

START

9613428.1693

0043961

LK5983 18/2

Lockheed Environmental Systems & Technologies Co.
Lockheed Analytical Services
75 Kelly Johnson Drive Las Vegas, Nevada 89119-3705
Telephone 702-361-0220 800-582-7605 Facsimile 702-361-8146

LOCKHEED MARTIN



December 18, 1995

Joan Kessner
Bechtel Hanford, Inc.
P.O. Box 969
1022 Lee Boulevard
Richland, WA 99352



RE: Log-in No: L5983
Quotation No: Q40000-B
Document File No: 1207596
WHC Document Control No: 300

The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 7 December 1995.

The temperature of the cooler upon receipt was 2°C. Sample containers received agree with the chain-of-custody documentation. Sample containers were received intact. Samples were received in time to meet the analytical holding time requirements.

The case narratives included in the following attachments provide a detailed description of all events that occurred during sample preparation, analysis, and data review specific to the samples and analytical methods requested.

A list of data qualifiers, chain-of-custody forms, sample receiving checklist, and log-in report are also enclosed representing the samples received within this group.

If you have any questions concerning the analysis or the data please call Kathleen M. Hall at (509) 375-4741.

"I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."

Sincerely,

Karen Hermann for

Kathleen M. Hall
Client Services Representative

cc: Client Services
Document Control

Lockheed Analytical Services

Log-in No.: L5983
Quotation No.: Q400000-B
SAF: B96-036
Document File No.: 1207596
WHC Document File No.: 300
SDG No.: LK5983
Page No.: 1

CASE NARRATIVE RADIOCHEMICAL ANALYSES

The routine calibration and quality control (QC) analyses performed for this batch include as applicable: instrument calibration, initial and continuing calibration verification, quench monitoring standards, instrument background analysis, method blanks, yield tracer, laboratory control samples, matrix spike samples, duplicate samples.

NOTE: Chemical recoveries and minimum detectable activities can be found on the preparation sheets and calculation sheets on the attached raw data for each method.

Holding Time Requirements

All holding times were met.

Gas Proportional Counter

Analytical Method Strontium-90

The strontium-90 analysis was performed using standard operating procedure, LAL-92-SOP-0196. The samples were analyzed in workgroup 31329. The instrument calibration verification met criteria. The method blank was within QC criteria. The laboratory control sample recovery was within QC criteria. The duplicate recoveries were within QC criteria. The minimum detectable activity was slightly above the reporting detection limit. The data is not believed to be adversely affected. No re-analyses were performed.

Yvonne M. Jacoby
Prepared By

December 18, 1995
Date

9613428.1695

LOCKHEED ANALYTICAL SERVICES
 LOGIN CHAIN OF CUSTODY REPORT (ln01)
 Dec 07 1995, 03:09 pm

Login Number: L5983
 Account: 596 Bechtel Hanford, Inc. * Richland, WA
 Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	Due PR Date
L5983-1 temp 2; SAF# B96-036 Location: 157 Water 1 S SCREENING	BOGYX3	05-DEC-95	07-DEC-95	22-DEC-95
		Hold:02-JUN-96		
L5983-2 temp 2; SAF# B96-036 Location: 157 Water 1 S SR-90 LAL-0196	BOGYX3	05-DEC-95	07-DEC-95	22-DEC-95
		Hold:02-JUN-96		
L5983-3 temp 2; SAF# B96-036 Location: 157	BOGYX3	05-DEC-95	07-DEC-95	22-DEC-95
L5983-4 temp 2; SAF# B96-036 Location: 157	BOGYX3	05-DEC-95	07-DEC-95	22-DEC-95
L5983-5 temp 2; SAF# B96-036 Location: 157	BOGYX3	05-DEC-95	07-DEC-95	22-DEC-95
L5983-6 SAF# B96-036 Location: Water 1 S EDD - DISK DEL. Water 1 S RAD RPT TYPE 2	REPORT TYPE	07-DEC-95	07-DEC-95	22-DEC-95

Signature: _____

Date: _____

[Handwritten Signature]

12-7-95

1207596

Bechtel Hanford, Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

LS983

Data Turnaround
Priority
Normal

Collector: A. Rizzo; Company Contact: J.V. Borghese; Telephone: (509) 373-4790; Project Designation: 100-NR-2 Monthly Performance Monitoring - Wells, Dec.; Sampling Location: 100 N; SAF No.: B96-036; Ice Chest No.: GWS-013; Field Logbook No.: EFL-1058; Method of Shipment: Federal Express; Shipped To: Lockheed; Offsite Property No.: MIA; Bill of Lading/Air Bill No.: MIA

Table with columns for Preservation (HNO3), Type of Container (P/G), No. of Container(s) (1), Volume (1L), and Activity Scan (Sr-90). Includes 'SAMPLE ANALYSIS' section.

Table with columns: Sample No., Matrix*, Date Sampled, Time Sampled. Row 1: BOGYX3, W, 12-5-95, 0920.

CHAIN OF POSSESSION table with columns: Relinquished By, Date/Time, Received By, Date/Time. Includes handwritten signatures and dates.

- Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION: Received By [Signature], Title: Sample Custodian, Date/Time: 12-7-95/0945. FINAL SAMPLE DISPOSITION: Disposal Method, Disposed By, Date/Time.

Handwritten vertical text: 1207596

Handwritten vertical text: 9634281696

LOCKHEED MARTIN



Sample Login Login Review Checklist

Lot Number L5483

The login review should be conducted by that person logging in the samples as well as a peer. Please use this checklist to ensure that such reviews occur in a uniform basis. Please sign and date below to verify that a login review has occurred. This checklist should be affixed to each login package prior to distribution.

For effective login review, at a minimum, five reports from the login process are required. These are the COC (or equivalent), the login COC report, the sample summary report, the sample receiving checklist, and the login quotation. Before beginning review, ensure that these five components are available. Jobs with single component samples, the sample summary report may be omitted.

SAMPLE SUMMARY REPORT

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>Comment</u>
1. Are all sample ID's correct?	<u>X</u>	—	—	_____
2. Are all samples present?	<u>X</u>	—	—	_____
3. Are all matrices indicated correctly?	<u>X</u>	—	—	_____
4. Are all analyses on the COC logged in for the appropriate samples?	<u>X</u>	—	—	_____
5. Are all analyses logged in for the correct container?	<u>X</u>	—	—	_____
6. Are samples logged in according to LAS batching procedures?	<u>X</u>	—	—	_____

LOGIN CHAIN OF CUSTODY

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>Comment</u>
1. Are the collect, receive, and due dates correct for every sample?	<u>X</u>	—	—	_____
2. Have all appropriate comments been indicated in the comment section?	—	—	<u>X</u>	_____

SAMPLE RECEIVING CHECKLIST

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>Comment</u>
1. Are all discrepancies between the COC and the login noted (if applicable)?	—	—	<u>X</u>	_____

[Signature]
primary review signature

12-7-95
date

[Signature]
secondary review signature

12-02-95
date

008

1207596

SAMPLE CHECK-IN LIST

Date/Time Received: 12-07-95/9:45

SDG#: N/A

Work Order Number: N/A

SAF #: B96-036

Shipping Container ID: GWS-013

Chain of Custody # N/A

- 1. Custody Seals on shipping container intact? Yes No
- 2. Custody Seals dated and signed? Yes No
- 3. Sample temperature 22
- 4. Vermiculite/packing materials is Wet Dry
- 5. Each sample is in a plastic bag? Yes No
- 6. Sample holding times exceeded? Yes No

7. Samples have:

<input type="checkbox"/> tape	<input type="checkbox"/> hazard labels
<input checked="" type="checkbox"/> custody seals	<input checked="" type="checkbox"/> appropriate sample labels

8. Samples are:

<input checked="" type="checkbox"/> in good condition	<input type="checkbox"/> leaking
<input type="checkbox"/> broken	<input type="checkbox"/> have air bubbles

9. Is the information on the COC and Sample bottles in agreement?

Yes No

Notes: _____

Sample Custodian/Laboratory: Indiville Date: 12-7-95

Telephoned To: Kathleen Hall On 12-7-95 By Anthony Miller

**Lockheed Analytical Services
Sample Receiving Checklist**

Client Name: *Berkeley - Hazard*

Job No. *LS983*

Cooler ID:

COOLER CONDITION UPON RECEIPT

Temperature of cooler upon receipt: *2°C*

temperature of temp. blank upon receipt:

	Yes	No	* Comments/Discrepancies
custody seals intact	X		
chain of custody present	X		
blue ice (or equiv.) present/frozen	X		
rad survey completed	X		

SAMPLE CONDITION UPON RECEIPT

	Yes	No	* Comments/Discrepancies
all bottles labeled	X		
samples intact	X		
proper container used for sample type	X		
sample volume sufficient for analysis	X		
proper pres. indicated on the COC	X		
VOA's contain headspace			<i>NA</i>
are samples bi-phasic (if so, indicate sample ID'S):			<i>NA</i>

MISCELLANEOUS ITEMS

	Yes	No	* Comments/Discrepancies
samples with short holding times		X	
samples to subcontract		X	

ADDITIONAL COMMENTS/DISCREPANCIES

Completed by / date: *Wernick 12-7-95*

Sent to the client (date/initials):

** Client's signature upon receipt:

Notes: * = contact the appropriate CSR of any discrepancies immediately upon receipt

** = please review this information and return via facsimile to the appropriate CSR (702) 361-8146

1007596

010

9613428.1699

9613428.1700

Lockheed Analytical Laboratory
SAMPLE SUMMARY REPORT (su02)
Bechtel Hanford, Inc. * Richland, WA

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
BOGYX3 —	L5983-1 L5983-2		Water Water	SCREENING — SR-90 LAL-0196 —
REPORT TYPE —	L5983-6 L5983-6		Water Water	EDD - DISK DEL. — RAD RPT TYPE 2 —

011

1207596

9613428.1701

LOCKHEED ANALYTICAL SERVICES

RAD DATA REPORT (ra01)

Bechtel Hanford, Inc. * Richland, WA

Bechtel Hanford Project (Project BECHTEL-HANFORD)

Client Sample ID: B0GYX3

LAL Sample ID: L5983-2

Date Collected: 05-DEC-95

Date Received: 07-DEC-95

Matrix: Water

Login Number: L5983

Constituent	Analyzed	Batch	Activity	Error	MDA	DataQual	Units
Total radio-strontium	14-DEC-95	SR-90 LAL-0196_31329	44.3	2.9	1.1		pCi/L

013

LOCKHEED ANALYTICAL LABORATORY

SAMPLE PREPARATION LOG FOR STRONTIUM ANALYSIS

TOTAL RADIOSTRONTIUM - LAL-91-SOP-0196

610

Date Prep Started : 12-13-95

Matrix : Water

WorkGroup : SR-90 LAL-0196 31329

Prep Due Date : 12/15/95

CUSTOMER ID	PARENT LAL ID	NO	QC	CHILD LAL ID	ALIQVOT VOLUME (g. or L)	SR CARRIER (mL)	YTTRIUM SEP DATE	YTTRIUM SEP TIME	PLANCHET TARE WT (grams)	PLANCHET GROSS WT (grams)	* * *	RESIDUE WEIGHT (grams)	COMMENTS
L5983-2	31329DUP1	1	DUP1	31329-01	500ml	0.5ml	12-14-95	18:23	6.60834	6.61634			
Lab Ctrl Sample	31329LCS1	2	LCS1	31329-02		↓	↓	↓	6.56257	6.57127			
Method Blank	31329MBB	3	MBB1	31329-03		↓	↓	↓	6.60059	6.60945			
BOGYX3	L5983-2	4	SMP1	31329-04	500ml	↓	↓	↓	6.47535	6.48425			
		5											
		6											
		7											
		8											
		9											
		10											
		11											
		12											
		13											
		14											
		15											
		16											
		17											
		18											
		19											
		20											
		21											
		22											
		23											
		24											
Conc & Vol of Carrier	0.01225 g / 0.5 ml ; 0.5 ml		Act & Vol of LCS		26.78 pCi / ml ; 1.0 ml		Prep Anlst		AW				
Carrier Exp Date	9-30-96		LCS Ref Date		4-1-94		Start Date		12-13-95				
Carrier ID#	94-658-20		LCS ID#		94-677-44-1		Count Anlst						

Balance Number : 40020021 ()

Pipette Number : 134488 (✓)
139746 (✓)

Carrier and LCS added by : AW 12-13-95

Witnessed by : u

Comments :

Analyst : A. Wang by AW

Checked by : AW 12/14/95

Cnt Rm Custody Date : _____

9613428 1702

LOCKHEED ANALYTICAL LABORATORY

SAMPLE PREPARATION LOG FOR STRONTIUM ANALYSIS TOTAL RADIOSTRONTIUM - LAL-91-SOP-0196

020

Date Prep Started : 12/13/95

Matrix : Water

WorkGroup : SR-90 LAL-0196 31329

Prep Due Date : 12/15/95

CUSTOMER ID	PARENT LAL ID	NO	QC	CHILD LAL ID	ALIQVOT VOLUME (L)	SR CARRIER (mL)	YTTRIUM SEP DATE	YTTRIUM SEP TIME	PLANCHET TARE WT (grams)	PLANCHET GROSS WT (grams)	* * *	RESIDUE WEIGHT (grams)	COMMENTS
L5983-2	31329DUP1	1	DUP1	31329-01	0.5	0.5	12/14/95	18:23	6.60834	6.61634		0.008	
Lab Ctrl Sample	31329LCS1	2	LCS1	31329-02	0.5	0.5	12/14/95	18:23	6.56257	6.57127		0.0087	
Method Blank	31329MBB	3	MBB1	31329-03	0.5	0.5	12/14/95	18:23	6.60059	6.60945		0.00886	
B0GYX3	L5983-2	4	SMP1	31329-04	0.5	0.5	12/14/95	18:23	6.47535	6.48425		0.0089	
		5											
		6											
		7											
		8											
		9											
		10											
		11											
		12											
		13											
		14											
		15											
		16											
		17											
		18											
		19											
		20											
		21											
		22											
		23											
		24											
Conc&Vol of Carrier	24.50 mg/mL; 0.5 mL			Act & Vol of LCS	26.78 pCi/mL; 1.0 mL			Prep Anlst	AW				
Carrier Exp Date	30-Sep-96			LCS Ref Date	01-Apr-94			Start Date	12/13/95				
Carrier ID#	94-658-20			LCS ID#	94-677-44-1			Count Anlst	LV				

9613428.1703

Balance Number : 40020021 ()

Pipette Number : 134488 ()

Carrier and LCS added by: AW

()

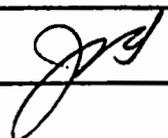
139746 ()

Witnessed by : WF

Comments :

Analyst : DATA ENTERED BY: LV FOR AW

Checked by :



Cnt Rm Custody\Date :

U.S. Environmental Protection Agency
Environmental Monitoring Systems Laboratory-Las Vegas
Nuclear Radiation Assessment Division

Calibration Certificate

Description

Principal radionuclide **Strontium-90** Half-life **28.6 years**
Nominal activity **27** **nano** curies
Nominal volume **5** ml in ampoule/bottle number **94003-1**

Measurement Activity of principal radionuclide

Activity per gram of this solution
5.40 **nano curies** of **Strontium-90**
at 0400 hours PST on **April 1, 1994**

Activity of daughter radionuclide

The principal activity was accompanied at the quoted time by

5.40 **nano**curies Per gram
of the daughter nuclide **Yttrium-90**

Total mass of this solution

Approximately 5.0 grams

Method of measurement

The activity of the primary solution was measured by liquid scintillation counting.

The activity of the dilution was measured by liquid scintillation counting.

Useful Life

This radionuclide has decayed through **0.0** half lives since it was obtained by EMSL-LV

We recommend that this solution should not be used after **August 1994**

This dilution was prepared for the 1994 ASTM Collaborative Study of a test method for the determination of Sr-90 in water.

Purity

The manufacturer states that activities other than that of the principal nuclide and of its daughter nuclides, if any, were estimated/known to be:

(1)	less than equal to		%	of the principal activity
(2)	less than equal to		%	of the principal activity
(3)	less than equal to		%	of the principal activity

The activity of impurity (1) is not (2) is not (3) is not included in the quoted figures of the principal activity.

Random Errors

The precision of this standard was such that the certified value of the radioactive concentration of the principal activity had a standard error (sm) not greater than $\pm 0.1\%$ (The 99.7% confidence limits are given by $t(sm)$ where t is obtained from the student t factor for the degree of freedom ($n-1$)).

The maximum uncertainty due to the assessable systematic errors (dilution, counting, and known uncertainty of the standard) is obtained by the separate arithmetic summation of the positive and negative systematic error ($+\delta - \delta'$). These have been estimated not to exceed

$+3.8\%$ or -3.8%

the overall uncertainty (often called accuracy) is an estimate of the possible divergence of the quoted result from the true value. It is a combination of random error $[t(sm)]$ at the 99.7% confidence limits and the worst case estimate of the systematic errors ($+\delta, -\delta'$)

The overall uncertainty is therefore calculated on the basis of $+ [t(sm) + \delta], - [t(sm) + \delta']$ and is $+4.0\%$, -4.0% of the quoted radioactive concentration.

Decay Schemes

This standardization is based on the following assumptions of the principle nuclide, its daughter nuclides and impurities (no allowance for error in these assumptions or the assumption of quoted half-life have been included in the statement of accuracy above).

Strontium-90 decays 100 percent by beta emission to yttrium-90. Yttrium-90 also decays 100 percent by beta emission.

Chemical Composition of Solution

Carrier content per gram of solution:
30 micrograms strontium

Other components:
0.1 M HCl

Preservative:

Remarks

Date Certificate Prepared

April 26, 1994

Approval Signature

Paul B. Fahn

025

Sr-90

9613428.1707

INITIAL STANDARD DILUTION RECORD

Standard Information:

Isotope:	<u>Sr-90</u>	Vendor:	<u>EPA</u>
Activity of Standard Received:	<u>2.7×10^4 uCi</u>	Vendor I.D. #	<u>94003-1</u>
Weight of Standard Received (g):	<u>5.0 g</u>	LAL I.D. #:	<u>AC5281</u>
Standard Activity (pCi/g):	<u>5.4×10^3 pCi/g</u>	NIST Traceable ?	<u>yes</u>
Halflife in Years or Days:	<u>28.6 yrs</u>	Certificate #:	<u>94003-1</u>
Reference Date:	<u>4-1-1994</u>	Receiver's Name:	<u>K. Free</u>
		Date Received:	<u>5-3-94</u>

Primary Dilution

Balance Verification?:	<u>yes</u>
Diluent Used:	<u>0.1 M HCl</u>
a: Decay Corrected Standard Activity (pCi/g):	<u>5.4×10^3 pCi/g</u>
b: Weight of the Source Transferred (g):	<u>4.9670 g</u>
c: Total diluted weight (g):	<u>49.91 g</u>
d: Total Diluted Volume (mL)	<u>50 mL</u>
e: Activity of Dilution by Weight (pCi/g) [a * b / c]:	<u>537.4 pCi/g</u>
f: Calculated Density of Solution (g/mL) [c / d]:	<u>0.9982 g/mL</u>
g: Activity of Dilution by Volume (pCi/mL) [e * f]:	<u>536.44 pCi/mL</u>
h. Dilution Logbook I.D. #:	<u>93-474-81-1 ⁹³⁻⁴⁷⁴⁻⁸²⁻¹ CP 4/7/95</u>
Prepared By: <u>Agnes Wong</u>	Preparation Date: <u>6-15-94</u>
Reviewed By: <u>Joe Hutchison</u>	Review Date: <u>6/30/94</u>
Purity/Cross Check Performed By: _____	Check Date: _____

Agnes Wong

Signed

Date

Signed

Date

026

SECONDARY/WORKING LEVEL STANDARD DILUTION RECORD

Dilution Source Information	
Isotope:	<u>Sr-90</u>
Ref. 4-1-94 Parent Barcode Number	<u>AC5281</u>
Vendor or Certificate I.D. # of Parent Standard:	<u>EPA 94003-1</u>
Diluted Source Logbook I.D. #:	<u>93-474-82-1</u>
Balance Verification?:	<u>Yes</u>
Diluent Used:	<u>0.1 M HCl</u>

Dilution	
*Diluent:	<u>0.1 M HCl</u>
*Density of diluent (g/ml):	<u>N/A</u>
a: Parent Specific Activity:	<u>536.44 pCi/ml</u>
b: Amount of Source Transferred:	<u>5.0018 g</u>
c: Total amount of Dilution:	<u>100.20 g</u>
d: Total Volume of Dilution:	<u>N/A</u>
e: Activity of Dilution (a * b / c):	<u>N/A</u>
f: Activity of Dilution (a * b / d):	<u>26.78 pCi/ml</u>
Dilution Logbook I.D. #:	<u>94-677-44-1</u>
Prepared By: <u>Dynes Wong</u>	Preparation Date: <u>3-2-95</u>
Reviewed By: <u>Joe H. H.</u>	Review Date: <u>3/3/95</u>
*If the diluent remains unchanged from the diluent used for the dilution source, then a weight dilution of a volume unit source can be performed without a density conversion. If the diluent changes, a weighted proportion density conversion is necessary.	

Signed

Date

Signed

Date

Dynes Wong
3-3-95

127

D Jones Wony
3-15-94

Strontium Carrier Standardization

Strontium Carrier (10 mg/mL):

Use commercially available 10,000 $\mu\text{g Sr/mL}$ ICP Standard or equivalent. Alternately, Dissolve 24.16 g of $\text{Sr}(\text{NO}_3)_2$ in water and dilute to 1 L in a volumetric flask with water.

Perform calibration check on a 0.5 mL pipet and then carefully pipet 3 - 0.5 mL portions of the strontium carrier solution into separate cleaned dried and tared planchets. Dry the planchet under a drying lamp. Cool the planchets in a desiccator and weigh.

	Calib # 1	Calib # 2	Calib # 3
Carrier plus planchet wt.	6.58185 g	6.49626 g	6.56816 g
Tare wt. of planchet	6.56968 g	6.48464 g	6.55620 g
Net wt. of carrier added (mg)	0.01217 g	0.01162	0.01196 g

AVERAGE $\text{Sr}(\text{NO}_3)_2 \pm \text{STD DEV.} = \underline{0.01192 \text{ g} \pm 0.000277}$

Expected mg of $\text{Sr}(\text{NO}_3)_2 = \text{cert. value} (\approx 10 \text{ mg of Sr/mL}) * 0.5 \text{ mL} * 2.41$

Within 3% of expected (12.08 mg/0.5 mL) value (yes/no) yes

Initial and Date: DW 3-6-94

Continued on Page

Read and Understood By QA Review: 028

D Jones Wony
Signed

3-15-94
Date

Yves M. L...
Signed

8/14/94
Date

Strontium Carrier Standardization

Strontium Carrier (10 mg/mL):

Use commercially available 10,000 μg Sr/mL ICP Standard or equivalent. Alternately, Dissolve 24.16 g of $\text{Sr}(\text{NO}_3)_2$ in water and dilute to 1 L in a volumetric flask with water.

Perform calibration check on a 0.5 mL pipet and then carefully pipet 3 - 0.5 mL portions of the strontium carrier solution into separate cleaned dried and tared planchets. Dry the planchet under a drying lamp. Cool the planchets in a desiccator and weigh.

	Calib # 1	Calib # 2	Calib # 3
Carrier plus planchet wt. (mg)	6865.84	6562.93	6540.56
Tare wt. of planchet (mg)	6853.57	68 6550.76	6528.26 6520
Net wt. of carrier added (mg)	12.27	12.17	12.30

AVERAGE $\text{Sr}(\text{NO}_3)_2 \pm \text{STD DEV.} = \underline{12.25 \pm 0.0681}$ $\left(0.01225\text{g} \pm 0.0001\text{g} \right)$
per 0.5mL

Expected mg of $\text{Sr}(\text{NO}_3)_2 = \text{cert. value} (=10\text{mg of Sr/mL}) * 0.5 \text{ mL} * 2.41$

Within 3% of expected (12.08 mg/0.5 mL) value (yes/no) yes

Initial and Date: W.L. 10-5-95

Walter L. L. 10-11-95

Continued on Page _____

Read and Understood By

030

W.L.
Signed

10-11-95
Date

Signed

Date