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FORM EHS 10-21

TRITIUM BIOASSAY ANALYSIS REPORT

Name: _____

Principal Investigator: _____

Date last handled: _____ Time: _____

Date sample collected: _____ Time: _____

Date sample analyzed: _____ Time: _____

Maximum amount of ^{3}H handled at any one time: _____ (mCi)

Total amount of ^{3}H handled since last bioassay: _____ (mCi)

Location of use: _____

Instrument Mfr. & Model: _____ Serial No.: _____

Unquenched H-3 Std. Model: _____ SN: _____ Activity (dpm): _____

Efficiency (%) "K": _____ Results (dpm): _____ Counting time (min): _____

NIST certification activity date range: _____ to _____

Unquenched Background Std.

Results (dpm): _____ Counting time (min): _____ Total Counts "C_b": _____

NIST certification activity date range: _____ to _____

MDC Determination (per NRC NUREG-1507)

Note: This should be determined before counting samples submitted for bioassay

$$MDC = \frac{3 + 4.65\sqrt{C_b}}{(K/100)(44{,}400)} = \frac{3 + 4.65\sqrt{\quad}}{(\quad/100)(44{,}400)} = \_\_\_\_\_ \text{ uCi/L}$$

Where: C_b - is the unquenched background standard total counts for a ten minute count

K - is the unquenched ^{3}H standard counting efficiency for the instrument used

44,400 - includes the sample and background counting time "T" (10 minutes), and the unit corrections for converting dpm to uCi (2.22E6), and 2.0 ml to 1.0 liter (.002)

Results

_____	/	_____	=	_____	x	2.252 E -4	=	_____
Sample (cpm)		*Efficiency Correction*		*Sample (dpm)*		*Unit Correction*		*Activity (uCi/L)*

*Whenever the H-3 activity concentration exceeds the calculated MDC for the counting equipment, consult U.S. NRC Reg. Guide 8.32 and the RSO for required actions.

Performed by: _____ Date: _____