drill press	2.41E+00	2.29E+06	2.44E+00	2.28E+06	2.43E+00	2.26E+06
11	1109	Glove box bottom	2.13E+00	3.06E+06	2.15E+00	3.04E+06	2.14E+00	3.13E+06
12	1109	Glove box bottom	2.74E+00	1.48E+06	2.68E+00	1.50E+06	2.72E+00	1.49E+06
13	1109	Glove box bottom	3.42E+00	1.26E+06	3.42E+00	1.27E+06	3.45E+00	1.27E+06
14	1109	Metal shavings	4.08E-01	2.01E+05	4.12E-01	2.09E+05	4.28E-01	2.15E+05
15	1109	Lathe chuck	2.01E+00	2.98E+06	1.94E+00	3.16E+06	2.05E+00	3.29E+06
16	1109	Lathe cutter	1.96E+00	9.92E+05	1.96E+00	9.93E+05	1.96E+00	9.91E+05
17	1109	Drill press plate	2.77E+00	3.95E+06	2.74E+00	3.95E+06	2.74E+00	3.96E+06
18	1109	Tool cabinet	1.74E+00	1.28E+06	1.74E+00	1.29E+06	1.75E+00	1.30E+06
19	1208	Target holders	1.43E+00	4.16E+02	1.49E+00	3.81E+02	1.36E+00	4.35E+02
20	1208	Tweezers	1.07E+00	1.25E+04	1.09E+00	1.32E+04	1.15E+00	1.33E+04
21	1206	Bell jar cabinet right side	1.64E+00	2.51E+02	1.49E+00	2.75E+02	1.64E+00	2.81E+02
22	1206	Pump cabinet bottom	1.99E+00	1.69E+04	1.97E+00	1.70E+04	1.98E+00	1.74E+04
23	1108	Dimpler	1.35E+00	3.29E+02	1.54E+00	3.14E+02	1.47E+00	3.15E+02
24	1108	Saw external	2.96E+00	3.57E+04	2.88E+00	3.63E+04	2.93E+00	3.61E+04
25	1108	Saw blade	4.24E+00	8.86E+05	4.26E+00	8.90E+05	4.28E+00	8.80E+05
26	1108	Disc cutter						4.05E+06
27	1108	Grinding wheel	4.16E+00	5.08E+04	4.20E+00	5.19E+04	4.29E+00	5.14E+04
28	1108	Hot plate	3.95E+00	6.44E+03	3.98E+00	6.40E+03	3.95E+00	6.38E+03
29	1206	Vacuum storage chamber #8						1.45E+07
30	1206	Vacuum storage chamber #7	3.49E+00	1.35E+05	3.49E+00	1.36E+05	3.51E+00	1.36E+05
31	1206	TEM Fixture tip	1.91E+01	6.03E+05	1.91E+01	6.13E+05	1.94E+01	6.13E+05
32	1108	Outside of saw	4.70E+00	2.85E+04	4.69E+00	2.86E+04	4.70E+00	2.80E+04
33	1108	Saw blade	4.68E+00	9.83E+05	4.70E+00	9.77E+05	4.67E+00	9.78E+05
34	1108	Hot plate	3.13E+00	8.73E+03	3.10E+00	8.59E+03	3.05E+00	8.55E+03
35	1108	Grinding wheel	3.52E+00	2.31E+04	3.48E+00	2.32E+04	3.49E+00	2.31E+04
36	1109	Hood bottom	3.56E+00	8.17E+03	3.55E+00	8.30E+03	3.61E+00	8.16E+03
37	1090	Tritium standard	9.10E-01	3.83E+03	9.10E-01	3.94E+03	9.36E-01	3.99E+03

Normalized Count Data

Vial #	Room#	Location	norm 7/27/2007	raw 8/3/2007	norm 8/3/2007	raw 8/10/2007	norm 8/3/2007	raw 8/16/2007
1		Background vial						
2	Stack	870 stack monitor	9.71E-01	1.00E+04	9.62E-01	1.02E+04	9.81E-01	1.01E+04
3	1208	glove port (inside glove box)	1.30E+00	2.27E+06	1.30E+00	2.28E+06	1.30E+00	2.28E+06
4	1208	Glove box bottom	1.18E+00	1.59E+06	1.16E+00	1.60E+06	1.17E+00	1.59E+06
5	1208	Glove box bottom						
6	1208	Glove box bottom	1.02E+00	2.91E+06	1.01E+00	2.90E+06	1.01E+00	2.89E+06
7	1208	Misc. tools	1.01E+00	5.40E+06	1.00E+00	5.41E+06	1.00E+00	5.42E+06
8	1208	External filter						
9	1109	Gloves (inside glove box) near lathe	1.78E+00	1.29E+06	1.78E+00	1.29E+06	1.78E+00	1.27E+06
10	1109	Gloves (inside glove box) near drill press	2.40E+00	2.28E+06	2.43E+00	2.28E+06	2.43E+00	2.27E+06
11	1109	Glove box bottom	2.20E+00	3.11E+06	2.19E+00	3.19E+06	2.25E+00	3.07E+06
12	1109	Glove box bottom	2.70E+00	1.49E+06	2.70E+00	1.49E+06	2.70E+00	1.49E+06
13	1109	Glove box bottom	3.45E+00	1.26E+06	3.42E+00	1.26E+06	3.42E+00	1.26E+06
14	1109	Metal shavings	4.41E-01	2.32E+05	4.75E-01	2.36E+05	4.84E-01	2.38E+05
15	1109	Lathe chuck	2.14E+00	3.34E+06	2.17E+00	3.38E+06	2.19E+00	3.17E+06
16	1109	Lathe cutter	1.96E+00	9.95E+05	1.97E+00	9.99E+05	1.97E+00	9.93E+05
17	1109	Drill press plate	2.75E+00	3.94E+06	2.74E+00	3.91E+06	2.72E+00	3.90E+06
18	1109	Tool cabinet	1.76E+00	1.28E+06	1.74E+00	1.29E+06	1.75E+00	1.28E+06
19	1208	Target holders	1.55E+00	4.34E+02	1.55E+00	4.42E+02	1.58E+00	3.57E+02
20	1208	Tweezers	1.16E+00	1.31E+04	1.14E+00	1.33E+04	1.16E+00	1.29E+04
21	1206	Bell jar cabinet right side	1.67E+00	2.35E+02	1.40E+00	2.83E+02	1.68E+00	2.20E+02
22	1206	Pump cabinet bottom	2.03E+00	1.76E+04	2.05E+00	1.73E+04	2.01E+00	1.73E+04
23	1108	Dimpler	1.47E+00	3.00E+02	1.40E+00	3.09E+02	1.44E+00	3.06E+02
24	1108	Saw external	2.91E+00	3.64E+04	2.94E+00	3.59E+04	2.90E+00	3.56E+04
25	1108	Saw blade	4.23E+00	8.84E+05	4.25E+00	8.84E+05	4.25E+00	8.80E+05
26	1108	Disc cutter	4.13E+00	4.04E+06	4.12E+00	4.05E+06	4.13E+00	4.03E+06
27	1108	Grinding wheel	4.25E+00	5.12E+04	4.23E+00	5.10E+04	4.21E+00	5.12E+04
28	1108	Hot plate	3.94E+00	6.39E+03	3.94E+00	6.48E+03	4.00E+00	6.37E+03
29	1206	Vacuum storage chamber #8	4.03E+00	1.44E+07	4.00E+00	1.44E+07	4.00E+00	1.44E+07
30	1206	Vacuum storage chamber #7	3.51E+00	1.36E+05	3.51E+00	1.36E+05	3.51E+00	1.34E+05
31	1206	TEM Fixture tip	1.94E+01	6.13E+05	1.94E+01	6.10E+05	1.93E+01	6.10E+05
32	1108	Outside of saw	4.61E+00	2.82E+04	4.64E+00	2.81E+04	4.62E+00	2.81E+04
33	1108	Saw blade	4.68E+00	9.71E+05	4.65E+00	9.66E+05	4.62E+00	9.59E+05
34	1108	Hot plate	3.03E+00	8.75E+03	3.10E+00	8.72E+03	3.09E+00	8.76E+03
35	1108	Grinding wheel	3.48E+00	2.37E+04	3.57E+00	2.34E+04	3.52E+00	2.28E+04
36	1109	Hood bottom	3.55E+00	8.02E+03	3.49E+00	8.16E+03	3.55E+00	7.92E+03
37	1090	Tritium standard	9.48E-01	3.76E+03	8.93E-01	3.84E+03	9.12E-01	3.73E+03

Normalized Count Data

Vial #	Room#	Location	norm 8/16/2007	raw 8/24/2007	norm 8/16/2007
1		Background vial			
2	Stack	870 stack monitor	9.71E-01	1.00E+04	9.62E-01
3	1208	glove port (inside glove box)	1.30E+00	2.28E+06	1.30E+00
4	1208	Glove box bottom	1.16E+00	1.60E+06	1.17E+00
5	1208	Glove box bottom		1.60E+06	1.07E+00
6	1208	Glove box bottom	1.01E+00	2.90E+06	1.01E+00
7	1208	Misc. tools	1.00E+00	5.43E+06	1.01E+00
8	1208	External filter		2.03E+06	9.76E-01
9	1109	Gloves (inside glove box) near lathe	1.75E+00	1.30E+06	1.79E+00
10	1109	Gloves (inside glove box) near drill press	2.41E+00	2.27E+06	2.41E+00
11	1109	Glove box bottom	2.16E+00	3.13E+06	2.20E+00
12	1109	Glove box bottom	2.70E+00	1.46E+06	2.64E+00
13	1109	Glove box bottom	3.42E+00	1.26E+06	3.42E+00
14	1109	Metal shavings	4.88E-01	2.41E+05	4.94E-01
15	1109	Lathe chuck	2.06E+00	3.34E+06	2.17E+00
16	1109	Lathe cutter	1.96E+00	9.99E+05	1.97E+00
17	1109	Drill press plate	2.71E+00	3.91E+06	2.72E+00
18	1109	Tool cabinet	1.74E+00	1.28E+06	1.74E+00
19	1208	Target holders	1.28E+00	4.10E+02	1.46E+00
20	1208	Tweezers	1.12E+00	1.33E+04	1.16E+00
21	1206	Bell jar cabinet right side	1.31E+00	2.28E+02	1.36E+00
22	1206	Pump cabinet bottom	2.01E+00	1.74E+04	2.03E+00
23	1108	Dimpler	1.43E+00	3.01E+02	1.41E+00
24	1108	Saw external	2.87E+00	3.55E+04	2.86E+00
25	1108	Saw blade	4.23E+00	8.85E+05	4.25E+00
26	1108	Disc cutter	4.11E+00	4.06E+06	4.14E+00
27	1108	Grinding wheel	4.23E+00	5.13E+04	4.24E+00
28	1108	Hot plate	3.93E+00	6.37E+03	3.93E+00
29	1206	Vacuum storage chamber #8	4.00E+00	1.43E+07	3.97E+00
30	1206	Vacuum storage chamber #7	3.46E+00	1.35E+05	3.49E+00
31	1206	TEM Fixture tip	1.93E+01	6.07E+05	1.92E+01
32	1108	Outside of saw	4.62E+00	2.78E+04	4.57E+00
33	1108	Saw blade	4.59E+00	9.59E+05	4.59E+00
34	1108	Hot plate	3.11E+00	8.61E+03	3.05E+00
35	1108	Grinding wheel	3.43E+00	2.36E+04	3.55E+00
36	1109	Hood bottom	3.44E+00	8.16E+03	3.55E+00
37	1090	Tritium standard	8.86E-01	3.77E+03	8.95E-01

ATTACHMENT 4: TIME-NORMALIZED COUNTING RESULTS

Days Since Initial Count

Vial #	0	1	3	7	8	10	14	15	17	21	22
1											
2	1.04E+04			1.05E+04			1.05E+04			1.07E+04	
3	1.75E+06		2.03E+06			2.07E+06			2.06E+06		
4	1.37E+06		1.63E+06			1.63E+06			1.64E+06		
5	1.50E+06		1.80E+06			1.79E+06			1.80E+06		
6	2.87E+06		3.40E+06			3.44E+06			3.41E+06		
7	5.40E+06		6.21E+06			6.29E+06			6.28E+06		
8	2.08E+06		2.36E+06			2.36E+06			2.36E+06		
9	7.26E+05		8.08E+05			8.83E+05			9.26E+05		
10	9.40E+05		9.78E+05			1.19E+06			1.49E+06		
11	1.42E+06		1.53E+06			1.98E+06			2.22E+06		
12	5.52E+05		6.12E+05			7.73E+05			9.22E+05		
13	3.68E+05		4.19E+05			5.37E+05			6.83E+05		
14	4.88E+05		5.18E+05			1.23E+05			2.33E+05		
15	1.54E+06		1.55E+06			1.69E+06			1.90E+06		
16	5.06E+05		5.66E+05			6.39E+05			7.17E+05		
17	1.44E+06		1.56E+06			2.30E+06			2.87E+06		
18	7.37E+05		7.89E+05			8.93E+05			1.02E+06		
19	2.80E+02			3.37E+02			3.83E+02			3.81E+02	
20	1.15E+04			1.22E+04			1.25E+04			1.28E+04	
21	1.68E+02	1.61E+02			2.20E+02			3.28E+02			2.94E+02
22	8.59E+03	1.31E+04			1.61E+04			1.60E+04			1.61E+04
23	2.14E+02	1.88E+02			2.45E+02			2.57E+02			2.97E+02
24	1.24E+04	1.38E+04			1.74E+04			2.06E+04			2.32E+04
25	2.08E+05	2.19E+05			3.03E+05			4.20E+05			5.03E+05
26	9.81E+05	9.68E+05			1.99E+06			2.90E+06			3.04E+06
27	1.21E+04	1.24E+04			1.81E+04			2.08E+04			2.34E+04
28	1.62E+03	1.65E+03			3.94E+03			4.08E+03			4.72E+03
29	3.60E+06	2.89E+06			4.31E+06			8.13E+06			1.28E+07
30	3.87E+04	3.66E+04			4.41E+04			5.48E+04			6.78E+04
31	3.16E+04										
32	6.08E+03										
33	2.09E+05										
34	2.82E+03										
35	6.64E+03										
36	2.30E+03										
37	4.21E+03			3.92E+03			3.76E+03			4.01E+03	

Days Since Initial Count

Vial #	24	28	29	31	35	36	38	42	43	45	49
1											
2		1.04E+04			1.05E+04			1.05E+04			1.03E+04
3	2.09E+06			2.09E+06			2.16E+06			2.17E+06	
4	1.63E+06			1.63E+06			1.64E+06			1.63E+06	
5	1.80E+06			1.80E+06			1.80E+06			1.78E+06	
6	3.40E+06			3.42E+06			3.40E+06			3.39E+06	
7	6.33E+06			6.34E+06			6.34E+06			6.30E+06	
8	2.37E+06			2.37E+06			2.36E+06			2.35E+06	
9	1.04E+06			1.14E+06			1.15E+06			1.19E+06	
10	1.70E+06			1.91E+06			1.99E+06			2.09E+06	
11	2.33E+06			2.49E+06			2.50E+06			2.92E+06	
12	1.14E+06			1.26E+06			1.34E+06			1.44E+06	
13	8.69E+05			1.02E+06			1.10E+06			1.12E+06	
14	1.15E+05			1.23E+05			1.32E+05			1.43E+05	
15	2.08E+06			2.24E+06			2.22E+06			2.27E+06	
16	7.92E+05			8.48E+05			8.62E+05			8.86E+05	
17	3.28E+06			3.71E+06			3.82E+06			3.59E+06	
18	1.13E+06			1.23E+06			1.27E+06			1.28E+06	
19		3.87E+02			4.13E+02			3.57E+02			3.93E+02
20		1.31E+04			1.24E+04			1.26E+04			1.28E+04
21			2.72E+02			2.74E+02			2.44E+02		
22			1.63E+04			1.67E+04			1.62E+04		
23			2.81E+02			3.05E+02			2.76E+02		
24			2.59E+04			2.70E+04			3.10E+04		
25			5.95E+05			6.60E+05			7.14E+05		
26			3.67E+06			3.85E+06			4.00E+06		
27			3.33E+04			4.01E+04			4.27E+04		
28			5.73E+03			6.03E+03			6.12E+03		
29			1.46E+07			1.49E+07			1.54E+07		
30			1.03E+05			1.14E+05			1.17E+05		
31											
32											
33											
34											
35											
36											
37		4.03E+03			4.10E+03			3.98E+03			4.00E+03

Days Since Initial Count

Vial #	50	52	53	56	57	59	63	64	66	70	71
1											
2				1.08E+04			1.03E+04			1.06E+04	
3		2.21E+06				2.20E+06			2.22E+06		
4		1.63E+06				1.63E+06			1.63E+06		
5		1.79E+06				1.79E+06			1.77E+06		
6		3.41E+06				3.38E+06			3.36E+06		
7		6.39E+06				6.39E+06			6.37E+06		
8		2.37E+06				2.35E+06			2.33E+06		
9		1.23E+06				1.23E+06			1.27E+06		
10		2.17E+06				2.17E+06			2.17E+06		
11		2.60E+06				2.57E+06			2.63E+06		
12		1.46E+06				1.49E+06			1.48E+06		
13		1.19E+06				1.22E+06			1.23E+06		
14		1.53E+06				1.53E+05			1.64E+05		
15		2.51E+06				2.46E+06			2.48E+06		
16		9.26E+05				9.51E+05			9.57E+05		
17		3.93E+06				3.97E+06			3.99E+06		
18		1.30E+06				1.30E+06			1.29E+06		
19				3.59E+02			4.03E+02			4.24E+02	
20				1.27E+04			1.32E+04			1.31E+04	
21	2.66E+02				2.63E+02			2.90E+02			2.54E+02
22	1.69E+04				1.72E+04			1.68E+04			1.68E+04
23	2.76E+02				2.81E+02			3.10E+02			2.99E+02
24	3.14E+04				3.12E+04			3.68E+04			3.74E+04
25	7.79E+05				8.06E+05			8.43E+05			8.49E+05
26	4.15E+06				4.23E+06			4.25E+06			4.35E+06
27	4.50E+04				4.64E+04			4.74E+04			4.80E+04
28	6.13E+03				6.28E+03			6.16E+03			6.40E+03
29	1.58E+07				1.57E+07			1.54E+07			1.58E+07
30	1.28E+05				1.30E+05			1.36E+05			1.38E+05
31											
32			2.74E+04								
33			9.06E+05								
34			8.33E+03								
35			1.95E+04								
36											
37				3.80E+03			4.09E+03			3.89E+03	

Days Since Initial Count

Vial #	73	77	78	80	82	84	85	87	91	92	94
1											
2		1.02E+04				1.02E+04			1.02E+04		
3	2.23E+06			2.24E+06				2.25E+06			2.27E+06
4	1.63E+06			1.62E+06				1.62E+06			1.62E+06
5	1.78E+06										
6	3.38E+06										
7	6.31E+06										
8	2.34E+06										
9	1.26E+06			1.27E+06				1.26E+06			1.28E+06
10	2.22E+06			2.23E+06				2.25E+06			2.25E+06
11	2.73E+06			2.82E+06				2.77E+06			2.85E+06
12	1.49E+06			1.52E+06				1.49E+06			1.52E+06
13	1.24E+06			1.25E+06				1.25E+06			1.26E+06
14	1.73E+05			1.79E+05				1.84E+05			1.91E+05
15	2.71E+06			2.82E+06				2.86E+06			2.76E+06
16	9.63E+05			9.82E+05				9.80E+05			9.84E+05
17	3.98E+06			3.99E+06				3.99E+06			3.99E+06
18	1.30E+06			1.28E+06				1.28E+06			1.29E+06
19		4.35E+02				4.27E+02			4.42E+02		
20		1.33E+04				1.33E+04			1.28E+04		
21			2.15E+02				2.81E+02			2.57E+02	
22			1.73E+04				1.71E+04			1.69E+04	
23			2.82E+02				2.86E+02			2.39E+02	
24			3.67E+04				3.69E+04			3.68E+04	
25			8.65E+05				8.67E+05			8.69E+05	
26			4.36E+06				4.36E+06				
27			4.91E+04				4.99E+04			4.95E+04	
28			6.36E+03				6.40E+03			6.33E+03	
29											
30			1.38E+05				1.36E+05			1.36E+05	
31					1.31E+05						
32		3.50E+04									
33		1.01E+06									
34		1.08E+04									
35		2.78E+04									
36					7.80E+03						
37		3.91E+03				3.86E+03			3.83E+03		

Days Since Initial Count

Vial #	98	99	101	102	103	104	106	107	108	110	112
1											
2	1.02E+04				1.01E+04					9.90E+03	
3			2.26E+06						2.27E+06		
4			1.60E+06						1.61E+06		
5											
6											
7											
8											
9			1.26E+06						1.26E+06		
10			2.24E+06						2.27E+06		
11			2.99E+06						3.03E+06		
12			1.48E+06						1.51E+06		
13			1.25E+06						1.26E+06		
14			1.94E+05						1.99E+05		
15			2.93E+06						3.10E+06		
16			9.81E+05						9.90E+05		
17			3.98E+06						3.99E+06		
18			1.29E+06						1.28E+06		
19	3.94E+02				3.99E+02					4.16E+02	
20	1.22E+04				1.23E+04					1.25E+04	
21		2.69E+02					2.75E+02				
22		1.66E+04					1.71E+04				
23		2.76E+02					2.88E+02				
24		3.66E+04					3.67E+04				
25		8.73E+05					8.81E+05				
26											
27		5.01E+04					5.03E+04				
28		6.54E+03					6.40E+03				
29											
30		1.36E+05					1.35E+05				
31					3.45E+05						
32				3.50E+04				2.99E+04			
33				1.01E+06				1.02E+06			
34				1.08E+04				9.37E+03			
35				2.78E+04				2.43E+04			
36					1.01E+04						
37	3.83E+03					3.94E+03					3.99E+03

Days Since Initial Count

Vial #	113	114	115	116	119	121	124	126	127	128	129
1											
2				1.02E+04			1.01E+04				
3			2.27E+06			2.29E+06					2.28E+06
4			1.59E+06			1.60E+06					1.61E+06
5											
6											2.93E+06
7											5.43E+06
8											
9			1.28E+06			1.31E+06					1.29E+06
10			2.29E+06			2.28E+06					2.26E+06
11			3.06E+06			3.04E+06					3.13E+06
12			1.48E+06			1.50E+06					1.49E+06
13			1.26E+06			1.27E+06					1.27E+06
14			2.01E+05			2.09E+05					2.15E+05
15			2.98E+06			3.16E+06					3.29E+06
16			9.92E+05			9.93E+05					9.91E+05
17			3.95E+06			3.95E+06					3.96E+06
18			1.28E+06			1.29E+06					1.30E+06
19				3.81E+02			4.35E+02				
20				1.32E+04			1.33E+04				
21	2.51E+02				2.75E+02				2.81E+02		
22	1.69E+04				1.70E+04				1.74E+04		
23	3.29E+02				3.14E+02				3.15E+02		
24	3.57E+04				3.63E+04				3.61E+04		
25	8.86E+05				8.90E+05				8.80E+05		
26									4.05E+06		
27	5.08E+04				5.19E+04				5.14E+04		
28	6.44E+03				6.40E+03				6.38E+03		
29									1.45E+07		
30	1.35E+05				1.36E+05				1.36E+05		
31										3.43E+05	
32		2.98E+04				2.98E+04			2.99E+04		
33		1.02E+06				1.01E+06			1.01E+06		
34		9.17E+03				9.32E+03			8.95E+03		
35		2.43E+04				2.43E+04			2.39E+04		
36										1.01E+04	
37					3.76E+03			3.84E+03			

Days Since Initial Count

Vial #	131	132	134	135	136	138	140	141	142	143	144
1											
2	1.00E+04					1.02E+04					1.01E+04
3					2.27E+06					2.28E+06	
4					1.59E+06					1.60E+06	
5											
6					2.91E+06					2.90E+06	
7					5.40E+06					5.41E+06	
8											
9					1.29E+06					1.29E+06	
10					2.28E+06					2.28E+06	
11					3.11E+06					3.19E+06	
12					1.49E+06					1.49E+06	
13					1.26E+06					1.26E+06	
14					2.32E+05					2.36E+05	
15					3.34E+06					3.38E+06	
16					9.95E+05					9.99E+05	
17					3.94E+06					3.91E+06	
18					1.28E+06					1.29E+06	
19	4.34E+02					4.42E+02					3.57E+02
20	1.31E+04					1.33E+04					1.29E+04
21			2.35E+02					2.83E+02			
22			1.76E+04					1.73E+04			
23			3.00E+02					3.09E+02			
24			3.64E+04					3.59E+04			
25			8.84E+05					8.84E+05			
26			4.04E+06					4.05E+06			
27			5.12E+04					5.10E+04			
28			6.39E+03					6.48E+03			
29			1.44E+07					1.44E+07			
30			1.36E+05					1.36E+05			
31				3.47E+05					3.86E+05		
32			2.95E+04					2.98E+04			
33			1.01E+06					1.00E+06			
34			9.16E+03					9.11E+03			
35			2.42E+04					2.39E+04			
36				8.61E+03					8.59E+03		
37		3.73E+03					3.77E+03				

Days Since Initial Count

Vial #	147	148	149	152	155	156	157	162	163	169	170
1											
2				1.00E+04							
3			2.28E+06				2.28E+06				
4			1.59E+06				1.60E+06				
5							1.60E+06				
6			2.89E+06				2.90E+06				
7			5.42E+06				5.43E+06				
8							2.03E+06				
9			1.27E+06				1.30E+06				
10			2.27E+06				2.27E+06				
11			3.07E+06				3.13E+06				
12			1.49E+06				1.46E+06				
13			1.26E+06				1.26E+06				
14			2.38E+05				2.41E+05				
15			3.17E+06				3.34E+06				
16			9.93E+05				9.99E+05				
17			3.90E+06				3.91E+06				
18			1.28E+06				1.28E+06				
19				4.10E+02							
20				1.33E+04							
21	2.20E+02				2.28E+02						
22	1.73E+04				1.74E+04						
23	3.06E+02				3.01E+02						
24	3.56E+04				3.55E+04						
25	8.80E+05				8.85E+05						
26	4.03E+06				4.06E+06						
27	5.12E+04				5.13E+04						
28	6.37E+03				6.37E+03						
29	1.44E+07				1.43E+07						
30	1.34E+05				1.35E+05						
31			4.73E+05			5.25E+05			5.49E+05		5.62E+05
32		2.95E+04			2.92E+04			2.89E+04		2.90E+04	
33		1.01E+06			1.00E+06			9.97E+05		9.97E+05	
34		9.29E+03			8.96E+03			9.13E+03		9.06E+03	
35		2.41E+04			2.43E+04			2.38E+04		2.40E+04	
36			8.35E+03			8.57E+03			8.51E+03		8.36E+03
37											

Days Since Initial Count

Vial #	176	177	183	184	190	191	197	198	204	205	211
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31		5.80E+05		5.92E+05		5.96E+05		5.98E+05		6.01E+05	
32	2.89E+04		2.89E+04		2.89E+04		2.87E+04		2.86E+04		2.85E+04
33	9.91E+05		9.88E+05		9.85E+05		9.72E+05		9.79E+05		9.83E+05
34	9.05E+03		8.98E+03		8.64E+03		8.84E+03		8.82E+03		8.73E+03
35	2.40E+04		2.39E+04		2.36E+04		2.35E+04		2.34E+04		2.31E+04
36		8.24E+03		8.22E+03		8.30E+03		8.36E+03		8.33E+03	
37											

Days Since Initial Count

Vial #	212	217	219	225	226	232	233	239	240	245	246
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
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20											
21											
22											
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24											
25											
26											
27											
28											
29											
30											
31	6.02E+05		6.03E+05		6.00E+05		6.05E+05		6.03E+05		6.13E+05
32		2.86E+04		2.80E+04		2.82E+04		2.81E+04		2.81E+04	
33		9.77E+05		9.78E+05		9.71E+05		9.66E+05		9.59E+05	
34		8.59E+03		8.55E+03		8.75E+03		8.72E+03		8.76E+03	
35		2.32E+04		2.31E+04		2.37E+04		2.34E+04		2.28E+04	
36	8.05E+03		8.23E+03		8.16E+03		8.19E+03		8.17E+03		8.30E+03
37											

Days Since Initial Count

Vial #	253	254	255	261	262	268	269	274	275	282
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31		6.13E+05		6.13E+05		6.10E+05		6.10E+05		6.07E+05
32	2.78E+04									
33	9.59E+05									
34	8.61E+03									
35	2.36E+04									
36		8.16E+03		8.02E+03		8.16E+03		7.92E+03		8.16E+03
37										

ATTACHMENT 5: ERBIUM ANALYSIS RESULTS

Sandia National Laboratories
Operated for the U.S. Department of Energy by
Sandia Corporation
Albuquerque, New Mexico
87185-0871

date: June 21, 2007

to: Jamie Coffey, org 10328
Don Zerwekh, org 10328
Bob Burkhart, org 2733

from: Michael Courtney, org 2736

subject: Erbium on Scintillation Cocktail Swipes

BACKGROUND: The chemistry lab was requested to analyze five radioactive swipes in scintillation vials containing Ultima Gold XR liquid scintillation cocktail (UG) for erbium metal quantity. A procedure was developed to precipitate and filter the majority of the UG without losing the Erbium metal. This procedure works fairly well, but the gelatinous precipitate clogs the filter paper, sticks to the glassware and the UG which remains in the sample clogs the cones of the ICP-MS. Because of the difficult matrix, only the two most radioactive samples were chosen to be analyzed.

METHOD SUMMARY: The swipes (one Q-tip and one filter paper) were removed from the scintillation vial, allowing the excess UG to be drained back into the vial. The swipe was placed in a beaker and 5ml of concentrated HCl was added to dissolve the erbium and precipitate the UG. 25ml of DI water was added, and the solution was heated, to further precipitate the UG. The sample was then filtered and quantitatively transferred to a 100ml volumetric flask containing internal standards (2ppb each Lutetium, Thulium and Terbium). Calibration standards from 100ppt Er to 12ppb Er were prepared and used to calibrate the ICP-MS. In addition, 2 filter paper swipe blanks with UG were spiked with Er and run through the same process as the samples to verify the procedure recoveries.

RESULTS:

Erbium on Q-Tip and Swipe in Ultima Gold solution.						
	Micrograms/Liter Erbium					**Micrograms**
Sample	m/z166	m/z167	m/z168	Avg ug/L	dilution(L)	**Erbium**
Q-Tip (sample #28)	0.285	0.283	0.285	0.284	0.1	**0.028**
Swipe (Sample #6)	0.056	0.055	0.055	0.055	0.1	**0.006**
Procedure Verification					recovery	
Spiked Swipe Blank in UG (1.278ppb)	1.217	1.224	1.214	1.218	95%	
Spiked Swipe Blank in UG (1.278ppb)	1.194	1.188	1.200	1.194	93%	
1.278ppb Std check	1.259	1.264	1.276	1.266	99%	
Blank	-0.003	-0.005	-0.004	-0.004		

Calculated detection limit for Erbium at this dilution = 0.001 microgram

The quantity of UG that was absorbed by the sample was estimated by soaking a Q-tip and filter swipe in UG and then determining the difference in dry and wet weight.
Estimated quantity of UG transferred with Q-Tip = 0.22g
Estimated quantity of UG transferred with filter swipe = 0.44g

CONCLUSION: Although close to the detection limit of our ICP-MS, erbium was detected in both samples we analyzed. A considerable amount of UG was transferred with the swipes and it is uncertain whether the erbium was on the smear or in the UG. Spiked filter paper blanks in UG cocktail showed good recoveries, verifying the method.

Addendum dated 7/12/08:

I have analyzed the additional swipes you requested for erbium on 7/3. (see attached Excel spreadsheet) Swipes #5, #25 and approximately 0.4ml of cocktail from #28 were analyzed. I also ran a blank filter in cocktail along side the samples in the Chemistry Lab rad-hood. The problem is that the blank ran as high as the sample. So today (7/12) I analyzed 2 more blanks and some Ultima Gold cocktail in a different lab hood to see if I saw any erbium in those samples, but they did not contain Er. So I'm not sure now if the first high blank on 7/3 was just a fluke, or if there is enough Er floating around in that rad-hood from our regular target analysis to contaminate samples at these extremely low analysis levels. I guess I could try more rad swipe samples and blanks in the rad-hood and see what we find.

Mike Courtney
Analytical Chemistry

Erbium on Q-Tip and Swipe in Ultima Gold solution.						
Analyzed 7/3/2007	Micrograms/Liter Erbium					**Micrograms**
	m/z166	m/z167	m/z168	Avg ug/L	dilution(L)	**Erbium**
Swipe #5	0.047	0.045	0.045	0.046	0.1	**0.005**
Swipe #25	0.081	0.080	0.080	0.080	0.1	**0.008**
half ml #28 cocktail	0.059	0.060	0.058	0.059	0.1	**0.006**
Blank Swipe	0.082	0.080	0.082	0.081	0.1	**0.008**
cal blank check	-0.002	-0.003	-0.003	-0.003	0.1	**0.000**
Analyzed 7/12/2007	Micrograms/Liter Erbium					**Micrograms**
	m/z166	m/z167	m/z168	Avg ug/L	dilution(L)	**Erbium**
swipe blank 1	-0.004	-0.005	-0.005	-0.005	0.1	**0.000**
swipe blank 2	-0.004	-0.005	-0.004	-0.004	0.1	**0.000**
cocktail blank	-0.001	-0.002	-0.002	-0.002	0.1	**0.000**
filtered acid blank	-0.004	-0.005	-0.005	-0.005	0.1	**0.000**
0.043ppb std check	0.038	0.037	0.037	0.037	0.1	**0.004**

Distribution

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